DOCKETED	
Docket Number:	24-OPT-04
Project Title:	Potentia-Viridi Battery Energy Storage System
TN #:	268324-4
Document Title:	Potentia-Viridi Administrative Record Part 4 of 4, January 01, 2024 - December 31, 2025
Description:	Pages 2331 - 3412
Filer:	Marianna Brewer
Organization:	California Energy Commission
Submitter Role:	Energy Commission
Submission Date:	1/26/2026 10:40:37 PM
Docketed Date:	1/26/2026

POTENTIA-VIRIDI

24-OPT-04

ADMINISTRATIVE RECORD

4 OF 4

Pg. 2331 – 3412

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

375 Beale Street, Suite 600
San Francisco, CA 94105
(415) 771-6000
www.baaqmd.gov

PERMIT APPLICATION INVOICE

Invoice Number:	T181578
Invoice Date:	01/06/2025
Due Date:	02/05/2025
Application Number:	722261
Facility ID:	203846
Customer Number:	B302504F203846

TO: Levyy Alameda LLC
16875 W Bernardino Drive
STE 200
San Diego, CA 92127

ATTN: Patrick Leitch

Application No.: 722261

Project Title: Emergency Standby Diesel Engine

Equipment Location:
Potentia Viridi Energy Storage Facility
17257 PATTERSON PASS ROAD
TRACY, CA 95377
Owner: Levy Alameda LLC

Operator: Patrick Leitch
Levyy Alameda LLC

For questions regarding check or online payments, please contact:
(415) 749-4636 | customerpayments@baaqmd.gov

For questions regarding fees and other permit info, please contact:
Isis Virrueta | Air Quality Engineer | (415) 749-4745 | ivirrueta@baaqmd.gov

A copy of BAAQMD Regulation 3: Fees is available on the website at http://www.baaqmd.gov. You may also obtain a copy of our regulations by calling Communications and Outreach at (415) 749-4900.

See next page for a detailed breakdown of the invoice fees.

Total Fees:	$18,211.00
Amount Paid:	$0.00
Amount Due:	$18,211.00

Save Time, Pay Online: www.baaqmd.gov/Pay

Visa, Mastercard, Discover, and eCheck payments accepted online.

If paying by check or money order, remove this bottom portion and mail it using the envelope provided. The top portion is for your records.

Levyy Alameda LLC
16875 W Bernardino Drive
STE 200
San Diego, CA 92127

THIS INVOICE IS NOW DUE AND PAYABLE

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Customer Number:	B302504F203846

Amount Due: $18,211.00

The District only accepts checks or money orders by mail. Credit card information sent through the mail will be destroyed, and could delay or cancel your permit.

1. Make your check payable to BAAQMD
2. Write the invoice number T181578 on the face of the check.
3. If paying more than one invoice, write a separate check for each invoice.
4. Mail this portion with your check payment.

Your Permit Application is subject to cancelation if payment is not received by the invoice due date. Your application will be reactivated upon payment of this invoice. Construction or operation of equipment without a permit/registration may result in appropriate enforcement action.

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1/7/2025	Filing Fee	$6,376.00
1/7/2025	Permit to Operate Fee	$3,188.00
1/7/2025	Risk Screen Fee	$3,[illegible]8.00
1/7/2025	Risk Screen Fee Additional	$3,188.00
1/7/2025	Toxics Surcharge Fee	$318.00
	Total Fees:	**$18,211.00**

Amount Paid: $0.00
Amount Due: $18,211.00

Application No.: 722261
Project Title: Emergency Standby Diesel Engine

Device	Equipment Description	Fee Type	Fee Amount
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S1	Internal Combustion Engine	Initial Fee - Schedule B	$3,188.00
S1	Internal Combustion Engine	Permit to Operate Fee - Schedule B	$1,594.00
S1	Internal Combustion Engine	Risk Screen Fee - Schedule B	$3,839.00
S1	Internal Combustion Engine	Toxics Surcharge Fee	$159.00
S2	Internal Combustion Engine	Filing Fee	$651.00
S2	Internal Combustion Engine	Initial Fee - Schedule B	$3,188.00
S2	Internal Combustion Engine	Permit to Operate Fee - Schedule B	$1,594.00
S2	Internal Combustion Engine	Risk Screen Fee Additional - Schedule B	$3,188.00
S2	Internal Combustion Engine	Toxics Surcharge Fee	$159.00

Message

From: Isis O. Virrueta [ivirrueta@baaqmd.gov]
Sent: 5/22/2025 4:46:45 PM
To: Qian, Wenjun@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e4421be8df5f40ec851d73affcbff913-Qian, Wenju]; Giorgi, Erika@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d171e5d706e34c26ad9d13c230f2349f-1324b266-6e]; Jiang, Tao@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=385e043d00344c059acf8926c0dbd8d1-Jiang, Tao@]; Nicholas Lorenzen [nlorenzen@dudek.com]
Subject: FW: AN722261, FID203846 Potentia Viridi Energy Storage Facility
Attachments: Application Invoice T181578.pdf; IncompletenessLetter2_FID203846_AN722261.pdf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Team,

This is the information still required; however, please note:

-CEQA documents – pending due to EIR under preparation
-EPA Family – you have provided emission factors and an EPA Family, but we need to have written proof that this is the correct EPA Family. This can be found in the EPA Certificate or Statement of Exhaust Emissions (Spec Sheets).

Feel free to let me know if you have any questions.
Sincerely,

Isis O. Virrueta
Air Quality Engineer I (she/her)
Bay Area Air Quality Management District
Engineering Division
375 Beale Street, Suite 600
San Francisco, CA 94105
ivirrueta@baaqmd.gov | www.baaqmd.gov
Bay Area Air District
CLEAN AIR CHALL

Exciting News! We've rebranded to better reflect our mission and vision.
Discover what's new at: www.baaqmd.gov/branding.

From: Isis O. Virrueta
Sent: Tuesday, February 25, 2025 1:58 PM
To: Nicholas Lorenzen <nlorenzen@dudek.com>
Subject: RE: AN722261, FID203846 Potentia Viridi Energy Storage Facility

Hi Nicholas,

Thank you for the information. I have a few follow up questions.
Find them attached.

Sincerely,

Isis O. Virrueta

Air Quality Engineer II (she/her)
Bay Area Air Quality Management District
Engineering Division
375 Beale Street, Suite 600
San Francisco, CA 94105
ivirrueta@baaqmd.gov | www.baaqmd.gov

From: Nicholas Lorenzen <nlorenzen@dudek.com>
Sent: Tuesday, February 11, 2025 10:42 AM
To: Isis O. Virrueta <ivirrueta@baaqmd.gov>
Subject: RE: AN722261, FID203846 Potentia Viridi Energy Storage Facility

CAUTION: This email originated from outside of the BAAQMD network. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Isis,
Thank you for the detailed response. Please see the following initial responses to the incompleteness letter.

1) The project hasn't gone through the CEQA Process yet, we're in the middle of putting together the initial application to the CEC (lead agency) which includes an air quality technical analysis. The generators will be included in the CEQA analysis.
2) The generators are identical, and they will have identical but separate abatement devices. They will have separate exhausts.
3) See the attached HRA form for the other generator.
4) The spec sheet for the generator notes that the engine family is EPA certified. Do you need more documentation than that?
5) There would be fuel tank installed at the base of each generator. See page 5 of attached "global drawings" PDF attached.
6) Yes, the abatement device includes both a SCR and DPF as part of the system
7) The Eco cube's make, and model should be in the initial submission package, but I've attached here as well. Let me know if more information is needed.

Thanks again for your letter and let me know if it would be easier to talk through this on a call.

Nicholas Lorenzen
Air Resources Specialist

O: 805 308 8517
dudek.com

From: Isis O. Virrueta <ivirrueta@baaqmd.gov>
Sent: Tuesday, January 7, 2025 11:09 AM
To: Nicholas Lorenzen <nlorenzen@dudek.com>
Subject: AN722261, FID203846 Potentia Viridi Energy Storage Facility

Dear Nicholas L.,

My name is Isis Virrueta, I will be evaluating the project in the subject line.

After my initial review I have deemed the application:
Incomplete for Fees and Data
Incomplete for Fees
Incomplete for Data

Find the incompleteness letter and invoice attached.
Please send back the complete data in a single email or email threads.

Based on preliminary information the project:

Triggers a refined Health Risk Assessment: *Inconclusive/**Yes**/No*
Triggers the Public Notice Requirements: *Inconclusive /Yes/**No***
It is located within an Overburdened Community: *Inconclusive /Yes/**No***

This loop is the preferred way of communication, feel free to add your internal staff to this email to keep them posted. Allow up to 72 hours for correspondence to be addressed. Otherwise, please follow up with a High Importance Tag. Currently, the average review takes 6-12 months to be approved. If there is any sensitive deadline for this project, please let me know.

Please reach out to me with any further questions.
Sincerely,

Isis O. Virrueta
Air Quality Engineer II (she/her)
Bay Area Air Quality Management District
Engineering Division
375 Beale Street, Suite 600
San Francisco, CA 94105
ivirrueta@baaqmd.gov | www.baaqmd.gov

Bay Area Air Quality Management District

Message

From: Isis O. Virrueta [ivirrueta@baaqmd.gov]
Sent: 5/22/2025 5:09:00 PM
To: Qian, Wenjun@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e4421be8df5f40ec851d73affcbff913-Qian, Wenju]; Giorgi, Erika@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d171e5d706e34c26ad9d13c230f2349f-1324b266-6e]; Jiang, Tao@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=385e043d00344c059acf8926c0dbd8d1-Jiang, Tao@]; Nicholas Lorenzen [nlorenzen@dudek.com]
Subject: RE: AN722261, FID203846 Potentia Viridi Energy Storage Facility
Attachments: IncompletenessLetter2_FID203846_AN722261.pdf; Application Invoice T181578.pdf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Team,

I have revised the letter with the data required. Since this is a very special project, some items like CEQA documents or Certificate of Exemption may not apply; in the meantime, you can provide the technical data while we clarify and move forward with the project.

Sincerely,

Isis O. Virrueta
Air Quality Engineer II (she/her)
Bay Area Air Quality Management District
Engineering Division
375 Beale Street, Suite 600
San Francisco, CA 94105
ivirrueta@baaqmd.gov | www.baaqmd.gov
Bay Area Air District
BEYOND BAY AREA

Exciting News! We've rebranded to better reflect our mission and vision.
Discover what's new at: www.baaqmd.gov/branding.

From: Isis O. Virrueta
Sent: Thursday, May 22, 2025 9:47 AM
To: Qian, Wenjun@Energy <Wenjun.Qian@energy.ca.gov>; Giorgi, Erika@Energy <Erika.Giorgi@Energy.ca.gov>; Jiang, Tao@Energy <Tao.Jiang@energy.ca.gov>; Nicholas Lorenzen <nlorenzen@dudek.com>
Subject: FW: AN722261, FID203846 Potentia Viridi Energy Storage Facility

Hi Team,

This is the information still required; however, please note:

-CEQA documents – pending due to EIR under preparation
-EPA Family – you have provided emission factors and an EPA Family, but we need to have written proof that this is the correct EPA Family. This can be found in the EPA Certificate or Statement of Exhaust Emissions (Spec Sheets).

Feel free to let me know if you have any questions.
Sincerely,

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Air Quality Engineer II (she/her)
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ivirrueta@baaqmd.gov | www.baaqmd.gov

Bay Area Air District
BEYOND BREATH

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Hi Nicholas,

Thank you for the information. I have a few follow up questions.
Find them attached.

Sincerely,

Isis O. Virrueta
Air Quality Engineer II (she/her)
Bay Area Air Quality Management District
Engineering Division
375 Beale Street, Suite 600
San Francisco, CA 94105
ivirrueta@baaqmd.gov | www.baaqmd.gov

From: Nicholas Lorenzen <nlorenzen@dudek.com>
Sent: Tuesday, February 11, 2025 10:42 AM
To: Isis O. Virrueta <ivirrueta@baaqmd.gov>
Subject: RE: AN722261, FID203846 Potentia Viridi Energy Storage Facility

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Hi Isis,
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Thanks again for your letter and let me know if it would be easier to talk through this on a call.

Nicholas Lorenzen
Air Resources Specialist

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Incomplete for Fees and Data
Incomplete for Fees
Incomplete for Data

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Please send back the complete data in a single email or email threads.

Based on preliminary information the project:
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Triggers the Public Notice Requirements: *Inconclusive /Yes/**No***
It is located within an Overburdened Community: *Inconclusive /Yes/**No***

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Please reach out to me with any further questions.
Sincerely,

Isis O. Virrueta
Air Quality Engineer II (she/her)
Bay Area Air Quality Management District
Engineering Division
375 Beale Street, Suite 600
San Francisco, CA 94105
ivirrueta@baaqmd.gov | www.baaqmd.gov

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

May 20, 2025

ATTN: Nicholas Lorenzen

Application No.: 722261
Plant No.: 203846
Equipment Location: 17257 Patterson Pass Road,
Tracy, CA 95377

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION AND FEES

Dear Applicant:

Your application for an Authority to Construct and/or Permit to Operate the following equipment:

S-1 Emergency Standby Diesel Generator (4680 bhp)
A-1 ECOCUBE System

S-2 Emergency Standby Diesel Generator (4680 bhp)
A-2 ECOCUBE System

Has been assigned the above application number and is currently incomplete.

In order to complete our evaluation, we need the following information/clarifications:

1) **Please provide the EPA Family. The EPA Family is a combination of letters and numbers usually available through the vendor or on the engine's sticker or EPA Certificate.**
2) For the diesel storage tank, please confirm if you wish to obtain a Certificate of Exemption for this tank (filling and initial fees apply). Otherwise, you are responsible for the burden of proof of this exemption. If you want to proceed with the Certificate of Exemption, please complete a T form and provide a Safety Data Sheet for the fuel.
3) Please note that CEQA review documentation must be provided. Further data may be required.
4) **Please provide payment.**

Depending on the responses to the above information requests, the invoice may be adjusted. If the invoice is modified, a revised invoice will be sent out. Your payment options are the following:
a. Follow the link below and put in the invoice # and the last four digits of your customer number. There will be a fee applied.
https://myaironline.baaqmd.gov/account/findPayInvoice
b. If you wish to pay by check, send it to the address in the invoice and mark the envelope Attention: Finance.

Please submit the requested information and your fees within 90 days, or the application will be canceled.

Depending on the responses to the above information requests, the District may have more questions and reserves the right to ask them at the appropriate time. Please provide all responses in a single file or email.

Let me know if you have any questions.
Sincerely,

Isis Virrueta

Isis Virrueta
Air Quality Engineer

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

375 Beale Street, Suite 600
San Francisco, CA 94105
(415) 771-6000
www.baaqmd.gov

PERMIT APPLICATION INVOICE

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TO: Levyy Alameda LLC
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ATTN: Patrick Leitch

Application No.: 722261

Project Title: Emergency Standby Diesel Engine

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4. Mail this portion with your check payment.

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1/7/2025	Toxics Surcharge Fee	$318.00
	Total Fees:	**$18,211.00**

Amount Paid: $0.00
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Application No.: 722261
Project Title: Emergency Standby Diesel Engine

Device	Equipment Description	Fee Type	Fee Amount
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S1	Internal Combustion Engine	Toxics Surcharge Fee	$159.00
S2	Internal Combustion Engine	Filing Fee	$651.00
S2	Internal Combustion Engine	Initial Fee - Schedule B	$3,188.00
S2	Internal Combustion Engine	Permit to Operate Fee - Schedule B	$1,594.00
S2	Internal Combustion Engine	Risk Screen Fee Additional - Schedule B	$3,188.00
S2	Internal Combustion Engine	Toxics Surcharge Fee	$159.00

Message

From: Kelly Strain [kstrain@capstoneinfra.com]
Sent: 4/8/2025 7:58:16 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
CC: Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]; Lauren McLeod [LMcLeod@capstoneinfra.com]; Paul Miller [pam@eurowindenergy.com]; Scott Meyers [SMeyers@capstoneinfra.com]
Subject: RE: Alameda County contacts

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Eric,

Monday at 10:00 AM PDT works for us. We will want to discuss the CEC DRs, mostly the biological resources DRs, but also the AQ/GHG DRs. We may need some clarification on a couple other topics, but those two will be the bulk of our questions. Would you like to send out the meeting invitation, or do you prefer I do so?

Thank you,

Kelsey Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 498-5340
Facsimile +1 (416) 649-[illegible]
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: April 8, 2025 12:00 PM
To: Kelly Strain <kstrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Scott Meyers <SMeyers@capstoneinfra.com>
Subject: RE: Alameda County contacts

Monday's are typically difficult because there are a lot of internal meetings, but we could try to conduct a meeting on the 14th at 10:00 am. Are you looking to primarily have CEC staff representing the technical areas for data requests in the package that went out yesterday, Monday?

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Tuesday, April 8, 2025 11:45 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Scott Meyers <SMeyers@capstoneinfra.com>
Subject: RE: Alameda County contacts

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Eric,

Many of us will be unavailable Next Tuesday at 10:00 AM PDT. Would you be amenable to moving up the meeting to Monday morning, anytime between 8 – noon?

Thank you,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 849 5242
Facsimile +1 (416) 643 1305
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: April 8, 2025 9:14 AM
To: Kelly Strain <kstrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: Alameda County contacts

Ok, sounds good, I will work on getting something on the calendar. We have our next standing team meeting upcoming a week from today. Do you anticipate we could cover items then? TY.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov

www.energy.ca.gov

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Tuesday, April 8, 2025 9:03 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pain@eurowindenergy.com>
Subject: RE: Alameda County contacts

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Eric,

Yes, we agree about the need for another meeting with the County. The contact information for Damien Curry, Rodrigo Orduna, and Samual Tan is as follows:

Damien Curry
damien.curry@acgov.org

Rodrigo Orduna
rodrigo.orduna@acgov.org

Samual Tan
samuelt@acpwa.org

Please let us know if you need any additional information. In the meantime, we received the second CEC Determination letter, and we are working on the responses. We will have questions for the CEC, so we will be requesting a meeting shortly.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 639-5340
Facsimile +1 (416) 642-1995
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: April 8, 2025 8:26 AM
To: Kelly Strain <kstrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Subject: Alameda County contacts

Good Morning Kelly,
The CEC would like to have a follow up with Alameda County staff to discuss the general nature of the Opt-In process and make ourselves available to provide any additional explanation necessary. Our staff was not able to be very well represented on 4/3.

Could you please provide contact information for Damien Curry, Rodrigo Orduna, and Samual Tan. I will reach out to arrange a meeting. TY.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

Message

From: Rocio Perez [rpe@eurowindenergy.com]
Sent: 4/8/2025 6:42:22 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
CC: Kelly Strain [KStrain@capstoneinfra.com]; Ronelle Candia [rcandia@dudek.com]; Lauren McLeod [LMcLeod@capstoneinfra.com]; Paul Miller [pam@eurowindenergy.com]
Subject: RE: Alameda County contacts - adding AC Planning Director

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Eric,

One more contact from Alameda County, Dilan was leading the meeting on 4/3/25.

Dilan Roe
Chief, Land Water Division
dilan.roe@acgov.org

Thank you,

Best regards,

Rocio Perez
Permitting & Development Specialist

Mobile US: +1 (442) 330-8131
Office: +1 (760) 291-8603
E-mail: rpe@eurowindenergy.com

Eurowind Energy

Eurowind Energy US Development LLC
16875 W. Bernardo Dr., Ste 200
San Diego, CA 92127
USA

eurowindenergy.com

CVR./VAT.:

Data Protection.
Eurowind processes personal data in accordance with applicable general data protection regulation. Please review Eurowind´s Data Protection Policy here to see how we collect, store and erase personal data and how to exercise rights as data subject.

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Tuesday, April 8, 2025 10:13 AM
To: Rocio Perez <rpe@eurowindenergy.com>
Subject: RE: Alameda County contacts - adding AC Planning Director

Veerkamp, Eric@Energy reacted to your message:

From: Rocio Perez <rpe@eurowindenergy.com>
Sent: Tuesday, April 8, 2025 5:03:30 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: Alameda County contacts - adding AC Planning Director

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning Eric,

Also providing the Alameda County Planning Director contact Information, we have been in contact with him since last year.

Albert V. Lopez | Planning Director
ALAMEDA COUNTY | Community Development Agency
Planning Department
224 W. Winton Avenue, Room 111 • Hayward, CA 94544
Office 510-670-5426 | Fax 510 785 8793
albert.lopez@acgov.org | www.acgov.org/cda

Thank you,

Best regards,

Rocio Perez
Permitting & Development Specialist

Mobile US: +1 (442) 330-8131
Office: +1 (760) 291-8603
E-mail: rpe@eurowindenergy.com

Eurowind Energy

Eurowind Energy US Development LLC
16875 W. Bernardo Dr., Ste 200
San Diego, CA 92127
USA

eurowindenergy.com

CVR./VAT.:

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From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Tuesday, April 8, 2025 9:03 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: Alameda County contacts

Eric,

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Damien Curry
damien.curry@acgov.org

Rodrigo Orduna
rodrigo.orduna@acgov.org

Samual Tan
samuelt@acpwa.org

Please let us know if you need any additional information. In the meantime, we received the second CEC Determination letter, and we are working on the responses. We will have questions for the CEC, so we will be requesting a meeting shortly.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 539-5340
Facsimile +1 (818) 878-1965
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: April 8, 2025 8:26 AM
To: Kelly Strain <kstrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Subject: Alameda County contacts

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Eric W. Veerkamp

Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

Message

From: Rocio Perez [rpe@eurowindenergy.com]
Sent: 4/8/2025 5:03:30 PM
To: Kelly Strain [kstrain@capstoneinfra.com]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
CC: Ronelle Candia [rcandia@dudek.com]; Lauren McLeod [LMcLeod@capstoneinfra.com]; Paul Miller [pam@eurowindenergy.com]
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Also providing the Alameda County Planning Director contact Information, we have been in contact with him since last year.

Albert V. Lopez | Planning Director
ALAMEDA COUNTY | Community Development Agency
Planning Department
224 W. Winton Avenue, Room 111 • Hayward, CA 94544
Office 510-670-5426 | Fax 510-785-8793
albert.lopez@acgov.org | www.acgov.org/cda

Thank you,

Best regards,

Rocio Perez
Permitting & Development Specialist

Mobile US: +1 (442) 330-8131
Office: +1 (760) 291-8603
E-mail: rpe@eurowindenergy.com

Eurowind Energy

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16875 W. Bernardo Dr., Ste 200
San Diego, CA 92127
USA

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To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>

Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
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Rodrigo Orduna
rodrigo.orduna@acgov.org

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samuelt@acpwa.org

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Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

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Facsimile +1 (416) 642-1995
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
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Eric W. Veerkamp
Project Manager
STEP Division

California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

Message

From: Ronelle Candia [rcandia@dudek.com]
Sent: 4/3/2025 10:54:03 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
CC: Kelly Strain [KStrain@capstoneinfra.com]
Subject: Potentia-Viridi BESS Geotechnical Report

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello,

The Geotechnical Report that Kevin was requesting has been uploaded to the docket.

Let us know if you have any questions.

Best,
Ronelle

Ronelle Candia
Project Manager II

DUDEK 45

45 Years of Impactful Projects

O: 661 509 2787 **C:** 661 203 7312
dudek.com

Message

From: Field @EnergyVeterans.org [field@energyveterans.org]
Sent: 5/27/2025 8:52:12 PM
To: Giblin, Bridget E [bridget_giblin@fws.gov]
CC: Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Freeman, Arwen L [arwen_freeman@fws.gov]
Subject: RE: [EXTERNAL] Potentia-Viridi

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Bridget,
Thanks for clarifying how the PG&E HCP coverage works.

I'm in the process of setting up some bi-weekly check in meetings with CDFW – would love for you to sit in when you have time so we can continue coordination efforts throughout the process. No need for you to attend them all but when we discuss dual listed species/mitigation, etc., it would be helpful.

At this time, the following dates/times are being considered – please let me know if any work better for you:

Tuesdays - anytime after 1:30
Wednesdays – anytime after 1:00
Thursdays – anytime after 2:00

Thanks,
Julie

From: Giblin, Bridget E <bridget_giblin@fws.gov>
Sent: Thursday, May 22, 2025 11:51 AM
To: Field @EnergyVeterans.org <field@energyveterans.org>; Freeman, Arwen L <arwen_freeman@fws.gov>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: Re: [EXTERNAL] Potentia-Viridi

Hi Julie,

Thank you for taking the time to meet today. It was great to get some clarity on the project, especially having joined midway through.

Unfortunately, I am not in a position to make a determination on behalf of PG&E. PG&E will need to decide whether to incorporate this project into their annual work plans and if they have take coverage to extend to this project, provided those activities are covered under the HCP. The applicant will need to coordinate with PG&E to determine whether PG&E will assume responsibility for the O&M actions.

Ann, nice to meet you! I will add you as a recipient of the biological opinion when it is rendered.

Thanks,
Bridget

Bridget Giblin
Fish and Wildlife Biologist

Coast Bay Division
U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825
(916) 414-6624

From: Field @EnergyVeterans.org <field@energyveterans.org>
Sent: Thursday, May 22, 2025 10:41 AM
To: Freeman, Arwen L <arwen_freeman@fws.gov>; Giblin, Bridget E <bridget_giblin@fws.gov>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: RE: [EXTERNAL] Potentia-Viridi

Hi Arwen and Bridget,
Thank you both for meeting this morning. I'm glad we were able to figure this out. I forgot to ask if it's possible for you to let us know once it is determined if there will be coverage under the PG&E HCP?

Bridget, I've cc'd Ann Crisp on this email. Ann is the bio senior with CEC.

Ann, Bridget will add your name to the cc: list when the BO is issued so that CEC gets a copy.

Thanks, Julie

From: Freeman, Arwen L <arwen_freeman@fws.gov>
Sent: Wednesday, May 21, 2025 1:22 PM
To: Field @EnergyVeterans.org <field@energyveterans.org>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Giblin, Bridget E <bridget_giblin@fws.gov>
Subject: Re: [EXTERNAL] Potentia-Viridi

Hi Julie,

Thank you for sending over this information. Is Corps' contact for this project Matthew Di Loreto with the Corps' identification number SPK-2024-00486? I have been informed that this project was split but both projects have the same name. I have cc'd my collogue, Bridget Giblin, who is currently working on the BO for a project with the same name and Corps contact and ID number. If you are available tomorrow between 10am-11am or anytime between 12pm-3pm, Bridget and I will be available for a quick Teams call.

Thank you,
Arwen

Arwen Freeman
Fish and Wildlife Biologist
Coast Bay Division
U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825
(916)-414-6643

From: Field @EnergyVeterans.org <field@energyveterans.org>
Sent: Thursday, May 15, 2025 1:40 PM
To: Freeman, Arwen L <arwen_freeman@fws.gov>

Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: [EXTERNAL] Potentia-Viridi

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi Arwen,
It was nice meeting you today.

Here is the CEC's website where you can subscribe – scroll down and you'll see the Subscribe box on the lower right.
https://www.energy.ca.gov/powerplant/energy-storage-system/potentia-viridi-battery-energy-storage-system

Regarding the Section 7 consultation – the data response we received in January 2025 stated, "A Biological Assessment (BA) was provided to the USACE as an appendix to the CWA, Section 404 application. This BA is currently being reviewed under Section 7 consultation with the USFWS. Consultation was initiated by USACE on September 6, 2024 and the process is on-going".

I believe the name of the future wind turbines is the Mulqueeney Ranch Wind Repowering project – I'll try to find more information on this.

Thanks again for talking with me today, Julie

Julie Myrah
Senior Biologist
Cell: (209) 747-7994

Message

From: Kelly Strain [KStrain@capstoneinfra.com]
Sent: 6/5/2025 3:11:17 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
CC: Ronelle Candia [rcandia@dudek.com]
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 - LSAA and ITP CEC Contact Question

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning, Eric, and Ann~

We are wrapping up our final edits to the biological resources DR responses and related documents and we are unsure if we should list Eric or Ann as the contact for the ITP and LSAA. We previously had the biological unit supervisor listed but thought it best to confirm with you two. We would like to complete our edits today, if possible.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 998 3340
Facsimile +1 (416) 649-[illegible]
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: May 13, 2025 8:06 AM
To: Ronelle Candia <rcandia@dudek.com>; Kelly Strain <KStrain@capstoneinfra.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

Good Morning Ronelle and Kelly,
What I would like to do this morning, is do a quick check in with members of the team other than BIO, and if you do not have any questions or inquiries for anyone, I would like to let everyone else excuse themselves from the meeting. Then we can focus on inquiries to BIO staff.

Thank you.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Ronelle Candia <rcandia@dudek.com>
Sent: Monday, May 12, 2025 12:42 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Kelly Strain <KStrain@capstoneinfra.com>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Eric,

We would like to discuss the following DRs with the CEC's Project Team tomorrow:

- REV 1 DR BIO-2
- REV 1 DR BIO-5
- REV 1 DR BIO-6
- REV 1 DR BIO-9
- REV 1 DR BIO-16
- REV 1 DR BIO-23

No specific questions, just discussion on approach to responding.

Thanks,
Ronelle

Ronelle Candia
Project Manager II

O: 661 509 2787 **C:** 661 203 7312
dudek.com

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Monday, May 12, 2025 9:31 AM
To: Kelly Strain <KStrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

Good Morning Kelly and Ronelle,
To aid the discussion tomorrow, would you please provide us with a list of bulleted discussion topics. I gathered that it was mostly the BIO resources items that you wanted to discuss. TY.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, May 8, 2025 2:58 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Thank you, Eric

Much appreciated!

Kelly

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: May 8, 2025 2:40 PM
To: Kelly Strain <KStrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

Ok, thanks. I will do what I can on my end to make sure the right people are in attendance.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, May 8, 2025 2:35 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

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Good afternoon, Eric

Yes, we would like to go over our biological resources DR responses with you, Ann, and possibly CDFW. We want to ensure our responses address the CECs inquiries.

Sincerely,

Kelona Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 899-5140
Facsimile +1 (416) 640-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: May 8, 2025 2:27 PM
To: Kelly Strain <KStrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

Hi Kelly,
If I understand you correctly, you would like to give us preview of your responses to the BIO DR's, or do you have questions while you are still in the process of drafting responses to the BIO DR's?

I am OK with CDFW being present, but allow me to ask Ann Crisp, the supervisor for BIO.

Thanks for reaching out, it is appreciated.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, May 8, 2025 11:24 AM

To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

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Good morning, Eric

In preparation for next week's meeting with the CEC, we would like to focus on our biological resources DR responses. Is that amenable to you and your bio team? Also, would you feel it best to invite CDFW to the meeting?

Thank you,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 399-5840
Facsimile +1 (415) 670-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain
Sent: April 28, 2025 2:16 PM
To: 'Veerkamp, Eric@Energy' <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; 'Rocio Perez' <rpe@eurowindenergy.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting Tuesday April 29
Importance: High

Eric,

We believe it is best that we continue as planned with tomorrow's meeting to discuss our progress. Can you confirm the meeting will remain on the calendar?

Thank you,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 399-5840
Facsimile +1 (415) 643-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: April 25, 2025 9:14 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Subject: Potentia-Viridi Battery Energy Storage System, 24-OPT-04, Wildfire Hazards Worker Safety DRs Request

Good morning, Eric

We are close to completing our DR responses for the first six technical areas, and we look forward to receiving the last three (Wildfire, Hazardous Materials, and Worker Safety) DRs from the CEC. Can you tell me when we will receive these last DRs? Please let me know if you have any questions or need any additional information.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 383 5240
Facsimile +1 (416) 849 1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: April 17, 2025 7:59 AM
To: Kelly Strain <KStrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>
Subject: RE: 1 Document(s) filed in Potentia-Viridi Battery Energy Storage System, 24-OPT-04,

Hi Kelly,
Yes, this is something the CEC will address. As an intervenor, CURE will receive copies of all mailed notices. TY.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Wednesday, April 16, 2025 5:05 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>
Subject: FW: 1 Document(s) filed in Potentia-Viridi Battery Energy Storage System, 24-OPT-04,

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon, Eric

We received the following CEC docket posting notification. Can you confirm the CEC will address this comment letter from Alex Stukan? Given the CEC will release the NOP and conduct the public hearing(s), I believe this to be the correct approach, but please let us know if this is not correct.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 833 5340
Facsimile +1 (415) 670-1355
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: California Energy Commission <CEC@public.govdelivery.com>
Sent: April 16, 2025 2:44 PM
To: Kelly Strain <KStrain@capstoneinfra.com>
Subject: 1 Document(s) filed in Potentia-Viridi Battery Energy Storage System, 24-OPT-04,

View as a webpage/ Share

Dear Subscribers,

The following 1 Comment(s) submitted to Docket Number **24-OPT-04** have been published:

- Docket Number: 24-OPT-04
  Project Title: Potentia-Viridi Battery Energy Storage System
  TN Number: 262698
  Title: Alex Stukan Comments - Request for Mailed Notice of Actions and Hearings
  Description:
  Filer: System
  Organization: Alex Stukan
  Role: Public
  Submission Date: 4/16/2025 2:41:05 PM
  Docketed Date: 4/16/2025
  Subject(s): Compliance
  Submission Type: Comment
  Page(s): 3

Thank you,
04/16/2025 14:43:23.917

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Sacramento, CA 95814

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Message

From: Giblin, Bridget E [bridget_giblin@fws.gov]
Sent: 6/5/2025 4:23:19 PM
To: Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]
CC: Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
Subject: Re: [EXTERNAL] FW: Compensatory Mitigation Plan

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Julie,

The document is in review with the final signatory as of this morning. I am not sure of an exact timeline because it depends on what comments and questions the final reviewer will need addressed before signing, but I would expect the BO to be signed and sent out sometime this month.

Best,
Bridget

Bridget Giblin
Fish and Wildlife Biologist
Coast Bay Division
U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825
(916) 414-6624

From: Field @EnergyVeterans.org <field@energyveterans.org>
Sent: Thursday, June 5, 2025 9:15 AM
To: Giblin, Bridget E <bridget_giblin@fws.gov>
Cc: Crisp, Ann@Energy <ann.crisp@energy.ca.gov>
Subject: [EXTERNAL] FW: Compensatory Mitigation Plan

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi Bridget,
Just sharing on the Potentia-Viridi project.

Do you have a target date on when the BO will be issued? Just curious to see how it will align with our development of the Preliminary Staff Assessment – which is the CEC version of the draft Environmental Impact Report.

Thanks, Julie

From: Yang, Jenna@Waterboards <Jenna.Yang@Waterboards.ca.gov>
Sent: Tuesday, June 3, 2025 9:41 AM
To: Cameron Johnson <cjohnson@integral-corp.com>

Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Tadlock, Stephanie@Waterboards <Stephanie.Tadlock@waterboards.ca.gov>
Subject: Re: Compensatory Mitigation Plan

Good morning,

My management has approved the compensatory mitigation plan for preserving 213 acre of grassland habitat at Mulqueeney Ranch which includes 2.80 acres of waters and wetlands. At a 3:1 ratio, a minimum preservation of 0.12 acre of waters is required for this project.

The Water Board will not track the remaining 2.68 acres of preserved waters. If/when you have a new project, you can submit a draft compensatory mitigation plan requesting use of the remaining preserved waters. It will be up to you and Westervelt to keep track of the amount of preserved waters remaining. Additionally, please note that preservation is not the preferred compensatory mitigation option since it does not result in a gain of aquatic resource area or functions to offset the permanent loss of aquatic resources from project activities; therefore, I cannot guarantee that your next project will be approved to use the remaining 2.68 acres of preserved waters for compensatory mitigation. We will have to review it on a case-by-case basis.

I believe the remaining item for a complete application now is just payment of the application fee and a signed copy of the 401 Certification Application.

Please note that I will be out of the office starting 4 June 2025 and returning 16 June 2025. If you need anything before my return, please contact my supervisor, Stephanie Tadlock, who has been copied here.

Jenna Yang
Water Resource Control Engineer
401 Water Quality Certification and Dredging Unit
Central Valley Regional Water Quality Control Board
jenna.yang@waterboards.ca.gov

From: Cameron Johnson <cjohnson@integral-corp.com>
Sent: Wednesday, May 28, 2025 12:47 PM
To: Yang, Jenna@Waterboards <Jenna.Yang@Waterboards.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Knight, Eric@Energy <Eric.Knight@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: KStrain@capstoneinfra.com <KStrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>
Subject: Re: Compensatory Mitigation Plan

Caution: External Email. Use caution when clicking links or opening attachments. When in doubt, contact DIT or use the Phish Alert Button.

Hello All - Jenna pointed out a typo in the submittal (thank you Jenna). I have made the edit and replaced the file (in the same folder that was previously shared). You should be able to pick up the eidited .pdf. If for some reason the access does not work, please let me know.

Best- Cameron

CAMERON JOHNSON | Principal
Permitting and Planning
Tel: 415.458.6701 | Cell: 415.602.2970 | Bisbane | CA
cjohnson@integral-corp.com | Bio

integral INSIGHT FOR AN EVOLVING WORLD

From: Cameron Johnson <cjohnson@integral-corp.com>
Sent: Wednesday, May 21, 2025 5:29 PM
To: Yang, Jenna@Waterboards <Jenna.Yang@Waterboards.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Eric.Knight@energy.ca.gov <Eric.Knight@energy.ca.gov>; Ann.Crisp@energy.ca.gov <ann.crisp@energy.ca.gov>
Cc: KStrain@capstoneinfra.com <KStrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>
Subject: Re: Compensatory Mitigation Plan

Hello Jenna- I just sent you an invite to "share" a file. The file includes the mitigation proposal that we discussed. Please note that I am cc'ing the California Energy Commission (CEC) regulators on this email as well as the project managers. I am including a link (below), in case any of you did not receive the invite.

The proposal outlines the mitigation area that is being currently reviewed by the U.S. Fish & Wildlife Service, and the California Department of Fish & Wildlife. The mitigation property is located directly west of the proposed project site and includes the same habitat types, topography, and vegetation associations; it also includes waters and wetlands that will be preserved as a part of the mitigation package. These include ponds, swales, and seasonal wetlands.

Please review the proposal and let me know if you have any questions, or if you require any additional information to support the 401 review.

Best - Cameron Johnson

Shared with RWQCB and CEC 052125

From: Yang, Jenna@Waterboards <Jenna.Yang@Waterboards.ca.gov>
Sent: Monday, May 5, 2025 10:22 AM
To: Cameron Johnson <cjohnson@integral-corp.com>
Subject: Compensatory Mitigation Plan

[CAUTION: External email. Think before you click links or open attachments.]
Hi Cameron,

I just left you a voicemail.

The Compensatory Mitigation Plan can be attached via email and be in something as simple as a memo format telling me what the plan is, as long as the information complies with our Procedures. We do not have a specific form requirement for the compensatory mitigation plan. Please make sure that you're copying the CEC as well so that everyone is up-to-speed on what's going on.

Thank you,

Jenna Yang
Water Resource Control Engineer
401 Water Quality Certification and Dredging Unit
Central Valley Regional Water Quality Control Board
jenna.yang@waterboards.ca.gov

Message

From: Kelly Strain [KStrain@capstoneinfra.com]
Sent: 6/5/2025 5:43:46 PM
To: Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
CC: Ronelle Candia [rcandia@dudek.com]
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 - LSAA and ITP CEC Contact Question

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Good morning, Ann

I went ahead and called Eric this morning and he said to go ahead and list him as the CEC contact and he can forward things along to you. As such, our edits were made to reflect him as the new CEC point of contact and project PM. We are more than happy to revise them to reflect you as the contact if you believe that to be the best approach. Please let me know as soon as possible.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

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Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Sent: June 5, 2025 10:29 AM
To: Kelly Strain <KStrain@capstoneinfra.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: Re: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 - LSAA and ITP CEC Contact Question

Hi Kelly,

I would put myself, as the new unit supervisor.

Thanks for checking,

Ann

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, June 5, 2025 8:11 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 - LSAA and ITP CEC Contact Question

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning, Eric, and Ann~

We are wrapping up our final edits to the biological resources DR responses and related documents and we are unsure if we should list Eric or Ann as the contact for the ITP and LSAA. We previously had the biological unit supervisor listed but thought it best to confirm with you two. We would like to complete our edits today, if possible.

Sincerely,

Kelly Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 849 5340
Facsimile +1 (415) 643-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: May 13, 2025 8:06 AM
To: Ronelle Candia <rcandia@dudek.com>; Kelly Strain <KStrain@capstoneinfra.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

Good Morning Ronelle and Kelly,
What I would like to do this morning, is do a quick check in with members of the team other than BIO, and if you do not have any questions or inquiries for anyone, I would like to let everyone else excuse themselves from the meeting. Then we can focus on inquiries to BIO staff.

Thank you.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Ronelle Candia <rcandia@dudek.com>
Sent: Monday, May 12, 2025 12:42 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Kelly Strain <KStrain@capstoneinfra.com>

Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

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Hi Eric,

We would like to discuss the following DRs with the CEC's Project Team tomorrow:

- REV 1 DR BIO-2
- REV 1 DR BIO-5
- REV 1 DR BIO-6
- REV 1 DR BIO-9
- REV 1 DR BIO-16
- REV 1 DR BIO-23

No specific questions, just discussion on approach to responding.

Thanks,
Ronelle

Ronelle Candia
Project Manager II

O: 661 509 2787 **C:** 661 203 7312
dudek.com

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Monday, May 12, 2025 9:31 AM
To: Kelly Strain <KStrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

Good Morning Kelly and Ronelle,
To aid the discussion tomorrow, would you please provide us with a list of bulleted discussion topics. I gathered that it was mostly the BIO resources items that you wanted to discuss. TY.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, May 8, 2025 2:58 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>

Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

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Thank you, Eric

Much appreciated!

Kelly

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: May 8, 2025 2:40 PM
To: Kelly Strain <KStrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

Ok, thanks. I will do what I can on my end to make sure the right people are in attendance.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, May 8, 2025 2:35 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

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Good afternoon, Eric

Yes, we would like to go over our biological resources DR responses with you, Ann, and possibly CDFW. We want to ensure our responses address the CECs inquiries.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 383 5540
Facsimile +1 (416) 849 1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: May 8, 2025 2:27 PM
To: Kelly Strain <KStrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

Hi Kelly,
If I understand you correctly, you would like to give us preview of your responses to the BIO DR's, or do you have questions while you are still in the process of drafting responses to the BIO DR's?

I am OK with CDFW being present, but allow me to ask Ann Crisp, the supervisor for BIO.

Thanks for reaching out, it is appreciated.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, May 8, 2025 11:24 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning, Eric

In preparation for next week's meeting with the CEC, we would like to focus on our biological resources DR responses. Is that amenable to you and your bio team? Also, would you feel it best to invite CDFW to the meeting?

Thank you,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 409-5340
Facsimile +1 (416) 649 1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain
Sent: April 28, 2025 2:16 PM
To: 'Veerkamp, Eric@Energy' <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; 'Rocio Perez' <rpe@eurowindenergy.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting Tuesday April 29
Importance: High

Eric,

We believe it is best that we continue as planned with tomorrow's meeting to discuss our progress. Can you confirm the meeting will remain on the calendar?

Thank you,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 393 5040
Facsimile +1 (416) 649 1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: April 25, 2025 9:14 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Subject: Potentia-Viridi Battery Energy Storage System, 24-OPT-04, Wildfire Hazards Worker Safety DRs Request

Good morning, Eric

We are close to completing our DR responses for the first six technical areas, and we look forward to receiving the last three (Wildfire, Hazardous Materials, and Worker Safety) DRs from the CEC. Can you tell me when we will receive these last DRs? Please let me know if you have any questions or need any additional information.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 499-5740
Facsimile +1 (415) 670-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: April 17, 2025 7:59 AM
To: Kelly Strain <KStrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>
Subject: RE: 1 Document(s) filed in Potentia-Viridi Battery Energy Storage System, 24-OPT-04,

Hi Kelly,
Yes, this is something the CEC will address. As an intervenor, CURE will receive copies of all mailed notices. TY.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Wednesday, April 16, 2025 5:05 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>
Subject: FW: 1 Document(s) filed in Potentia-Viridi Battery Energy Storage System, 24-OPT-04,

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Good afternoon, Eric

We received the following CEC docket posting notification. Can you confirm the CEC will address this comment letter from Alex Stukan? Given the CEC will release the NOP and conduct the public hearing(s), I believe this to be the correct approach, but please let us know if this is not correct.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

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Facsimile +1 (416) 849 1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: California Energy Commission <CEC@public.govdelivery.com>
Sent: April 16, 2025 2:44 PM
To: Kelly Strain <KStrain@capstoneinfra.com>
Subject: 1 Document(s) filed in Potentia-Viridi Battery Energy Storage System, 24-OPT-04,

View as a webpage/ Share

Dear Subscribers,

The following 1 Comment(s) submitted to Docket Number **24-OPT-04** have been published:

- Docket Number: 24-OPT-04
  Project Title: Potentia-Viridi Battery Energy Storage System
  TN Number: 262698
  Title: Alex Stukan Comments - Request for Mailed Notice of Actions and Hearings
  Description:
  Filer: System
  Organization: Alex Stukan
  Role: Public
  Submission Date: 4/16/2025 2:41:05 PM
  Docketed Date: 4/16/2025
  Subject(s): Compliance
  Submission Type: Comment
  Page(s): 3

Thank you,
04/16/2025 14:43:23.917

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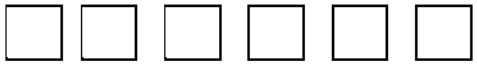

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Message

From: Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
Sent: 6/5/2025 5:29:09 PM
To: Kelly Strain [KStrain@capstoneinfra.com]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
CC: Ronelle Candia [rcandia@dudek.com]
Subject: Re: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 - LSAA and ITP CEC Contact Question

Hi Kelly,

I would put myself, as the new unit supervisor.

Thanks for checking,

Ann

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, June 5, 2025 8:11 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 - LSAA and ITP CEC Contact Question

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning, Eric, and Ann~

We are wrapping up our final edits to the biological resources DR responses and related documents and we are unsure if we should list Eric or Ann as the contact for the ITP and LSAA. We previously had the biological unit supervisor listed but thought it best to confirm with you two. We would like to complete our edits today, if possible.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 906 5940
Facsimile +1 (424) 649-[illegible]
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: May 13, 2025 8:06 AM
To: Ronelle Candia <rcandia@dudek.com>; Kelly Strain <KStrain@capstoneinfra.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

Good Morning Ronelle and Kelly,
What I would like to do this morning, is do a quick check in with members of the team other than BIO, and if you do not have any questions or inquiries for anyone, I would like to let everyone else excuse themselves from the meeting. Then we can focus on inquiries to BIO staff.

Thank you.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Ronelle Candia <rcandia@dudek.com>
Sent: Monday, May 12, 2025 12:42 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Kelly Strain <KStrain@capstoneinfra.com>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

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Hi Eric,

We would like to discuss the following DRs with the CEC's Project Team tomorrow:

- REV 1 DR BIO-2
- REV 1 DR BIO-5
- REV 1 DR BIO-6
- REV 1 DR BIO-9
- REV 1 DR BIO-16
- REV 1 DR BIO-23

No specific questions, just discussion on approach to responding.

Thanks,
Ronelle

Ronelle Candia
Project Manager II

O: 661 509 2787 **C:** 661 203 7312
dudek.com

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Monday, May 12, 2025 9:31 AM
To: Kelly Strain <KStrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

Good Morning Kelly and Ronelle,

To aid the discussion tomorrow, would you please provide us with a list of bulleted discussion topics. I gathered that it was mostly the BIO resources items that you wanted to discuss. TY.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, May 8, 2025 2:58 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

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Thank you, Eric

Much appreciated!

Kelly

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: May 8, 2025 2:40 PM
To: Kelly Strain <KStrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

Ok, thanks. I will do what I can on my end to make sure the right people are in attendance.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, May 8, 2025 2:35 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

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Good afternoon, Eric

Yes, we would like to go over our biological resources DR responses with you, Ann, and possibly CDFW. We want to ensure our responses address the CECs inquiries.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 393 5040
Facsimile +1 (416) 849 1305
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: May 8, 2025 2:27 PM
To: Kelly Strain <KStrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

Hi Kelly,
If I understand you correctly, you would like to give us preview of your responses to the BIO DR's, or do you have questions while you are still in the process of drafting responses to the BIO DR's?

I am OK with CDFW being present, but allow me to ask Ann Crisp, the supervisor for BIO.

Thanks for reaching out, it is appreciated.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, May 8, 2025 11:24 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting May 13

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Good morning, Eric

In preparation for next week's meeting with the CEC, we would like to focus on our biological resources DR responses. Is that amenable to you and your bio team? Also, would you feel it best to invite CDFW to the meeting?

Thank you,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 399 5340
Facsimile +1 (424) 849-1837
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain
Sent: April 28, 2025 2:16 PM
To: 'Veerkamp, Eric@Energy' <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; 'Rocio Perez' <rpe@eurowindenergy.com>
Subject: RE: Potentia-Viridi Battery Energy Storage System, 24-OPT-04 Meeting Tuesday April 29
Importance: High

Eric,

We believe it is best that we continue as planned with tomorrow's meeting to discuss our progress. Can you confirm the meeting will remain on the calendar?

Thank you,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 899-5010
Facsimile +1 (424) 849-1855

Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: April 25, 2025 9:14 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Subject: Potentia-Viridi Battery Energy Storage System, 24-OPT-04, Wildfire Hazards Worker Safety DRs Request

Good morning, Eric

We are close to completing our DR responses for the first six technical areas, and we look forward to receiving the last three (Wildfire, Hazardous Materials, and Worker Safety) DRs from the CEC. Can you tell me when we will receive these last DRs? Please let me know if you have any questions or need any additional information.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 496-5740
Facsimile +1 (415) 670-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: April 17, 2025 7:59 AM
To: Kelly Strain <KStrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>
Subject: RE: 1 Document(s) filed in Potentia-Viridi Battery Energy Storage System, 24-OPT-04,

Hi Kelly,
Yes, this is something the CEC will address. As an intervenor, CURE will receive copies of all mailed notices. TY.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Wednesday, April 16, 2025 5:05 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>
Subject: FW: 1 Document(s) filed in Potentia-Viridi Battery Energy Storage System, 24-OPT-04,

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Good afternoon, Eric

We received the following CEC docket posting notification. Can you confirm the CEC will address this comment letter from Alex Stukan? Given the CEC will release the NOP and conduct the public hearing(s), I believe this to be the correct approach, but please let us know if this is not correct.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 398 5340
Facsimile +1 (310) 848 1337
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: California Energy Commission <CEC@public.govdelivery.com>
Sent: April 16, 2025 2:44 PM
To: Kelly Strain <KStrain@capstoneinfra.com>
Subject: 1 Document(s) filed in Potentia-Viridi Battery Energy Storage System, 24-OPT-04,

View as a webpage/ Share

Dear Subscribers,

The following 1 Comment(s) submitted to Docket Number **24-OPT-04** have been published:

- Docket Number: 24-OPT-04
  Project Title: Potentia-Viridi Battery Energy Storage System
  TN Number: 262698
  Title: Alex Stukan Comments - Request for Mailed Notice of Actions and Hearings
  Description:
  Filer: System
  Organization: Alex Stukan
  Role: Public
  Submission Date: 4/16/2025 2:41:05 PM
  Docketed Date: 4/16/2025
  Subject(s): Compliance
  Submission Type: Comment
  Page(s): 3

Thank you,
04/16/2025 14:43:23.917

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Message

From: Beeler, Heather [Heather_Beeler@fws.gov]
Sent: 6/10/2025 8:44:42 PM
To: Blinn, Brenda@Wildlife [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=35d13e8c62424b8a96837fec8ad35259-1dc2fa29-35]; Sinclair, Crystal@Wildlife [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bbf6367d6e8e43139c891b332054ee8b-9ba716bc-ec]; Giblin, Bridget E [bridget_giblin@fws.gov]
CC: Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
Subject: FW: Midway Pair FW: [EXTERNAL] RE: Potentia-Viridi BESS (24-OPT-04)
Attachments: Wiens & Kolar 2021_Golden Eagles in the vicinity of APWRA.pdf; USGS Golden Eagle Surveys_2023_CCWD.pdf

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Hi all,
I don't know why I didn't include CDFW at the same time. Now everyone has record of what I shared and know.
Thanks,
Heather

Heather Beeler
Eagle Permit Coordinator
Migratory Bird Program, R8
U.S. Fish and Wildlife Service
Cell: 775-508-9754

From: Beeler, Heather
Sent: Tuesday, June 10, 2025 1:42 PM
To: Crisp, Ann@Energy <ann.crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: FW: Midway Pair FW: [EXTERNAL] RE: Potentia-Viridi BESS (24-OPT-04)

FYI, let me know if you have questions.

Heather Beeler
Eagle Permit Coordinator
Migratory Bird Program, R8
U.S. Fish and Wildlife Service
Cell: 775-508-9754

From: Beeler, Heather
Sent: Monday, April 14, 2025 3:54 PM
To: Laura Burris <lburris@dudek.com>
Subject: FW: Midway Pair FW: [EXTERNAL] RE: Potentia-Viridi BESS (24-OPT-04)

Hi Laura,
It was nice talking to you. Here's the information I got from Patrick Kolar at the USGS regarding eagle breeding territorial pairs and nests within your project area.
Let me know if you want to discuss further. I haven't taken a closer look at the Jess Ranch pair in relation to your project just yet. Again, a lot of the boundary of nest buffers will depend on the final design and size of the project likely.
Regarding implementing nest buffers within one mile of a project, here are the Service's recommendations.

https://www.fws.gov/library/collections/eagle-nest-buffers-california-and-nevada Eagle incidental take permits are available should take be unavoidable. More information is available here: https://www.fws.gov/program/eagle-management

If you follow this link from the Eagle Management webpage for eagle incidental disturb and nest take permits (https://www.fws.gov/program/eagle-management eagle-incidental-disturbance-and-nest-take-permits) there's an important thing to be aware of. Our updated regulations set up a process for General Permits and Specific Permits. For golden eagles' disturbance or nest take Specific Permits are the only option due to their population status. There are General Permits (do it yourself online) available for many bald eagle activities, some low risk wind projects and for electric utilities. I thought I'd highlight some of that because if you just scroll through the web pages you might get lost and confused otherwise.

I'm not personally sure yet what risk may or may not be for this project. I appreciate you reaching out.
Thanks,
Heather

Heather Beeler
Eagle Permit Coordinator
Migratory Bird Program, R8
U.S. Fish and Wildlife Service
Cell: 775-508-9754

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From: Kolar, Patrick S <pkolar@usgs.gov>
Sent: Friday, March 28, 2025 7:34 AM
To: Beeler, Heather <Heather_Beeler@fws.gov>
Cc: Wiens, David <jwiens@usgs.gov>
Subject: Re: Midway Pair FW: [EXTERNAL] RE: Potentia-Viridi BESS (24-OPT-04)

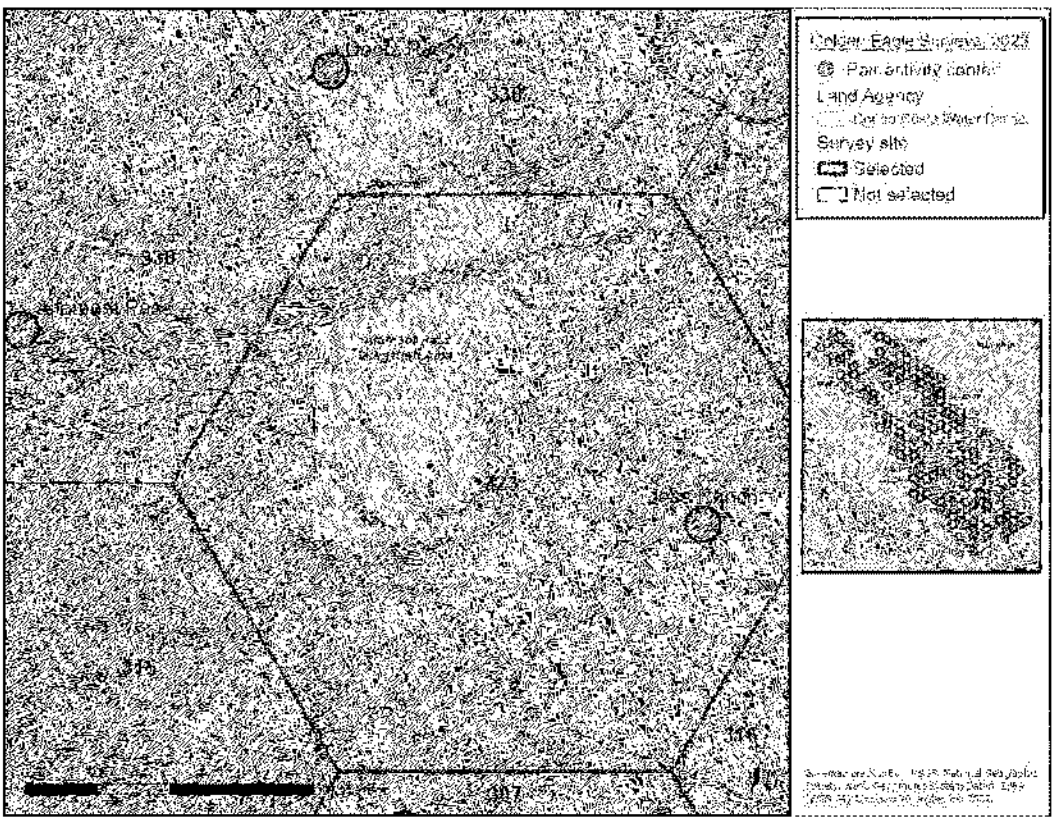
Hi Heather,

I looked up the project on CEC quick and found a description with figures of the location. The Midway Road pair has been using their only known nest about 2.13 km (1.3 mi) SW of the proposed project. We have reported on this pair and their nest in the most recent report comparing golden eagles in the APRWA and broader Diablo Range (see Appendix in Wiens and Kolar 2021, attached).

There is actually second pair nearby to the north of the project that I've seen sporadically that I call Jess Ranch. This area seemed to be used by the Midway Road pair during the early years of our study, but that pair later moved closer toward their current nest. During 2023, I confirmed this second Jess Ranch territory was occupied as well when I saw an adult and subadult attempting to build a nest in a transmission tower near 121.5743034°W 37.7231579°N, 0.96 km (0.59 mi) N of the project. I did not see the pair during 2024 and might have seen them once so far this year. They didn't make it very far in building that nest and I have not included it as an "official" nest location in our database. I've included a short description and figure of my observations in this area during 2023 (see below and attached) as part of our access permit report to Contra Costa Water District, which owns a mitigation parcel nearby.

Altamont Pass Mitigation Area (Deetz Ranch and Altamont Pass territories)
In 2023 we detected three territorial pairs of golden eagles and multiple non-territorial individuals of different

age classes perching and hunting on the CCWD Altamont Pass Mitigation Area. The Midway Road pair overlapped with the southern portion of this area during previous surveys, but during 2023 most of their activity was further south in focal site 307. We observed the Altamont Pass pair hunting near the western boundary of the mitigation lands, but most of their activity was in site 330 where they were building or refurbishing a nest on privately-owned land (Fig. 3). The Deetz Ranch pair, again consisting of an adult pair in which one appeared to have a backpack transmitter, overlapped with the northern portion of the mitigation area and adjacent private lands outside our focal survey area in site 338 (Fig. 3). After observing these adult pairs in the surrounding lands, we identified an additional pair consisting of an adult male and subadult female copulating on the mitigation lands in site 323. This new pair, Jess Ranch, appeared to be occupying an area that was previously part of the Midway Road territory from 2014-2019. In late January, this new Jess Ranch pair began building a nest in a transmission tower 1.59 km (0.95 miles) from the southeastern boundary of the mitigation boundary, but it was quickly blown out by strong wind and did not appear to be constructed again. We found no sign of nesting by this pair elsewhere or by any others in the area during the remaining portion of the season.



Hope this helps,
Patrick

--

Patrick Kolar, M.S.
Wildlife Biologist
Forest & Rangeland Ecosystem Science Center
Diablo Range Study Area, CA
Phone: (406) 582-8206
Email: pkolar@usgs.gov

From: Beeler, Heather <Heather_Beeler@fws.gov>
Sent: Thursday, March 27, 2025 5:13 PM

To: Kolar, Patrick S <pkolar@usgs.gov>
Subject: Midway Pair FW: [EXTERNAL] RE: Potentia-Viridi BESS (24-OPT-04)

Hi Patrick,
Whenever you have time, I'd like to pick your brain or you can maybe send me an email summarizing what we currently know about the midway pair. If there's a more recent report, you could just point me to that too. There's a CEC evaluation of a Battery Storage Project within about a mile of one of their nest locations. I'm providing technical assistance. I'm off work tomorrow, fyi.
Thanks,
Heather

Heather Beeler
Eagle Permit Coordinator
Migratory Bird Program, R8
U.S. Fish and Wildlife Service
Cell: 775-508-9754

From: Field @EnergyVeterans.org <field@energyveterans.org>
Sent: Thursday, March 27, 2025 2:27 PM
To: Beeler, Heather <Heather_Beeler@fws.gov>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Blinn, Brenda@Wildlife <Brenda.Blinn@wildlife.ca.gov>
Subject: [EXTERNAL] RE: Potentia-Viridi BESS (24-OPT-04)

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Hi again,
I see occurrences 323 and 324 on CNDDB – please let me know if one of those are the midway pair or if there is another location.
Thanks again, Julie

From: Field @EnergyVeterans.org
Sent: Thursday, March 27, 2025 2:17 PM
To: heather_beeler@fws.gov
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Blinn, Brenda@Wildlife <Brenda.Blinn@wildlife.ca.gov>
Subject: Potentia-Viridi BESS (24-OPT-04)

Hi Heather,
Just following up on the midway pair you mentioned located near the Potentia-Viridi project in Alameda County – the applicant did not include the pair – do you have more information you can share with me as to occurrence number or location? I am not seeing it on CNDDB so want to make sure we address it especially if it is within a mile of the project area.

Thanks, Julie

Julie Myrah
Senior Biologist
Cell: (209) 747-7994

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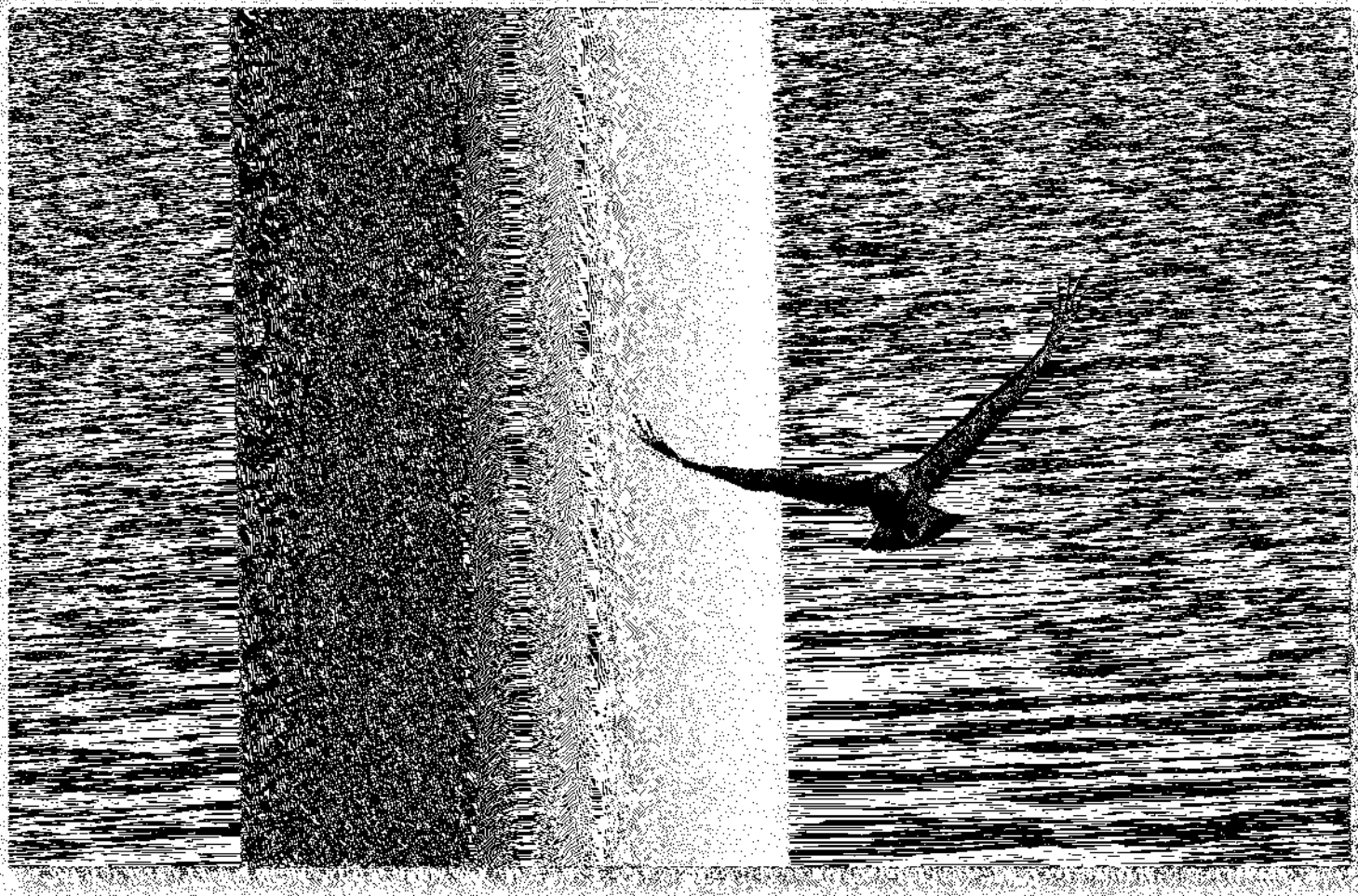
Prepared in cooperation with the U.S. Fish and Wildlife Service and East Bay Regional Park District

Golden Eagle Population Surveys in the Vicinity of the Altamont Pass Wind Resource Area, California, 2014–21



Open-File Report 2021–1107

U.S. Department of the Interior
U.S. Geological Survey

POVI 0002377

Cover: Golden Eagle soaring near a wind turbine tower in the Altamont Pass Wind Resource Area, California, 2021. Photo by Patrick Kelar, U.S. Geological Survey.

Golden Eagle Population Surveys in the Vicinity of the Altamont Pass Wind Resource Area, California, 2014–21

By J. David Wiens and Patrick S. Kolar

Prepared in cooperation with the U.S. Fish and Wildlife Service and East Bay Regional Park District

Open-File Report 2021–1107

U.S. Department of the Interior
U.S. Geological Survey

POVI 0002379

U.S. Geological Survey, Reston, Virginia: 2021

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Suggested citation:
Wiens, J.D., and Kolar, P.S., 2021, Golden eagle population surveys in the vicinity of the Altamont Pass Wind Resource Area, California, 2014–21: U.S. Geological Survey Open-File Report 2021–1107, 18 p., https://doi.org/10.3133/ofr20211107.

ISSN 2331-1258 (online)

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Conversion Factors

International System of Units to U.S. customary units

Multiply	By	To obtain
	Length	
meter (m)	3.281	foot (ft)
kilometer (km)	0.6214	mile (mi)
	Area	
hectare (ha)	2.471	acre
square kilometer (km^2)	0.3861	square mile (mi^2)

Datum

Vertical coordinate information is referenced to the North American Vertical Datum of 1988 (NAVD 88).

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83).

Altitude, as used in this report, refers to distance above the vertical datum.

Golden Eagle Population Surveys in the Vicinity of the Altamont Pass Wind Resource Area, California, 2014–21

By J. David Wiens and Patrick S. Kolar

Abstract

Golden Eagles (*Aquila chrysaetos*) are among the highest profile species killed by collisions with wind turbines at the Altamont Pass Wind Resource Area (APWRA) in the northern Diablo Range of west-central California. Understanding the distribution, site occupancy, and nesting status of eagles near the APWRA is needed to identify and minimize possible population-level impacts. We established a broad-scale survey design across a 5,185-km square-kilometer region of the Diablo Range, including the APWRA, to monitor site occupancy, abundance, and reproduction of Golden Eagles. During the study period we identified as many as 230 territorial pairs of Golden Eagles in the study area, up to 21 of which overlapped with the APWRA in any given year. On average, we detected a similar density of pairs at sites surveyed in the APWRA (1 pair per 17.8 km^2 surveyed) relative to sites surveyed in the surrounding region (1 pair per 20.3 km^2 surveyed). In 2020 and 2021, estimates of the proportion of pairs that successfully fledged at least one young (nesting success) were 0.27 and 0.26, respectively, which were above the seven-year average (0.22). On average, eagle pairs monitored in the APWRA had similar reproductive output (0.37 young fledged per pair) relative to pairs monitored outside of the APWRA (0.30 young fledged per pair). We observed a substantially higher proportion of territorial subadult pair members at the APWRA (mean = 29 percent of 16 pairs aged) relative to pairs monitored and aged in the surrounding region (mean = 3 percent of 122 pairs), indicating potentially higher rates of adult mortality or displacement at territories overlapping with the APWRA. Emergent threats to eagles in the study region, including a severe wildfire that impacted over 60 historical breeding territories in 2020, may interact with existing threats to affect population status and thus warrants further investigation. Our study provides wind energy developers, land managers, and regulatory agencies with key information on the spatial distribution, habitat quality, and population status of Golden Eagles needed to promote compatible wind energy production and long-term conservation of this federally protected wildlife species.

Background and Research Objectives

Golden Eagles (*Aquila chrysaetos*) are an increasing global conservation concern and are among the highest profile wildlife species killed by collisions with wind turbines at the Altamont Pass Wind Resource Area (APWRA; Orloff and Flannery, 1992; Smallwood and Thelander, 2008; Hunt and others, 2017). A clear understanding of the distribution, nesting activity, and population status of Golden Eagles exposed to increased mortality risk at wind-energy facilities is needed for conservation planning and permitting purposes (U.S. Fish and Wildlife Service, 2013). To address these needs, we established a broad-scale study to estimate site occupancy, reproduction, abundance, and habitat quality of Golden Eagles in the northern Diablo Range and APWRA (Wiens and others, 2015, 2018, 2020; Kolar and Wiens, 2017). The probabilistic sampling design used in this study provides statistically robust information on the distribution and annual reproductive status of territorial pairs of eagles, in addition to site-use by non-territorial subadults (birds 1–4 years old), across landscapes with and without wind turbines. This information enables a more comprehensive understanding of the population-level impacts of multiple interacting stressors, including wind energy production, to Golden Eagles and their habitats.

Targeted monitoring of Golden Eagle populations is an integral component of effective management, serving as a guide for deciding the appropriate course of management action, evaluating the effectiveness of such actions, and providing options to better achieve management goals. At the APWRA, monitoring of the local population of Golden Eagles has provided a strong foundation for evaluating future changes in the population and determining how wind-energy related mortality may interact with other, emerging threats such as severe drought and large wildfires to affect management and conservation of this federally protected species. This report summarizes population surveys of Golden Eagles completed in the northern Diablo Range and the APWRA during 2014–21 (surveys were not completed in 2017). Specifically, we summarize: (1) site occupancy, reproduction, and numbers of territorial pairs of Golden Eagles detected annually; and (2) annual observations of subadult Golden Eagles (including territorial pair members and non-territorial individuals). We further document annual observations of territorial pairs of Golden

Eagles, including nesting and roosting locations, within 3.2 km of the APWRA. We focus primarily on more recent findings from 2019 to 2021; results from population surveys completed in 2014–18 are provided elsewhere (Wiens and others, 2015, 2018, 2020; Kolar and Wiens, 2017). This information should be considered preliminary, serving as baseline information for forthcoming analyses.

Methods

Study Area

The 5,185-square kilometer (km^2) study area was in the northern Diablo Range of west-central California and included the APWRA (fig. 1). Current management guidelines for Golden Eagles consider occupied territories overlapping a 2-mile (3.2 kilometer [km]) radius with wind-energy project boundaries to be at risk of disturbance, injury, or death resulting from activities associated with operations of the development and infrastructure (U.S. Fish and Wildlife Service, 2013). Therefore, we considered a 3.2-km radius (total area = 363 km^2) around locations of historical and existing wind turbines to distinguish survey efforts and eagles located near the APWRA, from those in the broader northern Diablo Range (fig. 1). This study area included private ranchlands with livestock grazing, in addition to state, county, and municipal lands that received variable amounts of grazing and recreational use. Nesting substrates used by Golden Eagles in the Diablo Range study area were predominantly oak (*Quercus* spp.), conifer (*Pinus* spp.), California Bay Laurel (*Umbellularia californica*), Western Sycamore (*Platanus racemose*), cottonwood (*Populus* spp.), non-native tree species such as eucalyptus (*Eucalyptus* spp.), 230 kilovolt transmission line towers, and rarely, small cliff faces and rock outcrops (Kolar and Wiens, 2017).

Golden Eagle Monitoring Design and Survey Protocol

We combined a standard site-occupancy study design (MacKenzie and others, 2017) with general recommendations of Driscoll (2010) and Pagel and others (2010) to survey and monitor the focal population of Golden Eagles. We conducted repeated (2–4) surveys at a sample of 152 survey sites we randomly selected from a grid of 373 equally sized (13.9 km^2) hexagon cells overlaid on the study area (fig. 1). We considered each hexagon cell as a 'site' where observers conducted repeated area searches for evidence of occupancy, use, and reproduction by Golden Eagles. During surveys observers recorded the location, number, age, and behaviors of all Golden Eagles detected. We mapped all perches, flight paths, territorial displays, and locations of nests and fledged young to approximate annual activity centers used by territorial pairs. When possible, we also monitored pairs of eagles regularly detected in hexagons adjacent to our focal (randomly selected) hexagons, which allowed us to better distinguish among territorial pairs with activity centers in focal versus non-focal survey sites. We surveyed sites with pair detections in mid-June to late-July to locate nests or fledglings where reproduction was not previously confirmed and to determine the number of young fledged per territorial pair. We attempted to classify all Golden Eagles detected in focal and non-focal survey sites as subadults (1–4 years old) or adults based on visible plumage characteristics (see Kolar and Wiens, 2017). Additional details on the study area, sampling design, aging methods, and field protocols we used are provided elsewhere (Wiens and others, 2015, 2018; Kolar and Wiens, 2017). Because detection probabilities of Golden Eagles are below 1 (Wiens and others, 2018, 2020), empirical data reported here may underestimate site occupancy, reproduction, and numbers of Golden Eagles present.

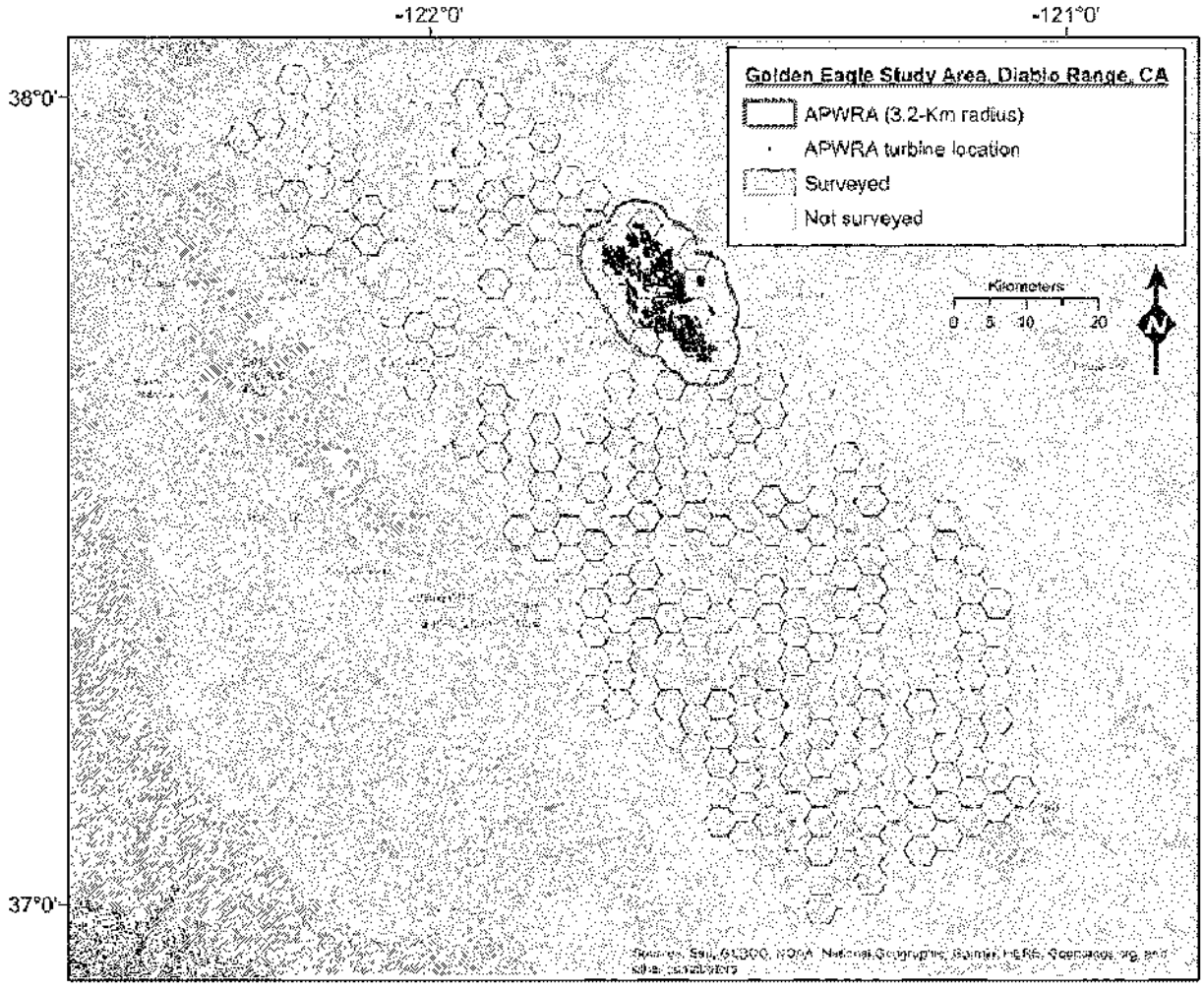

Figure 1. Northern Diablo Range study area, showing the distribution of randomly selected survey sites (13.9 square kilometer hexagons) that were repeatedly searched for evidence of occupancy and reproduction by Golden Eagles during 2014–21 (surveys were not completed in 2017). The Altamont Pass Wind Resource Area (APWRA) was delineated by a 3.2 km (2-mile) radius around historical and current (operational) wind turbine locations.

Results

Site Occupancy and Reproduction

Northern Diablo Range and Altamont Wind Resource Area

From 2014 to 2021 (no surveys were completed in 2017), we conducted 2,946 surveys at as many as 152 randomly selected (focal) sites in the northern Diablo Range study area and APWRA combined (table 1)[1]. The proportion of sites with detections of at least 1 pair of Golden Eagles (naïve occupancy) ranged from a low of 0.55 in 2020 to a high of 0.66 in 2014–15. Surveys in 2019 and 2020 were more limited relative to previous years because of budget limitations, weather-related road closures, and changes in land-access to some survey sites. During the 2021 season, we reestablished surveys at many of the sites covered in previous years. In both 2019 and 2020, we detected at least one territorial pair of Golden Eagles at 65 focal survey sites, representing 58 percent of sites surveyed in 2019 and 55 percent of sites surveyed in 2020. During 2021, we detected at least one territorial pair of Golden Eagles at 79 sites, representing 60 percent of sites surveyed. In 2019, we detected 71 total pairs at 113 sites surveyed (mean = 0.63 pairs detected per site), in 2020 we detected 74 pairs at 118 sites surveyed (mean = 0.63 pairs detected per site), and in 2021 we detected 90 pairs at 132 sites surveyed (mean = 0.68 pairs detected per site; table 1). These estimates do not include repeated detections of single territorial adult Golden Eagles at two different survey sites in 2019 and 2021.

[1]Does not include 13 additional sites in the East Contra Costa Habitat Conservation Plan Inventory Area that were surveyed in 2019; for details see Wiens and others (2020).

Table 1. Survey effort and detections of territorial pairs of Golden Eagles in the northern Diablo Range and Altamont Pass Wind Resource Area (APWRA), California, 2014–21 (surveys were not completed in 2017).

[Survey sites were defined as 13.9 km^2 hexagons. The APWRA was delineated by a 3.2-km buffer radius around historical and current wind turbine locations. Estimates do not include observations of additional pairs of eagles occupying outside the boundary of focal, randomly selected survey sites].

Area	2014	2015	2016	2018	2019	2020	2021	Study average
Diablo Range and APWRA combined								
Sites surveyed	133	134	136	137	113	118	132	129
Sites with at least 1 territorial pair detected	88	89	89	84	65	65	79	80
Proportion of sites with pairs	0.66	0.66	0.65	0.61	0.58	0.55	0.60	0.62
Number of pairs detected	96	99	98	91	71	74	90	88
Number of pairs detected per site surveyed	0.72	0.74	0.72	0.66	0.63	0.63	0.68	0.68
APWRA only								
Sites surveyed	13	13	13	13	12	13	13	13
Sites with at least 1 territorial pair detected	9	10	10	10	9	8	9	9
Proportion of sites with pairs	0.69	0.77	0.77	0.77	0.75	0.62	0.69	0.72
Number of pairs detected	9	11	10	11	10	9	10	10
Number of pairs detected per site surveyed	0.69	0.85	0.77	0.85	0.83	0.69	0.77	0.78

During the study period the observed nesting rate (proportion of territorial pairs monitored with evidence of a nesting attempt) ranged from a low of 0.21 in 2014 to a high of 0.39 in 2020. Observed nesting success (proportion of territorial pairs monitored that successfully fledged at least one young) during the same period ranged from a low of 0.15 in 2019 to a high of 0.30 in 2018 (table 2). We observed a moderate increase in reproductive measures in 2020 and 2021, especially for pairs monitored at the southern end of the study area. In 2019, we found evidence of nesting for 28 percent of 71 pairs monitored. Of the 20 pairs that nested, 9 (45 percent) failed to produce young, 8 (40 percent) fledged one young each, and 3 (15 percent) fledged two young each (mean number of young fledged per successful site = 1.27; table 2). In 2020, we found evidence of nesting for 39 percent of 74 pairs monitored. Of the 29 pairs that nested, 9 (31 percent) failed to produce young, 13 (45 percent) fledged one young each, and 7 (24 percent) fledged two young each (mean number of young fledged per successful site = 1.35). In 2021, we found evidence of nesting for 38 percent of 90 pairs monitored. Of the 34 pairs that nested, 11 (32 percent) failed to produce young, 13 (38 percent) fledged one young each, and 10 (29 percent) fledged two young each (mean number of young fledged per successful site = 1.43).

When possible, we collected information on additional pairs of eagles with nests or activity centers outside the boundary of randomly selected 'focal' survey sites. Ancillary information on pairs detected in 'non-focal' sites (fig. 1) permitted us to better distinguish among different pairs of eagles, while also providing additional data on the distribution, abundance, and ages of pairs throughout the study region. In 2019, for example, we detected an additional 58 pairs of eagles in non-focal survey sites, in 2020 we detected an additional 70 pairs, and in 2021 we detected an additional 73 pairs. Thus, in focal and non-focal sites combined we detected a total of 129, 144, and 163 territorial pairs of eagles in 2019, 2020, and 2021 respectively. When possible, we collected additional data on activity centers and nesting success of pairs in non-focal survey sites to validate statistical models in forthcoming analyses, provide more complete coverage of the APWRA (Kolar and Wiens, 2017), and to identify nesting locations for management activities associated with APWRA and elsewhere. In total we found 21 pairs nesting outside of focal areas in 2019, 15 of which fledged at least 19 young. In 2020 we found 30 pairs nesting outside of focal areas, 25 of which fledged at least 35 young. In 2021 we found 28 pairs nesting outside of focal areas, 21 of which fledged at least 29 young.

Altamont Pass Wind Resource Area

During the seven-year study period we conducted a total of 315 surveys at 12–13 focal survey sites located within 3.2 km of the APWRA (fig. 1, table 1). The proportion of sites with detections of at least 1 pair of Golden Eagles (naïve occupancy) ranged from a low of 0.62 in 2020 to a high of 0.77 in 2015, 2016, and 2018. In 2019, we detected 10 pairs of eagles at 12 sites (mean = 0.83 pairs detected per site), in 2020 we detected 9 pairs at 13 sites surveyed (mean = 0.69 pairs detected per site; table 1), and in 2021 we detected 10 pairs of eagles at 13 sites (mean = 0.77 pairs detected per site). One site located within the 3.2 km APWRA buffer was occupied by two pairs of eagles from 2019 to 2021 (app. 1, 2). We also monitored additional pairs of eagles occupying sites in the APWRA, 9 in 2019 and 2021, and 10 in 2020, with

Table 2. Measures of annual reproduction for territorial pairs of Golden Eagles monitored in the northern Diablo Range and Altamont Pass Wind Resource Area (APWRA), California, 2014–21 (surveys were not completed in 2017).

[Survey sites were defined as 13.9 km² hexagons. The APWRA was delineated by a 3.2-km buffer radius around historical and current wind turbine locations].

Area	2014	2015	2016	2018	2019	2020	2021	Study average
Diablo Range and APWRA combined								
Number of pairs monitored	96	99	98	91	71	74	90	88
Pairs with nesting attempt detected	20	[3]26	[3]28	33	20	29	[3]34	27
Pairs with successful nest detected	17	[3]16	[3]21	27	11	20	23	19
Observed nesting rate[1]	0.21	0.26	0.29	0.36	0.28	0.39	0.38	0.31
Observed nesting success[2]	0.18	0.16	0.21	0.30	0.15	0.27	0.26	0.22
Total fledged young detected	22	20	30	40	14	27	33	27
Young fledged per pair monitored	0.23	0.20	0.31	0.44	0.20	0.36	0.37	0.30
Young fledged per successful pair	1.29	1.25	1.43	1.48	1.27	1.35	1.43	1.36
APWRA only								
Number of pairs monitored	9	11	10	11	10	9	10	10
Pairs with nesting attempt detected	4	4	4	4	4	5	6	4
Pairs with successful nest detected	3	0	2	2	2	4	3	2
Observed nesting rate[1]	0.44	0.36	0.40	0.36	0.40	0.56	0.60	0.45
Observed nesting success[2]	0.33	0.00	0.20	0.18	0.20	0.44	0.30	0.24
Total fledged young detected	5	0	3	3	3	5	6	4
Young fledged per pair monitored	0.56	0.00	0.30	0.27	0.30	0.56	0.60	0.37
Young fledged per successful pair	1.67	0.00	1.50	1.50	1.50	1.25	2.00	1.35

[1]Includes adults in incubation posture, nests with eggs/eggshells, or young present.

[2]At least one young fledged.

[3]Includes one site with two nesting pairs.

activity centers falling outside the boundary of focal survey sites. Thus, in total we identified 21 territorial pairs within the APWRA's 3.2-km boundary during the study period (fig. 1.1), although not all 21 pairs were detected and monitored within this area in each year (app. 2).

The observed nesting rate for territorial pairs detected in focal surveys sites within the APWRA's 3.2-km boundary ranged from 0.36 in 2015 and 2018 to 0.60 in 2021 (table 2). In 2019, four (40 percent) of the ten pairs monitored attempted to nest, but only two of these pairs successfully fledged a total of three young (mean number of young fledged per successful site = 1.50). In 2020, five (56 percent) of nine pairs monitored attempted to nest, and 4 of these pairs successfully fledged a total of five young (mean number of young fledged per successful site = 1.25). In 2021, 6 (60 percent) of 10 pairs monitored attempted to nest, and 3 of these pairs successfully fledged a total of six young (mean number of young fledged per successful site = 2.00).

When possible, we determined nesting status and productivity for territorial pairs of Golden Eagles detected outside of focal survey sites, but with activity centers located within 3.2 km of the APWRA. In 2019 we documented 9 additional pairs of eagles outside of focal survey sites, 5 of which nested and fledged a total of 4 young. In 2020 we detected 10 additional pairs of eagles, 6 of which nested and fledged a total of 9 young. In 2021 we found 9 additional pairs, 3 of which nested and fledged a total of 4 young. Detailed observations of all territorial pairs and their nesting activities at the APWRA are provided in appendixes 1 and 2.

Observations of Territorial and Non-territorial Subadults

During 2014–21 we were able to determine age class (subadult, adult) of territorial pair members at between 120 (2019) and 153 (2021) occupied territories annually in the Diablo Range and APWRA combined. We found that the incidence of subadult pair members was consistently greater for pairs with territories overlapping with the APWRA relative to pairs monitored in the surrounding landscapes of the northern Diablo Range (fig. 2). In 2021, five (28 percent) of 18 pairs monitored and aged within the APWRA were mixed-age pairs (that is, at least one member of the pair was in subadult plumage). In contrast, only two (two percent) of 128 pairs monitored and aged outside of the APWRA were mixed-age

pairs. The relatively high proportion of subadult pair members at territories associated at the APWRA was consistent across all years of our study (fig. 2). On average, 29 percent of pairs monitored at the APWRA during 2014–21 included at least one subadult pair member, whereas only 3 percent of pairs monitored outside the APWRA included subadults. These observations suggested that territorial pairs located in or near the APWRA were 9–10 times more likely to consist of at least one subadult pair member relative to pairs occupying territories outside of the APWRA, on average.

Territorial subadults were observed engaging in territorial displays, constructing and refurbishing nests, and copulating with adult mates on numerous occasions, but we observed few cases of nesting by mixed-age pairs. During the seven-year study we documented only two nesting attempts by mixed-age pairs within the APWRA: one of the six mixed-age pairs monitored in 2019 successfully fledged one young, and one of the four mixed-age pairs monitored in 2020 attempted to nest but was unsuccessful (app. 2). In the broader Diablo Range study area, we documented only one nesting attempt, that was also successful, by a mixed-age pair (in 2018).

During the study period we recorded a total of 812 detections of single non-territorial, subadult Golden Eagles (1–4 years old) at focal survey sites. Non-territorial subadults were observed throughout much of the study area, but we regularly detected greater numbers of subadults at survey sites at the APWRA relative to survey sites in the surrounding landscape (fig. 3*A*). On average, we detected over four times as many non-territorial subadults at sites overlapping with the APWRA (mean = 2.27 subadults per site per year) relative to sites surveyed in the broader Diablo Range (mean = 0.52 subadults per site per year; fig. 3*B*).

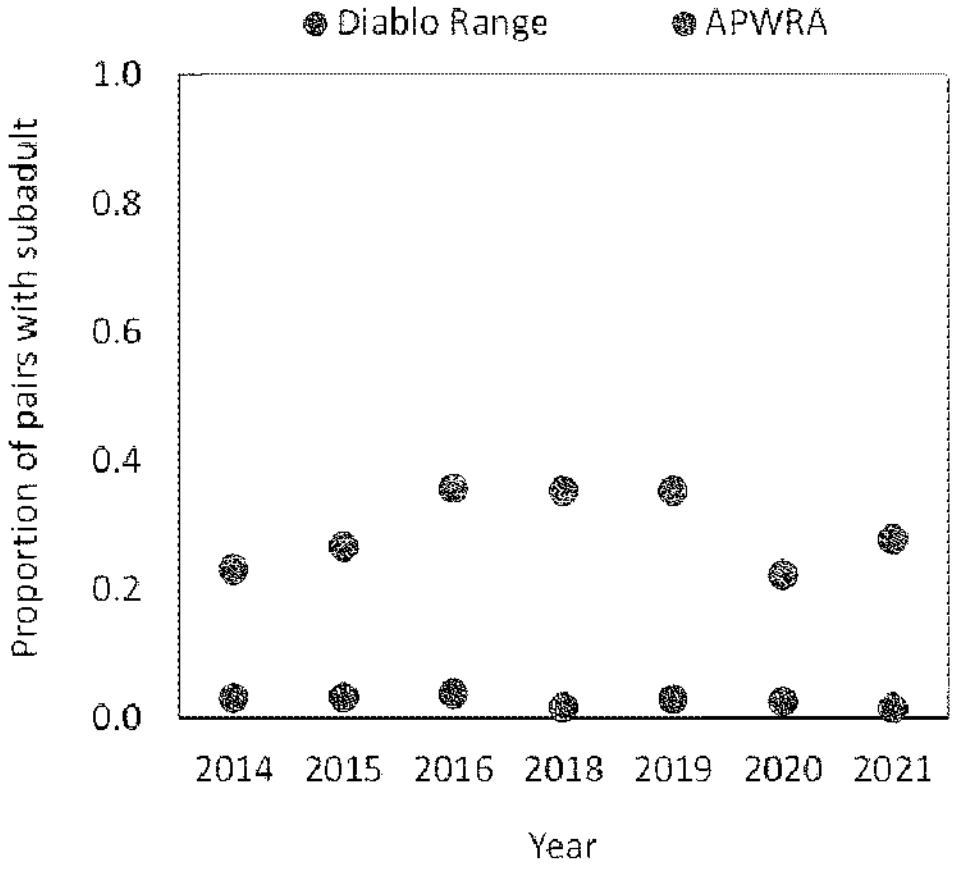

Figure 2. Territorial pairs of Golden Eagles associated with the APWRA consistently included a higher proportion of subadult pair members relative to the surrounding Diablo Range study area during 2014–21 (surveys were not completed in 2017). Shown is the annual proportion of territorial pairs monitored in the APWRA versus the surrounding Diablo Range (not including APWRA) that included at least one pair member in subadult plumage (typically birds less than 5 years old).

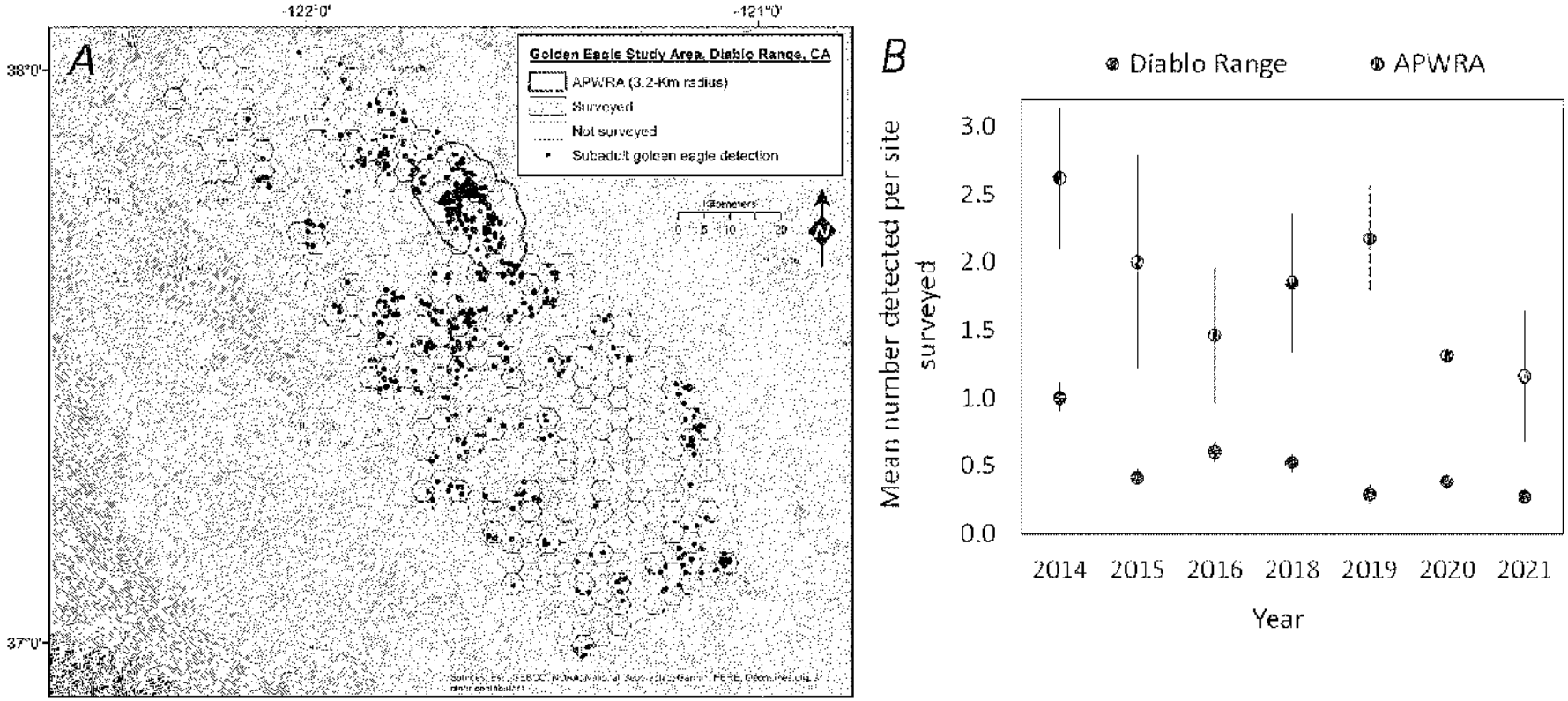

Figure 3. Spatial distribution of detections of non-territorial Golden Eagles with subadult plumage (birds 1–4 years old) in the northern Diablo Range study area, 2014–21 (surveys were not completed in 2017). *A*, Map showing the distribution of subadult Golden Eagle detections relative to the focal sample of randomly selected sites surveyed each year. *B*, Plot showing annual comparisons of the annual mean number of subadult Golden Eagles detected at survey sites within the Altamont Pass Wind Resource Area (APWRA) versus sites in the broader Diablo Range study area (not including APWRA). Error bars represent the standard error (SE) of annual estimates (SE of Diablo Range estimates are small relative to scale of y-axis).

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Communal Roosting Behavior

Golden Eagles have rarely been documented roosting together in groups (Katzner and others 2020). During our study we documented several communal roosting locations that appeared to be regularly used by all age classes of Golden Eagles (app. 2). For example, in 2015 we identified an individual Fremont cottonwood tree (*Populus fremontii*) in the APWRA where 6–10 subadult and adult eagles were observed perched together (Kolar and Wiens 2017). In more recent years, we found over 900 molted Golden Eagle feathers and at least one subadult Bald Eagle (*Haliaeetus leucocephalus*) tail feather below the same cottonwood roost tree and beneath adjacent California buckeye trees (*Aesculus californica*) and nearby rock piles. The large numbers of shed feathers suggested recent and repeated use of the communal roost area by multiple individuals, although we have only observed lone individuals in the tree during most surveys. In the spring of 2021, however, a pair of Golden Eagles was observed constructing a new (unused) nest structure in the cottonwood roost tree following a failed nearby nesting attempt in the Brushy Creek territory (app. 2). We have also regularly documented 2–3 subadult Golden Eagles perching together, and in a few instances, close to Bald Eagles in transmission towers along the eastern and western sides of the APWRA.

Summary

Since 2014 we identified the annual activity center locations for approximately 230 territorial pairs of Golden Eagles within the northern Diablo Range study area, including about 70 pairs we detected and monitored in areas outside the boundary of focal, randomly selected survey sites. Like previous years of the study, in 2021 we detected a relatively high density of territorial pairs at sites surveyed in the APWRA (mean = 0.77 pairs detected per 13.85 km^2 surveyed, or 1 pair per 18 km^2 surveyed) that was comparable to sites surveyed in the surrounding Diablo Range (mean = 0.68 pairs detected per 13.85 km^2 surveyed, or approximately 1 pair per 20 km^2 surveyed). Given the sampling design we used and the high probability of detecting pairs of eagles in our study (mean = 83 percent; Wiens and others, 2018, 2020), we believe these estimates are a reasonable approximation of average density of territorial pairs in the study area. However, these mean estimates do not account for a potentially large degree of spatial heterogeneity among survey sites in detection rates, landscape conditions, and site occupancy dynamics (for examples, Wiens and others 2015, 2018, 2020). In 2019–21, the proportion of survey sites that were occupied by pairs of eagles (0.58, 0.55, and 0.60, respectively) was slightly lower than estimates from previous years of the study (0.61–0.66). Budget constraints and weather conditions in 2019 and 2020 limited our ability to survey approximately 25 of the sites surveyed in previous years, several of which had been occupied by territorial pairs, which may explain observed reductions in the number of pairs detected (and the proportion of sites surveyed with pairs) in 2019 and 2020. In 2021, we were able to resurvey sites not surveyed in the previous two years and subsequently detected pairs in many of the same historical territories. Forthcoming analyses will focus on how spatial variation in landscape conditions and other factors affect site-level occupancy, abundance, and reproductive output of Golden Eagles, while accounting for imperfect and variable detection rates of territorial pairs during surveys.

Between 2014 and 2021 we identified and mapped the annual activity centers for up to 21 pairs of Golden Eagles with territories overlapping with the APWRA (fig. 1.1). Evidence of nesting (that is, incubation or the presence of eggs/eggshells, nestlings, or fledglings) or nest construction/refurbishment has been documented at least once at 18 of these territories during our study, including several territories monitored on lands within the Los Vaqueros Reservoir Watershed (app. 1, 2; Kolar and Wiens, 2017; H. T. Harvey and Associates, 2019, 2020). We also documented several pairs of eagles either nesting or constructing nest structures close (< 1.5 km) to active wind turbines at the APWRA, or in areas targeted for future repowering or windfarm expansion. Based on historical records, we determined that some of the territorial pairs we detected at the APWRA and outside of the Los Vaqueros Reservoir Watershed had been documented prior to when our study was initiated in 2014 (see review by Kolar and Wiens 2017). For the most part, however, territorial pairs and their nesting locations were not systematically surveyed or monitored within the APWRA prior to our study. Consequently, it is unknown if many of the pairs we identified at the APWRA were present prior to 2014, or if these pairs are more recently established. Regardless, nesting pairs of Golden Eagles and their young are likely to face an increased risk of collisions from wind turbines that are located close to their nests, especially given the high frequency of use and territorial displays that can be expected near nesting locations. Flight displays associated with increased territorial behaviors near nests and young, for example, may distract individuals from aerial hazards such as rotating wind turbine blades. Our study underscores the importance of identifying the territorial status and annual nesting locations for Golden Eagles within the APWRA and other wind energy facilities, because this information can provide immediate options to reduce likelihood of wind turbine related fatalities (for example, the seasonal curtailment of wind turbine operations near pair activity centers, used nests, or regularly used roosting sites).

An important observation from our study has been the distinct and consistent difference between the APWRA and surrounding landscapes in numbers of territorial and non-territorial subadults detected during surveys. We caution that empirical data presented here do not account for imperfect and potentially low detection probabilities of subadult eagles, so estimates presented here may underestimate actual numbers present. Nonetheless, as in previous years of the study (Kolar and Wiens, 2017), from 2019 to 2021 we detected a high percentage (22–35 percent) of mixed-age (subadult/adult) territorial pairs within the APWRA, including one territory that was occupied by a pair of two subadults in 2018. This high percentage of subadult breeders in the APWRA contrasted sharply with observations in the broader Diablo Range study area, where only 3 percent of 119 territorial pairs monitored and aged included subadults, on average. The proportion of territorial pairs with subadults at the APWRA was also greater than reported in other studies that tracked the age distribution of territorial pairs of Golden Eagles (at most 17 percent; Steenhof and others, 1983; Sánchez-Zapata and others, 2000). In some cases, the incidence of breeding subadult pair members in eagle populations has been shown to indicate site-specific reductions in survival or displacement of territorial adults that were associated with human activities such as habitat loss from development or other land management activities, illegal shooting and poisoning, or disturbance and destruction of nests (Whitfield and others, 2004; Steenhof and others, 1983). Forthcoming analyses will investigate possible sources of spatial variation in use of survey sites by territorial and non-territorial Golden Eagles in our study area, and how such patterns may relate to population status and trend.

Megafire—An Emergent Threat to Golden Eagles?

Catalyzed by a changing climate, recent 'megafire' events in California during 2019–21 have hastened the need to quantify potential impacts of severe wildfire to biodiversity. In August and September of 2020, the Santa Clara Unit Lightning Complex Fire burned 159,294 hectares of the Diablo Range study area and affected at least 67 historical Golden Eagle territories identified in years before the fire (37 of which fell within our focal survey sites; fig. 4). In 2021 (first year post-fire), we detected 36 of 37 territorial pairs that we had previously detected and monitored within the fire perimeter during surveys completed in 2020. The single missing pair of eagles was at a site where access has been difficult, and detections of the pair have been intermittent since 2014. The 2020 megafire event in the northern Diablo Range has provided an inimitable opportunity to use a natural Before-After Control-Impact experimental design to investigate the population response of Golden Eagles to mixed-severity wildfire. With additional years of data, this design could address questions about: (1) how mixed-severity wildfire may impact site-occupancy and reproduction in a tree-nesting population of Golden Eagles, and (2) how wildfire impacts may interact with existing threats to affect population status and habitats used by Golden Eagles.

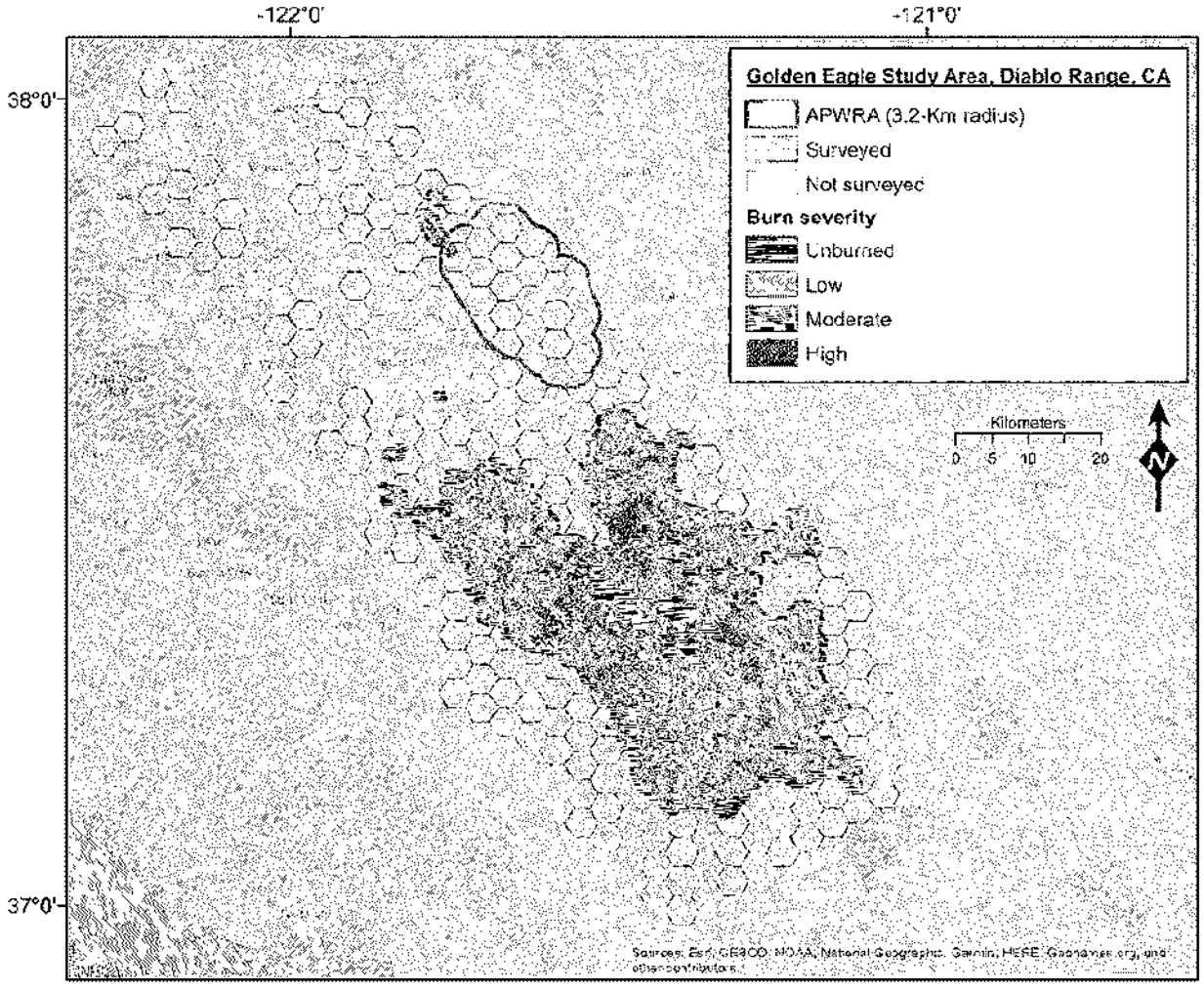

Figure 4. Location of the 2020 Santa Clara Unit Lightning Complex Fire in relation to the distribution of sites (highlighted hexagons) surveyed for Golden Eagles annually during 2014–21 (surveys were not completed in 2017). [APWRA, Altamont Pass Wind Resource Area; burn severity data from U.S. Geological Survey, 2020].

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Appendix 1. Map of Survey Sites and Activity Centers Used by Territorial Pairs of Golden Eagles in the Altamont Pass Wind Resource Area, 2019–21

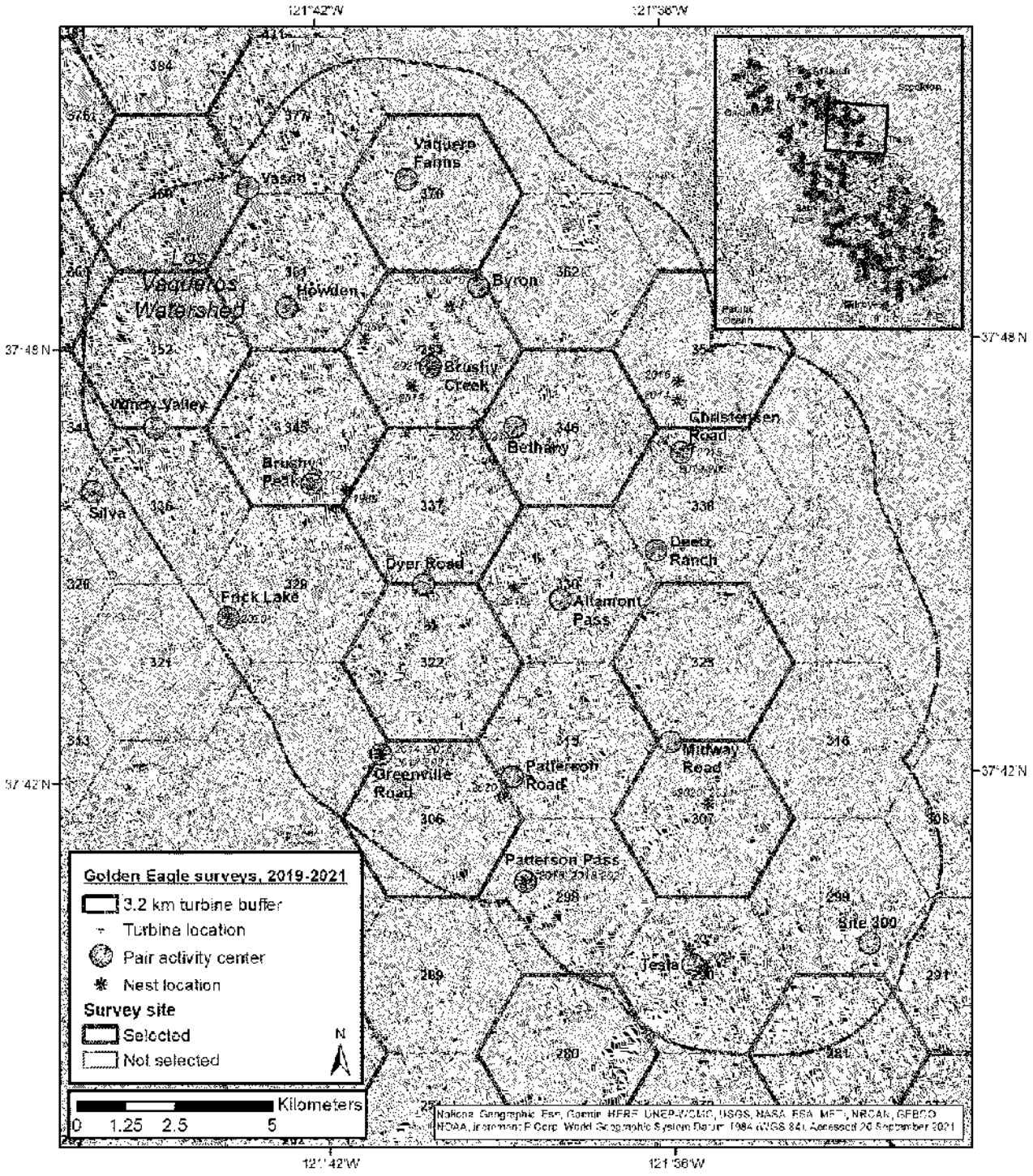

Figure 1.1. Distribution of activity center locations for territorial pairs of Golden Eagles detected within 3.2 kilometers of historical and current wind turbines at the Altamont Pass Wind Resource Area, California, 2019–21. Nests shown with evidence of use by Golden Eagles (observations of nest-construction, incubating adults, eggs laid, or young present) and year of confirmed use. Nest locations monitored within the Los Vaqueros Watershed are not shown.

Appendix 2. Territory-Specific Observations of Territorial Pairs of Golden Eagles Located near the Altamont Pass Wind Resource Area, 2019–21

Tesla (hexagon 290)

In previous years Golden Eagles associated with the Tesla territory have primarily been detected outside of our survey area in site 290, but also partially within adjacent sites to the north, northwest, and northeast. In 2019, we obtained few observations of the adult territorial pair but did confirm incubation in a large valley oak tree (*Quercus lobata*). This pair successfully fledged one young that was radio-marked as part of a separate study, but it was found dead shortly afterwards (Doug Bell, East Bay Regional Park District, unpub. data, 2019). In 2020 we observed an adult male and older subadult female with white at the base of some outer tail feathers perching and undulating in the usual pair activity center at the start of the season. During subsequent visits to the site, we observed the lone adult male defending the territory and found the 2019 nest had some new nesting material, but no sign of use. Road conditions prevented us from searching for nesting elsewhere until the end of the season when we found the adult male and subadult female again perched near a new nest that had been blown out of a large gray pine tree (*Pinus sabiniana*) and scattered on the ground. We were unable to determine if eggs had been laid in this new nest during 2020. In 2021 we determined the territorial pair consisted of two adults and they successfully fledged one young from a new nest that had been rebuilt in the same tree that was used during the previous year.

Site 300 (hexagon 299)

In 2014 an adult pair of Golden Eagles was observed in the Lawrence Livermore Laboratory's Site 300, within 2-miles of the southeastern portion of the APWRA near the boundary of sites 291 and 299 (Fratanduono, 2014). There are few previous records of nest locations within this territory, aside from a single record of a nest on a distribution line pole in this area from 1996 (Fratanduono, 2014) and an old, unused nest on a rock outcrop further east that we found had collapsed and destroyed the nest ledge by 2018. In 2015, 2016, and 2018 a pair that was thought to be associated with the same territory was briefly observed farther to the east each year. However, in 2020 we observed a mixed-age pair perching together in this further area and saw an adult pair of eagles perching and undulating together in the historical Site 300 territory within the APWRA buffer at the same time. We subsequently observed this pair in Site 300 on numerous occasions with simultaneous observations of all other known territorial pairs nearby (Tesla, Patterson Pass, Midway Road). We were unable to access this area of activity to determine nesting status. In 2021 we observed a lone adult eagle perching and hunting in this same area but saw no signs of territorial behavior or a mate.

Patterson Pass (hexagon 298)

The Patterson Pass pair consisted of two adults in 2019 and 2020 and was primarily observed outside of our focal survey area in site 298. In both years we confirmed incubation by the pair in two different nests in the same valley oak tree used during 2016 and 2018. In 2019 the nesting attempt failed during the early incubation or nestling stages for unknown reasons. In 2020 the pair fledged one young that was radio-marked as part of a separate study (Doug Bell, East Bay Regional Park District, unpub. data, 2020). The adult male was also observed to have potential damage to the outer portion of one wing that seemed to cause limitations in flight during that time. In 2021 we observed both adults and confirmed at least one fledgling from the historical nest tree, but saw no signs of wing damage or flight problems by the male that was suspected in the previous year.

Greenville Road (hexagon 306)

As in previous years, we observed the adult pair associated with this territory roughly between Greenville Road, Patterson Pass Road, and Interstate 580. The only known nest associated with this territory was in a eucalyptus tree in the northwestern corner of 306. The pair of Golden Eagles occupying this territory used this same nest in nearly every year of the study, successfully fledging 2 young in 2019, at least one young in 2020, and two young again in 2021.

Patterson Road (hexagon 315)

In 2018 we confirmed occupancy of the Patterson Road territory (and others nearby) with simultaneous observations of adjacent territorial individuals. During the 2019 season we observed a pair of Golden Eagles that appeared to consist of and adult and older subadult with white in some outer tail feathers perching together during limited observations outside of our focal survey area in the center and southwestern corner of site 315. In 2020 we were unable to confirm occupancy of the territory until the end of the season when we detected an adult pair perching with a fledgling near the southwestern

portion of site 315. We later located a nest nearby with a flattened bowl lining indicating use and perch locations with adult and fledgling feathers in the few trees and rock outcrops within 0.25–0.5 miles away. In 2016, we also observed an adult Golden Eagle flying with nesting material in this same area, indicating a nest may have at least been under construction at that time, but were not able to determine the exact nest location. During the 2021 season we observed the pair perched and hunting together but did not see any sign of nesting activity or fledglings.

Midway Road (hexagon 307/323)

The Midway Road territory consisted of an adult and subadult in 2019. In 2019 we observed the pair perching in transmission towers in their historical activity center in survey site 323, then perched in transmission towers, a meteorological evaluation tower, and defunct turbines near the intersection of sites 307, 315, and 323 later in the season. In 2020 we detected the pair together in these same areas early in the season and confirmed the male was an adult and the female was an older subadult with white in some outer tail feathers. In early to mid-March this female was observed in incubation posture on a new nest in a Fremont cottonwood tree near the center of site 307. In early May we confirmed the pair was brooding two 1–2-week-old nestlings. In late May we observed at least one young approximately 4 weeks old. The nestling was not observed on subsequent visits and we later confirmed nest failure following several days of extreme temperatures and a grass fire that burned within 50 meters (m) of the nest. During 2021 the adult pair successfully fledged two young from the same nest, both of which were radio-marked as part of a separate study (Doug Bell, East Bay Regional Park District, unpub. data, 2021).

Frick Lake (hexagon 329)

In 2020 we confirmed a new pair of Golden Eagles overlapping with site 329. The adult male was initially detected capturing a ground squirrel while we were monitoring a golden eagle pair associated with the Dyer Road territory on a ridgetop in the eastern portion 329, within the construction site for a wind energy project that became operational a year later in 2021. The male then flew 2 miles west toward Vasco Road and delivered the prey to an adult female incubating on a nest in a eucalyptus tree along a driveway near the outskirts of Livermore. Later, we confirmed two fledged young from this nest. It is unknown how long this territory has been occupied. We documented the same nest in previous years, but found no signs of use in it at the time. In 2021 the nest was no longer present in the eucalyptus tree grove and we saw no sign of nesting elsewhere. The female also appeared to be a subadult based on plumage characteristics and the center of activity shifted slightly to the north of the historical nest, though the male was still observed hunting in the western portion of the APWRA.

Altamont Pass (hexagon 330)

In 2019 the Altamont Pass pair consisted of an adult and subadult that were observed undulating and perching together near the intersection of site 322 and 330, primarily outside of our focal survey area. We confirmed the only known nest for this territory from 2018, located on top of a rock in an old road-cut, was not used but could not check all other nesting substrates due to constraints in accessing some properties. However, we did observe a fledgling perching and flying low in the activity center late in the breeding season. Given the nearest known successful pairs of nesting Golden Eagles were 5–6 kilometers away, this fledgling was assumed to be associated with the Altamont Pass territory. In 2020 we observed an adult pair in the Altamont Pass territory throughout site 330. We documented a fledgling flying and perching with the pair in the central portion of 330 on multiple days in late June, but again were unable to determine the nest location due to limited access to surrounding lands. In 2021 we confirmed occupancy of the territory by an adult pair but did not see any signs of nesting or fledglings. During 2020 and 2021 we also observed 3 subadult or juvenile Golden Eagles flying and perching together in a small eucalyptus grove, located approximately one-half mile south from the 2018 Altamont Pass nest near the boundary of sites 322 and 330, at any given time, which may indicate another communal roost area.

Dyer Road (hexagon 337)

A pair of Golden Eagles consisting of an adult male and an older subadult female with white at the base of some outer tail feathers was observed perching, hunting, and undulating together near the historical activity center for the Dyer Road territory near the intersection of sites 322, 329, and 337 during 2019 and 2020. We found no sign of nest structures in the area but were unable to check the large numbers of eucalyptus trees near located behind private residences along Dyer Road where the pair has been observed in previous years. In 2021 the territorial pair was still using this same area, but most of the activity had shifted back to the center of site 322 where it was located in previous years. The pair again consisted of mixed-age eagles, but on multiple occasions we observed the female to be a full adult and the male to be a younger subadult with full white at the base of the tail. We saw no signs of nesting activity, but both individuals were observed flying with sticks and dropping them on the ground in a loose pile on top of a hill near their primary perch.

Deetz Ranch/Jess Ranch (hexagon 338)

The Deetz Ranch pair consisted of an adult and subadult in 2019 and 2020. They were observed perching in transmission towers together and hunting in the southern portion of site 338 and northeastern portion of 330 outside of our focal survey area, but also in the southeast corner of focal site 346. In 2020 the subadult appeared to be a female and was observed with a backpack radio-transmitter that is either non-functional or associated with an unknown study. We found no evidence of nesting activity, but the pair was frequently perched in the southern half of site 338 near a small wooden utility pole with a nest under construction on top of a defunct transformer. In 2021 we observed an adult pair of eagles perching together in the same area, one of which appeared to have a backpack transmitter. We saw no signs of nesting activity or fledglings in the territory but were unable to survey the area sufficiently later in the season due to access issues.

Christiansen Road (hexagon 338)

As in previous years, we observed a pair of Golden Eagles associated with the Christiansen Road territory primarily on the east side of Bethany Reservoir overlapping with survey sites 338, 346, and 354. In 2019, 2020, and 2021 we confirmed incubation by the adult pair in a new nest located in a small non-native river she-oak tree (*Casuarina equisetifolia*) overlapping with the northern portion of site 338. The Golden Eagle pair successfully fledged two young in each of these three years.

Brushy Peak (hexagon 345)

During each year from 2019 to 21, we observed an adult pair of Golden Eagles flying with nesting material into a group of small coast live oak trees (*Quercus agrifolia*) on the northeast side of Brushy Peak where we previously found a nest under construction in 2018. We detected the pair perching and hunting together elsewhere in southeast 345 and in the northwest portion of site 337. At the end of the 2020, we hiked to the area of activity and found a second previously unknown nest under construction 10 m away from the one started previously. We found no evidence that eggs were laid in either nest or other signs of reproduction during the season (in other words, nesting behaviors or fledglings). In 2021 we confirmed incubation in the first nest started in 2018 and, later in early May, observed a single nestling estimated to be 3.5 weeks of age based on plumage. By late May we found little left of the nestling aside from scattered feathers in and under the nest tree. We found no clear sign as to the cause of nest failure and both adults were still observed nearby in the territory. We also determined at least one adult had 1 to 2 retained subadult tail feathers, confirmed from observations of plumage during our surveys and by locating these feathers shed under the nest at the end of the season, indicating replacement of a pair member with a younger adult. Since 2014, we have also identified the vicinity of Brushy Peak (site 345) as a communal roosting area. From 2014 to 2016 we observed numerous Golden Eagles and occasionally Bald Eagles perching together or in separate scattered oak and California buckeye trees near the top of the peak. After the territorial pair began constructing nests in this area, the communal roosting activity by other eagles appeared to have shifted to a lower peak one-quarter to one-half mile southwest.

Bethany (hexagon 346)

In 2019 the Bethany pair consisted of two adults that successfully fledged one young from a new nest in a eucalyptus tree near the intersection of survey sites 337, 346, and 353. As in previous years, the annual area of activity was primarily on the west side of Bethany Reservoir in site 346 where they were frequently detected hunting and undulating when not near the nest. The adult female was observed, during our surveys and by other biologists/wind energy personnel, to have feather loss on the head consistent with potential mange caused by *Micnemidocoptes* mites (Mete and others, 2014) throughout the spring and summer. There was no sign of feather loss in the mate or fledgling. In 2020 the pair consisted of two adults again and neither showed signs of mange. The pair successfully fledged two young from the same nest, but both died shortly afterwards. One fledgling reportedly flew into the side of a road grader and was taken to Lindsay Wildlife Rehabilitation Center where it was euthanized due to its injuries (Renee Culver, NextEra Energy, written commun., 2020). The second fledgling was found during our surveys on the ground 100 m from the nest tree with no obvious signs indicating the cause of death. In 2021 the adult pair fledged two young from the same nest, but one was found dead on the ground nearby a couple weeks later by personnel associated with the wind energy project, again with no obvious sign of as to the cause (Renee Culver, NextEra Energy, written commun., 2021).

Silva (hexagon 336), Windy Valley (hexagon 352), Howden (hexagon 361), Vasco (hexagon 377), and Camino Diablo (hexagon 369)

Information on Golden Eagle territories on the Los Vaqueros Watershed was collected as part of long-term monitoring program (H. T. Harvey and Associates 2019, 2020) and shared with our study. The Silva territory was determined to

be occupied in 2019, but the pair was observed outside of the APWRA buffer and was not detected in subsequent years. The Windy Valley pair used two different historical nests near the boundary of site 336 and 352 from 2019 to 21. The Vasco pair used two new nests along the boundary of survey site 369 and 377 during 2019 and 2020. The Camino Diablo pair used two historical nests overlapping with focal site 369, but outside of the 3.2 kilometers APWRA buffer during 2019 and 2020. All three pairs were determined to have failed during the incubation or nestling stage for unknown reasons in 2019 (H. T. Harvey and Associates 2019). In 2020 the Windy Valley and Camino Diablo pairs each fledged one young and the Vasco pair fledged two young (H. T. Harvey and Associates 2020). During 2021 the Windy Valley pair failed in their nesting attempt. The Camino Diablo and Vasco territories both experienced turnover of female pair members with adults being replaced by subadults and no signs of nesting during 2021 (Colleen Lenihan, H. T. Harvey and Associates, written commun., 2021). The Golden Eagle pair associated with the Howden territory was observed refurbishing their only known historical nest every year with no sign that eggs were ever laid. The female at this territory continued to appear unable to breed after becoming permanently disabled from a suspected collision with a powerline or wind turbine in 2012–13 (H. T. Harvey and Associates 2020). See reports from the Los Vaqueros Watershed Golden Eagle Monitoring Program for more details.

Brushy Creek (hexagon 353)

The pair of Golden Eagles associated with the Brushy Creek territory consisted of two adults that primarily overlapped with the southern half of site 353 and northwest portion of 337. Between January and March of 2019–21, we observed the pair bringing nesting material into the same eucalyptus tree that had been refurbished in 2015, 2016, and 2018. Visibility of the nest was poor, making it difficult to determine if the pair laid eggs or could have failed early due to potential disturbance from concurrent fence and pipeline work conducted 100–300 m away from the tree in 2019 and 2020. In 2021 we confirmed the pair began nesting in early March, just before a large windstorm. Less than one week later we determined the nest had failed and found a broken egg under the nest with some nesting material blown out. Later in the season during at least April and May, the pair appeared to be constructing a new nest in the communal roost tree approximately 1-mile to the south.

Byron (hexagon 353)

During our first survey in 2019, we observed an adult pair perched together in their historical activity center in the northeast portion of site 353. By the next survey in March, we found the adult male copulating with a subadult female near the same location with no sign of the previous adult female mate. Over two days during the third survey in mid-May we observed the adult pair again perching in a eucalyptus tree where an alternate nest was previously located. The adult female appeared to show signs of mange, continuously scratching at back of head where feather loss was becoming more visible. In 2020 neither adult showed signs of mange or feather loss. They were observed rebuilding the alternate nest again, but we found no signs of use and it had blown out of the tree by the end of the season. In 2021 the adult pair was observed on multiple occasions in the same area and began rebuilding the alternate nest, but it had fallen out of the tree by the end of the season for a third year in a row. We found no other signs of nesting activity by this pair.

Vaquero Farms (hexagon 370)

In 2018 we used multiple surveyors to simultaneously observe the Vaquero Farms Golden Eagle territory and others nearby (in other words, Vasco, Brushy Creek, Byron, and Howden) to confirm it was different after some confusion during 2014–2016 (Kolar and Wiens 2017). During the first survey in 2019, we observed an adult pair just once undulating and perching in the northwest portion of site 370, despite numerous attempts to find them during subsequent survey occasions. We were unable to determine if the pair was missed during subsequent surveys or if we mistakenly identified the Vasco pair that overlaps with this area as well. In 2020 one adult was seen hunting in the northwestern portion of 370 then flying with prey toward the Vasco nest area. We observed lone eagles elsewhere in the Vaquero Farms territory but saw no signs of territorial behavior. During February 2021 we observed an adult pair of Golden Eagles perching and hunting together in the historical Vaquero Farms area of activity, two days after a subadult female was confirmed to have replaced the adult female at the Vasco territory (Colleen Lenihan, H. T. Harvey and Associates, written commun., 2021). We observed at least one eagle perched near the historical Byron nest at the same time as the adult pair observation at Vaquero Farms and none of the eagles show signs of flight or wing impairment typical of the Howden female. In late April we observed a pair of Golden Eagles perching and hunting together in the same area at Vaquero Farms, but this time saw one of them was a subadult with full white at the base of all tail feathers. We found no evidence of nesting at the time and only observed a lone adult in the area during subsequent surveys.

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Summary of Golden Eagle Surveys on Contra Costa Water District Lands, California, 2023

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Background and Study Objectives

Golden eagles (*Aquila chrysaetos*) are of increasing conservation concern and are among the highest profile wildlife species killed by collisions with wind turbines at the Altamont Pass Wind Resource Area (APWRA; Orloff and Flannery, 1992; Smallwood and Thelander, 2008; Hunt and others, 2017). Resource managers need a clear understanding of the distribution, abundance, and nesting activity of golden eagles in the vicinity of APWRA for permitting purposes and conservation planning. In 2014, the U.S. Geological Survey Forest and Rangeland Ecosystem Science Center established a broad-scale survey design to estimate trends in site occupancy, reproduction, abundance, and habitat associations of golden eagles in the northern Diablo Range, including APWRA (Wiens and others, 2015, 2018, Kolar and Wiens, 2017, Wiens and Kolar, 2021). Specific objectives of this broader study are to: 1) estimate the total number of territorial pairs occupying the Diablo Range study area; 2) characterize the degree of spatial variation in the occurrence of breeding pairs and reproductive output; and 3) identify factors (e.g., time of season, % forest cover) associated with the probability of detecting breeding and non-breeding golden eagles and their nests.

This correspondence summarizes research accomplishments and site-occupancy surveys of golden eagles conducted on **Contra Costa Water District (CCWD)** lands during the 2023 breeding season (December–July). Surveys were completed by permitted personnel as part of a broader study of site occupancy and breeding success of golden eagles in the Diablo Range of central California. This report focuses on the results of surveys on CCWD mitigation lands and golden eagle territories in the vicinity of the Los Vaqueros Watershed that are not included in the annual monitoring program (H. T. Harvey and Associates 2019, 2020).

Methods

Study Area

The 5,170-km^2 study area was in the northern Diablo Range of west-central California and included the APWRA (Fig. 1). Current management guidelines for golden eagles consider occupied territories overlapping a ~2-mi (3.2 km) radius with wind-energy project boundaries to potentially be at risk of disturbance or increased mortality from collisions with wind turbines (U.S. Fish and Wildlife Service, 2013). We therefore considered a 3.2-km radius (total area = 363 km^2) around locations of old and existing wind-turbines to distinguish survey efforts and eagle locations associated with the APWRA from those in the broader Diablo Range (Fig. 1). Ownership throughout the study area included private ranchlands with livestock grazing, in addition to state, county, and municipal lands that received variable amounts of grazing and recreational use. Nesting substrates used by golden eagles in the Diablo Range study area are predominantly oak (*Quercus* spp.), conifer (*Pinus* spp.), and non-native tree species such as eucalyptus (*Eucalyptus* spp.) and others, in addition to 230 kilovolt (kV) transmission lines and limited cliff faces or small rock outcrops.

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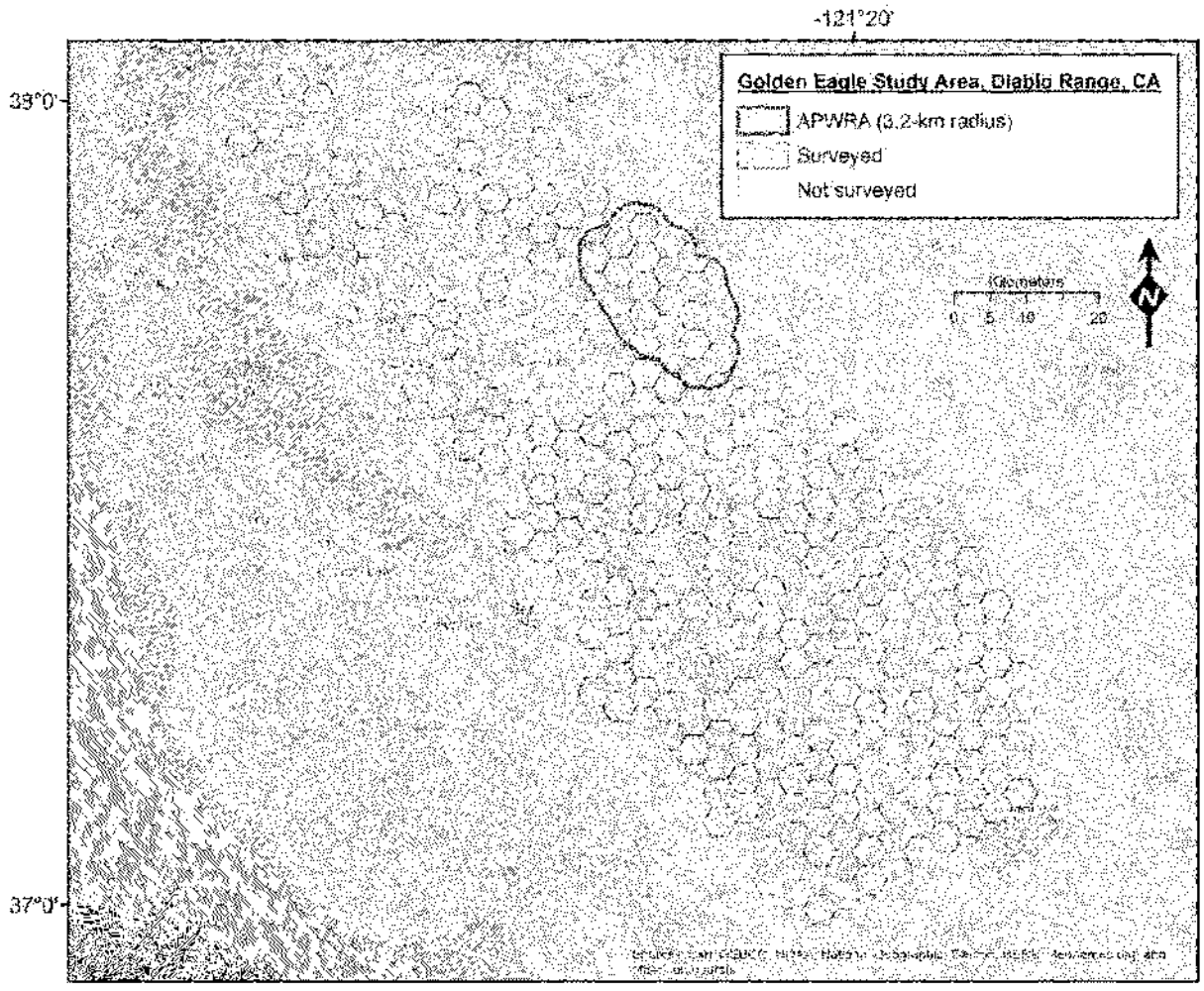

Figure 1. The northern Diablo Range study area, with the distribution of 152 randomly selected survey sites (13.9 km^2 hexagons) that were repeatedly searched for evidence of occupancy and reproduction by golden eagles during 2014 – 2023. Also shown is the Altamont Pass Wind Resource Area (APWRA), delineated by a 3.2 km buffer radius around historical and current wind-turbine locations.

Golden Eagle Surveys

We combined a standard site-occupancy study design (Nichols and others, 2007) with general recommendations of Driscoll (2010) and Pagel and others (2010) to survey golden eagles. We conducted repeated (2 – 4) surveys at as many as 152 survey sites we randomly selected from a grid of 373 equally sized (13.9 km^2) hexagon cells overlaid on the study area (Fig. 1). We considered each hexagon cell a "site" where observers conducted area searches for evidence of occupancy, use, and reproduction by golden eagles. During surveys observers recorded the location, number, age, and behaviors of all golden eagles detected. We mapped perches, flight paths, territorial displays, and locations of nests and fledged young to determine activity centers used by each pair of eagles detected. When possible, we also monitored pairs of eagles detected in hexagons adjacent to our focal (randomly selected) hexagons, which allowed us to better distinguish among territorial pairs with activity centers in focal vs. non-focal survey sites. We surveyed sites with pair detections in mid-June to late-July to locate nests not previously detected and to determine the number of young fledged. When possible, we determined the age-class of territorial pair members we detected (subadult vs. adult). Further details on the study area, sampling design, aging methods, and survey protocols we used are provided by Wiens

and others (2015, 2018) and Kolar and Wiens (2017). Because detection probabilities of golden eagles are below 1 (Wiens and others, 2018), empirical data summarized here may underestimate site occupancy, reproduction, and numbers of golden eagles present during surveys.

Results

In 2023 we completed 27 surveys at eight focal sites and adjacent areas overlapping with CCWD mitigation lands or adjacent to the Los Vaqueros Watershed. Five territorial pairs overlapped with our randomly selected focal survey sites in these areas: Jess Ranch (323), Brushy Peak (345), Highland Towers (351), Round Valley (376), and Lydia Lane (384). We detected eight other pairs incidentally in the vicinity of CCWD lands, but with activity centered outside of our focal survey sites: Linac Road (274), Altamont Pass (330), Frick Lake (336), Deetz Ranch (338), Silva (344), Vasco (337/370), Walnut (377/431), and Fox Ridge (433). We found evidence of nesting at seven of these territories, four of which successfully fledged five young. Access issues during the early portion of the season due to road damage and closures from extremely wet weather constrained the number of and timing of surveys at some sites, which could have resulted in missed observations of nesting attempts and additional territorial pairs. See below for survey results details on golden eagle territories overlapping with individual CCWD areas.

Corral Hollow Mitigation Area (Linac Road territory)

In 2023, we detected an adult pair of golden eagles associated with the Linac Road territory overlapping with CCWD mitigation property south of Corral Hollow Road (Fig. 2). We observed the pair soaring within our randomly selected focal site 282, but most of the activity was in site 274 where the pair was frequently perching together in a transmission tower along the southern CCWD boundary. We saw no sign reproduction or suitable nest locations in this area during our surveys.

We also observed a pair of Swainson's hawks (*Buteo swainsoni*) building or refurbishing a nest approximately 800 m (0.25 miles) west of the CCWD boundary along Corral Hollow Road in the Lawrence Livermore Laboratory Site 300. We were unable to further monitor the pair to watch for signs of reproduction due to logistical constraints in accessing suitable observation point in the area and limited time.

POVI 0002406

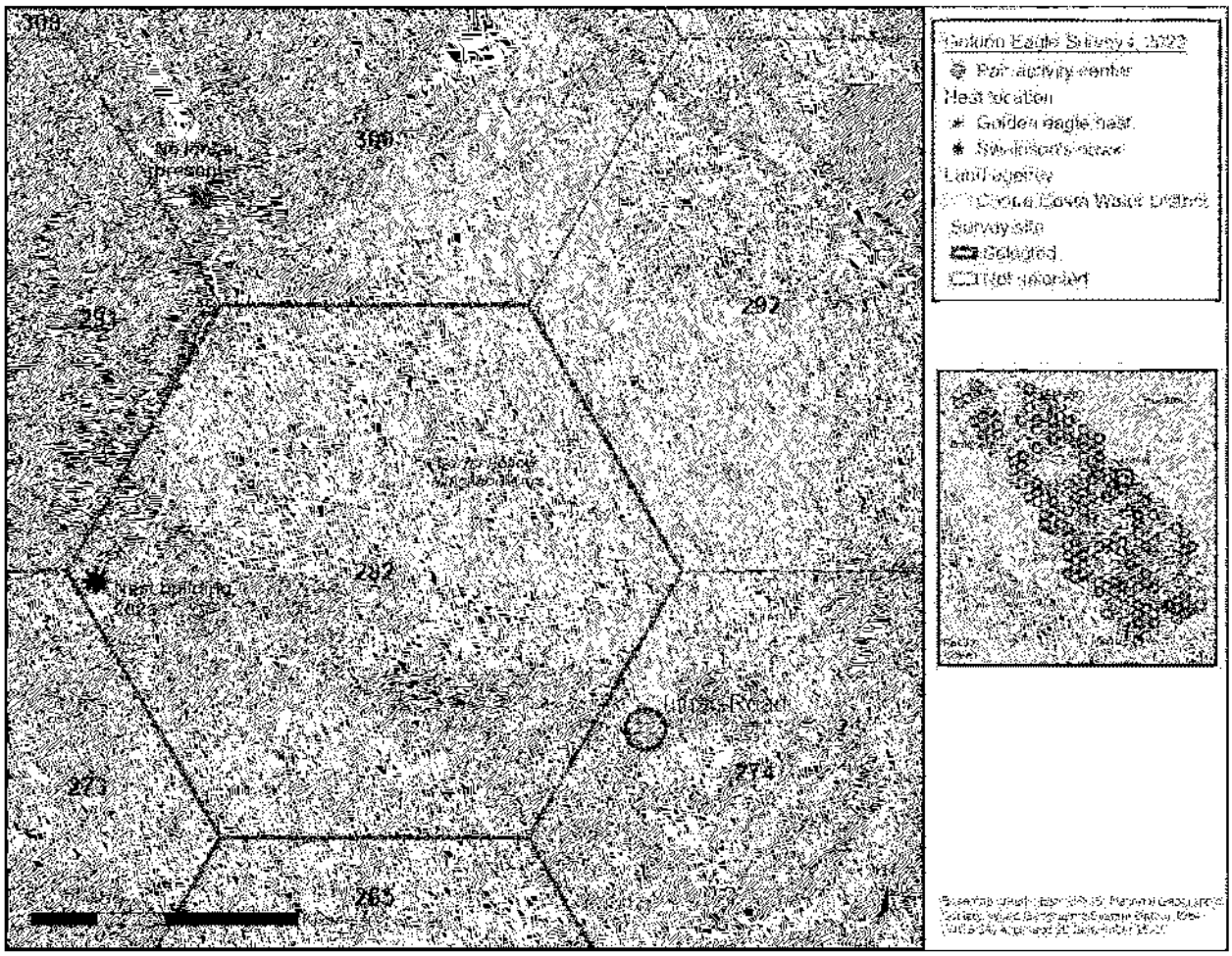

Figure 2. Activity center and nest locations for territorial pairs of golden eagles in the vicinity of the Corral Hollow Mitigation Area on Contra Costa Water District lands, California, 2023.

Altamont Pass Mitigation Area (Deetz Ranch and Altamont Pass territories)

In 2023 we detected three territorial pairs of golden eagles and multiple non-territorial individuals of different age classes perching and hunting on the CCWD Altamont Pass Mitigation Area. The Midway Road pair overlapped with the southern portion of this area during previous surveys, but during 2023 most of their activity was further south in focal site 307. We observed the Altamont Pass pair hunting near the western boundary of the mitigation lands, but most of their activity was in site 330 where they were building or refurbishing a nest on privately-owned land (Fig. 3). The Deetz Ranch pair, again consisting of an adult pair in which one appeared to have a backpack transmitter, overlapped with the northern portion of the mitigation area and adjacent private lands outside our focal survey area in site 338 (Fig. 3). After observing these adult pairs in the surrounding lands, we identified an additional pair consisting of an adult male and subadult female copulating on the mitigation lands in site 323. This new pair, Jess Ranch, appeared to be occupying an area that was previously part of the Midway Road territory from 2014-2019. In late January, this new Jess Ranch pair began building a nest in a transmission tower 1.59 km (0.95 miles) from the southeastern boundary of the mitigation boundary, but it was quickly blown out by strong wind and did not appear to be constructed again. We found no sign of nesting by this pair elsewhere or by any others in the area during the remaining portion of the season.

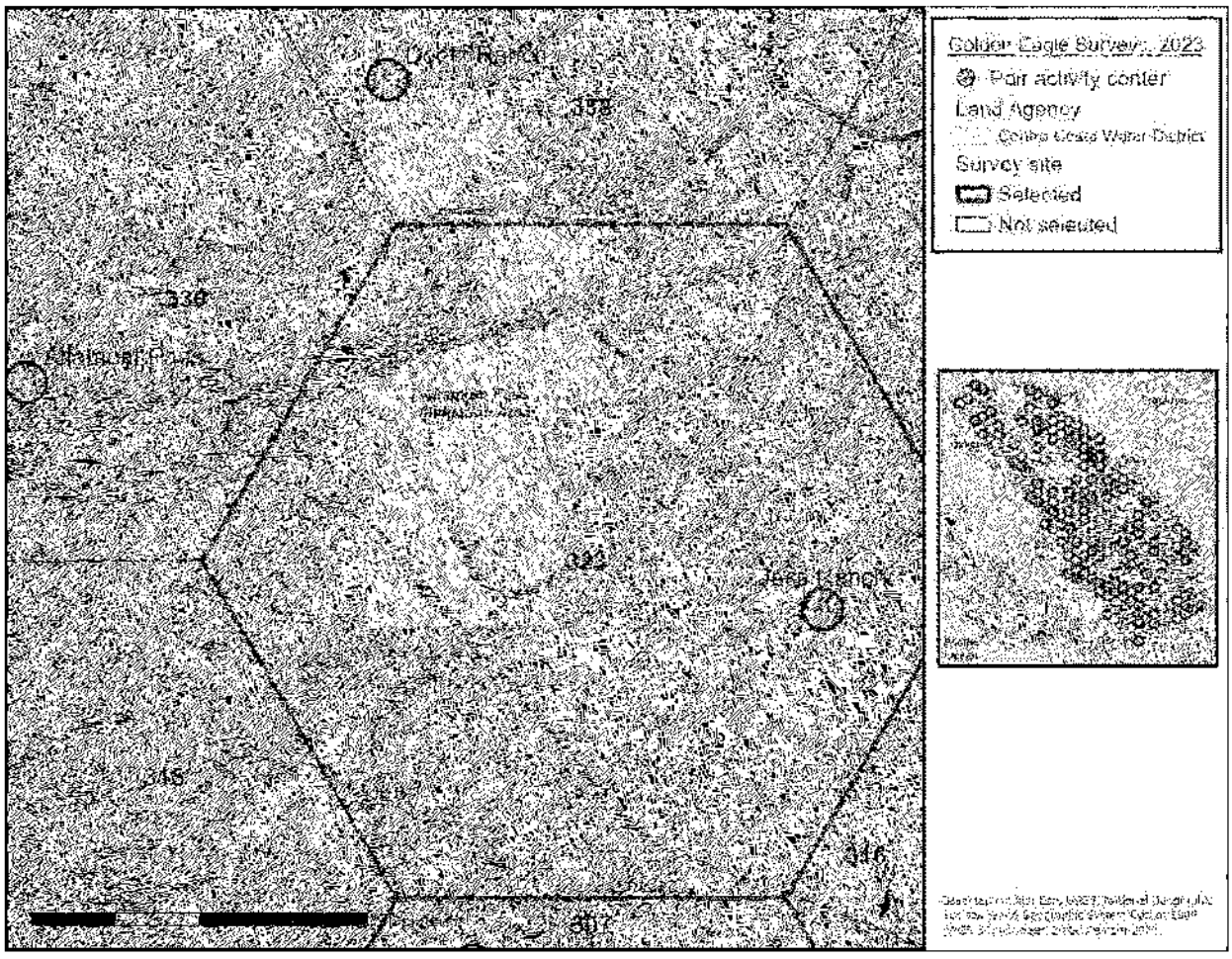

Figure 3. Activity center locations for territorial pairs of golden eagles in the vicinity of the Altamont Pass Mitigation Area on Contra Costa Water District lands, California, 2023.

Morgan Territory Mitigation Area (Silva and Highland Towers territories)

During 2023 we detected two territorial pairs of golden eagles using some portions of the CCWD Morgan Territory Mitigation Areas near our focal site 351 and surrounding non-selected sites as during previous years (Fig. 4). We monitored the new 2022 nest in the Silva territory just outside the southern CCWD mitigation parcel in site 344 where the adult pair successfully fledged one young (Fig. 4). Doug Bell with the East Bay Regional Park District captured this nestling with permission from the landowner and attached a transmitter to the young prior to fledging. We detected the Highland Towers pair mostly in the eastern portion of focal site 351 where they fledged two young from a new nest adjacent to the 2021/2022 nest tree on private property (Fig. 4). As during previous years, this pair also appeared to use other areas on the west side of Morgan Territory Road such as the northern CCWD mitigation parcel, Pacific Gas and Electric (PG&E) mitigation property, and the Highland Springs parcel owned by Save Mount Diablo.

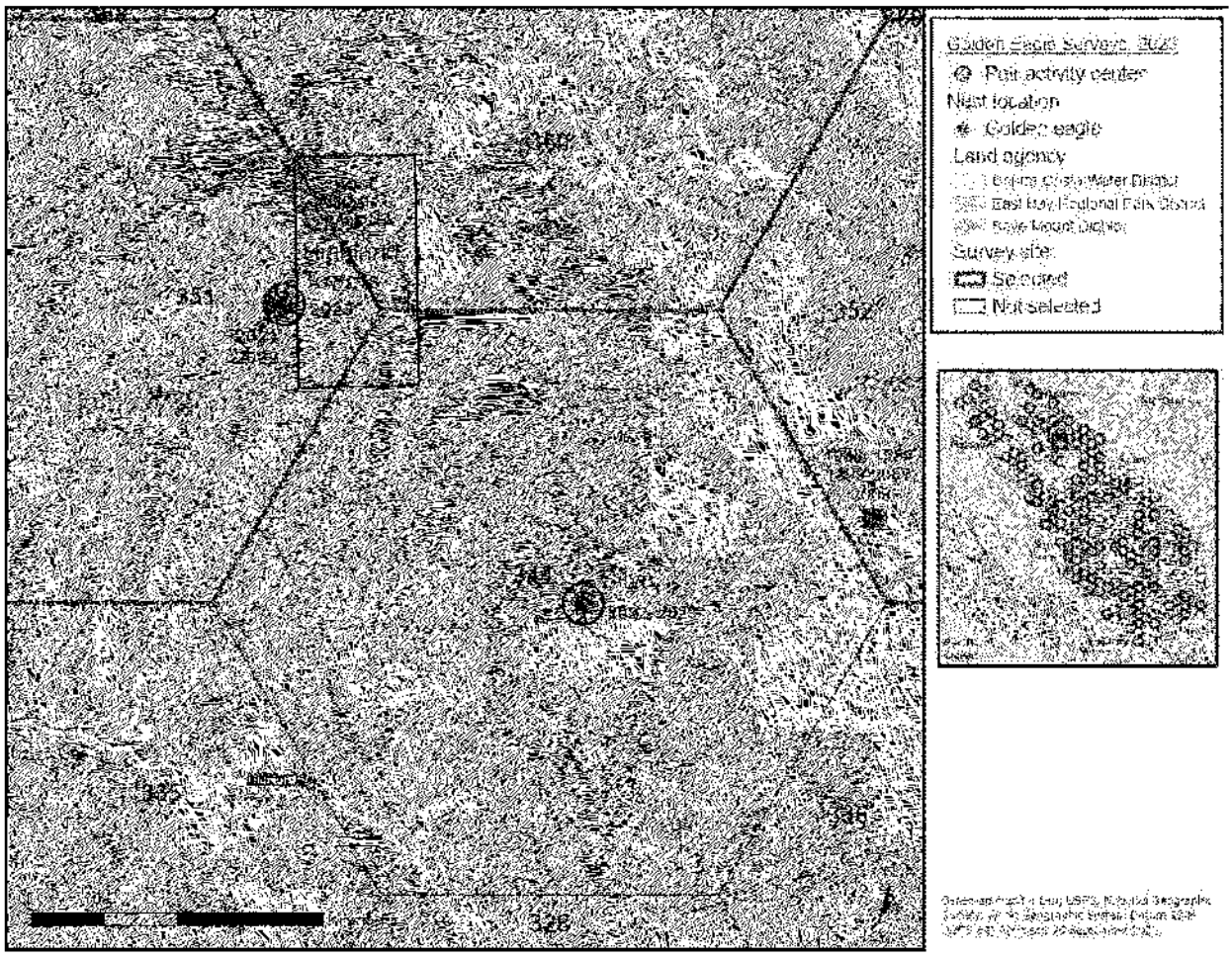

Figure 4. Activity center locations for territorial pairs of golden eagles in the vicinity of the Morgan Territory Mitigation Area on Contra Costa Water District (CCWD) lands, California, 2023.

Southeast of the Los Vaqueros Watershed (Frick Lake and Brushy Peak territories)

We detected two territorial pairs of golden eagles with activity centered 1-mile from the southern boundary of the Los Vaqueros Watershed during 2023 (Fig. 5). The Frick Lake pair was mostly observed incidentally near the intersection of non-focal sites 321, 329, and 336 where they successfully fledged two young from the 2022 nest in a eucalyptus grove on private property. We detected the Brushy Peak pair nearby in focal site 345 where they failed in their nesting attempt for unknown reasons. The extent to which these two territories overlapped with CCWD lands was unknown given our limited observations during this season. We did not monitor the 2022 Swainson's hawk nest just off Vasco Road near the northeastern boundary of focal site 345 due to time constraints.

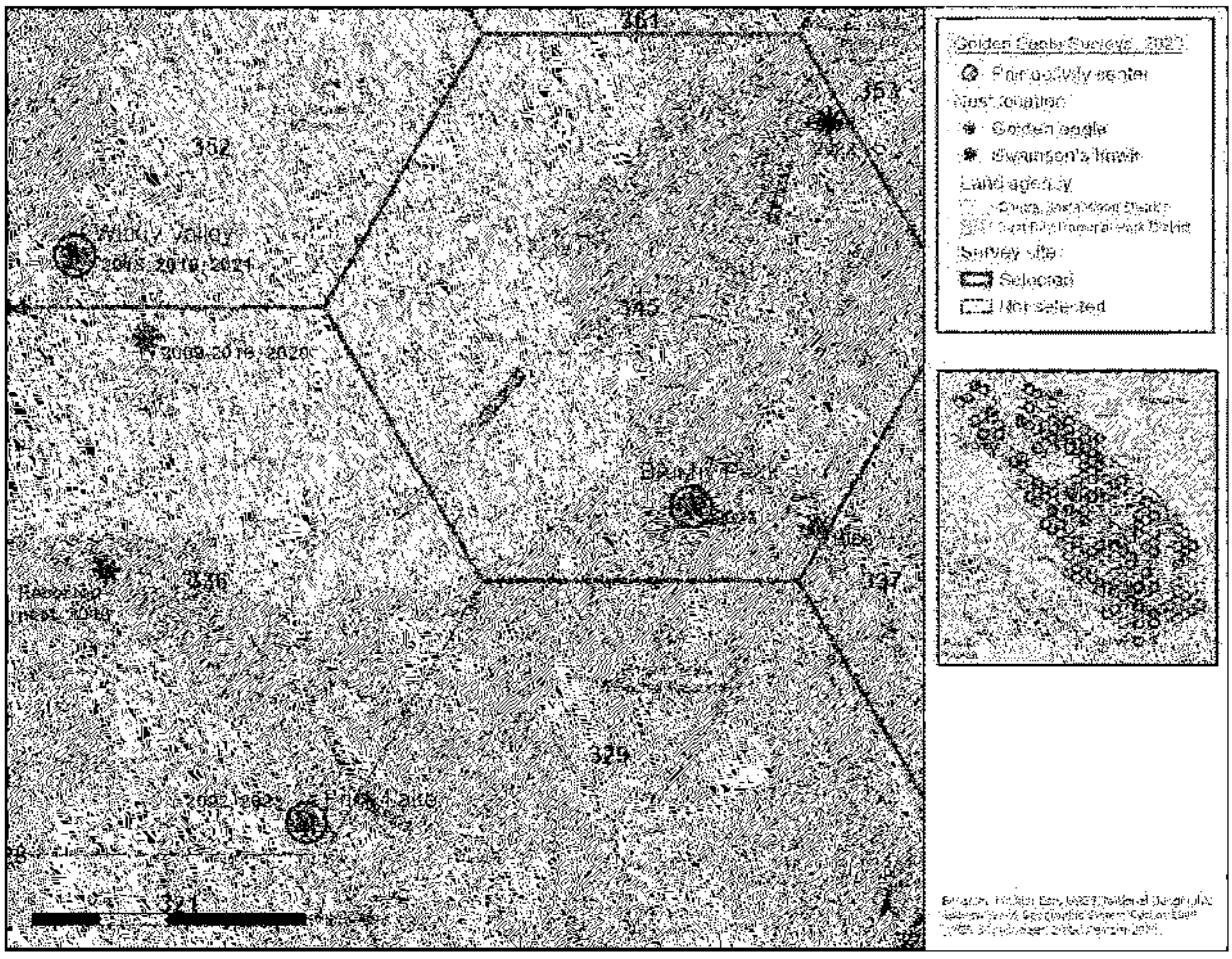

Figure 5. Activity centers and nest locations for territorial pairs of golden eagles in the vicinity of the southeastern boundary of the Los Vaqueros Watershed on Contra Costa Water District (CCWD) lands, California, 2023.

East of the Los Vaqueros Watershed (Vaquero Farms territory)

In early February, we detected a territorial pair of golden eagles that appeared to consist of an adult male and subadult female perching, undulating, and hunting together within the western portion of focal site 370 near the boundary of the CCWD Los Vaqueros Watershed, and EBRPD Vasco Caves and Vasco Hills Regional Preserves as in previous years (Fig. 6). We assume this pair is associated with the Vasco territory, but our surveys in this area were limited during 2023 due to time and logistical constraints and we were unable to locate the pair again later in the season. We observed a second territorial pair with two subadult members associated with the Byron territory that successfully fledged one young from a historical nest on EBRPD land near the intersection of focal site 353, 362, and 370 (Fig. 6). While both pairs overlapped with areas of use by the Vaquero Farms pair in previous years, we saw no signs of occupancy in this territory during 2023.

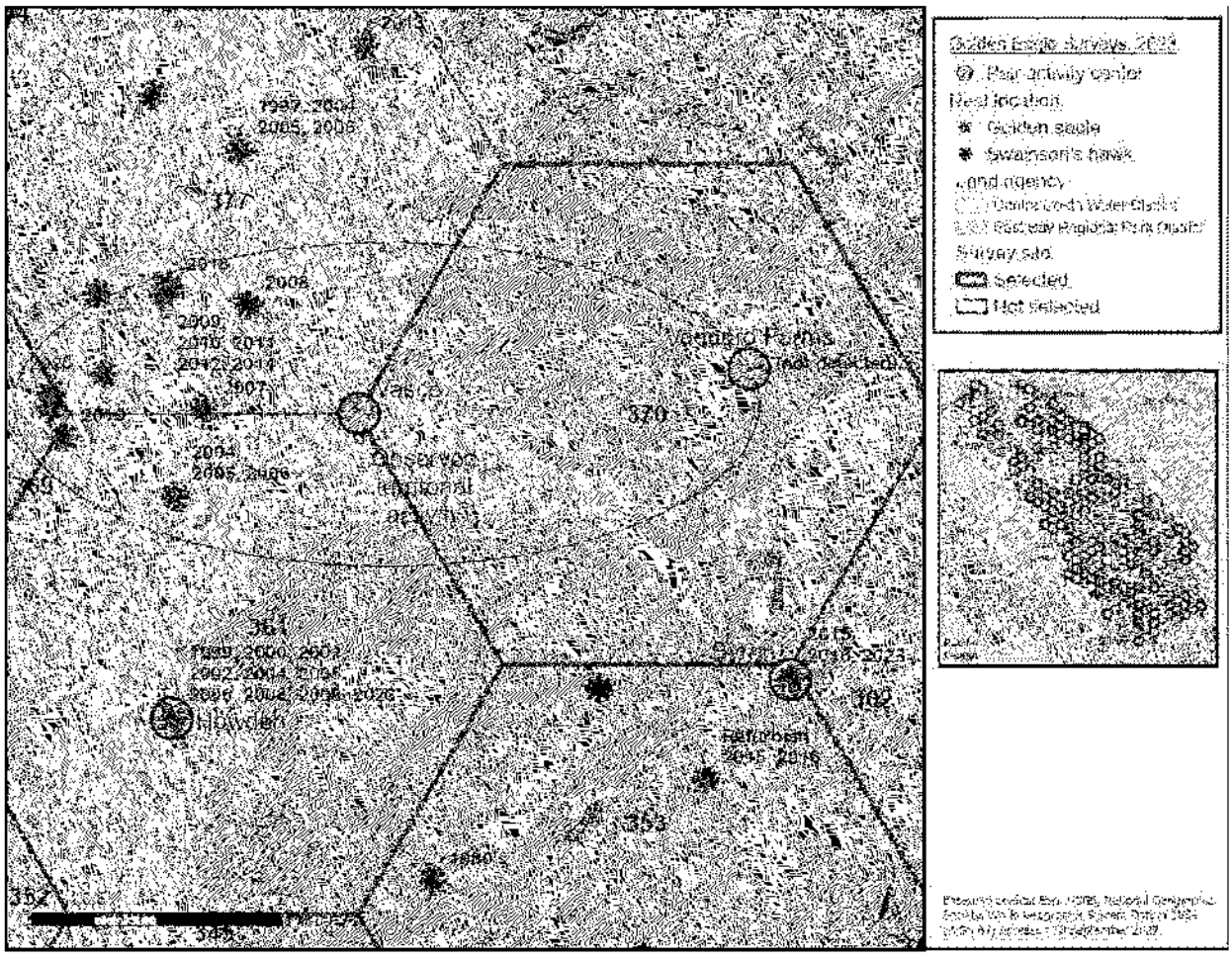

Figure 6. Activity centers and nest locations for territorial pairs of golden eagles in the vicinity of the eastern boundary of the Los Vaqueros Watershed on Contra Costa Water District (CCWD) lands, California, 2023.

North of the Los Vaqueros Watershed (Round Valley, Lydia Lane, and Walnut territories)

As in previous years, we detected three pairs of golden eagles with activity centers less than 1 mile from the northern/northwestern boundary of the Los Vaqueros Watershed during 2023. We detected a golden eagle pair associated with the Walnut territory perching and soaring near the intersection of sites 337, 384, and 431, roughly overlapping the eastern side of the Marsh Creek State Historic Park and northeastern portion of the Los Vaqueros Watershed (Fig. 7). In mid-March we confirmed the pair was incubating in a new nest constructed in the same tree last used during 2020 in the eastern corner of site 384. This pair later fledged one young, although much of the adult activity was observed outside of our focal survey area in site 431. We observed the Lydia Lane pair nesting on adjacent East Bay Regional Park District land in the southwestern portion of site 384 (nest not displayed on Fig. 7). This pair failed in their nesting attempt for the fourth year in a row for unknown reasons, but potentially related to disturbance from intense recreational activity on an "unofficial" bootleg trail 120 m upslope from the nest. Use of this trail has continued despite additional trail closure signs placed by EBRPD every year after the pair has initiated incubation. We detected the Round Valley pair throughout focal site 376 near the CCWD boundary where most of the activity was located on the adjacent EBRPD lands, but were unable to find any signs of nesting in this area (not displayed on map).

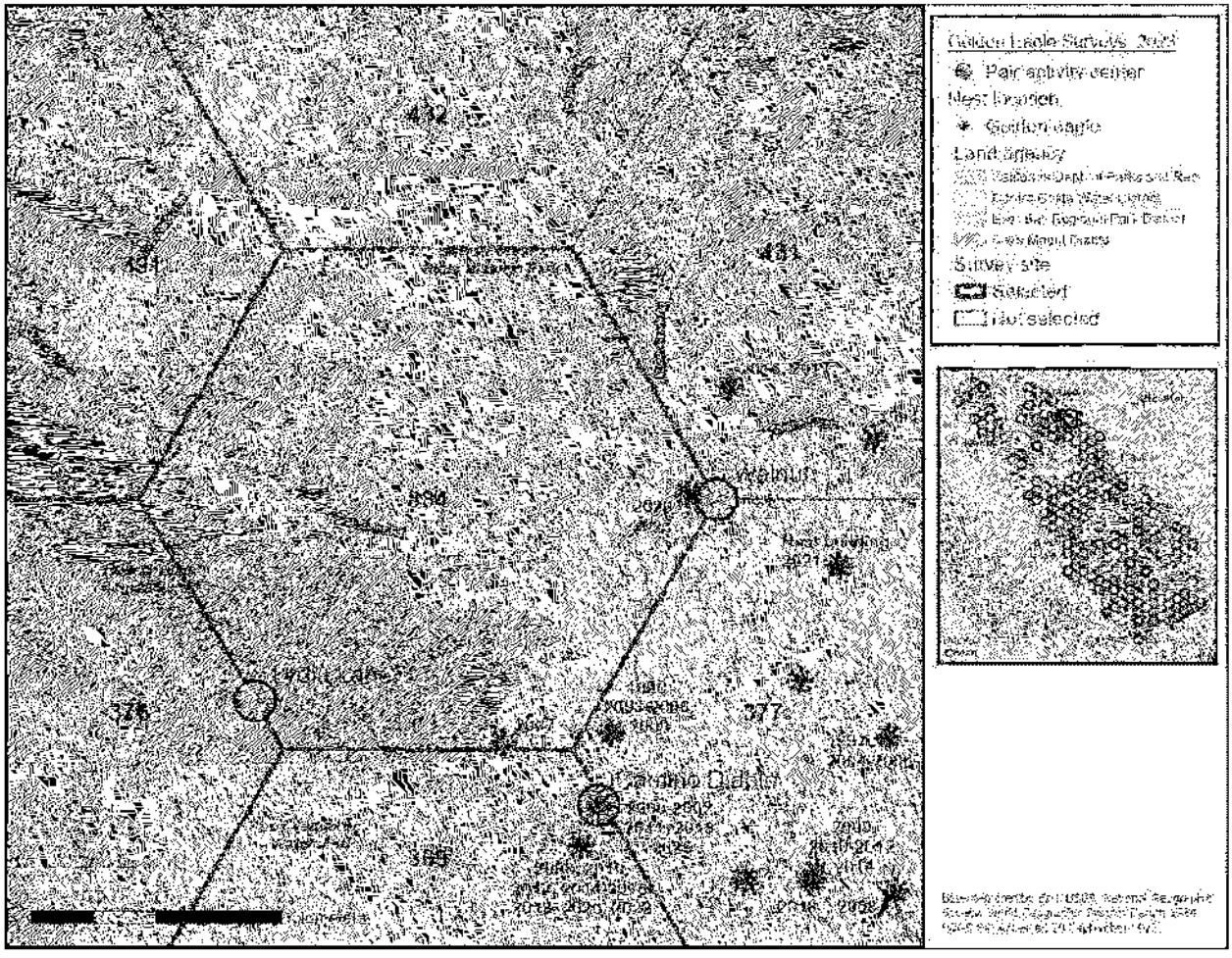

Figure 7. Activity centers and nest locations for territorial pairs of golden eagles in the vicinity of the northeastern boundary of the Los Vaqueros Watershed on Contra Costa Water District lands, California, 2023. Nest locations on some adjacent properties not displayed.

Deer Valley Mitigation Areas (Fox Ridge territory)

During 2023 we observed an adult pair occupying the Fox Ridge territory on the CCWD Deer Valley West property, as in previous years (Fig. 8). Most of their activity was located outside of our survey focal site 391 in the southern portion of site 433. We confirmed incubation during March at the historical nest previously used during 2016 and 2018–2021 while monitoring the territory collaboratively with H.T. Harvey and Associates. They later reported observing at least one small nestling during mid-April, but then found the nest appeared to have failed by early May (C. Lenihan, H. T. Harvey and associates, personal communication). We also used a CCWD parcel near the intersection of Deer Valley Road and Marsh Creek Road to survey part of the Marsh Creek territory. In 2023 this pair nested in the eastern portion of focal site 383 where they fledged one young from the same nest for a third year on private property (not display on map).

We also confirmed incubation by a bald eagle (*Haliaeetus leucocephalus*) pair in a historical nest in Sycamore Creek overlapping with site 383, but did not monitor it further to determine success (not display on map). While this nest is approximately 3.84 km (2.39 mi) from the northeastern corner of the CCWD boundary at the Los Vaqueros Watershed, the adults and possibly fledglings appear to travel to the Los Vaqueros Reservoir to catch fish and hunt mammalian prey throughout the area during previous years.

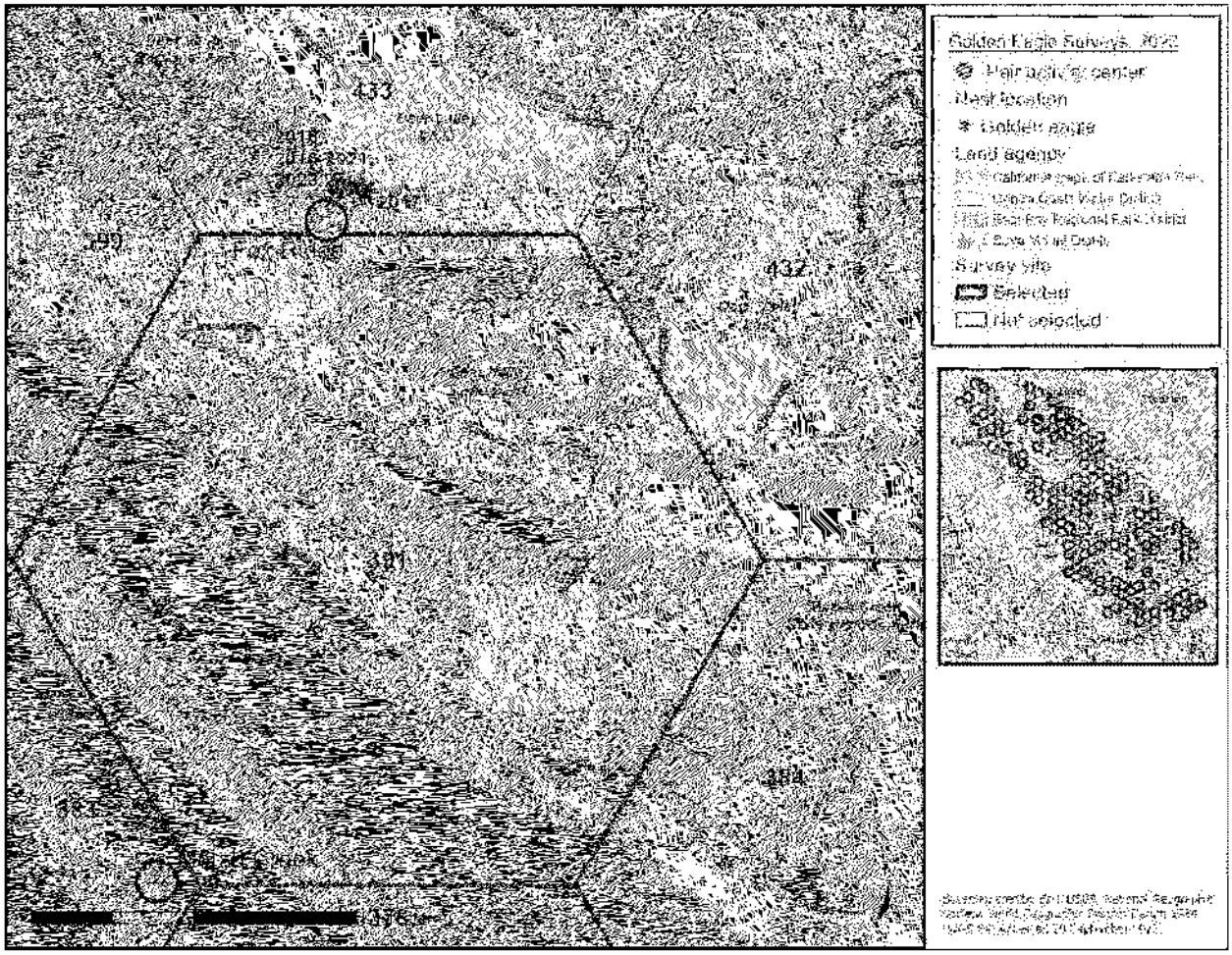

Figure 8. Activity centers and nest locations for territorial pairs of golden eagles in the vicinity of the Deer Valley Mitigation Areas on Contra Costa Water District lands, California, 2023.

Summary

In 2023 we detected five territorial pairs of golden eagles overlapping with eight random focal survey sites and eight other pairs outside these areas in the vicinity of CCWD property. We found evidence of nesting at seven of these territories: one pair fledged two young, three pairs fledged one young, and the three other pairs failed in their nesting attempts. All nests were located on adjacent private property or other agency regional parks except one on a CCWD mitigation parcel. Our final analyses will account for the imperfect detection of territorial pairs, nesting attempts, and successful fledging of young by using methods outlined by Nichols and others (2007). Any publications or final correspondence describing survey results from the broader northern Diablo Range study area during 2014–2023 will be provided following completion of analyses.

Acknowledgments

This study was jointly funded by the U.S. Fish and Wildlife Service (Science Support Partnership, Region 8), the U.S. Geological Survey, NextEra Energy, Brookfield Renewable, Salka Energy, East Bay Regional Park District, Save Mount Diablo's Mary Bowerman Science and Research Grant Program, and The Peregrine Fund.

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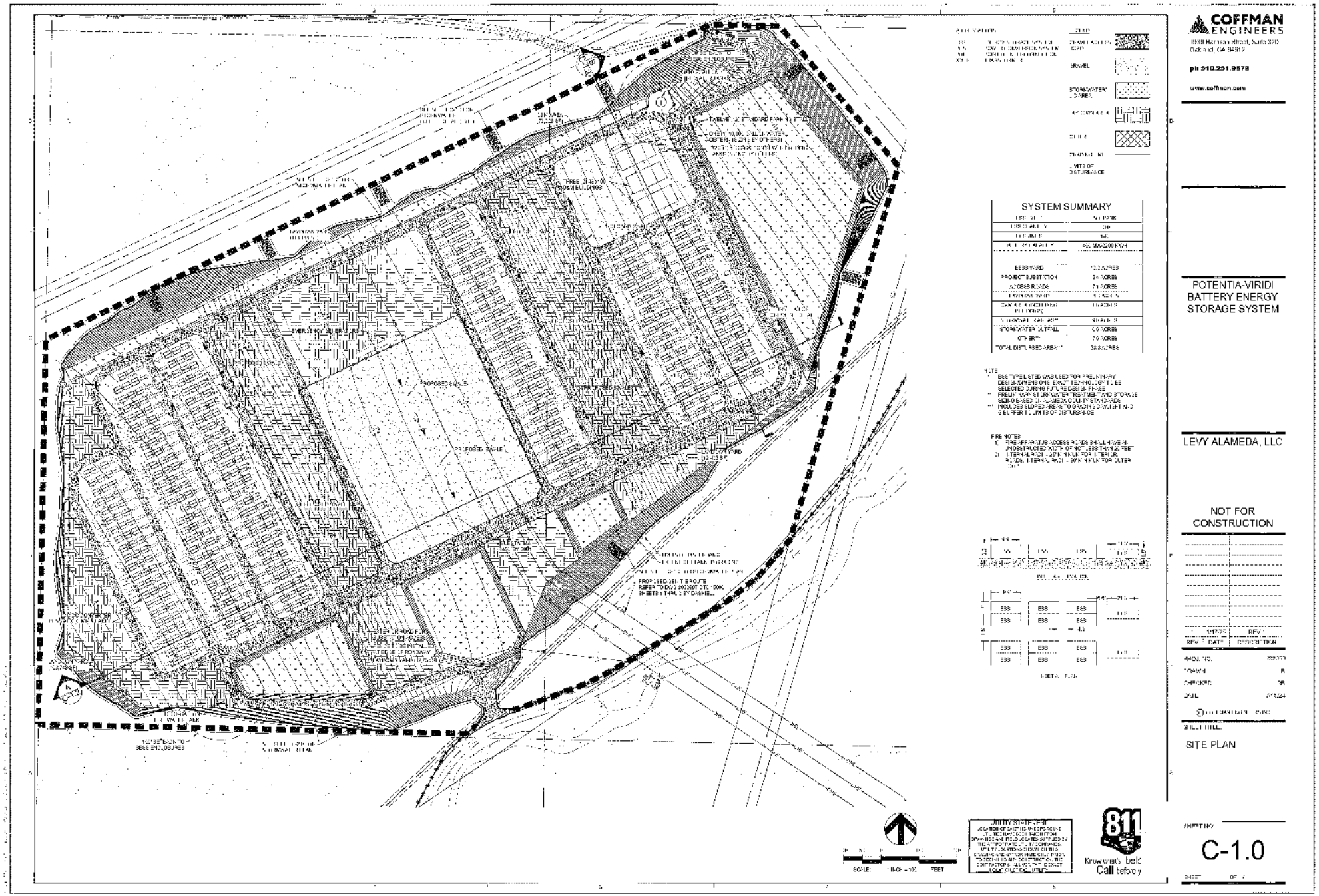
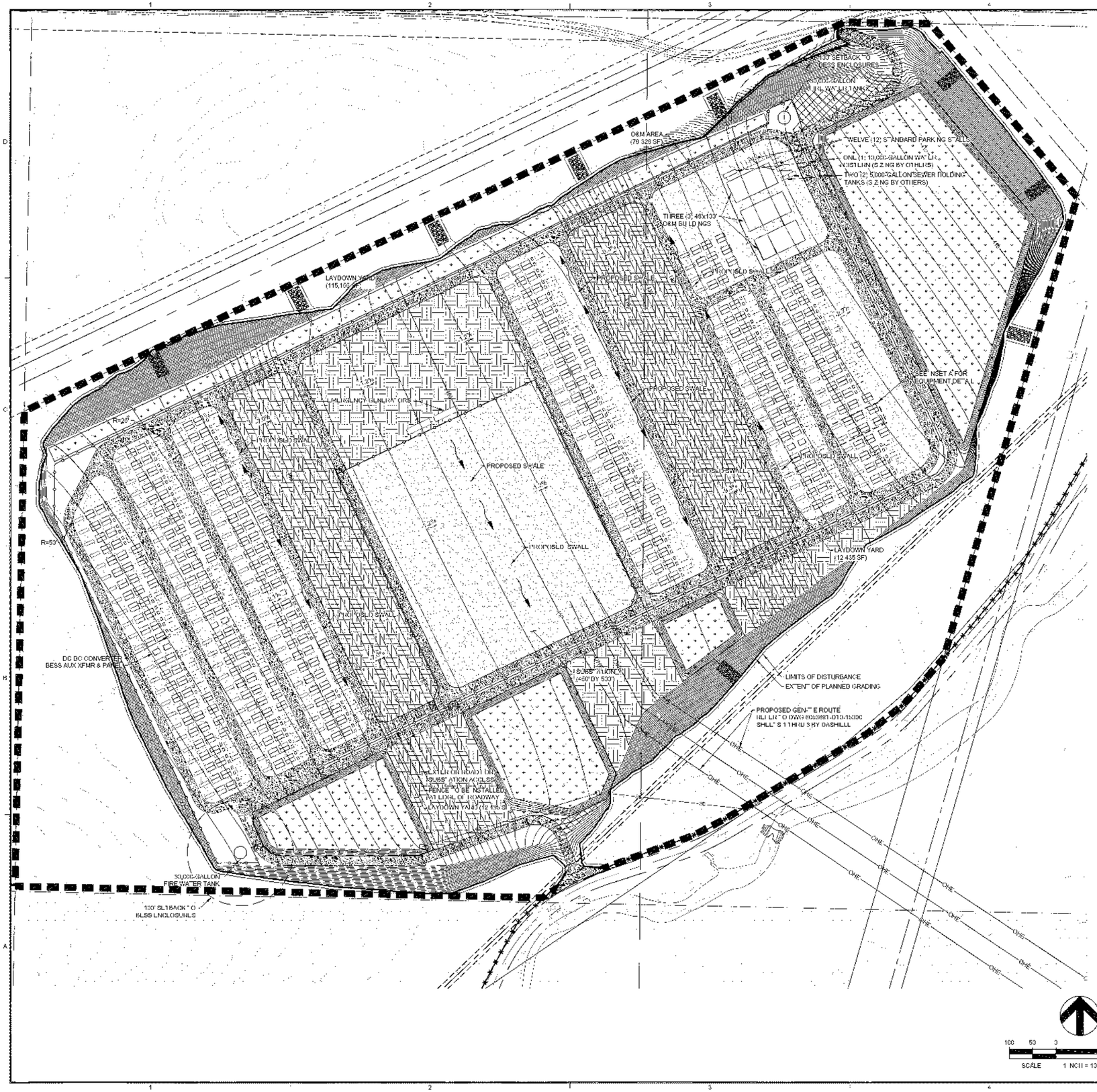


FIGURE 2-4
Site Plan
Potentia Viridi BESS Project

DUDEK


O&M AREA
(79 326 SF)
LAYDOWN YARD
(115,155 SF)
PROPOSED SWALE
PROPOSED SWALE
PROPOSED SWALE
PROPOSED SWALE
PROPOSED SWALE
LAYDOWN YARD
(12 435 SF)
LAYDOWN YARD (12 435 SF)
DC DC CONVERTER
BESS AUX XFMR & PAD
R=20'
R=50'
100' SETBACK TO BESS ENCLOSURES
30,000-GALLON FIRE WATER TANK
100' SETBACK TO BESS ENCLOSURES
SECURITY FENCE TO BE INSTALLED ALONG PROPERTY LINE
LIMITS OF DISTURBANCE
EXTENT OF PLANNED GRADING
PROPOSED GEN-TIE ROUTE
(SEE CIVIL DWG 8003891-0010-15000 SHEET S 11 FOR 34KV DASHLINE)
TWELVE (12) STANDARD PARKING STALLS
ONE (1) 10,000-GALLON WATER CISTERN (BY OTHERS)
TWO (2) 5,000-GALLON SEWER HOLDING TANKS (BY OTHERS)
THREE (3) 46'x100' O&M BUILDINGS
SEE INSET A FOR EQUIPMENT DETAIL
OHE
OHE
OHE

Message

From: Cameron Johnson [cjohnson@integral-corp.com]
Sent: 6/17/2025 7:03:52 PM
To: Yang, Jenna@Waterboards [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e41e549c7a4a4634bdb4de7fcb65914d-Waterboards]
CC: Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Tadlock, Stephanie@Waterboards [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8c816f7cdb324c09b5cbd2d6ecf38a6a-Waterboards]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Kelly Strain [kstrain@capstoneinfra.com]; Ronelle Candia [rcandia@dudek.com]; Naomi Schowalter [nschowalter@integral-corp.com]
Subject: Re: Compensatory Mitigation Plan
Attachments: 401_Application_2025.06.13.pdf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Jenna - please see the attached Final (signed) copy of the permit application document. It includes (as an attachment) the mitigation proposal that we previously submitted. We are working on getting the fee paid now; it is either going to be paid directly to RWQCB (usual method), or to the CEC as CEC has been collecting State agency costs. The total fee is estimated to be $4,212 (using the fee calculator). I will ping you as soon as we know where the fee is going.

CAMERON JOHNSON
Tel: 415.458.6701 | Cell: 415.602.2979
INTEGRAL CONSULTING INC.

From: Yang, Jenna@Waterboards <Jenna.Yang@Waterboards.ca.gov>
Sent: Tuesday, June 3, 2025 9:41 AM
To: Cameron Johnson <cjohnson@integral-corp.com>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Tadlock, Stephanie@Waterboards <Stephanie.Tadlock@waterboards.ca.gov>
Subject: Re: Compensatory Mitigation Plan

[CAUTION: External email. Think before you click links or open attachments.]
Good morning,

My management has approved the compensatory mitigation plan for preserving 213 acre of grassland habitat at Mulqueeney Ranch which includes 2.80 acres of waters and wetlands. At a 3:1 ratio, a minimum preservation of 0.12 acre of waters is required for this project.

The Water Board will not track the remaining 2.68 acres of preserved waters. If/when you have a new project, you can submit a draft compensatory mitigation plan requesting use of the remaining preserved waters. It will be up to you and Westervelt to keep track of the amount of preserved waters remaining. Additionally, please note that preservation is not the preferred compensatory mitigation option since it does not result in a gain of aquatic resource area or functions to offset the permanent loss of aquatic resources from project activities; therefore, I cannot guarantee that your next project will be approved to use the remaining 2.68 acres of preserved waters for compensatory mitigation. We will have to review it on a case-by-case basis.

I believe the remaining item for a complete application now is just payment of the application fee and a signed copy of the 401 Certification Application.

Please note that I will be out of the office starting 4 June 2025 and returning 16 June 2025. If you need anything before my return, please contact my supervisor, Stephanie Tadlock, who has been copied here.

Jenna Yang
Water Resource Control Engineer
401 Water Quality Certification and Dredging Unit
Central Valley Regional Water Quality Control Board
jenna.yang@waterboards.ca.gov

From: Cameron Johnson <cjohnson@integral-corp.com>
Sent: Wednesday, May 28, 2025 12:47 PM
To: Yang, Jenna@Waterboards <Jenna.Yang@Waterboards.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Knight, Eric@Energy <Eric.Knight@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: KStrain@capstoneinfra.com <KStrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>
Subject: Re: Compensatory Mitigation Plan

Caution: External Email. Use caution when clicking links or opening attachments. When in doubt, contact DIT or use the Phish Alert Button.

Hello All - Jenna pointed out a typo in the submittal (thank you Jenna). I have made the edit and replaced the file (in the same folder that was previously shared). You should be able to pick up the eidited .pdf. If for some reason the access does not work, please let me know.

Best- Cameron

CAMERON JOHNSON | Principal
Permitting and Planning
Tel: 415.458.6701 | Cell: 415.607.2970 | Brisbane | CA
cjohnson@integral-corp.com | Bio

integral INSIGHT FOR AN EVOLVING WORLD

From: Cameron Johnson <cjohnson@integral-corp.com>
Sent: Wednesday, May 21, 2025 5:29 PM
To: Yang, Jenna@Waterboards <Jenna.Yang@Waterboards.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Eric.Knight@energy.ca.gov <Eric.Knight@energy.ca.gov>; Ann.Crisp@energy.ca.gov <ann.crisp@energy.ca.gov>
Cc: KStrain@capstoneinfra.com <KStrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>
Subject: Re: Compensatory Mitigation Plan

Hello Jenna- I just sent you an invite to "share" a file. The file includes the mitigation proposal that we discussed. Please note that I am cc'ing the California Energy Commission (CEC) regulators on this email as well as the project managers. I am including a link (below), in case any of you did not receive the invite.

The proposal outlines the mitigation area that is being currently reviewed by the U.S. Fish & Wildlife Service, and the California Department of Fish & Wildlife. The mitigation property is located directly west of the proposed project site and includes the same habitat types, topography, and vegetation associations; it also includes waters and wetlands that will be preserved as a part of the mitigation package. These include ponds, swales, and seasonal wetlands.

Please review the proposal and let me know if you have any questions, or if you require any additional information to support the 401 review.

Best - Cameron Johnson

Shared with RWQCB and CEC 052125

From: Yang, Jenna@Waterboards <Jenna.Yang@Waterboards.ca.gov>
Sent: Monday, May 5, 2025 10:22 AM
To: Cameron Johnson <cjohnson@integral-corp.com>
Subject: Compensatory Mitigation Plan

[CAUTION: External email. Think before you click links or open attachments.]
Hi Cameron,

I just left you a voicemail.

The Compensatory Mitigation Plan can be attached via email and be in something as simple as a memo format telling me what the plan is, as long as the information complies with our Procedures. We do not have a specific form requirement for the compensatory mitigation plan. Please make sure that you're copying the CEC as well so that everyone is up-to-speed on what's going on.

Thank you,

Jenna Yang
Water Resource Control Engineer
401 Water Quality Certification and Dredging Unit
Central Valley Regional Water Quality Control Board
jenna.yang@waterboards.ca.gov

Docusign Envelope ID: 32EF3236-2C00-496D-9AA0-BD9F98B0DE35

CALIFORNIA
Water Boards

Application: Discharges of Dredged or Fill Material to Waters of the State

The State Water Resource Control Board (State Board) or Regional Water Quality Control Boards (collectively, Water Boards) have the authority to regulate the discharge of dredged or fill material under section 401 of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act (Porter-Cologne). Dischargers that obtain a federal permit or license that authorizes impacts to waters of the U.S. (i.e., waters that are within federal jurisdiction), such as section 404 of the CWA and section 10 of the Safe Rivers and Harbors Act, must obtain certification from the Water Boards to ensure that the discharge does not violate state water quality standards or any other appropriate requirement of State law. When a discharge is proposed to waters outside of federal jurisdiction, the Water Boards regulate the discharge under Porter-Cologne through the issuance of Waste Discharge Requirements (WDRs). CWA section 401 Water Quality Certifications, WDRs, and waivers of WDRs are referred to as orders or permits.

The State Wetland Definition and Procedures for the Regulation of Discharges of Dredged or Fill Material to Waters of the State (Procedures) and the California Code of Regulations, title 23, section 3856 identify items that are required for a complete application in all cases. Additionally, the Procedures identify items that may be required for a complete application on a case-by-case or conditional basis. The State Water Board webpage links to the Procedures (https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/procedures_conformed.pdf).

Water Board staff will review an application within 30 days of receipt and provide a completeness determination to the applicant. A completeness determination may include a request for additional information for a complete application. Application fees must be paid before an application is determined complete. See Application Section Thirteen for options on how to make a payment.

For more information on how applications will be processed, refer to the Implementation Guidance for the Procedures (https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/dredge_fill/revised_guidance.pdf).

This application form outlines a broad range of items that may be required; however, as noted above, not all items are required in all cases. Use of this form is not required. Applicants may submit information that was submitted for a different federal or state permit to reduce duplicative submittals. In such cases, applicants should use the text boxes in this form to indicate the name, relevant section, and page number where relevant information is located. Finally, the level of detail submitted with this application should be commensurate with the size and the scope of the proposed discharge.

Applicants are encouraged to contact the appropriate Water Board to discuss the applicability of this application form, items required for a complete application, and/or the appropriate level of detail needed to obtain authorizations.

Applications for projects that cross regional board boundaries should be submitted to the State Board. All other applications should be submitted to the appropriate regional water quality control board.

A staff directory for the Water Board's Water Quality Certification Program is located on the program webpage (https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/wqc_staffdir.pdf).

STOP: If you answer 'yes' to any of the following questions, do not complete this application. Instead, please contact the State Water Board's Division of Water Rights to obtain a copy of their water quality certification application:

- Does the project require a Federal Energy Regulatory Commission (FERC) license or amendment to a FERC license?
- Does this project involve an appropriation of water?
- Does this project involve a diversion of water for domestic, irrigation, power, municipal, industrial, or other beneficial use?

Section One: Contact Information

Review **Section Twelve** Legally Responsible Person (LRP) eligibility and signature requirements before completing this application.

Applicant (Organization and Legally Responsible Person) Information	
Organization Name:	Levy Alameda, LLC
LRP Name:	Patrick Leitch
Title:	Chief Operating Officer
Street Address:	155 Wellington Street West, Suite 2930
City:	Toronto
State:	Ontario
County:	N/A, Canada
Zip Code:	M5V 3H1
Telephone:	310-899-5340
Email:	PLeitch@Capstoneinfra.com

The LRP may assign a Duly Authorized Representative (DAR) to make decisions on their behalf and provide application information. If a DAR is assigned to this project, provide the assigned person's contact information below and assign the DAR in Section Twelve.

Duly Authorized Representative Information (Optional)	
Organization Name:	Integral Consulting Inc.
DAR Name:	Naomi Schowalter
Title:	Consultant
Street Address:	433 Visitacion Ave
City:	Brisbane
State:	California
County:	San Mateo
Zip Code:	94005
Telephone:	619-647-7344
Email:	nschowalter@integral-corp.com

Section Two: Project Information

Project Name or Title: Project Name should match all other agency permits and correspondence Potentia-Viridi Battery Energy Storage System Project (PV-BESS)	
Project Street Address: Provide the project's physical location, not the mailing address 17257 Patterson Pass Road	
City:	Tracy
State:	California
County:	Alameda
Zip Code:	95377
Latitude:	37.712130
Longitude:	-121.573369
Assessor's Parcel Number(s):	99B-7890-2-4, 99B-7890-2-6, and 99B-7885-12
Section, Township, Range:	Section 31, T2S, R4E

Directions to the Project Site:

From Sacramento, California: Drive south on Interstate 5 to Lathrop, then westward on Highway 205 to Highway 580 (south). Take the Patterson Pass exit westward approximately 2.5 miles to the project site.

Project Purpose and Overall Goal of Entire Activity:

The purpose of the project is to construct, operate, and eventually repower or decommission a 400-megawatt battery energy storage system. The project would draw electricity from the power grid to charge and store electrical energy and discharge back to the power grid when the stored energy is needed. The project would provide several benefits to the power grid, including reducing the need to operate natural gas power plants to balance intermittent renewable generation and serving as an additional capacity resource that would enhance grid reliability.

Project Description: Provide a **full**, technically accurate description of the entire project.

See Attachment A (Supplemental Information).

Project Size: Total size of the entire project area for all work/activities/construction that will be performed to meet the final goal: 70 acres

Is this a linear project (for example a powerline, pipeline, highway, etc.)? Yes ☐ No ☒

If yes, indicate length of project from end-to-end in feet: feet

Anticipated Project Start and End Dates:

Construction Start Date: Q1 2026

Construction End Date: Q2 2028

Estimated Construction Duration: 18 months

Will any ground disturbance take place during the wet season months?

Yes ☒ No ☐

Additional Information: Additional information may include documentation relevant to pre-application consultations which may help inform application processing.

In addition to responding to the questions above, provide a project map with a scale of at least 1:24000 (1" = 2000') and of sufficient detail to show:

- The boundaries of the lands owned or to be utilized by the applicant in carrying out the proposed activity, including grading limits, proposed land uses, and the location, dimensions and type of any structures erected (if known) or to be erected.
- All aquatic resources that may qualify as waters of the state, within the boundaries of a project, and all aquatic resources that may qualify as waters of the state outside of the boundary of the project that could be impacted by the project.

A map verified by the Corps may satisfy this requirement if it includes all potential waters of the state.

Note that a map in electronic format (e.g., GIS shapefiles) may be required.

Section Three: Agency Contact Information

Attach copies of any final and signed federal, state, and local licenses, permits, and agreements (or copies of the draft documents or submitted application, if not finalized) associated with construction, operation, maintenance, or other actions relevant to the project. If a draft or final document is not available, a list of all remaining agency regulatory approvals being sought should be included. (CCR § 3856 (e).)

Federal Permit(s) or Completed Federal Applications

U.S. Army Corps of Engineers

☐ Not Applicable

District: ☐ ☒Sacramento ☐

☐ Individual Permit

☐ Letter of Permission

☒ Which Nationwide Permit Number has been applied for, if any? 7 and 14

For Nationwide Permits, select one of the following: ☐ Non-Reporting, or ☒ Reporting

☒ Corps File No. SPK-2024-00486

☐ Regional General Permit / Number

☐ Other Permit Name:

Corps Contact Information	
Name:	Matthew Di Loreto
Telephone:	916-557-7882
Email:	matthew.j.diloreto@usace.army.mil

U.S. Fish and Wildlife Service

☐ Not Applicable

☒ Biological Assessment

☐ Biological Opinion

☐ Incidental Take Permit

U.S. Fish and Wildlife Contact Information	
Name:	Sacramento Fish and Wildlife Office
Telephone:	916-414-6600
Email:	

National Marine Fisheries Service

☒ Not Applicable

☐ Biological Assessment

☐ Biological Opinion

National Marine Fisheries Service Contact Information
Name:
Telephone:
Name:

State Permit(s) or Completed State Application(s)

List permits for activities related to waters whether applied for or approved, e.g., California Department of Fish and Wildlife (CDFW) Lake or Streambed Alteration Agreement (Fish and Game Code sections 1600-1608), CESA section 2081 Incidental Take Permit, Construction Stormwater Enrollment, Coastal Development Permit, etc.

State or Local Permit Number	File Date	Tracking Number
☒ CDFW Lake and Streambed Alteration Agreement (Fish and Game Code section 1600)	Click or tap to enter a date.	
☒ CDFW Incidental Take Permit (Fish and Game Code section 2081)	Click or tap to enter a date.	
☐ CDFW Consistency Determination (Fish and Game Code section 2080)	Click or tap to enter a date.	
☒ State Water Board Construction Stormwater General Permit Enrollment	Click or tap to enter a date.	Order WQ 2022-0057-DWQ
☐ California Coastal Commission (Development Permit)	Click or tap to enter a date.	
☐ California Coastal Commission (Consistency Determination)	Click or tap to enter a date.	
☐ Bay Conservation and Development Commission (Development Permit)	Click or tap to enter a date.	
☐ Bay Conservation and Development Commission (Consistency Determination)	Click or tap to enter a date.	
☐ Central Valley Flood Protection Board	Click or tap to enter a date.	
☒ Other: California Energy Commission (CEC) Opt-In Certification Program	Click or tap to enter a date.	24-OPT-04

State or Local Agency Contact Information: Provide additional contacts, as needed	
Agency Name:	CEC
Contact Name:	Ann Crisp
Telephone:	916-352-0543
Email:	STEPsiting@energy.ca.gov

Agency Name:	
Contact Name:	
Telephone:	
Email:	

Docusign Envelope ID: 32EF3236-2C00-496D-9AA0-BD9F98B0DE35

Section Four: Special Status Species

If known, provide information about the presence of species identified as rare, threatened, or endangered under state or federal law. Attach all biological assessments, surveys, formal consultation determination letters, and mitigation proposals, as applicable.

Are you aware of any rare, threatened, or endangered species at this site? Yes ☐ No ☐

Species Habitat and/or Name	Biological Assessment Prepared?	Survey Conducted? (Yes/No)	Dates Survey Conducted
California red-legged frog	Yes ☒ ☐	☒ No ☐	8/2/2023
California tiger salamander	Yes ☒ ☐	☐ No ☒	Click or tap to enter a survey date
San Joaquin kit fox	Yes ☒ ☐	☒ No ☐	5/16/2023, 8/2/2023, 1/18/2024

Was the project planned in accordance with an approved Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP)? Yes ☐ No ☒

If yes, list the HCP or NCCP name:

Section Five: California Environmental Quality Act and/or National Environmental Policy Act Compliance

Unless an exemption applies, the Water Boards must comply with the California Environmental Quality Act (CEQA). Although not required for a complete application, final CEQA documentation must be provided to the Water Board with ample time to properly review before an Order may be issued. (CCR § 3856 (f).)

The Water Boards will determine whether a project qualifies for a CEQA exemption during review of the project information. Identify below if applicable the relevant categorical or statutory exemption number you believe applies.

If you do not know whether a CEQA exemption applies to the proposed project, submit the application with as much information as possible.

Document Type	Status (In Preparation, Complete, or Under Revision)	Date Completed or Expected Completion Date
Scoping Document		Click or tap to enter a date.
Initial Study		Click or tap to enter a date.
Negative Declaration		Click or tap to enter a date.
Notice of Preparation		Click or tap to enter a date.

Mitigated Negative Declaration		Click or tap to enter a date.
Environmental Document	In Preparation	Click or tap to enter a date.

Does the project meet a statutory or categorical CEQA exemption?
No ☒ **Yes, proposed statutory exemption number:** **Yes, proposed categorical exemption number:**

Section Six: Aquatic Resource Information

Attach any aquatic resource delineation reports and maps for all aquatic resources that may qualify as waters of the state, including those outside of federal jurisdiction. Water Board staff will verify the presence or absence of waters of the state outside of federal jurisdiction during the application review process. (CCR § 3856 (h)(7).) The Water Boards may require supplemental field data from the wet season to substantiate dry season delineations (Procedures section IV.A.2.a).

Aquatic Resource Delineation Report Information	
Was an aquatic resource delineation report prepared? Yes ☐ **No** ☒	
Report Title:	N/A, a standalone delineation report was not prepared. Dudek biologists Mikaela Bissell and Erin Colton Fisher delineated Patterson Run.
Delineation Date(s):	1/18/2024
Name of Person who Prepared the Report:	
Title of Person who Prepared the Report:	
Organization/Company who Prepared the Report:	
Was the report verified by the U.S. Army Corps of Engineers? Yes ☐ **No** ☒ **If yes, enter verification date and submit a copy of the verification with this application:** Click or tap to enter a verification date	
Are there waters outside of federal jurisdiction? **Yes** ☐ **No** ☒	

Receiving waters and groundwater potentially impacted by any project are protected in accordance with the applicable water quality control plans (https://www.waterboards.ca.gov/plans_policies/#plans) (Basin Plans) for the regions and other plans and policies (http://www.waterboards.ca.gov/plans_policies). If known, list impacted hydrologic unit(s) in the impacted Regional Water Quality Control Board's Basin Plan. The Basin Plans include water quality standards, which consist of existing and potential beneficial uses of waters of the state, water quality objectives to protect those uses, and the state and federal antidegradation policies.

The Lahontan Regional Water Quality Control Board prohibits discharge to lands within the Walker, Carson, Lake Tahoe, Little Truckee, and Truckee River Hydrologic Basins unless specific prohibition exemption criteria are met. For projects in this region, in addition to this application, complete the applicable prohibition criteria form for projects discharging to the Lake Tahoe Hydrologic Basin (https://www.waterboards.ca.gov/lahontan/water_issues/programs/clean_water_act_401/docs/att3.doc) or the Little Truckee or Truckee River (https://www.waterboards.ca.gov/lahontan/water_issues/programs/clean_water_act_401/docs/att4.doc) Hydrologic Basins.

Hydrologic Information
Was the project developed in accordance with a watershed plan? Yes ☐ **No** ☒ **If yes, what is the name of the watershed plan name? Attach the plan, or a link to the plan, if feasible:**
How many waterbodies would be impacted by the project activity? One (1) If the project impacts more than one waterbody, attach the information below for each impacted waterbody; an excel spreadsheet or table may be used for projects with multiple impact sites.
Does the impacted waterbody have a name? Yes ☒ **No** ☐ **Name of the impacted waterbody; if unnamed, name of the nearest downstream named waterbody:** Patterson Run
Basin plan hydrologic unit(s), and if included in a basin plan, the hydrologic area and hydrologic subarea, if known: North Diablo Range Hydrologic Unit (Hydrologic Unit Number 543.00)

Does the proposed project do any of the following?	
Discharge to an Area of Special Biological Significance (ASBS), Marine Protected Area (MPA), or Outstanding National Resource Water (ONRW)?	**Yes** ☐ **No** ☒
Discharge to a waterbody listed as impaired on the Clean Water Act 303(d) list?	**Yes** ☐ **No** ☒
Discharge to a waterbody with a total maximum daily load (TMDL)?	**Yes** ☐ **No** ☒

Section Seven: Impact Quantities and Classification

List temporary and permanent **fill/excavation** impacts to waters of the state according the aquatic resource type in the tables below. Round acres to at least the hundredth place (0.01); round cubic yards and linear feet to the nearest whole number.

Fill/Excavation Temporary Impacts

Lake/Reservoir

Acres	
Cubic Yards	
Linear Feet	

Stream Channel

Acres	0
Cubic Yards	0
Linear Feet	0

Ocean/Bay/Estuary

Acres	
Cubic Yards	
Linear Feet	

Vernal Pool

Acres	
Cubic Yards	
Linear Feet	

Riparian Zone

Acres	
Cubic Yards	
Linear Feet	

Wetland

Acres	
Cubic Yards	
Linear Feet	

Classification System Name (if known):
Classification(s):

Fill/Excavation Permanent Impacts

Lake/Reservoir

Acres	
Cubic Yards	
Linear Feet	

Stream Channel

Acres	~0.04
Cubic Yards	~34 cy excavation and 55 cy fill
Linear Feet	~38

Ocean/Bay/Estuary

Acres	
Cubic Yards	
Linear Feet	

Vernal Pool

Acres	
Cubic Yards	
Linear Feet	

Riparian Zone

Acres	
Cubic Yards	
Linear Feet	

Wetland

Acres	
Cubic Yards	
Linear Feet	

Classification System Name (if known):
Classification(s):

List temporary and permanent **dredge/extraction** impacts to waters of the state according the aquatic resource type in the tables below. Round acres to at least the hundredth place (0.01); round cubic yards and linear feet to the nearest whole number.

Dredge/Extraction Temporary Impacts

Lake/Reservoir

Acres	
Cubic Yards	
Linear Feet	

Stream Channel

Acres	0
Cubic Yards	0
Linear Feet	0

Ocean/Bay/Estuary

Acres	
Cubic Yards	
Linear Feet	

Vernal Pool

Acres	
Cubic Yards	
Linear Feet	

Riparian Zone

Acres	
Cubic Yards	
Linear Feet	

Wetland

Acres	
Cubic Yards	
Linear Feet	

Classification System Name (if known):
Classification(s):

Dredge/Extraction Permanent Impacts

Lake/Reservoir

Acres	
Cubic Yards	
Linear Feet	

Stream Channel

Acres	0
Cubic Yards	0
Linear Feet	0

Ocean/Bay/Estuary

Acres	
Cubic Yards	
Linear Feet	

Vernal Pool

Acres	
Cubic Yards	
Linear Feet	

Riparian Zone

Acres	
Cubic Yards	
Linear Feet	

Wetland

Acres	
Cubic Yards	
Linear Feet	

Classification System Name (if known):
Classification(s):

Additional Direct and Indirect Impact Information

Direct Impact Description: Describe the nature and extent of temporary and permanent impacts to waters of the state. Attach map(s) that clearly depict the anticipated area of direct impact.

Permanent impacts to Patterson Run will result from improvements to an existing stormwater outfall and the installation of a ford (i.e., low-water crossing). The stormwater outfall improvements will impact approximately 80 square feet and 8 linear feet of Patterson Run for the excavation of approximately 16 cubic yards of material and placement of approximately 3 cubic yards of native fill and 5 cubic yards of riprap below top of bank. The ford will impact approximately 1,600 square feet and 30 linear feet of Patterson Run for the excavation of approximately 18 cubic yards of material and placement of approximately 17 cubic yards of imported fill and 30 cubic yards of riprap below top of bank.

Indirect Impact Description: Indirect impacts could be those that are reasonably foreseeable outside of the direct impact area, or that occur later in time, that may have an adverse effect on water quality. Examples of indirect impacts could include fluctuating or disturbed water levels, climate change adaptation, and disturbed habitat connectivity corridors.

Describe potential impacts to water quality from the project discharge. For example, describe increased turbidity, settleable matter, or other pollutants that may affect beneficial uses associated with the proposed project area. Attach map(s) that clearly depict the anticipated area of indirect impact, as feasible.

Indirect impacts to waters of the State may include changes to erosion and sedimentation patterns around the outfall and ford locations due to increased surface roughness and altered channel dimensions; increased turbidity due to ground disturbance associated with the overall project; and increased risk of pollutants reaching Patterson Run due to the ford installation and vehicle/equipment use for project construction and operation. Indirect impacts associated with erosion and pollutants would be minimized with the implementation of various best management practices.

Cumulative Impacts: Provide a brief list/description, including estimated adverse impacts, of any projects implemented by the applicant within the last five years or planned for implementation by the applicant within the next five years that are in any way related to the proposed activity or that may impact the same receiving water body(ies) as the proposed activity. For purposes of this item, the water body extends to a named source or stream segment identified in the relevant Basin Plan. (CCR § 3856(h)(8).)

There are no known cumulative impacts.

Depending on the quantity of new or replaced impervious surface area resulting from the project, a post-construction stormwater control plan and/or an operations and maintenance plan may be required to mitigate potential post-construction stormwater impacts. The plan may include drainage maps, detailed designs for Low Impact Development or other post-construction stormwater treatment and control measures, and design calculations. Contact Water Board staff for specific criteria.

Does the proposed project create or replace impervious surface? Yes ☒ No ☐

If yes, provide the total impervious surface area created or replaced in square feet:	508,791 square feet

Section Eight: Avoidance and Minimization Measures

Applicants must describe actions that have been taken (or will be taken) to avoid and minimize impacts to waters of the state (Procedures section IV.B.a.). Unless an exemption applies, an applicant must submit an alternatives analysis to demonstrate that the propose project is the least environmentally damaging practicable alternative (LEDPA; Procedures section IV.A.1.h. and IV.B.). In cases where the Corps requires an alternatives analysis, the Water Boards will defer to the Corps' determination except in certain circumstances. For guidance on how to prepare an alternatives analysis or to determine if an exemption may apply, reference the Procedures Implementation Guidance (https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/dredge_fill/revised_guidance.pdf).

Alternatives Analysis

Has an alternatives analysis been prepared? Yes ☒ No ☐

See Attachment A (Supplemental Information).

Does the U.S. Army Corps of Engineers require an alternatives analysis for this project?

Yes ☐ No ☒

If yes, submit alternatives analysis documentation consistent with that provided to the Corps.

If an alternatives analysis is not provided, indicate which Procedures section IV.A.1.g exemption applies and include any relevant supporting information, if needed (e.g., watershed plan, relevant permit number, etc.):

Check which Procedures section IV.A.1.h alternatives analysis tier applies to the project:

Water Board staff will evaluate the project information to verify the appropriate alternatives analysis tier:

Tier 1 ☒ **Tier 2 ☐** **Tier 3 ☐**

Avoidance and Minimization Measures

Describe the efforts to avoid and minimize direct impacts to waters of the state including actions/BMPs to be implemented during construction to avoid and minimize impacts including, but

not limited to, preservation of habitats, erosion control measures, project scheduling, flow diversions, etc.

A description may include actions or methods proposed for erosion control, including winterization strategies to stabilize bare soils and revegetation proposals. A map may be included to indicate the approximate location and area of soil, land, and vegetation disturbance, and proposed erosion and sediment control best management practices.

Reference the Procedures' state supplemental Dredge or Fill Guidelines, subpart H for potential actions to minimize adverse impacts to waters of the state.

Direct Impact Avoidance and Minimization:

See Attachment A (Supplemental Information).

Indirect Impact Avoidance and Minimization:

See Attachment A (Supplemental Information).

Water Quality Monitoring, Diversions and Dewatering

Does the proposed project include any dewatering, work in standing or flowing water, and/or constructing diversions of water?

Yes ☐ **No** ☒

If yes, a water quality monitoring plan to monitor compliance with water quality objectives of the applicable water quality control plan may be required.

Describe the water diversion and dewatering plan, or indicate where information is located within an attachment (Procedures section IV.A.2.c):
If there are proposed discharges of water to surface waters, include receiving water body name, estimated volume, flow rates and proposed management measures; if there are discharges to detention ponds or upland treatment facilities (such as temporary settling basins, filters bags, storage and/or treatment containers, etc.) then include their location and indicate if detention pond or treatment facility is on-site or off-site; if there are stream-channel diversions, include estimated flow rates, diversion system capacity, location, including upstream diversion points and downstream discharge point, and a diversion plan that provides measures to prevent erosion and turbidity, maintain fish passage, etc.

Section Nine: Ecological Restoration and Enhancement Projects (EREPs)

Is this application for a project that meets the definition of an Ecological Restoration and Enhancement Project (Procedures section V)?

Yes ☐ **No** ☒

Applications for Ecological Restoration and Enhancement Projects require an assessment plan with the following information (Procedures section IV.A.2.e):

☐ Project objectives
☐ Description of performance standards used to evaluate attainment of objectives
☐ Protocols for condition assessment
☐ The timeframe and responsible party for performing condition assessment
☐ Assessment schedule
☐ A draft restoration plan for restoring temporarily impacted areas to pre-project conditions, if a draft restoration plan is not provided as part of a binding stream or wetland enhancement or restoration agreement

Section Ten: Restoration of Temporary Impacts

If temporary impacts are proposed, applicants are required to submit a draft restoration plan for a complete application. Temporary impact restoration includes activities that are undertaken to restore the temporarily impacted area to pre-project conditions. A draft restoration plan should outline design, implementation, assessment, and maintenance activities. When active restoration is proposed, components of a draft restoration plan should include project objectives, plans for grading impacted areas to pre-project contours, a planting palette with plant species native to the area, seed collection locations, an invasive species management plan. Maintenance and assessment components of a draft restoration plan often includes performance measures, performance standard descriptions, attainment objectives, and timing proposed to reach attainment objectives. When passive restoration is proposed, a draft restoration plan should include an explanation of how passive restoration will restore the area to pre-project conditions, assessment components, and an estimated date for expected restoration.

If the draft restoration plan is part of a larger document, identify the specific section and page number where the requested information may be found in the attached document in the text box provided. If restoration of temporary impacts will occur through natural ecological processes, provide that information in the text box below.

Restoration Plan
Is a restoration plan attached? Yes ☐ No ☒
Describe the restoration plan and/or indicate where information is located within an attachment:

Section Eleven: Compensatory Mitigation

Compensatory mitigation means the restoration, establishment, enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved (Procedures Appendix A, Subpart J § 230.92). **When compensatory mitigation is required, a draft compensatory mitigation plan is required for a complete application.**

Proposed Compensatory Mitigation

Complete this table for each aquatic resource type proposed as compensatory mitigation; if more than two aquatic resource types will be provided, attach additional tables to your application.

Proposed Compensatory Mitigation Type, Choose one of the following:

☐ **Mitigation Bank** ☐ **In-Lieu Fee Program** ☒ **Permittee Responsible**

Mitigation Aquatic Resource Type. Choose one of the following aquatic resource type(s):

☐ **Lake/Reservoir** ☐ **Ocean/Bay/Estuary** ☐ **Riparian Zone**

☒ **Stream Channel** ☐ **Vernal Pool** ☐ **Wetlands**

Mitigation Method and Quantity for the Selected Mitigation and Resource Type:

Unit	Establishment	Re-establishment	Rehabilitation	Enhancement	Preservation	Unknown
Acres					0.12	
Linear Feet						

Proposed Compensatory Mitigation

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Complete this table for each aquatic resource type to be provided as compensatory mitigation; if more than two aquatic resource types will be provided attach additional tables to your application.		
Proposed Compensatory Mitigation Type. Choose one of the following:		
☐ **Mitigation Bank**	☐ **In-Lieu Fee Program**	☐ **Permittee Responsible**
Mitigation Aquatic Resource Type. Choose one of the following aquatic resource type(s):		
☐ **Lake/Reservoir**	☐ **Ocean/Bay/Estuary**	☐ **Riparian Zone**
☐**Stream Channel**	☐ **Vernal Pool**	☐ **Wetlands**

Mitigation Method and Quantity for the Selected Mitigation and Resource Type:

Unit	Establishment	Re-establishment	Rehabilitation	Enhancement	Preservation	Unknown
Acres						
Linear Feet						

Draft Compensatory Mitigation Plan

Using a watershed approach, a draft compensatory mitigation plan should be provided and be consistent with the requirements listed in Procedures Appendix A, Subpart J, and contain the items listed in section IV.A.2.b of the Procedures.

For mitigation bank or in-lieu fee program proposals, only the first three items below are required (i, ii, and iii). For permittee responsible mitigation, items one through seven are required. Item eight (climate change assessment) is required on a case-by-case basis; you may contact Water Board staff to determine if a climate change assessment will be required for your proposed mitigation project.

Indicate the attached document name and page number where each draft compensatory mitigation plan item may be found: See Attachment A, Supplemental Information.

i. A watershed profile for the project evaluation area for both the project activity and the proposed compensatory mitigation location (section IV.A.2.b.i).

document name and page number

ii. An assessment of the overall condition of aquatic resources proposed to be impacted by the project and their likely stressors, using an assessment method approved by the Water Boards (section IV.A.2.b.ii).

document name and page number

iii. A description of how the project impacts and compensatory mitigation would not cause a net loss of the overall abundance, diversity, and condition of aquatic resources, based on the watershed profile. If the compensatory mitigation is located in the same watershed as the project, no net loss will be determined on a watershed basis. If the compensatory mitigation and project impacts are located in multiple watersheds, no net loss will be determined considering all affected watershed collectively. The level of detail in the plan shall be sufficient to accurately evaluate whether compensatory mitigation offsets the adverse impacts attributed to the project (section IV.A.2.b.iii).

document name and page number

iv. Preliminary information about ecological performance standards, monitoring, and long-term protection and management, as described in the state supplemental dredge or fill guidelines (section IV.A.2.b.iv).

document name and page number

v. A timetable for implementing the compensatory mitigation plan (section IV.A.2.b.v.) **document name and page number**
vi. If the compensatory mitigation plan includes buffers, design criteria and monitoring requirements for those buffers (section IV.A.2.b.vi). **document name and page number**
vii. If compensatory mitigation involves restoration or establishment as the form of mitigation, applicants shall notify, as applicable, state and federal land management agencies, airport land use commission, fore control districts, flood control districts, local mosquito-vector control district(s), and any other interested local entities prior to initial site selection. These entities should be notified as early as possible during the initial compensatory mitigation project design stage (section IV.A.2.b.vii). (Applicants are not required to submit documentation for this requirement.)
viii. If applicable, an assessment of reasonably foreseeable impacts to the compensatory mitigation associated with climate change, and any measures to avoid or minimize those potential impacts (section IV.A.2.b.viii). **document name and page number**

Compensatory Mitigation Contact Information
Name of Mitigation Bank or In-Lieu Fee Program:
Service Area:
Contact Name:
Contact Name:
Service Area:
Mitigation Location County:
Mitigation Site Latitude:
Mitigation Site Longitude:

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Section Twelve: Legally Responsible Person Attestation and Optional Duly Authorized Representative Assignment

The attestation below must be signed by the Legally Responsible Person (LRP).

1) **LRP eligibility is as follows:**

   a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

      i. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function; or

      ii. The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

   b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.

   c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. This includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of the U.S. EPA).

Legally Responsible Person Attestation

I certify under penalty of law that this application and all attachments were prepared under my direction or supervision in accordance with a process designed to assure that qualified personnel properly gather and evaluate the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Patrick Leitch

DocuSigned by:

X 63EEC8FAADC44AC...

Legally Responsible Person's Signature

2) **DAR assignment is as follows (optional):**
   a. The authorization shall specify that a person designated as a DAR has responsibility for the overall operation of the regulated facility or activity, such as a person that is a manager, operator, superintendent, or another position of equivalent responsibility, or is an individual who has overall responsibility for environmental matters for the company.

Optional Duly Authorized Representative (DAR) Assignment

I hereby authorize Naomi Schowalter to act on my behalf as the DAR in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.

Patrick Leitch

DocuSigned by:

X 63EEC8FAADC44AC...

Legally Responsible Person's Signature

Section Thirteen: Fee Information

Fee amounts are determined according to the Cal. Code Regs., tit. 23, § 2200(a)(2) fee schedule (https://govt.westlaw.com/calregs/Document/IEEE14760D45A11DEA95CA4428EC25FA0?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Defa Def) and are subject to change.

Submit the Application Fee based on the activity type and according to the appropriate fee category. Application fees are required to determine an application complete. Additional Project and/or Annual Fees may be imposed upon application review.

An excel fee calculator (https://www.waterboards.ca.gov/resources/fees/water_quality/docs/dredgefillcalculator.xlsm) may be used to estimate fees for budgeting purposes only.

Fees may be paid online or by check. Information on how to make an online payment is available at the State Water Board's webpage (https://www.waterboards.ca.gov/make_a_payment/). If fees are paid online prior to application submission, attach payment receipt to this application. Make checks, money orders, and cashier checks payable to the State Water Resources Control Board. Mailed payments should be attached to the application and remitted to the appropriate Water Board. See the Staff Directory (https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/wqc_staffdir.pdf) for a list of State and Regional Water Board addresses.

Table for Internal Use Only	
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Potentia-Viridi Battery Energy Storage System (BESS) Project

Attachment A. Section 401 Water Quality Certification (WQC) Application Supplemental Information

Prepared for

Levy Alameda, LLC
c/o Capstone Infrastructure Corporation
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Toronto, Ontario M5V 3H1, Canada

Prepared by

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433 Visitacion Avenue
Brisbane, CA 94005

June 2025

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Appendix B. OHWM Data Sheet
Appendix C. Civil Plans
Appendix D. Site Photos
Appendix E. Mitigation Site Biological Resources Assessment Report

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ACRONYMS AND ABBREVIATIONS

AC	Alternating Current
AMM	Avoidance and Minimization Measure
APE	Area of Potential Effect
BESS	Battery Energy Storage System
BMP	Best Management Practice
BMS	Battery Management System
BRA	Biological Resources Assessment
CWA	Clean Water Act
DC	Direct Current
DESCP	drainage, erosion, and sediment control plan
DPS	Distinct Population Segment
EACCS	Eastern Alameda County Conservation Strategy
ESA	Endangered Species Act
HVAC	Heating, Ventilation, and Air Conditioning
kV	KiloVolt
LFP	lithium iron phosphate
LID	low impact development
MV	Megawatt
NEMA	National Electrical Manufacturers Association
OWHM	ordinary high water mark
PCS	Power Conversion System
PG&E	Pacific Gas and Electric
SWPPP	Storm Water Pollution Prevention Plan
USFWS	U.S. Fish and Wildlife Service

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1 PROJECT DESCRIPTION (SECTION 2)

The Potentia-Viridi Battery Energy Storage System (BESS) Project (Project) proposes to construct, operate, and eventually repower or decommission a 400-megawatt (MW) BESS on approximately 85 acres in eastern Alameda County (Appendix A, Figure 1). The primary components of the Project include an up to 3,200-megawatt-hour (MWh) BESS facility, an operations and maintenance (O&M) building, a project substation, a 500 kilovolt (kV) overhead intertie transmission (gen-tie) line, and interconnection facilities within the Pacific Gas and Electric (PG&E) owned and operated Tesla Substation (Appendix A, Figures 2).

The Project would draw electricity from the power grid to charge and store electrical energy and discharge back to the power grid when the stored energy is needed. The Project would provide several benefits to the power grid, including reducing the need to operate natural gas power plants to balance intermittent renewable generation and serving as an additional capacity resource that would enhance grid reliability.

The Project would be remotely operated and monitored year-round and be available to receive or deliver energy 24 hours a day and 365 days a year. During the operational life of the Project, qualified technicians would routinely inspect the Project facilities and conduct necessary maintenance to ensure reliable and safe operational readiness.

The Project is in unincorporated Alameda County, California, within a portion of Assessor Parcel Number (APN) 99B-7890-2-4, located at 17257 Patterson Pass Road, southwest of Interstate 580 and Interstate 205. Development of the BESS facility would occur on about 70 acres of APN 99B-7890-002-04, which is currently comprised of fallowed annual grasslands suitable for grazing. The gen-tie line would extend southeast from the Project substation, crossing Patterson Pass Road and then proceeding east to the Point of Interconnection (POI) at the Tesla Substation. The Project's gen-tie line would be sited on APNs 99B-7890-2-4, 99B-7890-2-6, and 99B-7885-12. Land uses in the immediate vicinity of the Project include undeveloped rural agricultural lands, multiple high-voltage transmission lines and electrical substations, rural roads, and railroad lines. The nearest municipality to the Project site is the City of Tracy approximately 2.5 miles to the northeast. There are a few single-family residences near the Tesla Substation's southern and eastern boundaries. The nearest residence is about 1,500 feet southeast of the Project site and 560 feet south of the proposed gen-tie line; it is owned by the same landowner leasing the lands for the Project.

The Project location was selected due to it being large enough to support development of the Project, its close proximity to existing electrical infrastructure and the Tesla Substation, thereby minimizing length of the proposed gen-tie line to the POI, and because it is located immediately adjacent to existing roadways for construction and O&M access.

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The BESS Facility would total 57.7 acres and include the following components:

- BESS Enclosures
- Power Conversion Systems (PCS)
- Medium voltage 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
- Operations and Maintenance Building

The transmission and interconnection facilities would total 1.9 acres. Construction of these facilities would require 6.7 acres of temporary disturbance for tension and pulling sites.

The Project includes two components that will require Clean Water Act (CWA) authorization: improvements to an existing stormwater culvert and outfall that discharges to a jurisdictional water of the United States (Patterson Run), and the construction of a permanent ford (i.e., low-water crossing) across the same feature. A delineation map is provided in Appendix A, Figure 3, and an OHWM [ordinary high water mark] Data Sheet is provided in Appendix B.

The following description of the proposed project components is provided to allow the RWQCB to have a comprehensive understanding of the Project; proposed discharges to jurisdictional waters are included in the descriptions of "Access Roads" and "Stormwater Facilities and Outfall." Project plans are provided in Appendix C, and site photos are provided in Appendix D.

Battery Energy Storage System

The energy storage facility would 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 Project concept has been developed assuming an LFP technology.

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The BESS enclosures would be prefabricated off-site and arrive at the site ready to be installed and commissioned. Each modular BESS enclosure would 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 would not exceed approximately 15 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 would be provided through separate auxiliary power connection to the on-site 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, medium voltage 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 would 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 would 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 would be unattended systems designed to operate in all conditions. The inverters would be monitored and controlled remotely, and there would be on-site disconnects for use in case of an emergency or a situation requiring unscheduled maintenance.

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

Medium Voltage Collection System

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

Project Substation

The project substation would include three main power transformers (MPTs) – two active and a live spare. When the BESS facility is charging, power from the regional electric transmission

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grid would be stepped down from 500kV to 34.5kV and sent from the 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 would be sent to the PCS units, stepped up to 34.5kV, and transported to the 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 would be installed within the project substation area and contain an energy management system, metering and telecommunication equipment for communication with PG&E/CAISO facilities and to support remote Project operations monitoring. The project substation area would 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 Project's roadway system would include two new facility access roads and driveways, a perimeter road, internal access roads, and a gen-tie access road. One of the new site access roads and driveways would be constructed from an existing private road near the northeastern portion of the site, and the other would be constructed from Patterson Pass Road near the southwestern portion of the site. A project substation access road would be constructed outside of the perimeter fence, connecting the northeast and southwest driveways, to facilitate substation access by third parties during operations. The gen-tie access road would provide access from Patterson Pass Road to the PG&E Tesla Substation, within the transmission corridor. All new access roads, driveways, internal and perimeter roads would be bladed, compacted, and surfaced with aggregate. All internal roadways and private driveways would be constructed to meet access requirements for construction, O&M, and emergency response requirements.

The gen-tie access road would require construction of a ford (i.e., low-water crossing) across Patterson Run, a water of the United States. This will require excavation and grading of the bed and banks followed by placement of approximately 17 cubic yards of imported fill and 30 cubic yards of riprap to accommodate the maintenance vehicle crossing.

Laydown Yards

The Project would include up to 4 laydown yards for equipment and material staging and storage during construction. These areas would also be used for worker parking during construction. The primary laydown yard would be located directly adjacent to the project substation area. The primary laydown yard would be bladed, compacted, and surfaced with aggregate, while additional laydown yards would be cleared of vegetation and surfaced with aggregate or other soil stabilizing materials. Portions of additional laydown yards may also be graded, if necessary. Landscape fabric may also be installed under the surface of all laydown

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yards to prevent vegetation growth, if required to comply with fire prevention standards. The O&M building, and required parking spaces for O&M staff, would be constructed within the primary laydown following construction of the BESS facility components.

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 would flow to stormwater detention basins located along the periphery of the BESS facility site. Stormwater treatment and storage sizing would 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 would 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 15-inch corrugated metal pipe would be constructed from a 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. This existing culvert carries storm water from the north side of Patterson Road to the south side where it discharges to Patterson Run. To accommodate additional stormwater runoff and to bring the existing culvert into compliance with current code, the existing outfall would be excavated followed by placement of approximately 3 cubic yards of native fill and 5 cubic yards of riprap to stabilize the existing slope and provide for energy dissipation.

Site Security

The BESS facility site would be enclosed with an 8-foot-tall chain link fence topped with 1 foot of three-strand barbed wire or razor wire. The fence would be installed on the outside of the perimeter road. An additional fence with the same specifications would be installed around the project substation area. The fences would be required to prevent unauthorized access and to comply with human health and safety regulations. Gates would 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 would only be in areas where it is required for safety, security, or operations. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties, compliant with applicable codes and regulations. Security cameras would be placed on site and monitored 24/7.

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Fire Protection System

Fire protection would include multiple fire detection systems on-site and within the individual BESS enclosures. An infrared camera system would be installed throughout the BESS facility to over 100% of electrical infrastructure and trigger an alarm in case of an onsite fire. Each BESS enclosure would have a fire rating in conformance with the California Fire Code 2022. In addition, each BESS enclosure would contain an onboard monitoring system to track the state of individual battery cells and relay information 24/7. In the event of an anomaly, the system is designed to shut down and mitigate the hazard.

The Project's fire protection design would 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 (NFPA 855). BESS enclosures would 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 would not propagate from one enclosure to a neighboring enclosure. The Project's BESS enclosures, as part of the testing and listing process, would be subjected to destructive testing including fire testing. The Project's BESS enclosures would 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.
- 1EC 62619 – Standard for Battery Safety in Stationary Applications.

The Alameda County Fire District would review and comment on the facility fire protection and suppression plans.

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Operations and Maintenance Building

Following construction of the BESS facility, an O&M building would be constructed within the primary laydown yard for the Project's anticipated three full-time operations staff. The O&M building would include parking, outside equipment and laydown areas, basic offices, meeting rooms, washroom facilities and climate-controlled storage for certain equipment and materials. A potable water storage tank would provide water for washroom and sanitary facilities, and sewage/wastewater would be collected in a separate tank. Potable water would be trucked to the water storage tank periodically during O&M, and sewage/wastewater would be pumped from the storage tank, transported offsite via truck, and disposed of at a sanitary dump station, as needed, during operations. The O&M building would be powered via a distribution line from the project substation.

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2 AVOIDANCE AND MINIMIZATION MEASURES (SECTION 8)

This section fulfills the alternatives analysis requirement for Tier 1 projects under the "State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State." The Project would directly impact less than 0.1 acre and 100 linear feet of waters of the State. The following steps would be taken to avoid and minimize loss of, or significant adverse impacts to, beneficial uses of waters of the State.

- A Storm Water Pollution Prevention Plan (SWPPP) would be prepared and implemented, requiring implementation of Best Management Practices (BMPs) to control stormwater run-on and runoff from construction work sites. BMPs may include, but may not be limited to, physical barriers to prevent erosion and sedimentation, construction of stormwater detention basins to control runoff and reduce potential sedimentation, limitations on work periods during storm events, and protection of stockpiled materials, which would substantially reduce or prevent erosion from occurring during construction.

- A drainage, erosion, and sediment control plan (DESCP) would be implemented to reduce the impact of run-off during construction, operation, maintenance, and decommissioning. Erosion control facilities to be shown on the final grading plan would control and contain erosion-induced silt deposits and provide for the safe discharge of silt free stormwater into existing and proposed storm drain facilities after rough grading has been completed. These erosion control facilities would be operable prior to October 1st of any year grading operations have resulted in areas unprotected from erosion. All erosion control measures would be maintained until disturbed areas are stabilized. Grading would be completed in conformance with the Alameda County Grading Ordinance unless otherwise approved and in compliance with the Project-specific geotechnical report. BMPs required by the Project-specific SWPPP and DESCP would be properly implemented and maintained to control water quality of stormwater runoff. Implementation of the Project-specific SWPPP and DESCP would minimize potential for sedimentation of downstream water bodies.

- Appropriate spill containment and cleanup kits would be maintained during operation of the Project. A spill prevention control and countermeasures plan would be developed for site construction, operations, and decommissioning. In addition, a hazardous materials business plan would be prepared, which would include all hazardous materials used or stored on site exceeding threshold volumes and appropriate procedures to be implemented in the event of an accidental spill.

- The Project would include stormwater detention and low impact development (LID) features, constructed in compliance with the Stormwater Technical Guidance Manual, to minimize off-site stormwater runoff velocities and minimize off-site water quality

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impacts. Preliminary LID calculations are conservatively based on 10% of the total impervious area. The Stormwater Technical Guidance Manual requires a 4% method, which is based on rainfall and soil infiltration rates. Post-construction runoff rate would be 5 cubic feet per second, resulting in no requirements for a separate stormwater runoff detention plan (per the Stormwater Technical Guidance Manual). The LID features would consist of bioretention basins consisting of permeable gravel with a perforated underdrain pipe, overlain by a permeable bioretention soil mix. A riser outlet structure would allow for overflow of excessive stormwater flows. Ten stormwater outlets would be constructed around the perimeter of the facility. These outlets would include riprap to further reduce (in addition to the bioretention basins) off-site stormwater flow velocities. Stormwater treatment and storage sizing would be designed to hold the anticipated runoff from a 24-hour, 25-year storm event and a 24-hour, 100-year storm event, in compliance with Stormwater Technical Guidance Manual regulations. In the event stormwater basins reach capacity, stormwater would be discharged from the detention basins via storm drainpipes and sheet flow at rates no greater than pre-development conditions following natural drainage patterns. Minimal off-site stormwater flow velocities would prevent off-site erosive scour of sediments, which in turn would prevent siltation of downstream water bodies, off-site flooding, and off-site exceedance of stormwater drainage facilities.

Additionally, the following measures have been adopted from the Eastern Alameda County Conservation Strategy (EACCS). Note that mitigation outlined in EACCS is expected to be required by U.S. Fish and Wildlife Service (USFWS) and is expected to include wetlands and/or waters to offset impacts to aquatic features.

General

- 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.

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- GEN – 04 The following will not be allowed at or near work sites for covered activities: trash dumping, firearms, open fires (such as barbecues) not required by the activity, 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 approved 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.
- 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.

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- GEN - 16 Significant earth moving activities will not be conducted in riparian areas within 24 hours of predicted storms or 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.

Amphibians: CTS, CRLF

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

- A qualified biologist will conduct preconstruction 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.
- If the work site is within the typical dispersal distance (contact USFWS/CDFW for latest research on this distance for species of interest) of potential breeding habitat, 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 Service 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 October 15 (or the first measurable fall rain of 1" or greater) to May 1.

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3 COMPENSATORY MITIGATION (SECTION 11)

The proposed compensatory mitigation site is described in the Biological Resources Assessment Report (BRA), prepared by Westervelt Ecological Services and dated January 2025 (Appendix E). The proposed mitigation lands include 213 acres of the Mulqueeney Ranch, which is located immediately west of the proposed BESS facility. The BRA describes the ecological values, which includes the proposed preservation of 2.80 acres of waters and wetlands, including:

- Ephemeral Drainage: 0.74 acre
- Pond: 0.73 acre
- Swale: 0.97 acre
- Wetland: 0.36 acre

The BESS project proposes to impact a total of 0.04 acre of seasonal stream and proposes to provide mitigation values equivalent to 0.12 acre of waters as mitigation (i.e., a 3:1 mitigation ratio). These waters are a sub-set of those that are proposed to be preserved in perpetuity within the 213-acre Mulqueeney Ranch property.

The entirety of the 2.80 acres of waters and wetlands with the Mulqueeny Ranch mitigation area will be managed in perpetuity along with the rest of the mitigation area in order to preserve existing ecological functions and values. The applicant proposes to apply 0.12 acre to the proposed BESS project and to hold the remaining 2.68 acres of preserved waters and wetlands in reserve to mitigate for a future project. We understand that this proposed mitigation at the Mulqueeney Ranch is not an approved mitigation bank, and as such, request that these held mitigation values could be applied to a future project for a period of no longer than 5 years. If the project owners are not able to propose a new project within 5 years, the mitigation values would be relinquished, and the remaining 2.68 acres of waters and wetlands would continue to be managed a part of the 213-acre preserve in perpetuity.

Note that the USFWS and the CDFW are currently processing the permit applications for the BESS facility. Should the mitigation requirements of these agencies cause the protected waters and wetlands within the mitigation area to either increase or decrease in total acreage, we will inform the RWQCB of this change. In no case will the proposed mitigation for the RWQCB be reduced below 0.12 acre of preserved waters.

POVI 0002459

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Appendix A – Figures

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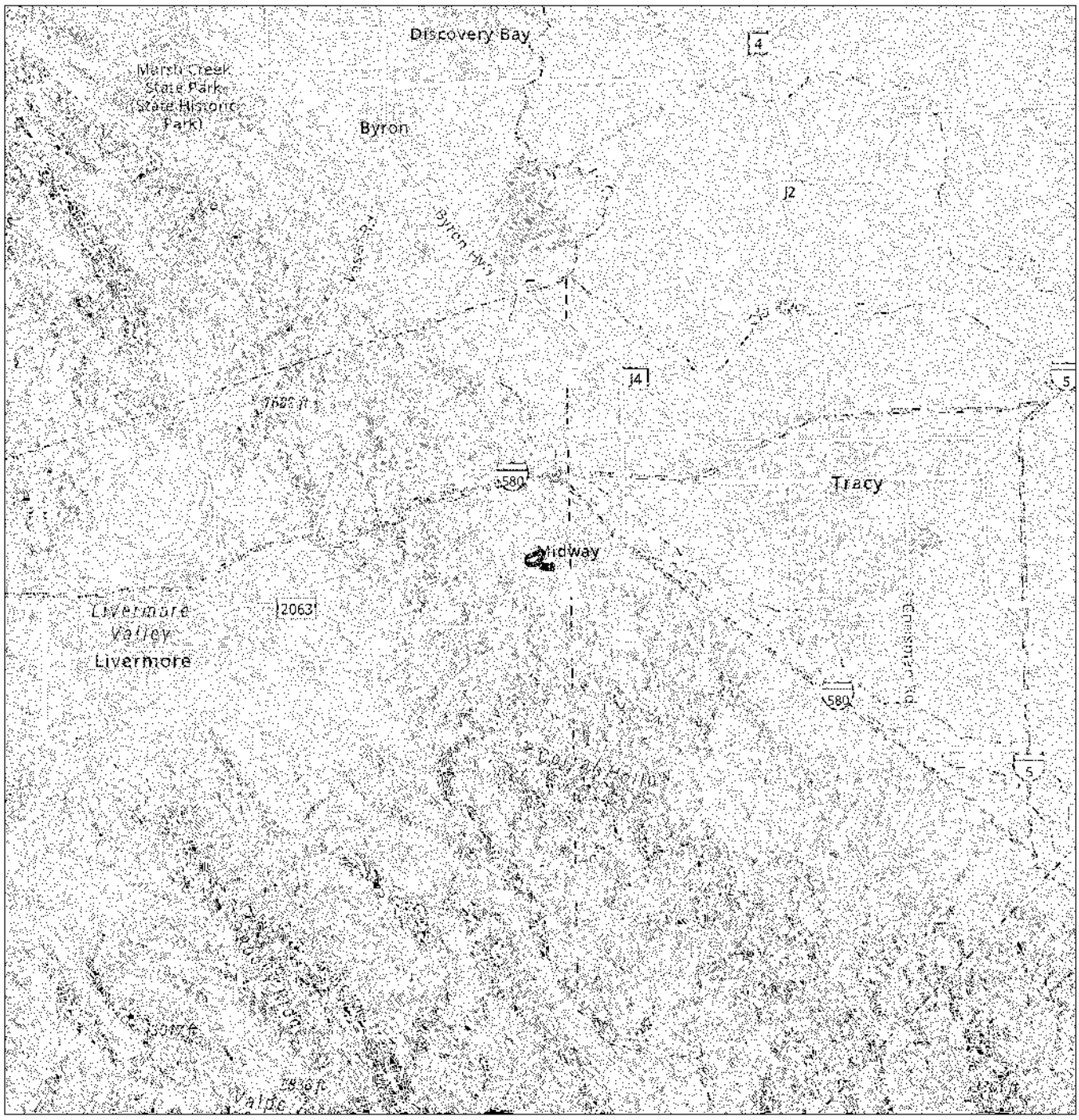

Notes

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

Stantec

Project Location
Mimeny
Alameda County, CA

Prepared by KDI P on 2024-08-03
IR by SF on 2024-08-04

Client/Project
165701705

Potentia-Viridi Battery Energy Storage System
Biological Assessment

Figure No.
Figure 1

Title
Project Location

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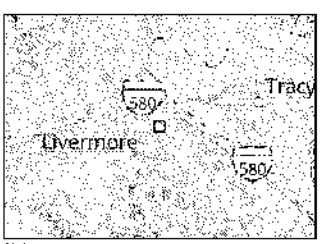

- Telecomm Pole
- HV Structure
- Telecomm Line
- Gen-Tie
- Gen-Tie Corridor
- PG&E Temporary Work Area
- Tension Pulling Area
- Transmission Access Path
- Laydown Yard
- BESS Yards
- BESS Enclosures
- DC/DC Converters
- PCS Units
- Auxilary Transformers and Panels
- Primary Laydown Yard
- Project Substation Area
- Fence Line
- Stormwater Areas
- Roads
- Grading Limits
- Temporary Distrubance
- Permanent Disturbance

0 250 500 Feet
(At original document size of 8.5x11)
1:7,000

N

Stantec

Project Location
Mitchell
Alameda County, CA

Prepared by KDI P on 2024-08-03
IR by SF on 2024-08-04

Client/Project
165701705

Potentia-Viridi Battery Energy Storage System
Biological Assessment

Figure No.
Figure 2

Title
Project Design Features

Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Data Sources: Esri Community Maps Contributors, San Joaquin County GIS/Planning, San Joaquin County Public Works, California State Parks, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Esri, CGIAR, USGS, Maxar, San Joaquin County GIS/Planning, California State Parks, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS,

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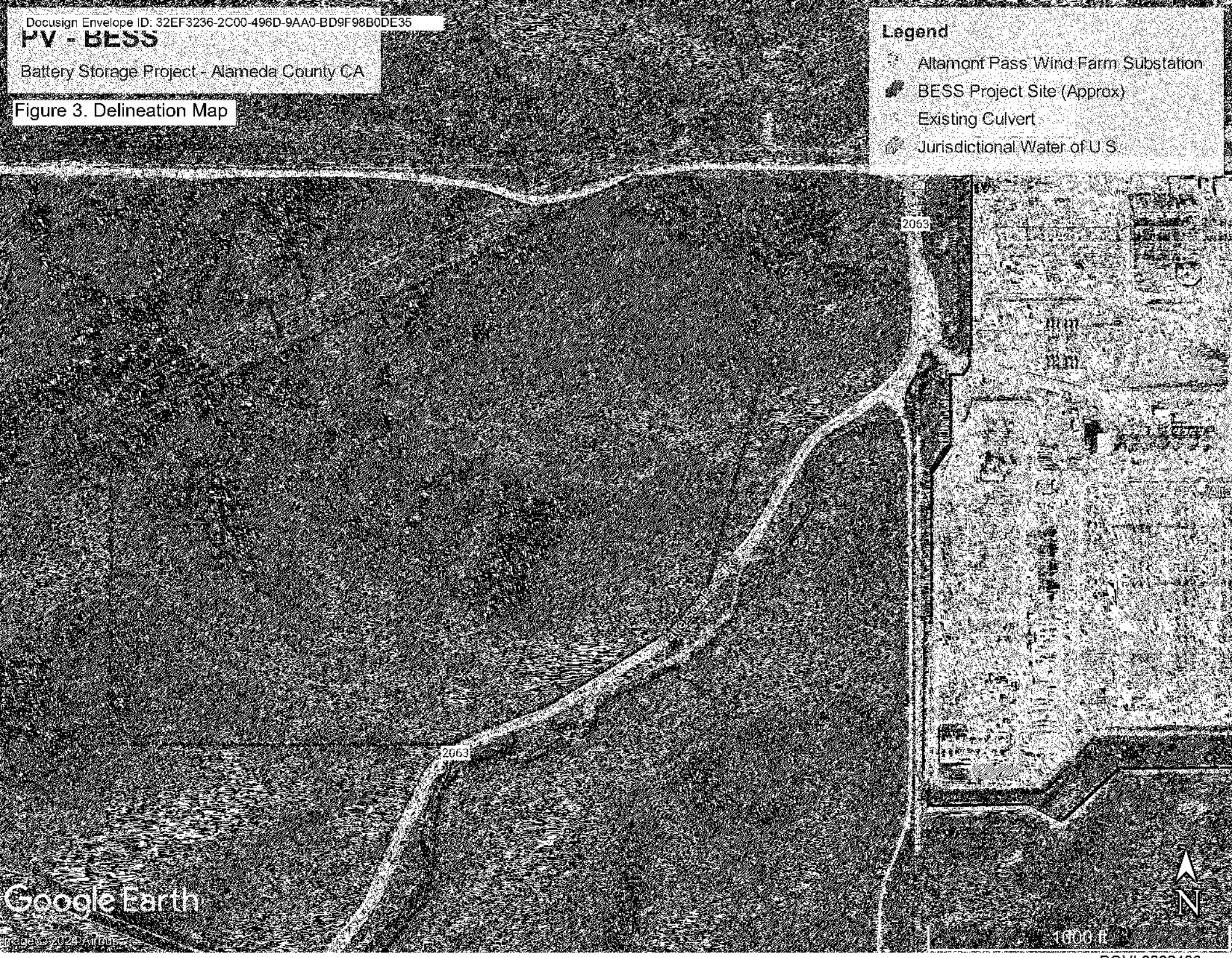
PV - BESS

Battery Storage Project - Alameda County CA

Figure 3. Delineation Map



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Appendix B – OHWM Data Sheet

Docusign Envelope ID: 32EF3236-2C00-496D-9AA0-BD9F98B0DE35

Potentia Viridi

OHWM DATA SHEET

Project: BESS Facility Date: 01/18/24 Feature ID: EPH-01

Investigator(s): MRB & ECF Transect ID: T-01

Site Location:

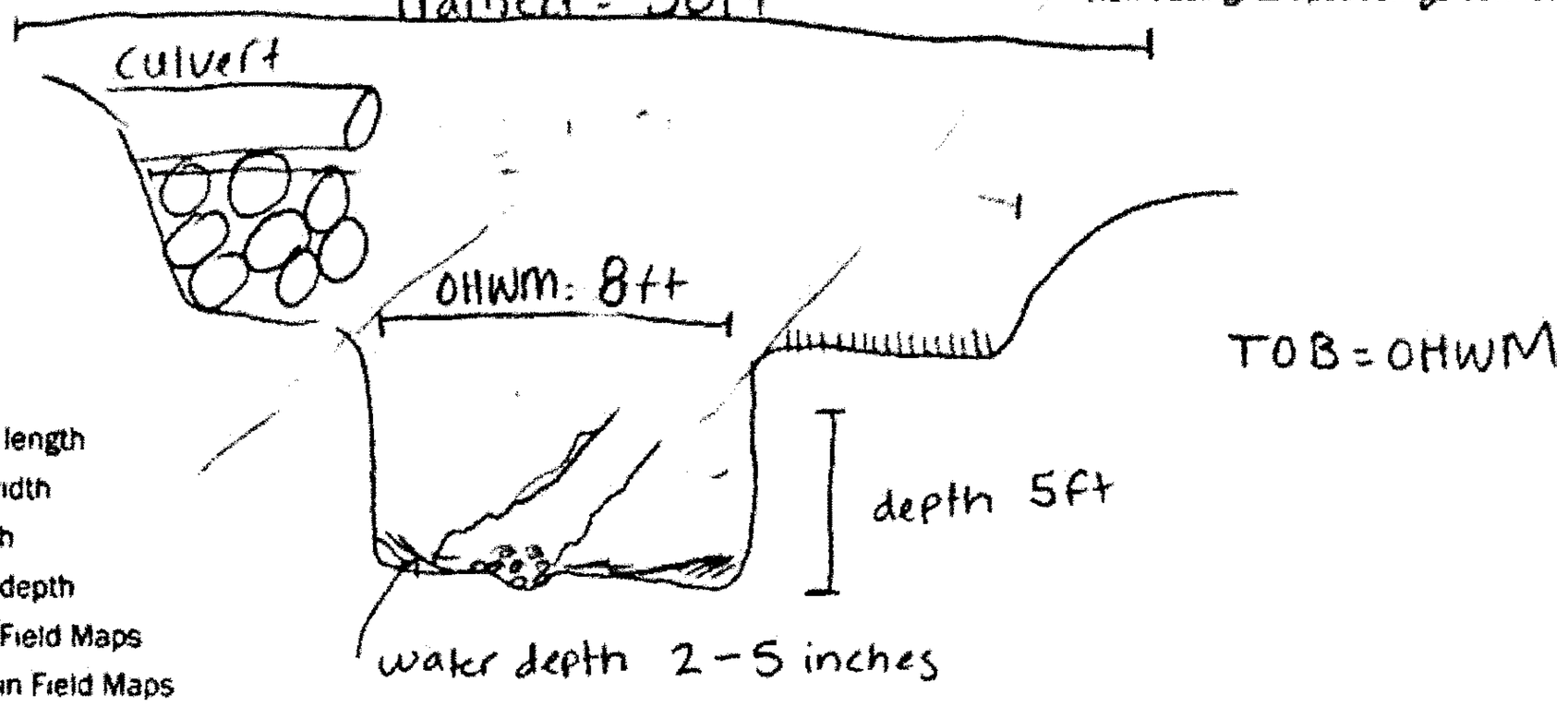
Alameda County, northwest portion of site

Stream Flow: ☑ Ephemeral ☐ Intermittent ☐ Perennial ☐ Controlled/Other

Transect (cross-section) drawing(s):

View Facing: S

View Facing: ☐ upstream ☑ downstream



☑ Transect length
☑ OHWM width
☑ TOB width
☑ Channel depth
☑ Photo in Field Maps
☐ Mapped in Field Maps

OHWM Indicators (at OHWM; primary indicators indicated with *)

- ☐ Natural line impressed on the bank
- ☒ Shelving
- ☐ Changes in the character of soil (texture)*
- ☐ Destruction of terrestrial vegetation
- ☐ Presence of litter and debris
- ☐ Wracking
- ☒ Vegetation matted down, bent, or absent
- ☐ Sediment sorting
- ☐ Leaf litter disturbed or washed away
- ☐ Scour
- ☐ Deposition
- ☐ Bed and banks
- ☐ Water staining
- ☒ Change in plant community and/or cover*

☐ Break in Slope at OHWM*: ☒ Sharp (>60°) ☐ Moderate (30-60°) ☐ Gentle (<30°)

Soil Texture

	Clay/Silt (%)	Sand (%)	Gravel (%)	Cobbles (%)	Boulders (%)
Above OHWM	30	30	10	5	25
Below OHWM	70	20	10	-	-

Vegetation Cover

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	0	15	5	80
Below OHWM	0	0	5	95

Veg Stage: ☐ Early (herbs & seedlings) ☑ Mid (herbs, shrubs, saplings) ☐ Late (herbs, shrubs, mature trees)

Upland Species:	*Bank Species:*	*Emergent Species:*
Silybum marianum Centaurea solstitialis Centaurea calcitrapa Senescent grasses Brassica sp. Erodium cicutarium	Senescent grasses	None

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OHWM DATA SHEET

Condition/Disturbances/Anthropogenic Influences (e.g., erosion, grazing, culverts, etc.):

Culvert & Roadside

Hydrology:

☒ Flowing water	Min. depth: 2 inches	☒ No
☐ Standing water	Max. depth: 5 inches	☐ Yes ☐ Continuous ☐ Intermittent
☐ Saturated	Avg. depth:	
☐ Dry		

Riparian:

Checklist of resources used to evaluate OHWM:

☒ Aerial photography	☒ Vegetation maps	☐ Other:
☒ GPS unit	☒ Geologic/soil maps	
☐ Rainfall data	☐ Gage data	
☐ Topographic maps	☐ LiDAR	

Other drawings (aerial view):

None

Connectivity notes:

None

Other forms related to this feature: ☐ Yes ☒ No

☐ Terrace, fringe, or floodplain wetland (wetland datasheet)

☐ Low flow channel or other representative section (OHWM datasheet)

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Appendix C – Civil Plans

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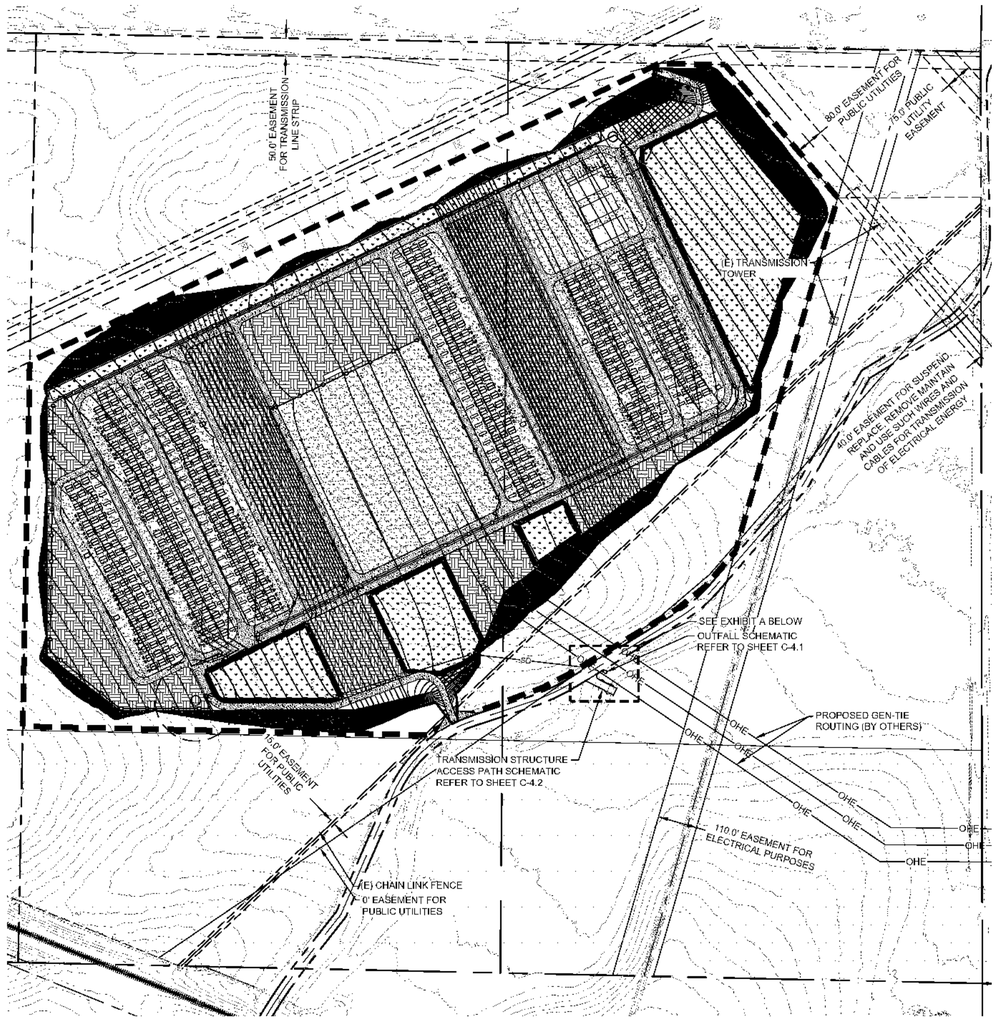

SITE MAP
SCALE: 1"=200'

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

SHEET INDEX

C-4.0 - 401 PERMIT COVER
C-4.1 - CONCEPTUAL CIVIL HYDROLOGY HYDRAULIC OUTFALL SCHEMATIC
C-4.2 - CONCEPTUAL ACCESS ROAD SCHEMATIC

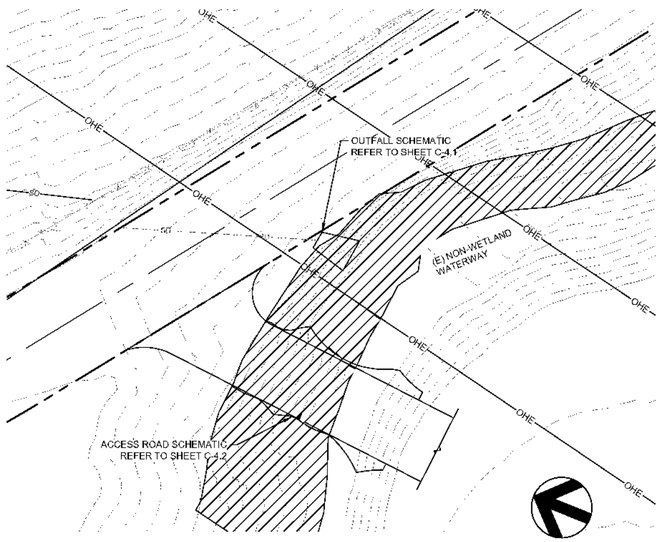

EXHIBIT A
SCALE: 1"=20'

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

LEGEND

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

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.

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ph 510.251.9578
www.coffman.com

POTENTIA-VIRIDI BATTERY ENERGY STORAGE SYSTEM

LEVY ALAMEDA, LLC

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
2	5/5/25	REV 2
1	1/17/25	REV 1

PROJ. NO.	232059
DRAWN	LB
CHECKED	RB
DATE	6/7/24

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SHEET TITLE:

401 PERMIT COVER

SHEET NO:

C-4.0

SHEET OF 7

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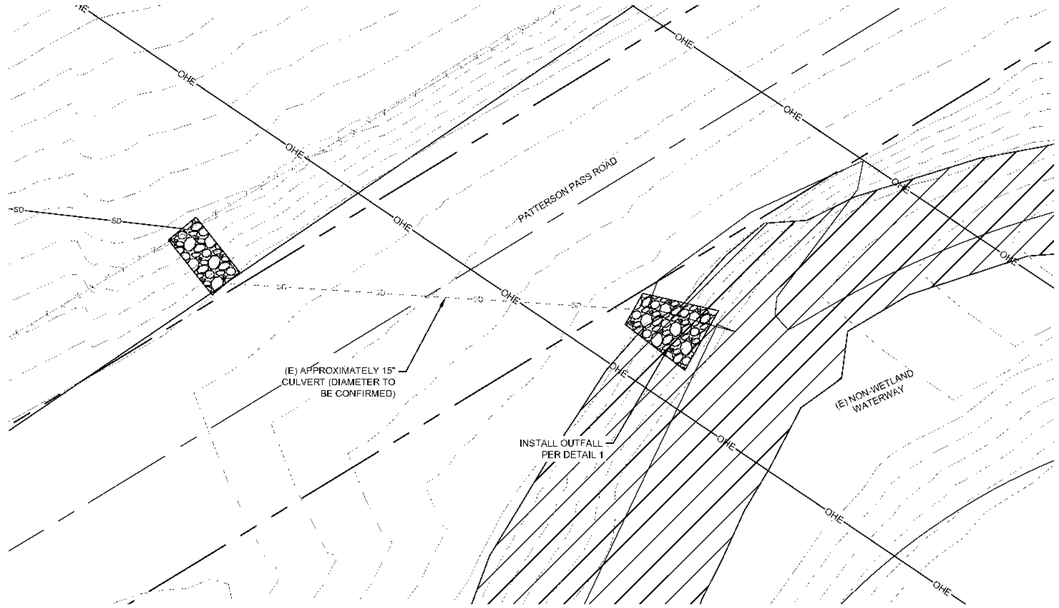

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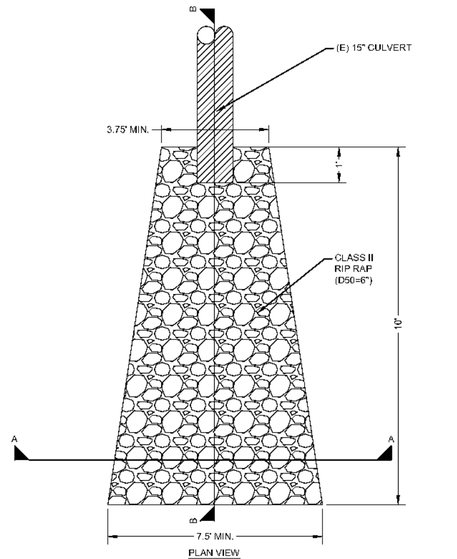
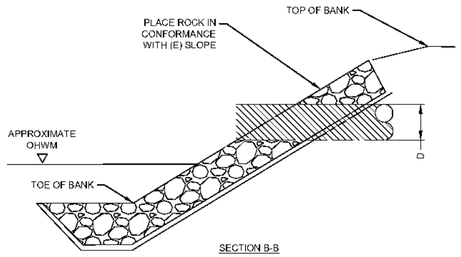


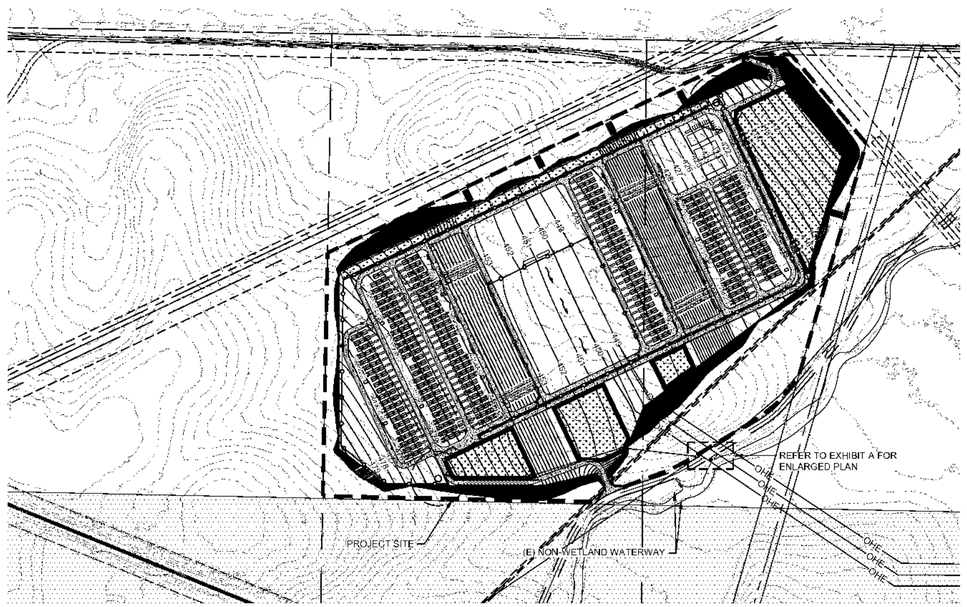
NOTES:
ENERGY DISSIPATER SIZED PER FEDERAL HIGHWAY ADMINISTRATION HYDRAULIC ENGINEERING MANUAL



1 — OUTFALL DETAIL
SCALE: NTS

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 (205)
- PROPOSED CONTOURS (200)
- ORDINARY HIGH WATER MARK
- STORMWATER/LID AREA



SITE MAP
SCALE: 1"=300'

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	3

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	0	0

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

UTILITY STATEMENT
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REV	DATE	DESCRIPTION
2	5/5/25	REV 2
1	1/17/25	REV 1

PROJ. NO.	232059
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SHEET TITLE:

CONCEPTUAL CIVIL HYDROLOGY HYDRAULIC OUTFALL SCHEMATIC

SHEET NO:

C-4.1

SHEET 4 OF 7

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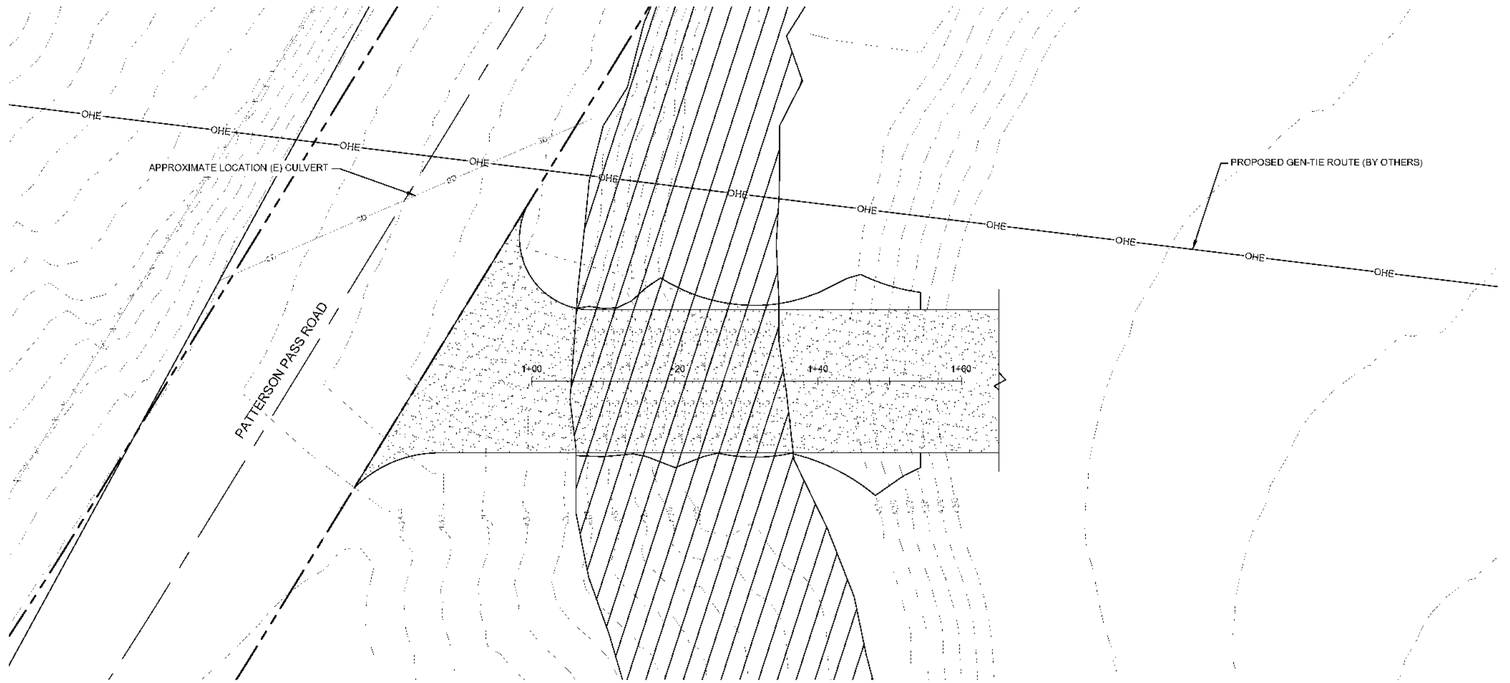

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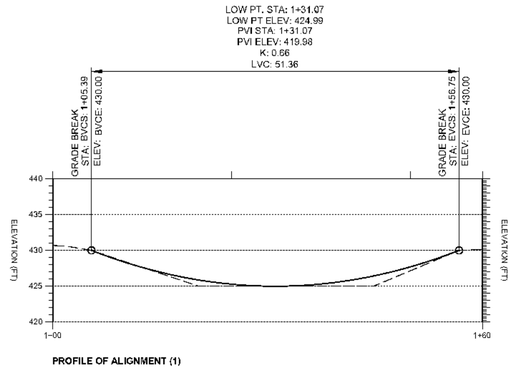

PROFILE OF ALIGNMENT (1)

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	30

LOW-WATER CROSSING OHWM QUANTITIES

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

LEGEND

- CENTERLINE
- EASEMENT LINE
- PROPERTY LINE
- PROPOSED LEASE LINE
- EXISTING CHAIN LINK FENCE
- PROPOSED FENCE
- SD — STORM DRAIN PIPE
- EXISTING CONTOURS
- 200 — PROPOSED CONTOURS
- ORDINARY HIGH WATER MARK
- PROPOSED CONSTRUCTION ACCESS

UTILITY STATEMENT
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POTENTIA-VIRIDI BATTERY ENERGY STORAGE SYSTEM

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REV	DATE	DESCRIPTION
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1	1/17/25	REV 1

PROJ. NO. 232059
DRAWN LB
CHECKED RB
DATE 6/7/24

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SHEET TITLE:

CONCEPTUAL ACCESS ROAD SCHEMATIC

SHEET NO:

C-4.2

SHEET OF 7

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Appendix D – Site Photos

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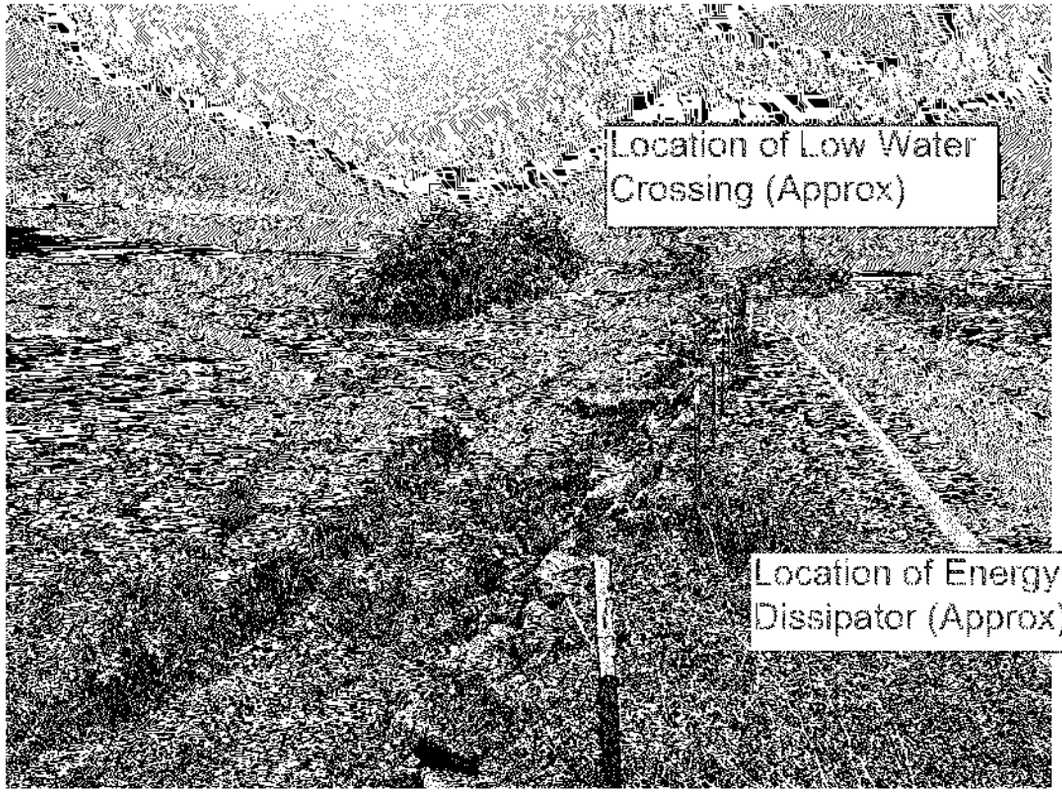
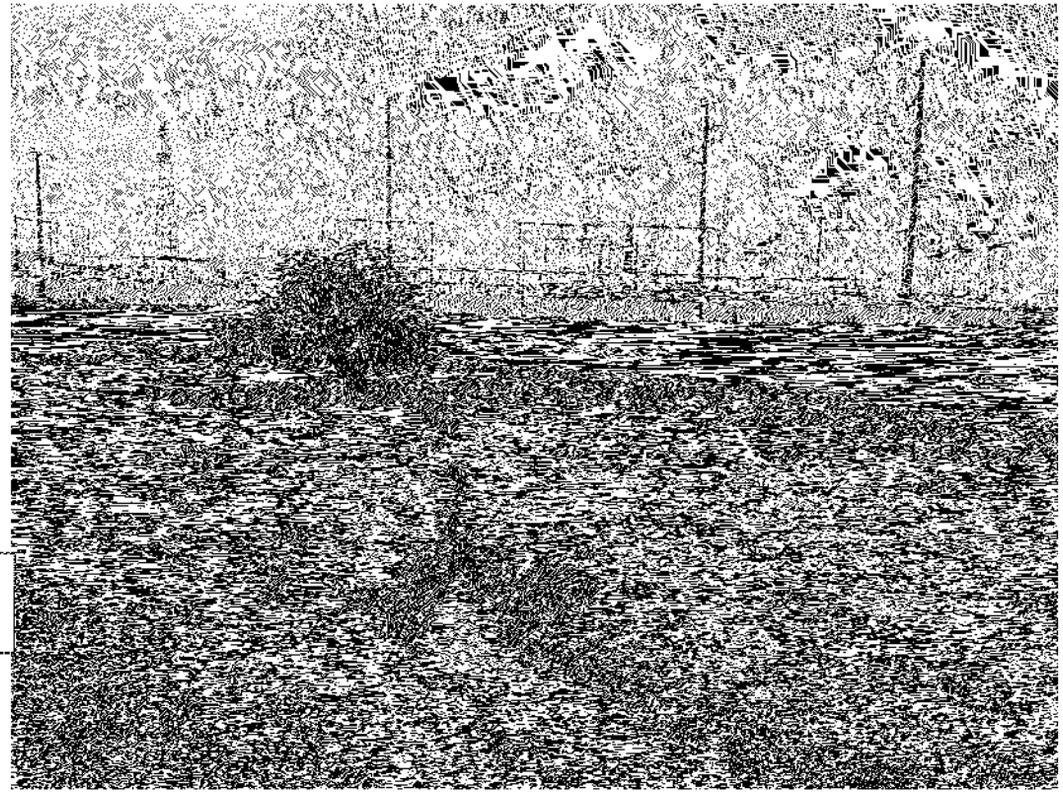


South Side of Patterson Pass road – facing SW

Note existing culvert under roadway. Crossing to be installed Immediately upstream of culvert.



South Side of Patterson Pass road – facing NE

Downstream of proposed outfall improvements. Note flowing feature in foreground and Altamont Pass Wind Farm Substation in the background

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Appendix E – Mitigation Site Biological Resources Assessment Report

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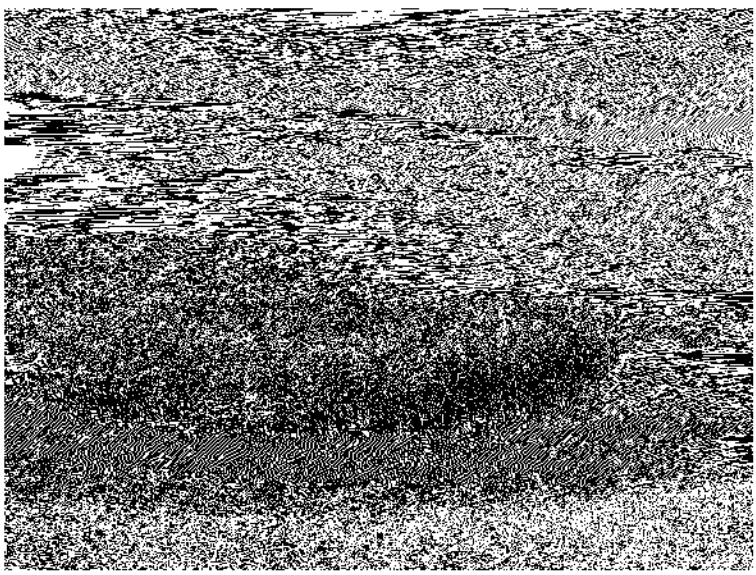
Westervelt
ECOLOGICAL SERVICES

BIOLOGICAL RESOURCES ASSESSMENT REPORT

Potentia Viridi Battery Energy Storage System Project Mitigation Site

Alameda County, California



Prepared by:
Westervelt Ecological Services
Western Region
3636 American River Drive, Suite 120
Sacramento, CA 95864
T: (916) 646-3644

wesmitigation.com

January 2025

Docusign Envelope ID: 32EF3236-2C00-496D-9AA0-BD9F98B0DE35

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Figure 10. Conservation Easements

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1. Introduction

1.1. Introduction

Levy Alameda, LLC, a wholly owned subsidiary of Obra Maestra Renewables, LLC is in the process of developing a battery storage facility (project) in Alameda County, California. Westervelt Ecological Services (WES) has teamed with Levy Alameda, LLC to help provide mitigation for their project. WES has identified an approximate 213 acre area (mitigation site) that would be suitable mitigation for the project. The final mitigation site acreage will be based on permitting requirements as identified in project permits. This Biological Resources Assessment detailed the species and habitat that are present in the mitigation site.

1.2. Study Area Location

The proposed mitigation site is located in Alameda County (Figure 1, all figures are located in Appendix A) and consists of a portion of the approximately 4,869-acre Mulqueeney Ranch (Ranch, Figure 2). The Ranch is located immediately southwest of the Altamont Pass Wind Farm substation along the north and south sides of Patterson Pass Road within the Altamont Hills, approximately 6 miles east of the City of Livermore, Alameda and San Joaquin counties, California. More specifically, the mitigation site occurs in Sections 31 and 36, Township 2 South, Ranges 3 and 4East, and Mount Diablo Base & Meridian on the Midway U.S. Geological Survey 7.5-minute topographical quadrangle map (Figure 3). Approximate center coordinates of the mitigation site in decimal degrees of the World Geodetic System 1984 (WGS84) are: Latitude: 37.715336°, Longitude: -121.590078°.

1.3. Study Objective

The primary objective of this study was to assess the biological resources and resource value of the mitigation site and to determine the presence, or presumed absence, of sensitive biological resources (i.e., special-status species and sensitive plant communities or habitats) occurring within the mitigation site.

Reconnaissance-level field surveys were conducted to:

- provide a description of the biological resources and natural communities present within the mitigation site;
- compile species lists descriptive of plant communities;
- locate special-status plant species or habitat suitable for such species; and
- determine wildlife use and current habitat values for wildlife, including special-status species.

1.4. Definitions

Several terms relating to the biological resources used in the report are described briefly below.

COMMUNITY- A community is an assemblage of populations of plants, animals, bacteria, and fungi that live in an environment and interact with one another, forming a distinctive living system with its own composition, structure, environmental relationships, development, and functions (Whittaker 1975).

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HABITAT- Habitat is the place or type of site where a plant or animal naturally or normally lives and grows.

SENSITIVE NATURAL COMMUNITY - Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special-status plants or their habitat. A sensitive community has particularly high ecological value or functions and are considered important because their degradation or destruction could threaten populations of dependent plant and wildlife species and significantly reduce the regional distribution and viability of the community. As the number and extent of sensitive natural communities continue to diminish, the endangerment status of dependent special-status (i.e., rare, threatened, or endangered) species could become more precarious, and populations of currently stable species (i.e., non-special-status species) could become rare. Loss of sensitive natural communities can also eliminate or reduce important ecosystem functions, such as water filtration by wetlands and bank stabilization by riparian forests or wetlands.

SPECIAL-STATUS SPECIES - For the purposes of this assessment, special-status species were defined as being species that are legally protected or otherwise regulated or tracked by federal or state resource agencies. Special-status species are species, subspecies, or varieties that fall into one or more of these categories.

- Listed as threatened or endangered under the federal Endangered Species Act (ESA).
- Proposed or candidates for listing under the ESA.
- Listed as threatened or endangered under the California Endangered Species Act (CESA).
- Candidates for listing under the CESA.
- California species of special concern.
- California Fully Protected Species.
- Plants ranked as "rare, threatened, or endangered in California" (California Rare Plant Rank [CRPR] 1B and 2).
- Plants listed as rare under the Native Plant Protection Act.

WILDLIFE - For the purposes of this document wildlife includes mammals, birds, reptiles, amphibians, fish, and invertebrates.

WETLANDS - For the purposes of this document wetlands are defined as transitional areas between aquatic habitats and upland habitats and generally includes habitats such as marshes and swamps. Under the U.S. Army Corps of Engineers jurisdiction wetlands general must possess the following three mandatory criteria: 1) A prevalence or dominance of hydrophytes (water-loving plants); 2) Hydric soils (e.g., water-logged soils); and 3) Wetland hydrology (i.e., soils that are inundated or saturated to the surface for extended periods during the growing season).

The remainder of this report discusses the methods and results of the 2024 special-status species and sensitive habitat assessment at the mitigation site.

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2. Methods

The assessment of the mitigation site for biological resources included both desktop background information gathering and analysis and a summary of previously conducted biological surveys and mapping as described below.

2.1. Desktop Analysis

The desktop analysis portion of this assessment included reviewing existing databases and other publicly available information on biological and related resources, as well as current and historical aerial photographs and topographic maps. The following information was reviewed as part of the desktop analysis:

- A species records search of California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB; CDFW 2024) using a 5-mile radius centered on the mitigation site (Figure 4);
- Information available on rare plants on the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants Database (CNPS 2024) and the Jepson eFlora (Jepson Flora Project 2024);
- Soils information from the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2024);
- EcoAtlas (CWMW 2024);
- Biogeographic Information and Observation System (BIOS) (CDFW 2024);
- aerial imagery available on Google Earth (1985 through 2024); and
- topographic maps.

2.2. Field Surveys

Since 2019, Helm Biological Consulting (HBC 2019, 2021, 2022, 2023a and 2023b) and WES (2024) staff have visited the mitigation site and larger Ranch to survey for California tiger salamander (CTS, *Ambystoma californiese*) and California red-legged frog (CRLF, *Rana draytonii*), assessed the general site conditions, making notes on land cover, hydrology, soils, dominant vegetation, and observed wildlife.

Specific surveys methods are described below for each.

2.2.1. Community Mapping

All landcovers were mapped, including aquatic resources (Figure 5). However, a formal aquatic resources delineation study was not conducted.

2.2.2. Special-status Species

A list of special-status plant and wildlife species with potential to occur in the mitigation site (Table 2) was developed from the Desktop Analysis (see above). This list was used to focus the site investigation on the special-status species and associated plant communities/habitats with potential to be present at the mitigation site. Survey methods are described below for plants and wildlife.

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2.2.2.1. Botanical Resources

Botanical surveys concentrated on nonnative invasive plants during the late summer and fall of 2023 (HBC 2023b). Specific special-status plant species surveys were not conducted. The entire mitigation site was surveyed by foot or by an all-terrain vehicle. All plants observed were identified to the taxonomic level necessary to determine rarity status using The Jepson Manual: Vascular Plants of California, 2nd Edition (Baldwin et al. 2012) and internet resources such as CNPS (2024) and Calflora (2022). Scientific nomenclature follows The Jepson Manual (Baldwin et al. 2012) and updates published online by the Jepson Flora Project, Jepson Online Interchange (University of California, Berkeley 2024). Common names followed Calflora (2022). Species not readily identifiable in the field were collected and later identified using The Jepson Manual (Baldwin et al. 2012). A list of all plant species encountered during the botanical field survey was compiled. Each plant was assigned a wetland indicator status using The National Wetland Plant List: 2016 Update of Wetland Ratings (NWPL) (Lichvar et al. 2016) as follows:

- OBL - Obligate wetland plants. Almost always occurs in wetlands;
- FACW - Facultative wetland plants. Usually occurs in wetlands, but may occur in non-wetlands;
- FAC - Facultative plants. Occurs in wetlands and non-wetlands;
- FACU - Facultative upland plants. Usually occurs in non-wetlands, but may occur in wetlands;
- UPL - Obligate upland plants. Almost never occurs in wetlands; and
- NL – Not listed.

In addition, every plant was categorized as native or nonnative (introduced) based on Calflora (2022). All nonnative plant species were further evaluated for any invasive status using California Invasive Plant Council (Cal-IPC 2022) ratings as follows:

- High - These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically;
- Moderate - These species have substantial and apparent, but generally not severe, ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread; and
- Limited - These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

A list of all plant species encountered during the botanical field survey is included in Appendix B. A rare plant survey in the mitigation site will occur in Spring 2025.

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2.2.2.2. *Wildlife*

All wildlife species observed were identified based on WES Staffs' knowledge and following field guides: Reid (2006) for mammals, Peterson (2020) for birds, Stebbins (2018) for reptiles and amphibians, and Gross et al. (2020) for insects. Common and scientific names of birds followed the Working Group on Avian Nomenclature of the International Ornithologists' Union's. Common and scientific names for reptiles and amphibians followed nomenclature of Nafis (2022) California Herps (www.californiaherps.com). Common and scientific names of mammals followed the American Society of Mammologists. All wildlife species, or sign (scat, prints, etc.), observed onsite were recorded in field notes.

A list of all wildlife species observed during the wildlife survey is included in Appendix C.

2.2.2.3. *Special-Status Species Habitat Assessment*

For species that were not identifiable at the time of the field survey, plant communities were assessed for potential to support the targeted species. The habitat assessed was based on habitat suitability comparisons with reported occupied habitats. The following definitions were utilized:

- None – Species distribution is restricted by substantive habitat requirements which do not occur onsite; therefore, no further survey or study is necessary to determine likely presence or presumed absence of this species;
- Not Probable/Likely – Species distribution is restricted by substantive habitat requirements which are negligible onsite; therefore, it is assumed that no further survey or study is necessary to determine likely presence or presumed absence of this species;
- Low – The species has a Low probability of occurrence within the mitigation site;
- Moderate – The species has a Moderate probability of occurrence within the mitigation site;
- High – The species has a High probability of occurrence within the mitigation site;
- Present – Species or species sign were observed onsite or historically has been documented within the mitigation site;
- Critical Habitat – The mitigation site is located within a USFWS-designated critical habitat unit; and
- Unknown – There is not presently sufficient information on substantive habitat requirements of the species or other data to determine its potential for occurrence within the mitigation site.

2.3. Wildlife, Habitat Connectivity, and Conservation Opportunities

The mitigation site was evaluated for its overall conservation value under existing conditions by reviewing several datasets including:

- CDFW's Biogeographic Information and Observation System (BIOS6 version 6.24.1120);
- CDFW's Areas of Conservation Emphasis (ACE); and
- California Essential Habitat Connectivity Project "Essential Connectivity Areas" and "Natural Landscape Block".

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CDFW's ACE is an effort to gather spatial data on wildlife, vegetation, and habitats from across California and then combine this information into maps to inform conservation of biodiversity, habitat connectivity, and climate change resiliency (CDFW 2019).

The California Essential Habitat consists of a statewide network of relatively intact blocks of land connected by essential connectivity areas (Spencer et al. 2010). The purpose of the Natural Landscape Block is to focus attention on large areas important to maintaining ecological integrity at the broadest scale (Spencer et al. 2010).

3. Results

3.1. Environmental Setting

3.1.1. Overview

The mitigation site straddles the Western Pacific Railroad and consists of fairly steep rolling hills covered with grass and herbs with stock ponds occurring within the low-lying drainages and some grassy plains to the northeast.

3.1.2. Climate

The mitigation site has a Mediterranean climate characterized by warm dry summers and cool wet winters. Average high temperatures range from the mid-50s in winter to the mid-80s in summer, while average low temperatures range from the mid-30s to the upper 50s. Rainfall in the Ranch area averages about 15 inches per year, with most of it coming during the winter months. Temperatures typically remain mild year-round due to its location on the east side of California's Central Valley. Summers tend to be sunny and dry, with occasional breezes from the nearby mountains providing some relief from the heat. Winters are typically wet and cool, with air temperatures often dropping below freezing at night. However, snow is rare. (Best Places 2024)

3.1.3. Topography and Hydrology

Topography within the mitigation site varies from relatively flat plains around 500-foot elevations above mean sea level (amsl) near the eastern edge to fairly steep hilly terrain above 600 foot elevation amsl along the western edge. In general, the mitigation site is sloped to the northeast. The raised Western Pacific Railroad bed transverses the mitigation site from the northwest corner to the southeast corner. Several drainages occur in the mitigation site (Figure 5). Most of these drainage headwaters occur to the off site to the west and transverse the mitigation site in a eastern direction. At least one stock pond has been constructed within each of the major drainages. All aquatic features are shown in Figure 5[1].

The steep terrain allows for a lot of surface area and the clayey soil restricts (see Soils section below) the amount of ground water recharge creating a lot of storm runoff into the drainages during and shortly after rain events. As previously mentioned, most of the major drainages have stock ponds constructed to detain this storm runoff water for watering livestock. Additionally, the huge watersheds that occur, mostly offsite, allow some ground water recharge which eventually moves downslope and discharges from the various seeps/springs located at the hill toe slopes or within the drainages.

3.1.4. Geology and Soils

The geology within the mitigation site area (Figure 7) is composed of Upper Cretaceous aged marine sedimentary and metasedimentary rocks consisting of sandstone, shale, and conglomerate (KU) as well as Miocene aged marine sedimentary rocks consisting of moderately

[1] Please note a formal wetland delineation has not been completed on the mitigation site, these acreages have not been field verified.

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to well consolidated sandstone, shale, siltstone, conglomerate, and breccia (M), and Quaternary aged nonmarine sedimentary rocks consisting of loosely considated sandstone, shale, and gravel deposits from the Pleistocene epoch (QPc) (Jennings et al. 1977).

Soils within the mitigation site are diverse but generally consist of clays to clay loams textures within eight soil series types and four mixed soil series complex types:

- Altamont clays;
- Diablo clays;
- Linne clays; and
- Pescadero clay loam (Figure 8 and Table 1).

Table 1. Natural Resource Conservation Service Soil Mapping Units occurring within the Mitigation Site

Map Unit Symbol	Soil Unit
	Alameda County
AmE2	Altamont clay, moderately deep, 30 to 45 percent slopes
ArD	Altamont rocky clay, moderately deep, 7 to 30 percent slopes
DbD	Diablo clay, 15 to 30 percent slopes, MLRA 15
DbE2	Diablo clay, 30 to 45 percent slopes, eroded
DbC	Diablo clay, 7 to 15 percent slopes
LaC	Linne clay loam, 3 to 15 percent slopes
LaD	Linne clay loam, 15 to 30 percent slopes, MLRA 15
Pd	Pescadero clay loam, 0 to 6 percent slopes, MLRA 14

3.1.5. Land Cover

The landcover on the mitigation site is dominated by annual grasslands, with seeps/springs, stock ponds, swales and other wetlands associated with the various drainages (Figure 5).

3.1.5.1. Annual Grassland

Annual grasslands within the mitigation site are characterized by the dominance of non-native but naturalized annual grassland species with a subcomponent of native and nonnative forbs. The annual grassland habitat dominates the mitigation site landscape occurring on the well-drained uplands.

Vegetation. Dominant grasses observed include wild oats (*Avena* spp.), ripgut brome (*Bromus diandrus*), hare barley (*Hordeum murinum* ssp. *leporinum*), and soft brome (*Bromus hordeaceus*). Dominant forbs include common fiddleneck (*Amsinckia intermedia*), field bind weed (*Convolvulus arvensis*), dove weed (*Croton setiger*), and filaree (*Erodium* ssp.).

As the grassland habitats in the mitigation site approach drainages, stock ponds, and other aquatic features the vegetation composition changes to a greater percentage of hydrophytes ("water-loving" plants) including Italian ryegrass (*Festuca perennis*), Mediterranean barely (*Hordeum marinum* ssp. *gussoneanum*), and annual bluegrass (*Poa annua*) for the grasses and narrowleaf

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plantain (*Plantago laceolota*), few-seeded bitter-cress (*Cardamine oligosperma*), clovers *(Trifolium* ssp.) and tall annual willow herb (*Epilobium branchycarpum*) representing the forbs.

In addition, annual grassland habitats near roads, neighboring parcels, or other areas of disturbance (e.g., stock pond berms) tend to have a higher percentage of weedy nonnatives including thistles such as yellow starthistle (*Centaurea solstistialis*), Italian thistle (*Carduus pycnocephalus*), milk thistle (*Silybum marianum*), and bull thistle (*Cirsium vulgare*).

Wildlife. Annual grasslands provide breeding habitat for a variety of grassland birds. Among those observed during field surveys include western meadowlark (*Sturnella neglecta*), lark sparrow (*Chondestes grammacus*), and savannah sparrow (*Passerculus sandwichensis*). Annual grasslands also provide foraging habitat for many bird species that breed in adjacent habitats.

Annual grasslands provide important habitat for many mammal species, particularly small rodents and their larger predators. Mammals or their signs (i.e., scat, tracks, dens) observed in the annual grasslands onsite include black-tailed hare (*Lepus californicus*), California ground squirrel (*Otospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), California deer mouse (*Peromyscus maniculatus*), California vole (*Microtis californicus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis marsupialis*), and coyote (*Canis latrans*).

Representative photographs of the habitats occurring onsite are provided in Appendix D.

3.1.5.2. Drainages

Drainages are characterized by seasonally flowing waterways that convey storm water. These drainages are general U-shaped in cross-section with earthen bed and banks. The drainages onsite are ephemeral in nature and flow only during and shortly after storm events. Most of the drainages are fairly narrow (1-4 wide) and shallow (1 to 4 deep) (Figure 5).

Vegetation. The vegetation composition of the drainages depends on slope and soil thickness. Steeper slopes sections of the drainage support many of the same species associated with the grasslands but favor those with root systems that can withstand the fast-flowing water for short periods. Those sections of the drainages that are flat and/or near the onsite stock ponds and seep habitats tend to support more hydrophytes especially grasses such as Italian ryegrass, Mediterranean barely, and annual bluegrass. Portions of these drainages have thin soils or eroded bedrock support a sparse assemblages of plant species varying from nonhydrophytes to hydrophytes depending on slope.

Wildlife. Due to their ephemeral nature. The drainages do not offer much habitat for wildlife except for their hydrologic contributions to stock ponds and wetland habitats (e.g., seep, swale, etc.) (See below).

3.1.5.3. Stock Ponds

Stock ponds are characterized by human-constructed ponds generally within drainageways to capture seasonal water for livestock. In the mitigation site and Ranch, several of these stock ponds have been constructed below seep/spring habitats (see Seep/Spring section below). Stock ponds associated with seep/spring habitats are perennial ponded with maximum depths of three to five

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feet (Figure 5). The stock ponds without hydrologic inputs from seep/spring habitat are seasonally ponded and may not pond at all, or only for brief periods, during droughts.

Vegetation. Stock ponds associated with seep/spring habitats in the mitigation site generally have patches of emergent narrowleaf cattail (*Typha angustifolia*) with the submerged stonewort (*Chara* sp.) with occasional blooms of fishnet algae (*Hydrodictyon* sp.) and free-floating smaller duckweed (*Lemna minor*) and mosquito fern (*Azolla filiculoides*). The vegetation along the stock ponds edges are highly variable in cover, and to a lesser extent composition, depending on hydrology (drought and flood conditions) and livestock intensity. During drought conditions, the edges of the stock ponds are sparsely vegetated and during high livestock use, denuded of vegetation. Overall, the stock ponds within the mitigation site are dominated by hydrophytes including brass buttons (*Cotula coronopifolia*), tall flat sedge (*Cyperus eragrostis*), willow herbs (*Epilobium* ssp.), rushes (*Juncus* ssp.), purple sandspurry (*Spergularia rubra*), Italian ryegrass, Mediterranean barely, and annual bluegrass.

Wildlife. The stock ponds onsite offer excellent habitat for California tiger salamander (*Ambystoma californiense*) and California red-legged frogs (*Rana draytonii*). Although they are perennial in nature the lack predators such as fish and American bull frog (*Lithobates catesbeianus*) and support abundance food sources in the form of aquatic invertebrates.

While not all of these species have been observed within the mitigation site, the emerging insects provide forage for swallows (Tree swallow [*Tachycineta bicolor*], violet-green swallow [*Tachycineta thalassina*], northern rough-winged swallow [*Stelgidopteryx serripennis*], barn swallow [*Hirundo rustica*], cliff swallow [*Petrochelidon pyrrhonota*]) and flycatchers (western kingbird, ash-throated flycatcher [*Myiarchus cinerascens*], and black phoebe [*Sayornis nigricans*]) as well as bats. A variety of bird species forage at the edge of these ponds including shorebirds (e.g., killdeer [*Charadrius vociferus*] and greater yellowlegs [*Tringa melanoleuca*]) and various wading birds (great blue heron [*Ardea herodias*], great egret [*Ardea alba*]). Mallards (*Anas platyrhynchos*) and the occasional American wigeon (*Mareca americana*) forage through the algae for food items.

3.1.5.4. Seeps/Springs

Seep/Spring habitats are characterized by ground water that flows or seeps from the ground. In the mitigation site seeps/springs are associated with the drainageways where thinner soils prevail allowing subsurface storm water flows to daylight near bedrock sources.

Vegetation. Seeps/springs within the mitigation site are dominated by hydrophytes consisting of grasses and forbs including willow herbs, streamside monkey flower (*Erythranthe guttata*), Italian ryegrass, common spikerush (*Eleocharis macrostachya*), rabbits foot grass (*Polypogon monspeliensis*), and toad rush (*Juncus bufonius*) with occasional patches of saltgrass (*Distichilis spicata*) and curly dock (*Rumex crispus*).

Wildlife. Because of the small size and depth of water within this habitat, wildlife use is limited. Wildlife species observed in this habitat include greater yellow legs (*Tringa melanoleuca*), killdeer (*Charadrius vociferus),* black phoebe (*Sayornis nigricans*), Brewer's blackbird (*Euphagus cyanocephalus*), European starling (*Sturnus vulgaris*), and mourning dove (*Zenaida macroura*).

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While not observed, other wildlife including racoon, Virginia opossum, grey fox (*Urocyon cinereoargenteus*) and coyote probably visit this habitat to forage or drink during the summer and fall.

3.1.5.5. Wetland

Wetland habitat is characterized by small depressional areas within the grassland habitat that have impervious subsurface soils (i.e., clays, hardpan [duripan] or bedrock) that seasonally inundate from stormwater flows from upslope ephemeral drainages. Three wetlands occur within the mitigation site. Two are located in the southeast corner and have been inadvertently created from the construction of the adjacent elevated Western Pacific Railroad bed that detains storm water flows. The third wetland is associated with the largest and more intermittent drainage located in the northwest corner. This wetland has resulted from stormwater restrictions from flowing through the undersized passage at bottom of the railroad berm.

Vegetation. The two southern located wetland habitats onsite were dominated by hyssop loosestrife (*Lythrum hyssopifolia*), Italian ryegrass, Mediterranean barely, common knotweed (*Polygonum aviculare*), and toad rush (*Juncus bufonius*) with some curly dock (*Rumex crispus*). The larger wetland located in the northwest corner is dominated by hydrophytic grasses and forbs similar to the seep/spring habitats discussed above.

Wildlife. Wildlife use within the largest wetland would be similar to that of the Seep/Spring habitat and offers temporary migration habitat for CRLF. Due to the ephemeral nature of the two smaller wetlands, only short-lived residence invertebrates and transitory migrating vertebrates utilize this habitat. Large numbers of crustaceans live in this habitat including seed shrimp (*Ostracods*), copepods *(Copepoda*), and water fleas (*Cladocerans*) and other aquatic invertebrates (e.g., water mites [*Hydroacarina*], flat worms [microturbularians], springtails [*Collembolla*]). These species are food for a variety of amphibians including Sierran tree frog larvae, western toad larvae, and young CRLF's who also use this habitat for dispersal.

3.1.5.6. Swale

Swale habitat is associated with the drainages onsite and are general continuations or sections of ephemeral drainages that lack a defined bed and bank due to erosional forces of flowing water. Swales are generally broad, shallow, slightly sloped water conveyance habitats.

Vegetation. Swales are generally vegetaion by dense cover of hydrophytic grasses consisting of Italian ryegrass, Mediterranean barely, and annual bluegrass. Forbs are subdominant and generally consisted of toad rush (*Juncus bufonius*) with some curly dock (*Rumex crispus*).

Wildlife. Wildlife use was similar to the ephemeral drainage habitats described above.

Representative photographs of habitats and species occurring within the mitigation site and Ranch occur in Appendix D.

3.2. Special-status Species

The results of the habitat assessment are summarized below in Table 2, which provides the status of the species, its range, general habitat requirements, and a brief discussion on its potential to occur within the mitigation site.

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Table 2.3-1: Special-Status Species with a Potential to Occur Within the Mitigation Site

Common Name Scientific Name	Federal Status	State Status	CNPS	Range	General Habitat	Potential To Occur Onsite
Wildlife						
California tiger salamander *Ambystoma californiense*	FT	FT	-	Occurs from Yolo County to Kern County in the Central Valley, up to 2,000 feet elevation in the Sierra Nevada foothills	In winter, breeds in vernal pools and seasonal wetlands with a minimum 10-week inundation period. In summer, occupies grassland habitat, primarily in small mammal burrows.	**Present.** CTS larvae have been observed in numerous stock ponds in the mitigation site.
California red-legged frog *Rana draytonii*	FT	FT	-	Occurs Sonoma and Butte counties in the north to Riverside to the south.	In habits ponds, marshes, and creeks with still water for breeding. Riparian and upland habitat with dense vegetation and open areas for cover, aestivation, food and basking.	**Present.** Adults, juveniles, and larvae have been documented in the mitigation site.
Foothill yellow legged frog Central Coast DPS *Rana boylii pop. 4*	FT	FT	-	Occurs in the East Bay and south of Sac Francisco Bay in the Coast Ranges to San Benito and Monterey Counties.	Inhabits moderate to high gradient streams in woodland, forest, mixed chaparral, and wet meadow habitats with rock and gravel substrate and low overhanging vegetation along the edge; usually found near riffles with rocks and sunny banks nearby	**None.** Suitable habitat for this species (streams in woodlands, chaparral) is not present.
Western spadefoot *Spea hammondii*	FT	FT	-	Species is found throughout the Central Valley and coastal lowlands from Shasta County in Northern California to Baja California in Mexico, at elevations ranging from sea level to 4,500 feet	In winter, breeds in vernal pools and seasonal wetlands with a minimum 3-week inundation period. In summer, aestivates in grassland habitat, in soil crevices, and rodent burrows	**Low.** Although suitable habitat is present, this species would have been detected during CTS and CRLF surveys if present.

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Golden eagle *Aquila chrysaetos*	-	-	-	Winter range spans most of California; breeding range excludes the Central Valley floor	Forages in a variety of open habitats, including grassland, pasture, and cropland; Nests primarily on cliffs, rock outcrops, and in large trees	**Present.** This species has been observed foraging just outside the western edge of the mitigation site. However, no nesting habitat is present in the mitigation site.
Swainson's hawk *Buteo swainsoni*	-	-	-	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley; the state's highest nesting densities occur near Davis and Woodland, Yolo County.	Nests in oaks or cottonwoods in or near riparian habitats; forages in grasslands, irrigated pastures, and grain fields.	**Moderate**. The mitigation site provides suitable foraging habitat however this species has not been observed.
Northern harrier *Circus hudsonius*	-	-	-	Found throughout California, breeding range covers northeastern plateau, northern coast, Central Valley, central coast, and portion of the southern coast and southern deserts. Non-breeding season found in most lowland areas of California.	Breeding and foraging includes treeless habitats with adequate prey, cover, and perches. Suitable habitat includes freshwater marshes, brackish and saltwater marshes, wet meadows, margins of lakes, rivers, and streams, grasslands, weed fields, croplands, and desert sinks.	**Present.** Although this species has been observed foraging in the mitigation site, nesting has not been verified.
White tailed kite *Elanus leucurus*	-	-	-	Occurs from west coast and Gulf Coast south to Mexico, Central American and eastern South America	Found in grasslands, open woodlands, savannas, marshes and cultivated fields.	**Moderate**. The mitigation site provides suitable foraging habitat however this species has not been observed.
Tricolored blackbird *Agelaius tricolor*	-	-	-	Year-round residents throughout the Central Valley and the central and southern coasts, with additional scattered locations throughout California. Breeding occurs in the foothills of the Sierra Nevada south to Kern County, the	Nests colonially in large, dense stands of freshwater marsh, riparian scrub, and other shrubs and herbs; forages in grasslands and agricultural fields.	**Moderate.** Suitable foraging habitat is present in the mitigation site. This species has been observed foraging in mitigation site .

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				coastal slopes from Sonoma County to the Mexican border, and sporadically in the Modoc Plateau		
Loggerhead shrike *Lanius ludovicianus*	-	-	-	Occurs throughout California, except for the northwest, heavily forested higher mountains and higher areas of deserts.	Open habitats, including pastures, old orchards, cemeteries, golf courses, agricultural fields, riparian areas, and woodlands. In Central Valley, associated with grasslands, irrigated pasture, and grain and hay fields. Nests in trees and shrubs	**Present.** This species has been observed foraging on the mitigation site. Although nesting has not been verified.
Grasshopper sparrow *Ammodramus savannarum*	-	-	-	Occurs across North America and ranges from southern Canada to Ecuador.	Grassland, hayfields, prairies. Breeds in rather dry fields and prairies, especially those with fairly tall grass and weeds and a few scattered shrubs. Also nests in overgrown pastures and hayfields, and sometimes in fields of other crops	**Low.** Although the mitigation site has abundant annual grasslands that support potential breeding and foraging habitat for this species, it is associated more with fields (pastures and hayfields) and would have been observed during surveys if present.
Short eared owl *Asio flammeus*	-	-	-	Circumpolar from the Arctic to the North Temperate Zone, and is also found in Hawaii and much of South America. It is partially migratory, moving south in winter from the northern parts of its range.	Forages in grassland habitats and nests on the ground in prairie, tundra, savanna, meadow, and grassland habitats. Species will also nest and forage in shrubby habitats with grasses understory and in wheat fields.	**Low.** Although this species prefers tall grass or grasslike plants areas for nesting and foraging which occurs on site, it general prefers flat terrain which is more limited onsite. Additionally, this species would have been observed during the

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						numerous surveys, if present.
Burrowing owl *Athene cunicularia*	-	Candidate	-	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas; rare along south coast.	Open, dry annual or perennial grasslands, deserts, and scrublands characterized with low vegetation, usually on gently sloping terrain.	**Present**. This species has been observed being flushed from burrows within the mitigation site.
Longhorn fairy shrimp *Branchinecta longiantenna*	-	-	-	Occurs in five locations from Contra Costa County in the north to San Luis Obispo County in the south.	Found in clear, freshwater vernal pools, claypan pools or freshwater depressions in sandstone. Generally, prefers alkaline pools.	**Not likely.** No vernal pools, alkaline pools, or rock outcrop pools are present within the mitigation site.
Vernal pool fairy shrimp *Branchinecta lynchi*	FE	FE	-	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains	Inhabits small, clear-water sandstone depression pools and grassed swale, earth slump, or basalt-flow depression pools.	**Low.** No vernal pools are present within the mitigation site. However, the seasonally inundated wetlands and the more ephemeral stock ponds within the mitigation site could provide suitable habitat.
Crotch's bumble bee *Bombus crotchii*	--	--	G2 S2	Occurs throughout the Pacific Coast, Western Desert, and adjacent foothills throughout most of the state's southwestern region.	Inhabits grasslands and shrublands.	**Moderate.** Potential habitat for this species occurs onsite. However, this species has not been observed on the mitigation site.
Western bumble bee *Bombus occidentalis*	FE	Candidate	-	Occurs in the Sierra Nevada and central coast of California north through British Columbia to Alaska and east to Idaho, Montana, western Nebraska, western North Dakota, western South Dakota, Wyoming, Utah, Colorado, northern Arizona, New Mexico and southwest Saskatchewan	Colonial ground nester in a wide variety of habitats generally in close proximity to nectar plants.	**Low.** Potential habitat for this species occurs onsite. However, the mitigation site is outside of the current known range and this species has not been observed on the mitigation site.

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Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	FT	-	Occurs in the Central Valley from Shasta County in the north through Madera County in the south.	Host plant is the elderberry shrub *(Sambucus spp.),* a shrub that grows in riparian areas and foothill oak woodlands.	**None.** The host plant is not present.
San Joaquin kit fox *Vulpes macrotis mutica*	FE	FE	-	Occurs in San Joaquin Valley extending from south Kern County north to Contra Costa, Alameda, and San Joaquin counties on the western side of the valley and to Stanislaus County on the eastern side.	Occurs in the desert and grasslands of the San Joaquin Valley, preferable areas with minimal shrubs and grasses.	**Moderate**. Current assessments by USFWS have assessed this part of the species range as having a "very low" condition and have determined there is no current population in this part of the range, though individuals may periodically disperse this far north. Nonetheless, suitable habitat is present and although the mitigation site is located at the northern distribution of the species range future occupation is possible.
Western mastiff bat *Eumops perotis californicus*	-	-	-	Uncommon resident in southeastern San Joaquin Valley and the Coastal Ranges specifically residing between Monterey County to Southern California and from the California coast east to the Colorado Desert.	Typically roosts in crevices in cliffs and rocky outcrops, in colonies of fewer than 100 individuals. May also roost in bridges, caves and buildings that allow sufficient height and clearance for dropping into flight. There is at least one record of this species roosting in an untrimmed palm tree. Forages in a variety of grassland, shrub, and wooded habitats, including riparian and	**Low.** No cliffs or rocky outcrops are present. However, this species may forage within the mitigation site.

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					urban areas, although most commonly in open, arid lands.	
American badger *Taxidea taxus*	-	-	-	Uncommon solitary species that is widely distributed throughout the state except in the northern North Coast area from below sea level to over 12,000 ft	Prefers drier open shrub, forest, and herbaceous habitats with friable soils. Home range typically varies in size between 5 and 1,800 acres but can become much larger during breeding season as males locate receptive females. Natal dens are constructed in dry, sandy soil with sparse overstory	**High.** Suitable habitat is present and this species is known to occur on adjacent properties. However, this species has not been observed in the mitigation site.
Pallid bat *Antrozous pallidus*	-	SSC	-	Occurs throughout California except for the high Sierra Nevada from Shasta to Kern Counties to northern Mendocino County.	Deserts, grasslands, shrublands, woodlands, and forests; most common in open, dry habitats; typically roosts in rock crevices, also in tree hollows, bridges, and buildings, in colonies ranging from 1 to more than 200 individuals	**Low.** No cliffs or rocky outcrops are present. However, this species may forage in the mitigation site.
Townsend's big eared bat *Corynorhinus townsendii*	-	-	-	Occurs throughout the west and is distributed from the southern portion of British Columbia south along the Pacific coast to central Mexico and east into the Great Plains, with isolated populations occurring in the central and eastern United States.	Habitat associations include coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Typically found in areas with caves and cave-like roosting habitat, with population centers occurring in areas dominated by exposed, cavity forming rock and/or historic mining districts	**Low.** No roosting habitat is present in the vicinity. However, this species may forage in the mitigation site.

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Northern California legless lizard *Anniella pulchra*	-	SSC	-	Occurs from the southern edge of the San Joaquin River in Contra Costa County south to Ventura County.	Inhabits sparsely vegetated area of bean dunes, chaparral, pine oak woodland, desert scrub, sandy washes and stream terraces.	**None.** Suitable habitat for this species (sandy or loose soils) is not present.
California glossy snake *Arizona elegans occidentalis*	-	SSC	-	Occurs from the eastern part of San Francisco Bay Area south to northwestern Baja.	Scrub, rocky washes, grasslands and chaparral, prefers open areas with loose soil for burrowing.	**None.** Suitable habitat for this species (sandy or loose soils) is not present.
San Joaquin coachwhip *Masticophis flagellum ruddocki*	-	SSC	-	Endemic to California, ranging from Kern County north to portions of Alameda County.	Dry, treeless areas with little to no cover, including valley grassland and saltbush scrub. Mammal burrows used for overwintering.	**Moderate.** Habitat is generally suitable though the species has not been observed in the mitigation site.
Alameda whipsnake *Masticophis lateralis euryxanthus*	FT	ST	-	Occurs in Alameda and Contra Costa counties.	Found in northern coastal scrub and chaparral habitat. May also occur in grasslands, open woodlands, rocky slopes near scrub and chaparral.	**Not likely.** This species is associated with chapparal habitats which do not occur onsite.
Northwestern pond turtle *Actinemys marmorata*	PT	PT	-	North of San Francisco Bay area and north Central Valley	Found in ponds, streams, lakes, rivers, creeks, marshes and irrigation ditches with abundant vegetation.	**Low.** Not observed during previous surveys of ponds. No suitable nesting habitat (friable soils) occurs in the mitigation site.
Coast horned lizard *Phrynosoma blainvillii*	-	SSC	-	From Baja California west of the Sierra Nevada, north to Bay Area and Shasta	Open areas with sandy soils and low vegetation in valleys, foothills, and semiarid mountain.	**Not likely.** Sandy soils are not present onsite and native ant colonies were not detected during surveys.
Plants						
Caper fruited tropidocarpum *Tropidocarpum capparideum*	-	SSC	1B.1	Alameda, Contra Costa, Monterey, San Joaquin and San Luis Obispo Counties	Occurs at elevations of at 5 – 1,495 feet amsl and is associated with valley and foothill grasslands.	**Low.** Although potential habitat occurs onsite, the mitigation site occurs just outside of the species known range.

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Large flowered fiddleneck *Amsinckia grandiflora*	-	-	1B.1	Alameda, Contra Costa, and San Joaquin counties	Occurs at elevations of 885 – 1,805 feet amsl; associated with cismonstane woodland and valley/foothill grasslands.	**Moderate.** Potential habitat occurs onsite.
Brittlescale *Atriplex depressa*	-	-	1B.2	Alameda, Colusa, Contra Costa, Fresno, Glenn, Kings, Merced, Solano, Tulare and Yolo counties	Occurs at elevations of 5 – 1,050 feet amsl; associated with chenopod scrub, meadows, seeps, playas, valley and foothill grassland.	**Not likely.** Saline and alkaline habitats are generally lacking onsite.
Lesser saltscale *Atriplex minuscula*	-	-	1B.1	Alameda, Butte, Fresno, Kern, Kings, Madera, Merced, Stanislaus, Tulare counties	Occurs at elevations of 50 – 655 feet amsl; associated with chenopod scrub, playas, valley and foothill grassland.	**Not likely.** Saline and alkaline habitats are generally lacking onsite.
Big tarplant *Blepharizonia plumosa*	-	-	1B.1	Alameda, Contra Costa, San Joaquim, Solano, Stanislaus counties	Occurs at elevations of 100 – 1,655 feet amsl; associated with clay areas of valley and foothill grassland.	**Moderate.** Potential habitat occurs onsite.
Lemmon's jewelflower *Caulanthus lemmonii*	-	-	1B.2	Alameda, Fresno, Kern, Kings, Merced, Monterey, San Joaquin, San Luis Obispo, Santa Barbara, Stanislaus, Ventura counties	Occurs at elevations of 260 – 5,185 feet amsl; associated with pinyon and juniper woodland and valley and foothill grasslands.	**Not likely.** The mitigation site occurs just outside of the species most northern distribution of its range.
Congdon's tarplant *Centromadia parryi ssp. congdonii*	-	-	1B.2	Alameda, Contra Costa, Monterey, San Luis Obispo, San Mater, Santa Clara, Santa Cruz, Solano counties	Occurs at elevations of 0 – 775 feet amsl; associated with valley and foothill grassland (alkaline).	**Not likely.** Associated with moist areas within nearly level alkaline grasslands that are absent onsite.
Hospital Canyon larkspur *Delphinium californicum ssp. interius*	-	-	1B.1	Alameda, Contra Costa, Merced, Monterey, San Benito, San Joaquin, Santa Clara, Stanislaus counties	Occurs at elevations of 640 – 3,595 feet amsl; associated with chaparral, cismonstane woodland, and coastal scrub.	**Not likely.** Associated with woody habitats that are absent onsite.
Diamond petaled California poppy *Eschscholzia rhombipetala*	-	-	1B.1	Alameda, Colusa, Contra Costa, Kern, San Joaquin, San Luis Obispo, Stanislaus counties	Occurs at elevations of 0 – 3,200 feet amsl; associated with valley and foothill grassland (alkaline, clay).	**Low- Moderate.** Although alkaline soils are generally absent, clay soils within annual

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						grasslands habitats are plentiful onsite.
San Joaquin spearscale *Extriplex joaquinana*	-	-	1B.2	Alameda, Colusa, Contra Costa, Fresno, Glenn, Merced, Napa, Sacramento, San Benito, San Joaquin, San Luis Obispo, Solano, Yolo counties	Occurs at elevations of 5 – 2,740 feet amsl; associated with chenopod scrub, meadows and seeps, playas, valley and foothill grassland.	**Not likely.** Alkaline soils are generally absent onsite.
Brewer's wester flax *Hesperolinon breweri*	-	-	1B.2	Alameda, Contra Costa, Napa, Solano counties	Occurs at elevations of 100 – 3,100 feet amsl; associated with chaparral, cismontane woodland and valley and foothill grasslands.	**Moderate.** Annual grasslands habitats are plentiful onsite.
California alkali grass *Puccinellia simplex*	-	-	1B.2	Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Kern, Kings, Lake, Los Angeles, Madera, Merced, Napa, San Bernadino, San Luis Obispo, Santa Clara, Santa Cruz, Solano, Stanislaus, Tulare, Yolo counties	Occurs at elevations of 5 – 3,050 feet amsl; associated with chenopod scrub, meadows and seeps, valley and foothill grasslands, vernal pools.	**Not likely.** Alkaline soils are generally absent onsite.
Chaparral harebell *Ravenella exigua*	-	-	1B.2	Alameda, Contra Costa, Fresno, Merced, San Benito, Santa Clara, Stanislaus counties	Occurs at elevations of 900 – 4,100 feet amsl; associated with chaparral habitat.	**Not Likely.** Chapparal habitat is absent in the mitigation site.
Showy golden madia *Madia radiata*	-	-	1B.1	Contra Costa, Fresno, Kern, Kings, Monterey, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Stanislaus counties	Occurs at elevations of 80 – 3,985 feet amsl; associated with cismontane woodland, valley and foothill grassland.	**Moderate.** Potential habitat is present in the mitigation site.
Shining navarretia *Navarretia nigelliformis ssp. radians*	-	-	1B.2	Butte, Contra Costa, Colusa, Fresno, Madera, Merced, Monterey, San Benito, San Joaquin, San Luis Obispo, and Tulare counties.	Occurs at elevations of 213 – 3,281 feet amsl; associated with cismontane woodland, valley and foothill grassland, vernal pools, swales, and clay flats.	**Low.** This species generally occurs in vernal pools or other similar seasonal wetlands which are generally absent in the mitigation site.

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Long-styled sand spurrey *Spergularia macrotheca var. longistyla*	-	-	1B.2	Alameda, Contra Costa, Napa, Solano counties	Occurs at elevations of 0 – 835 feet amsl; associated with meadows, seeps, marshes and swamps.	**Moderate.** Suitable habitat (wetlands, including seeps) occurs in the mitigation site.

Definitions: *Federal Status* – FE = federally endangered, FT = federally threatened, FC = federal candidate; *State Status* – SE = state endangered, ST= state threatened, SSC= species of special concern, FP= fully protected. *CNPS Rare Plant Rank* - 1B = Rank 1B species: rare, threatened, or endangered in California and elsewhere, 1B.1 – seriously threatened in California, 1B.2 – Moderately threatened in California, 1B.3 – Not very threatened in California,

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3.2.1. Special-Status Plants

Although no special-status plant species were observed onsite during surveys, there are six special-status plants known that have a moderate potential to occur in the mitigation site:

- Large flowered fiddleneck;
- Big tarplant;
- Diamond petaled California poppy;
- Brewer's wester flax;
- Showy golden madia; and
- Long-styled sand spurrey.

Though, all these species are considered rare, threatened, or endangered in California and elsewhere under CNPS 1.B ranking; none are listed as threatened or endangered under state or federal Endangered Species Acts. Because species focused special-status plants surveys have not yet been conducted; the presence, or presumed absence, of the above plant species and other special-status plants that are not known to occur within the vicinity of the mitigation site is largely unknown.

3.2.2. Special-status Wildlife

A total of five of the 28 special-status wildlife species listed in Table 2 were observed in the mitigation site (Figure 6) and include:

- California tiger salamander;
- California red-legged frog;
- Northern harrier;
- Loggerhead shrike; and
- Burrowing owl.

Two special status species, golden eagle and tricolored blackbird have been observed foraging just outside the boundary of the mitigation site (Figure 6).

An additional seven special-status wildlife species have at least moderate potential occur on the mitigation site and include:

- Swainson's hawk;
- White tailed kite;
- Crotch's bumble bee;
- San Joaquin kit fox;
- American badger; and
- San Joaquin coachwhip.

The presence or potential of the above-mentioned species are briefly discussed below.

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3.2.2.1. California Tiger Salamander

California tiger salamander larvae were observed in SP-18, SP-19 and SP-21 in 2019 (Figure 6). CTS larvae were also observed in SP-16 in 2023 (Figure 6).

3.2.2.2. California Red-Legged Frog

Adult and immature CRLF have utilized various features throughout the mitigation site. CRLF were observed in SP-16 in 2014, SP-19 in 2024, SP-20 in 2023, and W-1[2] in 2023 and 2024

In addition, the mitigation site is within designated critical habitat for CRLF (Figure 9).

3.2.2.3. Golden Eagle

Golden eagles are viewed nearly every year during the winter and early spring season foraging on California ground squirrels and black tailed hares, and other wildlife prey (Figure 6). However, no suitable nesting habitat occurs within the mitigation site.

3.2.2.4. Tricolored Blackbird

Tricolored black birds are consistently observed year after year, foraging within the mitigation site. However, there is currently no nesting habitat within the mitigation site.

3.2.2.5. Northern Harrier

Although nesting has not been documented within the mitigation site, Northern harriers are consistently observed foraging over the stock ponds and annual grasslands within the mitigation site.

3.2.2.6. Loggerhead Shrike

Loggerhead shrikes have been documented foraging in the mitigation site. However, nesting of this species onsite has not been verified.

3.2.2.7. Burrowing Owl

Burrowing owls have been consistently observed within the mitigation site. Typically, individuals are observed after being flushed from burrows within the mitigation site. In particular, burrowing owls have been seen near SP-16 frequently during site visits (Figure 5). Individuals have been observed throughout the year; however, no nesting surveys have occurred.

3.2.2.8. Swainson's Hawk

Although Swainson's hawk has not been observed within the mitigation site, there is suitable foraging habitat present. Additionally, although nesting habitat for this species is absent in the mitigation site, numerous appropriate trees for nesting occur within the adjacent Ranch.

3.2.2.9. White Tailed Kite

Similar to Swainson's hawk, nesting habitat for white tailed kite is absent within the mitigation site; however, suitable foraging is abundant onsite and suitable nesting habitat (trees) occurs within the adjacent Ranch.

[2] This feature was not identified and surveyed until 2023.

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3.2.2.10. Crotch's Bumble Bee

Suitable habitat is abundant onsite for Crotch's bumble bee. Although this species has not been observed onsite, species-specific surveys have not been conducted.

3.2.2.11. San Joaquin Kit Fox

Although this species has not been detected within the mitigation site, no species-specific surveys have been conducted for SJKF. Given that this species is generally nocturnal and highly secretive and it would not be surprising if this species was to be present onsite because suitable habitat is present.

3.2.2.12. American Badger

Although the American badger has not been observed onsite, there are huge populations of California ground squirrels, which are its preferred prey in this area of California. In addition, this species has a fairy large home range and could easily move on to the mitigation site, if it is currently not present.

3.2.2.13. San Joaquin Coachwhip

Although this species has not been observed within the mitigation site, species specific surveys have not been conducted to date. However, the potential for this species to occur is based on the presence of suitable habitat and nearby species presence.

3.2.3. Critical Habitat

Although the mitigation site supports a plethora of special-status species, the mitigation site occurs only within critical habitat for the California red-legged frog (Figure 9).

3.3. Wildlife, Habitat Connectivity, and Conservation Opportunities

The mitigation site and larger Mulqueeney Ranch provide habitat for many common wildlife species (i.e., non-special status), which include amphibians, reptiles, birds, and small to moderate-sized mammals. Generally, the mitigation site is situated in a transitional area between the Great Central Valley and the Coast Range, specifically the Diablo Range. This area is dominated by annual grasslands interspersed with ephemeral and intermittent drainages, some of which support riparian vegetation, seasonal wetlands, and ponds constructed to support cattle grazing. A list of all wildlife species observed on or adjacent to the mitigation site is included as Appendix C.

The mitigation site was evaluated for its overall conservation value under existing conditions by reviewing several datasets within CDFW's Biogeographic Information and Observation System (BIOS; BIOS6 version 6.24.1120). A discussion of the relevant conservation datasets in relation to the mitigation site is provided below.

The mitigation site is situated in area identified by the California Essential Habitat Connectivity Project as being part of a "Natural Landscape Block", which consists of a statewide network of relatively intact blocks of land connected by essential connectivity areas (Spencer et al. 2010). The purpose of the Natural Landscape Block is to focus attention on large areas important to maintaining ecological integrity at the broadest scale (Spencer et al. 2010). The northwestern

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most half of the mitigation site also falls within Mountain House-Brushy Peak Essential Connectivity Area, which joins natural landscape blocks on either side of the Altamont Pass.

CDFW's ACE is an effort to gather spatial data on wildlife, vegetation, and habitats from across California and then combine this information into maps to inform conservation of biodiversity, habitat connectivity, and climate change resiliency (CDFW 2019). The mitigation site is situated in an area identified in the ACE Terrestrial Connectivity dataset as having "Conservation Planning Linkages – Rank 4" and is immediate west of an area ranked as having "Irreplaceable and Essential Corridors – Rank 5".

Other ACE data layers show the mitigation site occurring in an area identified as having a high value (Rank 5) for *Statewide Terrestrial Rare Species Richness* and moderately high value (Rank 4) for *Aquatic Amphibian Irreplaceability*.

Habitat in the area surrounding the mitigation site provide suitable habitat for various special status species. CTS breeding has been documented in ponds located on the nearby conserved Jess Ranch and Haera Conservation Bank (Figure 10). Additionally, in 2019 CTS were observed by WES staff in stock ponds located on the Ranch, within 1 mile of the mitigation site (Figure 6). Additional surveys on these ponds have not been completed since 2019. WES staff have observed CRLF in a seep just north of the mitigation site in 2019 and 2023. This seep is hydrologically connected to the mitigation by one of the ephemeral drainages. Tricolored blackbird and golden eagles have been seen foraging in various locations of the Ranch.

The proposed mitigation site is directly adjacent to the Shell N20 Mitigation Site, which is expected to be approved by USFWS and CDFW in early 2025. The Shell N20 Mitigation Site connects the Jess Ranch, a Contra Costa Water District conservation easement, and Haera Wildlife Conservation Bank. Permanent protection of the mitigation site would increase the amount of conserved habitat and preserving connectivity to the conserved habitat.

The conservation of the mitigation site would contribute to regional conservation efforts by helping maintain and improve wildlife connectivity in the Diablo Range, from north to south, and protect areas deemed of statewide importance for terrestrial and aquatic species.

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APPENDICES

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APPENDIX A

Figures

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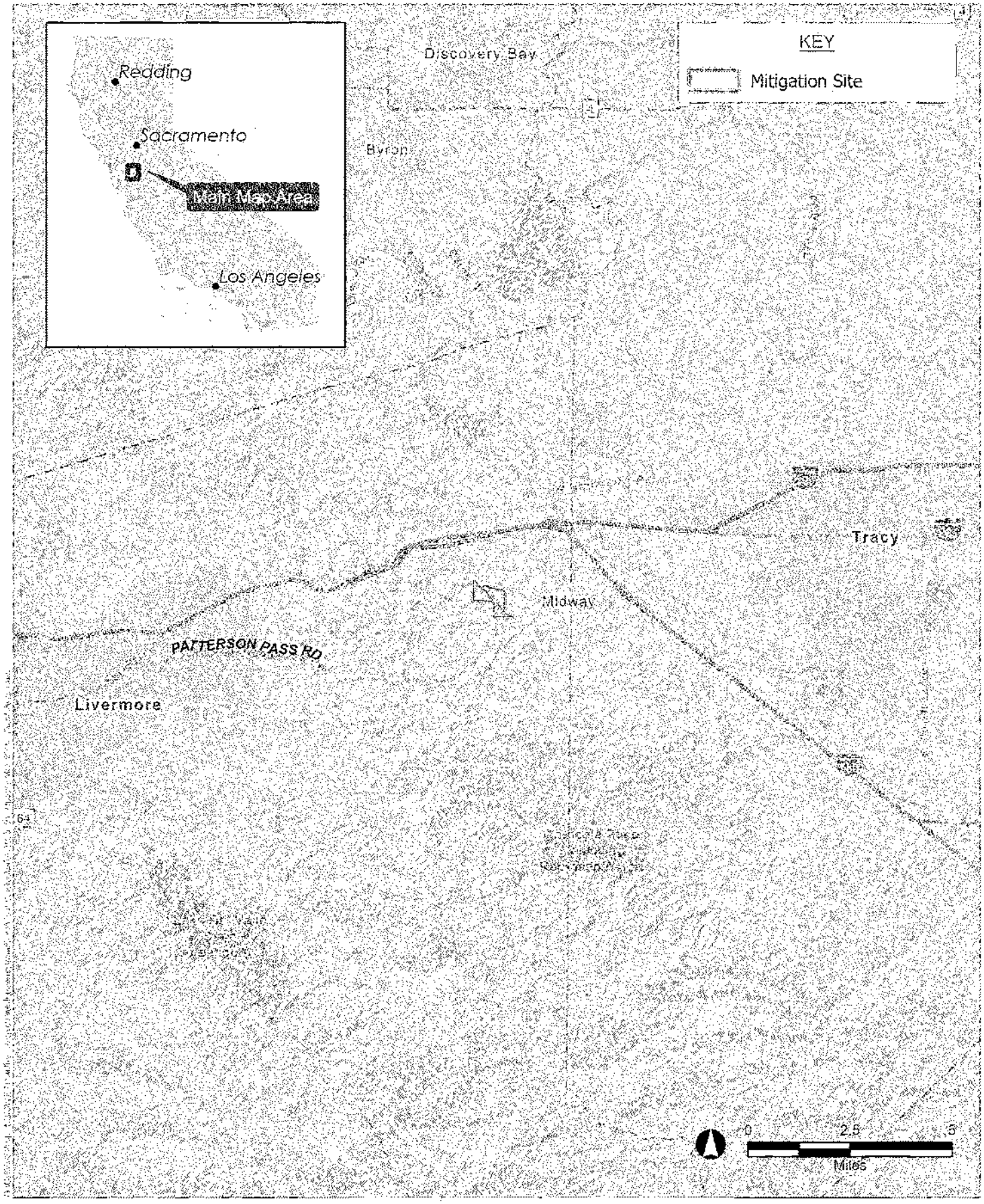

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Figure 1
Vicinity Map
January 16, 2025

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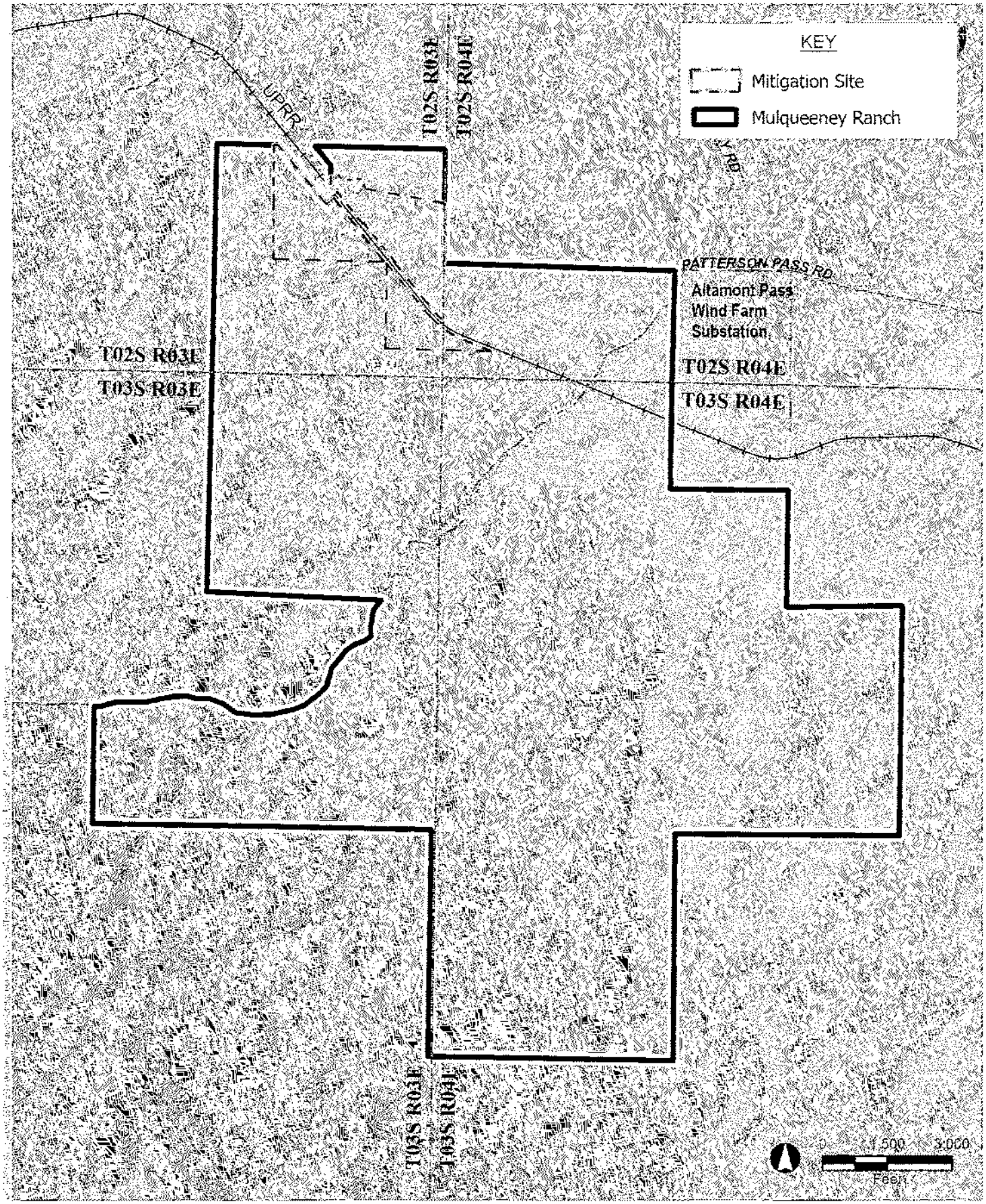

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USGS 7.5' Quadrangle: MIDWAY, 1980

Figure 2
Project Location
January 15, 2025

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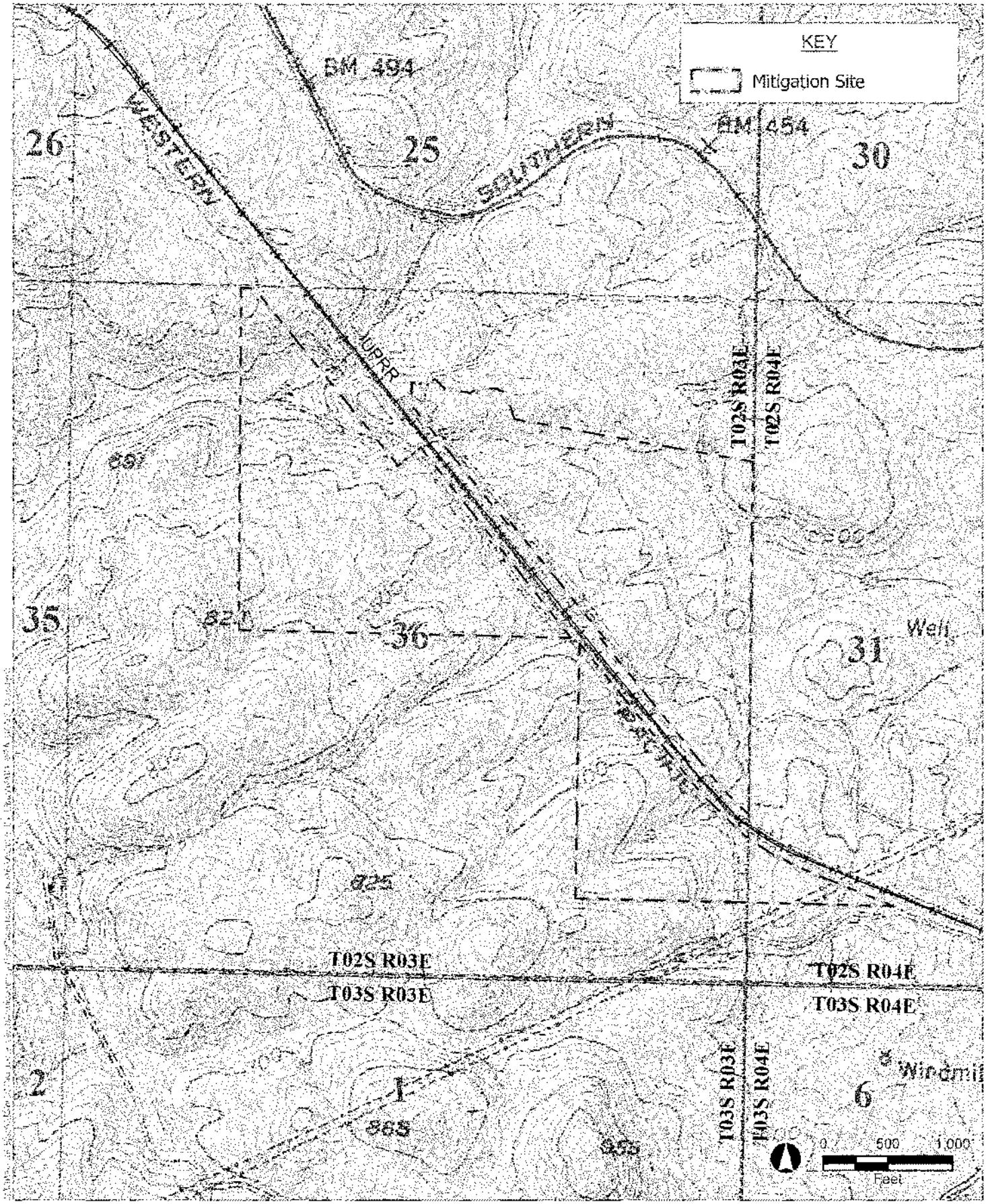

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USGS 7.5' Quadrangle: MIDWAY, 1980

Figure 3
USGS Topographic Quadrangle
January 16, 2025

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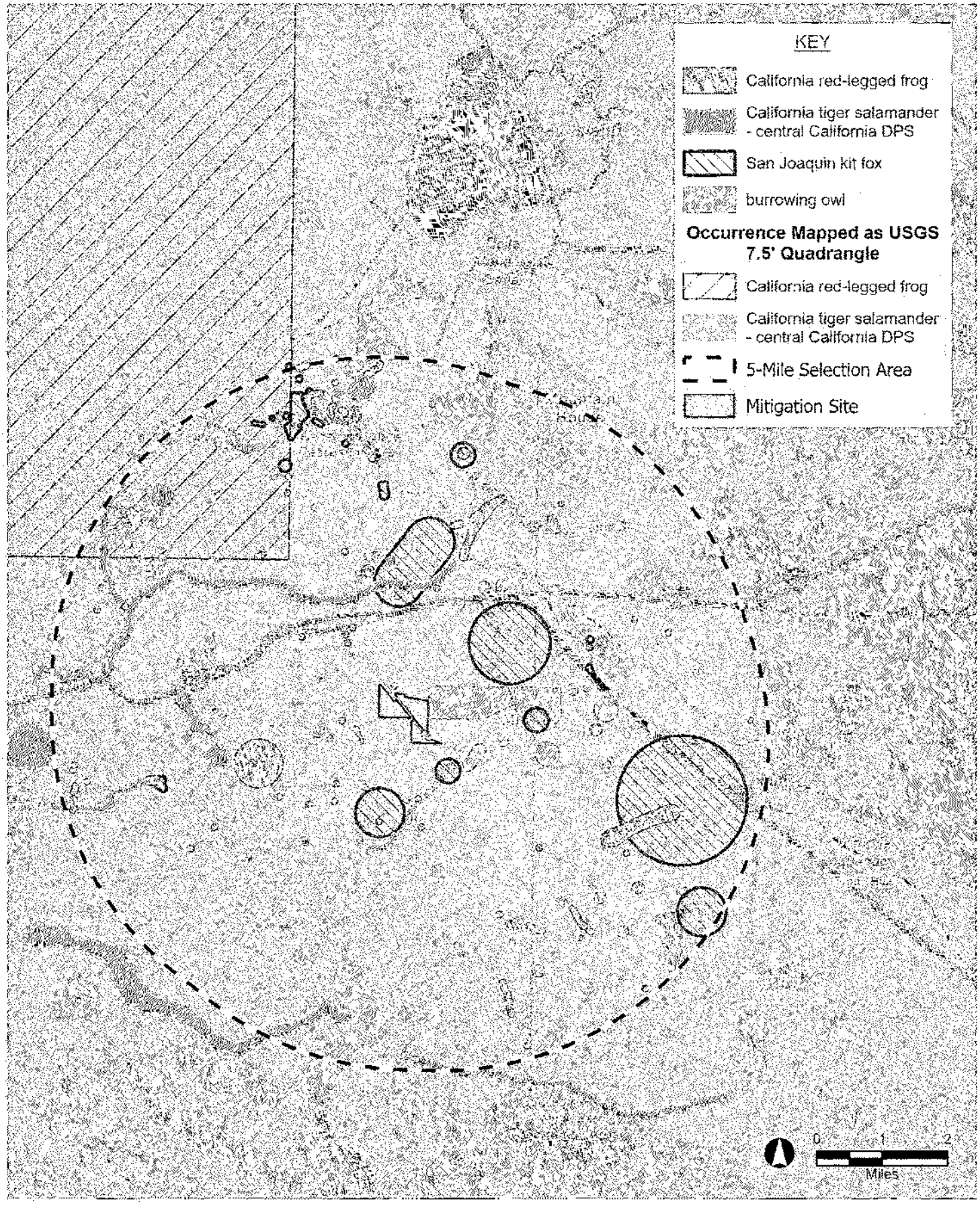

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Source: California Department of Fish and Wildlife, California Natural Diversity Database

Figure 4
CNDDB Occurrences
January 16, 2025

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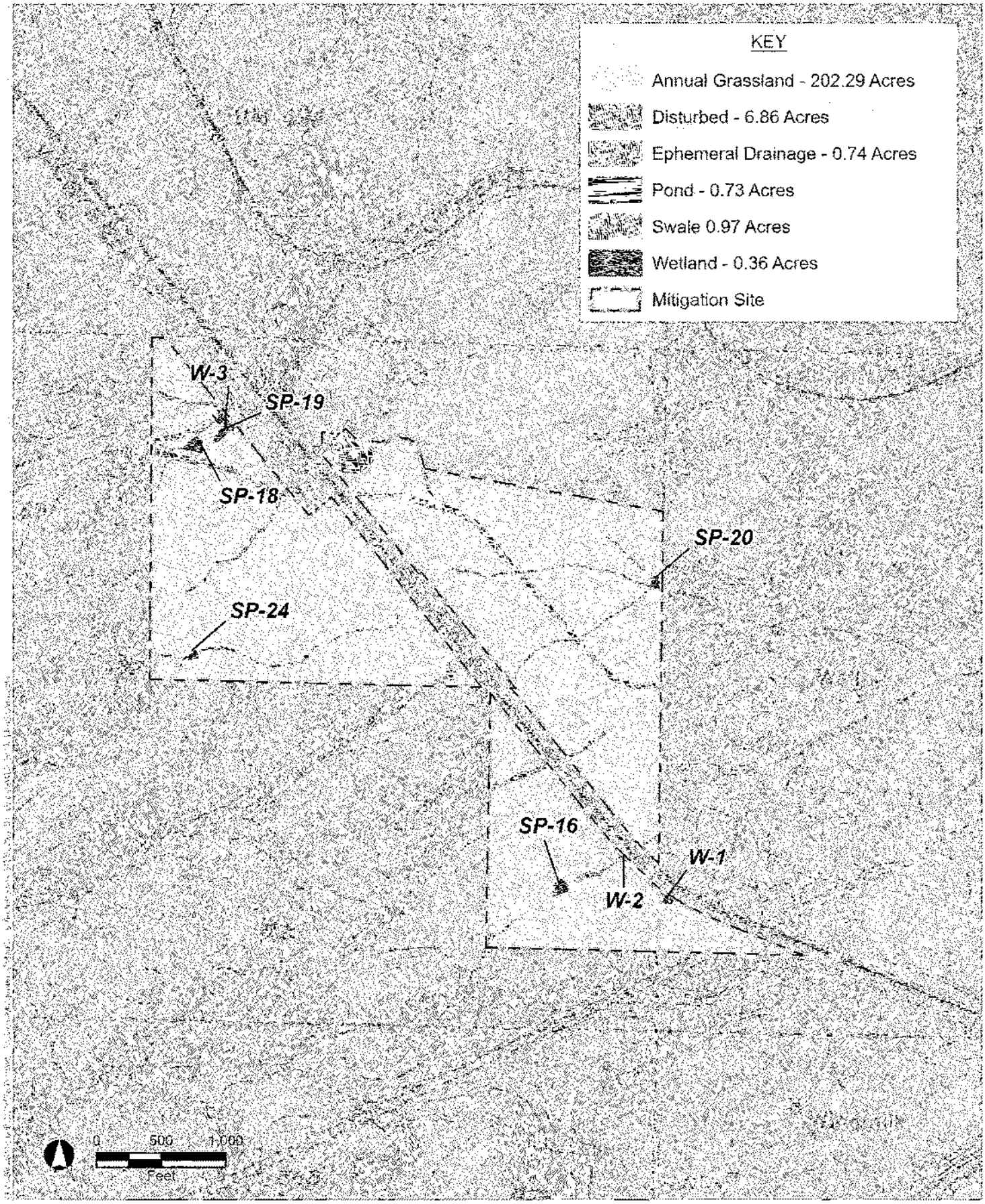

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Figure 5
Landcover
January 16, 2025

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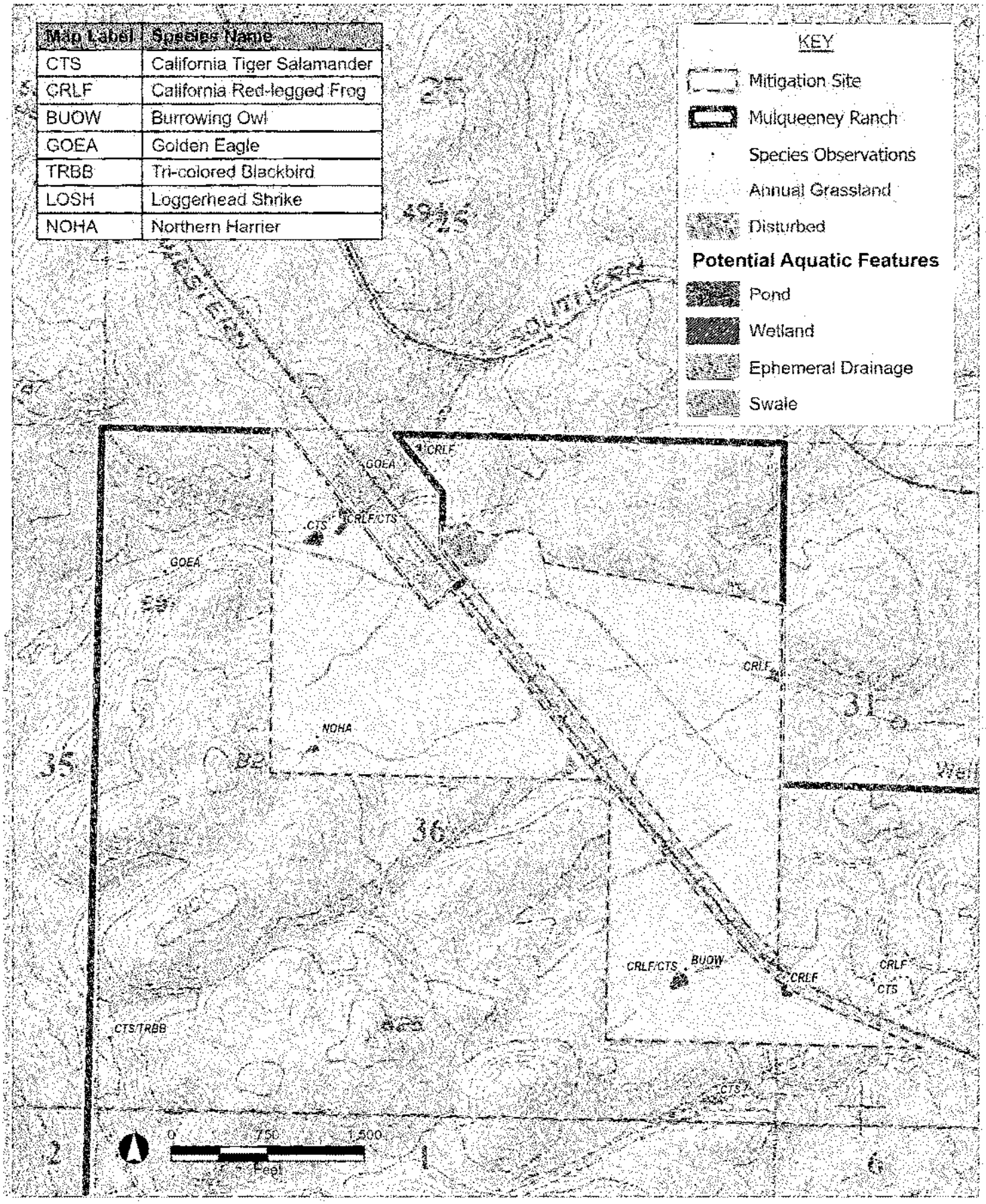

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Figure 6
Biological Resources
January 21, 2025

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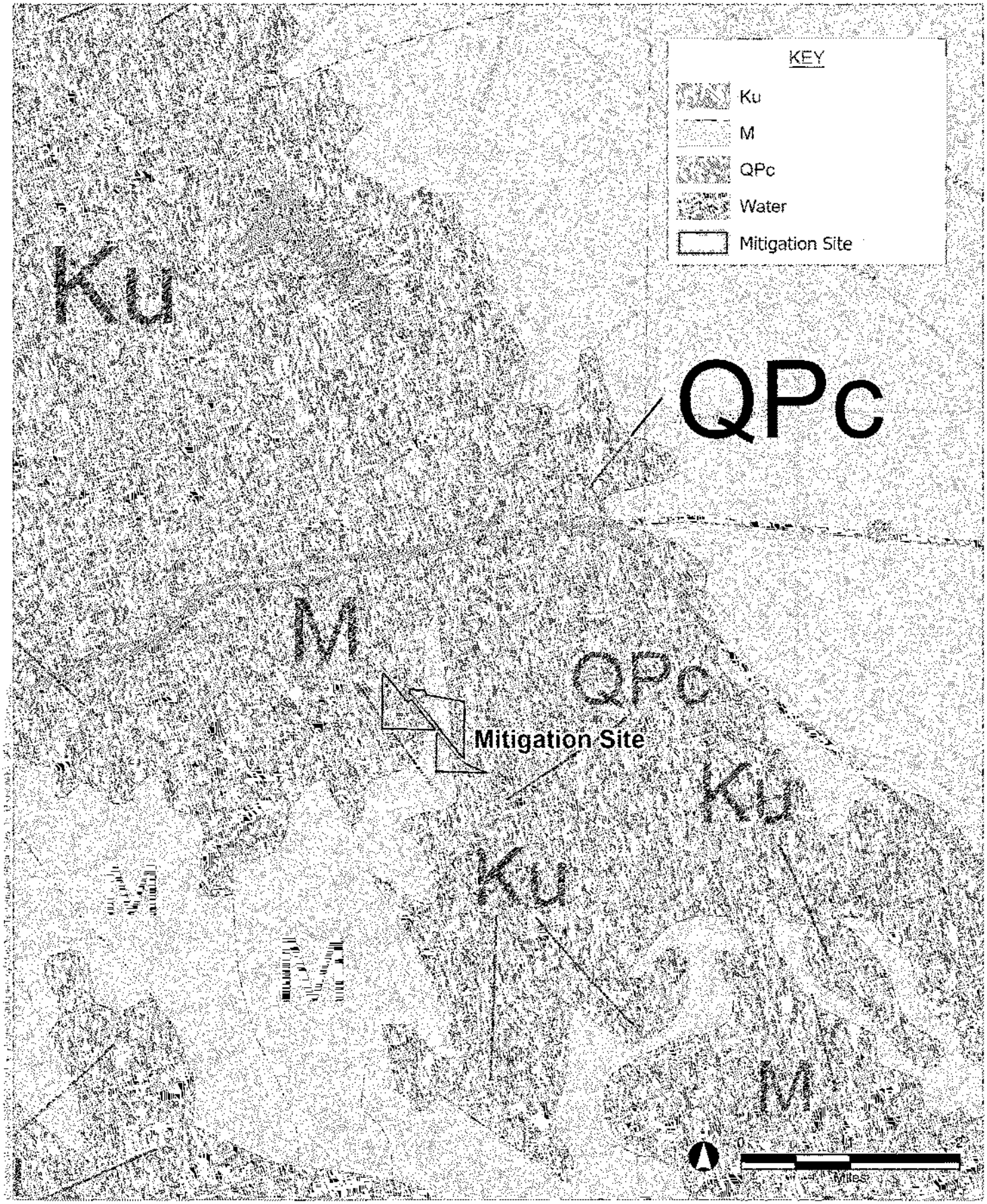

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Figure 7
Geology
January 16, 2025

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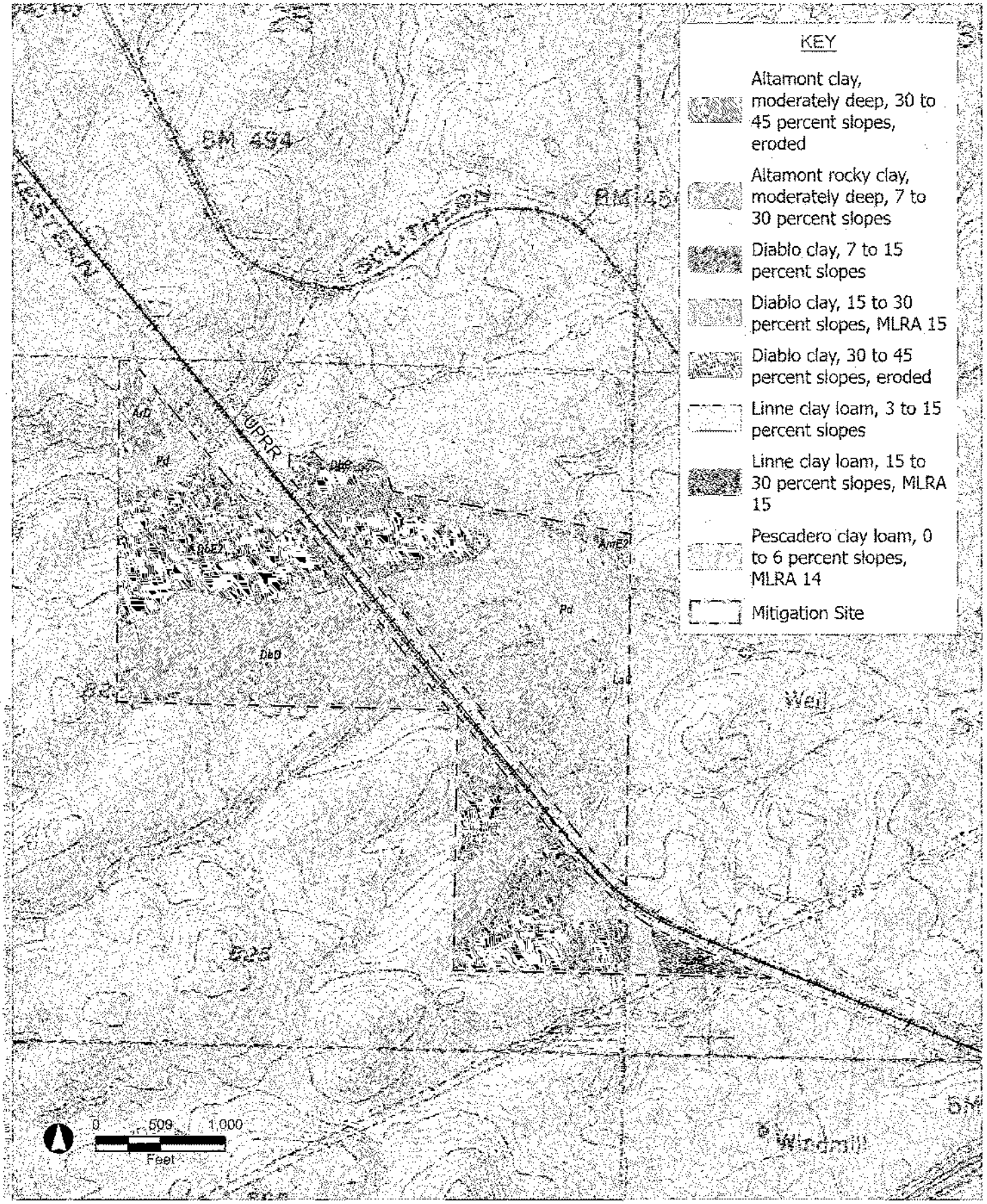

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Figure 8
Soils
January 14, 2025

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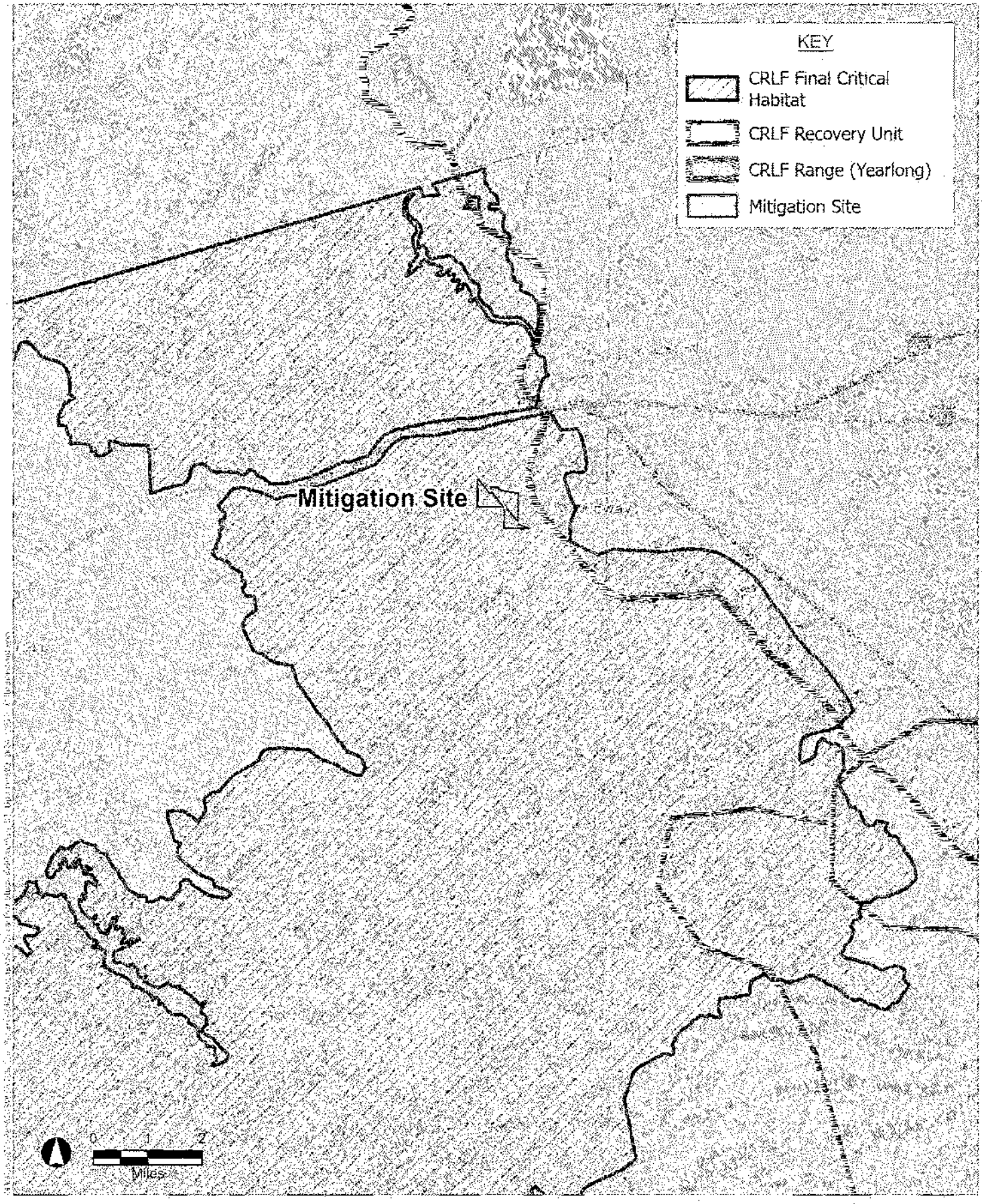

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Source: U.S. Fish and Wildlife Service

Figure 9
CRLF Critical Habitat
January 14, 2025

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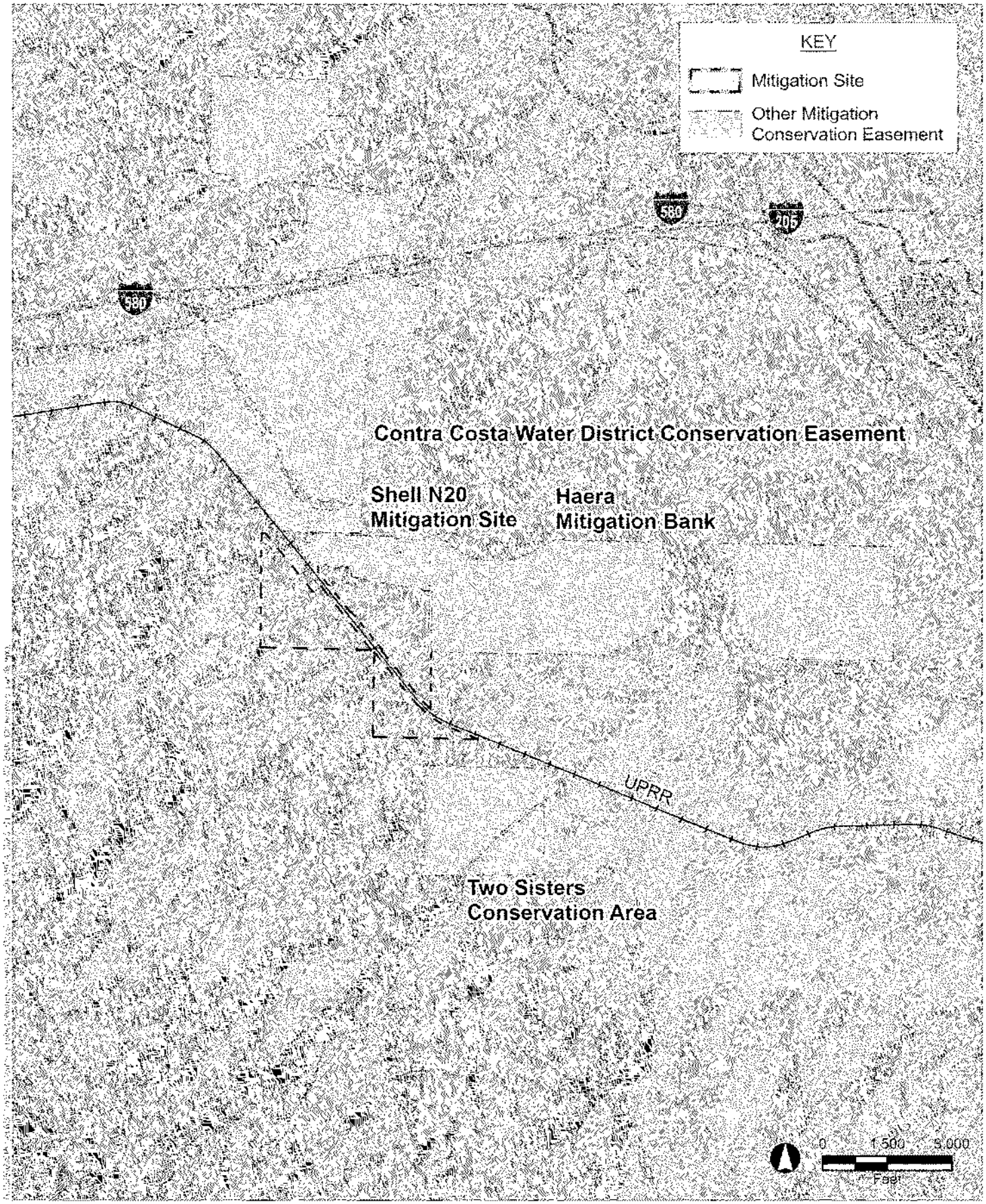

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USGS 7.5' Quadrangle: MIDWAY, 1980

Figure 10
Conservation Easements
January 14, 2025

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APPENDIX B

Plant Species List

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Table 1. Vascular Plant Species Observed at the Mitigation Site

Plant Species Names		Wetland Indicator Status	Cal-IPC Rating	Hal	
Scientific Name	Common Name			Annual Grassland	Stockpond
*Agrostis stolonifera**	Creeping bentgrass, Redtop	FACW	L		X
*Aira caryophyllea**	Silver hairgrass	FACU		X	
Alisma triviale (A. plantago-aquatica)	Northern water plantain	OBL			X
*Amaranthus albus**	Pigweed amaranth	FACU		X	
Amsinckia intermedia	Common fiddleneck	NL		X	
*Anthemis cotula**	Mayweed	FACU		X	
*Avena barbata**	Slender oats	NL	M	X	X
Azolla filiculoides	American water fern, mosquito fern	OBL			X
*Brassica nigra**	Black mustard	NL	M	X	
*Bromus diandrus**	Ripgut brome, Ripgut grass	NL	M	X	X
*Bromus hordeaceus**	Soft brome	FACU	L	X	X
Calandrinia menziesii	Red maids	FACU		X	
Callitriche marginata	California water starwort	OBL			X
*Capsella bursa-pastoris**	Shepard's purse	FACU		X	
Cardamine oligosperma	Few-seeded bitter-cress	FAC		X	
*Carduus pycnocephalus**	Italian thistle	NL	M	X	X
Castilleja densiflora?	Dense flower owl's clover	NL		X	
Castilleja exserta	Purple owl's clover	NL		X	
*Centaurea melitensis**	Tocalote	NL	M		
*Centaurea solstitialis**	Yellow star-thistle	NL	II	X	X
*Cerastium glomeratum**	Mouse-ear chick-weed	UPL		X	
Chara sp.	Stonewort	OBL			X
*Chenopodium album**	Goosefoot	FACU		X	
Chlorogalum angustifolium+	Narrow leaved soaproot	NL		X	
*Cichorium intybus**	Chicory	FACU		X	
*Cirsium vulgare**	Bull thistle	FACU	M	X	X
Clarkia purpurea+	Purple clarkia	NL		X	
*Convolvulus arvensis**	Field bindweed	NL		X	
*Cotula coronopifolia**	Brass buttons	OBL	L		X
Crassula aquatica	Aquatic pygmy weed	OBL			X
Croton setiger	Dove weed	NL		X	X
*Crypsis schoenoides**	Swampgrass, swamp timothy	FACW			X
*Cynodon dactylon**	Bermuda grass	FACU	M	X	X
Cyperus eragrostis	Tall flatsedge, Umbrella-sedge	FACW			X
Deschampsia danthonioides	Annual hairgrass, silverhair grass	FACW			X
Distichlis spicata	Salt grass	FAC		X	
Downingia pulchella	Flatface downingia	OBL			X
*Echinochloa crus-galli**	Watergrass	FACW			X
Eleocharis macrostachya	Common spike rush	OBL			X
*Elymus caput-medusae**	Medusa-head grass	NL	II	X	
Epilobium branchycarpum	Tall annual willow herb	FAC		X	X

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Epilobium ciliatum	Slender willow herb	FACW			X
Erigeron canadensis	Canada horseweed	FACU		X	X
Eriogonum fasciculatum−	California buckwheat	NL		X	
*Erodium botrys**	Broad leaf filaree	FACU		X	
*Erodium cicutarium**	Red-stem filaree	NL	L	X	
*Erodium moschatum**	White stemmed filaree	NL		X	
Erythranthe guttata (*Mimulus guttatus*)	Streamside monkey flower	OBL			X
Eschscholzia californica	California poppy	NL		X	
*Festuca bromoides**	Six-weeks grass	FACU		X	
Festuca microstachya	Small fescue	NL		X	
*Festuca myuros**	Foxtail grass	FACU	M	X	
*Festuca perennis**	Italian ryegrass	FAC	M	X	X
*Geranium dissectum**	Cut leaved geranium	NL	L	X	
Grindelia camporum	Great valley gumweed	FACW			X
Heliotropium curassavicum	Heliotrope	FACU		X	
*Hirschfeldia incana**	Short podded mustard	NL	M	X	X
Hordeum marinum ssp. *gussoneanum**	Mediterranean barley	FAC	M	X	X
Hordeum murinum ssp. *leporinum**	Hare barley	FACU	M	X	
Hydrodictyon sp	Fishnet algae	OBL			X
Juncus balticus	Baltic rush	FACW			X
Juncus bufonius	Toad rush	FACW			X
Juncus xiphioides	Iris leaved rush	OBL			X
*Lactuca serriola**	Prickly wild lettuce	FACU		X	
Lemna minor	Smaller duckweed	OBL			X
Lupinus bicolor	Bicolored lupine	NL		X	
Lupinus pachylobus?	Big pod lupine	NL		X	
Lupinus succulentus	Succulent lupine	NL		X	
Lysimachia arvensis+*	Scarlet pimpernel	FAC		X	X
*Lythrum hyssopifolia**	Hyssop loosestrife	OBL	L		X
*Malva parviflora**	Cheeseweed mallow	NL		X	
Malvella leprosa−	Alkali mallow	FACU		X	
Matricaria discoidea	Pineapple weed	FACU		X	
*Medicago polymorpha**	Bur clover	FACU	L	X	
*Melilotus indicus**	Sourclover	FACU			X
*Mollugo verticillata**	Green carpetweed	FACU		X	
Nasturtium officinale+*	Watercress	OBL			X
*Paspalum dilatatum**	Dallis grass	FAC			X
Plagiobothrys nothofulvus	Rusty haired popcorn flower	FAC		X	
*Plantago lanceolata**	Narrow leaf plantain	FAC		X	X
*Poa annua**	Annual bluegrass	FAC		X	X
*Polygonum aviculare**	Common knotweed	FAC			X
*Polypogon monspeliensis**	Rabbitsfoot grass	FACW	L		X
*Pseudognaphalium luteoalbum**	Jersey cudweed	FAC			X
Ranunculus aquatilis	White water buttercup	OBL			X
*Ranunculus muricatus**	Spinyfruit buttercup	FACW			X
*Raphanus sativus**	Wild radish	NL	L	X	
*Rumex crispus**	Curly dock	FAC	L		X

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Salix sp.	Willow	FACW			X
*Silybum marianum**	Milk thistle	NL	L	X	X
*Spergularia rubra**	Purple sandspurry	FAC			X
Stuckenia pectinata (Potomogeton pectinatus)	Sago pondweed	OBL			X
*Trifolium dubium**	Shamrock	UPL		X	
*Trifolium hirtum**	Rose clover	UPL	L	X	
Triphysaria eriantha+	Butter 'n' eggs	NL		X	
Triteleia hyacinthina+	White brodiaea	FAC		X	
*Typha angustifolia**	Narrowleaf cattail	OBL			X
Urtica dioica	Stinging nettle	FAC			X
Veronica anagallis-aquatica+*	Water speedwell	OBL			X
Veronica peregrina	Neckweed	FAC			X
Vicia sativa	Common vetch	FACU		X	
*Vicia villosa**	Hairy or winter vetch	NL		X	
Xanthium strumarium	Cocklebur	FAC			X

* – non native , + – observed on the Ranch but outside the Mitigation Site

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APPENDIX C

Wildlife Species List

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Table 4. List of Wildlife Observed within the Mitigation Site and Mulqueeney Ranch

Common Name	Scientific Name
Mammals	
Audubon's cottontail	*Sylvilagus audubonii*
Black-tailed jackrabbit	*Lepus californicus*
Botta's pocket gopher	*Thomomys bottae+*
California ground squirrel	*Otospermophilus beecheyi*
Coyote	*Canis latrans*
Gray fox*	*Urocyon cinereoargenteus+*
Raccoon	*Procyon lotor+*
Virginia opossum	*Didelphis virginiana+*
Birds	
American cliff swallow	*Petrochelidon pyrrhonota*
American crow	*Corvus brachyrhynchos*
American kestrel	*Falco sparverius*
American wigeon*	*Mareca americana*
Bald eagle*	*Haliaeetus leucocephalus*
Barn swallow	*Hirundo rustica*
Black phoebe	*Sayornis nigricans*
Brewer's blackbird	*Euphagus cyanocephalus*
Bufflehead	*Bucephala albeola*
Canada goose	*Branta canadensis*
Common starling	*Sturnus vulgaris*
Golden eagle	*Aquila chrysaetos*
Great blue heron	*Ardea herodias*
Great egret	*Ardea alba*
Greater yellowlegs	*Tringa melanoleuca*
Horned lark	*Eremophila alpestris*
Killdeer	*Charadrius vociferus*
Loggerhead shrike	*Lanius ludovicianus*
Mallard	*Anas platyrhynchos*
Mourning dove	*Zenaida macroura*
Northern harrier	*Circus hudsonius*
Northern raven	*Corvus corax*
Red-tailed hawk	*Buteo jamaicensis*
Red-winged blackbird	*Agelaius phoeniceus*
Savannah sparrow	*Passerculus sandwichensis*
Tricolored blackbird	*Agelaius tricolor*
Turkey vulture	*Cathartes aura*
Western burrowing owl	*Athene cunicularia hypugaea*
Western kingbird	*Tyrannus verticalis*
Western meadowlark	*Sturnella neglecta*
Reptiles	
Northern Pacific rattlesnake*	*Crotalus oreganus oreganus*

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Northwestern fence lizard	*Sceloporus occidentalis occidentalis*
Amphibians	
California red-legged frog	*Rana draytonii*
California tiger salamander	*Ambystoma californiense*
California toad	*Anaxyrus boreas halophilus*
Sierran treefrog	*Pseudacris sierra*

+ = sign (tracks, burrows, etc.)

* = Observed outside of Mitigation Site

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APPENDIX D

Representative Photographs

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Photo 1 (S): Stock pond where BUOW are present in adjacent burrows located in the mitigation site.

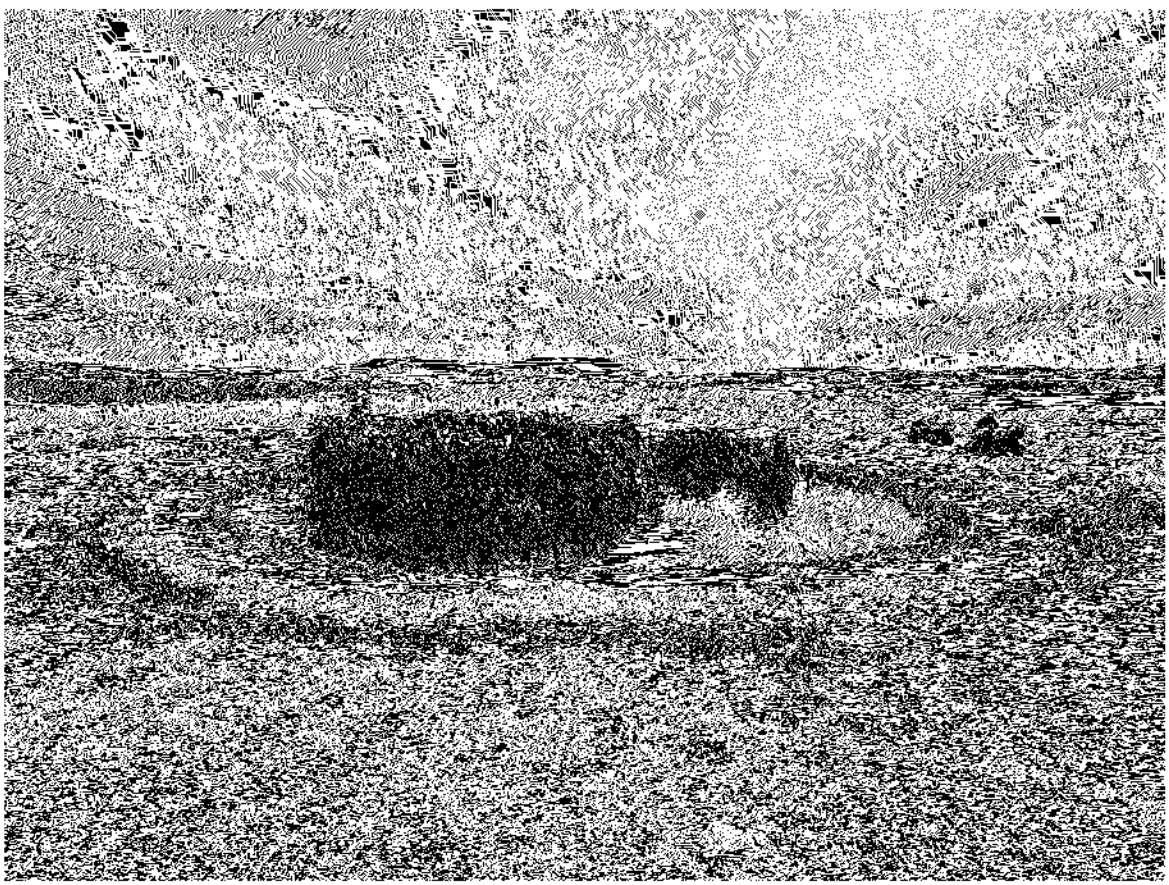

Photo 2 (W): Stock pond within the mitigation site where CTS larvae and adult CRLF have been observed.

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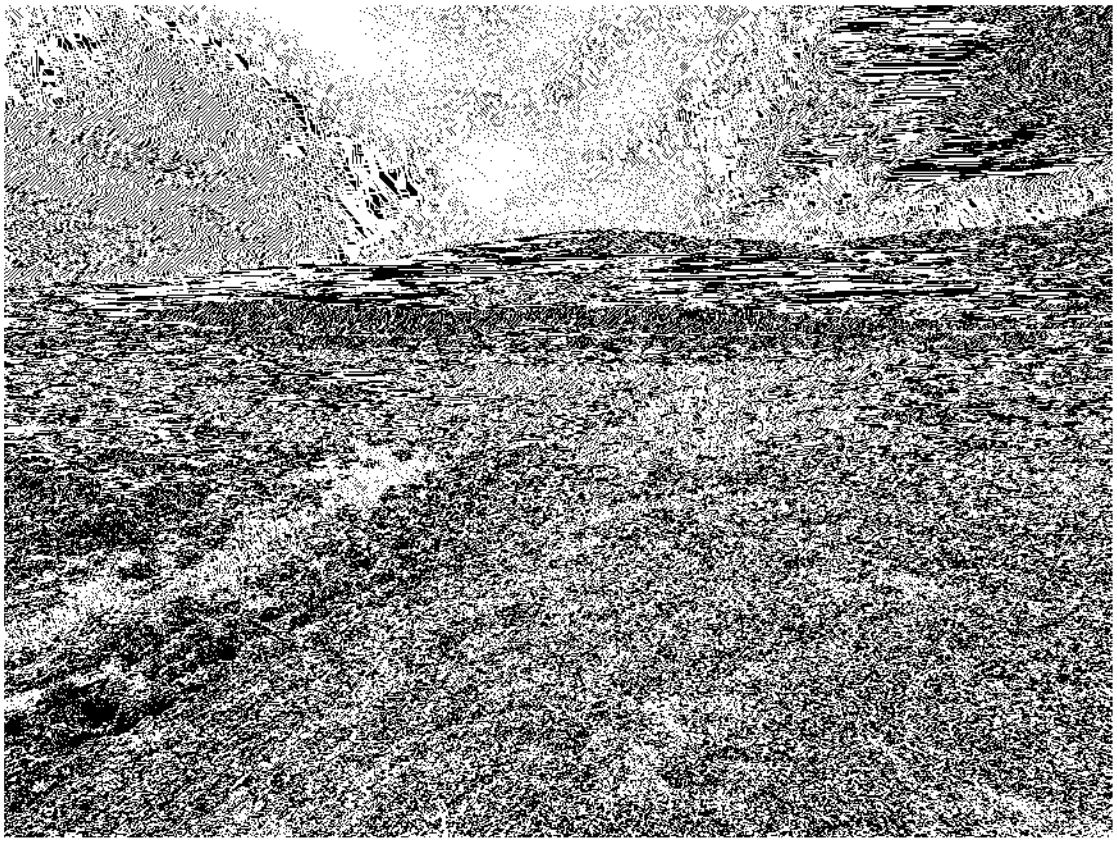

Photo 3 (N): Drainage in the mitigation area.

Photo 4: CRLF found in a stock pond in the mitigation site.

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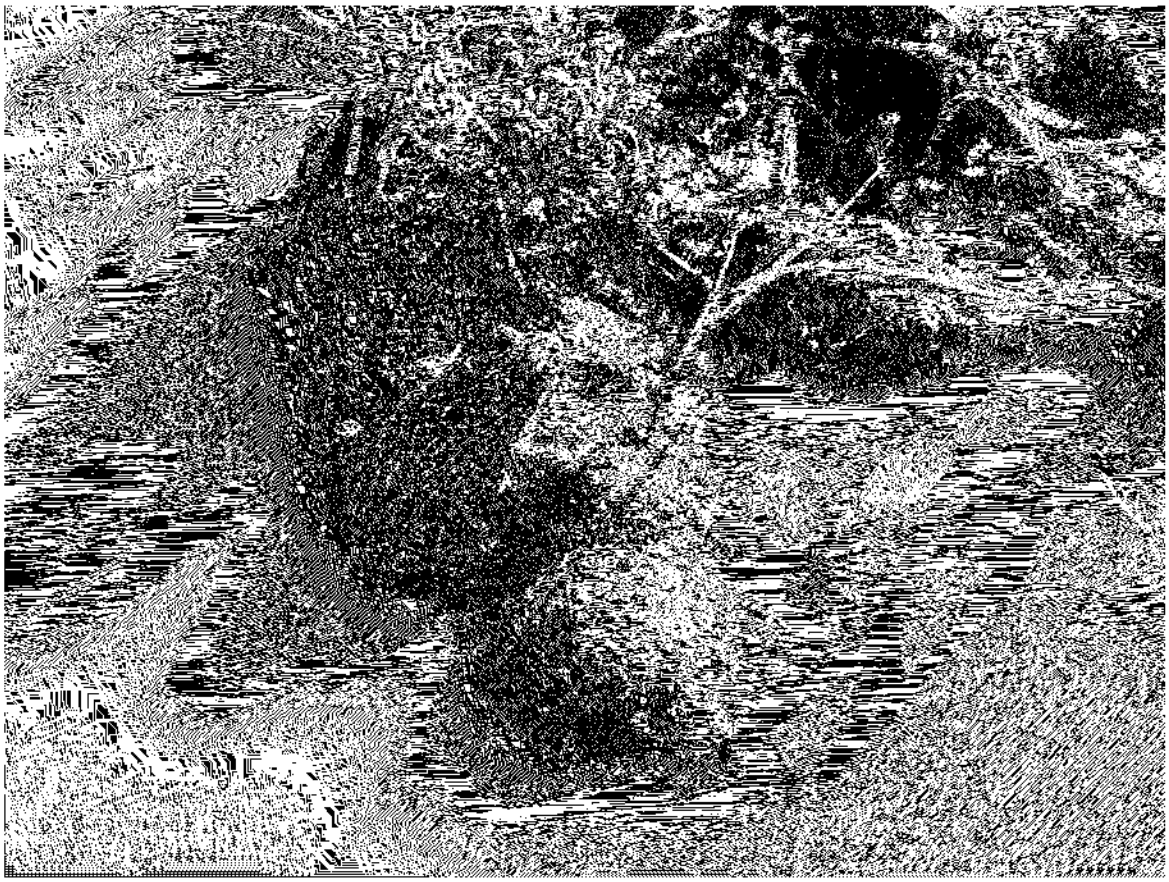

Photo 5: CRLF found in drainage in the mitigation site.

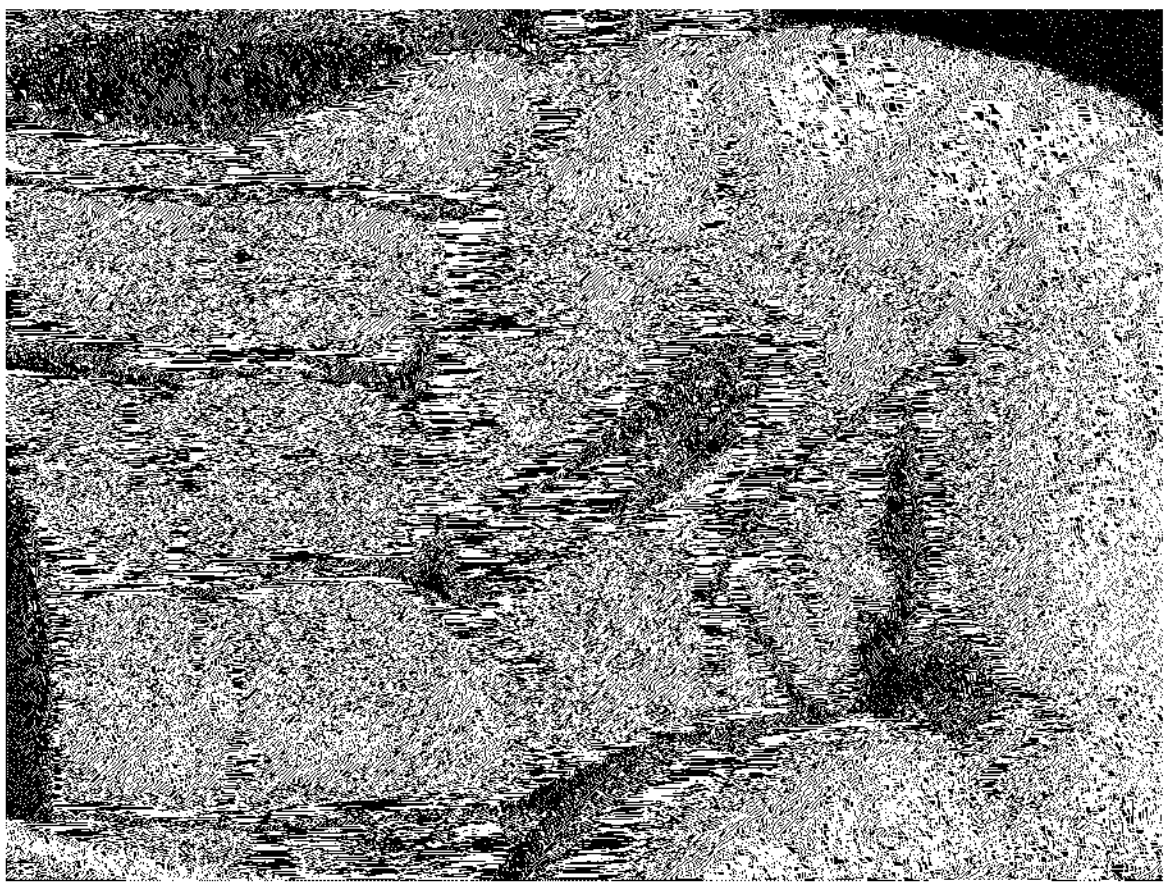

Photo Point 6: CTS larvae detected during aquatic surveys in the mitigation site.

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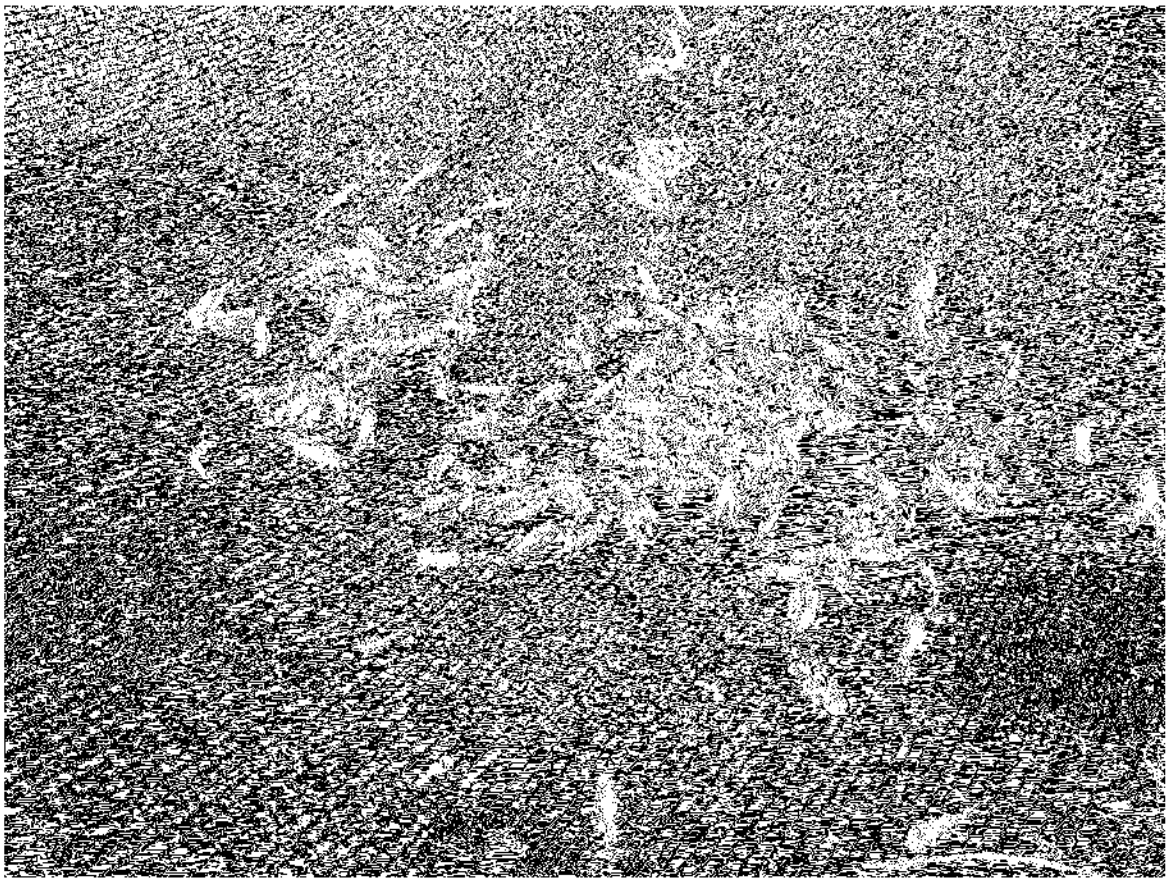

Photo Point 7: CTS larvae detected during aquatic surveys in the mitigation site.

Photo Point 8: Bald Eagle (*Haliaeetus leucocephalus)* observed in the mitigation site.

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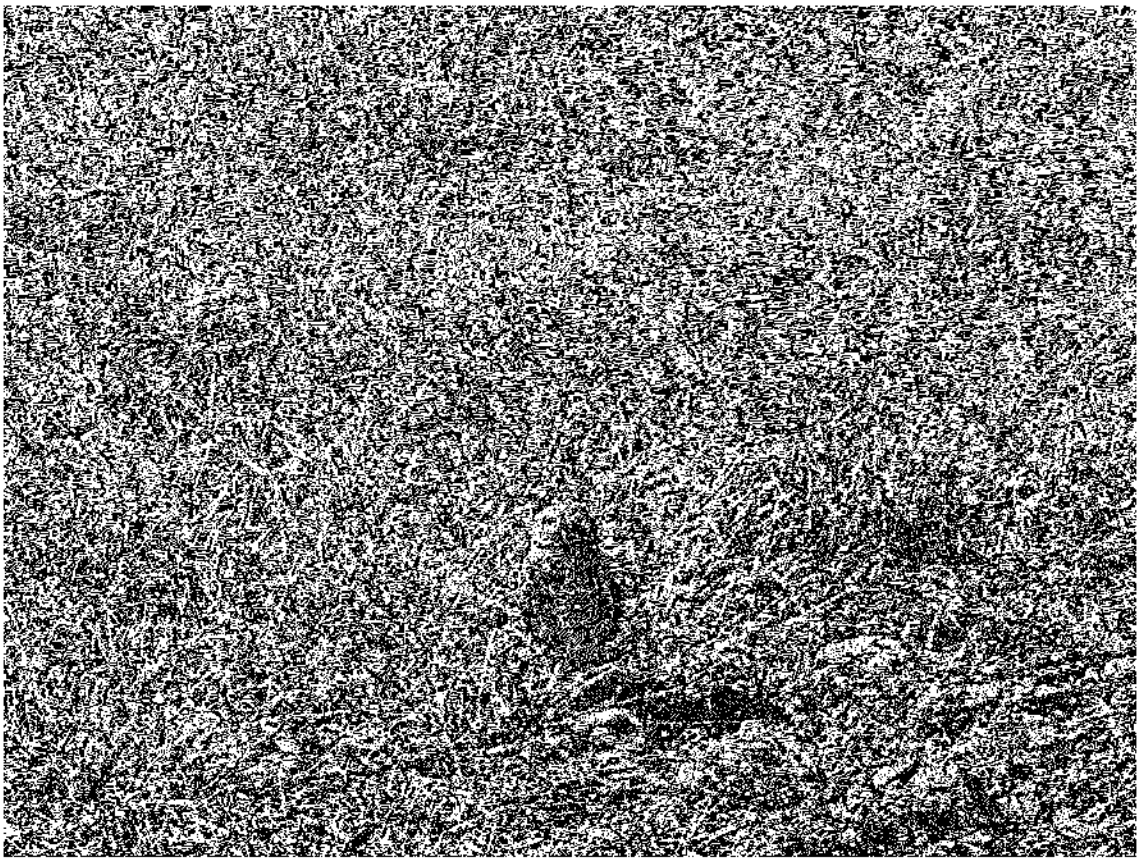

Photo Point 9: Burrowing Owl (*Athene cunicularia)* observed in the mitigation site.

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Westervelt
ECOLOGICAL SERVICES

REGIONAL LOCATIONS

Rocky Mountain Region

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T: (850) 661-4292

TENNESSEE
220 Bridge Street
Franklin Tennessee 37064
T: (615) 807-2194

Western Region

3636 American River Drive Suite 120
Sacramento California 95864
T: (916) 646-3644

Message

From: Beeler, Heather [Heather_Beeler@fws.gov]
Sent: 6/17/2025 6:45:58 PM
To: Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]
CC: Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Blinn, Brenda@Wildlife [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=35d13e8c62424b8a96837fec8ad35259-1dc2fa29-35]; Sinclair, Crystal@Wildlife [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bbf6367d6e8e43139c891b332054ee8b-9ba716bc-ec]; Giblin, Bridget E [bridget_giblin@fws.gov]
Subject: FW: Potentia-Viridi BESS Biol Resources Response -my comments on 1 or 4 and 2 of 4
Attachments: TN264163_20250610T101112_CEC Data Request #2 - Biological Resources Response Part 2 of 4 HB.pdf

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Resending this one too, files were too big.

Heather Beeler
Eagle Permit Coordinator
Migratory Bird Program, R8
U.S. Fish and Wildlife Service
Cell: 775-508-9754

From: Beeler, Heather
Sent: Tuesday, June 17, 2025 11:14 AM
To: Field @EnergyVeterans.org <field@energyveterans.org>; Blinn, Brenda@Wildlife <brenda.blinn@wildlife.ca.gov>; Sinclair, Crystal@Wildlife <crystal.sinclair@wildlife.ca.gov>; Giblin, Bridget E <bridget_giblin@fws.gov>
Cc: Crisp, Ann@Energy <ann.crisp@energy.ca.gov>
Subject: Potentia-Viridi BESS Biol Resources Response -my comments on 1 or 4 and 2 of 4

Hi Julie,
Attached are my comments mostly on eagles and the Eagle Act. Please let me know if you or the project representatives have any questions.
Thanks,
Heather

Heather Beeler
Eagle Permit Coordinator
Migratory Bird Program, R8
U.S. Fish and Wildlife Service
Cell: 775-508-9754

From: Field @EnergyVeterans.org <field@energyveterans.org>
Sent: Tuesday, June 10, 2025 2:19 PM
To: Beeler, Heather <Heather_Beeler@fws.gov>; Blinn, Brenda@Wildlife <brenda.blinn@wildlife.ca.gov>; Sinclair, Crystal@Wildlife <crystal.sinclair@wildlife.ca.gov>; Giblin, Bridget E <bridget_giblin@fws.gov>
Cc: Crisp, Ann@Energy <ann.crisp@energy.ca.gov>
Subject: RE: Midway Pair FW: [EXTERNAL] RE: Potentia-Viridi BESS (24-OPT-04)

Thanks so much Heather!

Julie

From: Beeler, Heather <Heather_Beeler@fws.gov>
Sent: Tuesday, June 10, 2025 1:45 PM
To: Blinn, Brenda@Wildlife <brenda.blinn@wildlife.ca.gov>; Sinclair, Crystal@Wildlife <crystal.sinclair@wildlife.ca.gov>; Giblin, Bridget E <bridget_giblin@fws.gov>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <ann.crisp@energy.ca.gov>
Subject: FW: Midway Pair FW: [EXTERNAL] RE: Potentia-Viridi BESS (24-OPT-04)

Hi all,
I don't know why I didn't include CDFW at the same time. Now everyone has record of what I shared and know.
Thanks,
Heather

Heather Beeler
Eagle Permit Coordinator
Migratory Bird Program, R8
U.S. Fish and Wildlife Service
Cell: 775-508-9754

From: Beeler, Heather
Sent: Tuesday, June 10, 2025 1:42 PM
To: Crisp, Ann@Energy <ann.crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: FW: Midway Pair FW: [EXTERNAL] RE: Potentia-Viridi BESS (24-OPT-04)

FYI, let me know if you have questions.

Heather Beeler
Eagle Permit Coordinator
Migratory Bird Program, R8
U.S. Fish and Wildlife Service
Cell: 775-508-9754

From: Beeler, Heather
Sent: Monday, April 14, 2025 3:54 PM
To: Laura Burris <lburris@dudek.com>
Subject: FW: Midway Pair FW: [EXTERNAL] RE: Potentia-Viridi BESS (24-OPT-04)

Hi Laura,
It was nice talking to you. Here's the information I got from Patrick Kolar at the USGS regarding eagle breeding territorial pairs and nests within your project area.
Let me know if you want to discuss further. I haven't taken a closer look at the Jess Ranch pair in relation to your project just yet. Again, a lot of the boundary of nest buffers will depend on the final design and size of the project likely.
Regarding implementing nest buffers within one mile of a project, here are the Service's recommendations. https://www.fws.gov/library-collection/eagle-nest-buffers-california-and-nevada Eagle incidental take permits are available should take be unavoidable. More information is available here: https://www.fws.gov/program/eagle-management
If you follow this link from the Eagle Management webpage for eagle incidental disturb and nest take permits (https://www.fws.gov/program/eagle-management/eagle-incidental-disturbance-and-nest-take-permits) there's an important thing to be aware of. Our updated regulations set up a process for General Permits and Specific Permits. For golden eagles' disturbance or nest take Specific Permits are the only option due to their population status. There are General Permits (do it yourself online) available for many bald eagle activities, some low risk wind projects and for

electric utilities. I thought I'd highlight some of that because if you just scroll through the web pages you might get lost and confused otherwise.

I'm not personally sure yet what risk may or may not be for this project. I appreciate you reaching out.
Thanks,
Heather

Heather Beeler
Eagle Permit Coordinator
Migratory Bird Program, R8
U.S. Fish and Wildlife Service
Cell: 775-508-9754

The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.

The U.S. Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, Native Hawaiians, and affiliated Island Communities.

From: Kolar, Patrick S <pkolar@usgs.gov>
Sent: Friday, March 28, 2025 7:34 AM
To: Beeler, Heather <Heather_Beeler@fws.gov>
Cc: Wiens, David <jwiens@usgs.gov>
Subject: Re: Midway Pair FW: [EXTERNAL] RE: Potentia-Viridi BESS (24-OPT-04)

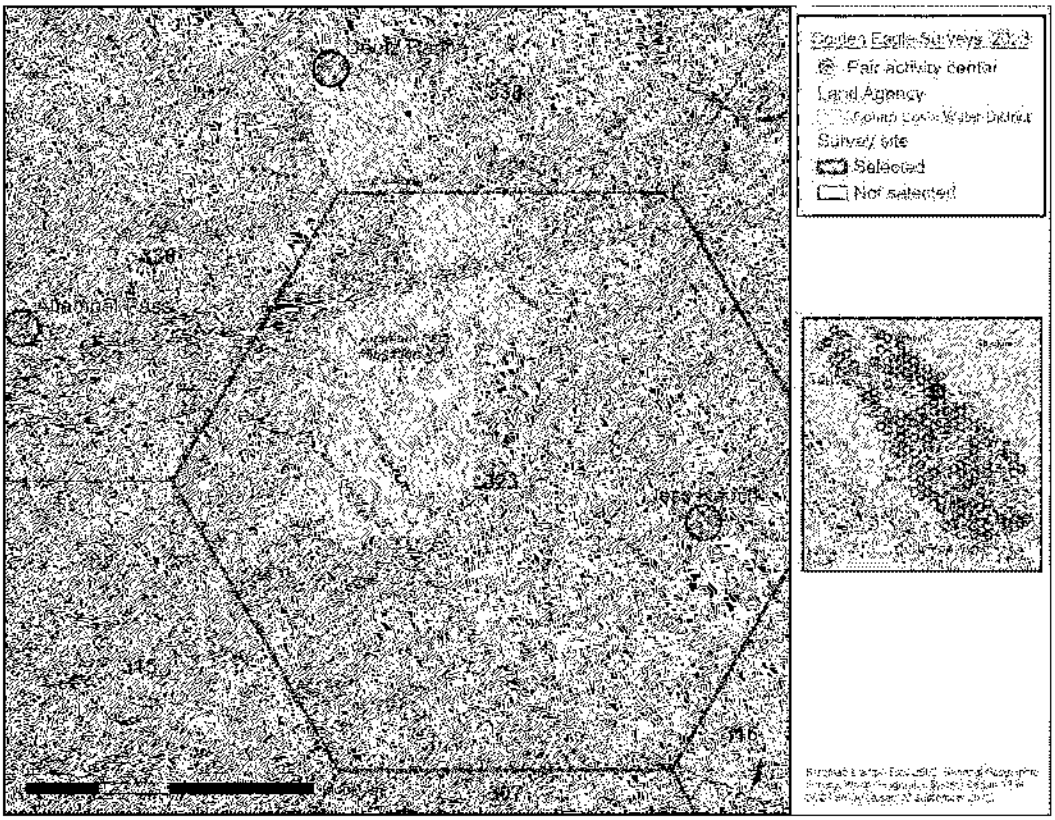
Hi Heather,

I looked up the project on CEC quick and found a description with figures of the location. The Midway Road pair has been using their only known nest about 2.13 km (1.3 mi) SW of the proposed project. We have reported on this pair and their nest in the most recent report comparing golden eagles in the APRWA and broader Diablo Range (see Appendix in Wiens and Kolar 2021, attached).

There is actually second pair nearby to the north of the project that I've seen sporadically that I call Jess Ranch. This area seemed to be used by the Midway Road pair during the early years of our study, but that pair later moved closer toward their current nest. During 2023, I confirmed this second Jess Ranch territory was occupied as well when I saw an adult and subadult attempting to build a nest in a transmission tower near 121.5743034°W 37.7231579°N, 0.96 km (0.59 mi) N of the project. I did not see the pair during 2024 and might have seen them once so far this year. They didn't make it very far in building that nest and I have not included it as an "official" nest location in our database. I've included a short description and figure of my observations in this area during 2023 (see below and attached) as part of our access permit report to Contra Costa Water District, which owns a mitigation parcel nearby.

Altamont Pass Mitigation Area (Deetz Ranch and Altamont Pass territories)
In 2023 we detected three territorial pairs of golden eagles and multiple non-territorial individuals of different age classes perching and hunting on the CCWD Altamont Pass Mitigation Area. The Midway Road pair overlapped with the southern portion of this area during previous surveys, but during 2023 most of their activity was further south in focal site 307. We observed the Altamont Pass pair hunting near the western boundary of the mitigation lands, but most of their activity was in site 330 where they were building or refurbishing a nest on privately-owned land (Fig. 3). The Deetz Ranch pair, again consisting of an adult pair in which one appeared to have a backpack transmitter, overlapped with the northern portion of the mitigation area and adjacent private lands outside our focal survey area in site 338 (Fig. 3). After observing these adult

pairs in the surrounding lands, we identified an additional pair consisting of an adult male and subadult female copulating on the mitigation lands in site 323. This new pair, Jess Ranch, appeared to be occupying an area that was previously part of the Midway Road territory from 2014-2019. In late January, this new Jess Ranch pair began building a nest in a transmission tower 1.59 km (0.95 miles) from the southeastern boundary of the mitigation boundary, but it was quickly blown out by strong wind and did not appear to be constructed again. We found no sign of nesting by this pair elsewhere or by any others in the area during the remaining portion of the season.



Hope this helps,
Patrick

--

Patrick Kolar, M.S.
Wildlife Biologist
Forest & Rangeland Ecosystem Science Center
Diablo Range Study Area, CA
Phone: (406) 581-8706
Email: pkolar@usgs.gov

From: Beeler, Heather <Heather_Beeler@fws.gov>
Sent: Thursday, March 27, 2025 5:13 PM
To: Kolar, Patrick S <pkolar@usgs.gov>
Subject: Midway Pair FW: [EXTERNAL] RE: Potentia-Viridi BESS (24-OPT-04)

Hi Patrick,
Whenever you have time, I'd like to pick your brain or you can maybe send me an email summarizing what we currently know about the midway pair. If there's a more recent report, you could just point me to that too. There's a CEC evaluation of a Battery Storage Project within about a mile of one of their nest locations. I'm providing technical assistance. I'm off work tomorrow, fyi.

Thanks,
Heather

Heather Beeler
Eagle Permit Coordinator
Migratory Bird Program, R8
U.S. Fish and Wildlife Service
Cell: 775-508-9754

From: Field @EnergyVeterans.org <field@energyveterans.org>
Sent: Thursday, March 27, 2025 2:27 PM
To: Beeler, Heather <Heather_Beeler@fws.gov>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Blinn, Brenda@Wildlife <Brenda.Blinn@wildlife.ca.gov>
Subject: [EXTERNAL] RE: Potentia-Viridi BESS (24-OPT-04)

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Hi again,
I see occurrences 323 and 324 on CNDDB – please let me know if one of those are the midway pair or if there is another location.
Thanks again, Julie

From: Field @EnergyVeterans.org
Sent: Thursday, March 27, 2025 2:17 PM
To: heather_beeler@fws.gov
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Blinn, Brenda@Wildlife <Brenda.Blinn@wildlife.ca.gov>
Subject: Potentia-Viridi BESS (24-OPT-04)

Hi Heather,
Just following up on the midway pair you mentioned located near the Potentia-Viridi project in Alameda County – the applicant did not include the pair – do you have more information you can share with me as to occurrence number or location? I am not seeing it on CNDDB so want to make sure we address it especially if it is within a mile of the project area.

Thanks, Julie

Julie Myrah
Senior Biologist
Cell: (209) 747-7994

DOCKETED	
Docket Number:	24-OPT-04
Project Title:	Potentia-Viridi Battery Energy Storage System
TN #:	264163
Document Title:	CEC Data Request #2 - Biological Resources Response Part 2 of 4
Description:	This document responds to the CEC's 4/7/25 second deficiency request as it relates to Biological Resources. This is part 2 of 4.
Filer:	Ronelle Candia
Organization:	Dudek
Submitter Role:	Applicant Consultant
Submission Date:	6/10/2025 10:11:42 AM
Docketed Date:	6/10/2025

Attachment 3

Biological Technical Report

Biological Technical Report

Potentia-Viridi Battery Energy Storage System Project

JANUARY 2025 – REVISED MAY 2025

Prepared for:

LEVY ALAMEDA LLC
c/o Capstone Infrastructure Corporation
155 Wellington Street West, Suite 2930
Toronto, Ontario M5V 3H1, Canada
Contact: Lauren McLeod

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AMM	avoidance and minimization measure
BA	biological assessment
BESS	Battery Energy Storage System
BGEPA	Bald and Golden Eagle Protection Act
BO	biological opinion
BTR	Biological Technical Report
CDFW	California Department of Fish and Wildlife
CEHC	California Essential Habitat Connectivity
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRLF	California red-legged frog
CRPR	California Rare Plant Rank
CWA	Clean Water Act
CZ	Conservation Zone
DCH	Designated Critical Habitat
DPS	distinct population segment
EACCS	East Alameda County Conservation Strategy
ECAP	East County Area Plan
ECOS	Environmental Conservation Online System
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
ESA	Environmentally sensitive area
FESA	Federal Endangered Species Act
FGC	California Fish and Game Code
HCP	habitat conservation plan
IPaC	Information for Planning and Consultation
ITP	Incidental Take Permit
JD	Jurisdictional Determination
LSAA	Lake and Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
MMRP	Mitigation Monitoring and Reporting Program
NOAA	National Oceanic and Atmospheric Administration
NWI	National Wetlands Inventory
NWP	Nationwide Permit
OHWM	ordinary high water mark
PBO	Programmatic Biological Opinion

Acronym/Abbreviation	Definition
PCE	primary constituent elements
PFMC	Pacific Fishery Management Council
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SP	Standard Permit
SSC	Species of Special Concern
SWANCC	Solid Waste Agency of Northern Cook County
SWHA	Swainson's hawk
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WEAP	Worker Environmental Awareness Program

POVI 0002543

Executive Summary

This Biological Technical Report (BTR) was prepared for Levy Alameda LLC for the proposed Potentia-Viridi Battery Energy Storage System (BESS) Project (Project). This BTR describes the existing conditions, regulatory setting, existing biological resources within the Project Study Area (PSA), and preliminary assessment of Project impacts.

The PSA is in eastern Alameda County, California. The PSA consists of the BESS facility and a generation tie (gen-tie) alignment to the southeast connecting the facility to the adjacent Pacific Gas & Electric (PG&E) Tesla Substation. The PSA 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 Run (a seasonal stream channel). The lands comprising the PSA have been used for cattle grazing in the past, however, the only lands within the PSA currently being grazed are those along the gen-tie alignment between Patterson Pass Road and the western boundary of the PG&E Tesla Substation property. The nearest city is Tracy, approximately 2.5 miles to the east.

Federal, state, and local regulations or policies applicable to the Project include the following:

- Federal
  - Clean Water Act, Sections 404 and 401
  - Federal Endangered Species Act (FESA)
  - Migratory Bird Treaty Act (MBTA)
  - Bald and Golden Eagle Protection Act (BGEPA)
- State
  - Porter-Cologne Water Quality Control Act
  - California Endangered Species Act (CESA)
  - California Fish and Game Code (FGC)
  - California Environmental Quality Act (CEQA)
- Local
  - East Alameda County Conservation Strategy (EACCS)
  - Alameda County General Plan
- Alameda County Code of Ordinances

As part of the BTR, Dudek biologists conducted an updated desktop literature review and database search to identify potentially present special-status biological resources within the PSA and to supplement the Biological Constraints Analysis (Dudek 2023a) and update the September 2023 Biological Technical Report (Dudek 2023b). Dudek qualified biologists also conducted a series of biological field surveys in 2023 and 2024 to evaluate the PSA for special-status species and habitat. Surveys were conducted on March 31, May 16, and August 2 of 2023, January 18, April 12, May 24, and June 17, 2024. These surveys included reconnaissance-level biological field surveys, focused rare plant surveys, burrow mapping, protocol-level burrowing owl surveys, bumble bee habitat mapping, a California red-legged frog habitat assessment, California tiger salamander habitat assessment, and an aquatic resources delineation. The purpose of these surveys was to identify and characterize resources within the

PSA, with particular focus on the potential for occurrence of special-status plant and wildlife species and other sensitive resources.

There was only one vegetation community mapped on the PSA: wild oats and annual brome grassland. This vegetation community is characterized by an herbaceous layer dominated by non-native grass species including wild oats (*Avena* spp.), bromes (*Bromus* spp.), and barleys (*Hordeum* spp.). This habitat type covered the full extent of the PSA.

A formal aquatic resource delineation was conducted on January 18, 2024. No aquatic resources were present on the BESS facility portion of the PSA; however, the gen-tie alignment will cross over a seasonal stream (EPH-01, Patterson Run). Patterson Run is a potential Water of the United States, and the Project proponent has applied to the United States Army Corps of Engineers (USACE) for a Nationwide Permit under Section 404 of the Clean Water Act to cover minor construction-related impacts to Patterson Run.

A total of 18 special-status and rare plants identified from the literature review were determined to have potential to occur within the PSA. Three individuals of big tarplant (*Blepharizonia plumosa*) were observed within PSA at the southwest corner of the PG&E substation. No other special-status plants were observed during the surveys.

A total of 20 special-status wildlife species identified from the literature review were determined to have potential to occur within the PSA. A total of 6 special-status wildlife species are known to occur within the PSA, were observed or detected during field surveys, or have a moderate to high potential to occur on the PSA and could therefore be impacted by eventual Project implementation. Tricolored blackbird was observed foraging on the site and five other special-status wildlife species have a moderate or high potential to occur on the PSA, including California tiger salamander, California red-legged frog, golden eagle, northern harrier, burrowing owl, and white-tailed kite. Although Swainson's hawk have low potential to nest at the project site or vicinity, they were included in this analysis at the request of CEC and CDFW. No other special-status wildlife species were observed during the surveys. Suitable breeding habitat was identified for California tiger salamander and California red-legged frog within dispersal distance of the PSA, and Designated Critical Habitat for California red-legged frog overlaps with the PSA. Nesting birds are also expected to utilize habitat present within the PSA.

The Project and associated PSA fall within the boundaries of the EACCS, specifically within Conservation Zone (CZ) 10. The EACCS provides a framework for natural resource conservation and to streamline the environmental permitting process within the eastern portion of the county. The EACCS defines standardized mitigation ratios for each of the focal species to offset project impacts, based upon an evaluation of habitat quality within the PSA. Mitigation ratios for each covered species within the EACCS that have been identified during field surveys, or that have been assumed to be present, are then adjusted from the base 3:1 ratio based on habitat quality and species-specific calculators included in Appendix E of the EACCS. Total mitigation acreages for each species determined to be present through field surveys, or assumed to be present, may vary depending on the location(s) of compensatory mitigation land selected, habitat quality of mitigation land relative to habitat quality impacted by the project, and the total acres of habitat impacted by the Project. Final compensatory mitigation acreage would be based on habitat impact acreages calculated from final engineering designs approved for construction of the Project and the adjusted mitigation ratios for species requiring compensatory mitigation.

The Project will obtain applicable permits and other approvals from the California Energy Commission (CEC), USACE, United States Fish and Wildlife Service (USFWS), and Central Valley Regional Water Quality Control Board (CVRWQCB) and will minimize and mitigate impacts on natural resources to comply with the regulatory standards

of these agencies. These are the same regulatory standards applied by USFWS and the other environmental agencies in their review and approval of the EACCS. The Project will incorporate avoidance and minimization measures (AMMs) in compliance with EACCS guidelines. Development of the Project would not conflict with implementation of the EACCS. Further, the Project would provide compensatory mitigation for impacts to aquatic resources and EACCS covered species, determined, or assumed to be present within the PSA, through the acquisition of credits from existing mitigation banks or through establishing conservation easements on suitable lands.

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1 Introduction

Dudek is pleased to present Levy Alameda LLC with this Biological Technical Report (BTR) for the proposed Potentia-Viridi Battery Energy Storage System (BESS) Project (Project). This BTR describes the existing conditions, regulatory setting, and existing biological resources within the Project Study Area (PSA) and provides a preliminary analysis of Project impacts. As part of the BTR, Dudek biologists conducted an updated desktop literature review and database search specific to biological resources to supplement the Biological Constraints Analysis (Dudek 2023a) and update the September 2023 Biological Technical Report (Dudek 2023b). Dudek also performed additional biological field surveys during the 2023 and 2024 field seasons to supplement the prior reconnaissance-level biological field survey, including focused surveys for rare plants and burrows, focused habitat assessments for Crotch's bumble bee, and protocol-level surveys for burrowing owl. In addition, a focused habitat assessment for California red-legged frog was conducted for suitable and accessible aquatic features within 1 mile of the PSA, and a formal aquatic resources delineation was conducted to identify and map aquatic resources within the PSA. The purpose of these surveys was to identify and characterize resources within the PSA, with particular focus on the potential for occurrence of special-status plant and wildlife species and other sensitive resources. The *Project site* refers to the area that would be physically affected by construction activities associated with the Project (including temporary disturbance) and the Project layout. The PSA encompasses to the Project site as described above, but also includes a buffer around the generation tie (gen-tie) alignment, buffered areas around the Project site to capture resources within the limits of potential impact or required to be surveyed by species-specific survey protocols, and ponds located to the west of the Project site.

This BTR includes (1) a description of existing conditions on the site, (2) regulatory overview, (3) methods for biological studies, and (4) a description of any sensitive habitats or resources observed on the site. Details pertaining to the PSA are provided below:

- **County:** Alameda
- **Public Land Survey System:** Section 31; Township 2S; Range 4E
- **U.S. Geological Survey (USGS) 7.5-Minute Quadrangle**: Midway
- **Latitude, Longitude (decimal degrees):** 37.710926°, -121.575397° (centroid)
- **APN:** 99b-7890-2-4 (BESS facility, ~~60.7~~69.1 acres plus buffer); 99B-7890-2-6, 99B-7885-12 (gen-tie alignment, ~~20.44~~32.7 acres including buffer)
- **Elevation Range (feet):** 383 to 523 feet above mean sea level (amsl)
- **PSA:** ~~88.2~~102 acres

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2 Project Setting

2.1 Project Description

The Potentia-Viridi BESS Project proposes the development of an up to 3,200 MWh of battery energy storage system and associated infrastructure across approximately ~~88~~ 102 acres (approximately ~~60~~58.8-acre BESS facility lease area and 10.3-acre survey buffer + approximately ~~6~~13.8-are gen-tie corridor which includes approximately ~~20~~18.9-acre associated survey buffer) (Appendix A: Figure 1, Project Location). The BESS facility would interconnect to the electrical grid via a new 500 kV gen-tie constructed from the project substation to the Point of Interconnection (POI) at the existing PG&E Tesla Substation. Construction and commission of the Project is expected to occur over approximately 24 months.

2.2 Regional Land Use Setting

The PSA is currently undeveloped, and the regional land use has remained largely unchanged since the 1980s based on aerial imagery (Google Earth Pro 2023). Relative to the proposed BESS facility lease area, the PG&E Tesla substation is about 0.25 miles east; high voltage transmission lines parallel the BESS facility lease area along the northwestern, northern, northeastern, and eastern boundaries; Patterson Pass Road roughly parallels the eastern boundary; the Western Pacific Railroad is about 0.1 miles southeast; and there is an existing gravel access road adjacent to the northern boundary. The gen-tie alignment connecting the BESS facility to the PG&E substation crosses Patterson Pass Road, Patterson Run (a seasonal stream channel), and generally proceeds southeast to the Point of Change of Ownership transmission structure, before turning east across the PG&E Tesla Substation property and then north into the substation boundary and POI. The BESS facility site and surrounding land have been used for cattle grazing in the past. However, the BESS facility lease area and PG&E Tesla Substation property have not been grazed recently, whereas the property crossed by the gen-tie between the BESS facility lease area and PG&E Tesla Substation Property is currently used as cattle pasture. The nearest city is Tracy, approximately 2.5 miles to the east.

2.3 Climate and Rainfall

The PSA is within a Mediterranean climate where annual temperatures range from 38.3°F to 92.6°F (WRCC 2023). According to the Tracy Pumping Plant (049001) Weather Station Gauge, yearly precipitation averages 12.03 inches, with the highest average rainfall recorded in January (2.54 inches) (WRCC 2023). The past winter season had higher than average rainfall.

2.4 Soil and Terrain

The PSA is relatively flat, with an approximate elevation of 383 to 523 feet amsl. According to the US Department of Agriculture (USDA) Natural Resources Conservation Service, three soil types are present: Linne clay loam, 3% to 15% slopes (65.65 acres); Linne clay loam, 15% to 30% slopes, MLRA 15 (2.80 acres); and Rincon clay loam, 0% to 3% slopes (19.75 acres) (USDA 2024). The Linne series consists of moderately deep, well drained soils that formed in material from soft shale and sandstone. The Rincon series consists of deep, well drained soils that formed

in alluvium from sedimentary rock. None of the three soil types mapped on site are included on the USDA list of hydric soils (USDA 2023a) commonly associated with wetlands or other waters.

2.5 Hydrology and Watershed

The PSA occurs within the North Diablo Range of the Alameda Creek Watershed (USGS 2023). According to the USFWS National Wetlands Inventory (NWI), there are several freshwater ponds, freshwater wetlands, and riverine aquatic features in the vicinity of the Project (USFWS 2023a; Appendix A: Figure 2, Biological Setting). The NWI is based on coarse aerial mapping and does not involve ground-truthing. The national hydrography dataset shows Patterson Run and one other drainage crossing the PSA from south to north. Patterson Run is a seasonal stream system that runs parallel to Patterson Pass Road, adjacent to the PSA. Patterson Run is classified in the NWI as a freshwater emergent wetland (USFWS 2023a). The second drainage is classified by the NWI as freshwater emergent wetland (USFWS 223a), however, there is no physical evidence of this drainage within the PSA either on aerial imagery or when surveyed on the ground.

3 Regulatory Setting

3.1 Federal

3.1.1 Clean Water Act, Section 404

Pursuant to Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged and/or fill material into "Waters of the U.S." Activities in wetlands or waters for which a USACE permit may be required include, but are not limited, the placement of fill material due to development, land clearing involving relocation of soil, road construction, erosion control, mining, stockpiling excavation spoils, and utility line or pipeline construction. Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid an impact) can include, to an extent, certain drainage channel maintenance activities involving the use of hand tools only or by positioning construction equipment outside of USACE jurisdiction and excavating without stockpiling in jurisdictional areas. Any person or public agency proposing to discharge dredged or fill material into Waters of the U.S., including jurisdictional wetlands, must obtain a Section 404 permit from USACE.

3.1.2 Clean Water Act, Section 401

Section 401 of the CWA provides states and authorized tribes with an important tool to help protect the water quality of federally regulated waters within their borders (i.e., waters of the state), in collaboration with federal agencies. EPA's regulations at 40 CFR 121 address CWA Section 401 certification. Under Section 401 of the CWA, a federal agency may not issue a permit or license to conduct any activity that may result in any discharge into water of the United States unless a CWA Section 401 water quality certification is issued, or certification is waived. States and authorized tribes where the discharge would originate are responsible for issuing water quality certifications. In cases where a state or tribe does not have authority, EPA is responsible for issuing certification. In making decisions to grant, grant with conditions, or deny certification requests, certifying authorities consider whether the federally licensed or permitted activity will comply with applicable water quality standards, effluent limitations, new source performance standards, toxic pollutants restrictions, and other appropriate water quality requirements of state or tribal law. A federal agency may not issue a license or permit for an activity that may result in a discharge into waters of the United States without a water quality certification or waiver (EPA 2023a). On June 9, 2022, proposed rule changes to CWA Section 401 were published (87 FR 35318 et seq.) and were finalized in November of 2023 (EPA 2023b). The changes include pre-filing meetings and statutory timeframes.

Implementation in California

The California State Water Resources Control Board (SWRCB) has authority over waters of the state, including wetlands, through Section 401 of the CWA, the Porter–Cologne Water Quality Control Act (Porter–Cologne Act), California Code of Regulations Section 3831(k), and the California Wetlands Conservation Policy. The CWA requires that an applicant for a Section 404 permit (to discharge dredge or fill material into waters of the United States) first obtain certification from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by SWRCB to the nine regional boards. The Central Valley Regional Water Quality Control Board has

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authority for Section 401 compliance in the Project region. A request for Water Quality Certification is submitted to the RWQCB while an application is filed with USACE (EPA 2023a).

3.1.3 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended (16 USC 1531 et seq.), serves as the enacting legislation to list, conserve, and protect threatened and endangered species, and the ecosystems on which they depend, from extinction. In addition, for those wildlife species listed as federally endangered, FESA provides for the ability to designate critical habitat, defined as that habitat considered "essential to the conservation of the species" and that "may require special management considerations or protection."

Under FESA Section 7, if a project that would potentially result in adverse impacts to threatened or endangered species includes any action that is authorized, funded, or carried out by a federal agency, that agency must consult with the U.S. Fish and Wildlife Service (USFWS) to ensure that any such action is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat (DCH) for that species. FESA Section 9(a)(1)(B) prohibits the taking, possession, sale, or transport of any endangered fish or wildlife species. "Take" is defined to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC 1532[19]). With respect to any endangered species of plant, Sections 9(a)(2)(A) and 9(a)(2)(B) prohibit the possession, sale, and import or export, of any such species, and prohibits any action that would "remove and reduce to possession any such species from areas under federal jurisdiction; maliciously damage or destroy any such species on any such area; or remove, cut, dig up, or damage or destroy any such species on any other area in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law." Pursuant to FESA Section 10(a)(1)(B), USFWS may issue a permit for the take of threatened or endangered species if such taking is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity" (USFWS 2023b).

Designated Critical Habitat

The FESA also enables USFWS to designate critical habitat, which is defined specific geographic areas, whether occupied by listed species or not, that contain "physical or biological features essential to the conservation of the species" and that "may require special management considerations or protection" (50 CFR 424.12). Designated critical habitat units, published in the Federal Register by USFWS, are often large and may contain areas that do not provide habitat for the species: only areas within the critical habitat units that support the species' *primary constituent elements* (PCEs) are subject to ESA consultation and analysis of critical habitat effects. PCE was a term introduced in the critical habitat designation regulations to describe aspects of "physical or biological features." On May 12, 2014, the Services proposed to revise these regulations to remove the use of the term "primary constituent elements" and replace it with the statutory term "physical or biological features" (79 FR 27066). However, the shift in terminology does not change the approach used in conducting a "destruction or adverse modification" analysis, which is the same regardless of whether the original designation identified PCE, physical or biological features, or both (81 FR 7220, 2/11/16).

3.1.4 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50, Section 10.13 of the CFR. The MBTA is an international treaty for the conservation and

management of bird species that migrate through more than one country and is enforced in the United States by USFWS. Hunting of specific migratory game birds is permitted under the regulations listed in Title 50, Section 20 of the CFR. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors) (USFWS 2023c).

3.1.5 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) (16 USC 668 et seq.) provides for the protection of both bald and golden eagles. Specifically, BGEPA prohibits take of eagles, which is defined as any action that would "pursue, destroy, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" bald and golden eagles, including parts, nests, or eggs. The term "disturb" is further defined by regulation as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, injury to an eagle, a decrease in productivity, or nest abandonment" (50 CFR 22.3). Under BGEPA, it is also illegal to "sell, purchase, barter, trade, import, or export, or offer for sale, purchase, barter, or trade, at any time or in any manner, any bald eagle or any golden eagle, or the parts, nests, or eggs" of these birds. Pursuant to 50 CFR 22.26, and as of the latest amendment to ~~BGEPA in December 2016,~~ a permit may be obtained that authorizes take of bald eagles and golden eagles where the take is "compatible with the preservation of the bald eagle and the golden eagle; is necessary to protect an interest in a particular locality; is associated with, but not the purpose of, the activity; and cannot practicably be avoided" (USFWS 2023d).

3.2 State

3.2.1 Porter-Cologne Water Quality Control Act

As detailed above in Section 3.1.2, Clean Water Act, Section 401, the Porter–Cologne Act, CFGC Sections 1601-1607, delegates responsibility to SWRCB for water rights and water quality protection and directs the nine statewide RWQCBs to develop and enforce water quality standards within their jurisdiction. The Porter–Cologne Act requires any entity discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state to file a "report of waste discharge" with the appropriate RWQCB. The appropriate RWQCB then must issue a permit, referred to as a Waste Discharge Requirement. Waste Discharge Requirements implement water quality control plans and take into consideration the beneficial uses to be protected, the water quality objectives required for that purpose, other waste discharges, and the need to prevent nuisances (SWRCB 2023).

SWRCB defines a water of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code Section 13050[e]). As of April 2019, SWRCB has defined "wetland" to include the following (SWRCB 2023):

1. Natural wetlands,
2. Wetlands created by modification of a surface water of the state,
3. Artificial wetlands that meet any of the following criteria:
    a) Approved by an agency as compensatory mitigation for impacts to other Waters of the State, except where the approving agency explicitly identifies the mitigation as being of limited duration;
    b) Specifically identified in a Water Quality Control Plan as a wetland or other water of the state;

c) Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or

d) Greater than or equal to one acre in size unless the artificial wetland was constructed and is currently used and maintained, primarily for one or more of the following purposes: industrial or municipal wastewater treatment or disposal; settling of sediment; detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial permitting program; treatment of surface waters; agricultural crop irrigation or stock watering; fire suppression; industrial processing or cooling water; active surface mining – even if the site is managed for interim wetlands functions and values; log storage; treatment, storage, or distribution of recycled water; maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or fields flooded for rice growing.

All waters of the United States are waters of the state. Wetlands, such as isolated seasonal wetlands, that are not generally considered waters of the United States are considered waters of the state if, "under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation" (SWRCB 2023).

3.2.2 California Endangered Species Act

Under the California Endangered Species Act (CESA), the California Department of Fish and Wildlife (CDFW) has the responsibility of maintaining a list of threatened and endangered species. CESA prohibits the take of state-listed threatened or endangered animals and plants unless otherwise permitted pursuant to CESA. "Take" under CESA is defined as any of the following: "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (CFGC Section 86). Species determined by the state to be candidates for listing as threatened or endangered are treated as if listed as threatened or endangered and are, therefore, protected from take. Pursuant to CESA, a state agency reviewing a project within its jurisdiction must determine whether any state-listed endangered or threatened species, or candidate species, could be potentially impacted by that project (CDFW 2023a).

3.2.3 California Fish and Game Code

Divisions of the California Fish and Game Code (CFGC) establish the basis of fish, wildlife, and native plant protections and management in the state.

3.2.3.1 California Fish and Game Code, Section 1940

Section 1940 of the CFGC requires CDFW to develop and maintain a vegetation mapping standard for the state. More than half of the vegetation communities in the state have been mapped through the Vegetation Classification and Mapping Program

Natural vegetation communities are evaluated by CDFW and are assigned global (G), and state (S) ranks based on rarity of and threats to these vegetation communities in California. Sensitive natural communities are defined by CDFW as vegetation alliances with state ranks of S1–S3 (S1: critically imperiled, S2: imperiled, S3: vulnerable), as

identified in the 2010 List of Vegetation Alliances and Associations and subsequent updates. Natural communities with ranks of S1–S3 are considered sensitive natural communities to be addressed in the environmental review processes of CEQA and its equivalents. Additionally, all vegetation associations within the alliances with ranks of S1–S3 are considered sensitive habitats. CEQA requires that impacts to sensitive natural communities be evaluated and mitigated to the extent feasible.

Sensitive natural communities are communities that have a limited distribution and are often vulnerable to the environmental effects of projects. These communities may or may not contain special-status species or their habitats. For purposes of this assessment, sensitive natural communities are considered to include vegetation communities listed in CDFW's California Natural Diversity Database (CNDDB) and communities listed in the California Natural Community List with a rarity rank of S1- S3 (CDFW 2023c).

3.2.3.2 Lake and Streambed Alteration Program

Under Sections 1600–1616 of the CFGC, CDFW regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFW's jurisdiction are defined in the code as the "bed, channel or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit." In practice, CDFW usually marks its jurisdictional limit at the top of the stream or bank, or at the outer edge of the riparian vegetation, whichever is wider (CDFW 2023b).

3.2.3.3 Native Plant Protection Act

The Native Plant Protection Act was enacted in 1977 and is administered by CDFW, per CFGC Section 1900 et seq. The Native Plant Protection Act prohibits take of endangered, threatened, or rare plant species native to California, apart from special criteria identified in the CFGC. A "native plant" means a plant growing in a wild uncultivated state that is normally found native to the plant life of the state. A "rare" species can be defined as species that are broadly distributed but never abundant where found, narrowly distributed, or clumped yet abundant where found, and/or narrowly distributed or clumped and not abundant where found. If potential impacts are identified for a project activity, then consultation with CDFW, permitting, and/or other mitigation may be required (CLI 2023).

3.2.3.4 Nesting Migratory Birds and Raptors

Section 3503 of the CFGC states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA.

3.2.3.5 Non-game Mammals

CFGC Section 4150 states a mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a non-game mammal. A non-game mammal may not be taken or possessed under this code. All bat species occurring naturally in California are considered non-game mammals and are therefore prohibited from take as stated in CFGC Section 4150.

3.2.3.6 Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the CFGC outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the "take" of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. On July 10, 2023, Senate Bill 147 (SB147) was signed into law and amends the Fish and Game Code to allow a 10-year permitting mechanism for a defined set of projects within the renewable energy, transportation, and water infrastructure sectors. Furthermore, it is the responsibility of CDFW to maintain viable populations of all native species. Toward that end, CDFW has designated certain vertebrate species as Species of Special Concern, because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

3.2.4 California Environmental Quality Act

CEQA, PRC Section 21000 et seq., requires public agencies undertaking discretionary actions to approve a project to first determine whether a project may have a significant effect on the environment, and then to prepare an environmental impact report if there is substantial evidence that the project may have a significant effect on the environment. Where an environmental impact report has been prepared, CEQA further requires public agencies to adopt findings with respect to each significant effect that "changes or alterations have been required in, or incorporated, into the project which mitigate or avoid the significant effects on the environment; that those changes are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency; or that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report" (PRC Section 21081[a]).

The California Natural Resources Agency has adopted regulations (i.e., guidelines) to implement CEQA. Pursuant to CEQA Guidelines Section 15380, protection is provided for federal and/or state-listed species, as well as species not listed federally or by the state that may be considered rare, threatened, or endangered. Species that meet these criteria can include candidate species, species proposed for listing, and Species of Special Concern (SSC). Plants listed in the California Native Plant Society (CNPS) Rare Plant Program are considered to meet CEQA's Section 15380 criteria as well. Section 15380 also addresses a potential situation in which a public agency is to review a project that may have a significant effect on, for example a candidate species, which has not yet been listed by USFWS or CDFW. Therefore, CEQA enables an agency to protect a species from significant project impacts until the respective government agencies have had an opportunity to list the species as protected, if warranted. Impacts to these species would therefore be considered significant, requiring mitigation (CDFW 2023c).

3.2.5 California Energy Commission – Assembly Bill 205

Assembly Bill (AB) 205 is an emergency regulation expanding the CEC's siting authority for renewable energy projects constructed on or before June 30, 2029. AB 205 was signed into law on June 30, 2022 and allows renewable and energy storage projects to apply for direct state permits through the CEC. CEC certification opt-in statute (specifically 25545.1(b)(1)) says "the issuance of a certificate by the commission for a site and related facility pursuant to this chapter shall be in lieu of any permit, certificate, or similar document required by any state, local, or regional agency [except California Coastal Commission, San Francisco Bay Conservation and Development

Commission, and State/Regional Water Quality Control Board] ... for the use of the site and related facilities, and shall supersede any applicable statute, ordinance, or regulation of any state, local, or regional agency...."

The application for certification process is in lieu of CDFW 2081 ITP or CFGC Section 1600 et seq. LSAA. However, applications for both of these permits will be submitted to the CEC for informational purposes. The CEC Certification will include conditions and mitigation that would otherwise be requirements in these CDFW permits.

3.3 County of Alameda

3.3.1 East Alameda County Conservation Strategy

The County of Alameda (County), along with other local land use jurisdictions and resource agencies, developed the East Alameda County Conservation Strategy (EACCS) to provide a framework for natural resource conservation and to streamline the environmental permitting process within the eastern portion of the county (ICF 2010). The EACCS is not a formal Habitat Conservation Plan (HCP) in that it does not require local agencies to conserve species and habitat prior to approving projects that impact listed species and/or their habitat, nor does it have a corresponding programmatic incidental take permit from USFWS. Instead, it is intended to streamline state and local permitting by providing guidance on avoidance, minimization, and mitigation for project-level impacts on selected focal special-status species and sensitive habitats. USFWS and CDFW participated in the development of the Conservation Strategy with the intent that it would become the blueprint for all mitigation and conservation in the region. Both agencies still refer to the EACCS when reviewing project-level impacts on focal species and their habitat.

The EACCS includes standardized mitigation ratios for each of the focal species that can be used by local jurisdictions and resource agencies as guidance to determine appropriate mitigation to offset project impacts on focal species habitat. These are based on an evaluation of the habitat quality on a PSA scored using Focal Species-Impact/Mitigation Score Sheets[1] for each of the focal species assumed present or potentially present. Mitigation ratios are then calculated based on application of the same scoring sheet to the proposed mitigation site. Project-specific mitigation ratios may vary depending on the quality and location of the habitat being lost and the quality and location of proposed mitigation.

The EACCS includes avoidance and minimization measures (AMMs) for all focal species covered by the EACCS. These include general AMMs applicable to all focal species, as well as species- or taxon-specific AMMs. The standardized mitigation ratios discussed above are only valid if a project application is in compliance with all applicable AMMs. The general AMMs and project applicable specific AMMs are detailed below.

General

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.

1 Available at http://www.eastalco-conservation.org/documents/eaccs_appe_oct2010.pdf.

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 dumping, firearms, open fires (such as barbecues) not required by the activity, 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 approved 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 mono - filament 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.

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 storms or 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.

Amphibians: California tiger salamander, CRLF

AMPH-1. *Habitat: Streams, wetlands, ponds, vernal pools.*

- 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 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/CDFG approved relocation site.
- A Service - approved biologist should be present for initial ground disturbing activities.
- If the work site is within the typical dispersal distance (contact USFWS/CDFG for latest research on this distance for species of interest) of potential breeding habitat, 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 Service 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 October 15 (or the first measurable fall rain of 1" or greater, to May 1.

Golden Eagle

BIRD-1. *Habitat: Cliff and large trees surrounded by open grassland.*

- If an active nest is identified near a proposed work area work will be conducted outside of the nesting season (February 1 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 an effective no - activity zone cannot be established in either case, an experienced golden eagle 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 eagles, and the dissimilarity of the proposed activity with background activities) to minimize the potential to affect the reproductive success of the eagles.

Burrowing Owl

BIRD-2. *Habitat: Grasslands or ruderal areas with burrows.*

- 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.

Tricolored Blackbird

BIRD-3. *Habitat: Wetlands, ponds with emergent vegetation.*

- If an active nest colony is identified near a proposed work area work will be conducted outside of the nesting season (March 15 to September 1).

Mammals: San Joaquin Kit Fox, American Badger

MAMM-1. *Habitat: Grassland, generally with ground squirrel burrows.*

- 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 CDFG. 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 (U.S. Fish and Wildlife Service 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 CDFG.
- Pipes will be capped, and trenches will contain exit ramps to avoid direct mortality while construction areas is active.

3.3.2 Alameda County General Plan

The County maintains a General Plan, which provides guidelines for development within the County. The PSA is located within the East County Area Plan (ECAP) (Alameda County 1994). General Plan policies that are relevant to the Project are outlined below.

Policy 123: Where site-specific impacts on biological resources resulting from a proposed land use outside the Urban Growth Boundary are identified, the County shall encourage that mitigation is complementary to the goals and objectives of the ECAP. To that end, the County shall recommend that mitigation efforts occur in areas designated as "Resource Management" or on lands adjacent to or otherwise contiguous with these lands to establish a continuous open space system in East County and to provide for long term protection of biological resources.

Policy 125: The County shall encourage preservation of areas known to support special status species.

Policy 126: The County shall encourage no net loss of riparian and seasonal wetlands.

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4 Methods

4.1 Key Definitions

Special-Status Species

For the purposes of this analysis, special plant species are defined as plants that are legally protected or that are otherwise considered sensitive by federal, state, or local resource conservation agencies. These species fall into one or more of the following categories:

- Listed by the federal government under the FESA of 1973 or the State of California under the CESA of 1970 as endangered, threatened, or rare.
- A candidate for federal or state listing as endangered or threatened.
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation.
- Population(s) in California that may be peripheral to the major portion of a taxon's range but are threatened with extirpation in California; and
- Taxa strongly associated with a habitat that is declining in California at a significant rate (e.g., wetlands, riparian, vernal pools, old growth forests, desert aquatic systems, native grasslands, valley shrubland habitats).

Taxa considered to be "rare, threatened, or endangered in California" as defined by CDFW are assigned a California Rare Plant Rank (CRPR). The CDFW system includes six rarity and endangerment ranks for categorizing plant species of concern, as follows:

- **CRPR 1A:** Plants presumed to be extinct in California.
- **CRPR 1B:** Plants that are rare, threatened, or endangered in California and elsewhere.
- **CRPR 2A:** Plants presumed to be extinct in California, but more common elsewhere.
- **CRPR 2B:** Plants that are rare, threatened, or endangered in California, but more common elsewhere.
- **CRPR 3:** Plants about which more information is needed (a review list).
- **CRPR 4:** Plants of limited distribution (a watch list).

Plants ranked as CRPR 1A, 1B, 2A, or 2B may qualify as endangered, rare, or threatened species within the definition of CEQA Guidelines Section 15380. CDFW recommends that potential impacts to CRPR 1 and 2 species be evaluated in CEQA review documents. In general, CRPR 3 and 4 species do not meet the definition of endangered, rare, or threatened pursuant to CEQA Guidelines Section 15380, but these species may be evaluated on a case-by-case basis (CDFW 2018).

Special-status wildlife species include species that meet any of the following criteria (some species may meet several criteria):

- Listed, proposed for listing, or candidates for listing as threatened or endangered under FESA.
- Listed or candidates for listing as threatened or endangered under CESA.

- Designated as Species of Special Concern by the CDFW.
- Designated as a fully protected species by the California Fish and Game Code.
- Meet the definition of rare, threatened, or endangered as described in the CEQA Guidelines, Section 15380.

Sensitive Natural Communities

Natural vegetation communities are evaluated by CDFW and are assigned global (G), and state (S) ranks based on rarity of and threats to these vegetation communities in California. Sensitive natural communities are defined by CDFW as vegetation alliances with state ranks of S1–S3 (S1: critically imperiled, S2: imperiled, S3: vulnerable), as identified in the 2010 List of Vegetation Alliances and Associations and subsequent updates. Natural communities with ranks of S1–S3 are considered sensitive natural communities to be addressed in the environmental review processes of CEQA and its equivalents. Additionally, all vegetation associations within the alliances with ranks of S1–S3 are considered sensitive habitats. CEQA requires that impacts to sensitive natural communities be evaluated and mitigated to the extent feasible.

Sensitive natural communities are communities that have a limited distribution and are often vulnerable to the environmental effects of projects. These communities may or may not contain special-status species or their habitats. For purposes of this assessment, sensitive natural communities are considered to include vegetation communities listed in CDFW's California Natural Diversity Database (CNDDB) and communities listed in the California Natural Community List with a rarity rank of S1- S3 (CDFW 2023d).

4.2 Database and Literature Review

Dudek conducted an initial database and literature review as part of the Biological Constraints Analysis drafted in April 2023 (Dudek 2023a). An updated database and literature review was conducted as part of the Biological Technical Report drafted in September 2023 (Dudek 2023b). To reflect recent changes in the Project site boundaries and new gen-tie alignment, updated database and literature reviews for the revised PSA were conducted in January 2024. Special-status biological resources present or potentially present within the PSA were identified through an extensive updated literature search using the following sources: USFWS Information for Planning and Consultation (IPaC) online tool (USFWS 2024), CDFW California Natural Diversity Database (CNDDB) (CDFW 2024), and California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants (CNPS 2024). The Soil Survey Geographic Database for California (USDA 2024) was also reviewed to identify soil associations potentially supporting special-status plants (e.g., alkaline soils). Native plant community classifications used in this report follow a Manual of California Vegetation Online (CNPS 2023a) and California Natural Community List (CDFW 2023d). The search area for the IPaC query was based on the site boundary. The CNDDB and CNPS databases were queried for the nine U.S. Geological Survey (USGS) 7.5-minute quadrangles containing and immediately surrounding the site (Byron Hot Springs, Clifton Court Forebay, Union Island, Altamont, Midway, Tracy, Mendenhall Springs, Cedar Mountain, Lone Tree Creek). Database search results are presented in Appendix B, Database Search Results. Following the updated database review, Dudek biologists determined the potential for special-status plant and wildlife species to occur on site. Determinations were based on a review of habitat types, soils, and elevation preferences, as well as the known geographic range and nearest occurrence records of each species.

4.3 Field Surveys

Dudek qualified biologists conducted biological field surveys in 2023 and 2024 to evaluate the PSA for special-status species and habitat. These included reconnaissance surveys and focused surveys for rare plants, burrows, Crotch's bumble bee (*Bombus crotchii*) habitat, protocol-level burrowing owl surveys, and California tiger salamander (CTS) and California red-legged frog (*Rana draytonii*; CRLF) habitat assessments. Additionally, a formal aquatic resource delineation was conducted concurrently with the reconnaissance and focused surveys in 2024. The field surveys are summarized in Table 1 and discussed further below. Resumes for staff are included as Appendix C.

Table 1. Field Survey Summary

Date	Survey Type(s)	Biologists	Time	Survey Conditions
03/31/2023	Reconnaissance (original Project site boundary only, excludes gen-tie)	Emily Scricca Erin Fisher-Colton	9:30 a.m.–11:30 a.m.	58°F–61°F, 75%–90% cloud cover, 1–4 mph wind
05/16/2023	▪ Protocol-Level Botanical ▪ Focused Burrow Surveys ▪ Focused Crotch's Bumble Bee Habitat Assessment	Kelsey Higney Lorna Haworth	8:41 a.m.–11:15 a.m.	80°F–85°F, 0% cloud cover, 0–6 mph wind
08/02/2023	▪ Reconnaissance (gen-tie alignment only) ▪ Protocol-Level Botanical ▪ Focused Burrow Surveys ▪ Focused Crotch's Bumble Bee Habitat Assessment ▪ Protocol-level California Red-Legged Frog (CRLF) Habitat Assessment	Kelsey Higney Erin Fisher-Colton	9:23 a.m.–4:54 p.m.	71°F–80°F, 0% cloud cover, 5–20 mph wind
01/18/2024	▪ Reconnaissance (adjusted gen-tie alignment only) ▪ Protocol-Level Botanical (adjusted gen-tie alignment only) ▪ Focused Burrow Surveys (adjusted gen-tie alignment only) ▪ Focused Crotch's Bumble Bee Habitat Assessment (adjusted gen-tie alignment only) ▪ Aquatic Resources Delineation	Mikaela Bissell Erin Fisher-Colton	9:16 a.m.–2:30 p.m.	50°F–58°F, 80%–100% cloud cover, 1–4 mph wind
04/12/2024	▪ Protocol-level Burrowing Owl Survey – Pass 1 ▪ Follow-up burrow assessment for San Joaquin Kit Fox and American Badger ▪ Protocol-level rare plant survey	Mikaela Bissell Tara Johnson-Kelly	8:30 a.m. – 2:00 p.m.	55°F–60°F, 0%–10% cloud cover, 10–14 mph wind

Table 1. Field Survey Summary

Date	Survey Type(s)	Biologists	Time	Survey Conditions
05/03/2024	▪ Protocol-level Burrowing Owl survey – Pass 2	Kelsey Higney Tara Johnson-Kelly	7:00 a.m. – 12:00 p.m.	56°F–71°F, 0% cloud cover, 10-15 mph wind
05/24/2024	▪ Protocol-level Burrowing Owls Survey – Pass 3	Tara Johnson-Kelly Paul Keating	7:00 a.m. – 12:00 p.m.	57°F–64°F, 0%-10% cloud cover, 10 mph wind
06/17/2024	▪ Protocol-level Burrowing Owl Survey – Pass 4 ▪ Protocol-level rare plant survey	Paul Keating	3:00 p.m. – 7:00 p.m.	82°F–78°F, 0% cloud cover, 15-20 mph wind
12/12/2024	▪ Protocol-level winter Burrowing Owl Survey – Pass 1 ▪ Swainson's Hawk Habitat Survey/Protocol-level Nesting Survey ▪ Golden Eagle Habitat Survey/Protocol-level Nesting Survey	Paul Keating, Alex Freeman	7:30 a.m. – 12:00 p.m.	45°F–56°F, 90-100% cloud cover, 5-10 mph wind
01/04/2025	▪ Protocol-level winter Burrowing Owl Survey – Pass 2	Paul Keating	7:30 a.m. – 11:00 a.m.	40°F–53°F, 0%-10% cloud cover, 10-15 mph wind
01/11/2025	▪ Protocol-level winter Burrowing Owl Survey – Pass 3	Paul Keating	8:00 a.m. – 12:00 a.m.	41°F–60°F, 0%-5% cloud cover, 5-10 mph wind
01/31/2025	▪ Protocol-level winter Burrowing Owl Survey – Pass 4	Paul Keating	7:30 a.m. – 12:00 a.m.	47°F–55°F, 20%-75% cloud cover, 5-15 mph wind
03/20/2025	▪ Protocol-level Swainson's Hawk Survey ▪ Golden Eagle Protocol-level Nesting Survey	Paul Keating	7:30 a.m. – 2:00 p.m..	45°F–60°F, 0% cloud cover, 5-10 mph wind
03/27/2025	▪ Protocol-level Swainson's Hawk Survey	Paul Keating	7:00 a.m. – 10:00 a.m.	57°F–64°F, 5%-15% cloud cover, 5-15 mph wind
04/03/2025	▪ Protocol-level Swainson's Hawk Survey	Paul Keating	7:00 a.m. – 10:00 a.m.	44°F–62°F, 0% cloud cover, 5 mph wind
04/11/2025	▪ Protocol-level Swainson's Hawk Survey	Paul Keating	7:30 a.m. – 12:00 a.m.	58°F–70°F, 0% cloud cover, 5-10 mph wind
04/17/2025	▪ Protocol-level Swainson's Hawk Survey	Paul Keating	7:30 a.m. – 12:00 a.m.	53°F–67°F, 0% cloud cover, 5-10 mph wind
04/28/2025	▪ Protocol-level Swainson's Hawk Survey ▪ Golden Eagle Protocol-level Nesting Survey	Paul Keating	8:00 a.m. – 2:00 p.m.	53°F–69°F, 0% cloud cover, 5-15 mph wind

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All plant species encountered during the field surveys were identified to lowest possible taxonomic rank and recorded. Latin and common names for plant species with a California Rare Plant Rank (CRPR) follow the CNPS Online Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2024). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2023), and common names follow the U.S. Department of Agriculture Natural Resources Conservation Service Plants Database (USDA 2023b). Wildlife species detected during field surveys by sight, calls, tracks, scat, or another sign were recorded. Binoculars (8-times magnification) were used to identify observed wildlife. A list of observed plant and wildlife species is presented in Appendix D, Plant and Wildlife Species Compendium, and representative site photographs are presented in Appendix E, Photo Record.

4.3.1 Reconnaissance Surveys

A reconnaissance-level field survey was conducted on March 31, 2023, to identify vegetation communities and assess the original BESS Project site boundary and vicinity for suitable habitat for special-status plant and wildlife species. This survey was conducted on foot and by vehicle to provide complete visual coverage of the original Project site. No protocol-level surveys were conducted at this time.

A follow-up reconnaissance-level field survey was conducted for the updated PSA which included the BESS Project site and buffered gen-tie alignment of the Project area on August 2, 2023, in conjunction with the surveys for rare plants, burrows, and Crotch's bumble bee habitat. This survey was conducted on foot to identify vegetation communities in the updated PSA boundaries. During the August reconnaissance survey, a reconnaissance-level wetland assessment was done for the site. The focus was to determine if there were any potential jurisdictional waters on the site that would require further protocol jurisdictional delineations.

A second follow-up reconnaissance-level field survey was conducted for the adjusted buffered gen-tie alignment on January 18, 2024. This survey was conducted on foot to identify vegetation communities along the adjusted gen-tie alignment and included surveys for rare plants, burrows, and Crotch's bumble bee habitat within the adjusted buffered gen-tie alignment.

4.3.2 Protocol-Level Botanical Surveys

Protocol-level rare plant surveys were conducted on May 16, 2023, August 2, 2023, and January 18, April 12, and June 17, 2024, to identify special-status rare plant species within the updated PSA boundaries. Dudek qualified biologists surveyed the entire PSA on foot in approximately 20-meter parallel transects to provide complete visual coverage within the updated PSA boundaries and gen-tie alignment. Rare plants surveys were conducted in accordance with the Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 2000), the Protocol for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018), and the CNPS Botanical Survey Guidelines (CNPS 2001). Rare plants occurrences were mapped using ArcGIS Field Maps (Esri).

4.3.3 Focused Burrow Surveys

Focused burrow surveys were conducted on May 16, 2023, August 2, 2023, and January 18, 2024, to identify a variety of animal burrows within the updated PSA boundaries. Additional surveys to assess burrow suitability for San Joaquin kit fox and American badger were conducted on April 12, 2024. The subsequent assessment for San

Joaquin kit fox and American badger followed recommendations outlined in the *San Joaquin Kit Fox Survey Protocol for the Northern Range* (USFWS 1999). Dudek qualified biologists surveyed the entire PSA on foot in approximately 20-meter parallel transects to provide complete visual coverage within the updated PSA boundaries and gen-tie alignment. Burrows of all sizes were mapped using ArcGIS Field Maps (Esri).

4.3.4 Protocol-level Burrowing Owl Surveys

Surveys for western burrowing owl were conducted by Dudek qualified biologists on April 12, May 3, May 24, and June 17, 2024. Winter surveys were conducted on December 12, 2024, January 4, 11, and 31, 2025. Surveys followed recommended protocol outlined in Appendix D of the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). Surveys utilized data collected during the focused burrow surveys (Section 4.3.3) to walk transect no more than 20 meters apart within the PSA. Biologists documented any sight or sign of western burrowing owl during the survey.

4.3.5 Protocol-level Swainson's Hawk Surveys

Surveys for Swainson's hawk were conducted by Dudek qualified biologists on December 12, 2024, March 20, 27, April 3, 11, 17, and 28, 2025. Surveys followed recommended protocol outlined in *The recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk* Technical Advisory Committee, 2000). Although the protocol recommends surveys within 0.5 mile of an area, Dudek performed the surveys within 1 mile of the Study Area due to the lack of suitable nest tree abundance and to verify whether or not Swainson's hawk utilizes the greater project area. Surveys included an initial survey to assess potential nesting habitat and the presence of suitable stick nests, then a total of six additional surveys through the courtship, incubation, and fledging life stages. Surveys were conducted primarily by vehicle from accessible roads using binoculars and spotting scope.

4.3.6 Protocol-level Golden Eagle Surveys

Surveys for golden eagle were conducted by Dudek qualified biologists concurrently with the Swainson's hawk surveys described in Section 4.3.5 on December 12, 2024, March 20, 27, April 3, 11, 17, and 28, 2025. Surveys followed recommended protocol for ground-based surveys outlined in the *Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations* (Pagel et al 2010). The survey buffer was 2 miles, where accessible. Surveys included an initial survey to assess potential nesting habitat and the presence of suitable stick nests, as well as visiting previously documented territories within the 2-mile buffer. Additional surveys were conducted in the courtship, incubation, nestling, and fledgling stages. Surveys included identification of vantage points overlooking the Study Area and observing raptor activity with the aid of binoculars and spotting scope. Vantage point observations were made on December 12, 2024, March 20, 2025, and April 28, 2025, for a minimum of 4 hours.

~~4.3.5~~4.3.7 Focused Crotch's Bumble Bee Habitat Assessment

Focused Crotch's bumble bee habitat assessments were conducted on May 16, 2023, August 2, 2023, and January 18, 2024, to identify foraging and nesting habitat for Crotch's bumble bees within the updated PSA boundaries. Dudek qualified biologists surveyed the entire PSA on foot in approximately 20-meter parallel transects to provide complete visual coverage within the updated PSA boundaries and gen-tie alignment. Bumble bee habitat was

identified following CDFW Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species (CDFW 2023e), which includes plant species that provide floral (nectar) resources and nesting substrates such as bare ground, rodent burrows, thatched grass, or rock piles. Potential bumble bee floral resources and nesting substrates were mapped using ArcGIS Field Maps (Esri).

~~4.3.6~~4.3.8 Protocol-Level California Red-Legged Frog Habitat Assessment

A protocol-level habitat assessment for CRLF was conducted on August 2, 2023, for suitable aquatic habitats identified within, and in the vicinity of, the PSA to identify potential aquatic breeding sites within dispersal distance of the PSA. Not all aquatic habitats within 1 mile were able to be surveyed due to access restrictions. Habitat assessments were conducted in accordance with the USFWS *Revised Guidance on Site Assessments and Field surveys for the California Red-legged Frog* (USFWS 2005). Aquatic features were coarsely mapped along top of bank using ArcGIS Field Maps (Esri).

~~4.3.7~~4.3.9 Protocol-Level California Tiger Salamander Habitat Assessment

Concurrently with the CRLF habitat assessment (4.3.6), 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 PSA to identify potential aquatic breeding sites within dispersal distance of the PSA. Not all aquatic habitats within 1.24 miles were able to be surveyed due to access restrictions. Habitat assessments were conducted in accordance with the USFWS *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* (USFWS 2003). Aquatic features were coarsely mapped along top of bank using ArcGIS Field Maps (Esri).

~~4.3.8~~4.3.10 Aquatic Resources Delineation

A preliminary wetland assessment was conducted during the reconnaissance survey on August 2, 2023, to generally identify and coarsely map aquatic resources that may require further protocol jurisdictional delineations. Dudek then conducted a complete aquatic resources delineation concurrent with the reconnaissance-level biological field survey on January 18, 2024, to identify and map the extent of aquatic resources within the entire PSA that are potentially subject to regulation under federal CWA Sections 401 and 404, CFGC Section 1602, or under the Porter-Cologne Act. The results of the aquatic resources delineation have been incorporated into this report. Representative photographs were collected for each of the aquatic resources (Appendix E, photo record) and wetland delineation datasheets were completed (Appendix ~~F~~F, Wetland Delineation Datasheets).

5 Results

5.1 Vegetation Communities

Only one vegetation community was mapped in the PSA: wild oats and annual brome grassland (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance; CNPS 2023a; Figure 2). This community, often referred to as California annual grassland, is characterized by an herbaceous layer dominated by non-native grass species including wild oats (*Avena* spp.), bromes (*Bromus* spp.), and barleys (*Hordeum* spp.). The herbaceous layer is less than 1.2 meters in height and cover is open to continuous (CNPS 2023a). Annual grassland covers the entire PSA outside of the aquatic features ~~(88.24 acres)~~.

5.2 Aquatic Resources

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 PSA where the along the gen-tie alignment, which parallels Patterson Pass Road (Figure 3). This seasonal 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.

5.3 Observed Plant and Wildlife Species

A total of 42 plant species, consisting of 19 (45%) native species and 23 (55%) non-native species, were observed within or in the immediate vicinity of the PSA during the rare plant surveys and reconnaissance-level biological field surveys (Appendix D, Plant and Wildlife Species Compendium). A total of 20 native and 1 non-native wildlife species were recorded within or in the immediate vicinity of the PSA during the biological field surveys (Appendix D; Plant and Wildlife Species Compendium). Big tarplant was observed during the rare plant survey on August 2, 2023 (Refer to Section 5.4.1 for further information). No other special-status plant species were observed during the 2023 or 2024 surveys, and the surveys were coincident with the timing when many special-status plant species are detectable. A detailed account of special-status wildlife on site is provided in Section 5.4.2 below. Tricolored blackbird was observed foraging within the PSA during the January 18, 2024 site survey. No other special-status wildlife species or their sign were observed during the biological field surveys.

5.4 Special-Status Species

5.4.1 Special-Status Plants

Based on the updated literature review and database searches, a total of 42 special-status plants have been recorded within 5 miles of the PSA and/or within the 9 quadrangles in the vicinity of the PSA (Appendix A: Figure 4,

Special-Status Species Occurrences; Appendix ~~F~~G, Special-Status Species' Potential to Occur within the PSA) (CDFW 2024; CNPS 2024). Of these species, 24 were removed from further consideration due to lack of suitable habitat within or adjacent to the PSA, no known occurrences within 5 miles of the PSA, and/or because the PSA is outside of the species' known geographic or elevation range. An additional 7 species were determined to have a low potential to occur based on the lack of suitable microhabitat (e.g., mesic areas, serpentine soils) and recent occurrences in the site vicinity, including heartscale (*Atriplex cordulata* var. *cordulata*), lesser saltscale (*Atriplex minuscula*), big-scale balsamroot (*Balsamorhiza macrolepis*), Mt. Diablo fairy-lantern (*Calochortus pulchellus*), palmate-bracted bird's-beak (*Chloropyron palmatum*), California alkali grass (*Puccinellia simplex*), and saline clover (*Trifolium hydrophilum*). None of these species are further addressed in this report.

Eleven special-status plants have a moderate or high potential to occur or were directly observed: big tarplant (*Blepharizonia plumosa*), brittlescale (*Atriplex depressa*), Lemmon's jewelflower (*Caulanthus lemmonii*), Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), recurved larkspur (*Delphinium recurvatum*), spiny-sepaled button-celery (*Eryngium spinosepalum*), diamond-petaled California poppy (*Eschscholzia rhombipetala*), San Joaquin spearscale (*Extriplex joaquinana*), showy golden madia (*Madia radiata*), shining navarretia (*Navarretia nigelliformis* ssp. *radians*), and caper-fruited tropidocarpum (*Tropidocarpum capparideum*) (Table 2 and Appendix G, Special-status Species Potential to Occur within the Project Study Area)~~D~~. All the special-status plant species are found in valley and foothill grassland, often with alkaline and/or clay soils.

Table 2. Special-Status Plant Species with Moderate or High Potential to Occur

Species Name	Common Name	Status (Federal/State/CRPR/EACCS)[1]	Potential to Occur[2]
Atriplex depressa	brittlescale	None/None/1B.2/No	Moderate
Blepharizonia plumosa	big tarplant	None/None/1B.1/C	Known
Caulanthus lemmonii	Lemmon's jewelflower	None/None/1B.2/No	Moderate
Centromadia parryi ssp. *congdonii*	Congdon's tarplant	None/None/1B.1/C	Moderate
Delphinium recurvatum	recurved larkspur	None/None/1B.2/C	Moderate
Eryngium spinosepalum	spiny-sepaled button-celery	None/None/1B.2/No	Moderate
Eschscholzia rhombipetala	diamond-petaled California poppy	None/None/1B.1/No	Moderate
Extriplex joaquinana	San Joaquin spearscale	None/None/1B.2/C	Moderate
Madia radiata	showy golden madia	None/None/1B.2/No	Moderate
Navarretia nigelliformis ssp. *radians*	shining navarretia	None/None/1B.2/No	Moderate
Tropidocarpum capparideum	caper-fruited tropidocarpum	None/None/1B.1/C	High

Notes: Additional information on determining potential to occur is in Appendix ~~F~~G, Special-Status Species Potential to Occur within the Project study area.

1 **Status:**

None= Not listed/no conservation status.

CRPR =California Rare Plant Rank. Plants ranked as CRPR 1A, 1B, 2A, or 2B may qualify as endangered, rare, or threatened species within the definition of CEQA Guidelines Section 15380.

California Rare Plant Rank (CRPR) Status

1B: plants rare, threatened, or endangered in California and elsewhere.

Threat Rank

0.1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat).

0.2: Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat).

C= 'Covered' under the East Alameda County Conservation Strategy (EACCS)

[2] **Potential to Occur:**

Known to Occur= Known occurrences recorded within the PSA.

High Potential to Occur: The species has not been documented in the PSA but is known to occur in the vicinity and species habitat is present.

Moderate Potential to Occur: The species has not been documented in the vicinity, but the PSA is within the known range of the species, and habitat for the species is present.

Protocol-Level Botanical Survey Results

Land surrounding the PSA is predominantly private property. As such, reference populations for focal plant species with moderate to high potential to occur were not available or were greater than 10 miles from the PSA. In addition to CNDDB records, Dudek biologists reviewed available herbarium records and research-grade observations documented in iNaturalist (Consortium of California Herbaria 2023 and iNaturalist 2023, respectively). Based on the review of available information, all focal plant species would have been evident and identifiable during the survey windows. Early-blooming species such as diamond-petalled California poppy and caper-fruited tropidocarpum were verified to be evident and identifiable in April based on regional collections (California Consortium of Herbaria, 2023). Protocol-level botanical surveys were conducted in May and August 2023, and in April and June 2024. The surveys coincided with the period when all special-status species would be evident and identifiable.

Three individuals of big tarplant were observed during protocol-level botanical surveys conducted on August 2, 2023 (Figure 5).

Big tarplant is an annual herb that endemic to California, with limited distribution throughout the state. This species has a CRPR rank of 1B.1 (rare, threatened or endangered in California and elsewhere), and is a covered species under the EACCS. This species prefers habitats in valley grassland vegetation communities, as well as in foothill woodlands and chaparral (Calflora 2023). Threats to this species include urbanization, disking, residential development, and encroachment by non-native plant species (CNPS 2023b).

Only one plant was flowering, therefore allowing a qualified Dudek botanist (Laura Burris) to definitively key the plant to species based on descriptions, measurements, and photos taken in the field. All three individuals are located near the southwest corner of the PG&E substation in an area of sparse grassland that shows evidence of drainage patterns from the surrounding hills, including cracked soils, reduced grass cover and increased scrub species cover, and increased bare ground.

5.4.2 Special-Status Wildlife

Based on the updated literature review and database searches, a total of 41 special-status wildlife species have been recorded within 5 miles of the Project site and/or within the 9 quadrangles in the vicinity of the PSA (Figure 4; Appendix ~~F~~G, Special-status Species Potential to Occur within the Project Study Area) (CDFW 2024; USFWS 2024). Of these species, 21 were removed from further consideration due to lack of suitable habitat within or adjacent to the PSA, no known occurrences within 5 miles of the PSA, and/or because the PSA is outside of the species' known geographic or elevation range. An additional 11 species were determined to have a low potential to occur based on the lack of suitable microhabitat (e.g., vernal pools, aquatic habitat, host plants), including Crotch's bumble bee (*Bombus* crotchii), western spadefoot (*Spea hammondii*), California glossy snake (*Arizona elegans occidentalis*), western pond turtle (*Emys marmorata*), San Joaquin whipsnake (*Masticophis flagellum ruddocki*), Blainville's horned lizard (*Phrynosoma blainvillii*), grasshopper sparrow (*Ammodramus savannarum*), short-eared owl (*Asio*

flammeus), Swainson's hawk (*Buteo swainsoni*), loggerhead shrike (*Lanius ludovicianus*), and pallid bat (*Antrozous pallidus*). None of these species are further addressed in this report.

Nine special-status wildlife species were determined to have a moderate or high potential to occur within the PSA: California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), tricolored blackbird (*Agelaius tricolor*), golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), northern harrier (*Circus hudsonius*), white-tailed kite (*Elanus leucurus*), American badger (*Taxidea taxus*), and San Joaquin kit fox (*Vulpes macrotis mutica*). These special-status wildlife species are known to occur in open grassland habitats and are discussed in further detail below.

5.4.2.1 Crotch's Bumble Bee (*Bombus crotchii*)

Crotch's bumble bee is a state candidate for listing as endangered under CESA and is not covered under the EACCS. The species has low potential to occur within the PSA. The CBB occurs almost exclusively in California, currently primarily in the Central Valley, but has been described as having historically occupied grasslands and shrublands in southern to central California. Bumble bees are known to be generalist pollinators but have preferences based on flower color including purple, blue, and yellow. Specifically, this species is found in grasslands with food plant genera that include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*, among others (USFS 2012). The queen flight season for this species is February to March, and the colony active period (highest detection probability) is April to August (CDFW 2023e). Additionally, suitable habitat may contain any of the following: 1) areas of grasslands and upland scrub that contain requisite habitat elements, such as small mammal burrows and forage plants; 2) potential nest habitat (late February through late October) containing underground abandoned small mammal burrows, perennial bunch grasses and/or thatched annual grasses, brush piles, old bird nests, dead trees or hollow logs; 3) overwintering sites (November through early February) utilized by mated queens in self-excavated hibernacula potentially in soft, disturbed soil, sandy, well-drained, or loose soils, under leaf litter or other debris with ground cover requisites such as barren areas, tree litter, bare-patches within short grass in areas lacking dense vegetation. There are no CNDDB records within 5 miles of the PSA (CDFW 2024). One occurrence is documented within a nine-quad search (Occurrence number 19). This occurrence of was documented in 1959 and the exact location of this occurrence was unknown and recorded to CNDDB to demonstrate the general vicinity (CDFW, 2024).

Crotch's Bumble Bee Focused Habitat Assessment Survey Results

Focused Crotch's bumble bee habitat assessments were conducted on May 16 and August 2, 2023, and January 18, 2024. Scattered floral resources were observed including lupines (*Lupinus* spp.), Mexican whorled milkweed (*Asclepias fascicularis*), and exserted Indian paintbrush (*Castilleja exserta*), along with potential nesting substrates such as bare cracked soil, small rocky areas, and small rodent burrows. Both *Lupinus* sp. and *Asclepias* sp. are example food plants utilized by this species (Williams et al. 2014). No bumble bee species were seen during the field surveys, however, presence is assumed due to suitable foraging floral resource presence.

5.4.2.2 California Tiger Salamander (*Ambystoma californiense*)

The central California distinct population segment (DPS) of California tiger salamander is a federally and state threatened species and is covered under the EACCS. This species has moderate potential to occur within the PSA. This species is found in annual grassland, valley-foothill hardwood, and valley-foothill riparian habitats and breeds in vernal pools, ephemeral pools, stock ponds, and (infrequently) along streams and human-made water bodies if

predatory fishes are absent. The nearest documented occurrence is approximately 1.6 miles southwest of the PSA from 2012 (Occ. No. 1003), but there are numerous other records within 5 miles of the PSA (CDFW 2024). The habitat on the PSA 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 approximately 0.3 miles from the PSA (Figure 6). No California tiger salamanders were observed during the field surveys, but this species is extremely difficult to detect without focused surveys in accordance with USFWS and CDFW-sanctioned protocols (USFWS and CDFG 2003).

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 PSA to identify potential aquatic breeding sites within dispersal distance of the PSA. Three aquatic features were assessed for habitat suitability for CTS: Patterson Run, a seasonal stream paralleling Patterson Pass Road, and two stock ponds approximately 0.3 miles northwest (Pond 1) and west (Pond 2) of the PSA (Figure 6). Of these aquatic features, Ponds 1 and 2 were determined to provide high-quality breeding habitat for California tiger salamander. Neither of these features would be impacted by the proposed project. Patterson Run lacked large pools suitable for breeding. No CTS were observed during the field surveys or habitat assessment. Grasslands surrounding the aquatic features, including within the PSA, contain suitable upland refuge and overland migration habitat.

5.4.2.3 California Red-Legged Frog (*Rana draytonii*)

California red-legged frog (CRLF) is a federally threatened species and a California Species of Special Concern and is covered under the EACCS. The PSA is also located within critical habitat for California red-legged frog (refer to Section 5.6.1; 75FR12816 12959). The species has a moderate potential to occur within the PSA. This species is found in lowland streams, wetlands, riparian woodlands, and livestock ponds with dense, shrubby, or emergent vegetation and deep, still, or slow-moving water. They will use adjacent upland habitats for refuge during dry seasons. The nearest documented occurrences are approximately 1.5 miles east, south, and west of the PSA (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 PSA (CDFW 2024). The habitat on the PSA is suitable upland refuge and dispersal habitat for this species, consisting of abundant grassland with small mammal burrows.

A protocol-level habitat assessment for CRLF was conducted on August 2, 2023, for suitable aquatic habitats identified within, and in the vicinity of, the PSA to identify potential aquatic breeding sites within dispersal distance of the PSA. Three aquatic features were assessed for habitat suitability for CRLF: Patterson Run, a seasonal stream paralleling Patterson Pass Road, and two stock ponds approximately 0.3 miles northwest (Pond 1) and west (Pond 2) of the PSA (Figure 6; Appendix ~~G~~H, CRLF Habitat Assessment Datasheets). Of these aquatic features, only Pond 2 was determined to provide high-quality breeding habitat for CRLF, consisting of a large, deep stock pond with perennial water and a large quantity of emergent vegetation (bulrush [*Schoenoplectus* sp.] along with alkali bulrush [*Bolboschoenus maritimus*]) and surrounded by grazed grassland. Patterson Run lacked large pools suitable for breeding but could provide non-breeding aquatic habitat when water is present or dispersal habitat. Pond 1 lacked suitable emergent or margin vegetation and would not provide breeding habitat. No CRLF were observed during the field surveys or habitat assessment.

5.4.2.4 Tricolored Blackbird (*Agelaius tricolor*)

Tricolored blackbird (nesting colony) is state threatened and a California Species of Special Concern that is covered under the EACCS and is known to forage within the PSA. This species was observed during the field survey on

January 18, 2024, foraging in the grassland within the gen-tie buffer area. Tricolored blackbird nests colonially near freshwater, often in emergent wetlands of cattail or tule, but will also nest in dense, thorny vegetation such as Himalayan blackberry (*Rubus armenicus*) or thistles (*Cirsium* spp., *Silybum* spp., etc.). A desktop level habitat assessment was conducted for suitable breeding habitat potential within 0.5 miles of the PSA, and aquatic habitat within 0.5 miles was visited in the field concurrently with the CTS habitat assessment. Per the CDFW CNDDB database, there has not been any documented occurrences of this species within 0.5 miles. The National Wetland Inventory (NWI) has mapped data of the following three features that have been evaluated for tricolored blackbird breeding habitat suitability:

- **PUBHh** – Approximately 0.40 miles west of the PSA there is a 0.21-acre feature mapped by NWI categorized as a freshwater pond PUBHh [(P) Palustrine; (UB) unconsolidated bottom; (H) permanently flooded; (h) diked/impounded] (NWI, 2024). On March 31, 2023, Dudek biologist Emily Scricca conducted an evaluation of this aquatic feature. Representative photos were captured of this feature and display a lack of suitable foliage required for this species to nest (Appendix E, Photo Record).

- **PUBHh** – Approximately 0.46 miles northwest of the PSA there is a 0.24-acre feature mapped by NWI categorized as a freshwater pond PUBHh. On March 31, 2023, Dudek biologist Emily Scricca conducted an evaluation of this aquatic feature, and this feature presented similar lacking suitable nesting species required for this species to nest. Representative photos were captured of this feature (Appendix E, Photo Record).

- **PEM1A –** Approximately 0.25 miles northwest of the PSA there is a 5.00- acre feature mapped by NWI categorized as a freshwater emergent wetland PEM1A [(P) palustrine; (EM) emergent; (1) persistent; (A) temporary flooded] (NWI, 2024). On January 18, 2024, Dudek biologist Erin Colton-Fisher conducted an evaluation of this aquatic feature for habitat suitability for tricolored blackbird. Representative photos were captured of this feature display a lack of standing water and suitable nesting foliage required for this species (Appendix E, Photo Record).

Tricolored blackbird forage in grasslands, woodlands, and in agricultural areas. The nearest documented occurrence is 1.8 miles east of the PSA, a historical record from 1998 (Occ. No. 418), and six occurrences are recorded within 5 miles of the PSA as recently as 2015 (CDFW 2024). The six documented occurrences of tricolored blackbird within a five-mile radius from the PSA are detailed below:

- **Occurrence number 989:** This occurrence of tricolored blackbird was northwest of the PSA within a five-mile radius and documented in 1993. The observation notes for this occurrence detail that a breeding colony was observed in tall green mustard. No nearby aquatic features are visible through satellite imagery on Google Earth and CNDDB notes document that this occurrence was an approximate location. The following year, 1994, no tricolored blackbirds were observed at this location. Coordinates: (37.7218, -121.6874).

- **Occurrence number 842:** This occurrence of tricolored blackbird was northwest of the PSA within a five-radius and documented in 2005. The observation notes for this occurrence detail that the habitat was comprised of milk thistle, mustard, and poison hemlock in a wet meadow. Records indicate that groups of 25-30 nesting birds were observed on June 04, 2005. The wet meadow was eventually drained in 2008 and no observations were documented from 2008 through 2014. Coordinates: (37.7398, -121.6714)

- **Occurrence number 436:** This occurrence of tricolored blackbird was southeast of the PSA within a five-mile radius and documented in 2015. The observation notes for this occurrence detail that the habitat consisted of grasslands with freshwater emergent wetlands and seeps. The vegetation that was dominate in the freshwater emergent wetlands entail dense cattails and nettles. This differs from the PSA due to the freshwater emergent wetlands within 0.5 miles lacking dense suitable nesting vegetation. Per this occurrence record, tricolored blackbird was documented in this area as an explosive test site from 100's nesting in 1993 to observing 800 birds in 2015. Coordinates: (37.65680, -121.52776)

- **Occurrence number 418:** This occurrence of tricolored blackbird is the closest occurrence of this species in proximity to the PSA within a five-mile radius and was documented in 1998. The observation notes for this occurrence detail that the habitat consisted of patches of milk thistle with cattle presence, however, no suitable habitat was present in 2011. In 1998, approximately 1,500 individual tricolored blackbirds were observed coming and going with food and/or fecal sacs being carried by adults. A secondary site visit on April 17, 2011, revealed that 0 individual tricolored blackbirds were observed within the area documented in 1998. Coordinates: (37.71521, -121.53471)

- **Occurrence number 235:** This occurrence of tricolored blackbird was southeast of the PSA within a five-mile radius and documented in 1992. The observation notes of this occurrence detail that the habitat consisted of an artificially impounded pond grown over with a heavy stand of cattails (*Typha* sp). This observation habitat differs from the PSA due to lacking heavy stands of nesting vegetation. The observation notes also detail that 3 individual male tricolored blackbirds were within a group of nesting redwinged blackbirds and that nesting habitat was assumed. Coordinates: (37.69438, -121.51829)

- **Occurrence number 190:** This occurrence of tricolored blackbird was southeast of the PSA within a five-mile radius and documented in 1992. The observation notes of this occurrence detail that the habitat was within non-native annual grassland. The colony that was observed was split into two parts. The first colony was in a patch of Italian thistle near a creek. The second colony was in a patch of mustard approximately 0.2 miles away from the first colony. Approximately 45 individual tricolored blackbirds were observed nesting between the two locations on May 01, 1992. Folow up site visits occurred on the following dates: April 16, 2011; April 17, 2011; and April 20, 2014. Of the site visits, no individuals were observed spread between the two previous colony sites. Coordinates: 37.74481, -121.64051

Although this species was observed foraging on the PSA, it is unlikely to form a nesting colony as there is no suitable nesting habitat present within the PSA. Further, data on tricolored nesting on lands surrounding the PSA provided by Westervelt Ecological Services (2024) shows that tricolored blackbird are not utilizing the aquatic habitat nearest to the PSA. Aquatic habitat within 0.5 mile of the PSA does not include stands of emergent vegetation or dense riparian vegetation that provide suitable nesting substrates preferred by this species (Shuford et al, 2008) (refer to photographs in Appendix E). Additionally, although this species may also utilize upland vegetation for nesting (Cook and Toft 2005), they prefer dense stands of vegetation that offer protection from predators. The grasslands within the PSA are dominated by bromes and wild oat, and do not contain appropriate stands of vegetation for nesting colonies. Other than one observation of this species utilizing the PSA for winter foraging, this species has not been observed within the PSA during regular surveys associated with burrowing owl, which occurred every three weeks during the bird nesting season. Thus, although this species may utilize the PSA for foraging, it does not breed within the PSA.

5.4.2.5 Golden Eagle (*Aquila chrysaetos*)

Golden eagle is federally protected by the Bald and Golden Eagle Protection Act and is a California fully protected species that is covered under the EACCS with moderate potential to occur within the PSA. The golden eagle was formerly considered common within suitable habitats in California (Grinnell and Miller 1944) and is now considered an uncommon resident throughout California (Garrett and Dunn 1981). This species requires rolling foothills, mountain terrain, and wide arid plateaus deeply cut by streams and canyons, open mountain slopes and cliffs, and rock outcrops (Zeiner et al. 1990). In central California, the golden eagle nests primarily in open grasslands and oak savannah and, to a lesser degree, in oak woodlands and open shrublands (Hunt et al. 1995, 1999). The PSA has a vegetation community of wild oats and annual brome along with an ephemeral drainage located in the southeast. The project site lacks mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes and cliffs, and rock outcrops. The only trees onsite that may provide potential nesting locations for golden eagle are concentrated in the southeastern portion of the PSA along Patterson Run. However, these trees are relatively short in stature, located within a low-lying area associated with the channel of Patterson Run, and do not contain raptor nests. An assessment of potentially suitable golden eagle nesting habitat was conducted within 2 miles of the PSA, where access and land ownership allowed. Potentially suitable nesting habitat within 2 miles of the PSA includes trees associated with residences, transmission towers, and vegetation associated with Patterson run south of the PSA. While some stick nests were observed within transmission towers, they were most likely associated with ravens (*Corvus corax*). Additionally, most of the potentially suitable nesting habitat is blocked from visual range of the PSA by terrain. No golden eagles were observed during the nest habitat assessment.

The nearest documented occurrence is approximately 4.9 miles south of the PSA from 2014, a record of a nest in a tower (Occ. No. 323; CDFW 2024). There are a total of 14 documented occurrences of golden eagle occurring in a USGS nine quad search surrounding the PSA (CDFW 2024). Of the 14 documented occurrences of golden eagle occurring, 5 occurrences have been documented within a 10-mile radius of the project site.

- **Occurrence No. 71** located approximately 8.25 miles northwest from the project site – nest was found on north-facing slope on a 40 ft valley oak located mid-slope in a canyon with mixed riparian habitat and was documented to occur in 2000.

- **Occurrence No. 324.** Located approximately 6 miles south from the project site. Comments recorded in CNDDB state that there "may" have been a nest located within power poles and comments state a need for field work. Occurrence was documented in 1998.

- **Occurrence No. 323.** located approximately 4.9 miles southeast of the project site - record of a nest in a tower, described in above text. Occurrence was documented in 2014. (Figure 4, Special-Status Species Occurrences).

- **Occurrence. No 124** located approximately 5.04 miles southeast of the project site and nesting substrate was located on a power pole. Occurrence was last seen in 1996, and the surrounding topography shows steep bluffs from aerial imagery, which is lacking on the project site.

- **Occurrence No. 147** located approximately 9.75 miles northwest of the project site and nest was located within blue oak savannah and annual grazed grassland within a protected watershed. Comments state that coordinates provided to CDFW are erroneous and do not represent nest site. This occurrence offers

potential to occur outside a 10-mile radius from the project site due to that reasoning. Observance of occurrence was documented in 2006.

The remaining 9 occurrences documented of golden eagle within the USGS 9 quad search are concentrated to occur near Los Vaqueros Reservoir approximately 11 miles northwest of the PSA. The Los Vaqueros Reservoir provides high quality suitable nesting habitat for this species due to having a steep bluff terrain, various nesting locations, and a reservoir resource to support this species. The grassland foraging habitat on the PSA is of moderate quality, with low-quality nesting habitat provided by transmission towers surrounding the site and the trees associated with Patterson Run. ~~No eagles or potential nests were observed during the field surveys.~~

Golden Eagle Survey Results

Ground-based eagle surveys were conducted on December 12, 2024, March 20 and April 28, 2025. Previous studies conducted by USGS staff associated with the Altamont Pass Wind Resource Area have identified two potential golden eagle territories within 2 miles of the PSA. One territory south of the PSA contains a nesting pair known as the Midway Pair) approximately 1 mile south of the PSA (Wiens and Kolar 2021; Wiens and Kolar 2023). This pair utilizes a nest in riparian vegetation along Patterson Run, adjacent to Patterson Pass Road. A second pair (known as the Jess Ranch Pair) was observed attempting to construct a nest in a transmission tower approximately 0.4 miles north of the PSA in 2023; however, the nest was destroyed by high winds and the pair did not rebuild or return. ~~This territory is not considered active currently.~~ Eagle surveys conducted in 2024 and 2025 per ground-based survey protocol outlined in Pagel 2010, confirmed that no eagle nest was established in the transmission tower north of the PSA. 2025 surveys also confirmed that the nest approximately 1 mile south of the Study Area was active with the adults perched in the nest tree adjacent to a large stick nest.

5.4.2.6 Burrowing Owl (*Athene cunicularia*)

Burrowing owl is a candidate for listing as a protected species under the CESA, and is also covered under the EACCS with moderate potential to occur on the PSA. This species nests and forages in grassland, open scrub, and agricultural lands that contain ground squirrel burrows or burrow surrogates (e.g., concrete debris piles, culverts, riprap) for nesting and shelter. There are three documented occurrences adjacent or overlapping with the PSA, from 1982, 2002, and 2006 (Occ. Nos. 48, 468, and 1229). Multiple other documented occurrences are within 5 miles of the PSA, most recently from 2015 (CDFW 2024).

Focused Burrow Survey Results

Focused burrow surveys were conducted on May 16 and August 2, 2023, and January 18, 2024, to identify a variety of animal burrows within the updated PSA boundaries, including for burrowing owl. There is abundant grassland habitat within the PSA, but it is currently of moderate suitability for burrowing owls because it lacks extensive ground squirrel burrows and the vegetation is generally tall and dense (burrowing owls prefer areas with short, sparse vegetation). Burrows present on the site were generally small and not suitable for burrowing owls. Higher-quality habitat with low, grazed vegetation and ground squirrel colonies were observed throughout the surrounding landscape. No burrowing owls were observed during the field surveys.

Protocol-level Burrowing Owl Survey Results

Protocol-level burrowing owl surveys were conducted on April 12, May 3, May 24, and June 17, 2024. Results of the focused burrow survey were used to identify areas of potential breeding habitat (burrows). No burrowing owls or their sign were observed during the field surveys. In general, CDFW considers sites occupied if BUOW and/or their sign (e.g. burrows with whitewash, feathers, pellets, prey debris) have been observed on the site in the last 3 years, therefore, based on the lack of documented occurrences and survey results, this species is not present within the PSA.

Winter burrowing owl surveys were conducted on December 12, 2024, January 4, 11, and 31, 2025. No burrowing owl activity was noted during the winter burrowing owl surveys.

5.4.2.7 Northern Harrier (*Circus hudsonius*)

Northern harrier is a California Species of Special Concern that is not covered under the EACCS with a moderate potential to occur within the PSA. This species nests in open wetlands (such as wet meadows, old fields, and marshes) and in dry grassland and grain fields, and forages in open habitats including grassland, scrub, rangelands, and emergent wetlands. The nearest documented occurrence is approximately 2.2 miles northeast of the PSA from 2001 (Occ. No. 49; CDFW 2024). There is moderate-quality grassland habitat on the PSA of sufficient height and density for nesting. No northern harriers were observed during the field surveys.

5.4.2.8 White-Tailed Kite (*Elanus leucurus*)

White-tailed kite is a California fully protected species that is not covered under the EACCS with a low potential to occur within the PSA. This species nests in woodland, riparian, and individual trees near open land, and forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savannah, and disturbed lands. The nearest documented occurrence is approximately 3.7 miles south of the PSA, a historical record from 1996 (Occ. No. 152; CDFW 2024). There is moderate-quality grassland habitat present within the PSA, with a few scattered cottonwood trees (*Populus* sp.) associated with Patterson Run suitable for nesting. No raptor nests were noted within the trees associated with Patterson Run during any of the site surveys. No white-tailed kites were observed during the field surveys.

5.4.2.9 Swainson's hawk (*Buteo swainsonii*)

Swainson's hawk is a California state threatened species that is not covered under the EACCS with a low potential for nesting and foraging within the PSA. Swainson's hawks are primarily a grassland bird, but they are also found in sparse shrubland and small, open woodlands (Bechard et al. 2010). In Central California, Swainson's hawks are primarily associated with grain and hay croplands that mimic native grasslands with respect to prey density and availability (Esetep 1989, Babcock 1995). Within a USGS nine quad search, a total of 85 occurrences of Swainson's hawk have been reported. Within a 10-mile radius of the PSA, a total of 59 occurrences of Swainson's hawk have been reported (CDFW 2024). Most of the documented observations within 5 miles are located approximately 4 miles or greater north and east of the PSA, primarily east of the Diablo Range (CDFW 2024). Four occurrences of this species are documented within 5 miles, but none are closer than 3.8 miles to the PSA. The occurrence located approximately 3.8 miles northeast of the PSA is a historic record documented in 1994 (CDFW 2024). Additionally, information provided by CDFW (2024) coincides with ebird records and shows this species overflying the PSA and sometimes displaying courtship behavior.

An assessment of potentially suitable nesting habitat within 0.5 mile of the PSA was conducted in December 2024. Potential nesting habitat within 0.5 mile of the PSA includes trees associated with residences, transmission towers, and riparian vegetation associated with Patterson Run south of the PSA. No raptor stick nests were noted in any of this habitat during the nest habitat assessment. Although the PSA presents grassland foraging habitat for this species, suitable nesting habitat within 0.5 mile of the PSA is limited and includes trees associated with homes and development. Trees onsite are short in stature and do not provide high quality nesting substrates for raptors. No Swainson's hawks or raptor stick nests were observed during field surveys.

Protocol-level Swainson's Hawk Survey Results

Protocol-level Swainson's hawk surveys were conducted in December 2024, and March and April 2025. Swainson's hawk was noted overflying the project site and to the east of the project site. No courtship or nesting behavior was observed during any of the survey visits.

5.4.2.10 American Badger (*Taxidea taxus*)

American badger is a California Species of Special Concern and is covered under the EACCS, with moderate potential to forage within the PSA. This species occurs on dry, open, treeless areas such as grasslands, coastal scrub, agriculture, and pastures, especially with friable soils for burrowing. The nearest documented occurrences are approximately 0.2 miles north (Occ. No. 520 from 2014) and south (Occ. No. 250, unknown date prior to 2004) of the PSA, with multiple other records within 5 miles of the PSA, the most recent from 2015 (CDFW 2024). Although there is abundant moderate-quality grassland for foraging, no suitable den habitat was documented within the PSA during the focused burrow surveys, as described below.

Focused Burrow Survey Results

Focused burrow surveys were conducted on May 16 and August 2, 2023, January 18, 2024, and additional burrow assessment was conducted during protocol-level burrowing owl surveys on April 12, May 3, May 24, and June 17, 2024, to identify a variety of animal burrows within the updated PSA boundaries, including for American badger. Several large burrow tailings were observed on the eastern side of the PSA along Patterson Pass Road, evidence of highly suitable soils for burrowing and hunting. Burrows were also investigated for sign of American badger occupancy, including prey remains, scat, tracks, and claw/scratch marks. The burrows were not greater than 4 inches in diameter and are associated with active ground squirrel colonies and are not suitable denning structures for American badgers. No American badgers or their sign were observed during the field surveys.

5.4.2.11 San Joaquin Kit Fox (*Vulpes macrotis mutica*)

San Joaquin kit fox is a federally endangered and state threatened species and is covered under the EACCS, with low potential to occur on the PSA. This species occurs on grassland and scrublands, oak woodland, alkali sink scrubland, vernal pools, and alkali meadows. The PSA is in the northern range of this species, in the S1 (Alameda, Contra Costa, and San Joaquin Counties) San Joaquin kit fox satellite population recovery area (USFWS 2010), where there have been no confirmed observations since 2002 (USFWS 2020). Extensive surveys using scent dogs between 2001 and 2003 did not detect any San Joaquin kit foxes in surveyed portions of Alameda County (Smith et al. 2006).

The nearest documented occurrence is approximately 0.3 miles southwest of the PSA, a historical record from 1984 (Occ. No. 6); multiple other historical records are within 5 miles of the PSA, all prior to 1992 (CDFW 2024). Although there is abundant moderate-quality grassland present on the site, none of the burrows onsite are suitable for this species (see burrow survey results, below), and it is highly unlikely this species utilizes the PSA for denning habitat.

Focused Burrow Survey Results

Focused burrow surveys were conducted on May 16 and August 2, 2023, January 18, 2024, and additional burrow assessment was conducted during protocol-level burrowing owl surveys on April 12, May 3, May 24, and June 17, 2024, to identify a variety of animal burrows within the updated PSA boundaries, including for San Joaquin kit fox. Several large burrow tailings were observed on the eastern side of the PSA along Patterson Pass Road, evidence of highly suitable soils for burrowing. Burrows were also investigated for sign of San Joaquin kit fox occupancy, including prey remains, scat, tracks, and claw/scratch marks. The burrows onsite were not greater than 4 inches in diameter and are associated with active ground squirrel colonies and are not suitable denning structures for San Joaquin kit fox. No San Joaquin kit fox or their sign were observed during the field surveys.

5.5 Nesting Birds

The PSA provides habitat for nesting birds protected by the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC). Red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), and American kestrel (*Falco sparverius*), and other bird species were observed foraging on site and the vicinity. While no nests were observed during the surveys, there are suitable trees along Patterson Pass Road, transmission towers for large raptors and ravens, and grassland for ground-nesting species such as western meadowlark (*Sturnella neglecta*).

5.6 Other Sensitive Resources

5.6.1 Designated Critical Habitat

Designated Critical Habitat (DCH) is designated by USFWS when a species is federally listed and represents areas of the species' range (or potential range) that contain essential features for the species' conservation (USFWS 2017). There is DCH for multiple species within 5 miles of the PSA; however, only DCH for CRLF overlaps with the Study Area (Appendix A: Figure 5, Critical Habitat and Essential Fish Habitat).

California Red-Legged Frog

There is DCH for CRLF overlapping the PSA and extending to the north and southwest (USFWS 2023e), in areas of undeveloped or rural agricultural lands. Critical habitat for CRLF consists of four primary constituent elements (PCEs), which support different components of the species' life history, as last updated by USFWS in 2010 (75 FR 12816-12959):

1. **Aquatic Breeding Habitat:** Standing bodies of fresh water including natural and manmade (e.g., stock) ponds, slow-moving streams, pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in most years.

2. **Aquatic Non-Breeding Habitat:** Freshwater aquatic habitats that may not hold water long enough for the species to complete its aquatic life cycle, but which provide for shelter, foraging, predator avoidance, and aquatic dispersal of juvenile and adult CRLF. These may include breeding habitat as described above, as well as plunge pools within intermittent creeks, seeps, quiet water refugia within streams, and flowing springs.
3. **Upland Habitat:** Upland areas adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to 1 mi (1.6 km), depending on surrounding landscape and dispersal barriers. Upland habitat may include grassland, woodland, forest, wetland, or riparian areas that provide shelter, forage, and predator avoidance with structural features such as boulders, rocks and organic debris (e.g., downed trees, logs), small mammal burrows, or moist leaf litter.
4. **Dispersal Habitat:** Accessible upland or riparian habitat within and between occupied locations within a minimum of 1 mi (1.6 km) of each other and that support movement between such sites. Dispersal habitat includes various natural or moderately altered habitats (such as agricultural fields) that do not contain dispersal barriers. Dispersal habitat does not include moderate- to high-density urban or industrial developments, nor does it include large (>50 ac) lakes or reservoirs.

PCEs 3 and 4 (upland and dispersal habitat) are present on the PSA, and PCEs 1 and 2 (aquatic breeding and non-breeding habitat) are present within dispersal distance (1 mile) of the PSA.

5.6.2 Essential Fish Habitat

Essential Fish Habitat (EFH) on the west coast is managed by the National Oceanic and Atmospheric Administration (NOAA) and the Pacific Fishery Management Council (PFMC) under the Magnuson-Stevens Act of 1976 to protect habitat for federally managed fish species across life stages (NOAA 2021). EFH is broadly mapped as the geographic area wherein a fish species may occur at any time in its life and is designated at the watershed level of the USGS 4th field hydrologic unit to account for variability in freshwater habitats over time (PFMC 2014, 2022). Thus, mapped EFH may encompass terrestrial habitats that do not currently provide appropriate conditions for target fish species but are within the same watershed as the species' known distribution and may become suitable habitat as environmental conditions change (e.g., droughts, floods, etc.).

The PSA overlaps with designated freshwater EFH for Pacific coast salmon. Specifically, the Pacific Salmon Fishery Management Plan (PFMC 2014, 2022) identifies freshwater EFH for Chinook salmon (*Oncorhynchus tshawytscha*) in the San Joaquin Delta hydrologic unit (HUC-8 18040003), which includes the PSA within the Old River watershed. Freshwater EFH for Chinook salmon consists of four major activities: (1) spawning and incubation; (2) juvenile rearing; (3) juvenile migration corridors; and (4) adult migration corridors and adult holding habitat (PFMC 2014, 2022). Chinook salmon EFH includes all freshwater habitat currently or historically occupied in Washington, Oregon, Idaho, and California (PFMC 2014, 2022). There are currently no aquatic habitats with flowing water suitable for salmonids within the PSA.

5.6.3 Sensitive Natural Communities

Sensitive natural communities are communities that have a limited distribution and are often vulnerable to the environmental effects of projects. These communities may or may not contain special-status species or their habitats. For purposes of this assessment, sensitive natural communities include vegetation communities listed in

CDFW's California Natural Diversity Database (CNDDB; CDFW 2024) and communities listed in the California Natural Community List (CDFW 2023d) with a rarity rank of S1, S2, or S3 (S1: critically imperiled; S2: imperiled; S3: vulnerable). Additionally, all vegetation associations within the alliances with ranks of S1–S3 are considered sensitive habitats. CEQA requires that impacts to sensitive natural communities be evaluated and mitigated to the extent feasible. There are no sensitive natural communities within the PSA.

5.6.4 Wildlife Corridors and Habitat Linkages

Wildlife movement corridors have been recognized by federal and state agencies as important habitats worthy of conservation. Wildlife corridors provide migration channels seasonally (i.e., between winter and summer habitats), and provide non-migrant wildlife the opportunity to move within their home range for food, cover, reproduction, and refuge. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as steppingstones for dispersal.

The PSA does not overlap with any California Essential Habitat Connectivity Areas (CDFW 2014). but is considered part of the large contiguous Natural Landscape Block that extends from Alameda County south through the Diablo Range and Southern Coastal Ranges, terminating north of the Transverse Ranges (CDFW 2017). Given that the existing vegetation is surrounded on three sides by similar annual grassland habitat and is close to the existing PG&E substation, the PSA likely provides movement habitat for local wildlife but is not recognized as an important regional wildlife corridor by any state agency or jurisdiction and is of limited linkage value on a landscape scale. Furthermore, although local wildlife may utilize the PSA as movement habitat, regional connectivity is highly limited by Patterson Pass Road, an unnamed gravel road directly to the north of the PSA, Interstates (I) 580 and I-5 to the north and east, respectively, and the railroad south of the PSA. Thus, the project would not impose significant barrier to wildlife movement.

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6 Summary of Findings

6.1 Biological Impact Overview

The Project could have a substantial adverse effect, either directly or through habitat modifications, on species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. Incorporation of mitigation measures ensures that these impacts will be less than significant.

A total of 1 special-status plant species and 6 special-status wildlife species are known to occur within the PSA, were observed or detected during field surveys, or have a moderate to high potential to occur on the PSA and could therefore be impacted by eventual Project implementation. Big tarplant was observed on the site. Tricolored blackbird was observed foraging on the site and five other special-status wildlife species have a moderate or high potential to occur on the PSA, including California tiger salamander, California red-legged frog, golden eagle, northern harrier, burrowing owl, and white-tailed kite. Special-status plant and wildlife resources may be subject to agency jurisdiction pursuant to regulations under FESA, CESA, California FGC, CEQA guidelines, the Alameda County General Plan, and the EACCS. Species-specific AMMs will be provided for all special-status species to reduce potential impacts to less than significant under CEQA.

The Project would not have a substantial adverse effect on any sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.

No CDFW sensitive natural communities were identified within the PSA, and no impacts are anticipated.

Designated Critical Habitat for California red-legged frog overlaps with the PSA. Removal of upland refuge and dispersal habitat associated with construction of the BESS site will be mitigated through purchase of appropriate credits at an agency-approved mitigation bank.

The PSA overlaps with desighated freshwater EFH for Pacific coast salmon. Specifically, the Pacific Salmon Fishery Management Plan (PFMC 2014, 2022) identifies freshwater EFH for Chinook salmon (*Oncorhynchus tshawytscha*) in the San Joaquin Delta hydrologic unit (HUC-8 18040003), which includes the PSA within the Old River watershed. There are currently no aquatic habitats with flowing water suitable for salmonids within the PSA and no impacts are anticipated.

The Project could have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Incorporation of mitigation measures ensures that these impacts will be less than significant.

A USACE-level jurisdictional delineation of aquatic resources was conducted in January 2024. There are no aquatic resources present on the BESS facility portion of the PSA. The gen-tie alignment crosses one seasonal channel (EPH-01, Patterson Run), which parallels Patterson Pass Road and flows southwest to northeast on a seasonal basis. AMMs, including obtaining a CWA Section 404 Nationwide Permit from the USACE and CWA Section 401 Water Quality Certification from the CVRWQCB, are recommended to reduce potential impacts to less than significant under CEQA.

The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

Undeveloped grasslands on the PSA may provide nursery and dispersal habitat for wildlife species. According to the California Essential Habitat Connectivity Project, the PSA does not overlap with any California Essential Habitat Connectivity Areas (CDFW 2014) but is considered part of a Natural Landscape Block (CDFW 2017). Given that the existing vegetation is surrounded on three sides by similar open, undeveloped annual grassland habitat and is close to the existing PG&E substation, the PSA likely provides habitat value but is of limited linkage value in the landscape. The PSA plan and recommended avoidance and minimization measures to protect special-status species ensure this impact is less than significant.

The Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

There are no tree preservation policies or ordinances in Alameda County. The Alameda County General Plan and Code of Ordinances have policies for protecting riparian, wetland, and watercourse habitats. The PSA plan and recommended avoidance and minimization measures to protect aquatic resources ensure this impact is less than significant.

The Project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Incorporation of mitigation measures ensures that the Project will not conflict with the EACCS.

The EACCS provides a framework for natural resource conservation and to streamline the environmental permitting process within the eastern portion of the county. The PSA is in Conservation Zone (CZ) 10 of the EACCS. This CZ emphasizes conservation priorities that may conflict with the Project implementation, such as protection of all big tarplant occurrences, protection of critical habitat for California red-legged frog (including annual grasslands near ponds), and protection and restoration of Patterson Run. The impacts to the EACCS CZ-10 from Project development are a very small percentage of the inventory of those lands in CZ-10.

The Project will obtain applicable permits and other approvals from USFWS, USACE, CDFW, and RWQCB, and will minimize and mitigate impacts on natural resources to comply with the regulatory standards of these agencies. These are the same regulatory standards applied by USFWS and the other environmental agencies in their review and approval of the EACCS. The Project will adhere to AMMs that comply or exceed EACCS guidelines, so development of this PSA will not conflict with implementation of the EACCS, and Project effects on EACCS Covered Species, if present, would be avoided and minimized. Further, the Project will provide compensatory mitigation for impacts to aquatic resources and specific EACCS covered species through the acquisition of credits from existing mitigation banks and other compensatory mitigation.

The EACCS defines standardized mitigation ratios for each of the focal species to be utilized by local jurisdictions and resource agencies to determine the level of mitigation necessary to offset project impacts. These are based upon an evaluation of the habitat quality on the PSA scored using species-specific "habitat units." Mitigation ratios are then calculated based on the acreage of habitat affected, the location of the site, and the species-specific mitigation ratio table (Appendix ~~H~~I, EACCS Score Sheets). Total mitigation acreages may vary depending on the location of selected mitigation areas the total habitat acreage affected by the Project.

6.2 Regulations and Permitting Overview

Federal: USACE, USFWS

- Under FESA, USFWS regulates species listed as threatened or endangered, including DCH. Since the Project "may affect" several federally listed species and their habitat, formal consultation with USFWS should be initiated to identify the appropriate FESA permitting pathway.
  - Section 7 consultation would occur if a federal CWA Section 404 were required (see next bullet). Section 7 of the FESA requires all federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat critical to such species' survival. To ensure that its actions do not result in jeopardy to listed species or in the adverse modification of critical habitat, each federal agency must consult with USFWS and/or NMFS regarding actions that may affect listed species, including issuance of CWA Section 404 permits by USACE. Consultation begins when the federal agency submits a written request for initiation to USFWS or NMFS, along with the agency's biological assessment (BA) of its proposed action, and when USFWS or NMFS accepts that biological assessment as complete. If USFWS or NMFS concludes that the action is not likely to adversely affect a listed species, the action may be conducted without further review under FESA. Otherwise, USFWS or NMFS must prepare a written biological opinion (BO) describing how the agency's action will affect the listed species and its critical habitat.
  - Section 10 consultation would occur if there were no federal land, funding, or authorization (e.g., CWA permit issuance) required. Private landowners, corporations, state agencies, local agencies, and other nonfederal entities must obtain a Section 10(a)(1)(B) incidental take permit for take of federally listed fish and wildlife species "that is incidental to, but not the purpose of, otherwise lawful activities." Section 10(a)(1)(B) incidental take permits are issued upon completion of an approved habitat conservation plan (HCP).
- USFWS regulates the take of golden eagle under BGEPA. If a golden eagle nest became established on or within 0.5 mile of the PSA and there was reasonable likelihood that the Project would result in take (including disturbance resulting in nest abandonment), the applicant would need to obtain an eagle incidental take permit.
- Federal waters of the United States are regulated through Section 404 of the CWA and fall under the authority of USACE. For impacts to waters of the United States, permitting would be achieved through a technical study and a USACE verified Aquatic Resources Delineation, and either through a Nationwide Permit (NWP) (i.e., for impacts less than or equal to 0.5 acres, 300 linear feet), or through a Standard Permit (SP) such as an individual permit.

State: CDFW, CEQA, RWQCB

- Under the CESA, CDFW regulates species listed as threatened or endangered. Note that unlike the FESA, CESA does not include indirect impacts (e.g., habitat degradation, harassment, harm) in its definition of "take." In addition, compliance with the CFGC Section 1900 as it relates to the NPPA, Section 3503 regulating "take" of nesting migratory birds and raptors as designated by the MBTA, and Section 4150 regulating the "take" of non-game mammals, including bat species, apply to state-listed and other species. Additionally, CFGC Section 1940 requires sensitive habitat and sensitive natural communities that have

the potential to impacted by a project, to be addressed through the CEQA process (see below). If the Project potentially impacts a listed special-status species and/or suitable habitat of that species that may potentially occur and/or are known to occur in the PSA, then CESA permitting may be achieved through a technical study and the preparation this BRA, CFGC Section 2081 Incidental Take Permit (ITP), and/or through CFGC Section 1602 Lake and Streambed Alteration Agreement (LSAA).

- Pursuant to CEQA Guidelines Section 15380, protection is provided for federal and/or state-listed species, as well as species not listed federally or by the state that may be considered rare, threatened, or endangered. Under the CEQA guidelines, protection is also provided to aquatic resources and surface waters. Species that meet these criteria can include "candidate species," species "proposed for listing," and "SSC." Plants listed in the CNPS Rare Plant Program are considered to meet CEQA's Section 15380 criteria as well. CEQA requires that impacts to sensitive natural communities be evaluated and mitigated to the extent feasible. CEQA must be completed prior to the issuance of any federal or state permits.
- SWRCB has authority over waters of the state, including wetlands, through Section 401 of the CWA, as well as the Porter–Cologne Act, California Code of Regulations Section 3831(k), and California Wetlands Conservation Policy. In California CWA Section 404 and Porter–Cologne Act compliance are achieved through an Aquatic Resources Delineation (preferably USACE verified), and Section 404 permitting with the RWQCB and obtaining WQC and/or a WDR for impacts to waters of the state. Note that aquatic resources may meet criteria for both waters of the United States and waters of the state.

Local: Alameda County

- The EACCS provides a framework for natural resource conservation and helps streamline the environmental permitting process within the eastern portion of Alameda County. The EACCS defines standardized mitigation ratios for each of the focal species to be utilized by local jurisdictions and resource agencies to determine the level of mitigation necessary to offset project impacts. These are based upon an evaluation of the habitat quality on the PSA scored using species-specific "habitat units." Mitigation ratios are then calculated based on the acreage of habitat affected, the location of the site, and the species-specific mitigation ratio table. The EACCS also provides approved mitigation measures for focal species covered under the plan, along with general biological AMMs applicable to all projects. Although not an HCP per se, the EACCS was developed with the intention of streamlining the FESA regulatory process and could therefore facilitate the formal consultation process with USFWS described above, especially if Section 10 is identified as the only permitting mechanism.
- The General Plan includes limited policies to help preserve and restore biological resources and aquatic resources throughout Alameda County. The PSA is not overlaid with any special designations according to the General Plan and is designated "Large Parcel Agriculture," so most of the policies related to preservation and restoration of habitat do not directly apply. The limited policies that do apply focus on protection and mitigation of watercourses and riparian areas. General Plan compliance as it relates to these resources is expected to be achieved through the CEQA process.

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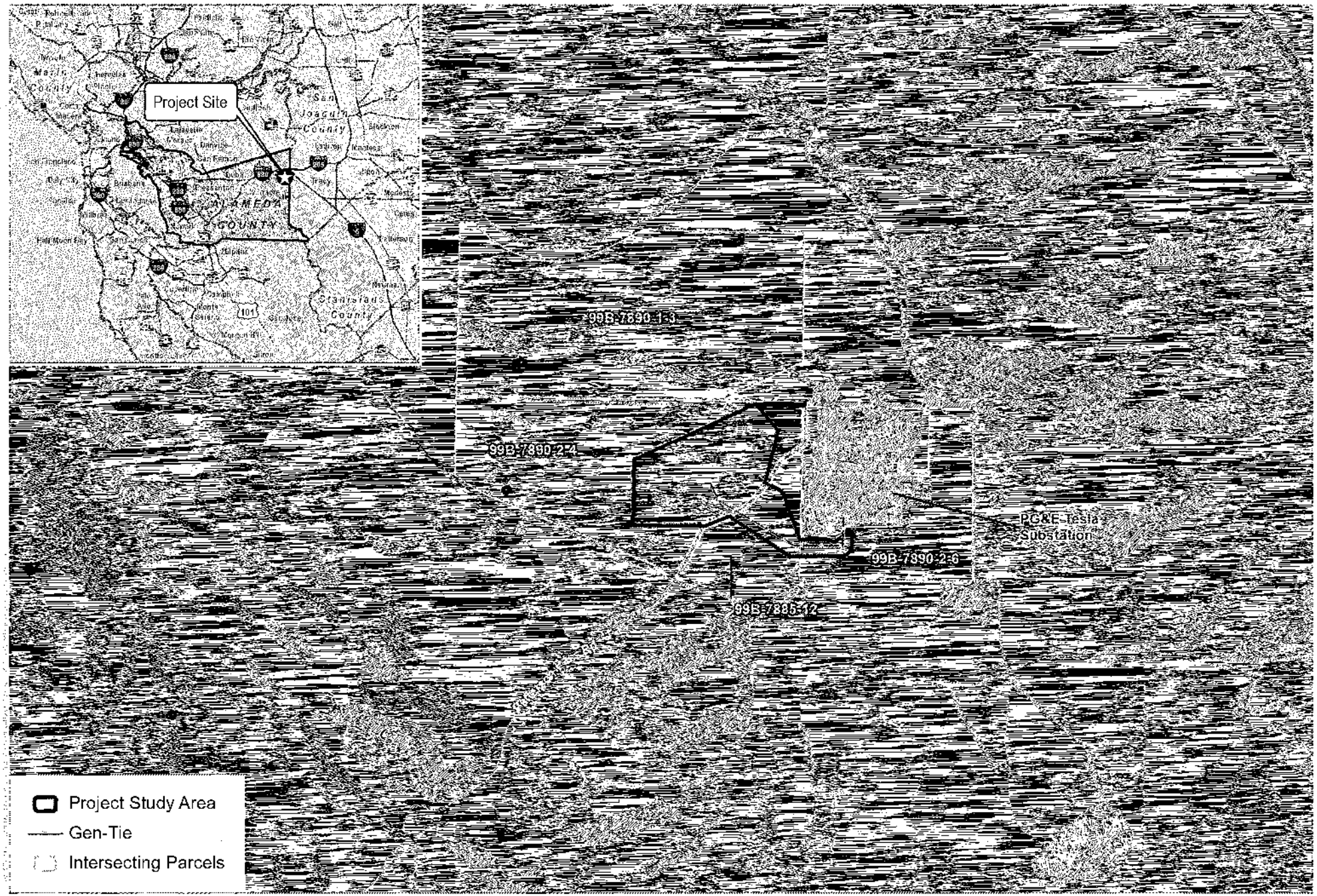
Appendix A
Figures 1-6



SOURCE: Bing Maps 2024, Open Street Map 2019

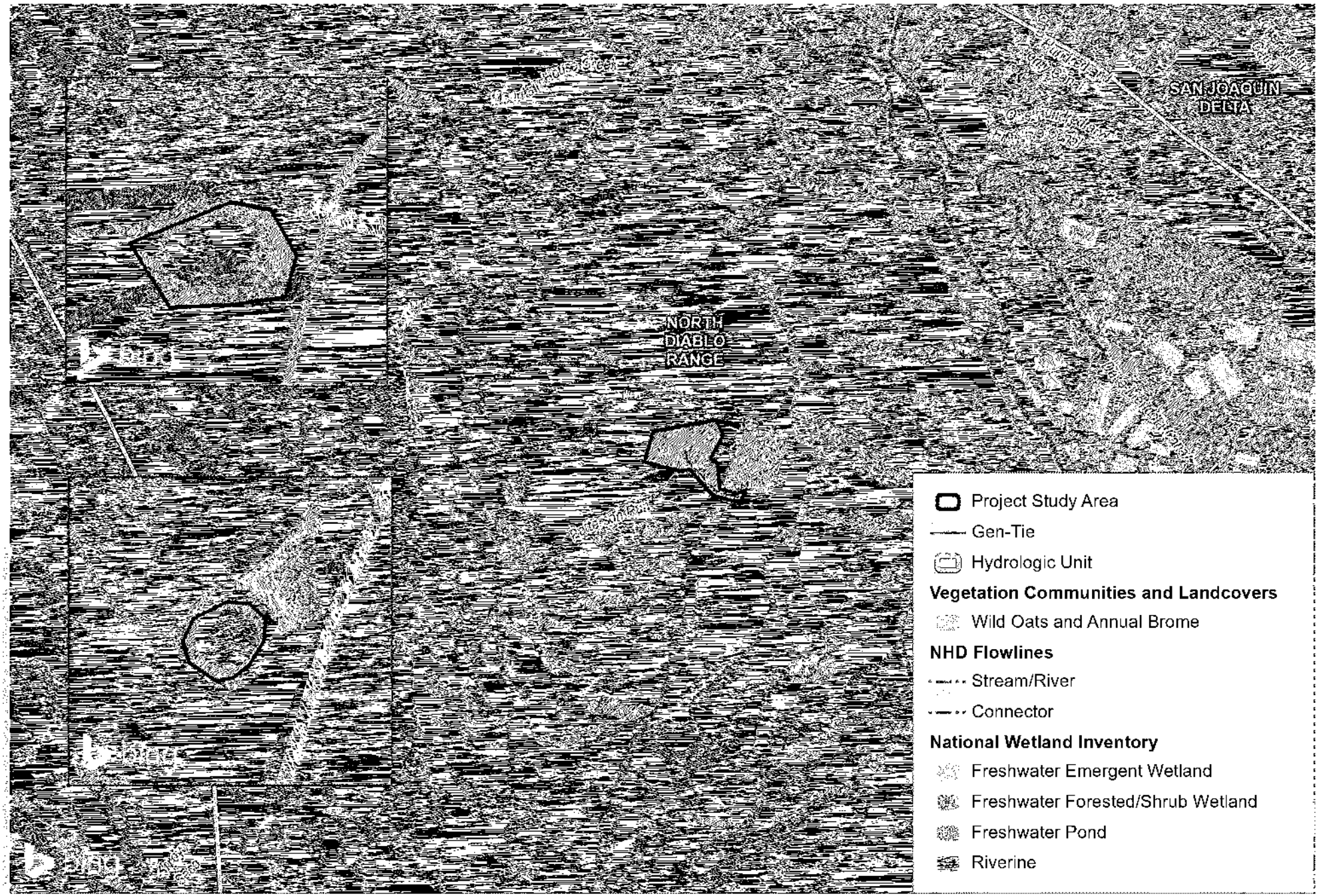
DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Biological Technical Report for the Potrero-Vinci Battery Energy Storage System Project, Alameda County, CA



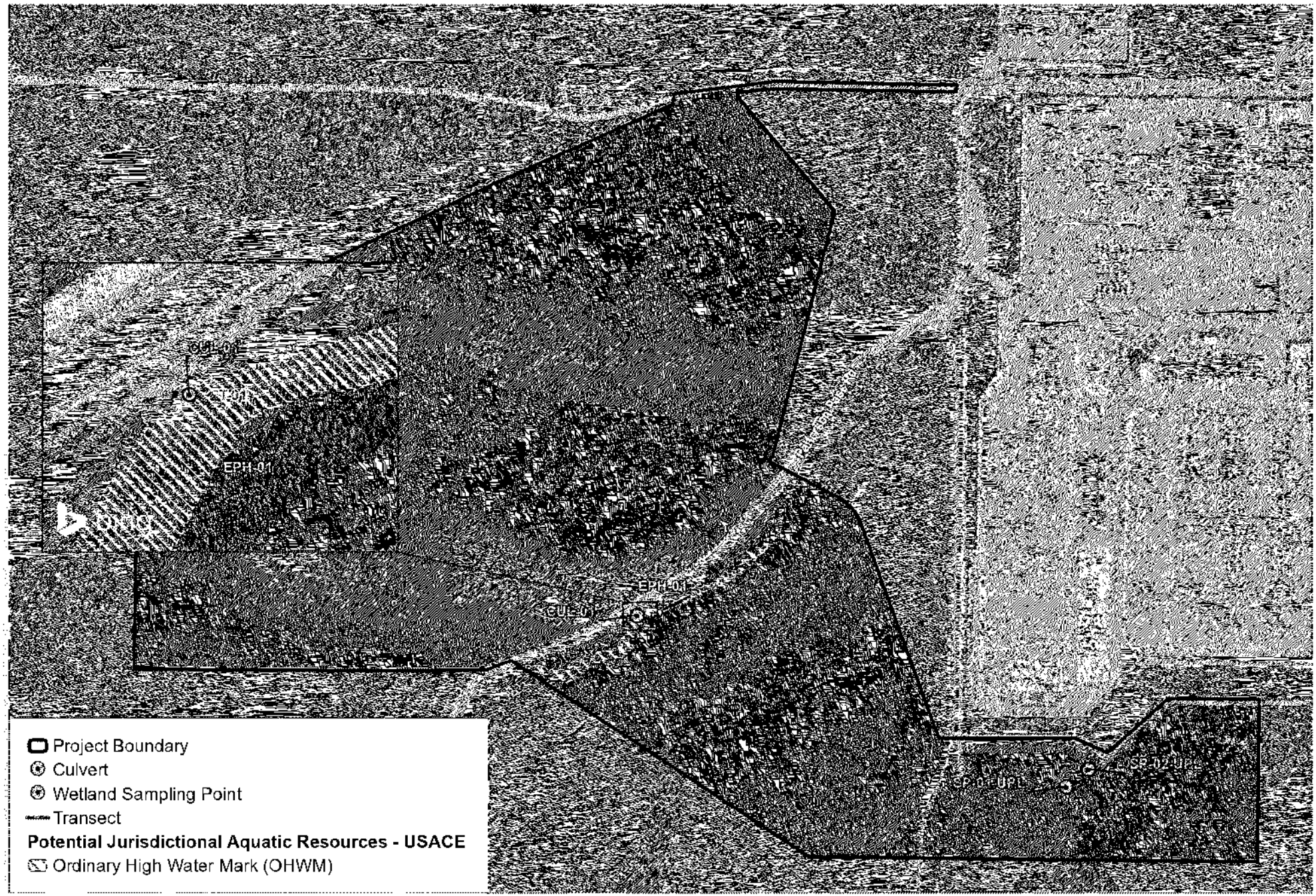
SOURCE: Bing Maps 2004, Open Street Map 2019, USFWS 2019, USGS 2019

DUDEK 0 0.5 1 Miles

FIGURE 2

Biological Setting

Biological Technical Report for the Potrero-Viridi Battery Energy Storage System Project, Alameda County, CA



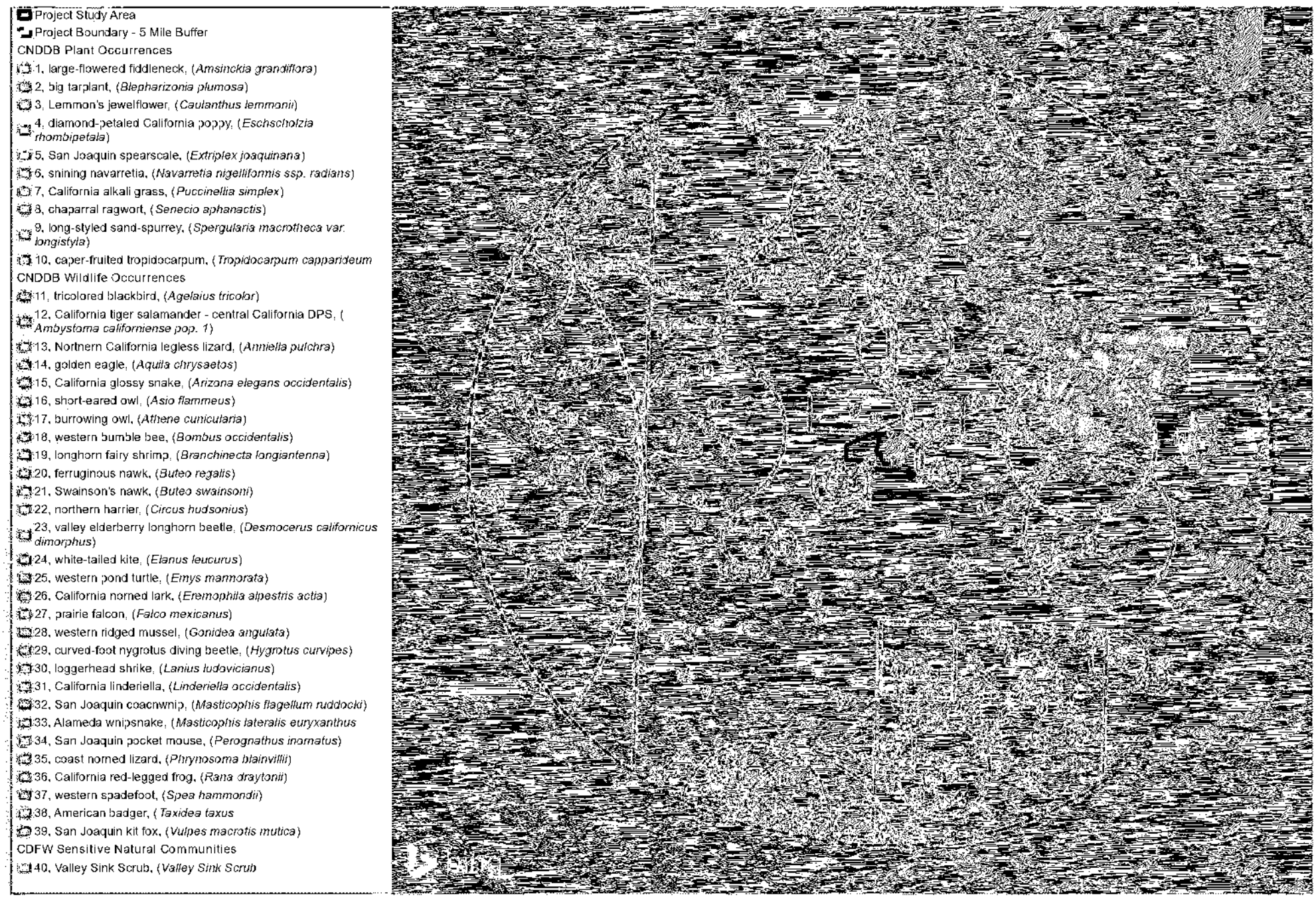
SOURCE: Bing Maps (accessed 2024); Pipes Sheets Map 2019

DUDEK 0 200 400 Feet

FIGURE 3

Aquatic Resources Delineation

Potrero Viejo BESS Project



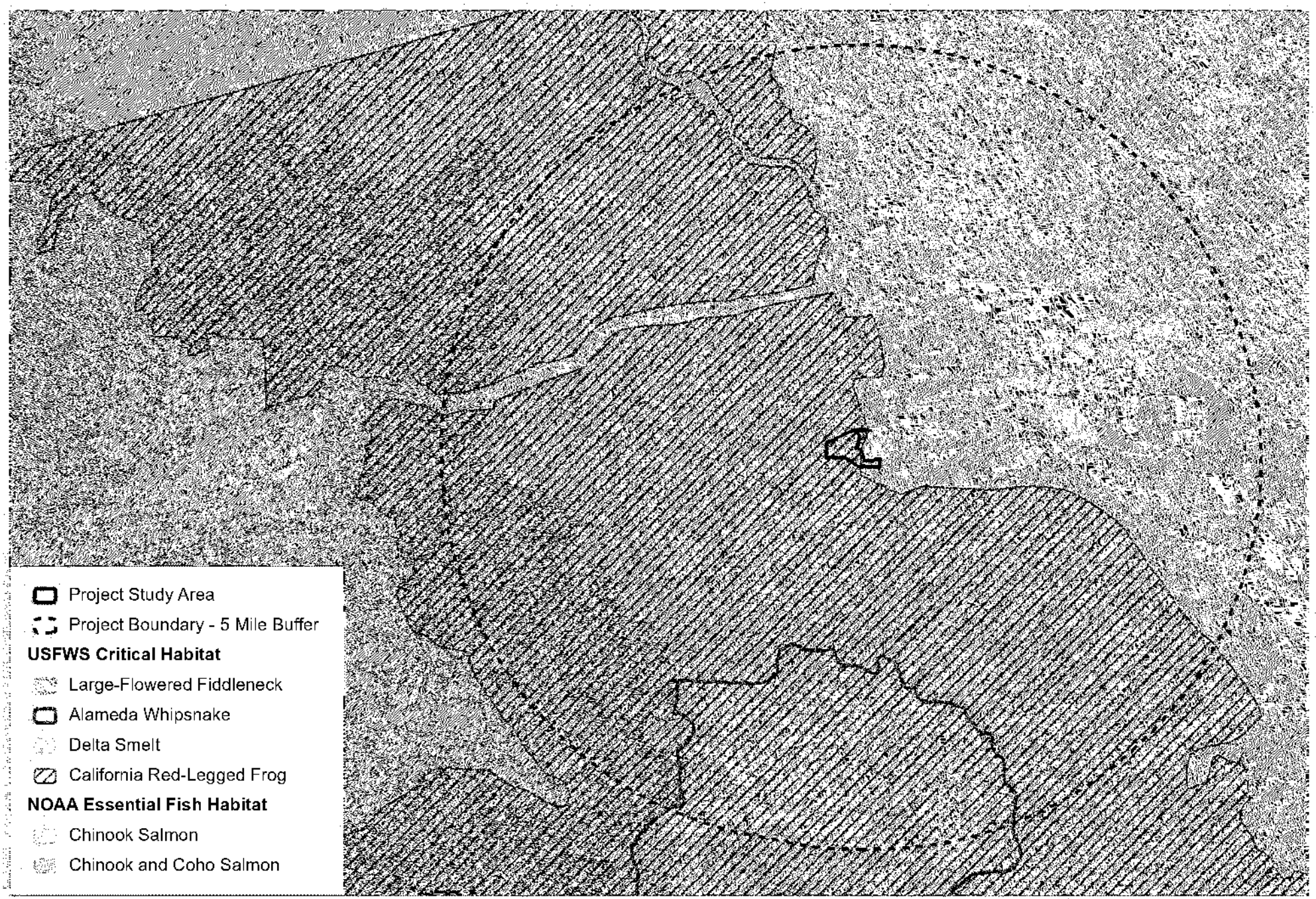
SOURCE: Esri Maps 2022, CA Dept. of Fish and Wildlife 2021

CONFIDENTIAL

FIGURE 4

Special-Status Species Occurrences

Biological Technical Report for the Potrero Viridi Battery Energy Storage System Project, Alameda County, CA



SOURCE: Bing Maps 2022, USFWS 2022, NOAA 2021

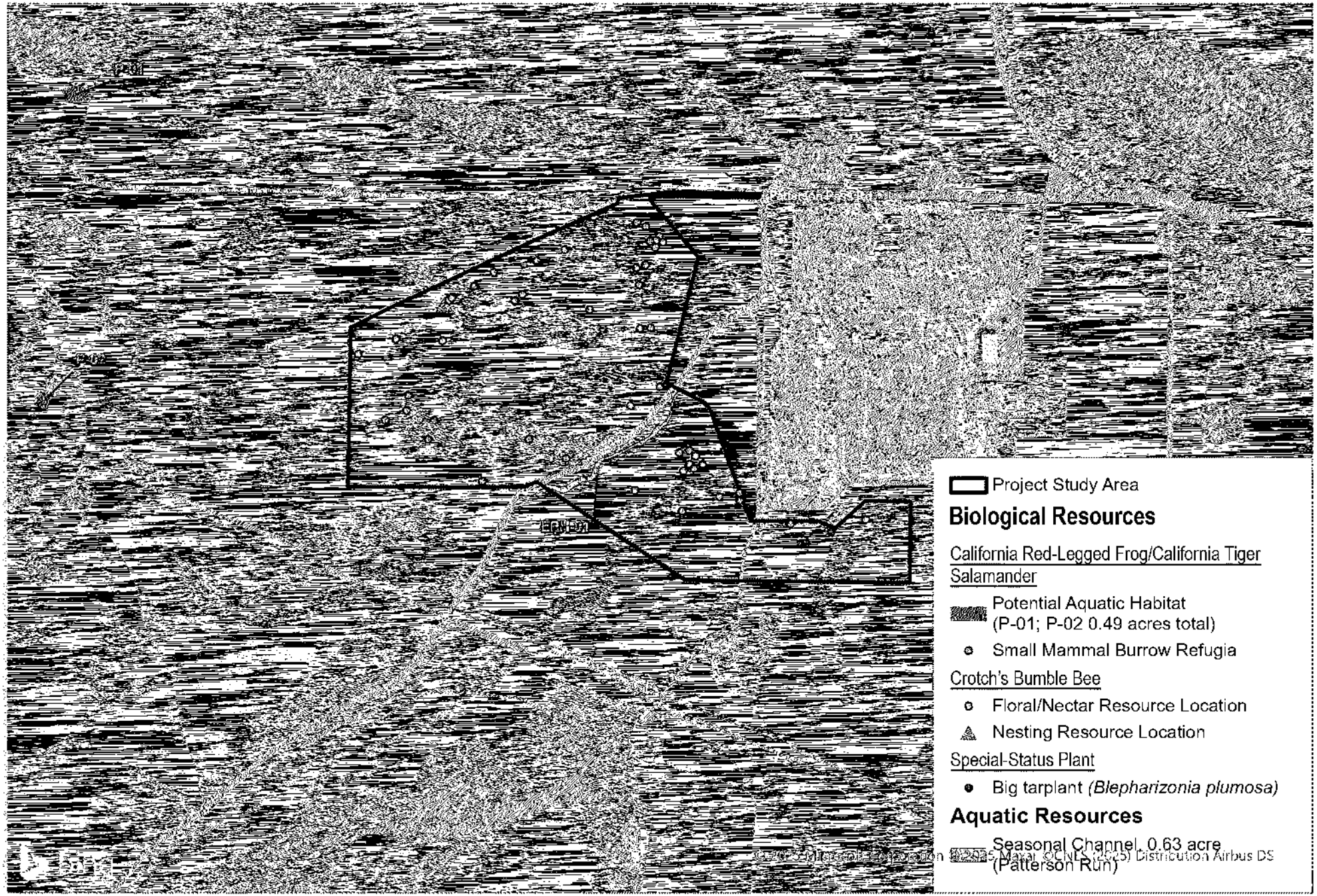
DUDEK

0 0.75 1.5 Miles

FIGURE 5

Critical Habitats

Potentia-Vindi Battery Energy Storage System Project



SOURCE: Bing Maps 2022, Open Street Map 2019, USGS 2022

DUDEK

0 415 830 Feet

FIGURE 6

Biological Survey Results

Potentia Vistal Battery Energy Storage System Project

Appendix B
Database Search Results

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Byron Hot Springs (3712176) OR Clifton Court Forebay (3712175) OR Union Island (3712174) OR Altamont (3712166) OR Midway (3712165) OR Tracy (3712164) OR Mendenhall Springs (3712156) OR Cedar Mtn. (3712155) OR Lone Tree Creek (3712154))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects OR Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Acipenser medirostris pop. 1 green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Allium sharsmithiae Sharsmith's onion	PMLIL02310	None	None	G2	S2	1B.3
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Amsinckia grandiflora large-flowered fiddleneck	PDBOR01050	Endangered	Endangered	G1	S1	1B.1
Anniella pulchra Northern California legless lizard	ARACC01020	None	None	G3	S2S3	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Arctostaphylos manzanita ssp. laevigata Contra Costa manzanita	PDERI04273	None	None	G5T2	S2	1B.2
Arizona elegans occidentalis California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
Asio flammeus short-eared owl	ABNSB13040	None	None	G5	S2	SSC
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S2	SSC
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
Atriplex depressa brittlescale	PDCHE042L0	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Atriplex minuscula lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Blepharizonia plumosa big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
Bombus occidentalis western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
Branchinecta longiantenna longhorn fairy shrimp	ICBRA03020	Endangered	None	G2	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
Calochortus pulchellus Mt. Diablo fairy-lantern	PMLIL0D160	None	None	G2	S2	1B.2
Caulanthus lemmonii Lemmon's jewelflower	PDBRA0M0E0	None	None	G3	S3	1B.2
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T2	S2	1B.1
Chlorogalum pomeridianum var. minus dwarf soaproot	PMLIL0G042	None	None	G5T3	S3	1B.2
Chloropyron molle ssp. hispidum hispid salty bird's-beak	PDSCR0J0D1	None	None	G2T1	S1	1B.1
Chloropyron palmatum palmate-bracted bird's-beak	PDSCR0J0J0	Endangered	Endangered	G1	S1	1B.1
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC
Cirsium fontinale var. campylon Mt. Hamilton thistle	PDAST2E163	None	None	G2T2	S2	1B.2
Clarkia concinna ssp. automixa Santa Clara red ribbons	PDONA050A1	None	None	G5?T3	S3	4.3
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
Deinandra bacigalupii Livermore tarplant	PDAST4R0V0	None	Endangered	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Delphinium californicum ssp. interius Hospital Canyon larkspur	PDRAN0B0A2	None	None	G3T3	S3	1B.2
Delphinium recurvatum recurved larkspur	PDRAN0B1J0	None	None	G2?	S2?	1B.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T3	S3	
Dipodomys heermanni berkeleyensis Berkeley kangaroo rat	AMAFD03061	None	None	G4T1	S2	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	Proposed Threatened	None	G3G4	S3	SSC
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Eryngium spinosepalum spiny-sepaled button-celery	PDAPI0Z0Y0	None	None	G2	S2	1B.2
Eschscholzia rhombipetala diamond-petaled California poppy	PDPAP0A0D0	None	None	G1	S1	1B.1
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Fritillaria agrestis stinkbells	PMLIL0V010	None	None	G3	S3	4.2
Fritillaria falcata talus fritillary	PMLIL0V070	None	None	G2	S2	1B.2
Gonidea angulata western ridged mussel	IMBIV19010	None	None	G3	S2	
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Helianthella castanea Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
Hesperolinon breweri Brewer's western flax	PDLIN01030	None	None	G2	S2	1B.2
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Hoita strobilina Loma Prieta hoita	PDFAB5Z030	None	None	G2?	S2?	1B.1
Hygrotus curvipes curved-foot hygrotus diving beetle	IICOL38030	None	None	G2	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Hypomesus transpacificus Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
Lanius ludovicianus loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
Lasiurus cinereus hoary bat	AMACC05032	None	None	G3G4	S4	
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Leptosyne hamiltonii Mt. Hamilton coreopsis	PDAST2L0C0	None	None	G2	S2	1B.2
Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
Limosella australis Delta mudwort	PDSCR10030	None	None	G4G5	S2	2B.1
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Madia radiata showy golden madia	PDAST650E0	None	None	G3	S3	1B.1
Malacothamnus hallii Hall's bush-mallow	PDMAL0Q0F0	None	None	G2	S2	1B.2
Masticophis flagellum ruddocki San Joaquin coachwhip	ARADB21021	None	None	G5T2T3	S3	SSC
Masticophis lateralis euryxanthus Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
Melospiza melodia pop. 1 song sparrow ("Modesto" population)	ABPBXA3013	None	None	G5T3?Q	S3?	SSC
Navarretia nigelliformis ssp. radians shining navarretia	PDPLM0C0J2	None	None	G4T2	S2	1B.2
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Perognathus inornatus San Joaquin pocket mouse	AMAFD01060	None	None	G2G3	S2S3	
Phacelia phacelioides Mt. Diablo phacelia	PDHYD0C3Q0	None	None	G2	S2	1B.2
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G4	S4	SSC
Plagiobothrys glaber hairless popcornflower	PDBOR0V0B0	None	None	GX	SX	1A
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G2	S2	1B.2
Rana boylii pop. 4 foothill yellow-legged frog - central coast DPS	AAABH01054	Threatened	Endangered	G3T2	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Ravenella exigua chaparral harebell	PDCAM020A0	None	None	G2	S2	1B.2
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
Spea hammondii western spadefoot	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
Spergularia macrotheca var. longistyla long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Sylvilagus bachmani riparius riparian brush rabbit	AMAEB01021	Endangered	Endangered	G5T1	S2	
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thaleichthys pacificus eulachon	AFCHB04010	Threatened	None	G5	S1	
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Tropidocarpum capparideum caper-fruited tropidocarpum	PDBRA2R010	None	None	G1	S1	1B.1
Vireo bellii pusillus least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S3	
Vulpes macrotis mutica San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S3	

Record Count: 93

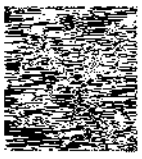
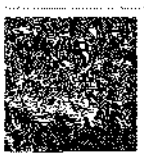
CALIFORNIA NATIVE PLANT SOCIETY

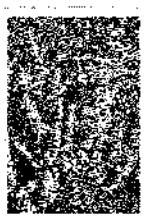
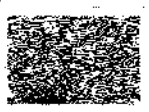
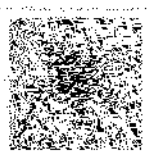
CNPS Rare Plant Inventory

Search Results

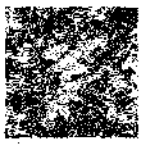
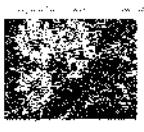
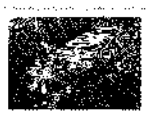
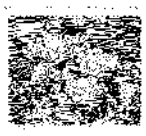
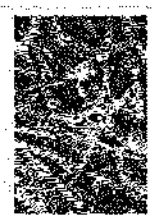
61 matches found. Click on scientific name for details

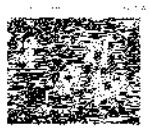
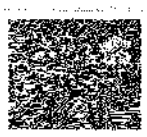
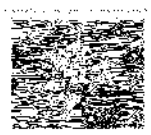
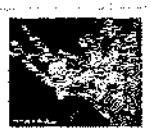
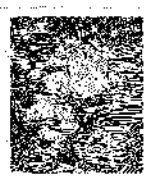
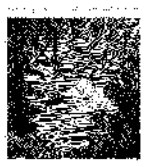
Search Criteria: Quad is one of [3712154:3712164:3712165:3712155:3712156:3712166:3712174:3712175:3712176]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Acanthomintha lanceolata	Santa Clara thorn-mint	Lamiaceae	annual herb	Mar-Jun	None	None	G4	S4	4.2	Yes	1974-01-01	 © 2005 Barry Breckling
Allium sharsmithiae	Sharsmith's onion	Alliaceae	perennial bulbiferous herb	Mar-May	None	None	G2	S2	1B.3	Yes	1980-01-01	© 2017 John Doyen
Amsinckia grandiflora	large-flowered fiddleneck	Boraginaceae	annual herb	(Mar)Apr-May	FE	CE	G1	S1	1B.1	Yes	1974-01-01	© 2015 Zoya Akulova
Androsace elongata ssp. *acuta*	California androsace	Primulaceae	annual herb	Mar-Jun	None	None	G5? T3T4	S3S4	4.2		1994-01-01	© 2008 Aaron Schusteff
Arctostaphylos manzanita ssp. *laevigata*	Contra Costa manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar(Apr)	None	None	G5T2	S2	1B.2	Yes	1984-01-01	 © 2019 Susan McDougall
Aspidotis carlotta-hallae	Carlotta Hall's lace fern	Pteridaceae	perennial rhizomatous herb	Jan-Dec	None	None	G3	S3	4.2	Yes	1994-01-01	No Photo Available
Astragalus tener var. *tener*	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	G2T1	S1	1B.2	Yes	1994-01-01	No Photo Available

Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr Oct	None	None	G3T2	S2	1B.2	Yes	1988 01-01	 © 1994 Robert E. Preston, Ph.D.
Atriplex coronata var. coronata	crownscale	Chenopodiaceae	annual herb	Mar-Oct	None	None	G4T3	S3	4.2	Yes	1994-01-01	 © 1994 Robert E Preston, Ph.D.
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr Oct	None	None	G2	S2	1B.2	Yes	1994-01 01	 © 2009 Zoya Akulova
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May Oct	None	None	G2	S2	1B.1	Yes	1994 01 01	© 2000 Robert E. Preston, Ph.D.
Balsamorhiza macrolepis	big scale balsamroot	Asteraceae	perennial herb	Mar-Jun	None	None	G2	S2	1B.2	Yes	1974-01-01	©1998 Dean Wm. Taylor
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	Jul-Oct	None	None	G1G2	S1S2	1B.1	Yes	1994-01-01	No Photo Available
Calochortus pulchellus	Mt. Diablo fairy-lantern	Liliaceae	perennial bulbiferous herb	Apr Jun	None	None	G2	S2	1B.2	Yes	1974 01-01	No Photo Available
Caulanthus lemmonii	Lemmon's jewelflower	Brassicaceae	annual herb	Feb-May	None	None	G3	S3	1B.2	Yes	2001-01-01	No Photo Available
Centromadia parryi ssp. congdonii	Congdon's tarplant	Asteraceae	annual herb	May Oct(Nov)	None	None	G3T2	S2	1B.1	Yes	1994-01-01	No Photo Available
Chlorogalum pomeridianum var. minus	dwarf soaproot	Agavaceae	perennial bulbiferous herb	May Aug	None	None	G5T3	S3	1B.2	Yes	1994-01 01	© 1997 Dean Wm Taylor

Chloropyron molle ssp. *hispidum*	hispid salty bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun Sep	None	None	G2T1	S1	1B.1	Yes	1974-01-01	No Photo Available
Chloropyron palmatum	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	FE	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
Cirsium fontinale var. *campylon*	Mt. Hamilton thistle	Asteraceae	perennial herb	(Feb)Apr-Oct	None	None	G2T2	S2	1B.2	Yes	1974-01-01	No Photo Available
Clarkia breweri	Brewer's clarkia	Onagraceae	annual herb	Apr-Jun	None	None	G4	S4	4.2	Yes	1974-01-01	No Photo Available
Clarkia concinna ssp. *automixa*	Santa Clara red ribbons	Onagraceae	annual herb	(Apr)May-Jun(Jul)	None	None	G5?T3	S3	4.3	Yes	1994-01-01	No Photo Available
Convolvulus simulans	small-flowered morning-glory	Convolvulaceae	annual herb	Mar-Jul	None	None	G4	S4	4.2		1994-01-01	No Photo Available
Deinandra bacigalupii	Livermore tarplant	Asteraceae	annual herb	Jun Oct	None	CE	G1	S1	1B.1	Yes	2001-01-01	No Photo Available
Delphinium californicum ssp. *interius*	Hospital Canyon larkspur	Ranunculaceae	perennial herb	Apr Jun	None	None	G3T3	S3	1B.2	Yes	1984-01-01	No Photo Available
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2?	1B.2	Yes	1988-01-01	No Photo Available
Eriogonum umbellatum var. *bahiiforme*	bay buckwheat	Polygonaceae	perennial herb	Jul-Sep	None	None	G5T3	S3	4.2	Yes	2001-01-01	No Photo Available
Eriophyllum jepsonii	Jepson's woolly sunflower	Asteraceae	perennial herb	Apr Jun	None	None	G3	S3	4.3	Yes	1974-01-01	No Photo Available
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual/perennial herb	Apr-Jun	None	None	G2	S2	1B.2	Yes	1980-01-01	No Photo Available
Eschscholzia rhombipetala	diamond petaled California poppy	Papaveraceae	annual herb	Mar-Apr	None	None	G1	S1	1B.1	Yes	1980-01-01	No Photo Available
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.2	Yes	1988-01-01	No Photo Available
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	G3	S3	4.2	Yes	1980-01-01	© 2016 Aaron Schusteff

Fritillaria falcata	talus fritillary	Liliaceae	perennial bulbiferous herb	Mar-May	None	None	G2	S2	1B.2	Yes	1974-01-01 © 2013 Aaron Schusteff
Galium andrewsii ssp. *gatense*	phlox leaf serpentine bedstraw	Rubiaceae	perennial herb	Apr Jul	None	None	G5T3	S3	4.2	Yes	1994-01-01  © 2021 Steve Matson
Helianthella castanea	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	None	None	G2	S2	1B.2	Yes	1974-01-01  © 2013 Christopher Bronny
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	None	None	G3	S3	4.2	Yes	2001-01-01 © 2017 John Doyen
Hesperolinon breweri	Brewer's western flax	Linaceae	annual herb	May Jul	None	None	G2	S2	1B.2	Yes	1974-01-01  © 2014 Neal Kramer
Hibiscus lasiocarpos var. *occidentalis*	woolly rose mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun Sep	None	None	G5T3	S3	1B.2	Yes	1974-01-01 © 2020 Steven Perry
Holla strobilina	Loma Prieta hoita	Fabaceae	perennial herb	May-Jul(Aug Oct)	None	None	G2?	S2?	1B.1	Yes	2001-01-01 © 2004 Janell Hillman
Lasthenia ferrisiae	Ferris' goldfields	Asteraceae	annual herb	Feb-May	None	None	G3	S3	4.2	Yes	2001-01-01  © 2009 Zoya Akulova
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.1	Yes	1974-01-01  ©2000 John Game

Leptosiphon ambiguus	serpentine leptosiphon	Polemoniaceae	annual herb	Mar-Jun	None	None	G4	S4	4.2	Yes	1994-01-01	 © 2010 Aaron Schusteff
Leptosyne hamiltonii	Mt Hamilton coreopsis	Asteraceae	annual herb	Mar-May	None	None	G2	S2	1B.2	Yes	1974-01-01	 ©2012 Aaron Schusteff
Lessingia tenuis	spring lessingia	Asteraceae	annual herb	May Jul	None	None	G4	S4	4.3	Yes	1974-01-01	 © 2020 Keir Morse
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr Nov	None	CR	G2	S2	1B.1	Yes	1974-01-01	No Photo Available
Limosella australis	Delta mudwort	Scrophulariaceae	perennial stoloniferous herb	May-Aug	None	None	G4G5	S2	2B.1		1994-01-01	 © 2020 Richard Sage
Madia radiata	showy golden madia	Asteraceae	annual herb	Mar-May	None	None	G3	S3	1B.1	Yes	1988-01-01	No Photo Available
Malacothamnus hallii	Hall's bush-mallow	Malvaceae	perennial deciduous shrub	(Apr)May-Sep(Oct)	None	None	G2	S2	1B.2	Yes	1974-01-01	 © 2017 Keir Morse
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	None	None	G3G4	S3S4	3.2	Yes	1974-01-01	© 2008 Aaron Arthur
Microseris sylvatica	sylvan microseris	Asteraceae	perennial herb	Mar-Jun	None	None	G4	S4	4.2	Yes	2001-01-01	No Photo Available
Myosurus minimus ssp. *apus*	little mousetail	Ranunculaceae	annual herb	Mar-Jun	None	None	G5T2Q	S2	3.1		1980-01-01	No Photo Available
Navarretia nigelliformis ssp. *radians*	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr Jul	None	None	G4T2	S2	1B.2	Yes	1994-01-01	No Photo Available
Phacelia phacelioides	Mt. Diablo phacelia	Hydrophyllaceae	annual herb	Apr-May	None	None	G2	S2	1B.2	Yes	1974-01-01	 ©2019 Steve Matson

Piperia michaelii	Michael's rein orchid	Orchidaceae	perennial herb	Apr Aug	None	None	G3	S3	4.2	Yes	1984 01-01	No Photo Available
Plagiobothrys glaber	hairless popcornflower	Boraginaceae	annual herb	Mar-May	None	None	GX	SX	1A	Yes	1974-01-01	No Photo Available
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G2	S2	1B.2		2015-10-15	No Photo Available
Ravenella exigua	chaparral harebell	Campanulaceae	annual herb	May-Jun	None	None	G2	S2	1B.2	Yes	1974-01-01	No Photo Available
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	None	None	G3	S2	2B.2		1994-01-01	No Photo Available
Spergularia macrotheca var. longistyla	long-styled sand-spurrey	Caryophyllaceae	perennial herb	Feb-May	None	None	G5T2	S2	1B.2	Yes	2017-06-16	No Photo Available
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr Jun	None	None	G2	S2	1B.2	Yes	2001-01-01	© 2005 Dean Wm Taylor
Tropidocarpum cappardeum	caper-fruited tropidocarpum	Brassicaceae	annual herb	Mar-Apr	None	None	G1	S1	1B.1	Yes	1974-01-01	No Photo Available

Showing 1 to 61 of 61 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2024. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 24 January 2024].

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

CONSULTATION

Location

Alameda County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

San Joaquin Kit Fox Vulpes macrotis mutica — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/2873

Birds

NAME	STATUS
California Condor Gymnogyps californianus	Endangered

There is final critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/8193

Reptiles

NAME	STATUS
Alameda Whipsnake (=striped Racer) Masticophis lateralis euryxanthus	Threatened

Wherever found
There is final critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/5524

Northwestern Pond Turtle Actinemys marmorata — Proposed Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/1111

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii	Threatened

Wherever found
There is final critical habitat for this species. Your location overlaps the critical habitat.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — Threatened
There is final critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/2076

Western Spadefoot Spea hammondii — Proposed Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/5425

NOT FOR CONSULTATION

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp Lepidurus packardi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Large-flowered Fiddleneck Amsinckia grandiflora Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5558	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE

DRAFT - NOT FOR CONSULTATION

California Red-legged Frog Rana draytonii — Final
https://ecos.fws.gov/ecp/species/2891#crithab

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

CONFIDENTIAL INFORMATION

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence ( )

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season ( )
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ( )
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data ( )
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

probability of presence | breeding season | survey effort | no data

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Bald Eagle Non-BCC Vulnerable												
Golden Eagle Non-BCC Vulnerable												

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow Passerculus sandwichensis beldingi This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Bullock's Oriole Icterus bullockii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
California Gull Larus californicus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (◉)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

CONSULTATION

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

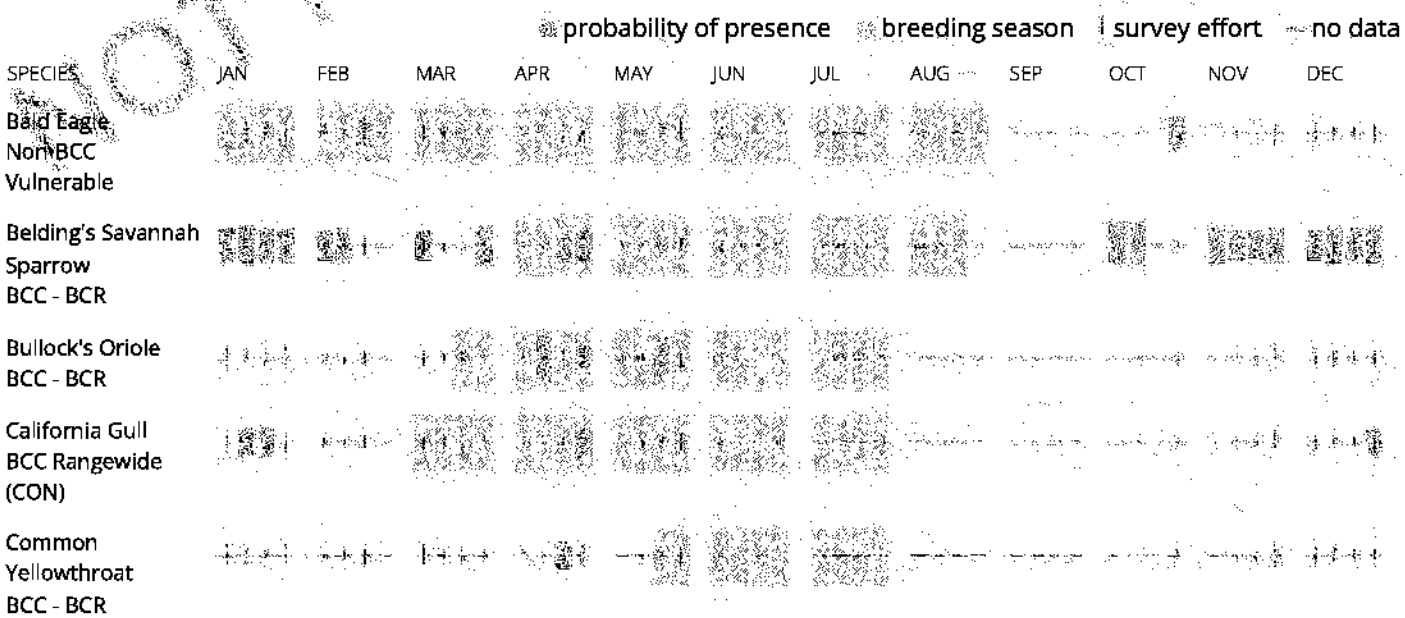
Breeding Season (?)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (?)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (-)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



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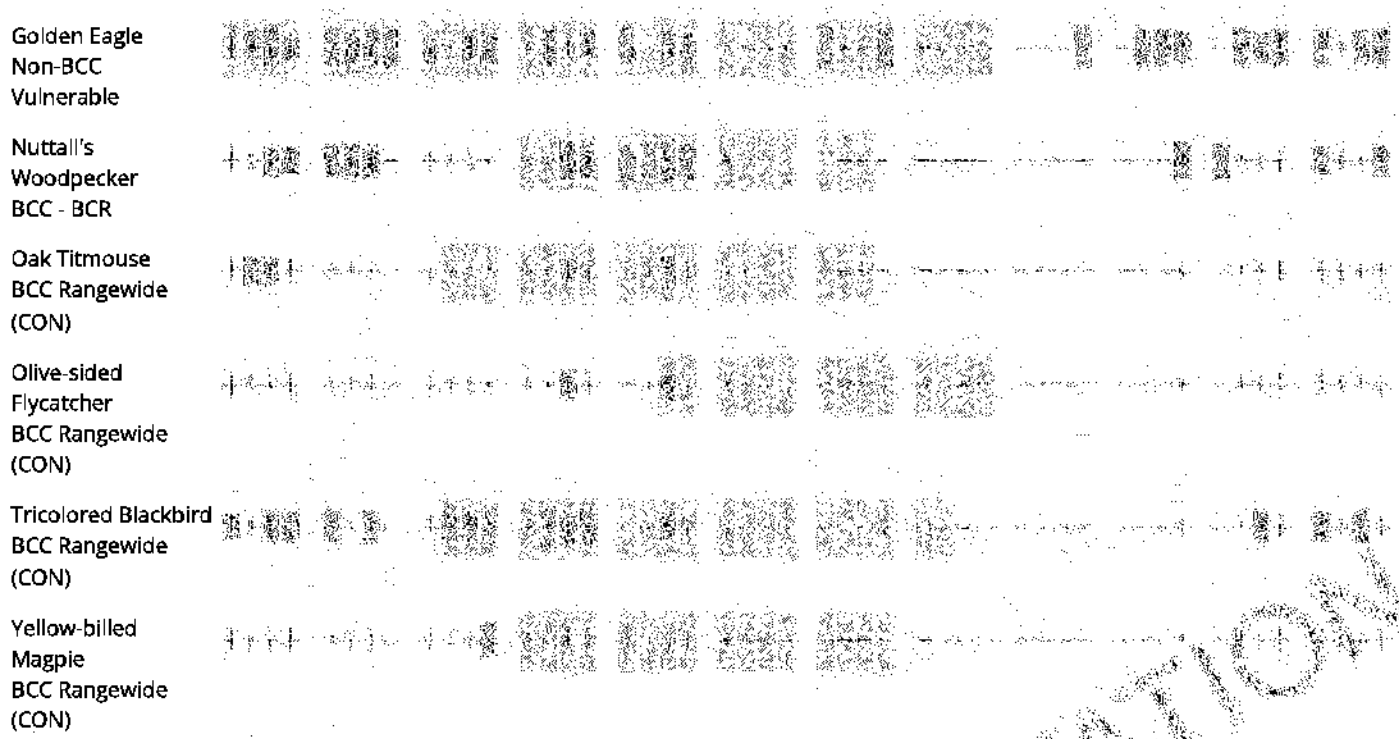


Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

CONFIDENTIAL

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which

means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1A
- PEM1C

FRESHWATER POND

- PUBHh
- PUSA

RIVERINE

NOT FOR CONSULTATION

R4SBC
R4SBA
R5UBF

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

United States Department of Agriculture

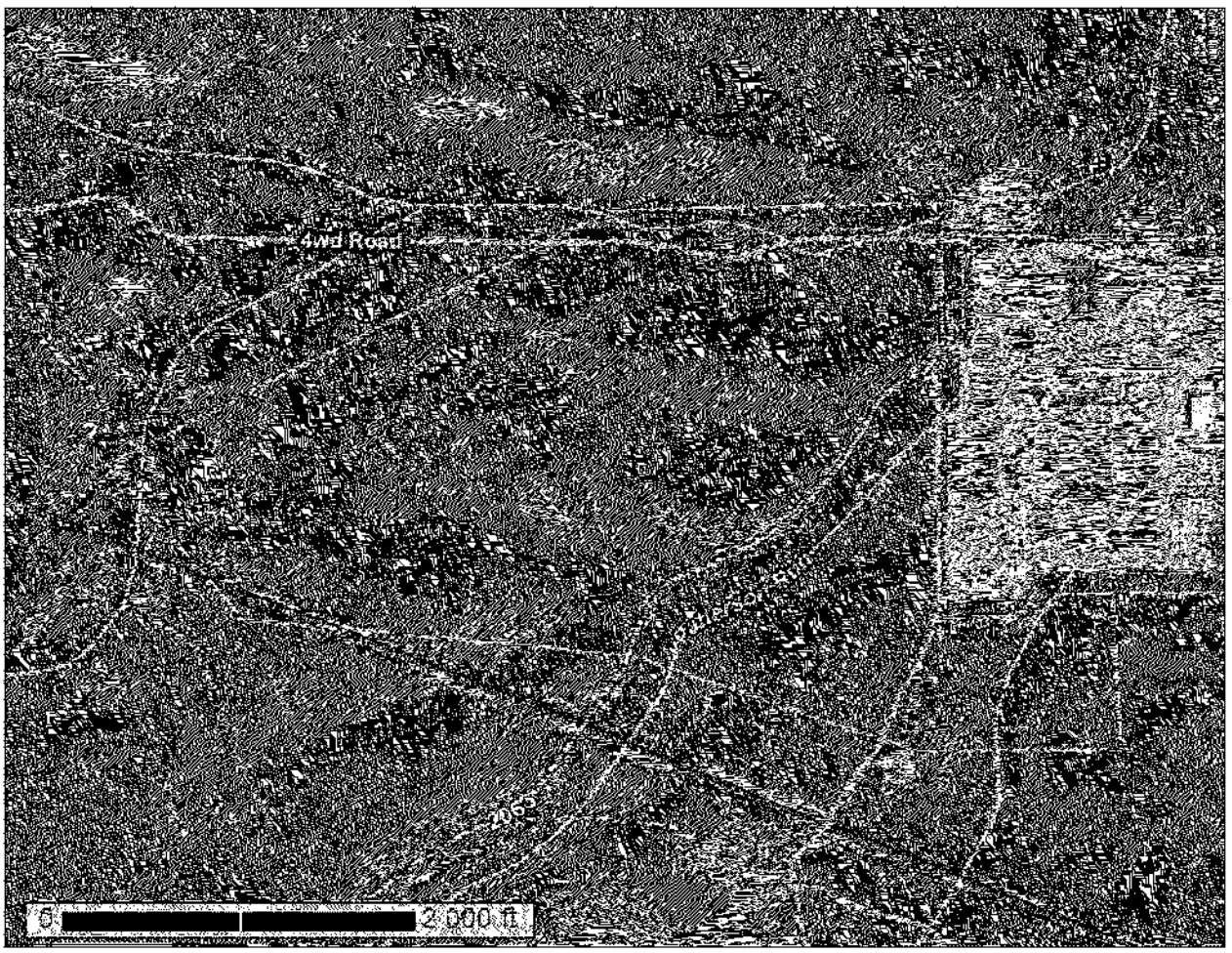
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Alameda Area, California

Potentia-Viridi BESS Site



January 24, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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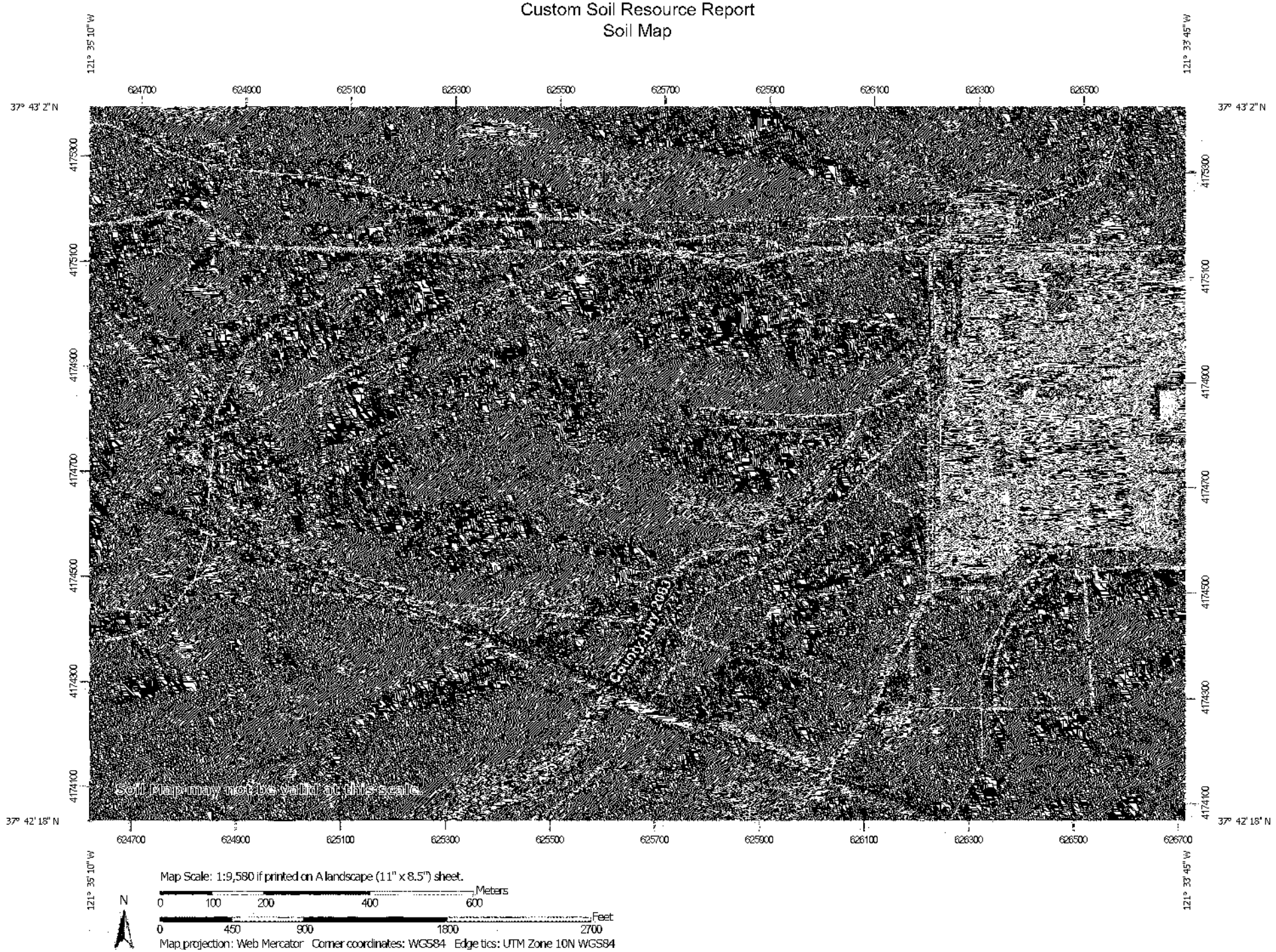
Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Alameda Area, California
Survey Area Data: Version 17, Sep 11, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 9, 2022—Mar 11, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DbC	Diablo clay, 7 to 15 percent slopes	0.1	0.0%
LaC	Linne clay loam, 3 to 15 percent slopes	144.4	59.1%
LaD	Linne clay loam, 15 to 30 percent slopes, MLRA 15	23.9	9.8%
LaE2	Linne clay loam, 30 to 45 percent slopes, eroded	0.2	0.1%
RdA	Rincon clay loam, 0 to 3 percent slopes	75.0	30.7%
So	Sycamore silt loam, 0 to 2 percent slopes, MLRA 14	1.0	0.4%
Totals for Area of Interest		**244.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Alameda Area, California

DbC—Diablo clay, 7 to 15 percent slopes

Map Unit Setting

National map unit symbol: hb36
Elevation: 300 to 1,700 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 240 to 280 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Diablo and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Diablo

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Alluvium derived from shale and siltstone

Typical profile

H1 - 0 to 6 inches: clay
H2 - 6 to 42 inches: silty clay
H3 - 42 to 50 inches: silty clay
H4 - 50 to 54 inches: bedrock

Properties and qualities

Slope: 7 to 15 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to moderately saline (0.0 to 8.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R015XY008CA - Hills <20"ppt
Hydric soil rating: No

Minor Components

Altamont
Percent of map unit: 5 percent
Hydric soil rating: No

Pescadero
Percent of map unit: 5 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Linne
Percent of map unit: 5 percent
Hydric soil rating: No

LaC—Linne clay loam, 3 to 15 percent slopes

Map Unit Setting
National map unit symbol: hb3l
Elevation: 700 to 1,700 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 240 to 260 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Linne and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Linne

Setting
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and shale

Typical profile
H1 - 0 to 36 inches: clay loam
H2 - 36 to 40 inches: bedrock

Properties and qualities
Slope: 3 to 15 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R015XY008CA - Hills <20"ppt
Hydric soil rating: No

Minor Components

Altamont

Percent of map unit: 5 percent
Hydric soil rating: No

Diablo

Percent of map unit: 5 percent
Hydric soil rating: No

Clear lake

Percent of map unit: 3 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Pescadero

Percent of map unit: 2 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

LaD—Linne clay loam, 15 to 30 percent slopes, MLRA 15

Map Unit Setting

National map unit symbol: 2w63l
Elevation: 110 to 1,560 feet
Mean annual precipitation: 13 to 22 inches

Mean annual air temperature: 59 to 61 degrees F
Frost-free period: 300 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Linne and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Linne

Setting

Landform: Mountain slopes, hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from calcareous shale

Typical profile

Ap - 0 to 9 inches: clay loam
A1 - 9 to 14 inches: clay loam
A2 - 14 to 29 inches: clay loam
AC - 29 to 32 inches: sandy clay loam
Ck - 32 to 36 inches: fine sandy loam
Cr - 36 to 51 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 35 to 50 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R015XY013CA - Loamy Mountains <20"ppt
Hydric soil rating: No

Minor Components

Diablo

Percent of map unit: 5 percent
Landform: Mountain slopes, hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank, side slope
Down-slope shape: Convex
Across-slope shape: Convex

Ecological site: R015XD001CA - CLAYEY
Hydric soil rating: No

Altamont

Percent of map unit: 4 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Clear lake

Percent of map unit: 3 percent
Landform: Drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Pescadero

Percent of map unit: 2 percent
Landform: Depressions, drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave
Hydric soil rating: Yes

Haploxerolls, landslides

Percent of map unit: 1 percent
Landform: Landslides, slumps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: No

LaE2—Linne clay loam, 30 to 45 percent slopes, eroded

Map Unit Setting

National map unit symbol: hb3n
Elevation: 700 to 1,700 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 240 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Linne and similar soils: 85 percent

Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Linne

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 36 inches: clay loam
H2 - 36 to 40 inches: bedrock

Properties and qualities

Slope: 30 to 45 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: R014XD092CA - CLAYEY HILLS
Hydric soil rating: No

Minor Components

Altamont

Percent of map unit: 5 percent
Hydric soil rating: No

Diablo

Percent of map unit: 5 percent
Hydric soil rating: No

Clear lake

Percent of map unit: 3 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Pescadero

Percent of map unit: 2 percent

Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

RdA—Rincon clay loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: hb4j
Elevation: 10 to 600 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 260 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Rincon and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rincon

Setting

Landform: Valley floors, fans
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sandstone and shale

Typical profile

H1 - 0 to 16 inches: clay loam
H2 - 16 to 52 inches: sandy clay
H3 - 52 to 60 inches: stratified sandy loam to clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Ecological site: R017XY905CA - Dry Alluvial Fans and Terraces
Hydric soil rating: No

Minor Components

Clear lake

Percent of map unit: 5 percent
Hydric soil rating: No

Pleasanton

Percent of map unit: 5 percent
Hydric soil rating: No

San ysidro

Percent of map unit: 5 percent
Hydric soil rating: No

So—Sycamore silt loam, 0 to 2 percent slopes, MLRA 14

Map Unit Setting

National map unit symbol: 2xcbh
Elevation: 310 to 380 feet
Mean annual precipitation: 16 to 22 inches
Mean annual air temperature: 60 to 61 degrees F
Frost-free period: 336 to 349 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Sycamore and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sycamore

Setting

Landform: Alluvial fans, flood-plain steps
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 7 inches: silt loam
Akg - 7 to 18 inches: silt loam
ACkg - 18 to 30 inches: silt loam
Ckg1 - 30 to 44 inches: silt loam

Ckg2 - 44 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 18 to 60 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline (0.2 to 0.5 mmhos/cm)
Sodium adsorption ratio, maximum: 3.0
Available water supply, 0 to 60 inches: Very high (about 12.5 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B
Ecological site: R014XG918CA - Loamy Fan
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Yolo

Percent of map unit: 5 percent
Hydric soil rating: No

Clear lake

Percent of map unit: 5 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

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Appendix C
Staff Resumes

Plant Species

Vascular Species

Eudicots

AMARANTHACEAE – AMARANTH FAMILY

* *Amaranthus albus* – prostrate pigweed

APOCYNACEAE – DOGBANE FAMILY

Asclepias fascicularis – Mexican whorled milkweed

ASTERACEAE – SUNFLOWER FAMILY

Blepharizonia plumosa – big tarplant

* *Carduus pycnocephalus* – Italian plumeless thistle

* *Centaurea calcitrapa* – red star-thistle

* *Centaurea solstitialis* – yellow star-thistle

* *Cynara cardunculus* – cardoon

* *Grindelia squarrosa* – curlycup gumweed

Holocarpha virgata – yellowflower tarweed

Isocoma acradenia – alkali goldenbush

* *Lactuca serriola* – prickly lettuce

Lasthenia sp. – unidentified goldfield species

* *Silybum marianum* – blessed milkthistle

Xanthium spinosum – spiny cocklebur

BORAGINACEAE – BORAGE FAMILY

Amsinckia intermedia – common fiddleneck

Heliotropium curassavicum – salt heliotrope

Plagiobothrys canescens – valley popcornflower

BRASSICACEAE – MUSTARD FAMILY

* *Brassica nigra* – black mustard

CHENOPODIACEAE – GOOSEFOOT FAMILY

* *Atriplex prostrata* – fat hen

Atriplex sp. – unidentified Atriplex species

* *Salsola tragus* – prickly Russian thistle

CONVOLVULACEAE – MORNING-GLORY FAMILY

* *Convolvulus arvensis* – field bindweed

EUPHORBIACEAE – SPURGE FAMILY

Croton setiger – dove weed

FABACEAE – LEGUME FAMILY

Lupinus microcarpus – valley lupine

Lupinus sp. – unidentified lupine species

Trifolium sp. – unidentified clover species

GERANIACEAE – GERANIUM FAMILY

* *Erodium botrys* – longbeak stork's bill

Erodium cicutarium – redstem stork's bill

LAMIACEAE – MINT FAMILY

* *Marrubium vulgare* – horehound

MALVACEAE – MALLOW FAMILY

Malvella leprosa – alkali mallow

OROBANCHACEAE – BROOM-RAPE FAMILY

Castilleja exserta – exserted Indian paintbrush

POLYGONACEAE – BUCKWHEAT FAMILY

* *Rumex crispus* – curly dock

SALICACEAE – WILLOW FAMILY

Populus fremontii – Fremont cottonwood

VERBENACEAE – VERVAIN FAMILY

Verbena lasiostachys – western vervain

Monocots

CYPERACEAE – SEDGE FAMILY

Bolboschoenus maritimus – salt marsh bulrush

Eleocharis sp. – unidentified spikerush species

POACEAE – GRASS FAMILY

* *Avena fatua* – wild oat

* *Bromus diandrus* – ripgut brome

* *Bromus rubens* – red brome

Distichlis spicata – salt grass

* *Festuca perennis* – perennial rye grass

Festuca sp. – unidentified fescue species

* *Hordeum murinum* – mouse barley
* *Poa bulbosa* – bulbous bluegrass
* *Polypogon monspeliensis* – annual rabbitsfoot grass

THEMIDACEAE – BRODIAEA FAMILY

Brodiaea elegans – harvest brodiaea

Dipterostemon capitatus – bluedicks

Triteleia laxa – Ithuriel's spear

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Wildlife Species

Amphibians

Frogs

HYLIDAE – TREEFROGS

Pseudacris sierra – Sierran treefrog

Birds

Blackbirds, Orioles and Allies

ICTERIDAE – BLACKBIRDS

Agelaius phoeniceus – red-winged blackbird

Agelaius tricolor – tricolored blackbird

Sturnella neglecta – western meadowlark

Falcons

FALCONIDAE – CARACARAS AND FALCONS

Falco sparverius – American kestrel

Finches

FRINGILLIDAE – FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus – house finch

Flycatchers

TYRANNIDAE – TYRANT FLYCATCHERS

Tyrannus verticalis – western kingbird

Hawks

ACCIPITRIDAE – HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis – red-tailed hawk

Jays, Magpies and Crows

CORVIDAE – CROWS AND JAYS

Corvus corax – common raven

Larks

ALAUDIDAE – LARKS

Eremophila alpestris – horned lark

New World Vultures

CATHARTIDAE – NEW WORLD VULTURES

Cathartes aura –turkey vulture

Pigeons and Doves

COLUMBIDAE – PIGEONS AND DOVES

Zenaida macroura – mourning dove

Shorebirds

CHARADRIIDAE – LAPWINGS AND PLOVERS

Charadrius vociferus – killdeer

Starlings and Allies

STURNIDAE – STARLINGS

* *Sturnus vulgaris* – European starling

Waterfowl

ANATIDAE – DUCKS, GEESE, AND SWANS

Anas platyrhynchos – mallard

Lophodytes cucullatus – hooded merganser

Wood Warblers and Allies

PARULIDAE – WOOD-WARBLERS

Setophaga coronata – yellow-rumped warbler

New World Sparrows

PASSERELLIDAE – NEW WORLD SPARROWS

Passerculus sandwichensis – savannah sparrow

Mammals

Canids

CANIDAE – WOLVES AND FOXES

Canis latrans – coyote

Squirrels

SCIURIDAE – SQUIRRELS

Otospermophilus beecheyi – California ground squirrel

Reptiles

Lizards

PHRYNOSOMATIDAE – IGUANID LIZARDS

Sceloporus occidentalis – western fence lizard

* signifies introduced (non-native) species

Appendix D
Plant and Wildlife Species Compendium

Photo 1. Non-native annual grasslands, March 2023.

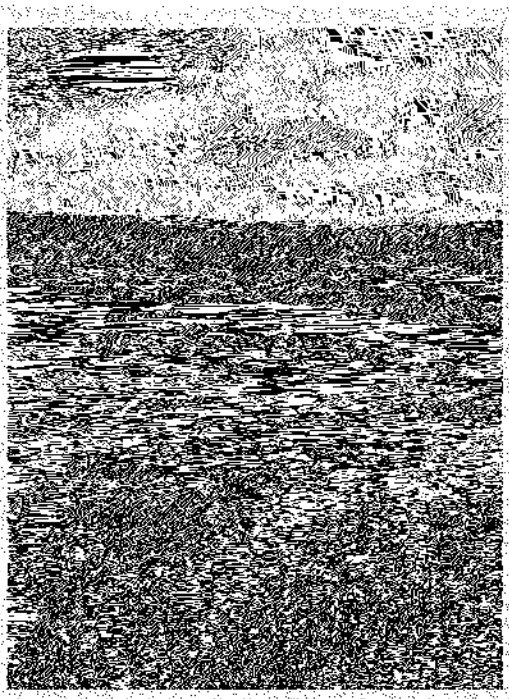

Photo 2. Non-native annual grasslands and site topography, March 2023.

Photo 3. Exposed bedrock within non-native annual grasslands, March 2023.

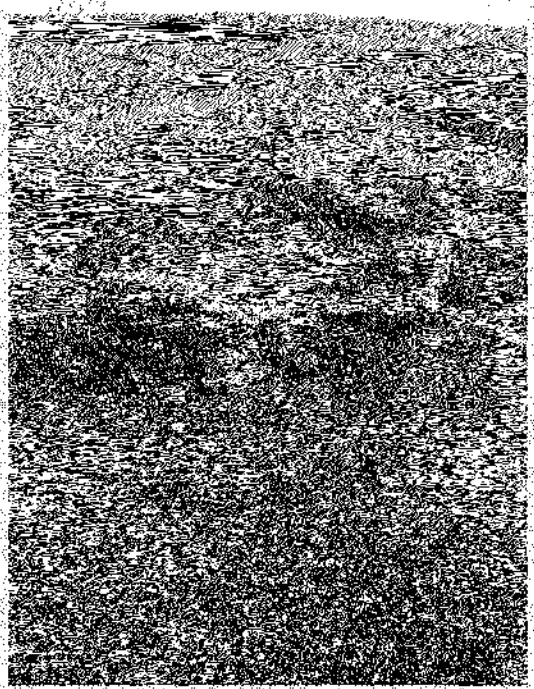

Photo 4. Rocky outcrops that may provide nesting habitat for native bumble bees, March 2023.

Photo 5. Stock pond (Pond 1) west of the Project site, March 2023.

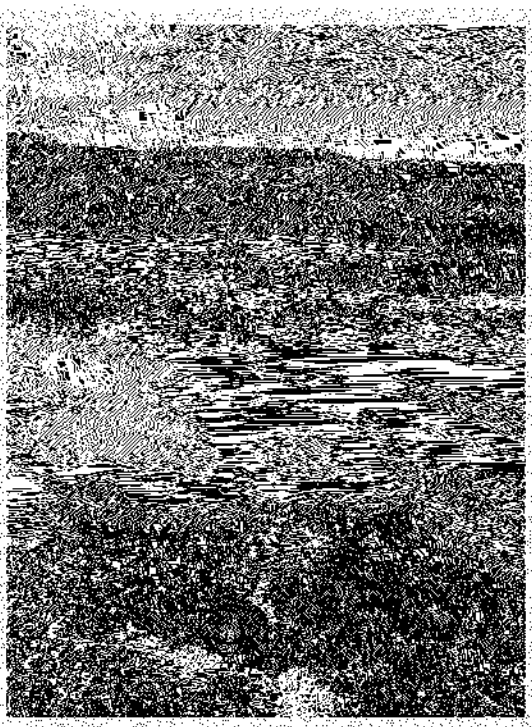

Photo 6. Stock pond (Pond 2) west of the Project site, March 2023.

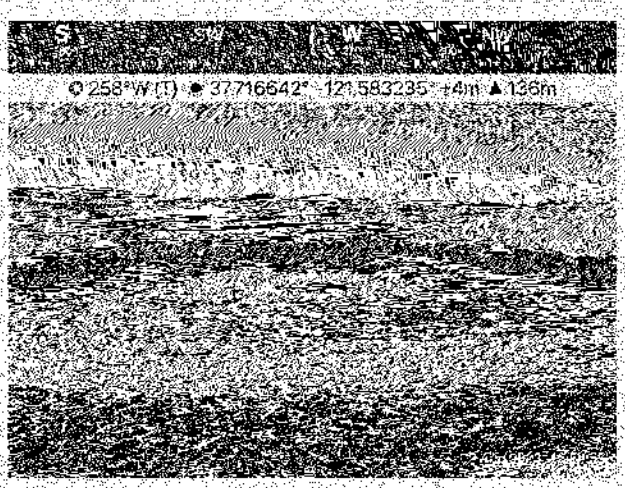

Photo 7. Pond 1 at the start of August 2023, with very little water remaining.

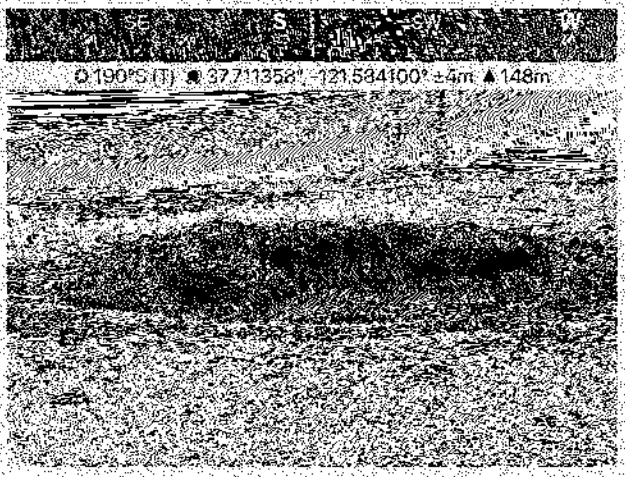

Photo 8. Pond 2 at the start of August 2023, with considerable water remaining.

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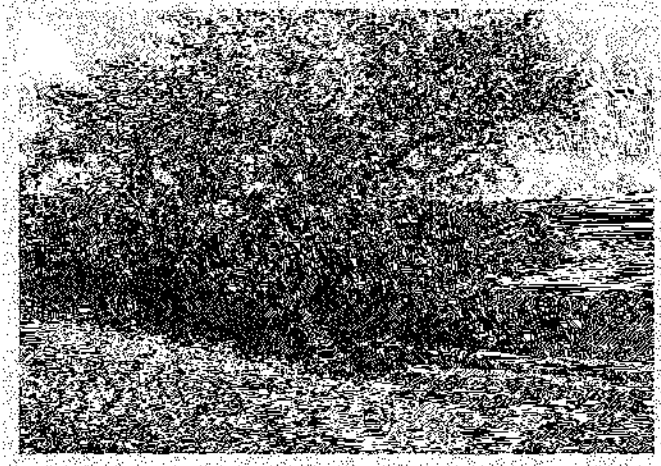

Photo 9. Patterson Run (EPH-01) with moderate flow in March 2023.

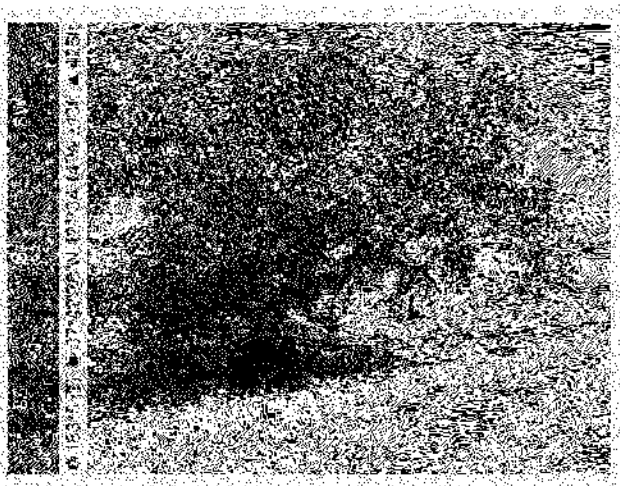

Photo 10. Patterson Run (EPH-01) with dry streambed at the start of August 2023.

Photo 11. Patterson Run (EPH-01) with moderate flow in January 2024.

Photo 12. Patterson Run (EPH-01), deep channel near Patterson Pass Road in January 2024.

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Photo 13. Non-native annual grassland habitat on the generation-tie alignment, August 2023.

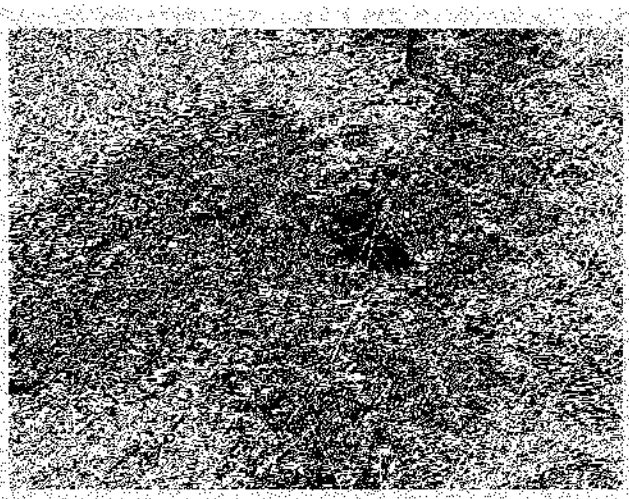

Photo 14. Example of a small mammal burrow with large soil tailing present on the Project site, August 2023.

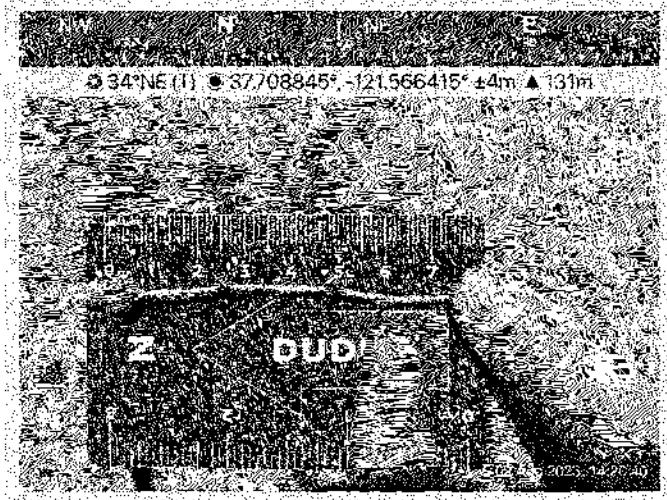

Photo 15. Sample of big tarplant, *Blepharizonia plumosa*, blooming in August 2023.

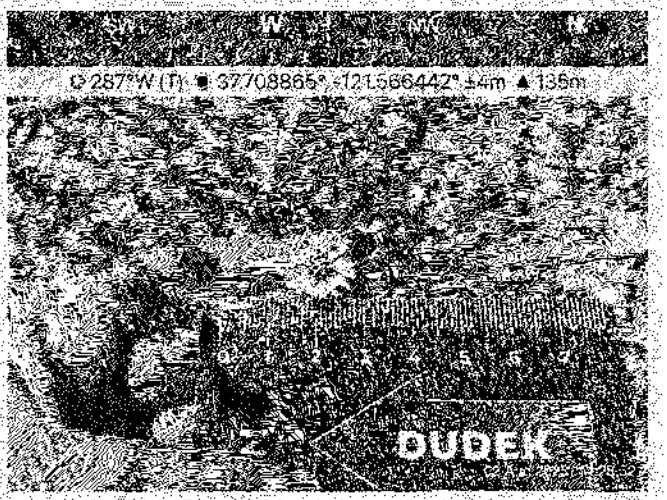

Photo 16. Flower of big tarplant, *Blepharizonia plumosa*, August 2023.

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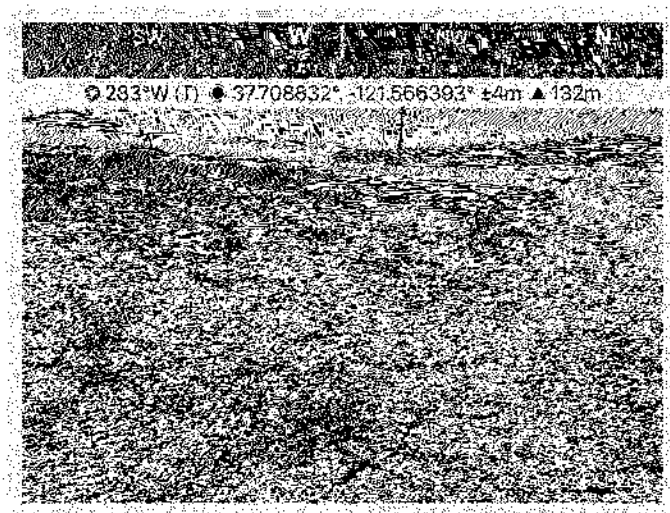

Photo 17. Grassland wash/swale microhabitat surrounding the big tarplant, near the southwest corner of the PG&E substation.

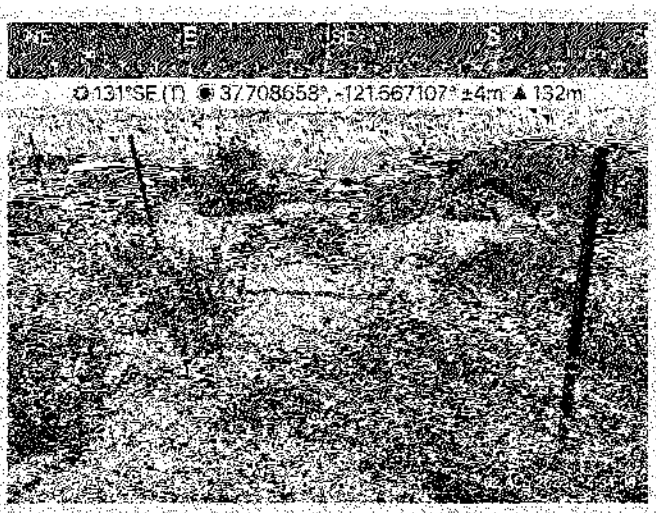

Photo 18. Similar grassland wash/swale microhabitat surrounding two additional big tarplants found on the Project site.

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Appendix E
Photo Record

Table E-1. Special-Status Species' Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/CRPR/ EACCS Coverage)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Plants				
Allium sharsmithiae	Sharsmith's onion	None/None/1B.3/No	Chaparral, Cismontane woodland; Rocky, Serpentinite/perennial bulbiferous herb/Mar–May/1,310–3,935	**Not expected to occur.** The site is outside of the species' known elevation range.
Amsinckia grandiflora	large-flowered fiddleneck	FE/SE/1B.1/No	Cismontane woodland, Valley and foothill grassland/annual herb/(Mar)Apr–May/885–1,800	**Not expected to occur.** The site is outside of the species' known elevation range.
Arctostaphylos manzanita ssp. *laevigata*	Contra Costa manzanita	None/None/1B.2/No	Chaparral (rocky)/perennial evergreen shrub/Jan–Mar (Apr)/ 1,410–3,605	**Not expected to occur.** The site is outside of the species' known elevation range.
Astragalus tener var. *tener*	alkali milk-vetch	None/None/1B.2/No	Playas, Valley and foothill grassland (adobe clay), Vernal pools; Alkaline/annual herb/Mar–June/5–195	**Not expected to occur.** The site is outside of the species' known elevation range.
Atriplex cordulata var. *cordulata*	heartscale	None/None/1B.2/No	Chenopod scrub, Meadows and seeps, Valley and foothill grassland (sandy); Alkaline (sometimes)/annual herb/Apr–Oct/0–1,835	**Low potential to occur.** Valley and foothill grassland is present but generally lacking sandy soils. No documented occurrences within 5 miles of the Project Study Area (PSA) (CDFW 2024).
Atriplex depressa	brittlescale	None/None/1B.2/No	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland, Vernal pools; Alkaline, Clay/annual herb/Apr–Oct/5–1,045	**Moderate potential to occur.** Suitable valley and foothill grassland present with clay soils. The nearest documented occurrence is approximately 5 miles northwest of the PSA from 2003 (Occ. No. 28; CDFW 2024).
Atriplex minuscula	lesser saltscale	None/None/1B.1/No	Chenopod scrub, Playas, Valley and foothill grassland; Alkaline, Sandy/annual herb/May–Oct/50–655	**Low potential to occur.** Valley and foothill grassland is present but generally lacking sandy soils. No documented occurrences within 5 miles of the PSA (CDFW 2024).
Balsamorhiza macrolepis	big-scale balsamroot	None/None/1B.2/No	Chaparral, Cismontane woodland, Valley and foothill grassland; Serpentinite (sometimes)/perennial herb/Mar–June/150–5,100	**Low potential to occur.** Valley and foothill grassland present but lacks serpentine soils preferred by this species. No documented occurrences within 5 miles of the PSA (CDFW 2024).
Blepharizonia plumosa	big tarplant	None/None/1B.1/Yes	Valley and foothill grassland; Clay (usually)/annual herb/July–Oct/ 100–1,655	**Known to occur.** Three individuals were found on the PSA near the southwest corner of the PG&E substation during the rare plant survey on August 8, 2023. Suitable valley and foothill grassland with clay loam soils present. The nearest documented occurrence is approximately 0.25 mile east of the PSA from 2003 (Occ. No. 15; CDFW 2024).
Calochortus pulchellus	Mt. Diablo fairy-lantern	None/None/1B.2/No	Chaparral, Cismontane woodland, Riparian woodland, Valley and foothill grassland/perennial bulbiferous herb/Apr–June/100–2,755	**Low potential to occur.** Valley and foothill grassland present but lacks wooded and brushy slope microhabitat preferred by this species. No documented occurrences within 5 miles of the PSA (CDFW 2024).
Caulanthus lemmonii	Lemmon's jewelflower	None/None/1B.1/No	Pinyon and juniper woodland, Valley and foothill grassland/annual herb/Feb–May/260–5,180	**Moderate potential to occur.** Suitable valley and foothill grassland present. The nearest documented occurrence is approximately 3.5 miles south of the PSA, a historical record from 1938 (Occ. No. 35; CDFW 2024).
Centromadia parryi ssp. *congdonii*	Congdon's tarplant	None/None/1B.1/No	Valley and foothill grassland (alkaline)/annual herb/May–Oct(Nov)/ 0–755	**Moderate potential to occur.** Suitable valley and foothill grassland present with clay soils. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Chlorogalum pomeridianum var. *minus*	dwarf soaproot	None/None/1B.2/No	Chaparral (serpentinite)/perennial bulbiferous herb/May–Aug/ 1,000–3,280	**Not expected to occur.** The site is outside of the species' known elevation range.
Chloropyron molle ssp. *hispidum*	hispid salty bird's-beak	None/None/1B.1/No	Meadows and seeps, Playas, Valley and foothill grassland; Alkaline/annual herb (hemiparasitic)/June–Sep/5–510	**Not expected to occur.** The site lacks damp alkaline soils preferred by this species. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Chloropyron palmatum	palmate-bracted bird's-beak	FE/SE/1B.1/Yes	Chenopod scrub, Valley and foothill grassland; Alkaline/annual herb (hemiparasitic)/May–Oct/15–510	**Low potential to occur.** Valley and foothill grassland is present but the Pescadero soils preferred by this species are only a minor component of the soils on the PSA. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).

Table E-1. Special-Status Species' Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/CRPR/ EACCS Coverage)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Cirsium fontinale var. *campylon*	Mt. Hamilton thistle	None/None/1B.2/No	Chaparral, Cismontane woodland, Valley and foothill grassland; Seeps, Serpentinite/perennial herb/(Feb)Apr–Oct/330–2,915	**Not expected to occur.** The site lacks serpentine soils preferred by this species. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Deinandra bacigalupii	Livermore tarplant	None/SE/1B.1/Yes	Meadows and seeps (alkaline)/annual herb/June–Oct/490–605	**Not expected to occur.** The site lacks suitable meadow seep habitats preferred by this species. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Delphinium californicum ssp. *interius*	Hospital Canyon larkspur	None/None/1B.2/No	Chaparral (openings), Cismontane woodland (mesic), Coastal scrub/perennial herb/Apr–June/640–3,590	**Not expected to occur.** The site lacks suitable chaparral, woodland, or scrub habitat for this species. There are no documented occurences within 5 miles of the PSA (CDFW 2024).
Delphinium recurvatum	recurved larkspur	None/None/1B.2/Yes	Chenopod scrub, Cismontane woodland, Valley and foothill grassland; Alkaline/perennial herb/Mar–June/10–2,590	**Moderate potential to occur.** There is suitable valley and foothill grassland with alkaline soils present. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Eryngium spinosepalum	spiny-sepaled button-celery	None/None/1B.2/No	Valley and foothill grassland, Vernal pools/annual/perennial herb/ Apr–June/260–3,195	**Moderate potential to occur**. There is suitable valley and foothill grassland present, There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Eschscholzia rhombipetala	diamond-petaled California poppy	None/None/1B.1/No	Valley and foothill grassland (alkaline, clay)/annual herb/Mar–Apr/ 0–3,195	**Moderate potential to occur.** There is suitable valley and foothill grassland with alkaline clay soils present. The nearest documented occurrence is approximately 3.4 miles south of the PSA from 2012 (Occ. No. 9; CDFW 2024).
Extriplex joaquinana	San Joaquin spearscale	None/None/1B.2/Yes	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland; Alkaline/annual herb/Apr–Oct/5–2,735	**Moderate potential to occur**. There is suitable valley and foothill grassland with alkaline soils present. The nearest documented occurrence is approximately 3.8 miles northwest of the PSA from 2015 (Occ. No. 117; CDFW 2024).
Fritillaria falcata	talus fritillary	None/None/1B.2/Yes	Chaparral, Cismontane woodland, Lower montane coniferous forest; Serpentinite, Talus (often)/perennial bulbiferous herb/Mar–May/ 985–5,000	**Not expected to occur.** The site is outside of the species' known elevation range.
Helianthella castanea	Diablo helianthella	None/None/1B.2/No	Broadleafed upland forest, Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland, Valley and foothill grassland; Rocky (usually)/perennial herb/Mar–June/195–4,265	**Not expected to occur.** No suitable forest, woodland, or chaparral habitats present, and only a single small rocky outcrop area within the PSA. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Hesperolinon breweri	Brewer's western flax	None/None/1B.2/No	Chaparral, Cismontane woodland, Valley and foothill grassland; Serpentinite (usually)/annual herb/May–July/100–3,100	**Not expected to occur.** No suitable chaparral or woodland habitat present, and no serpentine soils. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Hibiscus lasiocarpos var. *occidentalis*	woolly rose-mallow	None/None/1B.2/No	Marshes and swamps (freshwater)/perennial rhizomatous herb (emergent)/June–Sep/0–395	**Not expected to occur.** No suitable freshwater marsh or swamp habitat present. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Hoita strobilina	Loma Prieta hoita	None/None/1B.1/No	Chaparral, Cismontane woodland, Riparian woodland; Mesic, Serpentinite (usually)/perennial herb/May–July (Aug–Oct)/100–2,820	**Not expected to occur.** No suitable chaparral or woodland habitat present, and no serpentine soils. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Legenere limosa	legenere	None/None/1B.1/No	Vernal pools/annual herb/Apr–June/5–2,885	**Not expected to occur.** Vernal pools absent. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Leptosyne hamiltonii	Mt. Hamilton coreopsis	None/None/1B.2/No	Cismontane woodland (rocky)/annual herb/Mar–May/1,800–4,265	**Not expected to occur.** The site is outside of the species' known elevation range.
Lilaeopsis masonii	Mason's lilaeopsis	None/SR/1B.1/No	Marshes and swamps (brackish, freshwater), Riparian scrub/perennial rhizomatous herb/Apr–Nov/0–35	**Not expected to occur.** The site is outside of the species' known elevation range.
Limosella australis	Delta mudwort	None/None/1B.1/No	Marshes and swamps (brackish, freshwater), Riparian scrub; Streambanks (usually)/perennial stoloniferous herb/May–Aug/0–10	**Not expected to occur.** The site is outside of the species' known elevation range.
Madia radiata	showy golden madia	None/None/1B.1/No	Cismontane woodland, Valley and foothill grassland/annual herb/ Mar–May/80–3,985	**Moderate potential to occur.** Suitable valley and foothill grassland present with clay soils. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).

Table E-1. Special-Status Species' Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/CRPR/ EACCS Coverage)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Malacothamnus hallii	Hall's bush-mallow	None/None/1B.2/No	Chaparral, Coastal scrub/perennial deciduous shrub/ (Apr)May–Sep(Oct)/35–2,490	**Not expected to occur.** No chaparral or coastal scrub habitat present. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Navarretia nigelliformis ssp. *radians*	shining navarretia	None/None/1B.2/No	Cismontane woodland, Valley and foothill grassland, Vernal pools: Clay (sometimes)/annual herb/(Mar)Apr–July/215–3,280	**Moderate potential to occur.** Suitable valley and foothill grassland present with clay soils. The nearest documented occurrence is approximately 2.1 miles south of the PSA, a historical record from 1997 (Occ. No. 61; CDFW 2024).
Phacelia phacelioides	Mt. Diablo phacelia	None/None/1B.2/No	Chaparral, Cismontane woodland; Rocky/annual herb/Apr–May/ 1,640–4,490	**Not expected to occur.** The site is outside of the species' known elevation range.
Plagiobothrys glaber	hairless popcornflower	None/None/1A/No	Marshes and swamps (coastal salt), Meadows and seeps (alkaline)/annual herb/Mar–May/50–590	**Not expected to occur.** No suitable coastal salt or alkaline meadow habitat present. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Puccinellia simplex	California alkali grass	None/None/1B.2/No	Chenopod scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; Alkaline, Flats, Lake Margins, Vernally Mesic/annual herb/Mar–May/5–3,050	**Low potential to occur.** Valley and foothill grassland is present, but with limited mesic areas. The nearest documented occurrence is approximately 4.4 miles northwest of the PSA, a historical record from 1958 (Occ. No. 41; CDFW 2024).
Ravenella exigua	chaparral harebell	None/None/1B.2/No	Chaparral (rocky, usually serpentinite)/annual herb/May–June/ 900–4,100	**Not expected to occur.** The site is outside of the species' known elevation range.
Senecio aphanactis	chaparral ragwort	None/None/2B.2/No	Chaparral, Cismontane woodland, Coastal scrub; Alkaline (sometimes)/annual herb/Jan–Apr (May)/50–2,620	**Not expected to occur.** No suitable chaparral, woodland, or coastal scrub habitat present. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Spergularia macrotheca var. *longistyla*	long-styled sand-spurrey	None/None/1B.2/No	Marshes and swamps, Meadows and seeps; Alkaline/perennial herb/Feb–May/0–835	**Not expected to occur.** No suitable marsh or meadow habitats present. The nearest documented occurrences are approximately 3.2 miles northwest and north of the PSA, both historical records (Occ. Nos. 5 and 6; CDFW 2024).
Trifolium hydrophilum	saline clover	None/None/1B.2/No	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), Vernal pools/annual herb/Apr–June/0–985	**Low potential to occur.** Valley and foothill grassland is present, but with limited mesic areas. There are no documented occurences within 5 miles of the PSA (CDFW 2024).
Tropidocarpum capparideum	caper-fruited tropidocarpum	None/None/1B.1/No	Valley and foothill grassland (alkaline hills)/annual herb/Mar–Apr/ 5–1,490	**High potential to occur.** Suitable valley and foothill grassland with alkaline soils present. The nearest documented occurrence is 0.3 mile northeast, a historical record from 1933 (Occ. No. 3). Three additional historical records are within 5 miles of the PSA (Occ. Nos. 1, 4, 11). The nearest recent occurrence is approximately 3.0 miles northwest of the PSA from 2019 (Occ. No. 27; CDFW 2024).
Wildlife				
Invertebrates				
Bombus crotchii	Crotch bumble bee	None/SCE/—/No	Open grassland and scrub communities supporting suitable floral resources.	**Moderate potential to occur.** Grassland contains scattered floral resources and nesting substrates (bare/cracked ground, small rodent burrows, small rocky areas). There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Bombus occidentalis	western bumble bee	None/SCE/—/No	Once common and widespread, species has declined precipitously from central California to southern British Columbia, perhaps from disease	**Not expected to occur.** The PSA is outside of the currently known range for this species (CDFW 2023e), and the nearest documented occurrence, approximately 4 miles south of the PSA, is from 1951 (Occ. No. 232; CDFW 2024).
Branchinecta longiantenna	longhorn fairy shrimp	FE/None/—/Yes	Sandstone outcrop pools, alkaline grassland vernal pools, and pools within alkali sink and alkali scrub communities	**Not expected to occur.** Vernal pools absent. Documented occurrences are recorded in the Byron Hot Springs and Altamont quads to the northeast and east of the PSA, but specific locations are not available (CDFW 2024).
Branchinecta lynchi	vernal pool fairy shrimp	FT/None/—/Yes	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats	**Not expected to occur.** Vernal pools absent. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).

Table E-1. Special-Status Species' Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/CRPR/ EACCS Coverage)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT/None/—/No	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*)	**Not expected to occur.** No blue elderberry host plants present in the PSA.
Lepidurus packardi	vernal pool tadpole shrimp	FE/None/—/No	Ephemeral freshwater habitats including alkaline pools, clay flats, vernal lakes, vernal pools, and vernal swales	**Not expected to occur.** Vernal pools absent. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	FC/None/—/No	Wind-protected tree groves with nectar sources and nearby water sources	**Not expected to occur.** No tree groves present on the PSA to provide shelter. There are no documented occurrences within 5 miles of the PSA (CDFW 2024), and there are no known overwintering sites in the vicinity (Xerces 2016).
Fishes				
Acipenser medirostris pop. 1	green sturgeon - southern DPS	FT/None/—/No	Spawns in deep pools in large, turbulent, freshwater rivers; adults live in oceanic waters, bays, and estuaries	**Not expected to occur.** No suitable aquatic habitat present.
Hypomesus transpacificus	Delta smelt	FT/SE/—/No	Sacramento–San Joaquin Delta; seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay	**Not expected to occur.** The PSA is outside of the known range for this species.
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	FT/None/—/Yes	Coastal basins from Redwood Creek south to the Gualala River, inclusive; does not include summer-run steelhead	**Not expected to occur.** No suitable aquatic habitat present.
Spirinchus thaleichthys	longfin smelt	FC/ST/—/No	Aquatic, estuary	**Not expected to occur.** The PSA is outside of the known range for this species.
Thaleichthys pacificus	eulachon	FT/None/—/No	Found in Klamath River, Mad River, and Redwood Creek and in small numbers in Smith River and Humboldt Bay tributaries	**Not expected to occur.** No suitable aquatic habitat present.
Amphibians				
Ambystoma californiense pop. 1	California tiger salamander - central California DPS	FT/ST, WL/—/Yes	Annual grassland, valley–foothill hardwood, and valley–foothill riparian habitats; vernal pools, other ephemeral pools, and (uncommonly) along stream courses and man-made pools if predatory fishes are absent	**High potential to occur.** Abundant suitable grassland habitat with small mammal burrows present on the PSA with aquatic breeding habitat available within dispersal distance. The nearest documented occurrence is approximately 1.6 miles southwest of the PSA from 2012 (Occ. No. 1003); there are numerous other records within 5 miles of the PSA (CDFW 2024).
Rana boylii pop. 4	foothill yellow-legged frog - central coast DPS	FPT/SE/—/Yes	Rocky streams and rivers with open banks in forest, chaparral, and woodland	**Not expected to occur.** No suitable rocky stream habitat present. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Rana draytonii	California red-legged frog	FT/SSC/—/Yes	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	**High potential to occur.** Abundant suitable grassland habitat with small mammal burrows present on the PSA with aquatic breeding habitat available within dispersal distance. The nearest documented occurrences are approximately 1.5 miles east, south, and west of the PSA (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 PSA (CDFW 2024).
Spea hammondii	western spadefoot	None/SSC/—/No	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	**Low potential to occur.** Abundant suitable grassland habitat present, but there are no vernal pools or other ephemeral pools on the site. The nearest documented occurrence is approximately 3.6 miles southwest of the PSA from 2017 (Occ. No. 630; CDFW 2024).
Reptiles				
Anniella pulchra	northern California legless lizard	None/SSC/—/No	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils	**Not expected to occur.** Valley-foothill grassland is abundant but PSA lacks moist sandy soils for burrowing. The nearest documented occurrences are approximately 4.2 miles south of the PSA from 2004 and 2000 (Occ. Nos. 11 and 128; CDFW 2024).
Arizona elegans occidentalis	California glossy snake	None/SSC/—/No	Arid scrub, rocky washes, grasslands, chaparral, open areas with loose soil	**Low potential to occur.** Abundant grassland habitat present but with limited loose soils available. The nearest documented occurrence is a historical record from 1984 that overlaps with the PSA (Occ. No. 6; CDFW 2024).

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Table E-1. Special-Status Species' Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/CRPR/ EACCS Coverage)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Emys marmorata	western pond turtle	None/SSC/—/No	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	**Low potential to occur.** Patterson Run provides low-quality habitat. There are two stock ponds that may provide suitable aquatic habitat but are approximately 0.3 mile from the PSA. Suitable upland habitat present throughout the PSA. The nearest documented occurrence is approximately 3.2 miles north of the PSA, a historical record from 1989 (Occ. No. 128; CDFW 2024).
Masticophis flagellum ruddocki	San Joaquin whipsnake	None/SSC/—/No	Open, dry, treeless areas including grassland and saltbush scrub	**Low potential to occur.** Abundant grassland present with small mammal burrows for refuge, but limited open ground for hunting. The nearest documented occurrence is approximately 0.4 mile northeast of the PSA, a historical record from 1996 (Occ. No. 61; CDFW 2024).
Masticophis lateralis euryxanthus	Alameda whipsnake	FT/ST/—/Yes	Open areas in chaparral and scrub habitat; also adjacent grassland, oak savanna, and woodland	**Not expected to occur.** No suitable chaparral or scrub habitat present. The nearest documented occurrence is approximately 4 miles south of the PSA, a historical record of unknown age (Occ. No. 119; CDFW 2024).
Phrynosoma blainvillii	coast horned lizard	None/SSC/—/No	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	**Low potential to occur.** Grassland habitat is abundant but has limited open areas for sunning and limited loose soils available. The nearest documented occurrence is approximately 1.3 miles southeast of the PSA, a historical record from 1992 (Occ. No. 575; CDFW 2024).
Birds				
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST/—/Yes	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	**Not expected to nest, known to forage.** This species was observed during the field survey in January 2024. However, there is no suitable nesting habitat present on the PSA. There is low-quality nesting habitat at a stock pond approximately 0.5 mile west. Abundant grassland habitat for foraging present. The nearest documented occurrence is 1.8 miles east of the PSA, a historical record from 1998 (Occ. No. 418). Several other occurrences are recorded within 5 miles of the PSA, as recent as 2015 (CDFW 2024).
Ammodramus savannarum (nesting)	grasshopper sparrow	None/SSC/—/No	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches	**Low potential to nest or forage**. Open grassland is present but lacks suitable shrubs for perching. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Aquila chrysaetos (nesting and wintering)	golden eagle	None/FP, WL/—/Yes	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	**Low potential to nest, moderate potential to winter/forage**. Transmission towers adjacent to the site provide low-quality nesting habitat. Abundant grassland foraging habitat present. The nearest documented occurrence is approximately 4.9 miles south of the PSA from 2014, a record of a nest in a tower (Occ. No. 323; CDFW 2024).
Asio flammeus (nesting)	short-eared owl	BCC/SSC/—/No	Grassland, prairies, dunes, meadows, irrigated lands, and saline and freshwater emergent wetlands	**Low potential to nest or forage.** Suitable grassland habitat present for nesting and foraging, but at the edge of known current breeding range in California. The nearest documented occurrence is approximately 2.6 miles south of the PSA, a historical record from 1995 (Occ. No. 15; CDFW 2024).
Athene cunicularia (burrow sites and some wintering sites)	burrowing owl	BCC/SSC/—/Yes	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	**Moderate potential to nest or forage**. Grassland habitat is abundant but has limited ground squirrel burrows and short grazed vegetation within the PSA. There are 3 documented occurrences adjacent or overlapping with the PSA, from 1982, 2002, and 2006 (Occ. Nos. 48, 468, and 1229). Multiple other documented occurrences are within 5 miles of the PSA, most recently from 2015 (Occ. No. 47; CDFW 2024).
Buteo swainsoni (nesting)	Swainson's hawk	None/ST/—/No	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	**Low potential to nest or forage.** Open grassland with isolated trees available for foraging and nesting, but the PSA is at the edge of the nesting range of the

Table E-1. Special-Status Species' Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/CRPR/ EACCS Coverage)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				species. The nearest documented occurrence is approximately 4.8 miles northeast of the PSA from 2003 (Occ. No. 1228; CDFW 2024).
Circus hudsonius (nesting)	northern harrier	BCC/SSC/—/No	Nests in open wetlands (marshy meadows, wet lightly grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent wetlands, and other open habitats	**Moderate potential to nest or forage.** Suitable open grassland habitat present. The nearest documented occurrence is approximately 2.2 miles northeast of the PSA from 2001 (Occ. No. 49; CDFW 2024).
Elanus leucurus (nesting)	white-tailed kite	None/FP/—/No	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	**Moderate potential to nest or forage.** Suitable open grassland habitat present with limited individual trees nearby. The nearest documented occurrence is approximately 3.7 miles south of the PSA, a historical record from 1996 (Occ. No. 152; CDFW 2024).
Gymnogyps californianus	California condor	FE/FP, SE/—/No	Nests in rock formations, deep caves, and occasionally in cavities in giant sequoia trees (Sequoiadendron giganteus); forages in relatively open habitats where large animal carcasses can be detected	**Not expected to nest or forage.** The PSA is outside of the known range for this species.
Haliaeetus leucocephalus (nesting and wintering)	bald eagle	FPD/FP, SE/—/No	Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains	**Not expected to nest or forage.** No forested habitat or large water bodies in the PSA or vicinity. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Lanius ludovicianus (nesting)	loggerhead shrike	None/SSC/—/No	Nests and forages in open habitats with scattered shrubs, trees, or other perches	**Low potential to nest or forage.** Open grassland habitat is present for foraging, but PSA has limited perches and lacks scattered shrubs or brush for nesting. The nearest documented occurrence is approximately 3.9 miles west of the PSA from 2015 (Occ. No. 113; CDFW 2024).
Melospiza melodia ("Modesto" population)	song sparrow ("Modesto" population)	None/SSC/—/No	Nests and forages in emergent freshwater marsh, riparian forest, vegetated irrigation canals and levees, and newly planted valley oak (Quercus lobata) restoration sites	**Not expected to nest or forage.** No suitable riparian, marsh, or other wet habitats present. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE/—/No	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	**Not expected to nest or forage.** No high-quality riparian vegetation present on the PSA. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Mammals				
Antrozous pallidus	pallid bat	None/SSC/—/No	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	**Low potential to occur.** Abundant grassland habitat present for foraging, but PSA has limited trees and nearby structures for roosting. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC/—/No	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	**Not expected to occur.** No suitable forest or riparian habitat for foraging, and no suitable structures or caves for roosting present. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Eumops perotis californicus	western mastiff bat	None/SSC/—/No	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	**Not expected to occur.** No suitable chaparral, scrub, or forest habitat for foraging, and no suitable cliffs for roosting present. There are no documented occurrences within 5 miles of the PSA (CDFW 2024).
Sylvilagus bachmani riparius	riparian brush rabbit	FE/SE/—/No	Dense thickets of wild rose, willows, and blackberries growing along the banks of San Joaquin and Stanislaus Rivers	**Not expected to occur.** The PSA is outside of the known range for this species.
Taxidea taxus	American badger	None/SSC/—/Yes	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	**High potential to occur.** Suitable dry open grassland present with evidence of friable soils and burrowing activity near Patterson Pass Road. The nearest documented occurrences are approximately 0.2 mile north (Occ. No. 520 from 2014) and south (Occ. No. 250, unknown date prior to 2004; CDFW 2024). Multiple other records are within 5 miles of the PSA, the most recent from 2015 (CDFW 2024).

Table E-1. Special-Status Species' Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/CRPR/ EACCS Coverage)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Vulpes macrotis mutica	San Joaquin kit fox	FE/ST/—/Yes	Grasslands and scrublands, including those that have been modified; oak woodland, alkali sink scrubland, vernal pool, and alkali meadow	**Moderate potential to occur.** Suitable open grassland present with evidence of friable soils and burrowing activity near Patterson Pass Road. The nearest documented occurrence is approximately 0.3 mile southwest of the PSA, a historical record from 1984 (Occ. No. 6; CDFW 2024). Multiple other historical records are within 5 miles of the PSA, all prior to 1992 (CDFW 2024).

Sources: CDFW 2024, 2023e; Xerces 2016.
Notes:
Federal Status
FC: Federally listed as a candidate species.
FE: Federally listed as endangered.
FT: Federally listed as threatened.
FPD: Federally listed as protected designation.
None: No federal status.
State Status
FP: State listed as fully protected.
SE: State listed as endangered.
SR: State listed as rare.
SSC: State species of special concern.
ST: State listed as threatened.
None: No state status
California Rare Plant Rank (CRPR) Status
1B: plants rare, threatened, or endangered in California and elsewhere.
2B: plants rare, threatened, or endangered in California but more common elsewhere.
Threat Rank
0.1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat).
0.2: Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat).
0.3: Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known).
None: No conservation status.
East Alameda County Conservation Strategy (EACCS)
No: Not covered
Yes: Covered
Potential for Occurrence Ranks
Known to Occur: Known occurrences recorded within the PSA.
High Potential to Occur: The species has not been documented in the PSA but is known to occur in the vicinity and species habitat is present.
Moderate Potential to Occur: The species has not been documented in the vicinity, but the PSA is within the known range of the species, and habitat for the species is present.
Low Potential to Occur: The species has not been documented in the vicinity and the PSA is within the known range of the species, but habitat for the species is of low quality.
Not Expected to Occur: The PSA is outside the known range of the species, and habitat for the species is either absent or of low quality.

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References

Xerces (Xerces Society for Invertebrate Conservation). 2016. State of the Monarch Butterfly Overwintering Sites in California. Report prepared for the U.S. Fish and Wildlife Service. Portland, Oregon: Xerces Society for Invertebrate Conservation. June 2016.

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Appendix F

Wetland Delineation Forms

~~Special-Status Species Potential to Occur within the Project Study Area~~

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by: _____ _____ _____
(USFWS Field Office) (date) (biologist)

Date of Site Assessment: 08/02/2023
(mm/dd/yyyy)

Site Assessment Biologists:

Fisher-Colton	Erin	Higney	Kelsey
(Last name)	(first name)	(Last name)	(first name)
(Last name)	(first name)	(Last name)	(first name)

Site Location: Mulqueeney Ranch; Alameda County, CA; 37.710245, -121.571128.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Potentia-Viridi BESS
Brief description of proposed action:
Battery energy storage system and generation tie

1) Is this site within the current or historic range of the CRF (circle one)? YES ☑ NO ☐

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES ☐ NO ☑
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: N/A Maximum depth: N/A

Vegetation: emergent, overhanging, dominant species: N/A

Substrate: N/A

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: N/A
☐ ☐

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 20 ft

Depth at bank full: 2 ft

Stream gradient: low

Are there pools (circle one)? YES ☐ NO ☑

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: Runs and glides. No cobbles, some downed logs and branches in the streambed.

Little slope present. Wide, relatively slow flows when filled.

Vegetation: emergent, overhanging, dominant species: _____

Populus fremontii, Salix sp., Avena sp. upland grassland

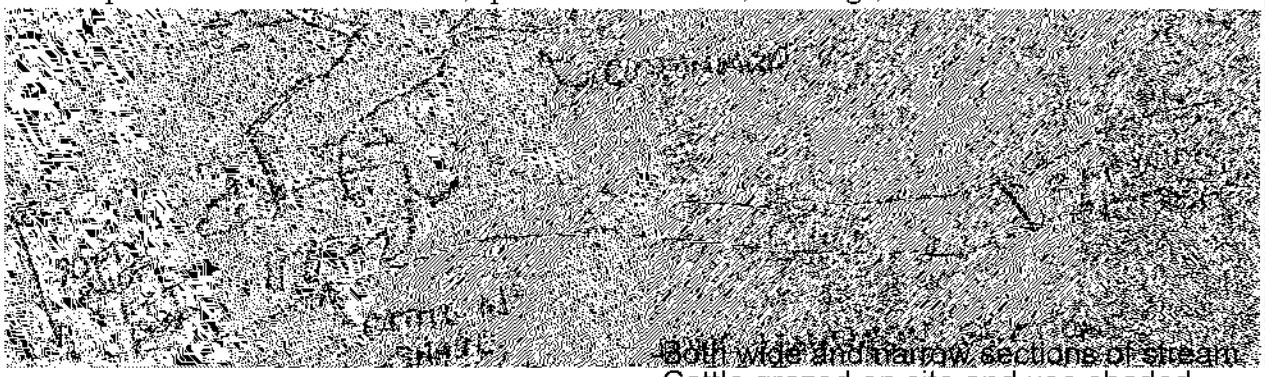
Substrate: silt/clay

Bank description: Completely covered in grass (Avena fatua, Bromus sp.); 30-45 degree slope from OHWM.

Some banks deeply incised to streambed.

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: between March and May (variable)

Other aquatic habitat characteristics, species observations, drawings, or comments:



-Both wide and narrow sections of stream.
-Cattle grazed on site and use shaded streambed to rest.
-Dry in May, but was flowing in March.

Labeled as "Patterson Run"

Necessary Attachments:

1. All field notes and other supporting documents See BTR.
2. Site photographs See BTR Attachment E.
3. Maps with important habitat features and species location See BTR Attachment 1, Figure 3.

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by: [redacted] (USFWS Field Office) (date) (biologist)

Date of Site Assessment: 08/02/2023
(mm/dd/yyyy)

Site Assessment Biologists:

Fisher-Colton	Erin	Higney	Kelsey
(Last name)	(first name)	(Last name)	(first name)
(Last name)	(first name)	(Last name)	(first name)

Site Location: Mulqueeney Ranch; Alameda County, CA; 37.716578, -121.583643.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Potentia-Viridi BESS
Brief description of proposed action:
Battery energy storage system and generation tie

1) Is this site within the current or historic range of the CRF (circle one)? YES ☑ NO ☐

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES ☐ NO ☑
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 55 meters x 29 meters Maximum depth: ~1 meter

Vegetation: emergent, overhanging, dominant species:
Amaranthus albus, Distichlis spicata, Elymus sp., Bromus rubra, Festuca sp., Polypogon monspeliensis

Substrate: mud/silt

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: contained limited water on 8/2/23

☐ ☑

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: N/A
Depth at bank full: N/A
Stream gradient: N/A

Are there pools (circle one)? YES ☐ NO ☐
If yes,
Size of stream pools: _____
Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: N/A

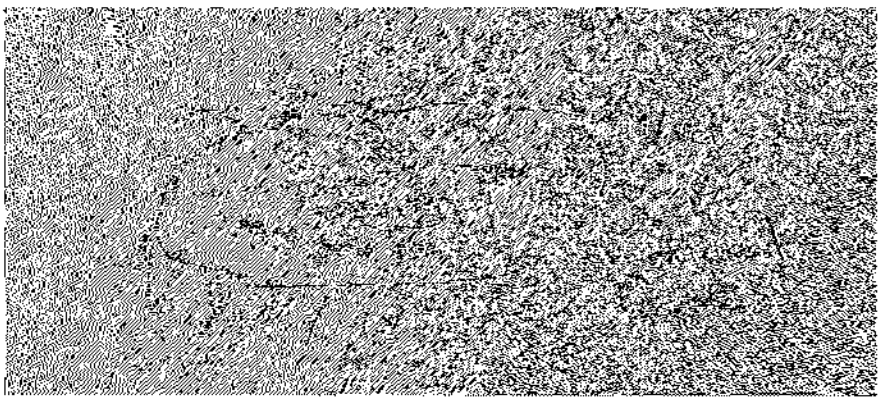
Vegetation: emergent, overhanging, dominant species: N/A

Substrate: N/A

Bank description: N/A

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: N/A

Other aquatic habitat characteristics, species observations, drawings, or comments:



Stock pond slightly west-northwest of Project site
This feature was full to OHWM in Mar 2023; water remaining in Aug 2023 ~3m x 2m

Necessary Attachments:

1. All field notes and other supporting documents See BTR.
2. Site photographs See BTR Attachment E.
3. Maps with important habitat features and species location See BTR Attachment 1, Figure 3.

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by: [redacted] (USFWS Field Office) (date) (biologist)

Date of Site Assessment: 08/02/2023
(mm/dd/yyyy)

Site Assessment Biologists:

(Last name)	(first name)	(Last name)	(first name)
Fisher-Colton	Erin	Higney	Kelsey
(Last name)	(first name)	(Last name)	(first name)

Site Location: Mulqueeney Ranch; Alameda County, CA; 37.711060, -121.584215.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Potentia-Viridi BESS
Brief description of proposed action:
Battery energy storage system and generation tie

1) Is this site within the current or historic range of the CRF (circle one)? YES☑ NO☐

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES☐ NO☑
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 32 meters x 29 meters Maximum depth: ~2 meter

Vegetation: emergent, overhanging, dominant species:
Bulrush sp., closer to bahk is Polypogoh monspeliensis, Atriplex prostrata, Rumex crispus, Heliotrope curassavicum, Bolboschoehus maritimus

Substrate: mud/silt

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: well-filled in August 2023
☑ ☐

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: N/A

Depth at bank full: N/A

Stream gradient: N/A

Are there pools (circle one)? YES ☐ NO ☐

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: N/A

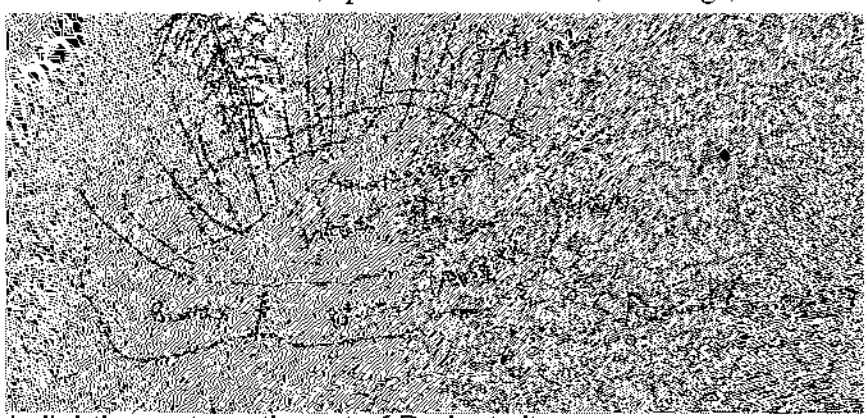
Vegetation: emergent, overhanging, dominant species: N/A

Substrate: N/A

Bank description: N/A

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: N/A

Other aquatic habitat characteristics, species observations, drawings, or comments:



Stock pond slightly west-southwest of Project site
This feature was full to OHWM in Mar 2023

Necessary Attachments:

1. All field notes and other supporting documents See BTR.
2. Site photographs See BTR Attachment E.
3. Maps with important habitat features and species location See BTR Attachment 1, Figure 3.

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Appendix G

Special-Status Species Potential to Occur within the Project Study Area

~~CRLF Habitat Assessment Datasheets~~

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by: _____ (USFWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 08/02/2023 (mm/dd/yyyy)

Site Assessment Biologists:

Fisher-Colton (Last name)	Erin (first name)	Higney (Last name)	Kelsey (first name)
_____ (Last name)	_____ (first name)	_____ (Last name)	_____ (first name)

Site Location: Mulqueeney Ranch; Alameda County, CA; 37.710245, -121.571128.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Potentia-Viridi BESS

Brief description of proposed action:

Battery energy storage system and generation tie

1) Is this site within the current or historic range of the CRF (circle one)? YES ☑ NO ☐

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES ☐ NO ☑
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: N/A Maximum depth: N/A

Vegetation: emergent, overhanging, dominant species: N/A

Substrate: N/A

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: N/A

☐ ☐

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 20 ft

Depth at bank full: 2 ft

Stream gradient: low

Are there pools (circle one)? YES ☐ NO ☑

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: Runs and glides. No cobbles, some downed logs and branches in the streambed. Little slope present. Wide, relatively slow flows when filled.

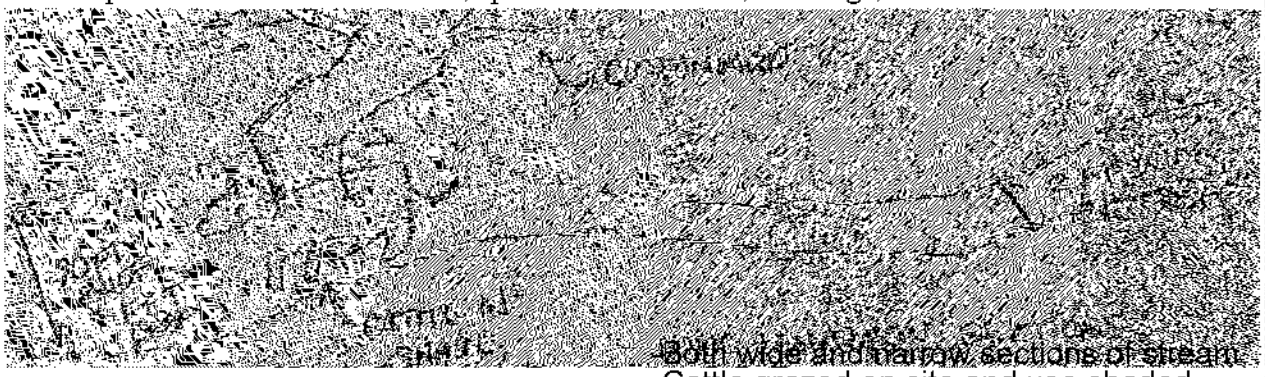
Vegetation: emergent, overhanging, dominant species: Populus fremontii, Salix sp., Avena sp. upland grassland

Substrate: silt/clay

Bank description: Completely covered in grass (Avena fatua, Bromus sp.); 30-45 degree slope from OHWM. Some banks deeply incised to streambed.

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: between March and May (variable)

Other aquatic habitat characteristics, species observations, drawings, or comments:



-Both wide and narrow sections of stream.
-Cattle grazed on site and use shaded streambed to rest.
-Dry in May, but was flowing in March.

Labeled as "Patterson Run"

Necessary Attachments:

1. All field notes and other supporting documents See BTR.
2. Site photographs See BTR Attachment E.
3. Maps with important habitat features and species location See BTR Attachment 1, Figure 3.

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by: _____ (USFWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 08/02/2023
(mm/dd/yyyy)

Site Assessment Biologists:

Fisher-Colton	Erin	Higney	Kelsey
(Last name)	(first name)	(Last name)	(first name)
(Last name)	(first name)	(Last name)	(first name)

Site Location: Mulqueeney Ranch; Alameda County, CA; 37.710245, -121.571128.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Potentia-Viridi BESS
Brief description of proposed action:
Battery energy storage system and generation tie

1) Is this site within the current or historic range of the CRF (circle one)? YES ☑ NO ☐

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES ☐ NO ☑
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: N/A Maximum depth: N/A

Vegetation: emergent, overhanging, dominant species: N/A

Substrate: N/A

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: N/A

☐ ☐

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 20 ft

Depth at bank full: 2 ft

Stream gradient: low

Are there pools (circle one)? YES ☐ NO ☑

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: Runs and glides. No cobbles, some downed logs and branches in the streambed.

Little slope present. Wide, relatively slow flows when filled.

Vegetation: emergent, overhanging, dominant species: _____

Populus fremontii, Salix sp., Avena sp. upland grassland

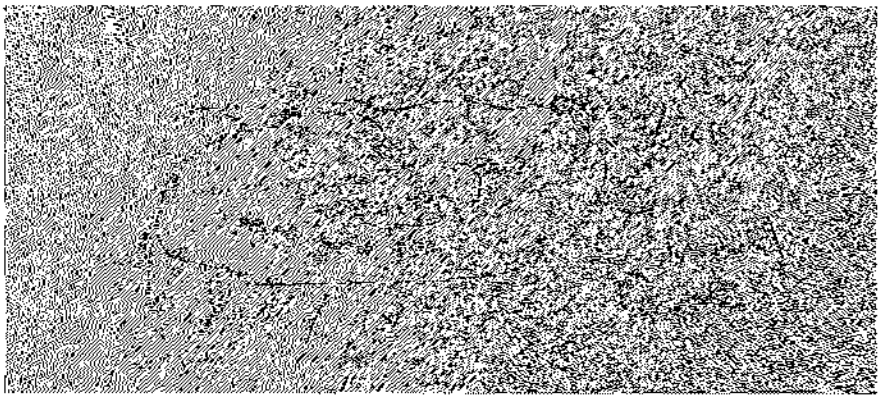
Substrate: silt/clay

Bank description: Completely covered in grass (Avena fatua, Bromus sp.); 30-45 degree slope from OHWM.

Some banks deeply incised to streambed.

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: between March and May (variable)

Other aquatic habitat characteristics, species observations, drawings, or comments:



Stock pond slightly west-northwest of Project site
This feature was full to OHWM in Mar 2023; water remaining in Aug 2023 ~3m x 2m

Necessary Attachments:

1. All field notes and other supporting documents See BTR.
2. Site photographs See BTR Attachment E.
3. Maps with important habitat features and species location See BTR Attachment 1, figure 3.

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by: _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 08/02/2023
(mm/dd/yyyy)

Site Assessment Biologists:

(Last name)	(first name)	(Last name)	(first name)
Fisher-Colton	Erin	Higney	Kelsey
(Last name)	(first name)	(Last name)	(first name)

Site Location: Mulqueeney Ranch; Alameda County, CA; 37.710245, -121.571128.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Potentia-Viridi BESS
Brief description of proposed action:
Battery energy storage system and generation tie

1) Is this site within the current or historic range of the CRF (circle one)? YES ☑ NO ☐

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES ☐ NO ☑
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: N/A Maximum depth: N/A

Vegetation: emergent, overhanging, dominant species: N/A

Substrate: N/A

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: N/A
☐ ☐

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 20 ft

Depth at bank full: 2 ft

Stream gradient: low

Are there pools (circle one)? YES ☐ NO ☑

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: Runs and glides. No cobbles, some downed logs and branches in the streambed.

Little slope present. Wide, relatively slow flows when filled.

Vegetation: emergent, overhanging, dominant species:

Populus fremontii, Salix sp., Avena sp. upland grassland

Substrate: silt/clay

Bank description: Completely covered in grass (Avena fatua, Bromus sp.); 30-45 degree slope from OHWM.

Some banks deeply incised to streambed.

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: between March and May (variable)

Other aquatic habitat characteristics, species observations, drawings, or comments:

Stock pond slightly west-southwest of Project site
This feature was full to OHWM in Mar 2023

Necessary Attachments:

1. All field notes and other supporting documents See BTR.
2. Site photographs See BTR Attachment E.
3. Maps with important habitat features and species location See BTR Attachment 1, figure 3.

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by: [redacted] (USFWS Field Office) [redacted] (date) [redacted] (biologist)

Date of Site Assessment: 08/02/2023
(mm/dd/yyyy)

Site Assessment Biologists:

Fisher-Colton	Erin	Higney	Kelsey
(Last name)	(first name)	(Last name)	(first name)
(Last name)	(first name)	(Last name)	(first name)

Site Location: Mulqueeney Ranch; Alameda County, CA; 37.710245, -121.571128.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Potentia-Viridi BESS
Brief description of proposed action:
Battery energy storage system and generation tie

1) Is this site within the current or historic range of the CRF (circle one)? YES ☑ NO ☐

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES ☐ NO ☑
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION
(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: N/A Maximum depth: N/A

Vegetation: emergent, overhanging, dominant species: N/A

Substrate: N/A

Perennial or Ephemeral *(circle one).* If ephemeral, date it goes dry: N/A
☐ ☐

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 20 ft

Depth at bank full: 2 ft

Stream gradient: low

Are there pools (circle one)? YES ☐ NO ☑

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: Runs and glides. No cobbles, some downed logs and branches in the streambed.

Little slope present. Wide, relatively slow flows when filled.

Vegetation: emergent, overhanging, dominant species: _____

Populus fremontii, Salix sp., Avena sp. upland grassland

Substrate: silt/clay

Bank description: Completely covered in grass (Avena fatua, Bromus sp.); 30-45 degree slope from OHWM.

Some banks deeply incised to streambed.

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: between March and May (variable)

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents See BTR.
2. Site photographs See BTR Attachment E.
3. Maps with important habitat features and species location See BTR Attachment 1, figure 3.

POVI 0002699

Appendix H

CRLF Habitat Assessment Datasheets

~~EACCS Mitigation Score Sheets~~

POVI 0002700

Appendix G.
Action Area (Impact) Mitigation Scoring Sheets

Table G-1 . Impact/Mitigation Scoring for big tarplant in the EACCS study area.

Big tarplant	**5**	**4**	**3**	**5**	**1**	**0**	**Score**
Conservation Zones	Inside CZ6 or CZ10	Inside CZ5 or CZ9	--	--	--	Other CZ	--
Elevation	Below 2,000 feet	--	--	--	--	Above 2,000 feet	--
Land covers impacted/ mitigated	Annual grassland, native grassland	--	--	--	--	All others	--
Soils present in impact area	Clay, Clay-loam	--	--	--	--	others	--
Within EBCNPS Priority Plant Protection Area	Yes	--	--	--	--	--	--
On parcels with an approved management plan for this species.	Yes	--	--	--	No	--	--
Total Score							26
Note: The ratio of mitigation to impact depends on the location of the mitigation. The acres of mitigation for a given project would be determined using the ratios shown in Table 3-12. Habitat quality of the impact site and the mitigation site would be scored using this table.							

Appendix G.
Action Area (Impact) Mitigation Scoring Sheets

[redacted]

Appendix G.
Action Area (Impact) Mitigation Scoring Sheets

Table G-3. Impact/Mitigation Scoring for California tiger salamander in the EACCS study area.

California tiger salamander	5	4	3	3	1	0	Score
Closest suitable breeding habitat to site	On-site	Within 500 feet	Between 501 – 1,600 feet	Between 1,601 –2,050 feet	Between 2051–6,900 feet	Greater than 6,900 feet	3
Is there occupied habitat within 6,900 feet of site?	Yes	--	--	No	--	--	--
Aquatic land covers impacted/ mitigated	Wetland, Ponds	--	Stream/River	--	--	All others; none	0
Upland land covers impacted/ mitigated	Grassland, Oak woodland, Rural residential	Chaparral/ Scrub	Riparian	Conifer woodland	ruderal without refugia habitat	All others; none	5
Elevation	Below 3,700 feet	--	--	--	--	Above 3,700 feet	--
Presence of ground squirrels/pocket gophers Presence of bullfrogs or non-native fish in aquatic resources on site	On-site No	Within 1,350 feet of site 5	Between >1,351 but <2,650 feet Low number; not all aquatic habitats occupied	Between >2,651 bu <5,300 feet 5	Between >5,301 but <7,900 feet Yes, occurring in high numbers	> 7,901 feet from site 5	3 5
Create a new barrier between breeding and upland habitat	Documented breeding location	3	Potential breeding location	3	3	No	3
Protect linkage between breeding and upland habitat	Documented breeding location	3	Potential breeding location	3	3	No	3
Inside designated Critical Habitat	Yes	--	--	--	--	No	0
On parcels with an approved management plan for this species.	Yes	--	--	--	No	--	--
Total Score							24

Note: The ratio of mitigation to impact depends on the location of the mitigation. The acres of mitigation for a given project would be determined using the ratios shown in Table 3-8. Habitat quality of the impact site and the mitigation site would be scored using this table.

Appendix G.
Action Area (Impact) Mitigation Scoring Sheets

Table G-4. Impact/Mitigation Scoring for golden eagle in the EACCS study area.

Golden eagle	**5**	**4**	**3**	**3**	**1**	**0**	**Score**
Presence of golden eagle nest within 1.0-mile of site	Yes	--	--	--	--	No	0
Land covers impacted/ Mitigated	Grassland, Oak woodland	Chaparral and scrub, ruderal	Cultivated ag	Rural residential, Conifer woodland	--	All others	--
Presence of ground squirrels	On site	Within 0.25-mile of site	> 0.25 but ≤ 1.0 mile	≥ 1 mile	--	--	--
Wind turbines within 0.5-mile of site	Yes	--	--	--	No	On-site	0
On parcels with an approved management plan for this species.	Yes	--	--	--	No	--	--
Total Score							11
Note: The ratio of mitigation to impact depends on the location of the mitigation. The acres of mitigation for a given project would be determined using the ratios shown in Table 3-10. Habitat quality of the impact site and the mitigation site would be scored using this table.							

Appendix G.
Action Area (Impact) Mitigation Scoring Sheets

Table G-5. Impact/Mitigation Scoring for San Joaquin kit fox and America badger in the EACCS study area.

San Joaquin kit fox/American badger	**5**	**5**	**5**	**5**	**5**	**0**	**Score**
Impact/ Mitigation occurs in:	CZ5CZ6/CZ7/ CZ9/CZ10	--	—CZ4 or CZ13	--	—CZ2, CZ3, CZ11, CZ12	--	--
Land covers impacted/ mitigated	Grassland, Rural residential	Chaparral/ Scrub	Oak woodland, Cultivated Ag	Seasonal wetlands, Orchard	, ruderal	All others	5
Average Slope	0-5%	> 5 but < 10%	≥ 10 but < 25%	≥25%	5	All others	5
Presence of ground squirrels	On site	Within 0.25-mile of site	Within 0.25-mile of site	5	5	Further away	5
Linkages and movement	Creation or removal of potential linkage across barrier (e.g. culvert under freeway)	Land adjacent to potential linkage on both sides of barrier (e.g., culvert under freeway)	Land adjacent to potential linkage on one side of barrier (e.g., culvert under freeway)	Land not adjacent to key linkage for species.	--	--	--
On parcels with an approved management plan for this species.	Yes	--	--	--	Yes	--	--
Total Score							22
Note: The ratio of mitigation to impact depends on the location of the mitigation. The acres of mitigation for a given project would be determined using the ratios shown in Table 3-11. Habitat quality of the impact site and the mitigation site would be scored using this table.							

Appendix G.
Action Area (Impact) Mitigation Scoring Sheets

Table G-6. Impact/Mitigation Scoring for tricolored blackbird in the EACCS study ar ea.

Tricolored blackbird	**5**	**4**	**5**	**2**	**1**	**0**	**Score**
Documented tricolored blackbird nest colony within 0.5-mile of site during previous 3-years.	Yes	--	--	--	--	No	1
Acres of emergent vegetation that could support nesting TRBL	>5	3-5	>5	0.25 – 1	<0.25	0	0
Acres of foraging habitat within 2-miles colony site	>1000	501-1000	251-500	100-250	<100	0	0
On parcels with an approved management plan for this species.	Yes	--	--	--	No	--	0
Total Score							2
Note: The ratio of mitigation to impact depends on the location of the mitigation. The acres of mitigation for a given project would be determined using the ratios shown in Table 3-10. Habitat quality of the impact site and the mitigation site would be scored using this table.							

Appendix I

EACCS Mitigation Score Sheets

~~Wetland Delineation Forms~~

POVI 0002708

Potentia Viridi

OHWM DATA SHEET

Project: BESS Facility Date: 01/18/24 Feature ID: EPH-01

Investigator(s): MRB & ECF Transect ID: T-01

Site Location:

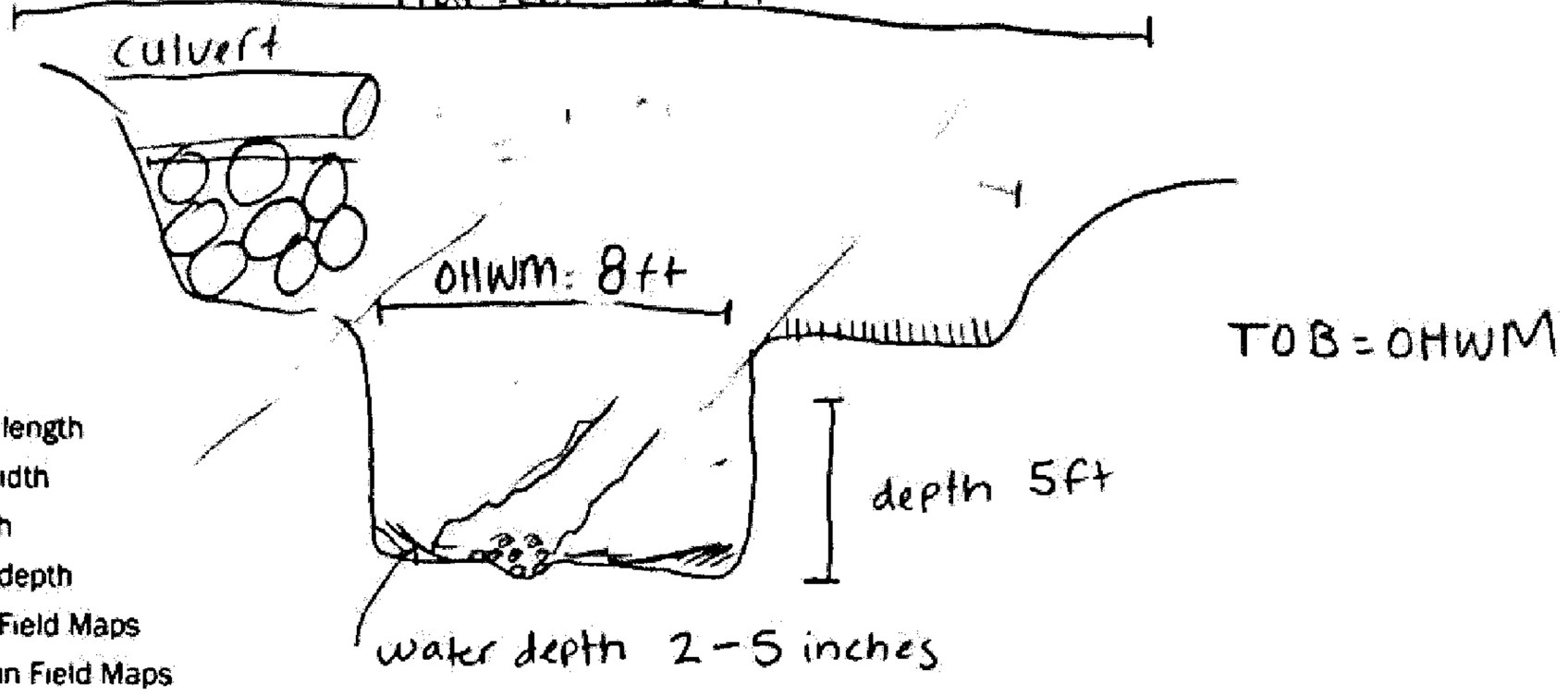
Alameda County, northwest portion of site

Stream Flow: ☑ Ephemeral ☐ Intermittent ☐ Perennial ☐ Controlled/Other

Transect (cross-section) drawing(s):

View Facing: S

View Facing: ☐ upstream ☑ downstream



☑ Transect length
☑ OHWM width
☑ TOB width
☑ Channel depth
☑ Photo in Field Maps
☐ Mapped in Field Maps

OHWM Indicators (at OHWM; primary indicators indicated with *)

- ☐ Natural line impressed on the bank
- ☒ Shelving
- ☐ Changes in the character of soil (texture)*
- ☐ Destruction of terrestrial vegetation
- ☐ Presence of litter and debris
- ☐ Wracking
- ☒ Vegetation matted down, bent, or absent
- ☐ Sediment sorting
- ☐ Leaf litter disturbed or washed away
- ☐ Scour
- ☐ Deposition
- ☐ Bed and banks
- ☐ Water staining
- ☒ Change in plant community and/or cover*

☐ Break in Slope at OHWM*: ☒ Sharp (>60°) ☐ Moderate (30-60°) ☐ Gentle (<30°)

Soil Texture

	Clay/Silt (%)	Sand (%)	Gravel (%)	Cobbles (%)	Boulders (%)
Above OHWM	30	30	10	5	25
Below OHWM	70	20	10	-	-

Vegetation Cover

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	0	15	5	80
Below OHWM	0	0	5	95

Veg Stage: ☐ Early (herbs & seedlings) ☑ Mid (herbs, shrubs, saplings) ☐ Late (herbs, shrubs, mature trees)

Upland Species:	*Bank Species:*	*Emergent Species:*
Silybum marianum Centaurea solstitialis Centaurea calcitrapa Senescent grasses Brassica sp. Erodium cicutarium	Senescent grasses	None

OHWM DATA SHEET

Condition/Disturbances/Anthropogenic Influences (e.g., erosion, grazing, culverts, etc.):

Culvert & Roadside

Hydrology:

☒ Flowing water	Min. depth: 2 inches	☒ No
☐ Standing water	Max. depth: 5 inches	☐ Yes ☐ Continuous ☐ Intermittent
☐ Saturated	Avg. depth:	
☐ Dry		

Riparian:

Checklist of resources used to evaluate OHWM:

☒ Aerial photography	☒ Vegetation maps	☐ Other:
☒ GPS unit	☒ Geologic/soil maps	
☐ Rainfall data	☐ Gage data	
☐ Topographic maps	☐ LiDAR	

Other drawings (aerial view):

None

Connectivity notes:

None

Other forms related to this feature: ☐ Yes ☒ No

☐ Terrace, fringe, or floodplain wetland (wetland datasheet)

☐ Low flow channel or other representative section (OHWM datasheet)

POVI 0002711

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Potentia-Viridi BESS Facility Project City/County: Tracy/Alameda County Sampling Date: 01/18/24

Applicant/Owner: Levy Alameda LLC State: CA Sampling Point: SP-01-UPL

Investigator(s): Mikaela Bissell & Erin Fisher-Colton Section, Township, Range: S31, T2S, R4E

Landform (hillslope, terrace, etc.): Plains Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR): C Lat: 37.708653 Long: -121566808 Datum: WGS84

Soil Map Unit Name: Linne clay loam, 3-15% slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Marubium vulgare	15	Y	FACU
2. Croton setiger	25	Y	UPL
3. Grindelia sp.	5%	N	FACW
4. Avena barbata	5%	No	UPL
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	5	x 2 =	10
FAC species	_____	x 3 =	_____
FACU species	15	x 4 =	60
UPL species	30	x 5 =	150
Column Totals:	50 (A)		220 (B)

Prevalence Index = B/A = 4.4

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: SP-01-UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: clay

Depth (inches): 9

Hydric Soil Present? Yes ___ No ✓

Remarks:

No redox observed, soils appear disturbed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

C9: Aerial imagery does not display 5 or more years of saturation.

Attachment 4

Revised Section 3.2, Biological Resources

3.2 Biological Resources

This section describes the potential effects the construction, operation, and decommissioning activities associated with the Project may have on biological resources at and in the vicinity of the Project site. The information presented is based on a site-specific biological technical report and readily available resources provided online. The evaluation of biological resources includes the following elements:

- **Section 3.11.1** describes the existing environment that could be affected, including a regional overview, wetlands, habitats, species, vegetation, and biological survey results;
- **Section 3.11.2** provides an overview of the regulatory setting related to soils;
- **Section 3.11.3** identifies potential environmental impacts that may result from Project construction, operation, maintenance, and decommissioning;
- **Section 3.11.4** discusses cumulative effects
- **Section 3.11.5** identifies mitigation measures that should be considered during Project construction, operation, maintenance, and decommissioning;
- **Section 3.11.6** presents laws, ordinances, regulations, and standards (LORS) applicable to soils;
- **Section 3.11.7** identifies regulatory agency contacts;
- **Section 3.11.8** describes permits required for the Project related to geologic resources; and
- **Section 3.11.9** provides references used to develop this section.

This section describes the existing biological resource conditions of the Potentia-Viridi Battery Energy Storage System (BESS) Project (Project) site and vicinity, identifies associated regulatory standards, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project. The biological resources described in this section have been compiled from a literature review of databases, maps, general plans, biological reconnaissance conducted in March and August 2023, as well as focused species/resource surveys conducted throughout spring and summer 2023 and 2024 by Dudek biologists. Biologist's credentials, as well as occurrence record data used for the preparation of this section is located in the following appendices:

- **Appendix 3.2A** - Biological Technical Report, prepared by Dudek, ~~July 2024~~revised January 2025
- **Appendix 3.2B** Resumes of Applicant's Biologists
- **Appendix 3.2C** CNDDB Forms
- **Appendix 3.2D** – Nationwide Permit Pre-Construction Notification Supplemental Information, prepared by Integral Consulting Inc., June 2024
- **Appendix 3.2E** – Incidental Take Permit Application, prepared by Stantec, July 2024
- **Appendix 3.2F** – 1602 Lake and Streambed Alteration Agreement Application, prepared by Stantec, July 2024
- **Appendix 3.2G** – Nitrogen Deposition Model

3.2.1 Affected Environment

The ~~Project~~ BESS facility would be constructed on an approximately ~~70~~ 69- acre parcels in the northeastern portion of unincorporated Alameda County, California. The Project is located at 17257 Patterson Pass Road within Assessor

Parcel Numbers (APN) 99B-7890-002-04 (BESS facility) and 99B-7890-2-4, 99B-7890-2-6, 99B-7885-12 (gen-tie alignment; Alameda County 2024).

The Project site refers to the area that would be physically affected by construction activities associated with the Project, including the location of permanent structures as well as staging and other temporary disturbance areas described in Section 2, Project Description. For the purposes of the biological surveys, the Study Area (approximately ~~96~~ 102 acres) encompasses the Project site as well as a 50-ft buffer surrounding the BESS site and the gen-tie alignment. The Study Area for focused species surveys was expanded per protocol and where necessary to capture nearby resources. Focused survey methods are described below in Section 3.2.1.5, Biological Surveys.

The Study Area is a mostly undeveloped area adjacent and directly west of the PG&E Tesla substation (referred to as Altamont Pass Wind Substation on some maps) on Patterson Pass Road. Patterson Pass Road runs through the Study Area northeast to southwest from the substation. Patterson Run (a seasonal stream channel) runs along the eastern border of Patterson Pass Road. The Study Area is bordered to the north by a dirt-gravel access road. The Altamont Corridor Express railway runs northwest to southwest through the southwest portion of the Study Area. Two PG&E transmission line corridors cross the Study Area. One transmission corridor runs northeast to southwest through the northern portion. The second transmission corridor runs north-northeast to south-southwest through the southeastern portion of the Study Area. Elevation in the Study Area ranges from approximately 403 to 536 feet above mean sea level (Google Earth Pro 2024).

Land use surrounding the Study Area consists of The Altamont Pass Wind Resource Area occurring to the west (including north- and southwest; Hull 2012; Thelander and Rugge 2000). Most of the Study Area and surrounding area consists of rolling hills and grasslands intermittently used for livestock grazing (ICF 2010).

3.2.1.1 Regional Overview

The Study Area is mostly undeveloped, and the regional land use has remained largely unchanged since the 1980s based on aerial imagery (Google Earth Pro 2024). The Study Area is located in the east-northeastern portion of Alameda County, California. Regionally, the Study Area occurs at the foot of the Altamont Pass near the San Joaquin Valley. The Study Area occurs approximately 2.5 miles west of the City of Tracy, southwest of where Interstate 205 intersects and becomes Interstate 580. Patterson Run is a seasonal stream system that runs parallel to Patterson Road through the Study Area, flows in a northerly direction, and eventually terminates approximately 2.3 miles northeast of the Study Area in agricultural land just north of the Delta Mendota Canal. (EPA 2024). The Study Area is located on the Midway, California, U.S. Geological Survey 7.5-minute map on Section 31; Township 2S; Range 4E. The Principal Meridian (centroid) of the Study Area is at latitude 37.710926°, -121.575397°.

The Study Area occurs within a Mediterranean climate where annual temperatures range from 38.3°F to 92.6°F (WRCC 2023). According to the Tracy Pumping Plant (049001) Weather Station Gauge, yearly precipitation averages 12.03 inches, with the highest average rainfall recorded in January (2.54 inches) (WRCC 2023). The past winter season has had higher than average rainfall.

3.2.1.2 Significant Regional Wetlands and Protected Areas

The National Wetlands Inventory (NWI), National Hydrography Dataset (NHD), and the Environmental Protection Agency (EPA) Waters GeoViewer (2.0) were reviewed to identify wetland or hydrologic features (USFWS 2024, USGS 2024, EPA 2024). ~~Figure 3.2-7 depicts the mapped wetland and hydrologic features at and within the Study Area vicinity.~~

Protected areas were determined through a review of the California Protected Area Database (CPAD) and California Conservation Easement Database (CCED) mapping tools (CPAD 2024) as well as the East Alameda County Conservation Strategy (ICF 2010) and the Data Basin (Data Basin 2024). Protected areas are depicted graphically in Figure 3.2-1, Protected Areas.

3.2.1.2.1 Hydrologic Features

The Study Area occurs within the North Diablo Range of the Alameda Creek Watershed (USGS 2024). According to the NWI there are several freshwater ponds, freshwater wetlands, and riverine aquatic features in the vicinity of the Project. The NWI mapped resources are based on coarse aerial mapping and do not involve ground-truthing. The NHD and EPA show Patterson Run and one other unnamed stream system crossing the Study Area running from south to north within the northern portion of the Project site. Both streams are classified in NWI as having portions of Riverine (R4SBC) and Freshwater Emergent Wetland (PEM1A). Patterson Run is a seasonal stream system that runs parallel to Patterson Road through the Study Area and connects to the California Aqueduct systems to the north (EPA 2024).

In January 2024, Dudek biologists conducted a jurisdictional delineation to determine the accuracy of the NWI/NHD data and the presence/absence of potentially jurisdictional resources throughout the Study Area (Appendix 3.2A, Biological Technical Report). The formal wetland delineation was performed in accordance with the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (USACE 1987) and results are included as part of Appendix 3.2A.

3.2.1.2.2 Protected Areas

The California Protected Areas Database (CPAD) is a database that includes lands that are owned and protected for open space purposed by over 1,000 public agencies or non-profit organizations. CPAD includes national, state, or regional parks, forests, preserves and wildlife areas. It also includes large and small urban parks; land trust preserves and special district open space lands (CPAD 2024).

A review of the CPAD and California Conservation Easement Database (CCED) confirmed that there are several protected areas or conservation easements within a 5-mile radius of the Study Area. Figure 3.2-1 depicts protected areas identified within a 10-mile radius of the Project. A description of the CPAD and CCED identified areas that occur within the 10-mile buffer of the Project is provided below.

CPAD

Mendoza Ranch

The nearest protected area is the Contra Costa Water District's Mendoza Ranch (Unit ID 49792), located approximately 1-mile northwest of the Project site.

CCED

The CCED is a database that defines boundaries of easements and deed-base restrictions on private lands. These lands may be actively farmed, grazed, forested, or held as nature preserves and typically have no public access (CPAD 2024). The following easements were mapped within 10 miles of the Project:

Haera Mitigation Bank

The nearest mapped conservation easement is the Wildlife Heritage Foundation Haera Mitigation Bank (CCED ID 2073), located adjacent to and north of Project site.

Two Sisters Conservation Area

The second nearest conservation easement is the Two Sisters Conservation Area (CCED ID 12132) directly south of the Project site.

East Alameda County Conservation Strategy (EACCS)

The Study Area is covered under the EACCS. Alameda County, along with the Golden Gate Audubon Society and several private wind energy companies, are currently developing a regional conservation plan for the wind resource area. This area is located in the northeastern part of Alameda County, extending to the Contra Costa and San Joaquin County lines on the north and east, and through the Altamont Hills to the west. The East Alameda County Conservation Strategy is intended to provide an effective framework to protect, enhance, and restore natural resources in eastern Alameda County, while improving and streamlining the environmental permitting process for impacts resulting from infrastructure and development projects (ICF 2010).

The Study Area is mapped in the EACCS within the Wind Resource Area: This area has special designation due to existing wind energy facilities and the intention to continue to develop and utilize wind resources in the future. This designation is primarily to facilitate real estate disclosures about existing wind energy facilities and the potential for future wind facility uses. The designation also restricts changes in land use that are incompatible with future wind energy generation (ICF 2010).

Data Basin - East Bay Botanical Priority Protection Areas (CNPS)

The Study Area is located within the East Bay Chapter Area (EBCA). The EBCA supports a unique congregation of ecological conditions and native plants. The collision of floristic protection and economic growth conceived the Botanical Priority Protection Areas Project (BPPA) and fortified intra-chapter collaboration between the Plant Science and Conservation arms of the East Bay Chapter of the California Native Plant Society (CNPS; Data Basin 2024). The Study Area is within the East Bay Botanical Priority Protection Area S.

3.2.1.3 Sensitive Habitat Types and Critical Habitat

Sensitive habitat types and critical habitats within a 5-mile radius of the Project are shown in Figure 3.2-2, Sensitive Habitat Types, and Figure 3.2-3, Critical Habitats. The descriptions of the sensitive and critical habitats identified are described below.

3.2.1.3.1 Sensitive Habitat Types

CDFW defines sensitive habitats as plant communities that have limited distributions, high wildlife value, include sensitive species, or are particularly vulnerable to disturbance. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in the California Natural Diversity Database (CDFW 2024a). Currently, CDFW publishes the California Sensitive Natural Communities List online (CDFW 2024b Vegetation rarity ranking is based on a rank calculated developed by NatureServe. Vegetation maps were taken

from the CDFW Vegetation Classification Reports and Maps (CDFW 2024c). CDFW's Vegetation Program considers vegetation alliances with state ranks of S1-S3 as sensitive vegetative habitats. CDFW considers species or natural communities with one of the following NatureServe rankings as sensitive: Global (G)/State (S); Presumed Extinct (X); Possibly Extinct (G/S H); Critically Imperiled (G/S 1); Imperiled (G/S 2); Vulnerable (G/S 3). CEQA requires that impacts to sensitive natural communities be evaluated and mitigated to the extent feasible. The following six sensitive natural communities occur within the nine surrounding quads: Alkali Meadow, Alkali Seep, Northern Claypan Vernal Pool, Valley Needlegrass Grassland, Great Valley Oak Riparian Forest, and Sycamore Alluvial Woodland. There are no sensitive natural communities mapped within the Study Area.

3.2.1.3.2 Critical Habitat

Critical habitats are designated areas occupied by the species at the time it was listed that contain the physical or biological features that are essential to the conservation of endangered and threatened species. In designated critical habitat, U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) consider the following requirements of the species:

> "Space for individual and population growth, and for normal behavior; nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, or rearing offspring; and, generally, any habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of this species (USFWS 2017)."

There is DCH for multiple species within 5 miles of the Study Area (Figure 3.2-3).

California Red-Legged Frog: There is DCH for CRLF overlapping the Study Area and extending to the north and southwest (USFWS 2023a), in areas of undeveloped or rural agricultural lands. Critical habitat for CRLF consists of four primary constituent elements (PCEs), which support different components of the species' life history, as last updated by USFWS in 2010 (75 FR 12816-12959):

1. Aquatic Breeding Habitat: Standing bodies of fresh water including natural and manmade (e.g., stock) ponds, slow-moving streams, pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in most years.
2. Aquatic Non-Breeding Habitat: Freshwater aquatic habitats that may not hold water long enough for the species to complete its aquatic life cycle, but which provide for shelter, foraging, predator avoidance, and aquatic dispersal of juvenile and adult CRLF. These may include breeding habitat as described above, as well as plunge pools within intermittent creeks, seeps, quiet water refugia within streams, and flowing springs.
3. Upland Habitat: Upland areas adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to 1 mi (1.6 km), depending on surrounding landscape and dispersal barriers. Upland habitat may include grassland, woodland, forest, wetland, or riparian areas that provide shelter, forage, and predator avoidance with structural features such as boulders, rocks, and organic debris (e.g., downed trees, logs), small mammal burrows, or moist leaf litter.
4. Dispersal Habitat: Accessible upland or riparian habitat within and between occupied locations within a minimum of 1 mi (1.6 km) of each other and that support movement between such sites. Dispersal habitat includes various natural or moderately altered habitats (such as agricultural fields) that do not contain dispersal barriers. Dispersal habitat does not include moderate- to high-density urban or industrial developments, nor does it include large (>50 ac) lakes or reservoirs.

PCEs 3 and 4 (upland and dispersal habitat) are present on the Study Area, and PCEs 1 and 2 (aquatic breeding and nonbreeding habitat) are present within dispersal distance (1 mile) of the Study Area.

Alameda Whipsnake: There is DCH for Alameda whipsnake (*Masticophis lateralis euryxanthus*) approximately 2.5 miles south of the Study Area (USFWS 2023b). This species is not expected to occur within or near the Study Area due to a lack of suitable chaparral or scrub habitat.

Delta Smelt: There is DCH for Delta smelt (*Hypomesus transpacificus*) in Old River approximately 3 miles northeast of the Study Area (USFWS 2023c). This species is not expected to occur within or near the Study Area due to being outside of the known range of the species and due to a lack of suitable aquatic habitat.

Large-Flowered Fiddleneck: There is DCH for large-flowered fiddleneck (*Amsinckia grandiflora*) approximately 4.5 miles south of the Study Area (USFWS 2023d). This species is not expected to occur within the Study Area due to being outside of the known elevation range of the species.

3.2.1.3.2.1 Essential Fish Habitat

Essential Fish Habitat (EFH) on the west coast is managed by the National Oceanic and Atmospheric Administration (NOAA) and the Pacific Fishery Management Council (PFMC) under the Magnuson-Stevens Act of 1976 to protect habitat for federally managed fish species across life stages (NOAA 2023). EFH is broadly mapped as the geographic area wherein a fish species may occur at any time in its life and is designated at the watershed level of the USGS 4th field hydrologic unit to account for variability in freshwater habitats over time (PFMC 2014, 2022). Thus, mapped EFH may encompass terrestrial habitats that do not currently provide appropriate conditions for target fish species but are within the same watershed as the species' known distribution and may become suitable habitat as environmental conditions change (e.g., droughts, floods, etc.).

Pacific coast salmon: The Study Area overlaps with designated freshwater EFH for Pacific coast salmon. Specifically, the Pacific Salmon Fishery Management Plan (PFMC 2014, 2022) identifies freshwater EFH for Chinook salmon (*Oncorhynchus tshawytscha*) in the San Joaquin Delta hydrologic unit (HUC-8 18040003), which includes the Study Area within the Old River watershed. Freshwater EFH for Chinook salmon consists of four major activities: (1) spawning and incubation; (2) juvenile rearing; (3) juvenile migration corridors; and (4) adult migration corridors and adult holding habitat (PFMC 2014, 2022). Chinook salmon EFH includes all freshwater habitat currently or historically occupied in Washington, Oregon, Idaho, and California (PFMC 2014, 2022).

There is additional designated EFH for both Chinook and coho salmon (*Oncorhynchus kisutch*) in the San Francisco Bay hydrologic unit (HUC-8 18050004) approximately 3.5 miles southwest of the Study Area. There is no EFH for central California coast steelhead (*Oncorhynchus mykiss irideus*) within 5 miles of the Study Area (NOAA 2005). There are currently no aquatic habitats with flowing water suitable for salmonids within the Study Area.

3.2.1.4 Regional Sensitive or Special-status Species

Appendix 3.2A contains a list of special-status species found within the 9 surrounding quads of the Study Area during literature review. This appendix includes the status designation for each species, habitat types that may support these species in the regional vicinity, a determination of potential for these species to occur within the Study Area, and a rationale for the occurrence determination. Sensitive or special-status species meet at least one or more of the following criteria:

- Regional species listed as threatened or endangered that have special requirements under the federal Endangered Species Act (FESA) (USFWS 1973);
- Regional species listed as threatened or endangered that have special requirements under the California Endangered Species Act (CESA) (Fish and Game Code, Section 2050 seq.);
- Other non-listed sensitive and special-status species, including California Native Plant Society (CNPS) CRPR 1-4 species, CDFW Species of Special Concern (SSC), CDFW Fully Protected (FP) species, and other CDFW Special Animals.

The CNDDB was used in preparing Appendix 3.2A. The results of the special-status species identified during the biological reconnaissance, protocol-level rare plant survey, California red-legged frog (CRLF) and California tiger salamander (CTS) Habitat assessments, focused burrow and protocol-level burrowing owl surveys are discussed in Sections 3.2.1.5. Figure 3.2-4, (CONFIDENTIAL) Special-Status Species Occurrence Records, depicts the special-status plant and wildlife species known to occur within a 10-mile radius of the Project area. No special-status species are known to occur in the Study Area.

3.2.1.5 Biological Surveys

In March 2023, Dudek biologists conducted vegetation mapping and a general biological reconnaissance of the Study Area. Focused surveys were conducted throughout 2023, and 2024 by Dudek biologists to determine the presence/absence of various special-status species. Specifically, Protocol-Level Rare Plant, CRLF and CTS Habitat Assessment surveys, protocol-level burrowing owl surveys were conducted within the Study Area. The focused habitat assessment for CRLF and CTS was conducted for suitable and accessible aquatic features within 1 mile of the Study Area. Dudek biologists conducted additional protocol-level surveys for golden eagle, Swainson's hawk, and rare plants in 2025. Further, Dudek conducted a jurisdictional delineation in January 2024 to assess potentially jurisdictional features within the Study Area. Table 3.2-1 lists the dates, conditions, and focus for each survey.

Table 3.2-1. Schedule of Surveys

Date	Survey Type(s)	Biologists	Time	Survey Conditions
03/31/2023	Reconnaissance (original Project site boundary only, excludes gen-tie)	Emily Scricca; ~~EFC~~Erin Fisher-Colton	9:30 a.m.–11:30 a.m.	58°F–61°F, 75%–90% cloud cover, 1–4 mph wind
05/16/2023	▪ Protocol-Level Botanical ▪ Focused Burrow Surveys	Kelsey Higney; Lorna Haworth	8:41 a.m.–11:15 a.m.	80°F–85°F, 0% cloud cover, 0–6 mph wind
08/02/2023	▪ Reconnaissance (gen-tie alignment only) ▪ Protocol-Level Botanical ▪ Focused Burrow Surveys	Kelsey Higney; ~~EFC~~Erin Fisher-Colton	9:23 a.m.–4:54 p.m.	71°F–80°F, 0% cloud cover, 5–20 mph wind

Table 3.2-1. Schedule of Surveys

Date	Survey Type(s)	Biologists	Time	Survey Conditions
	▪ Protocol-level California Red-Legged Frog (CRLF) and California Tiger Salamander (CTS) Habitat Assessment			
01/18/2024	▪ Reconnaissance (adjusted gen-tie alignment only) ▪ Protocol-Level Botanical (adjusted gen-tie alignment only) ▪ Focused Burrow Surveys (adjusted gen-tie alignment only) ▪ Aquatic Resources Delineation	Mikaela BissellB; ~~EFC~~Erin Fisher-Colton	9:16 a.m.-2:30 p.m.	50°F-58°F, 80%-100% cloud cover, 1-4 mph wind
04/12/2024	▪ Protocol-level Burrowing Owl Survey – Pass 1 ▪ Follow-up burrow assessment for San Joaquin Kit Fox and American Badger ▪ Protocol-level rare plant survey	Mikaela BissellB, ~~TJ-~~Kara Johnson-Kelly	8:30 a.m. – 2:00 p.m.	55°F-60°F, 0%-10% cloud cover, 10-14 mph wind
05/03/2024	▪ Protocol-level Burrowing Owl ~~survey~~ Survey – Pass 2	~~KH~~Kelsey Higney, ~~TJ-K~~Tara Johnson-Kelly	7:00 a.m. – 12:00 p.m.	56°F-71°F, 0% cloud cover, 10-15 mph wind
05/24/2024	▪ Protocol-level Burrowing Owls Survey – Pass 3	~~TJ-K, PK~~Tara Johnson-Kelly, Paul Keating	7:00 a.m. – 12:00 p.m.	57°F-64°F, 0%-10% cloud cover, 10 mph wind
06/17/2024	▪ Protocol-level Burrowing Owl Survey – Pass 4 ▪ Protocol-level rare plant survey	Paul Keating~~PK~~	3:00 p.m.-7:00 p.m.	82°F-78°F, 0% cloud cover, 15-20 mph wind
12/12/2024	▪ Protocol-level winter Burrowing Owl Survey – Pass 1 ▪ Swainson's Hawk Habitat Survey/Protocol-level Nesting Survey ▪ Golden Eagle Habitat Survey/Protocol-level Nesting Survey	Paul Keating, Alex Freeman	7:30 a.m. – 12:00 p.m.	45°F-56°F, 90-100% cloud cover, 5-10 mph wind
01/04/2025	Protocol-level winter Burrowing Owl Survey – Pass 2	Paul Keating	7:30 a.m. – 11:00 p.m.	40°F-53°F, 0%-10% cloud cover, 10-15 mph wind
01/11/2025	Protocol-level winter Burrowing Owl Survey – Pass 3	Paul Keating	7:30 a.m. – 11:00 p.m.	41°F-60°F, 0%-5% cloud cover, 5-10 mph wind

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Table 3.2-1. Schedule of Surveys

Date	Survey Type(s)	Biologists	Time	Survey Conditions
01/31/2025	Protocol-level winter Burrowing Owl Survey – Pass 4	Paul Keating	7:30 a.m. – 12:00 a.m.	47°F–55°F, 20%-75% cloud cover, 5-15 mph wind
03/20/2025	Protocol-level Swainson's Hawk Survey Golden Eagle Protocol-level Nesting Survey	Paul Keating	7:30 a.m. – 10:00 a.m.	45°F–60°F, 0% cloud cover, 5-10 mph wind
03/27/2025	Protocol-level Swainson's Hawk Survey Protocol-level Rare Plant Survey	Paul Keating	7:00 a.m. – 1:00 p.m.	57°F–64°F, 5%-15% cloud cover, 5-15 mph wind
04/03/2025	Protocol-level Swainson's Hawk Survey	Paul Keating	7:00 a.m. – 10:00 a.m.	44°F–62°F, 0% cloud cover, 5 mph wind
04/11/2025	Protocol-level Swainson's Hawk Survey	Paul Keating	7:30 a.m. – 12:00 a.m.	58°F–70°F, 0% cloud cover, 5-10 mph wind
04/17/2025	Protocol-level Swainson's Hawk Survey	Paul Keating	7:30 a.m. – 12:00 a.m.	53°F–67°F, 0% cloud cover, 5-10 mph wind
04/28/2025	Protocol-level Swainson's Hawk Survey Golden Eagle Protocol-level Nesting Survey	Paul Keating	8:00 a.m. – 12:00 p.m.	53°F–69°F, 0% cloud cover, 5-15 mph wind

Notes: CRLF = California red-legged frog; CTS = California tiger salamander. Where more than one biologist is indicated, surveys were performed jointly.
Personnel: ES = Emily Scricca; EFC = Erin Fisher-Colton; KH = Kelsey Higney; LH = Lorna Haworth; MB = Mikaela Bissell; TJ-K = Tara Johnson-Kelly; PK = Paul Keating

Reconnaissance Survey

- **Vegetation Mapping.** On March 31, 2023, Dudek Biologists Emily Scricca and Erin Fisher-Colton mapped vegetation communities directly from the field utilizing the Esri ArcGIS Field Maps application. The Field Maps application applies satellite coordinates to an aerial view of the Study Area. Following completion of the fieldwork, all vegetation polygons were transferred to a topographic base and digitized using ArcGIS, and a GIS coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present within the Study Area was determined. Native plant community classifications used in this report follow the Habitat Classification System for CDFW Natural Communities (CDFW 2024b) and California Native Plant Society's A Manual of California Vegetation (Sawyer et al. 2009). The initial mapping of the Study Area used an approximately 0.25-acre minimum mapping unit for vegetation community polygons (i.e., clusters of particular vegetation types smaller than 0.25 acres were not necessarily mapped separately from the surrounding, larger vegetation community).
- A follow-up reconnaissance-level field survey was conducted for the updated Study Area that included the Project site and buffered gen-tie alignment of the Project area on August 2, 2023, in conjunction with the surveys for rare plants, and burrows. This survey was conducted on foot to identify vegetation communities in the updated Study Area boundaries.
- **Biological Survey.** The potential for occurrences of special-status plant and wildlife species, resulting from the literature review, were assessed in relation to the Study Area and available habitat. All plant and wildlife species encountered during the reconnaissance survey were documented in a notebook and using Esri

ArcGIS Field Maps. A comprehensive list of all plant and wildlife species observed is included in Appendix 3.2A.

- **Aquatic Resources.** During the August 2, 2023, reconnaissance survey, a reconnaissance-level wetland assessment was conducted in the Study Area. The focus was to determine if there were any potential jurisdictional waters on the site that would require further protocol jurisdictional delineations.

Jurisdictional Delineation and Updated Jurisdictional Delineation.

In January 2024, Dudek biologists conducted a formal jurisdictional wetlands delineation within the Study Area. All areas identified as being potentially subject to the jurisdiction of USACE, RWQCB, and CDFW were field-verified and mapped. The wetlands delineation was performed in accordance with the methods prescribed in the 1987 Wetlands Delineation Manual (USACE 1987), the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008), and the ACOE and Environmental Protection Agency Rapanos Guidance (USACE and EPA 2008). Methods and results of the formal aquatic resources delineations are summarized in Section 3.2.2.2.9 *Impacts to Wetlands and Waters of the United States*

Rare Plant Surveys

Protocol-level rare plant surveys were conducted on May 16 and August 2, 2023, ~~and~~ April 12 and June 17, 2024, and March 20, 2025, to identify special-status rare plant species within the updated Study Area boundaries. Dudek qualified biologists surveyed the entire Study Area on foot in approximately 20-meter parallel transects to provide complete visual coverage within the updated Study Area boundaries and gen-tie alignment. Rare plants surveys were conducted in accordance with the Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 2000), the Protocol for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018), and the CNPS Botanical Survey Guidelines (CNPS 2001). Rare plants occurrences were mapped using ArcGIS Field Maps (Esri).

All plant species encountered during the field were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank (formerly California Native Plant Society List) follow the California Native Plant Society On-Line Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2024a). For plant species without a California Rare Plant Rank, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2024), and common names follow the California Natural Communities list (CDFW 2024b) or the United States Department of Agriculture Natural Resources Conservation Service Plants Database (USDA 2023).

Focused Burrow Surveys

Focused burrow surveys were conducted on May 16 and August 2, 2023, to identify a variety of animal burrows within the updated Study Area boundaries. Additional surveys to assess burrow suitability for San Joaquin kit fox and American badger were conducted on April 12, 2024. The subsequent assessment for San Joaquin kit fox and American badger followed recommendations outlined in the San Joaquin Kit Fox Survey Protocol for the Northern Range (USFWS 1999). Dudek qualified biologists surveyed the entire Study Area on foot in approximately 20-meter parallel transects to provide complete visual coverage within the updated Study Area boundaries and gen-tie alignment. Burrows of all sizes were mapped using ArcGIS Field Maps (Esri). Burrows present on the site were generally small and not suitable for burrowing owls. Higher-quality habitat with low, grazed vegetation and ground squirrel colonies were observed throughout the surrounding landscape.

Protocol-level Burrowing Owl Survey

Surveys for western burrowing owl were conducted by Dudek qualified biologists on April 12, May 3, May 24, and June 17, 2024. Follow-up wintering burrowing owl surveys were conducted on December 12, 2024, and January 4, ~~and~~ 11, and 31, 2025. Surveys followed recommended protocol outlined in Appendix D of the Staff Report on Burrowing Owl Mitigation (CDFW 2012). Surveys utilized data collected during the focused burrow surveys (Section 4.3.3) to walk transect no more than 20 meters apart within the Study Area. Biologists documented any sight or sign of western burrowing owl during the survey.

Protocol-Level California Red-Legged Frog Habitat Assessment

A protocol-level habitat assessment for CRLF was conducted on August 2, 2023, for suitable aquatic habitats identified within, and in the vicinity of, the Study Area to identify potential aquatic breeding sites within dispersal distance of the Study Area. Not all aquatic habitats within 1 mile were able to be surveyed due to access restrictions. Habitat assessments were conducted in accordance with the USFWS Revised Guidance on Site Assessments and Field surveys for the California Red-legged Frog (USFWS 2005). Aquatic features were coarsely mapped along top of bank using ArcGIS Field Maps (Esri). Surveys determined that there is abundant suitable grassland habitat with small mammal burrows present on the Study Area with aquatic breeding habitat available within dispersal distance.

Protocol-Level California Tiger Salamander Habitat Assessment

Concurrently with the CRLF habitat assessment (4.3.6), 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 STUDY AREA to identify potential aquatic breeding sites within dispersal distance of the STUDY AREA. Not all aquatic habitats within 1.24 miles were able to be surveyed due to access restrictions. Habitat assessments were conducted in accordance with the USFWS Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander (USFWS 2003). Aquatic features were coarsely mapped along top of bank using ArcGIS Field Maps (Esri).

Protocol-Level Swainson's Hawk Survey

Surveys for Swainson's hawk were conducted by Dudek qualified biologists on December 12, 2024, March 20, 27, April 3, 11, 17, and 28, 2025. Surveys followed recommended protocol outlined in *The recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk* Technical Advisory Committee, 2000). Although the protocol recommends surveys within 0.5 mile of an area, Dudek performed the surveys within 1 mile of the Study Area due to the lack of suitable nest tree abundance and to verify whether Swainson's hawk utilizes the greater project area. Surveys included an initial survey to assess potential nesting habitat and the presence of suitable stick nests, then a total of six additional surveys through the courtship, incubation, and fledging life stages. Surveys were conducted primarily by vehicle from accessible roads using binoculars and spotting scope.

Protocol-Level Golden Eagle Survey

Surveys for golden eagle were conducted by Dudek qualified biologists concurrently with the Swainson's hawk surveys described in Section 4.3.5 on December 12, 2024, March 20, 27, April 3, 11, 17, and 28, 2025. Surveys followed recommended protocol for ground-based surveys outlined in the *Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations* (Pagel et al 2010). The survey buffer was 2 miles, where

accessible. Surveys included an initial survey to assess potential nesting habitat and the presence of suitable stick nests, as well as visiting previously documented territories within the 2-mile buffer. Additional surveys were conducted in the courtship, incubation, nestling, and fledgling stages. Surveys included identification of vantage points overlooking the Study Area and observing raptor activity with the aid of binoculars and spotting scope. Vantage point observations were made on December 12, 2024, March 20, 2025, and April 28, 2025, for a minimum of 4 hours. Prior golden eagle data/observations and survey methods were discussed with Heather Beeler, USFWS Eagle Permit Coordinator on April 14, 2025.

3.2.1.6 Nitrogen Deposition Model

A nitrogen deposition analysis was performed to assess the Proposed Project's operational impact on biological resources within 6 miles of the Project site. During operation, there would be emissions of oxides of nitrogen (NOx) from the testing, maintenance, and emergency use of two diesel backup generators. These emissions would result in nitrogen deposition around the Project site. The Proposed Project would include two Rolls Royce generators rated at 4,680 horsepower each. Each generator is fitted with an ecoCUBE with a selective catalytic reduction (SCR), diesel particulate filter (DPF), and diesel oxidation catalyst allowing the generators to meet the U.S. EPA Tier 4 standard. In order to determine the potential impacts during operation, the American Meteorological Society/U.S. Environmental Protection Agency Regulatory Model (AERMOD) Version 23132 was used to model the concentration of nitrogen around the project site using wet and dry deposition algorithms. The emissions from the generators were estimated assuming compliance with the U.S. EPA Tier 4 standard and operation of up to 200 hours per year (100 hours for maintenance and testing and 100 hours for emergency use) (BAAQMD 2022). Ammonia (NH_3) is a product of combustion with equipment having SCR equipment. As the generators are equipped with SCR, emissions of NH_3 were estimated and added to the NOx emissions for total nitrogen emissions. Principal parameters of this modeling are presented in Table 3.2-2.

Table 3.2-2. AERMOD Principal Parameters

Parameter	Details
Meteorological Data	The latest 3-year meteorological data (2013–2016) for the Livermore Station from BAAQMD were downloaded and then input to AERMOD.
Urban versus Rural Option	Urban areas typically have more surface roughness, as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. However, based on the Auer method for classifying a site as urban or rural as specified in US EPA's 40 CFR Part 51, Appendix W, the rural dispersion option was selected.
Terrain Characteristics	The terrain in the vicinity of the modeled Project site is generally hilly. The elevation of the modeled site is about 125 meters above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
Elevation Data	Digital elevation data were imported into AERMOD, and elevations were assigned to the emission sources and receptors. Digital elevation data were obtained through AERMOD View in the U.S. Geological Survey's National Elevation Dataset format with a 30-meter resolution.
Emission Sources and Release Parameters	Air dispersion modeling of nitrogen from the emergency generators was conducted using emissions estimated using the CalEEMod and a spreadsheet model. The emergency generators were modeled as point sources.

Table 3.2-2. AERMOD Principal Parameters

Parameter	Details
Source Release Characterizations	The following source parameters were assumed: Generator 1, release height 16.5 feet, exit temperature 966.2°F, stack diameter of 2.3 feet, and gas exit flow rate of 24,791 cubic feet per minute (CFM); and Generator 2, release height 16.5 feet, exit temperature 966.2°F, stack diameter of 2.3 feet, and gas exit flow rate of 24,791 cubic feet per minute (CFM).
Receptors	A cartesian plant boundary was established with the following distances: 25 meter spacing out to 100 meters; 50 meter spacing out to 300 meters; 100 meter spacing out to 700 meters; 200 meters spacing out to 1,500 meters; 400 meter spacing out to 3,000 meters; 750 meter spacing out to 6,300 meters; 1,300 meter spacing out to 16,300 meters.
Gas Deposition	The land use in the region is currently mixed but primarily agricultural or rural/undeveloped. The "Land Use Category" of "2 – Agricultural Land" in AERMOD was selected.
NOx to NO_2 Conversion	A 100 percent conversion of NOx and NH_3 into atmospherically derived nitrogen (Tier 1).
Gas and Particle Deposition	Nitric Acid was assumed for the gas deposition parameters as it has a strong affinity for impacts to soils and vegetation. The default deposition velocity and parameters (pollutant reactivity factor and seasons) were assumed. The following gas deposition parameters were assumed: ▪ Pollutant Diffusivity in Air: 0.1628 cm^2/s ▪ Pollutant Diffusivity in Water: 2.98E-05 cm^2/s ▪ Cuticular Resistance: 100,000 s/cm ▪ Henry's Law Constant: 8E-08 $Pa\text{-}m^3/mol$

Notes: AERMOD = American Meteorological Society/EPA Regulatory Model; BAAQMD = Bay Area Air Quality Management District; cm^2/s = centimeters squared per second; $Pa\text{-}m^3/mol$ = pascal-meters cubed per mole; NH_3 = ammonia; NOx = oxides of nitrogen; s/cm = seconds per centimeter.
See Appendix 3.2G for additional information.

The AERMOD model calculates atmospheric deposition of nitrogen by calculating the wet and dry fluxes of total nitrogen. This deposition is accomplished by using a resistance model for the dry deposition part, and by assigning particle phase washout coefficients for the wet removal process from rainout. As discussed above, depositional parameters for HNO3 are input into the model to calculate the deposition of nitrogen. AERMOD sums the results of the wet and dry nitrogen deposition to produce annual deposition rates in units of grams per square meter (g/m^2) for the entire 5-year meteorological period modeled, which are converted to kilograms per hectare per year (kg/ha/yr) for comparison to critical loads of nitrogen for biological resources within 6 miles of the Project site.

3.2.1.76 Land Cover Types and Vegetation Communities

The Study Area consists of mostly undeveloped lands, with a mix of non-native vegetation communities and non-vegetated land covers (Figure 3.2-5, Vegetation Communities and Land Cover Types). Only one vegetation community was mapped in the Study Area: wild oats and annual brome grassland (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance; CNPS 2024b). The remainder of the Study Area comprises disturbed/barren and urban/developed land cover types, as well as one aquatic land cover. These vegetation community and land covers are described in further detail below and are summarized in Table 3.2-23.

Table 3.2-23. Vegetation Communities and Land Cover Types in the Study Area

Vegetation Communities and Land Cover Types	Project Site (acres)	Gen-tie Line and Study Area Buffer (acres)	Total Study Area (acres)
Native Vegetation Communities			
N/A	—	—	—
Non-Native Vegetation Communities and Land Covers			
Wild oats and annual brome grassland	68.8457.29	29.2936.87	94.1698.13
Disturbed/Barren	0.16	0.621.57	1.730.78
Urban/Developed	0.200.59	1.3807	1.5866
Aquatic – Patterson Run	0.005	0.6932	0.6937
~~*Subtotal*~~	~~57.7~~	~~39.19~~	~~96.89~~
Total	**69.5957.7**	**32.629.19**	**96.89102**

Note: the Study Area includes a buffer and thus is larger than the proposed Project area.

3.2.1.76.1 Wild Oats and Annual Brome Grassland

Only one vegetation community was mapped in the Study Area: wild oats and annual brome grassland (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance; CNPS 2024b; Figure 3.2-5). This community, often referred to as California annual grassland, is characterized by an herbaceous layer dominated by non-native grass species including wild oats (*Avena* spp.), bromes (*Bromus* spp.), and barleys (Hordeum spp.). The herbaceous layer is less than 1.2 meters in height and cover is open to continuous (CNPS 2024b).

3.2.1.76.2 Disturbed/Barren

Disturbed/Barren land covers consist of areas that have been disturbed, either through natural events such as landslides, shallow soils, or soil chemical composition, or through anthropogenic influence such as grading, herbicide use, or other earthwork. Disturbed/barren areas within the study area include areas treated with herbicide adjacent to the PG&E Tesla substation. This land cover does not typically support vegetation with the exception of sparse ruderal species.

3.2.1.76.3 Urban/Developed

Urban/Developed land covers generally consist of human-made structures, including roadways. Urban/developed land covers within the Study Area consists largely of Patterson Pass Road, the railroad, and portions of the PG&E Tesla substation. This land cover does not typically support native vegetation.

3.2.1.76.4 Aquatic Resources – Patterson Run

A formal aquatic delineation was conducted on January 18, 2024. There is one seasonal channel (EPH-01; 0.37 acres, 846.07 linear feet), Patterson Run, within the Study Area where the BESS facility site connects to the gen-tie alignment, paralleling Patterson Pass Road. This seasonal channel flows southwest to northeast and is a potential Water of the United States. The channel had moderate flow during the March 2023 and February 2024 surveys and was dry during the May and August 2023 surveys.

3.2.1.87 Sensitive and Special-Status Species

Endangered, rare, or threatened species, as defined in CEQA Guideline 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status species" in this document and include 1) endangered or threatened species recognized in the context of the CESA and/or FESA; 2) plant species with a California Rare Plant Rank (CNPS 2024a) (ranks 1 and 2); 3) California Species of Special Concern (SSC) and Watch List (WL) species, as designated by CDFW (CDFW 2024f); 4) wildlife that are Fully Protected species, as described in California Fish and Game Code Sections 4700 and 3511; 5) Birds of Conservation Concern as designated by USFWS (2021); and 6) plant and wildlife species that are "covered" under the East Alameda County Conservation Strategy (Alameda County 1994). Refer to Section 3.2.5 for a full explanation of these relevant laws, ordinances, and regulations.

Dudek biologists evaluated the regional special-status plant and wildlife species against observed conditions on the study are to determine the potential for each species to occur. Habitat requirements, occurrence determinations, and rationale for occurrence determination are included in Appendix 3.2A. The potential for each special-status species to occur was evaluated according to the following criteria:

- **Not Expected.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- **Moderate.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found onsite.
- **Present.** Species was observed on site or within the Study Area

3.2.1.87.1 Special-status Plant Species

Special-status plant surveys were conducted in 2023 and 2024 to determine the presence or absence of plant species that are considered endangered, rare, or threatened under CEQA Guideline 15380 (14 CCR 15000 et seq.). A list of all special-status plant species known to occur in the vicinity of the Study Area (and the surrounding nine topographic quadrangles) including their habitat requirements, potential to occur onsite, and survey observations, is provided in Appendix B of the Biological Technical Report, Special-Status Plant Species Potential To Occur Table (Appendix 3.2A). This appendix provides evaluations for each of the special-status species' occurrence in the Study Area vicinity and their potential to occur based on known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period. Special-status plant species that have low potential or are not expected to occur are not further analyzed in this document because no direct, indirect, or cumulative impacts are expected based on the negative surveys and evaluation that these species do not have a moderate or high potential to occur onsite.

A total of 42 special-status and rare plants were identified from the literature review. Of these, eleven (11) had moderate (9 species) or high (1 species) potential to occur or were known (1 species) to occur on the Study Area: *big tarplant* (Blepharizonia *plumosa*), brittlescale (*Atriplex depressa*), Lemmon's jewelflower (*Caulanthus lemmonii*),

Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), recurved larkspur (*Delphinium recurvatum*), spiny-sepaled button-celery (*Eryngium spinosepalum*), diamond-petaled California poppy (*Eschscholzia rhombipetala*), San Joaquin spearscale (*Extriplex joaquinana*), showy golden madia (*Madia radiata*), shining navarretia (*Navarretia nigelliformis* ssp. *radians*), and caper-fruited tropidocarpum (*Tropidocarpum capparideum*).

Surveys conducted in May and August 2023, and April 2024 were timed to coincide with the bloom period of potentially occurring plant species. Of the 11 species with potential to occur, one was documented within the Study Area: big tarplant. The surveys were times appropriately to capture all potentially occurring species, including early blooming species such as diamond-petaled poppy and caper-fruited tropidocarpum. Although no reference populations of diamond-petaled poppy are accessible due to being on protected government land (Lawrence Livermore Lab property), past herbarium records and Calflora records document the species being evident and identifiable in the same elevation in the months of April and May (Calflora 2024; CCH 2024). Thus, if this species was present within the Study Area, it would have been observed. A follow-up survey for early blooming plant species was conducted in March 2025. No special-status plants were documented in the Study Area at that time.

Three individuals of big tarplant were observed in the Study Area, at the southwest corner of the PG&E Tesla substation. ~~No other special-status plants were observed during the surveys.~~ Big tarplant is an annual herb that endemic to California, with limited distribution throughout the state. This species has a CRPR rank of 1B.1 (rare, threatened or endangered in California and elsewhere), and is a covered species under the EACCS. This species prefers habitats in valley grassland vegetation communities, as well as in foothill woodlands and chaparral (Calflora 2023). Threats to this species include urbanization, disking, residential development, and encroachment by non-native plant species (CNPS 2024c).

~~Suitable valley~~Valley and foothill grassland with clay loam soils suitable for big tarplant are present within the Study Area. The nearest documented occurrence is approximately 0.25 miles east of the Study Area from 2003 (Occ. No. 15; CDFW 2023e). Only one plant was flowering, therefore allowing a qualified Dudek botanist (Laura Burris) to definitively key the plant to species based on descriptions, measurements, and photos taken in the field. All three individuals are located near the southwest corner of the PG&E Tesla substation in an area of sparse grassland that shows evidence of ephemeral drainage and/or swale patterns from the surrounding hills, including cracked soils, reduced grass cover and increased scrub species, and increased bare ground. Figure 3.2-6, Biological Survey Results, shows the location of the big tarplant within the Study Area.

3.2.1.87.2 Special-Status Wildlife Species

A list of all special-status wildlife species known to occur in the vicinity of the Study Area (and surrounding nine quadrangles) and wildlife species covered under the East Alameda County Conservation Strategy, including their habitat requirements, potential to occur in the Study Area, and survey observations, are provided in Appendix 3.2A. A total of 54 special-status wildlife species were identified from the literature review. Special-status species with a low potential to occur (11 species) or species that are not expected to occur (32 species) are excluded from further discussion in this report, except for tricolored blackbird (Aegelus tricolor), which has no potential to nest, but was observed foraging within the Study Area during the winter, and Swainson's hawk (*Buteo swainsoni*), which has a low potential for nesting within the Study Area but may forage in the Study Area and is discussed in more detail at the request of commenting agencies. Eleven (11) had moderate (7 species) or high (3 species) potential to occur or were known (1 species) to occur on the Study Area: Crotch's bumble bee (*Bombus crotchii*), golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), northern harrier (*Circus hudsonius*), white-tailed kite (*Elanus leucurus*), San Joaquin kit fox (*Vulpes macrotis mutica*), prairie falcon (*Falco mexicanus*), ferruginous hawk (*Falco*

mexicanus), California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), American badger (*Taxidea taxus*), and California horned lark (*Eremophila alpestris actia*).

One special-status wildlife species weas observed during the surveys. The California horned lark is listed as a Watch List species by CDFW. Additionally, suitable breeding habitat was identified for California tiger salamander and California red-legged frog within dispersal distance of the Study Area, and Designated Critical Habitat for California red-legged frog overlaps with the Study Area. Nesting birds are also expected to utilize habitat present on the Study Area. The locations of these biological resources documented in the Study Area, are depicted in Figure 3.2.6. Full species descriptions are included in the Biological Technical Report (Appendix 3.2A).

3.2.1.87.3 Other Special-Status Bird Species

The Migratory Bird Treaty Act (MBTA; 16 USC 703 et seq.), as amended, prohibits the intentional take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so. In December 2017, Department of the Interior Principal Deputy Solicitor Jorjani issued a memorandum (M-37050) that interprets the MBTA's "take" prohibition to apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs. Unintentional or accidental take is not prohibited. Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

3.2.1.87.4 Golden Eagle

The golden eagle is a state fully protected species and a CDFW watchlist (WL) species. This species is also protected by the federal Bald and Golden Eagle Protection Act. Dudek biologists determined that the potential for this species to nest within the Study Area is low, but moderate potential for winter foraging.

The golden eagle is a year-round, diurnally active species that is a permanent resident and migrant throughout California. Golden eagles are more common in northeast California and the Coast Ranges than in Southern California and the deserts. Foraging habitat for this species includes open habitats with scrub, grasslands, desert communities, and agricultural areas.

Golden eagles breed from January through August, with peak breeding activity occurring from February through July. Nest building can occur almost any time during the year. This species nests on cliffs, rock outcrops, large trees, and artificial structures such as electrical transmission towers, generally near open habitats used for foraging (Katzner et al. 2020). Golden eagles commonly build, maintain, and variably use multiple alternative nest sites in their breeding territories, routinely refurbishing and reusing individual nests over many years. Generally, the nests are large platforms composed of sticks, twigs, and greenery that are often 10 feet across and 3 feet high (Zeiner et al. 1990a). Pairs may build more than one nest and attend to them prior to laying eggs (Katzner et al. 2020). Each pair can have up to 10 nests, but only 2 to 3 are generally used in rotation from one year to the next. Some pairs use the same nest each year, and others use alternate nests year after year, and still others apparently nest only every other year. Succeeding generations of eagles may even use the same nest (Katzner et al. 2020).

Transmission towers in and adjacent to the site provide low-quality nesting habitat. Grassland foraging habitat is present in the Study Area. Potentially suitable nesting habitat occurs west of the Study Area along the Altamont

Pass. Birds that may forage over the site may be golden eagles. The nearest documented occurrence is approximately 4.9 miles south of the Study Area from 2014 (Occ. No. 823; CDFW 2024a).

Previous studies conducted by USGS staff associated with the Altamont Pass Wind Resource Area have identified two potential golden eagle territories within 2 miles of the PSA. One territory south of the PSA contains a nesting pair known as the Midway Pair) approximately 1 mile south of the PSA (Wiens and Kolar 2021; Wiens and Kolar 2023). This pair utilizes a nest in riparian vegetation along Patterson Run, adjacent to Patterson Pass Road. A second pair (known as the Jess Ranch Pair) was observed attempting to construct a nest in a transmission tower approximately 0.4 miles north of the PSA in 2023; however, the nest was destroyed by high winds and the pair did not rebuild or return. This territory is not considered active currently. Eagle surveys conducted in 2024 and 2025 per ground-based survey protocol outlined in Pagel 2010, confirmed that no eagle nest was established in the transmission tower north of the PSA. 2025 surveys also confirmed that the nest approximately 1 mile south of the Study Area was active with the adults perched in the nest tree adjacent to a large stick nest.

3.2.1.87.5 California Red-Legged Frog

California red-legged frog is federally listed as threatened, a California Species of Special Concern, and is covered under the EACCS. This species occurs from sea level to elevations near 5,000 feet. It has been extirpated from 70% of its former range and now is found primarily in coastal drainages of Central California, from Marin County south to northern Baja California, and in isolated drainages in the Sierra Nevada, northern Coast, and northern Transverse Ranges. Breeding habitat includes freshwater pools and backwaters within streams and creeks, ponds, marshes, springs, and lagoons. They also frequently breed in artificial impoundments such as stock ponds (USFWS 2002). During the nonbreeding season, California red-legged frogs need moist areas in which to take refuge from the heat and predators, such as intermittent or ephemeral streams with dense riparian vegetation, overhanging banks, and rootwads; springs or spring boxes; rodent burrows; and damp leaf litter in riparian woodlands (Ford et al. 2013). USFWS (2002) considers freshwater habitat and associated upland habitat within 1 mile as red-legged frog breeding, foraging, and dispersal habitat. The breeding period for this species is July through September.

A protocol-level habitat assessment for CRLF was conducted on August 2, 2023, for suitable aquatic habitats identified within, and in the vicinity of, the PSA to identify potential aquatic breeding sites within dispersal distance of the Study Area. Three aquatic features were assessed for habitat suitability for CRLF: Patterson Run, a seasonal stream paralleling Patterson Pass Road, and two stock ponds approximately 0.3 miles northwest (Pond 1) and west (Pond 2) of the Study Area. Of these aquatic features, only Pond 2 was determined to provide high-quality breeding habitat for CRLF, consisting of a large, deep stock pond with perennial water and a large quantity of emergent vegetation (bulrush [*Schoenoplectus* sp.] along with alkali bulrush [*Bolboschoenus maritimus*]) and surrounded by grazed grassland. Patterson Run lacked large pools suitable for breeding, and Pond 1 lacked suitable emergent or marginal vegetation. No CRLF were observed during the field surveys or habitat assessment. The nearest documented occurrences are approximately 1.5 miles east, south, and west of the Study 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 Study Area (CDFW 2024a). The habitat in the Study Area is highly suitable as overland migration and aestivation/refuge habitat for this species, consisting of abundant grassland with small mammal burrows to provide refuge.

3.2.1.87.6 California Tiger Salamander

The central California distinct population segment (DPS) of California tiger salamander is federally and state listed as threatened and is covered under the EACCS. This species has high potential to occur on the Study Area. CTS are

found in annual grassland, valley-foothill hardwood, and valley-foothill riparian habitats and breeds in vernal pools, ephemeral pools, stock ponds, and (infrequently) along streams and human-made water bodies if predatory fishes are absent.

A protocol-level habitat assessment for CTS was conducted on August 2, 2023, for suitable aquatic habitats identified within, and in the vicinity of, the Study Area to identify potential aquatic breeding sites within dispersal/upland refuge distance of the Study Area. Three aquatic features were assessed for habitat suitability for CTS: Patterson Run, a seasonal stream paralleling Patterson Pass Road, and two stock ponds approximately 0.3 miles northwest (Pond 1) and west (Pond 2) of the Study Area. Of these aquatic features, ponds 1 and 2 were determined to provide high-quality breeding habitat for CTS, consisting of a large, deep stock pond with perennial water and a large quantity of emergent vegetation (bulrush [*Schoenoplectus* sp.] along with alkali bulrush [*Bolboschoenus maritimus*]) and surrounded by grazed grassland. Patterson Run lacked large pools suitable for breeding, The habitat in the Study Area is suitable as overland migration and aestivation/refuge habitat for this species, consisting of abundant grassland with small mammal burrows to provide refuge. Two nearby stock ponds provide suitable aquatic breeding habitat approximately 0.3 miles from the Study Area. The nearest documented occurrence is approximately 1.6 miles southwest of the Study Area from 2012 (Occ. No. 1003), but there are numerous other records within 5 miles of the Study Area (CDFW 2024a). No California tiger salamanders were observed during the field surveys, but this species is extremely difficult to detect without focused surveys in accordance with USFWS and CDFW-sanctioned protocols (USFWS and CDFG 2003).

3.2.1.87.7 San Joaquin Kit Fox

San Joaquin kit fox is a federal and state threatened species endemic to California and is a covered species under the EACCS. This species occurs only on the San Joaquin Valley floor, surrounding foothills and ranges, and smaller, adjacent valleys, from northern Ventura and Santa Barbara Counties north to Contra Costa and San Joaquin counties. The Study Area is in the northern range of this species, in the S1 (Alameda, Contra Costa, and San Joaquin Counties) San Joaquin kit fox satellite population recovery area (USFWS 2010), where there have been no confirmed observations since 2002 (USFWS 2020). Extensive surveys using scent dogs between 2001 and 2003 did not detect any San Joaquin kit foxes in surveyed portions of Alameda County (Smith et al. 2006).

San Joaquin kit fox occurs in arid lands with scattered shrubby vegetation underlain by loose-textured, sandy soils suitable for burrowing and supporting primary prey (e.g., kangaroo rats [*Dipodomys* sp.]). Occupied communities and land covers include valley sink scrub, valley saltbush scrub, upper Sonoran subshrub scrub, annual grassland, grazed grasslands, petroleum fields, and urban areas in the southern portion of their range; valley sink scrub, interior coast range saltbush scrub, upper Sonoran subshrub scrub, annual grassland, and the remaining native grasslands in the central portion of their range; and annual grassland and valley oak woodland in the northern part of their range (USFWS 1998).

The nearest documented occurrence is approximately 0.3 mile southwest of the Study Area, a historical record from 1984 (Occ. No. 6; CDFW 2024a). Multiple other historical records are within 5 miles of the Study Area, all prior to 1992 (CDFW 2024a). Suitable open grassland is present with evidence of friable soils and burrowing activity near Patterson Pass Road. Although there is moderate-quality grassland present in the Study Area, none of the burrows onsite are suitable for this species (see burrow survey results, below), and it is highly unlikely this species utilizes the Study Area for denning habitat.

Focused burrow surveys were conducted on May 16 and August 2, 2023, and January 18, 2024, and additional burrow assessment was conducted during protocol-level burrowing owl surveys on April 12, May 3, May 24, and

June 17, 2024, to identify a variety of animal burrows within the Study Area, including for San Joaquin kit fox. Several large burrow tailings were observed on the eastern side of the Study Area along Patterson Pass Road, were investigated for sign of San Joaquin kit fox occupancy, including prey remains, scat, tracks, and claw/scratch marks. The burrows onsite were not greater than 4 inches in diameter and are associated with active ground squirrel colonies and are not suitable denning structures for San Joaquin kit fox. No San Joaquin kit fox or their sign were observed during the field surveys.

3.2.1.8~~7~~.8 White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is a California Fully Protected species. It inhabits herbaceous and open cismontane habitats (Zeiner et al. 1990a). It is commonly associated with certain types of agricultural areas (Grinnell and Miller 1944). This species is a year-round resident in coastal and valley lowlands, and forages in open grasslands, meadows, farmlands, and emergent wetlands. It will also use marginal habitats such as freeway edges and medians when foraging for voles and mice. Nests are constructed in a variety of trees, with coast live oak perhaps the most common, and placed high in the crown on thin branches (Peeters and Peeters 2005). Riparian areas adjacent to open space areas are also typically used for nesting, and kites prefer dense, broad-leafed deciduous trees for nesting and night roosting (Brown and Amadon 1968). They also nest in young redwoods (*Sequoia sempervirens*) and mid-sized Douglas firs (*Pseudotsuga menziesii*) in Northern California.

There is moderate-quality grassland habitat present in the Study Area for foraging, with a few scattered cottonwood trees (*Populus* sp.) suitable for nesting. No white-tailed kites were observed during the field surveys. The nearest documented occurrence is approximately 3.7 miles south of the Study Area, a historical record from 1996 (Occ. No.152; CDFW 2024a).

3.2.1.8~~7~~.9 Western Burrowing Owl

Burrowing owl is a candidate for listing as a protected species under the CESA ~~California species of special concern~~ that occurs throughout North and Central America west of the eastern edge of the Great Plains south to Panama. In California, it is a year-round resident of lowlands throughout much of the state; these resident populations may be augmented by migrants from other parts of western North America in the winter (Gervais et al. 2008). Burrowing owls require habitat with three basic attributes: open, well-drained terrain; short, sparse vegetation; and underground burrows or burrow surrogates such as culverts, concrete debris piles, or riprap (Klute et al. 2003). They occupy grasslands, deserts, sagebrush scrub, agricultural areas (including pastures and untilled margins of cropland), earthen levees and berms, coastal uplands, and urban vacant lots, as well as the margins of airports, golf courses, and roads. This species also prefers sandy soils with higher bulk density and less silt, clay, and gravel (Lenihan 2007).

Focused burrow surveys were conducted on May 16 and August 2, 2023, and January 18, 2024, and ~~conducted in 2023~~ determined there is grassland habitat, but it is currently of moderate suitability for burrowing owls because it lacks extensive ground squirrel burrows, and the vegetation is generally tall and dense (burrowing owls prefer areas with short, sparse vegetation). Burrows present on the site were generally small and not suitable for burrowing owls. Higher-quality habitat with low, grazed vegetation and ground squirrel colonies were observed throughout the surrounding landscape. No burrowing owls were observed during the field surveys. There are 3 documented occurrences adjacent or overlapping with the Study Area, from 1982, 2002, and 2006 (Occ. Nos. 48, 468, and 1229). Multiple other documented occurrences are within 5 miles of the Study Area, most recently from 2015 (Occ. No. 47; CDFW 2024a).

Protocol-level burrowing owl breeding surveys were conducted on April 12, May 3, May 24, and June 17, 2024. Results of the focused burrow survey were used to identify areas of potential breeding habitat (burrows) and to assess whether burrowing owl were utilizing breeding habitat within the Study Area. No burrowing owls or their sign were observed during the field surveys. This species is not present within the Study Area.

3.2.1.87.10American Badger

American badger is a California species of special concern that occurs throughout California except for the extreme northwestern coastal area (Zeiner et al. 1990b) and higher elevations of the Sierra Nevada. This species prefers dry, open, treeless areas, grasslands, coastal scrub, agriculture, and pastures, especially with friable soils (Zeiner et al. 1990b). This species is considered somewhat tolerant of human activities (Zeiner et al. 1990b).

The Study Area includes suitable dry open grassland present with evidence of friable soils and burrowing activity near Patterson Pass Road. The nearest documented occurrences are approximately 0.2 miles north (Occ. No. 520 from 2014) and south (Occ. No. 250, unknown date prior to 2004; CDFW 202e). Multiple other records are within 5 miles of the Study Area, the most recent from 2015 (CDFW 2024a).

Focused burrow surveys were conducted on May 16 and August 2, 2023, and January 18, 2024, and additional burrow assessment was conducted during protocol-level burrowing owl surveys on April 12, May 3, May 24, and June 17, 2024, to identify a variety of animal burrows within the Study Area boundaries, including for American badger. Several large burrow tailings were observed on the eastern side of the Study Area along Patterson Pass Road, evidence of highly suitable soils for burrowing and hunting. Burrows were investigated for sign of American badger occupancy, including prey remains, scat, tracks, and claw/scratch marks. The burrows were not greater than 4 inches in diameter and are associated with active ground squirrel colonies and are not suitable denning structures for American badgers. No American badgers or their sign were observed during the field surveys.

3.2.1.8.11 Crotch's Bumble Bee

Crotch's bumble bee is a state candidate for listing as endangered under CESA and is not covered under the EACCS. The species has low moderate potential to occur within the Study Area. The CBB occurs almost exclusively in California, currently primarily in the Central Valley, but has been described as having historically occupied grasslands and shrublands in southern to central California. Bumble bees are known to be generalist pollinators but have preferences based on flower color including purple, blue, and yellow. Specifically, this species is found in grasslands with food plant genera that include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum*, among others (USFS 2012).

There are no CNDDB records within 5 miles of the PSA (CDFW 2024). One occurrence is documented within a nine-quad search (Occurrence number 19). This occurrence of was documented in 1959 and the exact location of this occurrence was unknown and recorded to CNDDB to demonstrate the general vicinity (CDFW, 2024).

Focused Crotch's bumble bee habitat assessments were conducted on May 16 and August 2, 2023, and January 18, 2024. Scattered floral resources were observed including lupines (*Lupinus spp.*), Mexican whorled milkweed (*Asclepias fascicularis*), and exserted Indian paintbrush (*Castilleja exserta*), along with potential nesting substrates such as bare cracked soil, small rocky areas, and small rodent burrows. Both Lupinus sp. and Asclepias sp. are example food plants utilized by this species (Williams et al. 2014). No bumble bee species were seen during the field surveys, however, presence is assumed due to suitable foraging floral resource presence.

3.2.1.8.12 Tricolored Blackbird

Tricolored blackbird (nesting colony) is state threatened and a California Species of Special Concern that is covered under the EACCS and is known to forage within the Study Area. This species was observed during the field survey on January 18, 2024, foraging in the grassland within the gen-tie buffer area. Tricolored blackbird nests colonially near freshwater, often in emergent wetlands of cattail or tule, but will also nest in dense, thorny vegetation such as Himalayan blackberry (*Rubus armenicus*) or thistles (*Cirsium* spp., *Silybum* spp., etc.). A desktop level habitat assessment was conducted for suitable breeding habitat potential within 0.5 miles of the Study Area, and aquatic habitat within 0.5 miles was visited in the field concurrently with the CTS habitat assessment. There are six documented CNDDB occurrences for this species within 5 miles of the site.

Other than one observation of this species utilizing the Study Area for winter foraging, this species was not observed within the Study Area during other surveys in 2024 and 2025. Thus, although this species may utilize the Study Area for occasional foraging, it does not breed within the Study Area.

3.2.1.8.12 Swainson's Hawk

Swainson's hawk is a California state threatened species that is not covered under the EACCS with a low potential for nesting and foraging within the Study Area. Swainson's hawks are primarily a grassland bird, but they are also found in sparse shrubland and small, open woodlands (Bechard et al. 2010). In Central California, Swainson's hawks are primarily associated with grain and hay croplands that mimic native grasslands with respect to prey density and availability (Esetep 1989, Babcock 1995). Within a USGS nine quad search, a total of 85 occurrences of Swainson's hawk have been reported. Within a 10-mile radius of the Study Area, a total of 59 occurrences of Swainson's hawk have been reported (CDFW 2024). Most of the documented observations are north and east of the PSA, primarily east of the Diablo Range (CDFW 2024). Four occurrences of this species are documented within 5 miles, but none are closer than 3.8 miles to the Study Area. The occurrence located approximately 3.8 miles northeast of the Study Area is a historic record documented in 1994 (CDFW 2024).

Although the Study Area presents grassland foraging habitat for this species, suitable nesting habitat within 0.5 mile of the Study Area is limited and includes trees associated with homes and development. Trees onsite are short in stature and do not provide high quality nesting substrates for raptors. No Swainson's hawks or raptor stick nests were observed during field surveys.

3.2.1.98 Wildlife Corridors and Habitat Linkages

Wildlife movement corridors have been recognized by federal and state agencies as important habitats worthy of conservation. Wildlife corridors provide migration channels seasonally (i.e., between winter and summer habitats), and provide non-migrant wildlife the opportunity to move within their home range for food, cover, reproduction, and refuge. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as steppingstones for dispersal.

The Study Area does not overlap with any California Essential Habitat Connectivity Areas (CDFW 2014), but is considered part of the large contiguous Natural Landscape Block that extends from Alameda County south through the Diablo Range and Southern Coastal Ranges, terminating north of the Transverse Ranges (CDFW 2017). Given that the existing vegetation is surrounded on three sides by similar annual grassland habitat and is close to the

existing PG&E Tesla substation, the Study Area likely provides movement habitat for local wildlife but is not recognized as an important regional wildlife corridor by any state agency or jurisdiction and is of limited linkage value on a landscape scale. Furthermore, although local wildlife may utilize the Study Area as movement habitat, regional connectivity is highly limited by Patterson Pass Road, an unnamed gravel road directly to the north of the Study Area, Interstates (I) 580 and I-5 to the north and east, respectively, and the railroad south of the PSA. Thus, the Project would not impose significant barrier to wildlife movement.

3.2.2 Regulatory Setting

Federal, state, and local laws, ordinances, regulations, and standards (LORS) related to biological resources were reviewed for applicability to the Project. These are detailed in Section 3.4.6, Laws, Ordinances, Regulations, and Standards.

3.2.3 Environmental Analysis

Potential direct and indirect impacts to biological resources were evaluated to determine the permanent and temporary effects of construction and operation of the proposed Project. Results from the field surveys, habitat evaluations and literature review were evaluated to address the potential for presence of sensitive biological resources within the Study Area were presented in the prior section.

Section 3.2.2, contained herein, identifies the biological resources that may be affected directly or indirectly and may have temporary or permanent impacts. These impact categories are defined as follows:

Direct. The California Environmental Quality Act (CEQA) defines direct impacts as those that result from the project and occur at the same time and place. Project related activities, such as alteration, disturbance or destruction of biological resources are considered a direct impact. Direct impacts for this Project are those associated with the grading and development of the BESS facility site.

Indirect. CEQA defines indirect impacts are impacts that are caused by the project but do not occur at the same time but rather at different but a reasonably foreseeable future time. Indirect impacts associated with the proposed Project include effects to biological or aquatic resources as a result of dust, noise, vibration, or potential erosion.

Permanent. All impacts that result in the irreversible removal of biological resources are considered permanent. Permanent impacts for the proposed Project include the conversion of land for the BESS facility site and associated access facilities.

Temporary. Temporary impacts are considered to have reversible effects on biological resources. Temporary impacts associated with the proposed Project include tension/pulling sites along the gen-tie right of way, and other work associated with temporary access along the gen-tie line.

3.2.3.1 Significance Criteria

Factors typically used to evaluate the significance of project-related impacts are set forth in Appendix G CEQA. Appendix G is a screening tool, not a method for setting thresholds of significance. Appendix G is typically used in the Initial Study phase of the CEQA process, asking a series of questions. The purpose of these questions is to determine whether a project requires an Environmental Impact Report, a Mitigated Negative Declaration, or a Negative Declaration.

As the Governor's Office of Planning and Research stated, "Appendix G of the Guidelines lists a variety of potentially significant effects but does not provide a means of judging whether they are indeed significant in a given set of circumstances." The answers to the Appendix G questions are not determinative of whether an impact is significant or less than significant. Nevertheless, the questions presented in CEQA Appendix G are instructive. Significant biological impacts resulting from the GESC Project were assessed by the following criteria:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as endangered, threatened, candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on federal or state protected WOTUS [waters of the United States] (including wetlands) as defined by Sections 404 and 401 of the 1972 Amendments to the Federal Water Pollution Control Act, commonly known as the Clean Water Act, or the Porter-Cologne Act, either through direct removal, filling, hydrological alteration, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory native wildlife corridors or impede the use of wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, NCCP [natural community conservation plan], or other approved local, regional, or state habitat conservation plan.
- Threaten to eliminate a plant or animal community.

CEQA Section 15380 provides that a plant or animal species may be treated as "rare or endangered" even if the species is not on one of the official lists if, for example, it is likely to become endangered in the foreseeable future.

3.2.3.2 Impact Evaluation

Impact 3.2-1 Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as endangered, threatened, candidate, sensitive, or special-status in local or regional plans, policies, or regulations, or by CDFW or USFWS?

Special-status Plants

One special-status plant, the big tarplant, was observed during the 2023 focused botanical surveys.

Permanent and temporary impacts to three individuals of big tarplant could occur from construction of the proposed Project through direct harm and/or habitat loss. Impacts could include the destruction of individual plants identified or new plants that may become established prior to ground disturbance. This is a **potentially significant impact.**

To reduce potential impacts to less than significant, **MM-BIO-1** will be implemented, including identification and flagging of the extant population for complete avoidance during construction of the gen-tie line, and supplemental measures if complete avoidance is not feasible.

Special-status Wildlife

Permanent and temporary direct impacts to special-status wildlife could occur from construction of the proposed Project through direct harm or habitat loss (see Figure 3.2-8). Indirect impacts to sensitive wildlife could include construction-related dust, soil erosion, and water runoff decreasing or permanently altering habitat suitability. Special-status wildlife species that could occur within the Study Area and be impacted directly or indirectly by project implementation include: Crotch's bumble bee (*Bombus crotchii*), golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), northern harrier (*Circus hudsonius*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), tricolored blackbird (*Agelaius tricolor*), San Joaquin kit fox (*Vulpes macrotis mutica*), prairie falcon (*Falco mexicanus*), ferruginous hawk (*Falco mexicanus*), California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), American badger (*Taxidea taxus*), and California horned lark (*Eremophila alpestris actia*).

Crotch's bumble bee. Focused Crotch's bumble bee habitat assessments determined that suitable foraging floral resources are present within the Study Area and that while no bumble bee species were seen during the field surveys, their presence is assumed. Direct impacts to suitable habitat for this species consists of the permanent removal of approximately 57-60.7 acres of non-native grassland habitat, which provides foraging habitat where floral resources are present. Indirect impacts from construction-related dust, soil erosion, and water runoff decreasing or permanently altering habitat suitability, or operational impacts such as lighting or landscape irrigation are not expected to impact potentially suitable habitat for this species or the use of surrounding land by this species. The loss of 57-60.7 acres of potentially suitable non-native grassland habitat is considered a **potentially significant impact.**

Golden Eagle. The Study Area provides grassland foraging habitat, and transmission towers in and adjacent to the site provide low-quality nesting habitat. In addition, potentially suitable nesting habitat occurs west of the Study Area along the Altamont Pass and birds that may forage near the site may attract eagles. Potential direct impacts to golden eagles may occur during Project construction if construction activities commence during the avian breading season of February through August through direct take or nest failure should they be nesting within 1 mile of the Project area, such as the Midway Pair located one mile south of the Study Area. Direct impacts to suitable habitat for golden eagles consist of the permanent removal of approximately 57-60.7 acres of non-native grassland habitat, which provides foraging habitat for this species. These impacts are considered **potentially significant.**

The new facility will include multiple structures that range in height from 7 to 185 feet tall. The tallest structure is the poles associated with the generator tie facilities at 185 feet above ground level. Factors that affect the risk of collision include weather conditions, behavior of the species of bird, and design and location of the line or tower. Most collisions involve nocturnal migrants flying at night in inclement weather and low-visibility conditions. Collisions typically occur when migrating birds collide with tall, guyed television or radio transmission towers (APLIC 2016). Migratory birds usually fly at an altitude that would avoid ground structures, except when crossing over mountainous features or when inclement weather forces the birds closer to the ground. Based on the Project design and location, operations are likely to result in less than significant impacts from potential collisions.

The Project also includes electric conducting wires; electrocutions could occur when a bird simultaneously contacts two conductors of different phases or contacts a conductor and a ground. This happens most frequently when a bird attempts to perch on a structure with insufficient clearance between these components. On a 138-kW transmission line, all clearances between conductors or between conductors and ground are sufficient to protect even the largest birds if recommended horizontal and vertical spacing (55 – 76 inches) are used for conductor separation according to the Avian Power Line Interaction Committee (APLIC 2006). As such, operation of the Project would not result in adverse impacts to wildlife from electrocution.

Burrowing Owl. Annual grassland habitat within the project site provides potential nesting and foraging habitat for burrowing owl although protocol surveys within the Study Area determined that burrowing owl is not present. Focused burrow surveys determined that grassland habitat available in the Study Area is currently of moderate suitability for burrowing owls because it lacks extensive ground squirrel burrows, and the vegetation is generally tall and dense (burrowing owls prefer areas with short, sparse vegetation). Direct impacts could include mortality or injury to owls or destruction of burrows/nests if nesting in or adjacent to a construction site prior to ground-disturbing activities. In addition, loud construction activities could cause an adult owl to abandon an active nest that is in close proximity to construction, which could lead to nest failure. This impact would be **potentially significant.**

Swainson's Hawk. The Study Area presents grassland foraging habitat for this species, although suitable nesting habitat within 0.5 mile of the Study Area is limited to trees associated with homes and development. Trees onsite are short in stature and do not provide high quality nesting substrates for raptors and no Swainson's hawks or raptor stick nests were observed during field surveys. Direct impacts could include mortality or injury to Swainson's hawks or destruction of nests if nesting in or adjacent to a construction site prior to ground-disturbing activities. In addition, loud construction activities could cause an adult hawk to abandon an active nest that is near construction, which could lead to nest failure. This impact would be **potentially significant.**

Tricolored blackbird. The Study Area presents grassland foraging habitat for this species. Suitable nesting habitat is not present and no direct or indirect impacts to breeding are anticipated, and no direct take of this species would occur. Permanent conversion of 60.7 acres of non-native grassland to developed land cover may reduce the availability of insect prey within foraging range of known nesting areas within 5 miles. However, this species was observed foraging onsite in winter in a mixed species flock once in three years, indicating that it is an uncommon visitor to the Study Area. Temporary impacts to grassland habitat along the gen-tie line where this species was observed foraging in winter 2024 would be restored to pre-project conditions. Habitat fragmentation would not be significant due to the proximity of the Study Area to already-developed areas including the Tesla Substation. Indirect impacts to breeding colonies are not anticipated based on the distance of construction and operational activities from breeding habitat, and terrain between the Study Area and known breeding locations within 5 miles. Impacts would be considered less than significant.

Other Nesting and Migratory Birds and Birds of Prey (including northern harrier, white-tailed kite, prairie falcon, ferruginous hawk, and California horned lark). Like other undeveloped/natural sites, the Study Area contains opportunities for birds of prey (raptors) and other avian species to nest. Native nesting bird species with potential to occur within the Project Boundary are protected by California Fish and Game Code Sections 3503 and 3503.5, and by the federal MBTA (16 USC 703–711). Section 3503 provides that it is unlawful to take, possess, or needlessly destroy the active nests or eggs of any bird in California; Section 3503.5 protects all raptors and their eggs and active nests; and the MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of native migratory bird species throughout the United States. Recently, the Department of Interior ruled that the MBTA should apply only to "affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs," and will not be applied to incidental take of migratory birds pursuant to otherwise lawful activities. However, that ruling is now under review as a revision to the MBTA that would include prohibitions to incidental take.

Direct impacts to suitable habitat for these species consist of the permanent removal of approximately ~~57~~ 60.7 acres of non-native grassland habitat, which provides nesting, foraging, migration, and refuge habitat to many of these species. Vegetation clearing of suitable habitat within the general avian breeding season of February through August may result in direct take avian species or an active nest. Construction activities conducted during the breeding season would be **potentially significant**.

As described above for golden eagle, the Project also includes new towers and transmission lines that could result in avian collisions or electrocution. However, based on the Project's design and location, operations are likely to result in less-than-significant impacts from potential collisions and electrocutions.

San Joaquin Kit Fox and America Badger. No San Joaquin kit fox or American badger or their sign were observed during field surveys or burrow surveys in the Study Area. The Study Area includes suitable dry open grassland present with evidence of friable soils and burrowing activity near Patterson Pass Road. The burrows onsite were not greater than 4 inches in diameter and are associated with active ground squirrel colonies and are not suitable denning structures for either San Joaquin kit fox or American badger. Direct impacts to suitable habitat for these species consist of the permanent removal of approximately ~~57~~ 60.7 acres of non-native grassland habitat, which provides potential habitat for these species. Construction activities could temporarily displace these species if present or could become trapped in uncovered trenches if left open overnight or if the contractor does not provide suitable egress. These impacts would be **potentially significant**.

California Red-Legged Frog. The Project area provides highly suitable habitat for overland migration and aestivation/refuge habitat for this species, consisting of abundant grassland with small mammal burrows to provide refuge, and the entirety of the Project site is in designated CRLF Critical Habitat. No CRLF were observed during the field surveys or habitat assessment. Based on this habitat assessment, usage of the site as upland refuge and dispersal for CRLF is assumed. Construction of the Project would permanently remove approximately ~~38~~ 60.7 acres of suitable upland dispersal and refuge habitat for CRLF. This would be a **significant** impact.

California Tiger Salamander. The Project area provides highly suitable habitat for overland migration and aestivation/refuge habitat for this species, consisting of abundant grassland with small mammal burrows to provide refuge. No CTS were observed during the field surveys or habitat assessment. Based on this habitat assessment, usage of the site as upland refuge and dispersal for CTS is assumed. Construction of the Project would permanently remove approximately ~~38~~ 60.7 acres of suitable upland dispersal and refuge habitat for CTS. This would be a **significant** impact.

Indirect Impacts

Construction: During construction activities, indirect impacts to sensitive wildlife could include construction-related dust, soil erosion, and water runoff decreasing or permanently altering habitat suitability. Without construction-related minimization measures to control dust, erosion, and runoff, and without compliance with National Pollutant Discharge Elimination System (NPDES) requirements, indirect impacts to riparian resources and upland communities could occur. However, standard construction BMPs to control dust, erosion, and runoff, including straw bales and silt fencing, would be implemented to minimize these adverse effects. If these indirect impacts decrease the quantity or quality of potentially suitable wildlife habitat for special-status species, this could be a **potentially significant** impact. ~~Additionally, implementation of MM-BIO-2 through MM-BIO-11 to reduce direct impacts to special-status wildlife species would also contribute to the reduction of indirect impacts to less than significant with mitigation.~~

Operation: Following construction, the proposed use would not create emissions to air, and would not require water. Operational water will be limited to water necessary for landscape irrigation and to supply on-site fire hydrants. The BESS and all associated equipment will be remotely monitored and controlled. Qualified technicians would visit the site approximately 1-2 times per month to conduct routine inspections and maintenance as well as semi-annual and annual services. Periodically, batteries and various components may be replaced or renewed to ensure optimal performance.

The Project site contains undeveloped grassland with a railroad to the south, and major freeways to the north and east. Operations of the BESS Facility will produce some additional noise in the area, as described in Section 3.7, Noise. As previously noted, each power block associated with the Project would contain ancillary equipment. Such equipment is not known to cause off-site ground vibration nor airborne low-frequency noise during normal operations.

Sources of light in the Study Area and vicinity come from rural residents, the PG&E Tesla Substation, and red safety lights related to wind turbines visible along the horizon to the west. No street lighting exists along nearby highways or local roadways; however, intermittent/temporary lighting from cars and trucks are present along nearby highways (i.e., I-580 and I-205) and local roadways, including Patterson Pass Road. The Project would introduce new light sources into the existing nighttime environment such as facility lighting for safety and security purposes.

Permanent, operational lighting would only be in areas where it is required for safety, security, or operations. Low-elevation (i.e., less than 14 feet) controlled security lighting would be installed at the Project substation and around the BESS yard, in accordance with applicable governmental requirements listed in Section 3.13.6.2, State, including requirements set forth in the California Building Code (Title 24, Part 1), California Electrical Code (Title 24, Part 3), and California Energy Code (Title 24 Part 6). Permanent motion-sensitive, directional security lights would be installed to provide adequate illumination around the substation area and points of ingress/egress. Portable lighting may be used occasionally and temporarily for maintenance activities during operations, such as emergency work that must occur at night. Care would be taken to prevent undue light pollution from the nighttime security lighting. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto nearby properties, compliant with applicable codes and regulations.

The Project does not propose installing any new structure lighting as part of the proposed gen-tie line, except for aviation lighting and /or marking that may be required for some structures. Upon completion of final design, if necessary, the Applicant would file with the Federal Aviation Administration (FAA) for official study and determination of lighting and/or marking requirements for these structures. Aviation lights are manufactured with focused beacons that direct light upward and outward without illuminating nearby areas directly below the lights, and no visible reflected light would be visible from the ground surface. Any aviation lighting required for the Project would be consistent with similar, existing aviation lighting in the vicinity.

Use of emergency backup generators onsite would introduce a new source of nitrogen deposition. The modeling showed that the highest nitrogen loading from operation of the project will be located just outside the southern boundary as shown in Figure 3.2-9 and Appendix 3.2G. The maximum nitrogen loading directly adjacent to the source is 2.75 kg/ha/yr. The nitrogen load reduces significantly with distance from the source, and is less than 1 kg/ha/yr at the closest freshwater pond approximately 0.4 mile west of the Project site.

As previously discussed, the area consists of grassland and the nitrogen loading from the Project is below the critical load for that species (Table 3.2-4). Similarly, the nitrogen loading beyond this maximum point of impact is well below any critical loads for other biological resources surveyed, including the California red-legged frog, California tiger salamander, crotch's bumble bee, big tarplant, birds, and aquatic resources found (Patterson Run). Although critical nitrogen loads for all biological resources have not been firmly established, a value of 5 kg/ha/yr is typically used to analyze nitrogen deposition to these resources (Weiss 2006). While there may be other biological species within 6 miles of the project site that are not listed here, the annual nitrogen deposition is well below the maximum impact area indicated above and would not be above other species' critical nitrogen loads.

Table 3.2-4. Critical Nitrogen Loads for Biological Resources within 6 miles of the Project Site

Biological Resource	Critical Nitrogen Loads (kg/ha/yr)
California grasslands	5-10
Freshwater wetlands	2.7-13
Riparian forest	10-20

Source: Pardo et al 2011.
Notes: kg/ha/yr = kilogram per hectare per year.

The maximum Project impacts of nitrogen deposition rates for all resources would be XX kg/ha/yr immediately adjacent to the sources within the boundaries of the Project site. The resources nearest the sources consist solely of non-native California grassland. The quantity of nitrogen deposition from the Project emissions on vegetation would, in practice, be less than the model results because the assumptions modeled are inherently conservative (e.g., assuming the emergency backup generators are running at the same time). The nitrogen deposition would also be distributed incrementally throughout a year and not all nitrogen added to the soil during each deposition event would be available for plant use because of losses associated with soil processes. As a result, operation of the Project's emergency backup generators would not lead to nitrogen deposition levels that exceed critical thresholds associated with significant impacts to natural vegetation communities and special status species in the vicinity of the Project site. Therefore, operation of the Project's emergency backup generators would result in **less than significant** impacts to natural vegetation communities and special status species within 6 miles of equipment operation.

~~Due to the proposed use of light-grey steel finishes, Project site components may have the potential to induce glare, which could result in a safety concern or nuisance to travelers and residents. As such, implementation MM-VIS-1 is required. As set forth in Section 3.13.5, Mitigation Measures, below, MM-VIS-1 requires the Applicant to prepare and implement a Surface Treatment Plan for new aboveground structural elements associated with the Project substation, BESS and PCS enclosures, and gen-tie line. The Surface Treatment Plan would require that the finishes on all new transmission and other structures with metal surfaces will be non-reflective/non specular. The Surface Treatment Plan would also address any non-steel structural elements associated with Project components. Color finishes would be selected according to their ability to reduce the aesthetic impact associated with contrast with the surrounding landscape.~~

For the reasons discussed above, the Project operations would not create a new source of substantial light or glare that would adversely affect the use of surrounding land by wildlife. Impacts would be **less than significant**.

Decommissioning: The Project's BESS facility is anticipated to have an approximately 25-year lifespan. At the end of the facility's useful life, the Project would undergo decommissioning in accordance with an approved Decommissioning Plan. As part of the decommissioning activities, all site improvements that are no longer in use and cannot be repurposed will be removed from the Project site and the lands and associated easement areas would be restored to a substantially similar condition in which they existed. Since the site would be restored to a condition similar to pre-Project activities, impacts related to ~~light and glare~~wildlife would be less than significant and no mitigation would be required for decommissioning activities.

3.2.3.3 Mitigation Measures

Complete details of proposed mitigation measures are provided in Section 3.2.5. Compliance with mitigation measure BIO-1 would ensure impacts to special-status plant species would be reduced to a less-than-significant level through complete avoidance of the big tarplant population.

Compliance with mitigation measure BIO-2 would provide general avoidance and minimization measures to reduce potential adverse effects to all special-status wildlife during construction of the Project including proper delineation of work sites and worker environmental training. Implementation of BIO-2 would reduce potential general construction impacts to a less-than-significant level.

Implementation of mitigation measures BIO-3 and BIO-4 would reduce potential adverse effects to CRLF and CTS that utilize the site as upland refuge and overland migration habitat during construction of the Project, and provide for compensatory mitigation for the permanent removal of approximately ~~57~~ 60.7 acres of upland critical habitat for CRLF, and upland and dispersal habitat for CTS, through the purchase of in-kind habitat credits at a USFWS- and CDFW-approved mitigation bank or turnkey mitigation property.

Implementation of BIO-5 which involves preconstruction surveys for nesting birds (during the nesting season February through August), including tricolored blackbird, would avoid and/or minimize potential impacts to these species reducing potential impacts to less than significant.

Implementation of BIO-6 which includes avoidance and minimization measures to avoid or minimize potential adverse effects to golden eagle that may utilize the project site for hunting and foraging, would avoid and/or minimize potential impacts to golden eagle reducing potential impacts to less than significant.

Implementation of BIO-7 which includes pre-construction surveys for nesting Swainson's hawk within 0.5 mile of the Study Area where accessible, and avoidance of hawks durign nesting season, would avoid and/or minimize potential impacts to Swainson's hawk reducing potential impacts to less than significant.

Implementation of mitigation measure BIO-8 would reduce impacts to burrowing owl by requiring pre-construction nesting bird surveys and avoidance of occupied burrowing owl nest locations. Implementation of mitigation measure BIO-9 provides for compensatory mitigation for similar habitat to the approximately ~~57~~ 60.7 acres of foraging and potential breeding and overwintering habitat that would be removed. This habitat will be preserved through the purchase of in-kind habitat credits at a CDFW-approved mitigation bank. Taken together, implementation of these mitigation measures would reduce potential impacts to less than significant.

Implementation of BIO-10, which involves avoidance of San Joaquin Kit Fox dens, exclusions, avoidance measures for trenches and pipes, would reduce potential impacts to San Joaquin Kit Fox and American badger, to less than significant.

Implementation of BIO-11 would reduce impacts to Crotch's bumble bee through pre-construction surveys and avoidance buffers and would reduce impacts to a less than significant level.

~~Protocol-level habitat assessment for CRLF and CTS determined that there is suitable grassland habitat with small mammal burrows present on the Study Area and aquatic breeding habitat available within dispersal distance. Additionally, the entirety of the Project site is in CRLF Critical Habitat. Focused burrow surveys did not identify suitable burrow habitat for San Joaquin kit fox or American badger; however, both species could utilize the Study~~

Area for overland migration and prey resources. Protocol-level surveys for burrowing owl did not identify any active breeding within the Study Area, though ground squirrel burrows within the Study Area provide suitable burrow habitat. Focused surveys for the remaining special-status species were not conducted because there are no accepted protocols for surveys. The remaining special status species with at least moderate potential to occur are non-burrow dwelling bird species that could utilize the Project site for ground nesting, foraging, and a migration corridor. Therefore, direct impacts through direct mortality or modification of habitat could occur to CRLF, CTS, American badger, burrowing owl, golden eagle, other raptors, and nesting birds, which would be considered significant.

Direct impacts to suitable habitat for these species consist of the permanent removal of approximately 57 acres of non-native grassland habitat, which provides nesting, foraging, migration, and refuge habitat to many of these species. Vegetation clearing of suitable habitat within the general avian breeding season of February through August may result in direct take of this species or an active nest, which would be considered significant. Project implementation of MM-BIO-2 through MM-BIO-11 would reduce potential impacts to less than significant.

A Protocol-Level CRLF and CTS Habitat Assessment was conducted in 2023 to determine potential habitat in the Study Area. Surveys determined that there is suitable grassland habitat with small mammal burrows present on the Study Area with aquatic breeding habitat available within dispersal distance. Based on this habitat assessment, usage of the site as upland refuge and dispersal for CRLF and CTS is assumed. Construction of the Project would permanently remove approximately 38 acres of suitable upland dispersal and refuge habitat for CRLF and CTS. Compensatory mitigation described in MM-BIO-5 would reduce these impacts to less than significant with mitigation.

Nesting Birds and Raptors

Like other undeveloped/natural sites, the Study Area contains opportunities for birds of prey (raptors) and other avian species to nest. Native nesting bird species with potential to occur within the Project Boundary are protected by California Fish and Game Code Sections 3503 and 3503.5, and by the federal MBTA (16 USC 703–711). Section 3503 provides that it is unlawful to take, possess, or needlessly destroy the active nests or eggs of any bird in California; Section 3503.5 protects all raptors and their eggs and active nests; and the MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of native migratory bird species throughout the United States. Recently, the Department of Interior ruled that the MBTA should apply only to "affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs," and will not be applied to incidental take of migratory birds pursuant to otherwise lawful activities. However, that ruling is now under review as a revision to the MBTA that would include prohibitions to incidental take.

Potential direct impacts to nesting birds may occur during Project construction if construction activities commence during the avian breading season of February through August through direct take or nest failure, which would be considered significant. To avoid potential Project-related impacts to nesting birds, implementation of MM-BIO-2 would reduce potential impacts to less than significant with mitigation.

Construction activities could temporarily displace birds, small mammals, reptiles, and amphibians that burrow or nest within the Study Area. Specific construction activities that could cause adverse impacts to these species and other special-status wildlife with a potential to occur onsite include:

Removal of vegetation on the construction laydown area

~~Ground-dwelling animals could become trapped in uncovered trenches if left open overnight or if the contractor does not provide suitable egress for special-status wildlife species~~

~~Impacts on nesting birds could occur if construction activities take place adjacent to natural habitat during the avian nesting season.~~

~~Temporary adverse impacts could be associated with increased noise from construction or incidental incursions into nesting habitat~~

~~CDFW has defined nesting bird season as February 1 – August 15.~~

~~The new facility will include multiple structures that range in height from 7 to 185 feet tall. The tallest structure is the poles associated with the generator tie facilities at 185 feet above ground level. Most collisions involve nocturnal migrants flying at night in inclement weather and low-visibility conditions. Collisions typically occur when migrating birds collide with tall, guyed television or radio transmission towers (APLIC 2016). Migratory birds generally fly at an altitude that would avoid ground structures, except when crossing over topographic features or when inclement weather forces the birds closer to the ground. Based on the Project's design and location, operations are likely to result in less-than-significant impacts from potential collisions.~~

~~Bird collisions with electric conducting wires occur when birds are unable to see the lines, especially during fog or rain events. Factors that affect the risk of collision include weather conditions, behavior of the species of bird, and design and location of the line.~~

~~Electrocutions occur when a bird simultaneously contacts two conductors of different phases or contacts a conductor and a ground. This happens most frequently when a bird attempts to perch on a structure with insufficient clearance between these components. On a 138-kW transmission line, all clearances between conductors or between conductors and ground are sufficient to protect even the largest birds if recommended horizontal and vertical spacing (55 – 76 inches) are used for conductor separation according to the Avian Power Line Interaction Committee (APLIC 2006). As such, operation of the Project would not result in adverse impacts to wildlife from electrocution.~~

~~Combined with the presence of existing high voltage lines on three sides of the Study Area and implementation of avoidance and minimization measures, the construction of the additional gen-tie line will not constitute a significant addition to overhead lines in the area. Impacts as a result of installation of the gen-tie line to migratory birds and raptors will be less than significant with mitigation. Mitigation measures for special-status wildlife are discussed in further detail in Section 3.2.5.~~

Impact 3.2-2 Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.?

As currently designed, the proposed Project would result in 44.4460.7 acres ~~(5.86 acres temporary and 38.58 acres permanent)~~of permanent ~~of~~ direct impacts to non-native vegetation communities and land covers through the removal of vegetation and grading of land to construct the proposed battery energy storage system facilities. Project-related impacts to non-native vegetation communities and land covers are not considered significant because they are not considered sensitive natural communities by CDFW.

There are no sensitive natural communities mapped within the Project footprint and thus, there would be **no impact** to sensitive natural communities.

Impact 3.2-3 Would the project have a substantial adverse effect on federal or state protected WOTUS (including wetlands) as defined by Sections 404 and 401 of the 1972 Amendments to the Federal Water Pollution Control Act, commonly known as the Clean Water Act, or the Porter-Cologne Act, either through direct removal, filling, hydrological alteration, or other means?

The results of the 2024 jurisdictional delineation identified Patterson Run, a seasonal drainage, as potentially jurisdictional under Sections 404 and 401 of the CWA and 1600 of the CFGC, due to the presence of an Ordinary High-Water Mark, and seasonal flow. Patterson Run is located within the gen-tie alignment. Figure 3.2-7, Potential Jurisdictional Aquatic Resources – USACE, depicts the water features detected on the Project site during the jurisdictional delineations.

The results of the 2024 aquatic resources delineation performed by Dudek biologists concluded that there is approximately 0.37 acres of non-wetland waters in the Study Area, within the review area for the generator tie lines. Table 3.2-~~3~~5 summarized the jurisdictional aquatic resources within the Study Area.

Table 3.2-35. Summary of Jurisdictional Aquatic Resources within the Study Area

Jurisdiction	Project Boundary (acres/linear feet)	Study Area (acres/linear feet)	Total (acres/linear feet)
Waters of the United States (RWQCB)			
Non-Wetland Waters			
Patterson Run OHWM	N/A	0.37/846	0.37/846
Waters of the State (RWQCB) Total*	**N/A**	**0.37/846**	**0.37/846**
Waters of the State (CDFW)			
Non-Wetland Waters			
Patterson Run OHWM	N/A	0.37/846	0.37/846

Notes:
ACOE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; OHWM = ordinary high-water mark; CDFW = California Department of Fish and Wildlife
* Totals may not sum due to rounding.

Direct impacts to Patterson Run include placement of riprap within the drainage associated with outfall improvements, and construction of a new transmission access pass across the drainage for construction and operation access to the gen-tie line, Project impacts to Patterson Run may require permitting from the USACE and RWQCB. State permits such as Streambed Alteration Agreement would be covered under the California Energy Commission's certification opt-in process under Assembly Bill 205.

With implementation of **MM-BIO-09**, temporary and permanent adverse impacts to potentially jurisdictional waters would be less than significant with mitigation.

Indirect Impacts

Construction-related indirect impacts may include inadvertent spillover impacts outside of the construction footprint, dust accumulation on adjacent native habitats, chemical spills, stormwater erosion and sedimentation, and increased wildfire risk. To reduce fugitive dust resulting from Project construction and to minimize adverse air quality impacts, the Project would employ dust control measures in accordance with the Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction.

The Construction General Permit requires preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which requires implementation of Best Management Practices (BMPs) to control stormwater run-on and runoff from construction work sites. The California Energy Commission (CEC) would also require the Applicant to implement a drainage, erosion, and sediment control plan (DESCP) to reduce the impact of run-off during construction, operation, maintenance, and decommissioning. Erosion control facilities to be shown on the final grading plan would control and contain erosion-induced silt deposits and provide for the safe discharge of silt free stormwater into existing and proposed storm drain facilities during the rainy season (October 1 to April 15) after rough grading has been completed. The Project would include stormwater detention and LID features, constructed in compliance with the Stormwater Technical Guidance Manual.

The LID features would consist of bioretention basins consisting of permeable gravel with a perforated underdrain pipe, overlain by a permeable bioretention soil mix. A riser outlet structure would allow for overflow of excessive stormwater flows. With the exception of the southwest Project boundary, ten stormwater outlets would be constructed around the perimeter of the facility. These outlets would include riprap to further reduce (in addition to the bioretention basins) off-site stormwater flow velocities. Minimal off-site stormwater flow velocities would prevent off-site erosive scour of sediments, which in turn would prevent siltation of downstream water bodies, off-site flooding, and off-site exceedance of stormwater drainage facilities. As a result, no water quality impacts would occur as a result of non-stormwater discharges.

Example BMPs to employ on site during construction to reduce potential indirect impacts to sensitive and protected resources to less than significant include the following:

- Sediment and erosion control measures would be developed and implemented in accordance with RWQCB Construction General Permit requirements to reduce the potential for the Project to result in increased siltation of, or release of pollutants into creeks and their tributaries.
- The footprint of disturbance would be limited to the maximum extent feasible, such as limiting access to via pre-existing access routes to the greatest extent possible. Parking, staging, storage, excavation, and disposal site locations would be confined to the smallest areas possible and be positioned at previously disturbed areas to the greatest extent practical.
- To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 2 feet deep would be covered with tarp, plywood, or similar materials at the close of each working day to prevent animals from being trapped. Ramps may be constructed of earth fill or wooden planks within deep-walled trenches to allow for animals to escape. Before such holes or trenches are backfilled, they would be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures would be installed immediately to allow escape. If the trapped animal is injured and cannot use escape ramps or structures, a qualified biologist would be contacted to identify the appropriate next steps.

- All construction pipes, culverts, and similar structures that are stored at the construction site for one or more overnight periods would be thoroughly inspected for burrowing owls and nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved. An option is to cap the ends of any stored pipes to prevent any animals from entering. If an animal is discovered inside a pipe, that section of pipe would not be moved until the Project biologist or designated representative has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated out of harm's way by an approved biologist.

Impact 3.2-4 Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory native wildlife corridors or impede the use of wildlife nursery sites?

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The Study Area does not overlap with any California Essential Habitat Connectivity Areas (CDFW 2014) but is considered part of the large contiguous Natural Landscape Block that extends from Alameda County south through the Diablo Range and Southern Coastal Ranges, terminating north of the Transverse Ranges (CDFW 2017). Given that the existing vegetation is surrounded on three sides by similar annual grassland habitat and is close to the existing PG&E Tesla substation, the Study Area likely provides movement habitat for local wildlife but is not recognized as an important regional wildlife corridor by any state agency or jurisdiction and is of limited linkage value on a landscape scale.

No significant direct or indirect permanent impacts would occur on wildlife movement or use of native wildlife nursery sites associated with Project activities. Existing habitat linkages and wildlife corridor functions would remain intact while construction activities are conducted and following Project completion. Construction activities would not likely result in permanent impacts to wildlife movement because no new structures that would impede wildlife movement are proposed.

During construction activities, temporary disturbance to local species may occur, but would not substantially degrade the quality or use of the vegetation communities in the vicinity. Some indirect impacts to localized wildlife movement could occur during construction activities due to construction-related noise. However, this impact would be temporary and would not be expected to significantly disrupt wildlife movement during and following construction activities.

Therefore, direct and indirect impacts on wildlife corridors and migratory routes resulting from the proposed Project would be **less than significant**.

Impact 3.2-5 Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

There are no tree preservation policies or ordinances in Alameda County. The Alameda County General Plan and Code of Ordinances have policies for protecting riparian, wetland, and watercourse habitats. The recommended avoidance and minimization measures to protect aquatic resources ensure this impact is **less than significant**.

Impact 3.2-6 Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The EACCS provides a framework for natural resource conservation and to streamline the environmental permitting process within the eastern portion of the county. The PSA is in Conservation Zone (CZ) 10 of the EACCS. This CZ emphasizes conservation priorities that may conflict with the Project implementation, such as protection of all big tarplant occurrences, protection of critical habitat for CRLF (including annual grasslands near ponds), and protection and restoration of Patterson Run. The impacts to the EACCS CZ-10 from Project development are a very small percentage of the inventory of those lands in CZ-10.

The Project would obtain applicable permits and other approvals from USFWS, USACE, CDFW, and RWQCB, and will minimize and mitigate impacts on natural resources to comply with the regulatory standards of these agencies. These are the same regulatory standards applied by USFWS and the other environmental agencies in their review and approval of the EACCS. The Project would adhere to AMMs that comply or exceed EACCS guidelines, so development of this PSA will not conflict with implementation of the EACCS, and Project effects on EACCS Covered Species, if present, would be avoided and minimized. Further, the Project would provide compensatory mitigation for impacts to aquatic resources and specific EACCS covered species through the acquisition of credits ~~from existing mitigation banks and other compensatory mitigation~~ through purchase and long-term conservation of mitigation property located in the immediate vicinity of the Project.

The EACCS defines standardized mitigation ratios for each of the focal species to be utilized by local jurisdictions and resource agencies to determine the level of mitigation necessary to offset project impacts. These are based upon an evaluation of the habitat quality on the Study Area scored using species-specific "habitat units." Mitigation ratios are then calculated based on the acreage of habitat affected, the location of the site, and the species-specific mitigation ratio table. Total mitigation acreages may vary depending on the location of selected mitigation areas the total habitat acreage affected by the Project.

3.2.4 Cumulative Effects

Cumulative effects on biological resources because of past, present, and reasonably foreseeable future actions, in combination with the Project, would mainly result from loss of habitat and habitat disturbance and degradation. A cumulative impact refers to a project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the facility (Public Resource Code [PRC] Section 21083; 14 CRR 15064[h], 16065[c], 15130, and 15355). As with the proposed Project, each of the cumulative projects presented in Chapter 3, Environmental Analysis, Table 3-2, Cumulative Projects, would be subject to a variety of statutes and administrative frameworks that require mitigation for impacts on biological resources. As such, the analysis presented herein is conducted qualitatively and in the context that the cumulative projects would fully mitigate any impacts to biological resources.

As of May 2025, a portion of the gen-tie line area has been cleared, compacted, and graveled as part of the Mulqueeney Wind Project's staging area and underground gen-tie corridor. It is assumed that the Mulqueeney Wind Project obtained all necessary federal, State, and local permits required to clear the staging area and, as part of those permit requirements, would be required to restore these disturbed areas back to pre-construction conditions. Construction activities on the Mulqueeney Wind Project would likely be complete prior to the commencement of

construction of the Potennetia-Virdi BESS Project. As such, a conservative analysis that the Potentia-Viridi Project would ~~disturbed~~disturb native areas that would need to be restored was assumed for this cumulative analysis.

Special-status Species

The proposed Project would result in the permanent loss and temporary disturbance of grassland habitat for special-status wildlife as discussed in Section 3.2.3, including foraging habitat for raptors, western burrowing owl, and tricolored blackbird. Other cumulative projects considered also impact similar vegetation communities, resulting in a net regional loss of grassland habitat. Without mitigation and conservation planning, cumulative effects to these species may result in population declines and reduced genetic viability. The framework of the EACCS provide regional conservation planning and coordinated avoidance, minimization, and mitigation for covered species, which reduces potential cumulative impacts.

With implementation of mitigation measures identified in Section 3.2.5 (Avoidance and Minimization Measures), including avoidance of direct take of protected species and preservation of offsite grassland habitat, the project would not make a cumulative contribution to significant cumulative impacts on biological resources in the region.

Aquatic Resources

Cumulative impacts to wetlands and other waters of the U.S. and/or State could alter regional and downstream hydrology. Proposed impacts to Patterson Run include installation of a new stormwater basin outfall and a low-water crossing. These impacts are small and would not alter the flow of water through the system. Additionally, the impacts would be fully mitigated with preservation of similar habitat as described in Section 3.2.5 (Avoidance and Minimization Measures). Thus, the project would not result in cumulatively considerable contribution to the regional loss of wetlands and waters functions and values.

Wildlife Corridors and Habitat Connectivity

As described in Section 3.2.1 (Affected Environment), the region provides important connectivity between larger habitat blocks. Cumulative development could impair landscape permeability and increase the risk of wildlife vehicle collisions. The proposed Project is located in close proximity to existing development and roadways and will not introduce additional roadway. Wildlife movement would be preserved in the open grassland to the south, west, and north of the Study Area. By grouping development at the Tesla Substation, potential cumulative impacts to wildlife movement is reduced. Thus, development and implementation of the project would not result in a cumulative impact to wildlife corridors and habitat connectivity.

Cumulative impacts from the Project are expected to be **less than significant**.

3.2.5 Avoidance and Minimization Measures

The following section describes the measures that are intended to avoid and minimize potential adverse effects of the Project to biological resources. Measures for special-status species covered by the EACCS adhere to avoidance and minimization measures detailed in Table 3-2 of the EACCS (ICF 2010). A Biological Resources Mitigation Implementation and Minimization Plan will be prepared prior to construction that outlines how the Applicant will implement the mitigation and protection measures developed specifically for the Project through consultation.

3.2.5.1 Minimization Measures for Construction and Decommissioning

The following section presents avoidance, minimization, and mitigation measures to avoid, minimize, or mitigate impacts to all special-status plant and wildlife species and other sensitive biological or aquatic resources during the construction and decommissioning phase of the proposed Project.

MM-BIO-1 Special-status Plant Species Avoidance. Complete avoidance of the population of big tarplant will reduce potential impacts to less than significant.

a. Prior to construction, a botanist familiar with big tarplant will identify and flag the extant population onsite for complete avoidance.
b. Environmentally sensitive area fencing and appropriate signage should be installed at a minimum of 20 feet from the edge of the big tarplant population. The Project should avoid performing any construction-related activities within this environmentally sensitive area.

MM-BIO-2 Implement General Measures to Reduce Effects on EACCS Focal Species. Implementation of applicable general avoidance and minimization measures will reduce potential adverse effects to EACCS special-status wildlife during construction of the Project (ICF 2010).

a. 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.
b. 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 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.
c. GEN-03: Contracts with contractors, construction management firms, and subcontractors will obligate all contractors to comply with these requirements, AMMs.
d. GEN-04: The following will not be allowed at or near work sites for covered activities: trash dumping, firearms, open fires (such as barbecues) not required by the activity, hunting, and pets (except for safety in remote locations).
e. GEN-05: Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable.
f. GEN-06: Off-road vehicle travel will be minimized.
g. 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.
h. 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.
i. GEN-09: Vehicles shall be washed only at approved areas. No washing of vehicles shall occur at job sites.

j. 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.

k. 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.

l. 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 mono-filament 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.

m. 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.

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

o. 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.

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

q. 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.

MM-BIO-3 Implement Amphibian Avoidance and Minimization Measures-1 and -2 of the EACCS to Reduce Effects during construction on CTS and CRLF. 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 (ICF 2010).

a. 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~~b. 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.

~~b~~c. A Service-approved biologist should be present for initial ground disturbing activities.

~~c~~d. 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.

~~d~~e. No monofilament plastic will be used for erosion control.

~~e~~f. Construction personnel will inspect open trenches in the morning and evening for trapped amphibians.

fg. 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.

gh. Work will be avoided within suitable habitat from October 15 (or the first measurable fall rain of 1" or greater) to May 1.

MM-BIO-4 Compensatory Mitigation for the removal of CRLF and CTS upland and dispersal habitat. To mitigate for the permanent removal of approximately ~~57~~ 60.7 acres of upland critical habitat for CRLF, and upland and dispersal habitat for CTS, similar habitat will be preserved through the purchase of in-kind habitat credits at a USFWS- and CEC/CDFW-approved mitigation bank or turnkey mitigation property. The standardized base mitigation ratios detailed in the EACCS for CTS and CRLF is 3:1 (acres preserved: acres removed) (ICF 2010). This base ratio can be modified using the Mitigation Score Sheets provided in Appendix A of the EACCS (ICF 2010). Based on existing conditions in the Study Area and distance from breeding habitat for these species, permanent impacts will be mitigated at ratios no less than ~~1.93~~:1 for CTS and ~~2.33~~:1 for CRLF (Appendix 3.2E). Thus, no less than 182.1 acres of in-kind habitat credits will be purchased from an approved mitigation bank or established at a turn-key mitigation property. The final ratio for mitigation of permanent impacts will be decided in consultation with USFWS and CEC with CDFW consultation.

MM-BIO-5 Pre-Construction Nesting Bird Surveys and Avoidance. To the extent practicable, construction activities shall avoid the migratory bird nesting season (typically February 1 through August 31) to reduce any potential significant impact to birds that may be nesting in the Study Area.

a. If construction activities must occur during the migratory bird nesting season, an avian nesting survey of the Project Boundary and within 500 feet of all impact areas must be conducted to determine the presence/absence of protected migratory birds and active nests.

b. The avian nesting survey shall be performed by a qualified wildlife biologist within 72 hours prior to the start of construction in accordance with the Migratory Bird Treaty Act (16 USC 703-712) and California Fish and Game Code Sections 3503, 3503.5, and 3513.

c. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans, along with an appropriate buffer established around the nest.

d. If any active nests are observed during surveys, the nest area shall be demarcated in the field with flagging and stakes or construction fencing, and mapped on the construction plans along with a species appropriate buffer established by a qualified biologist. The buffer distance will range from 25 to 500 feet dependent upon factors such as topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground disturbance schedule. Limits of construction to avoid active nests should be established in the field with flagging, fencing, or other appropriate barriers and should be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist. The qualified biologist should be responsible for monitoring all nests that are found within the Project Study Area once construction work is initiated. Nests should be monitored within the following distances until the final nest outcome is determined (i.e., fledged or failed):

- 150 feet for passerines and other non-raptors
- 500 feet for raptors and owls

- 250 feet for occupied burrowing owl burrows
- 500 feet for federally and/or state-listed species unless otherwise specified in MM-BIO-6, MM-BIO-7, and MM-BIO-8.

e. If the qualified biologist determines that the recommended buffer may not avoid disturbance that could cause a nest failure, the biologist should recommend additional measures (e.g., increased buffer width, noise or visual barriers, work intervals, stopping work as needed, or allowing only specific work types). These measures should be implemented on a case-by-case basis to minimize impacts to nesting birds and may be based on site-specific conditions and work requirements. The qualified biologist should use behavioral cues that indicate nest disturbance (e.g., time off the nest, hesitation approaching the nest, incessant chattering, bill swiping, or other unusual behavior) to determine the buffer's effectiveness. All potential sources of nest disturbance should be assessed and documented, including non-construction activities (e.g., interspecific, and conspecific interactions and depredation) and non-Project-related activities (e.g., traffic and recreational activities).

f. If an active nest is identified in or adjacent to the construction zone after construction has started, work in the vicinity of the nest should be halted as needed until the Project biologist can provide appropriate avoidance and minimization measures to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged, limitations on construction activities that generate substantial vibration and/or noise levels, and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest.

~~g. If an active burrowing owl 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 (EACCS AMM BIRD-2).~~

~~h. 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 (EACCS AMM BIRD-2).~~

~~i. 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 (EACCS AMM BIRD-2).~~ If an active nest colony of tricolored blackbird is identified near a proposed work area, work will be conducted outside of the nesting season (March 15 to September 1) (EACCS AMM BIRD-3).

MM-BIO-6 Implement the EACCS Bird Avoidance and Minimization Measure BIRD-1 to avoid impacts to golden eagle, as follows. Implementation of applicable avoidance and minimization measures will avoid potential adverse effects to golden eagle that may utilize the project site for hunting and foraging (ICF 2010). ~~Pre-Construction Golden Eagle Surveys and Avoidance:~~

a. Pre-construction surveys for nesting golden eagle will be conducted within 2 miles of the Study Area where accessible. The survey will be performed by a qualified biologist familiar with golden eagle biology and will follow recommendations outlined in the *USFWS Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations* (Pagel et al. 2010).

ab. If nesting golden eagles are determined to be present within the Study Area or within ~~0.5~~2 miles of the Study Area during construction of the Project, work should be conducted outside of the nesting season (February 1 to September 1).

bc. 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 should be established by a qualified biologist. The no-activity zone should be large enough to avoid nest abandonment and alleviate any impacts (e.g., noise, dust) and should be a minimum of ~~250~~500 feet and up to 1 mile from the nest. On-going monitoring by a qualified biologist may be required to ensure no impacts to this species and its habitat.

cd. If an effective no-activity zone cannot be established in either case, an experienced raptor biologist should 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 eagles, and the dissimilarity of the proposed activity with background activities) to minimize the potential to affect the reproductive success of the eagles.

MM-BIO-7 Pre-Construction Swainson's Hawk Surveys and Avoidance. Implementation of the following pre-construction survey and nest avoidance buffers will avoid potential adverse effects to Swainson's hawk that may breed in the project vicinity:

a) Pre-construction surveys for nesting Swainson's hawk will be conducted within 0.5 mile of the Study Area where accessible. The survey will be performed by a qualified biologist familiar with Swainson's hawk biology and will follow recommendations outlined in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (SHTAC 2000).

b) If active Swainson's hawk nests are identified, an avoidance buffer of 0.5 mile shall be established around active nests consistent with the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California (CDFG 1994). No construction within avoidance buffers shall be allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). If it is not feasible to maintain a 0.5-mile buffer for an active Swainson's hawk nest to reasonably accommodate construction, maintenance, or decommissioning activities, the established buffer distance may be reduced through coordination with CDFW. Project activities within the reduced buffer shall be monitored at the discretion of a qualified biologist and based on coordination with CDFW.

MM-BIO-8 Implement EACCS Bird Avoidance Measure 2 (BIRD-2) to avoid impacts to western burrowing owl, as follows. Implementation of applicable EACCS Burrowing Owl avoidance and minimization measures will avoid potential adverse effects to western burrowing that may utilize the project site as breeding or over-wintering habitat during construction of the Project (ICF 2010).

a) 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).

b) 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.

c) 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.

d) 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 owl.

MM-BIO-9 Compensatory Mitigation for the removal of western burrowing owl habitat. To mitigate for the permanent removal of approximately 60.7 acres of foraging and potential breeding and overwintering habitat for western burrowing owl, similar habitat will be preserved through the purchase of in-kind habitat at a turnkey mitigation property or purchase of credits at a mitigation bank or. Because burrowing owl is not a covered species in the EACCS, there is no standardized ratio for mitigation currently. However, based on the abundant availability of habitat within the surrounding region and the relatively small acreage being permanently removed from the regional grassland complex, a ratio of no less than 1:1 (acres preserved: acres removed) is anticipated to adequately offset impacts to potential breeding and foraging habitat. Thus, no less than 60.7 acres of in-kind habitat will be preserved at a turnkey mitigation property or credits will be purchased from an approved bank. Upland CTS and CRLF credits described in MM-BIO-4 may be used for burrowing owl habitat if this species is present at the turnkey mitigation property or mitigation bank. The final ratio for mitigation of permanent impacts will be decided in consultation with CEC with CDFW consultation.

MM-BIO-10 Implement EACCS Mammal Avoidance and Minimization Measure-1 (MAMM-1) to avoid impacts to San Joaquin Kit Fox. 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 (ICF 2010).

a. If potential dens are present, their disturbance and destruction will be avoided.

b. 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).

c. Exclusion zones will be implemented followoing USFWS procedures (USFWS 1999) or the latest USFWS procedures avaialble at the time. The redius 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 cas by case basis in coordination with USFWS and CDFW.

d. Pipes will be capped, and trenches will contain exit ramps to avoid direct mortality while construciton area is active.

MM-BIO-11 Implement pre-construction surveys and avoidance buffers for proposed-listed bumble bee species. 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.

a) 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).

b) 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.

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

d) In the event an Incidental Take Permit is needed, mitigation for direct impacts to Crotch bumble bee will be fulfilled through compensatory mitigation at a minimum 1:1 nesting habitat replacement of equal or better functions and values to those impacted by the Project, or as otherwise determined through the Incidental Take Permit process. Mitigation will be

accomplished either through off-site conservation or through a mitigation bank or turnkey mitigation property. If mitigation is not purchased through a mitigation bank, and lands are conserved separately, a cost estimate will be prepared to estimate the initial start-up costs and ongoing annual costs of management activities for the management of the conservation easement area(s) in perpetuity. The funding source will be in the form of an endowment to help the qualified natural lands management entity that is ultimately selected to hold the conservation easement(s). The endowment amount will be established following the completion of a Project-specific Property Analysis Record to calculate the costs of in-perpetuity land management. The Property Analysis Record will take into account all management activities required in the Incidental Take Permit to fulfill the requirements of the conservation easement(s), which are currently in review and development.

3.2.5.2 Minimization Measure for Site Restoration

Over the long term, once the Project facilities are no longer needed, the structures will be removed the Project area will be restored to approximate preconstruction conditions. Because rehabilitation of the site is not expected to occur for approximately 35 years, a draft conceptual plan may be included as part of the Biological Resources Mitigation Implementation and Minimization Plan. This draft plan can then be updated at a later date (but no more than 1 year prior to closure). A formal rehabilitation plan for the Project facility closure will be developed by the Project owner and submitted to the CEC Compliance Manager at least 1 year prior to facility closure. The facility closure restoration plan will include the following sections and details:

- Goals and objectives of the restoration
- A description of methods employed to achieve the restoration goals and objectives
- Success criteria used to determine whether the restoration was successful
- A monitoring and maintenance program, including details on remedial measures
- A description of annual reporting
- A restoration implementation and monitoring timeline and schedule of planned activities.

3.2.6 Laws, Ordinances, Regulations, and Standards

The following subsections within Section 3.2.6 describe the laws, ordinances, regulations, and standards (LORS) that apply to potential impacts on biological resources in the Project area and list the agencies responsible for enforcing the regulations. A summary of the applicable federal, state, and local LORS is provided in Table 3.2-46.

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Table 3.2-46. Summary of the Applicable Federal, State, and Local LORS

LORS	Requirements/Applicability	Administering Agency/Opt-In Application Reference	Conformance Discussion
Federal			
Federal ESA (16 USC 1531 et seq.)	Designates and protects federally threatened and endangered plants and animals and their critical habitat. Applicants for projects that could results in adverse impacts on any federally listed species are required to consult with and mitigate potential impacts in consultation with USFWS.	Sections 3.2.1.7 and 3.2.5.1~~USFWS~~	Federally threatened and endangered plants and animals analyzed. Avoidance, minimization, and mitigation measures include preconstruction surveys, avoidance buffers, timing restrictions, and take authorization from the USFWS.
MBTA (16 USC 703 to 711)	Protects all migratory birds, including nests and eggs	Section 3.2.1.7.1 ~~USFWS~~Page 3.2-13 and 3.2-31	Pre-construction surveys and avoidance buffers for active nests will prevent impacts to nesting migratory birds.
Bald and Golden Eagle Protection Act (16 USC 668)	Specifically protects bald and golden eagles from harm or trade in parts of these species	~~USFWS~~Pages 3.2-22 and 3.2-31	Pre-construction surveys and avoidance buffers to prevent take of eagles.
State			
CESA (Fish and Game Code Section 2050 et seq.)	Species listed under this act cannot be "taken" or harmed, except under specific permit. Take in the context of CEQA means to hunt, pursue, kill, or capture as well as any other actions that may result in an adverse impact when attempting to take a listed species.	Sections 3.2.1.7 and 3.2.5.1~~CEC, CDFW~~	State threatened and endangered plants and animals analyzed. Avoidance, minimization, and mitigation measures include preconstruction surveys, avoidance buffers, timing restrictions, and take authorization from the CEC/CDFW.
Fish and Game Code Section 3511	Describes bird species, primarily raptors that are FP (Fully Protected). FP birds may not be taken or possessed, except under specific permit requirements.	Sections 3.2.1.7 and 3.2.5.1~~CDFW~~	No take of FP bird species is anticipated.
Fish and Game Code Section 3503	States that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.	Sections 3.2.1.7 and 3.2.5.1~~CDFW~~	Preconstruction surveys and avoidance buffers prevent impacts to nesting birds.
Fish and Game Code Section 3503.5	It is unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation made pursuant thereto.	Sections 3.2.1.7 and 3.2.5.1~~CDFW~~	Preconstruction surveys and avoidance buffers prevent impacts to nesting raptors.
Fish and Game Code Section 3513	It is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act.	Sections 3.2.1.7 and 3.2.5.1~~CDFW~~	Preconstruction surveys and avoidance buffers prevent imacts to migratory birds.
Fish and Game Code Sections 351, 4700, 5050, and 5515	Lists bird, mammal, amphibian, reptile, and fish species that are FP in California	Sections 3.2.1.7 and 3.2.5.1~~CDFW~~	FP species discussed. No take of FP species anticipated.
NPPA Fish and Game Code Sections 1900 et seq.	The Native Plant Protection Act (NPPA) lists threatened, endangered, and rare plants listed by the State.	Sections 3.2.1.7 and 3.2.5.1~~CDFW~~	No threatened, endangered, or rare plants anticipated to occur. Preconstruction surveys and avoidance buffers provide further protection.
Fish and Wildlife Code Sections 1900 et seq.	Lists endangered or rare native plants of the State and establishes criteria for determining rarity or listing status.	Sections 3.2.1.7 and 3.2.5.1~~CDFW~~	No endangered or rare plants present. Preconstruction surveys and avoidance buffers prevent potential impacts to rare plant species.
Title 14 CCR, Sections 670.2 and 670.5	Lists animals designated as threatened or endangered in California	Sections 3.2.1.7 and 3.2.5.1~~CDFW~~	State threatened and endangered plants and animals analyzed. Avoidance, minimization, and mitigation measures include preconstruction surveys, avoidance buffers, timing restrictions, and take authorization from the CEC/CDFW.
CFG Code Sections 1601-1607	Prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels without a permit from CDFW.	Sections 3.2.1.7 and 3.2.5.1~~CDFW~~	Permit from CEC/CDFW will be in hand prior to impacts to Patterson Run.

Table 3.2-46. Summary of the Applicable Federal, State, and Local LORS

LORS	Requirements/Applicability	~~Administering Agency~~/Opt-In Application Reference	Conformance Discussion
CEQA PRC Section 15380	CEQA requires that the effects of a project on environmental resources must be analyzed and assessed using criteria determined by the lead agency.	Sections 3.2.1.7 and 3.2.5.1~~CEC~~	Environmental resources analyzed using CEC criteria.
Warren Alquist Act PRC 25000, et seq.	A CEQA-equivalent process implemented by the CEC.	Sections 3.2.1.7 and 3.2.5.1~~CEC~~	Environmental resources analyzed using CEC criteria.
California Assembly Bill 205	Emergency regulation expanding the CEC's siting authority for renewable energy projects. Allows certification in lieu of CDFW 2081 ITP or CFGC Section 1600 et seq. LSAA.	All Sections~~CEC~~	Take authorization and LSAA to be coordinated with CEC with input from CDFW.

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3.2.6.1 Federal LORS

3.2.6.1.1 Federal ESA (16 United States Code [USC] 153 et seq.)

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and to provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. The FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under the FESA, it is unlawful to "take" any listed species, and "take" is defined as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

The FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement.

3.2.6.1.2 MBTA (16 USC 703 to 711)

The Migratory Bird Treaty Act (16 USC 703 et seq.), as amended (MBTA), prohibits the intentional take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so. In December 2017, Department of the Interior Principal Deputy Solicitor Jorjani issued a memorandum (M-37050) that interprets the MBTA's "take" prohibition to apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs. Unintentional or accidental take is not prohibited. Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

3.2.6.1.3 Bald and Golden Eagle Protection Act (16 USC 668)

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald or golden eagles, includes their parts, nests, or eggs. The Act provides criminal penalties for person who "take, possess, sell, purchase, bater, offer to sell, transport, export or import, at any time or any manner, any bald eagle... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, kill, wound, capture, trap, collect, molest or disturb."

3.2.6.2 State LORS

The following local laws, ordinances, and regulations apply to projects that occur within the state of California and are subject to state jurisdiction.

3.2.6.2.1 CESA

The California Endangered Species Act (CESA) (California Fish and Game Code Sections 2050–2068) provides protection and prohibits take of plant, fish, and wildlife species listed by the State of California. Unlike the FESA, under the CESA, state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to the FESA and is prohibited for both listed and candidate species. Take authorization may be obtained by a project applicant from the California Department of Fish and Wildlife (CDFW) under CESA Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of implementation, and monitoring of mitigation measures.

3.2.6.2.2 Fish and Game Code

Sections 3500, 3511, and 3513

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA.

Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Furthermore, it is the responsibility of CDFW to maintain viable populations of all native species. Toward that end, CDFW has designated certain vertebrate species as Species of Special Concern, because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

Section 5901

Section 5901 of the California Fish and Game Code makes it unlawful to construct or maintain any device or contrivance that prevents, impedes, or tends to prevent or impede, the passing of fish up and down stream. Fish are defined in Section 45 as a wild fish, mollusk, crustacean, invertebrate, or amphibian, or part, spawn, or ovum of any of those animals.

Section 5937

Section 5937 of the California Fish and Game Code requires that the owner of any dam must allow sufficient water at all times to pass through a fishway, or in the absence of a fishway, allow sufficient water to pass over, around, or through the dam, to keep in good condition any fish that may be planted or exist below the dam. During the minimum flow of water in any river or stream, permission may be granted by CDFW to the owner of any dam to allow sufficient water to pass through a culvert, waste gate, or over or around the dam to keep in good condition any fish

that may be planted or exist below the dam, when, in the judgment of CDFW, it is impracticable or detrimental to the owner to pass the water through a fishway.

Section 1600-1616

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of a definable bed and banks and existing fish or wildlife resources. CDFW takes jurisdiction to the top of bank of the stream or the limit of the adjacent riparian vegetation, which may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an ordinary high-water mark (OHWM) to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

Under California Fish and Game Code Sections 1600–1616, CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. CDFW also has the authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects. Applications to CDFW must include a complete, certified California Environmental Quality Act (CEQA) document.

3.2.6.2.3 California Native Plant Protection Act

The Native Plant Protection Act of 1977 (see Section 1900 et seq. of the California Fish and Game Code) directed CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare," and to protect endangered and rare plants from take. The CESA expanded on the original Native Plant Protection Act and enhanced legal protection for plants, but the Native Plant Protection Act remains part of the California Fish and Game Code. To align with federal regulations, the CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the CESA as threatened species but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in the CESA, mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and the Project proponent.

3.2.6.2.4 Porter-Cologne Water Quality Control Act

Pursuant to provisions of the Porter–Cologne Water Quality Control Act (Porter–Cologne Act), the RWQCBs regulate discharging waste, or proposing to discharge waste, within any region that could affect a water of the state (California Water Code Section 13260[a]). The State Water Resources Control Board defines a water of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code Section 13050[e]). As of April 2019, the State Water Resources Control Board has narrowed its definition of a water of the state to include the following (SWRCB 2019):

1. Natural wetlands
2. Wetlands created by modification of a surface water of the state
3. Artificial wetlands that meet any of the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration

b. Specifically identified in a water quality control plan as a wetland or other water of the state

c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape

d. Greater than or equal to 1 acre in size unless the artificial wetland was constructed and is currently used and maintained, primarily for one or more of the following purposes: industrial or municipal wastewater treatment or disposal; settling of sediment; detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial permitting program; treatment of surface waters; agricultural crop irrigation or stock watering; fire suppression; industrial processing or cooling water; active surface mining – even if the site is managed for interim wetlands functions and values; log storage; treatment, storage, or distribution of recycled water; maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or fields flooded for rice growing.

All waters of the United States are waters of the state. Wetlands, such as isolated seasonal wetlands, that are not generally considered waters of the United States are considered waters of the state if, "under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation" (SWRCB 2019). If a CWA Section 404 permit is not required for a project, the RWQCB may still require a permit (waste discharge requirements) for impacts to waters of the state under the Porter–Cologne Act.

3.2.6.2.5 Plants and Animals of California Declared to be Endangered or Threatened (Title 14, CCR, Sections 670.2 and 670.5

These codes list plants and animals designated as threatened or endangered in California. State SSC is a category conferee by CDFW of those species that are indicators of regional habitat change or are considered potential future protected species. These species do not have any species legal status but are intended by CDFW for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

3.2.6.2.6 CEQA (PRC Section 15380)

CEQA requires identification of a project's potentially significant impacts on biological resources and ways that such impacts can be avoided, minimized, or mitigated. CEQA also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

The State of California CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors." A rare animal or plant is defined in Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or ... [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c).

CDFW has developed a list of "Special Species" as "a general term that refers to all of the taxa the California Natural Diversity Database (CNDDB) is interested in tracking, regardless of their legal or protection status." This is a broader list than those species that are protected under the FESA, CESA, and other California Fish and Game Code provisions, and includes lists developed by other organizations, including, for example, the Audubon Watch List Species. Guidance documents prepared by other agencies, including the Bureau of Land Management Sensitive Species and USFWS Birds of Special Concern, are also included on the CDFW Special Species list. Additionally, CDFW has concluded that plant species listed as California Rare Plant Rank 1 and 2 by the California Native Plant Society, and potentially some California Rare Plant Rank 3 plants, are covered by CEQA Guidelines Section 15380.

Section IV, Appendix G (Environmental Checklist Form), of the CEQA Guidelines requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service."

3.2.6.2.7 Warren Alquist Act (PRC Section 25000, et seq.)

The AFC process is a certified regulatory process pursuant to the Warren-Alquist Act and, therefore, fulfills the requirements of CEQA. CEQA is codified in the California PRC, Section 2100-2118.1. Guidelines for implementation of CEQA are codified in the California Code of Regulations (CRR), Sections 15000-15387.

3.2.6.2.8 California Energy Commission – Assembly Bill 205

Assembly Bill (AB) 205 is an emergency regulation expanding the CEC's siting authority for renewable energy projects constructed on or before June 30, 2029. AB 205 was signed into law on June 30, 2022, and allows renewable and energy storage projects to apply for direct state permits through the CEC. CEC certification opt-in statute (specifically 25545.1(b)(1)) says "the issuance of a certificate by the commission for a site and related facility pursuant to this chapter shall be in lieu of any permit, certificate, or similar document required by any state, local, or regional agency [except California Coastal Commission, San Francisco Bay Conservation and Development Commission, and State/Regional Water Quality Control Board] ... for the use of the site and related facilities, and shall supersede any applicable statute, ordinance, or regulation of any state, local, or regional agency...."

The application for certification process is in lieu of CDFW 2081 ITP or CFGC Section 1600 et seq. LSAA. However, applications for both of these permits will be submitted to the CEC for informational purposes. The CEC Certification will include conditions and mitigation that would otherwise be requirements in these CDFW permits.

3.2.6.3 Local LORS

The Project would conform to all local requirements. The following local laws, ordinances, and regulations apply to projects that occur within the County of Alameda and East Alameda County Conservation Strategy

3.2.6.3.1 East Alameda County Conservation Strategy

The County of Alameda (County) developed the East Alameda County Conservation Strategy (EACCS) to provide a framework for natural resource conservation and to streamline the environmental permitting process within the eastern portion of the county (ICF 2010). The EACCS is not a formal Habitat Conservation Plan (HCP) in that it does not require local agencies to conserve species and habitat prior to approving projects that impact listed species and/or their habitat, nor does it have a corresponding programmatic incidental take permit from USFWS. Instead, it is intended to streamline state and local permitting by providing guidance on avoidance, minimization, and

mitigation for project-level impacts on selected focal special-status species and sensitive habitats. Because the EACCS does not have corresponding permits, individual projects may need to implement different or more avoidance, minimization, and mitigation measures than what is outlined therein. To avoid this from happening, USFWS and CDFW participated in the development of the Conservation Strategy with the intent that it would become the blueprint for all mitigation and conservation in the region. Both agencies still refer to the EACCS when reviewing project-level impacts on focal species and their habitat. The EACCS includes standardized mitigation ratios for each of the focal species that can be used by local jurisdictions and resource agencies as guidance to determine appropriate mitigation to offset project impacts on focal species habitat. These are based on an evaluation of the habitat quality on a Study Area scored using Focal Species- Impact/Mitigation Score Sheets1 for each of the focal species assumed present or potentially present. Mitigation ratios are then calculated based on application of the same scoring sheet to the proposed mitigation site. Project specific mitigation ratios may vary depending on the quality and location of the habitat being lost and the quality and location of proposed mitigation.

The EACCS includes avoidance and minimization measures (AMMs) for all focal species covered by the EACCS These include general AMMs applicable to all focal species, as well as species- or taxon-specific AMMs. The standardized mitigation ratios discussed above are only valid if a project application is in compliance with all applicable AMMs.

3.2.6.3.2 Alameda County General Plan

The County maintains a General Plan, which provides guidelines for development within the County. The Study Area is located within the East County Area Plan (ECAP) (Alameda County 1994). General Plan policies that are relevant to the Project are outlined below.

Policy 123: Where site-specific impacts on biological resources resulting from a proposed land use outside the Urban Growth Boundary are identified, the County shall encourage that mitigation is complementary to the goals and objectives of the ECAP. To that end, the County shall recommend that mitigation efforts occur in areas designated as "Resource Management" or on lands adjacent to or otherwise contiguous with these lands to establish a continuous open space system in East County and to provide for long term protection of biological resources.

Policy 125. The County shall encourage preservation of areas known to support special status species.

Policy 126. The County shall encourage no net loss of riparian and seasonal wetlands.

3.2.6.3.3 Alameda County Code of Ordinances

The County addresses management of watercourses in the Alameda County Code of Ordinances (Alameda County 2022). Below are the existing regulations relative the Project to protect watercourses.

Chapter 13.12 – Watercourse Protection

13.12.090 – Requirements.

No person shall commit or cause to be committed any of the following acts, unless a written permit has first been obtained from the director of public works:

A. Discharge into or connect any pipe or channel to a watercourse;

B. Modify the natural flow of water in a watercourse;

C. Carry out development within a setback, as defined in Article V of this chapter;

D. Deposit in, plant in, or remove any material from a watercourse including its banks, except as required for necessary maintenance;

E. Construct, alter, enlarge, connect to, change, or remove any structure in a watercourse; or

F. Place any loose or unconsolidated material along the side of or within a watercourse or so close to the side

G. as to cause a diversion of the flow, or to cause a probability of such material being carried away by stormwaters passing through said watercourse.

(Prior gen. code § 7-201.0)

3.2.7 Permit and Permit Schedule

Permits and mitigation plans required prior to construction will be the responsibility of the qualified biologist assigned by the Applicant.

3.2.8 Agency Contacts

Table 3.2-~~5~~ 7 lists regulatory agency contacts for biological and aquatic resources for this Project.

Table 3.2-57. Regulatory Agency Contacts for Biological Resources

Natural Resource	Agency	Contact Information
State-listed species	CEC CDFW- ~~Region 3,~~ Bay Delta Region (Region 3)	707.428.2002; askbdr@wildlife.ca.gov
Federally listed species	USFWS- Pacific Southwest Region (Region 8), Sacramento Fish and Wildlife Office	Ryan Olah, 916.414.6623, ryan_olah@fws.gov Jason Hanni, 916-414-6600, Jason_hanni@fws.gov
~~Mitigation Measures for Construction Phase~~ ~~TBD~~ ~~TBD~~ Waters of the United States	USACE – California Delta Section	Matthew Di Loreto, 916-557-7882, Matthew.j.diloreto@usace.army.mil
Waters of the State	RWQCB – Central Valley Region (Region 5)	Jenna Yang, 916-464-4764, jenna.yang@waterboards.ca.gov

3.2.9 References

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SOURCES: CPAD 2024; CCED 2024; ESRI 2024

DUDEK

0 4,000 8,000 Feet

FIGURE 3.2-1

Protected Areas

Potentia-Viridi Battery Energy Storage System Project

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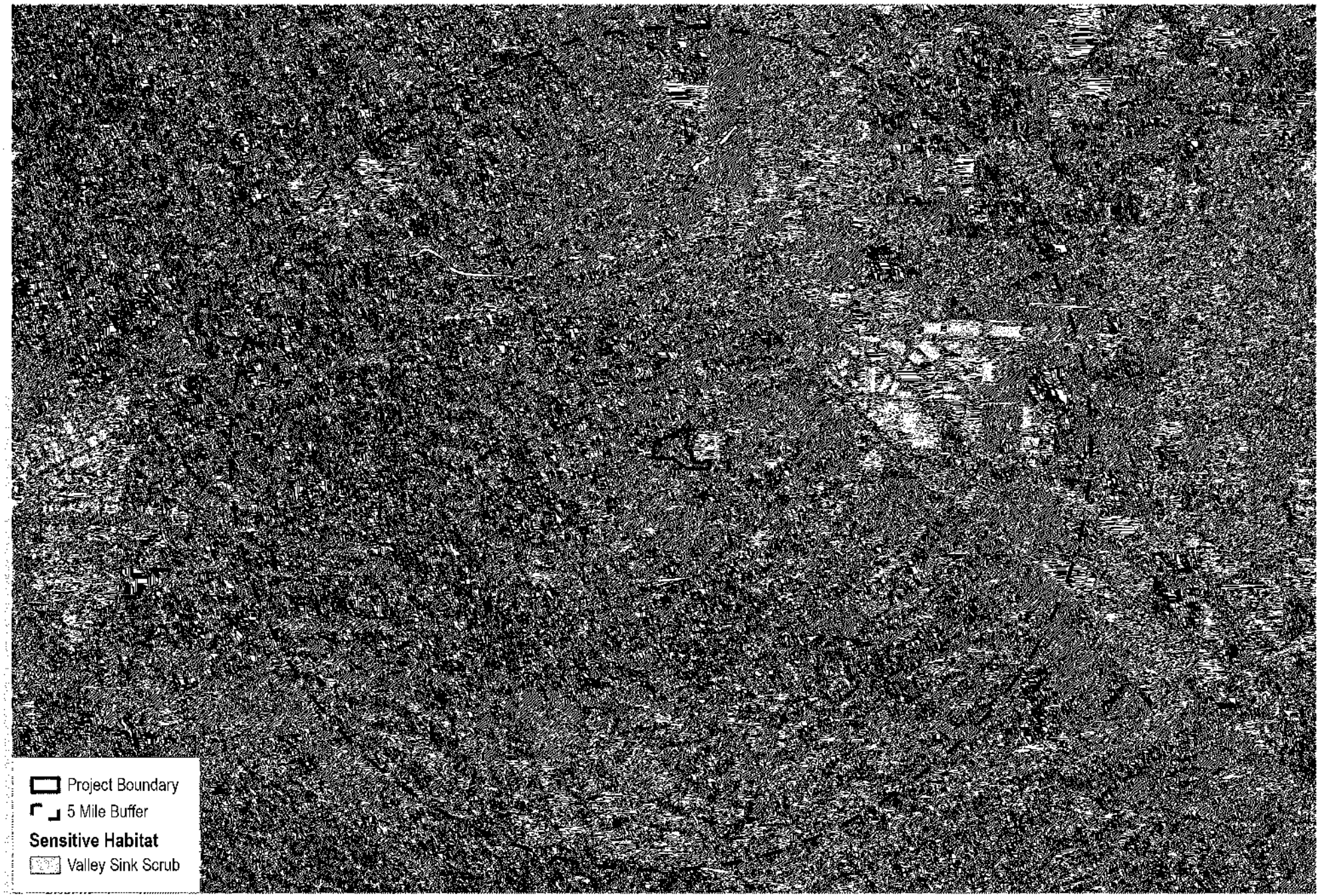

SOURCE: Bing Maps 2021; CA Fish and Wildlife 2021

FIGURE 3.2-2

Sensitive Habitat Types

Potentia Vindi Battery Energy Storage System Project

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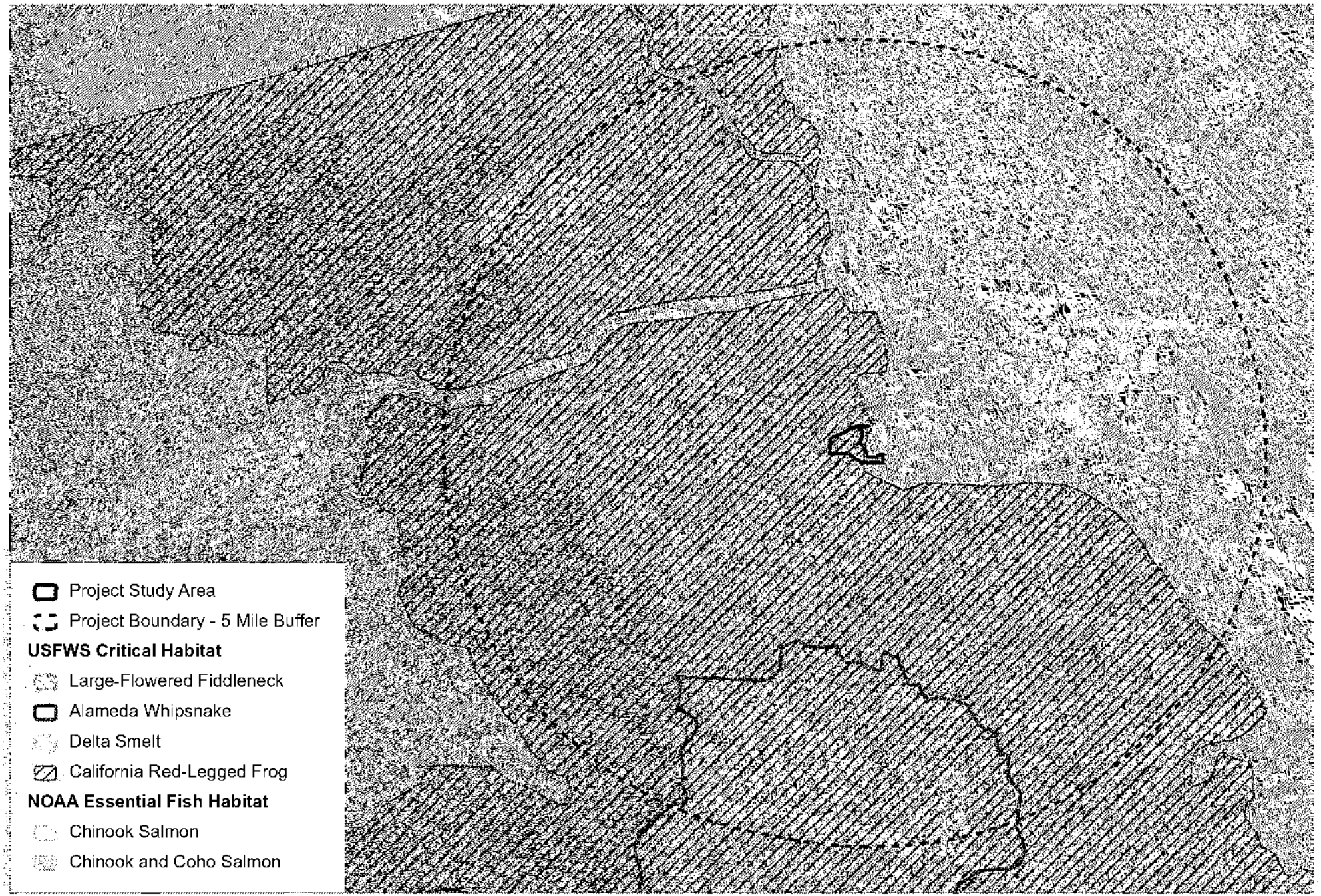
POVI 0002781



SOURCE: Bing Maps 2022; USFWS 2022; NOAA 2021

DUDEK

0 0.75 1.5 Miles

FIGURE 3.2-3

Critical Habitats

Potrero Mndl Battery Energy Storage System Project

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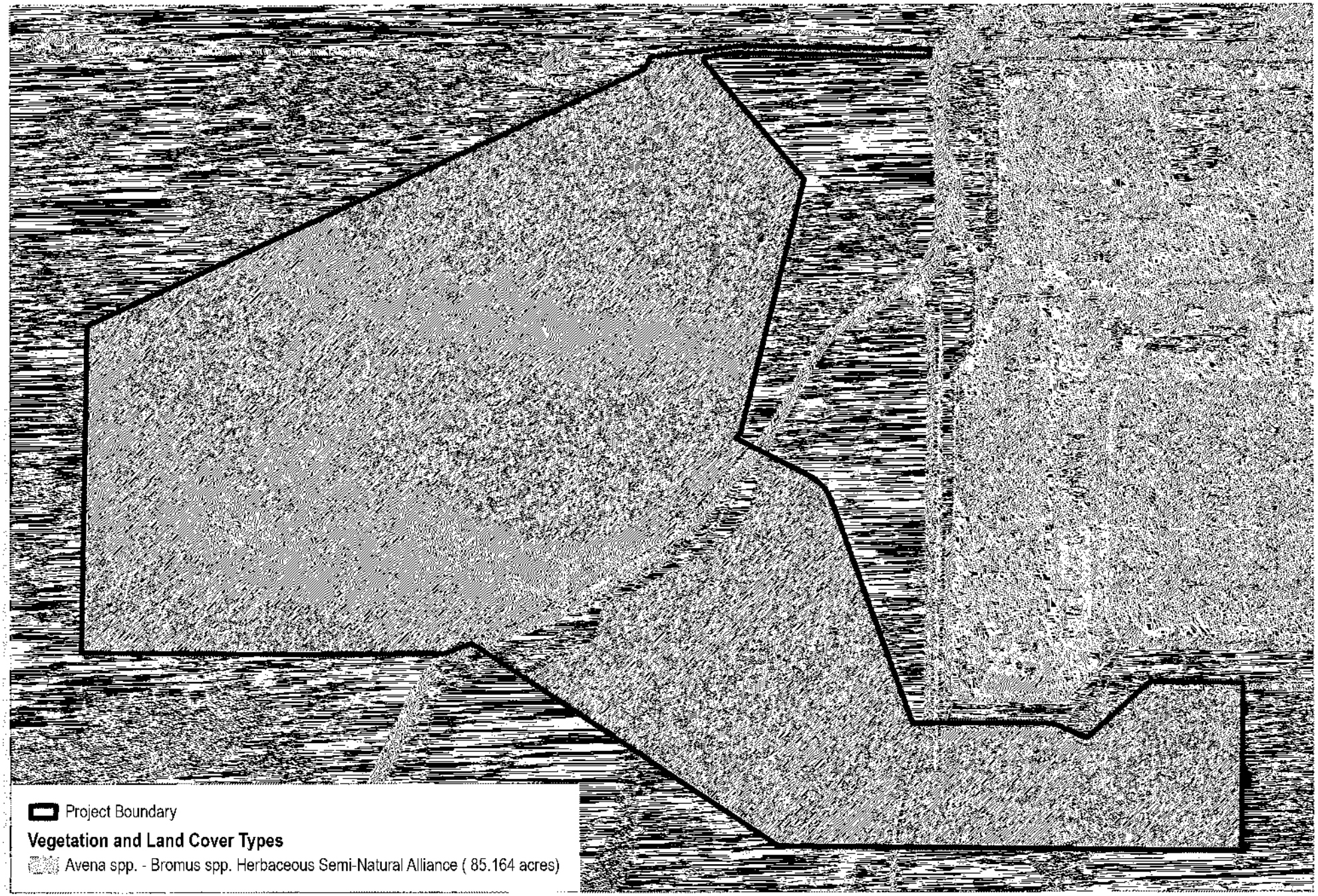

SOURCE: Bing Maps 2021

DUDEK

0 285 570 Feet

FIGURE 3.2-5

Vegetation Communities and Land Cover Types

Potentia Vinti Battery Energy Storage System Project

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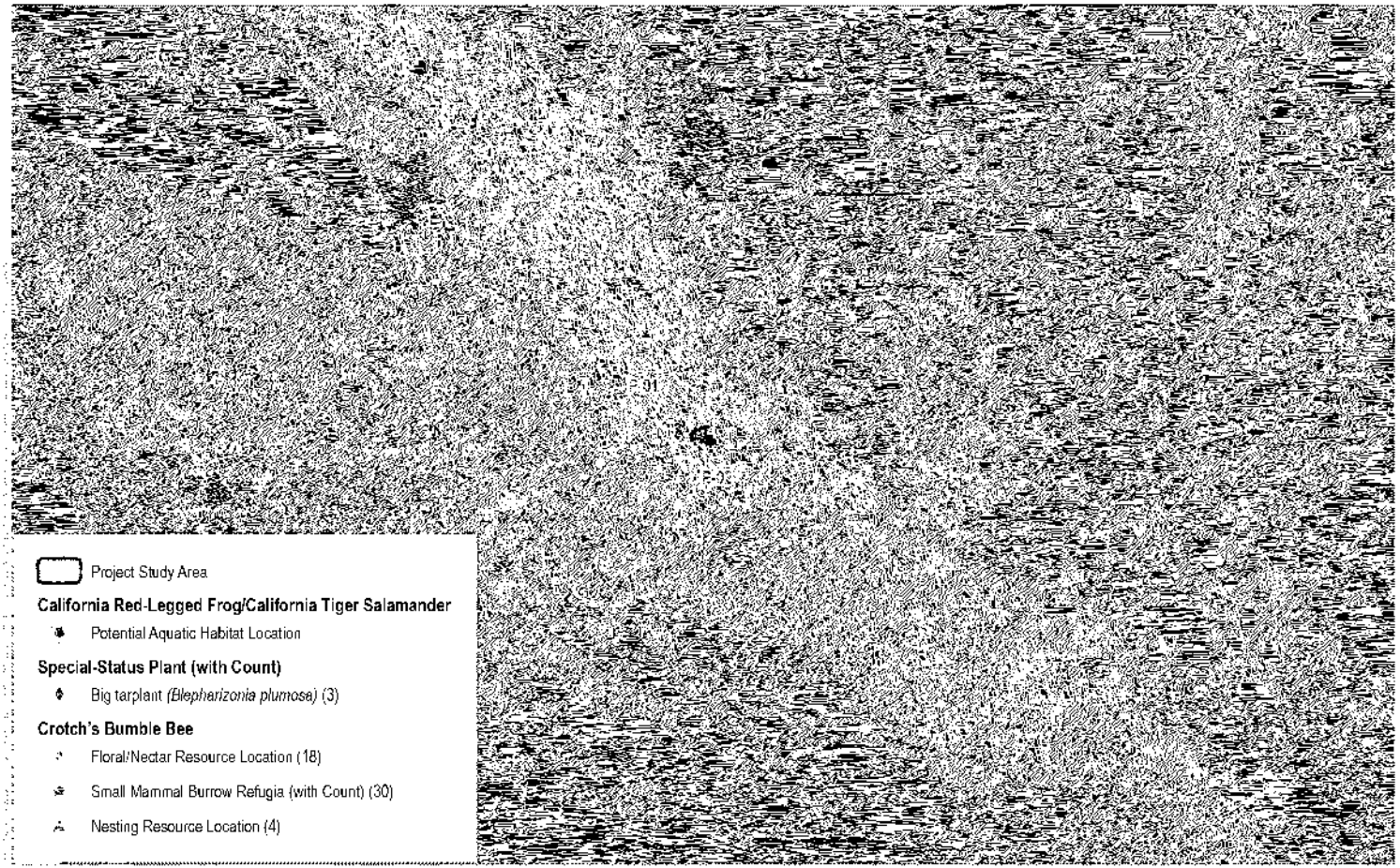

FIGURE 3.2-6

Biological Survey Results

Potential Moss Landing Battery Energy Storage System Project

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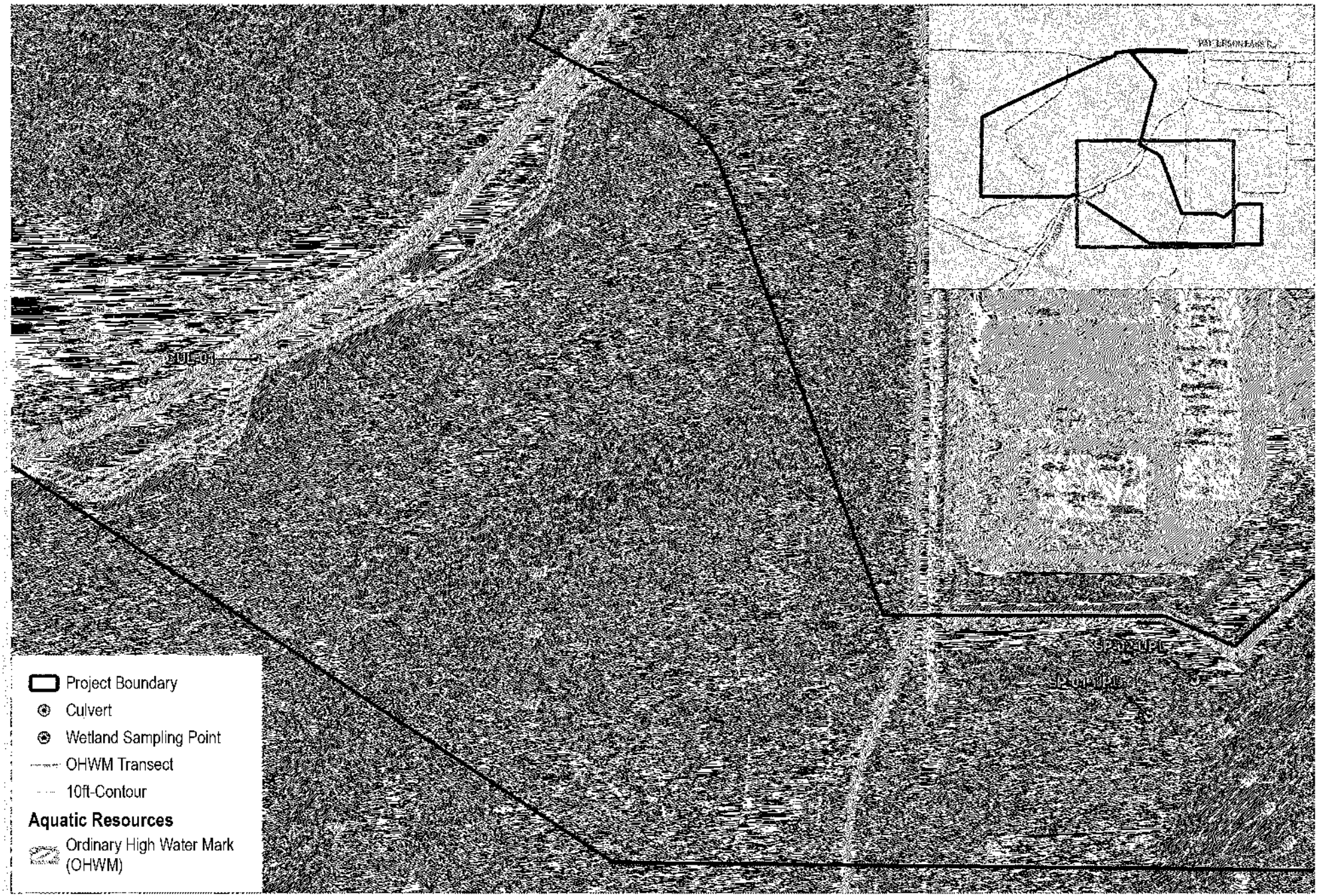

SOURCE: Bing Maps (accessed 2024)

1:2,400 | 1 inch equals 200 feet

DUDEK

0 100 200 Feet

FIGURE 3.2-7

Wetland Delineation

Potentia Vendi Battery Energy Storage System Project

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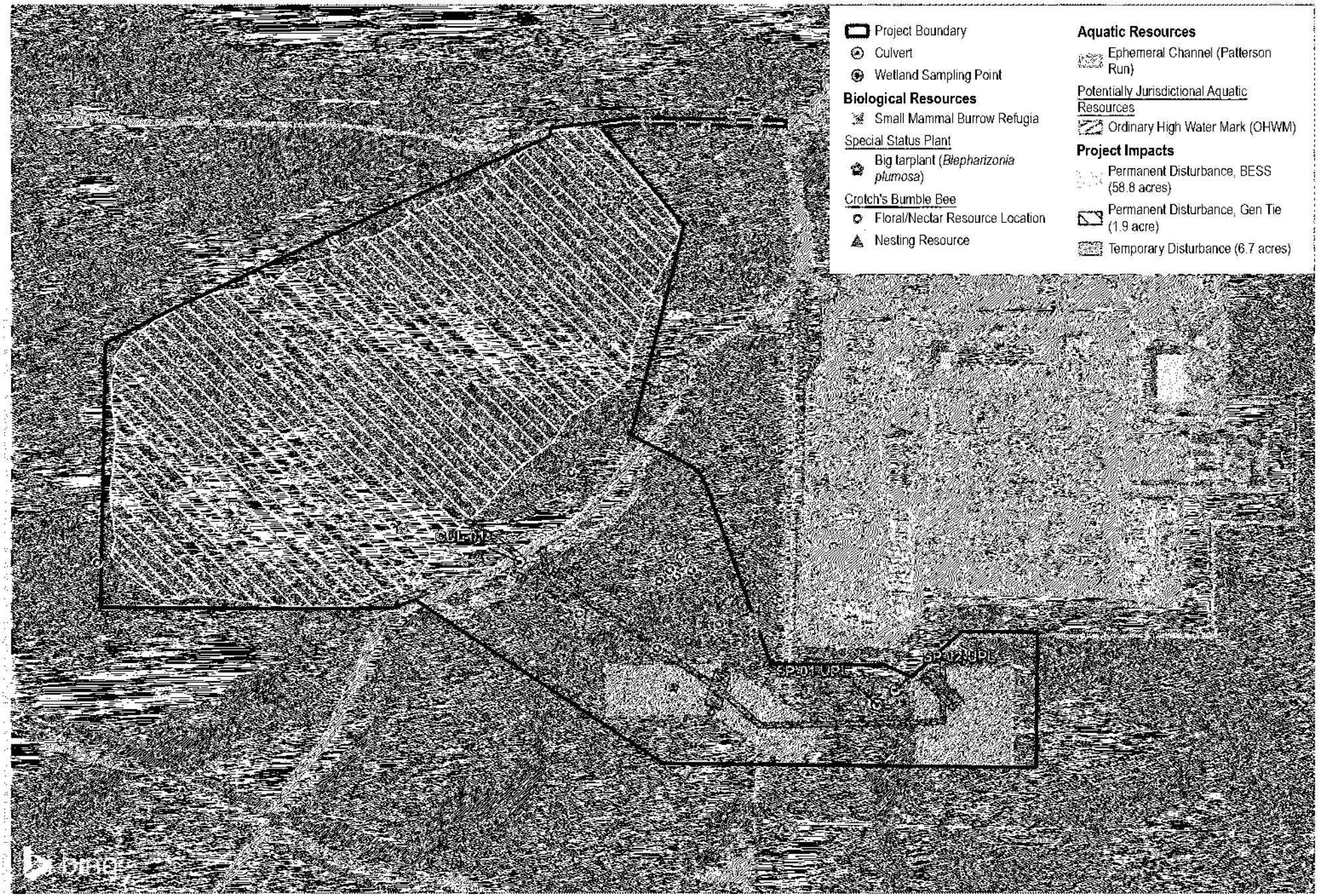

SOURCE: Bing Maps (accessed 2024)

16 0X10 | 1 inch equals 500 feet

DUDEK

0 250 500 Feet

FIGURE 3.2-7

Proposed Project Impacts

Potentia-Verdi Battery Energy Storage System Project

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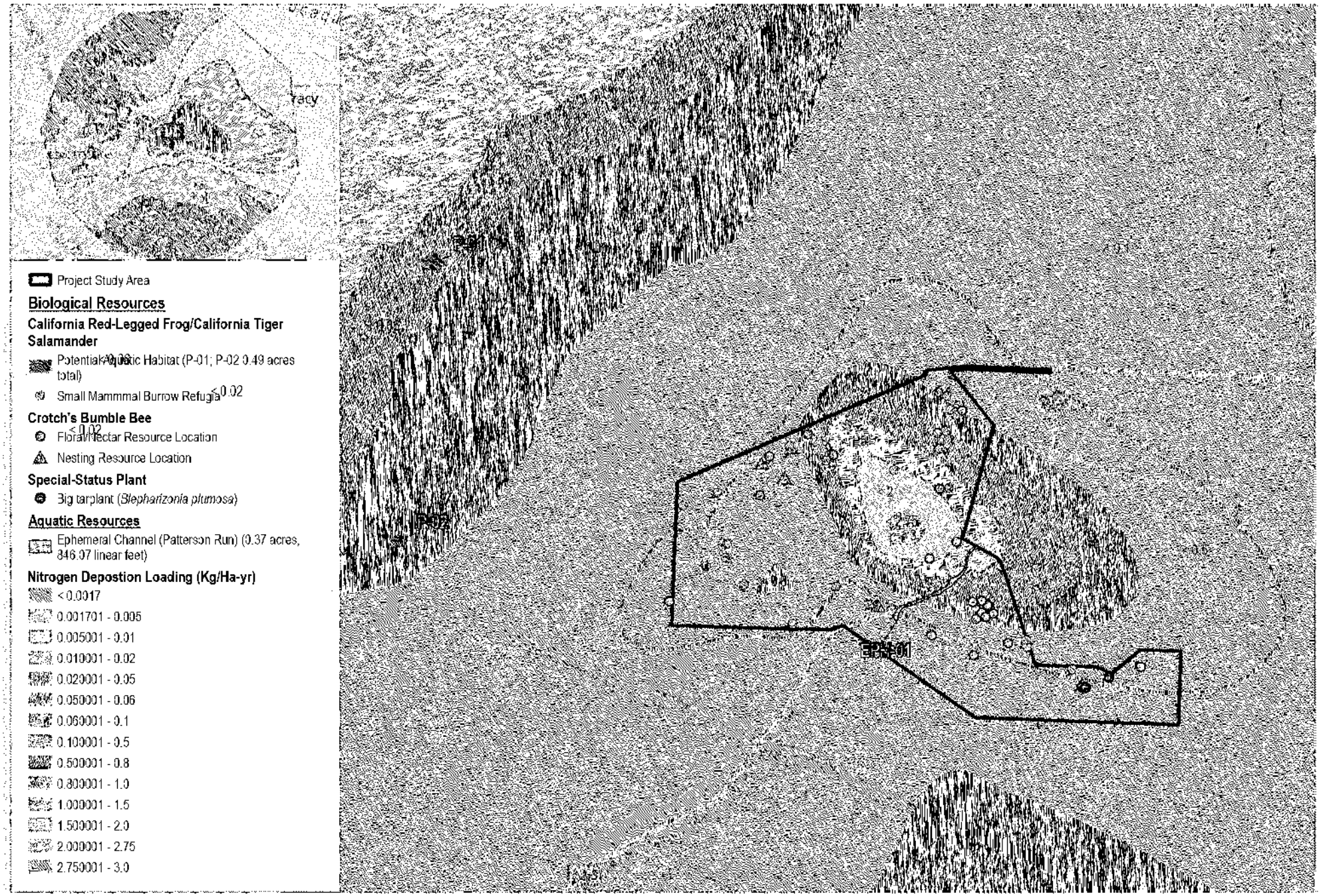
POVI 0002794



SOURCE: USGS World Topographic

DUDEK

0 460 920
Feet

FIGURE 3.2-9

Biological Resource Nitrogen Deposition Loading

Potrero Mud BESS Project

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Message

From: Kelly Strain [KStrain@capstoneinfra.com]
Sent: 6/16/2025 6:24:40 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
CC: Ronelle Candia [rcandia@dudek.com]
Subject: FW: PV BESS Final Water Board Application
Attachments: dredgefillcalculator(9).xlsm

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning, Eric~

We completed our revisions to the Water Board application. Is this something we should upload to the docket and also provide to the Water Board? Also, can you clarify for us if this fee to be paid by us now, or is this something that falls within the CEC costs since it's a state agency? Attached you will also fin the Water Board application fee calculator; a fee of $4,212 is due to the Water Board. Instructions on paying the fee can be found here: https://www.waterboards.ca.gov/make_a_payment/. Please let me know how best to proceed with the PV Project 401 application.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 998-5340
Facsimile +1 (424) 649-1555
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

FY 24/25 Water Quality Certification Dredge and Fill Application Fee Calculator (effective)

Scroll down to see instructions below and use this calculator to estimate Water Quality Certification application fees

This calculator is publicly available for informational purposes only and estimates fees in accordance with the fiscal year 2024-2025 water quality fee schedule. Applicants may use the calculator to Click here for a link to the current regulations.

Important note: This calculator may not be applicable to federal dischargers.

Please contact the State Water Board's Wetlands Permitting and Planning Manager with any questions

***Combination Project**: Check box for a combination deep water dredging and fill project which are subject to both Category A*	▪	Discharge Size	Rounded Discharge Size	Application Fee	Category A Project Fee or Amendment Fee	Annual Fee
Category A Projects - Discharge Size Calculated		***Note: discharge size equals the sum of temporary and permanent impacts***				
Discharge Area Acres x $37,544		0.04	**0.04** *Rounded to two*	**$4,212**	**$0**	**$3,540**
Category A Projects - Discharge Size Calculated						***Estimated Annual Fee***
Expected Annual Dredge Quantity Cubic Yards x $0.921			**0** *Rounded to whole number*	**$0**	**$0**	**$0**

****Category B Projects are billed annually and based on the quantity of material dredged during the previous fiscal year***

Flat Fee Categories - Check ONE applicable box		Application Fee		Annual Fee
Category B Projects				
Sand Mining, In-Stream Gravel Mining and Beach Nourishment Discharges	▪	**$0**	-	**$0**
Category D Projects				
Ecological Restoration and Enhancement Projects	▪	**$0**	-	**$0**
Category E Projects				
Low Impact Discharges	▪	**$0**	-	**$0**
Category F Projects				
Emergency Projects authorized by a General Order	▪	**$0**	-	**$0**
Category G Projects - Amendments to Existing Orders				
(1) All Category (D) Ecological and Restoration and Enhancement				
(2) Administrative amendments including, but not limited to, ownership	▪		**Annual fee applicable per discharge category above.**	
(3) Amendment results in change(s) in impact character, location, or	▪			
(4) Amendment requires a supplemental CEQA analysis, **or**	▪			
	▪			
Category H Projects - Wildfire Mitigation by Electrical Corporations, Electric Utilities, and Electrical Cooperatives				
(H) Wildfire Mitigation by Electrical Corporations, Electric Utilities, and Electrical Cooperatives	▪			**$0**

Total Fees

Application Fee	$4,212
Category A Project Fee or Amendment Fee Due prior to certification or amendment	$0
Sum of Fees Due Prior to Authorization *Note to dischargers seeking an amendment to an existing order:*	$4,212
Annual Fee Invoiced annually (unless maximum $365,465 fee reached)	$3,540

General instructions

Terms defining the measurement of a "discharge":

Discharge of **"dredged material"** is measured by the volume of material removed in deep water dredging activities;
Discharge of **"fill material"** is measured by the physical area of placement of fill material into a waterbody;

Step 1 Determine the Fee Category for your project:

Fee Based on Fill or Excavation Discharge Size Within the Waterbody

(A) Do your project activities add fill material (soil, rocks, concrete, culverts(s), pier pilings, etc.) or excavate soil or other materials within a waterbody?
Fill refers to replacing any portion of a water with dry land, or to changing the bottom elevation or grade of any portion of a water. Fill material includes rock, sand, clay, plastics, construction debris, wood chips, overburden from mining, or other construction activities, and materials used to create any structure or infrastructure within waters (culverts, pilings, etc.).

Excavation refers to removing sediment or soil in shallow waters or under no-flow conditions where impacts to beneficial uses are best described by the area of the excavation. It typically is done for purposes other than navigation. Examples include earth-moving work such as trenching for utility lines; channel reconstruction; embankment construction; removing sediment to increase channel capacity; and other flood control and drainage maintenance activities (e.g. debris removal, vegetation management and removal, detention basin maintenance and erosion control of slopes along open channels and other drainage facilities).

Fees Based on Discharge of Dredged Material

(B) Is your project deep water dredging? (except Sand Mining - see (C) below)
Dredging generally refers to removing sediment in deeper water to increase depth and typically occur to facilitate navigation. The impacts to beneficial uses are best described by the volume of the discharge removed. Dredge volumes are expressed in cubic yards.

Fee Based on Flat Fee Categories

Does your project qualify for one of the following flat fee categories? **To qualify for a flat fee category, the entirety of all project activities must be included within a single flat fee category**, i.e., the project cannot include other components involving activities not included within the flat fee category.

(C) Sand Mining, In-Stream Gravel Mining and Beach Nourishment Discharges
Aggregate extraction in surface waters where source material is free of pollutants and the dredging operation will not violate any basin plan provisions and beach nourishment projects.

(D) Ecological Restoration and Enhancement Projects
The project meets the definition of an "Ecological Restoration and Enhancement Project" set forth in the State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State, adopted by the State Water Board on April 2, 2019:

Step 2

If you have determined that your project qualifies for a flat fee (category 'C' through 'H'), check the applicable box to calculate fees.

Step 3

A. Is your project a fill/excavation project?

If your project is a fill/excavation project, calculate your fee based on the size of the discharge area in acres. For projects with multiple impact sites, sum the individual discharge quantities and enter the total in the calculator. For projects impacting multiple water features sum discharge quantities for all features. In addition, fees are based on the sum of both permanent and temporary impacts. The size of the discharge area shall be rounded to two decimal places (0.01 acre = 436 square feet). Category A discharges are subject to the sum of the Application fee and Project fee; the Application fee is due at the time of application and the project fee is due prior to issuance of the certification; additional annual fees are assessed from the date of certification until project completion.

B. Is your project a dredging project? Your dredging fee will be based on the actual amount of material dredged from the waterbody. Therefore, annual active discharge

Step 4

Are you requesting an amendment to a previously issued water quality certification or WDR? Fees for amended orders are based on the increased quantity of discharge and the level of technical analysis required evaluate project changes, therefore Water Board staff will determine which category your amendment is subject. Water Board staff will determine the fee for amendments based on the fee schedule and will request the applicant to submit the appropriate fee.

Fees based on amendments are categorized as follows:

(1) All Category 'D' Ecological and Restoration and Enhancement Projects, regardless of amendment type. **No fee required.**

Step 5

Step 6

Fee Types & Due Dates

Projects are subject to fees at three separate times throughout the life of a project. Application and Project Fees are determined according to the fee schedule in effect on the date of application submittal. Annual fees are determined according to the fee schedule in effect on the date of billing:

1) Application Fee: Amount due with the initial application.

2) Project Fee: Amount due prior to certification (applies to Category A only).

_Example FALSE
_Shading FALSE
_Series OfficeReady 3.0
_Look 1.00

Message

From: Kelly Strain [KStrain@capstoneinfra.com]
Sent: 6/17/2025 8:16:24 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
CC: Ronelle Candia [rcandia@dudek.com]
Subject: RE: PV BESS Final Water Board 401 Application

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Thank you for your reply, Eric~

We will post the 401 application to the docket today. The application was emailed to the RWQCB as well. We will wait to hear back from you regarding the associated fee.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

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Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: June 17, 2025 1:12 PM
To: Kelly Strain <KStrain@capstoneinfra.com>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: PV BESS Final Water Board 401 Application

Thanks Kelly for the follow up. I thought I would be able to get back to you by now. I believe we will want you to docket the application, and I am pretty sure the applicant fee needs to be paid according to the schedule of the Water Boards. Please let me confirm with management before you take any action. TY.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Tuesday, June 17, 2025 12:26 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: FW: PV BESS Final Water Board 401 Application

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Eric,

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Thank you,
Kelly

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: June 16, 2025 11:25 AM
To: Veerkamp, Eric@Energy <eric.veerkamp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: FW: PV BESS Final Water Board Application

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Sincerely,

Kelsie Strain
Environmental & Permitting Manager

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Web www.capstoneinfrastructure.com

Los Angeles, California

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From: Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
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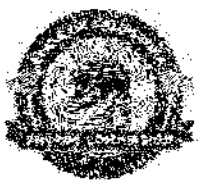
Sent: 6/19/2025 7:59:03 PM
To: Kelly Strain [KStrain@capstoneinfra.com]
CC: Ronelle Candia [rcandia@dudek.com]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject: RE: PV BESS Final Water Board 401 Application

Hi Kelly,
Closing this loop. Paying the fees now as per the water boards schedule is the appropriate course.

I saw you filed the 401 application, thanks for doing so.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov



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Environmental & Permitting Manager

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Web www.capstoneinfrastructure.com

Los Angeles, California

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 Tesla 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)
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

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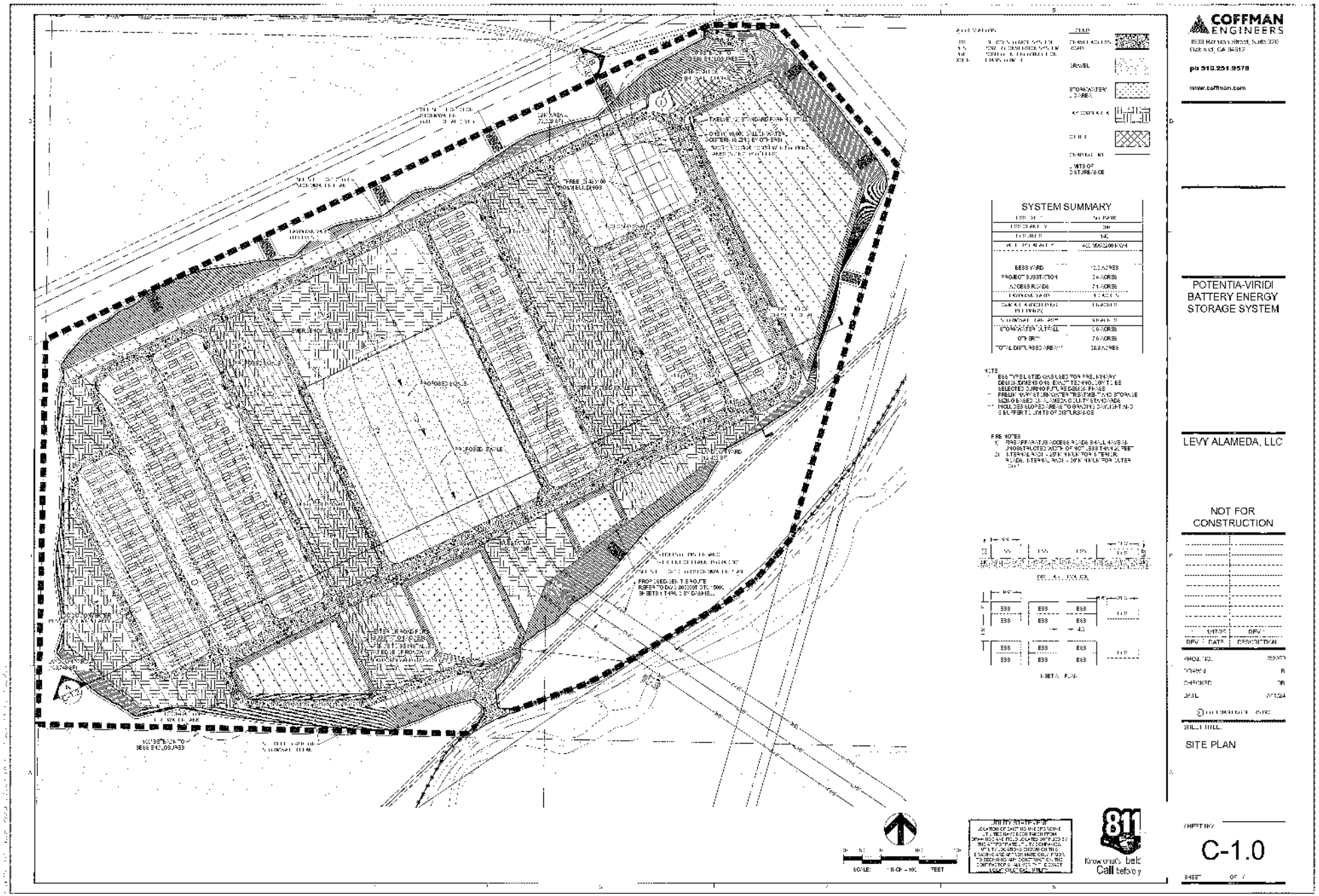
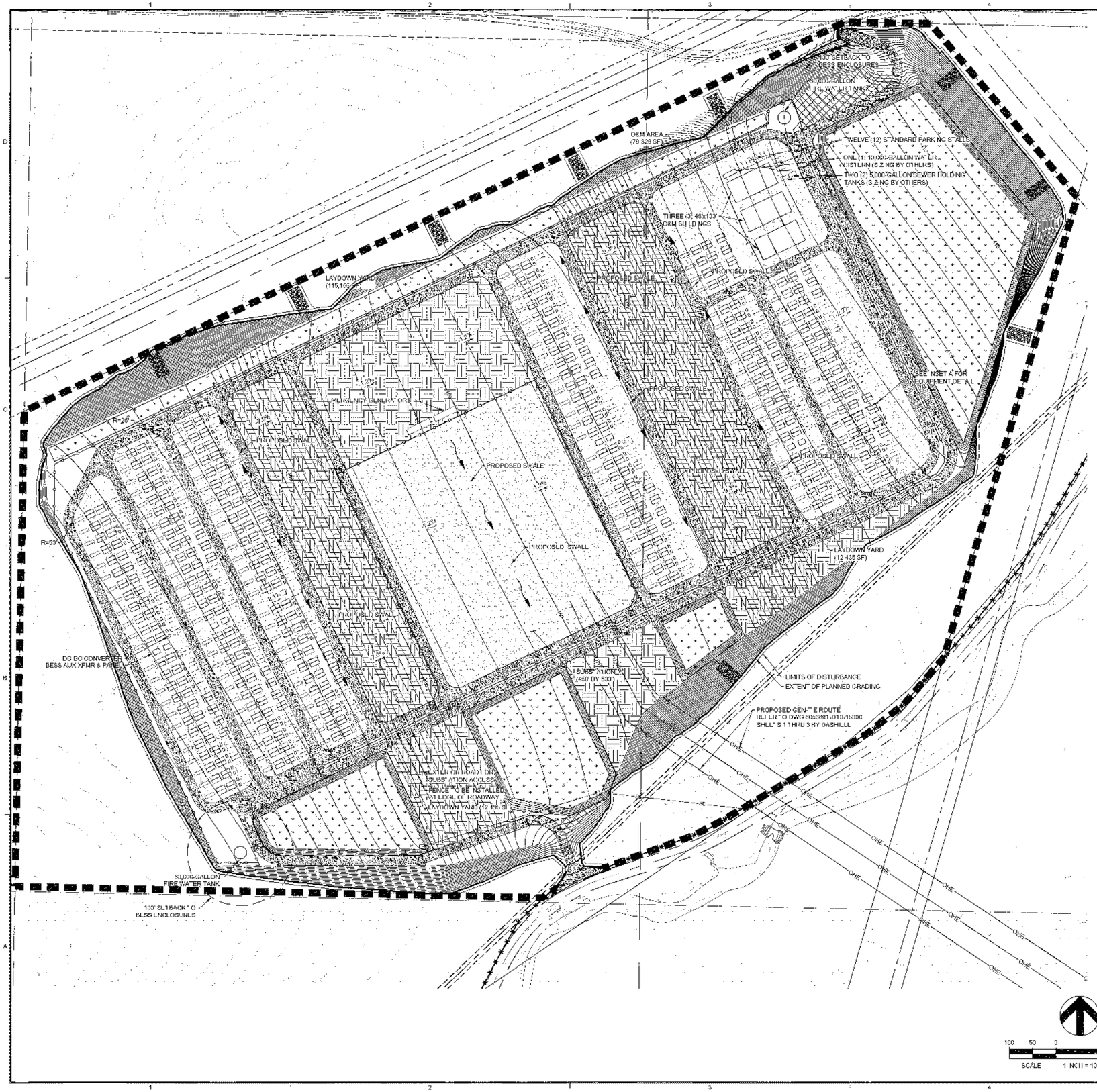


FIGURE 2-4
Site Plan
Potentia Viridi BESS Project

DUDEK



ABBREVIATIONS

LSS	LITHIUM ION BESS SYSTEM
PCS	POWER CONVERSION SYSTEM
POI	POINT OF INTERCONNECTION
XMFR	TRANSFORMER

LEGEND

- GRAVEL ACCESS ROAD
- GRAVEL
- STORMWATER BASIN AREA
- LAYDOWN AREA
- OTHER
- GRADING LIMIT
- LIMITS OF DISTURBANCE

SYSTEM SUMMARY

ESS TYPE*	SOLBANK
ESS QUANTITY	88
INSTALLS	44
BATTERY CAPACITY	430 MWH/1800 MWH
BESS YARD	12.1 ACRES
PROJECT SUBSTATION	5.4 ACRES
ACCESS ROADS	7.7 ACRES
LAYDOWN YARD	12.1 ACRES
O&M AREA (INCLUDING BUILDINGS)	1.8 ACRES
STORMWATER AREAS**	9.0 ACRES
STORMWATER OUTFALL	0.6 ACRES
OTHER***	5.7 ACRES
TOTAL DISTURBED AREA***	55.8 ACRES

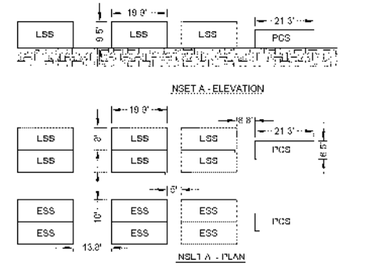
NOTE:

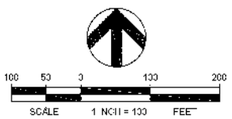
* LSS TYPICAL SOLBANK USED FOR PRELIMINARY DESIGN DIMENSIONS. EXACT TECHNOLOGY TO BE SELECTED DURING FUTURE DESIGN PHASE

** PRELIMINARY STORMWATER TREATMENT AND STORAGE SIZING BASED ON ALAMEDA COUNTY STANDARDS INCLUDES SLOPED AREAS TO GRADING DAYLIGHT AND PROJECT LIMITS OF DISTURBANCE

FIRE NOTES:

1) THE APPARATUS ACCESS ROADS SHALL HAVE AN UNOBSTRUCTED WIDTH OF NOT LESS THAN 20 FEET.
2) INTERNAL RADII = 25' MINIMUM ON INTERIOR ROADS. INTERNAL RADII = 60' MINIMUM ON OUTER LOOP.





UTILITY STATEMENT

LOCATION OF EXISTING UNDERGROUND UTILITIES HAVE BEEN ARRIVED DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY BY THE APPROPRIATE UTILITY COMPANIES. UTILITY LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. PRIOR TO COMMENCING ANY EXCAVATION, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EACH UTILITY.

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

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POTENTIA-VIRIDI
BATTERY ENERGY
STORAGE SYSTEM

LEVY ALAMEDA, LLC

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
2	9/5/25	REV 2
1	1/17/25	REV 1

PROJ. NO.	232059
DRAWN	LB
CHECKED	RB
DATE	7/15/24

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SHEET TITLE:

SITE PLAN - ALTERNATIVE

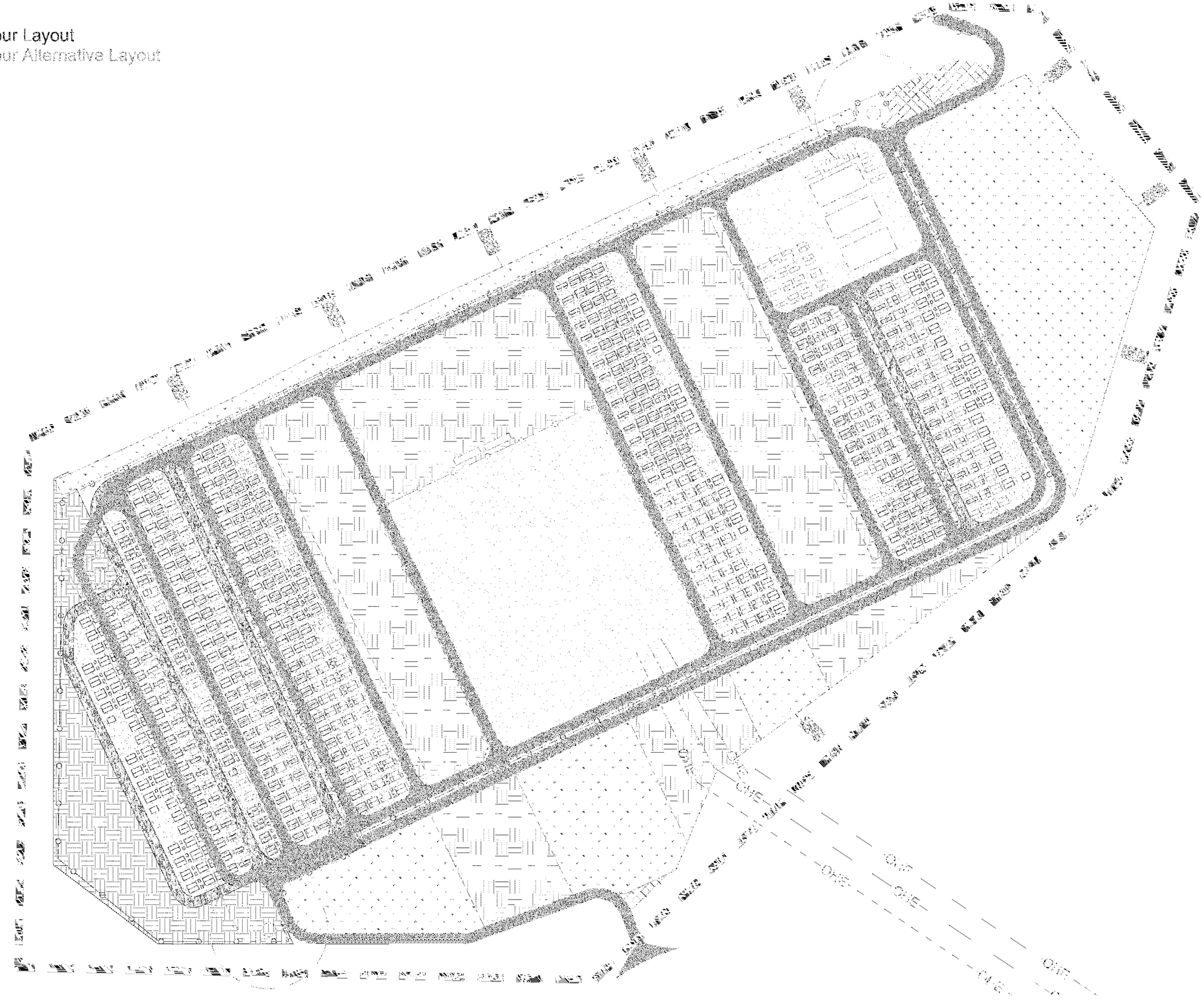
SHEET NO:

C-1.0A

SHEET OF

POVI 0002837

400-MW, 8-Hour Layout
400-MW, 4-Hour Alternative Layout



SYSTEM SUMMARY – Proposed Potentia-Viridi BESS (TN 261401)

Energy Storage System (ESS) Quantity 1,000

Power Conversion System (PCS) Units 140

Battery Capacity 400 MW/3,200 MWh

BESS Yard 13.3 ac.

Project Substation 5.4 ac.

Access Roads 7.1 ac.

Laydown Yard 14.0 ac.

O&M area, including bldgs. 1.8 ac.

Stormwater areas 9.0 ac.

Stormwater outfall 0.6 ac.

Other 7.6 ac. (includes sloped areas to grading daylight & 6-ft. buffer to limits of disturbance)

TOTAL DISTURBED AREA 58.8 ac.

SYSTEM SUMMARY – Reduced Capacity Alternative (TN 264183)

ESS Quantity 864

PCS Units 144

Battery Capacity 400 MW/1,600 MWh

BESS Yard 12.1 ac.

Project Substation 5.4 ac.

Access Roads 7.7 ac.

Laydown Yard 11.5 ac.

O&M Area, including bldgs. 1.8 ac.

Stormwater Areas 9.0 ac.

Stormwater Outfall 0.6 ac.

Other 5.4 ac.

TOTAL DISTURBED AREA 55.8 ac.

Message

From: Akoth, Siprose (Vanessa) [siprose_akoth@fws.gov]
Sent: 6/25/2025 3:44:47 PM
To: Di Loreto, Matthew J CIV USARMY CESPK (USA) [matthew.j.diloreto@usace.army.mil]
CC: cespn-regulatory-info@usace.army.mil; LMcLeod@capstoneinfra.com; cjohnson@integral-corp.com; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Giblin, Bridget E [bridget_giblin@fws.gov]; Olah, Ryan [ryan_olah@fws.gov]
Subject: 2024-0094382 Potentia Viridi Battery Project
Attachments: 2024-0094382 Potentia Viridi Battery Project.pdf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning Matthew,

Attached is the PDF of the above. If you have any questions, please contact Bridget Giblin. Thank you.

Siprose "Vanessa" Akoth
Executive Secretary
Sacramento Fish and Wildlife Office
2800 Cottage Way 2605, Sacramento, CA.
Office: 916-414-6700

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 Tesla 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)
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

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Message

From: Kelly Strain [kstrain@capstoneinfra.com]
Sent: 6/23/2025 4:25:20 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Hinde, Jeanine@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9c0ae7bada0b407ea37a2eb74920f763-Hinde, Jean]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Kerr, Steven@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d0d5a66bed2249fca830918f58b3b921-Kerr, Steve]
Subject: RE: PoVI Alternatives; reduced capacity alternative, request for modified exhibit
Attachments: 25.06.19 Alternatives Overlay.pdf; 232059 X-Site Plan - Alternatives.kmz

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Eric,

Attached you will find the Reduced Capacity Alternative KMZ file and PDF with the overlay of the two site plans per your request. Please let us know if have any questions.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: June 19, 2025 8:39 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Hinde, Jeanine@Energy <Jeanine.Hinde@Energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Kerr, Steven@Energy <Steven.Kerr@energy.ca.gov>
Subject: PoVI Alternatives; reduced capacity alternative, request for modified exhibit

Hi Kelly,

I am going to do my best to convey this just as it was indicated to me, and I thank Jeanine for her clear message. The conceptual site plan you provided in your responses for a Reduced Capacity Alternative does not vary much from the proposed site plan in the application materials. We have asked our CEC cartography group if they can create a figure that superimposes the two to create a study figure, because it is a bit difficult to tell where the two plans differ. To facilitate creating the figure, would you please provide raw GIS files that our folks can use to create a combined figure, an overlay if you will, for discussion purposes.

We are meeting internally with BIO folks next Wednesday to discuss. To provide time for cartography to create the figure, I am requesting the GIS files by Monday afternoon. If you can create the superimposed figure and provide it to us, that would be even better.

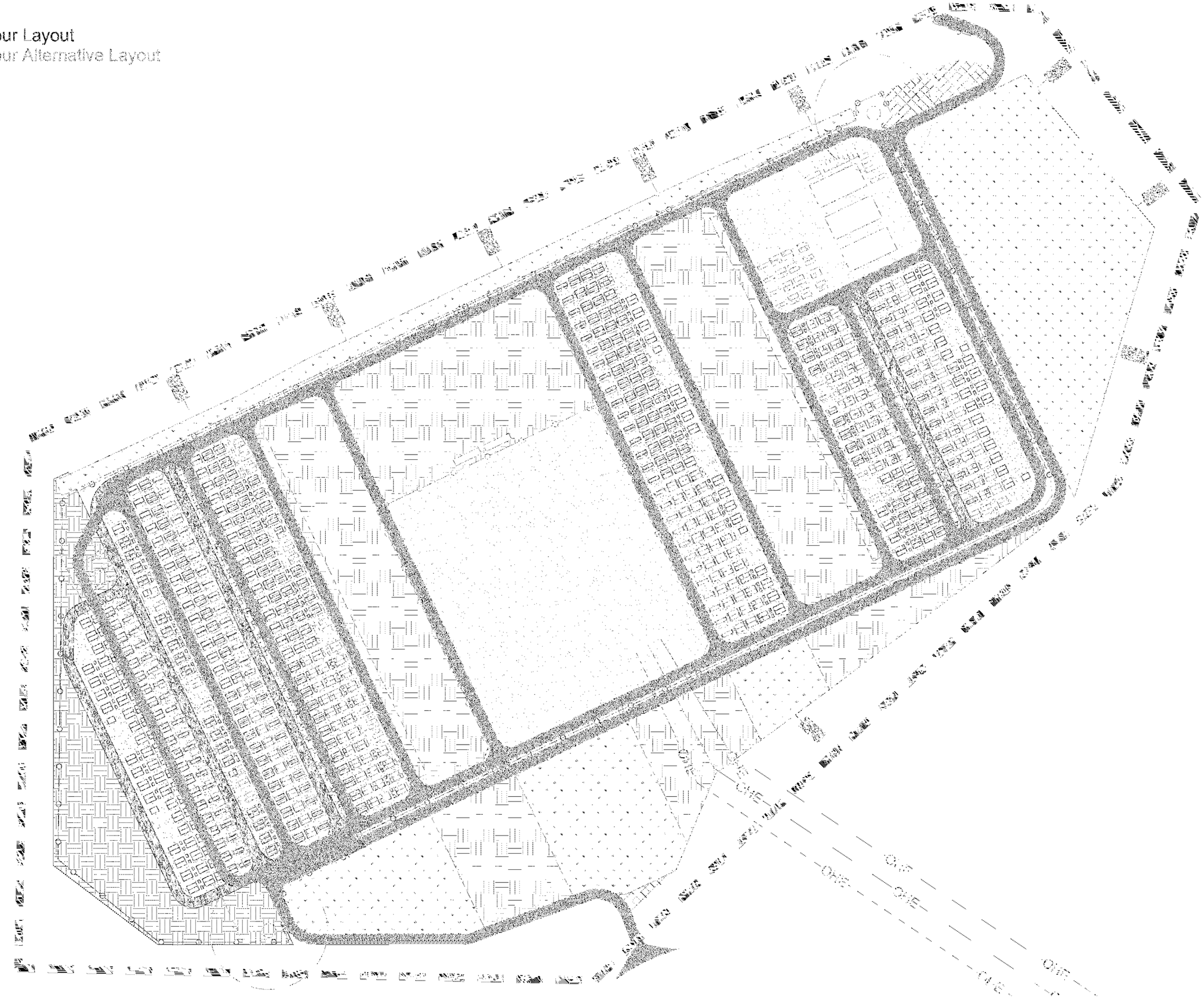
Thanks so much.

P.S. I plan to have an answer for you on the issue of the water boards application fee by COB today.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

400-MW, 8-Hour Layout

400-MW, 4-Hour Alternative Layout



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 Tesla 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)
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

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9 July 2025

Patrick Leitch
Levy Alameda, LLC
155 Wellington Street, Suite 2930
Toronto, Ontario, M5V 3H1, Canada
PLeitch@capstoneinfra.com

NOTIFICATION OF A COMPLETE SECTION 401 WATER QUALITY CERTIFICATION APPLICATION; LEVY ALAMEDA, LLC, POTENTIA-VIRIDI BATTERY ENERGY STORAGE SYSTEM PROJECT (PV-BESS) (WDID#5B01CR00050), ALAMEDA COUNTY

Thank you for submitting an application for Section 401 Water Quality Certification (Certification) for the Potentia-Viridi Battery Energy Storage System Project (PV-BESS) (Project) dated 17 June 2025. Based on review of the above materials submitted, the application appears to be complete. Central Valley Regional Water Quality Control Board staff will be preparing a Certification for the Project.

Pursuant to title 23, section 3856, subdivision (b) of the California Code of Regulations, "[a] full, technically accurate description, including the purpose and final goal, of the entire activity" must be provided before an application will be considered "complete." If there are any changes to the Project, your application may be deemed incomplete, and we may contact you for other information to assist us in preparing the Certification.

Pursuant to California Code of Regulations, Title 23, section 3856, subdivision f, a copy of any draft CEQA document(s) prepared for the activity shall be submitted to the certifying agency. A valid CEQA document, which includes the final CEQA document and a Notice of Determination filed with the State Clearinghouse, while not required for a complete application, must be provided and the certifying agency shall have ample time to properly review a final copy of valid CEQA documentation before taking a certification action.

Failure to submit valid CEQA documentation may result in a denial without prejudice. The denial without prejudice is issued for procedural rather than substantive reasons, and carries with it no judgement on the technical merits of the activity.

When submitting materials related to this application, please reference the Project name and WDID number as shown in the subject line. The materials must be converted to a searchable portable document in PDF format. Please submit the required materials

electronically to CentralValleySacramento@waterboards.ca.gov. Documents that are 50 MB or larger should be transferred to a disk and mailed to the address listed below.

Attention: Jenna Yang
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6114

Please contact Jenna Yang immediately at (916) 464-4764 or at Jenna.Yang@waterboards.ca.gov if you have any questions or if there are changes to the project description.

Stephanie Tadlock
Senior Environmental Scientist
401 Water Quality Certification Unit

cc: [Via email only]

Matthew Di Loreto (SPK-2024-00486)
United States Army Corps of Engineers
Sacramento District Office
Regulatory Division
Matthew.J.DiLoreto@usace.army.mil
SPKRegulatoryMailbox@usace.army.mil

United States Environmental Protection Agency
R9CWA401@epa.gov

CWA Section 401 WQC Program
State Water Resources Control Board
StateBoard401@waterboards.ca.gov

Ann Crisp
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Ann.Crisp@energy.ca.gov

Naomi Schowalter
Integral Consulting Inc.
NSchowalter@integral-corp.com

Message

From: Kelly Strain [kstrain@capstoneinfra.com]
Sent: 7/10/2025 6:15:51 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
CC: Ronelle Candia [rcandia@dudek.com]
Subject: RE: PoVI project, CEC status for data completeness

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello, Eric and Ann~

We are just checking in to see if the CEC or CDFW has any additional questions for us, or clarification to some of the topics discussed in Tuesday's meeting. Eric's email below indicated we would have your data completeness decision by today, July 10; however, it also states ***Friday***, July 10. Perhaps you meant Friday, July 11. In the meantime, we are working on responses / revisions to our previously submitted Bio DR responses to address the Tuesday meeting CEC and CDFW's comments.

Please let me know if you have any questions.

Sincerely,

Kelena Strain
Environmental & Permitting Manager

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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: June 23, 2025 11:44 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI project, CEC status for data completeness

Hi Kelly,
Please allow to me to update you with our staff process for data completion; I have conveyed this information to the team and they are working towards these dates.

The responses you provided to the CEC Rev-1 DRs completed filing on Wednesday, June 11. Ann Crisp, the Biological Resources supervisor has requested that our partners at CDFW provide any comment on the BIO responses (filed on 6/10) by Tuesday, July 1. This in in accordance with our inter-agency agreement with CDFW. Following that, I have requested

staff target their data completeness decision by Friday, July 10 or before. Staff is working going through the responses; Biological Resources would likely be the last discipline to be completed, due to the coordination with CDFW.

At this point, no specific issues to share. If you are ok with it, I suggest we could pass on the meeting tomorrow, 6/24.

Thanks.

P.S. You beat me to it with your email earlier.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

Message

From: Yang, Jenna@Waterboards [Jenna.Yang@Waterboards.ca.gov]
Sent: 7/10/2025 7:14:38 PM
To: pleitch@capstoneinfra.com
CC: Di Loreto, Matthew J CIV USARMY CESPK (USA) [matthew.j.diloreto@usace.army.mil]; SPKRegulatoryMailbox [spkregulatorymailbox@usace.army.mil]; R9cwa401 [r9cwa401@epa.gov]; WB-DWQ-Stateboard401 [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=99458b7784134f4184ab349a6fd7a6e5-Waterboards]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Naomi Schowalter [nschowalter@integral-corp.com]
Subject: Notice of Complete Application - Potentia-Viridi Battery Energy Storage System - 5B01CR00050
Attachments: 5B01CR00050_NOCA.pdf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon,

Thank you for submitting an application to enroll under Section 401 Water Quality Certification for the Potentia-Viridi Battery Energy Storage System Project (PV-BESS), WDID: 5B01CR00050. See attached for a Notification of Complete Section 401 Water Quality Certification Application.

Please let me know if you have any questions.

CALIFORNIA Water Boards

Jenna Yang
Water Resource Control Engineer

R5 CENTRAL VALLEY - SACRAMENTO
R5 Point Source Permitting

Email: Jenna.Yang@Waterboards.ca.gov
Phone: +1 (916) 464-4764

Regional Water Quality Control Boards
11020 Sun Center Drive, Suite 200, Rancho Cordova CA 95760
Website: www.waterboards.ca.gov

Follow: X | YouTube | Facebook | LinkedIn

9 July 2025

Patrick Leitch
Levy Alameda, LLC
155 Wellington Street, Suite 2930
Toronto, Ontario, M5V 3H1, Canada
PLeitch@capstoneinfra.com

NOTIFICATION OF A COMPLETE SECTION 401 WATER QUALITY CERTIFICATION APPLICATION; LEVY ALAMEDA, LLC, POTENTIA-VIRIDI BATTERY ENERGY STORAGE SYSTEM PROJECT (PV-BESS) (WDID#5B01CR00050), ALAMEDA COUNTY

Thank you for submitting an application for Section 401 Water Quality Certification (Certification) for the Potentia-Viridi Battery Energy Storage System Project (PV-BESS) (Project) dated 17 June 2025. Based on review of the above materials submitted, the application appears to be complete. Central Valley Regional Water Quality Control Board staff will be preparing a Certification for the Project.

Pursuant to title 23, section 3856, subdivision (b) of the California Code of Regulations, "[a] full, technically accurate description, including the purpose and final goal, of the entire activity" must be provided before an application will be considered "complete." If there are any changes to the Project, your application may be deemed incomplete, and we may contact you for other information to assist us in preparing the Certification.

Pursuant to California Code of Regulations, Title 23, section 3856, subdivision f, a copy of any draft CEQA document(s) prepared for the activity shall be submitted to the certifying agency. A valid CEQA document, which includes the final CEQA document and a Notice of Determination filed with the State Clearinghouse, while not required for a complete application, must be provided and the certifying agency shall have ample time to properly review a final copy of valid CEQA documentation before taking a certification action.

Failure to submit valid CEQA documentation may result in a denial without prejudice. The denial without prejudice is issued for procedural rather than substantive reasons, and carries with it no judgement on the technical merits of the activity.

When submitting materials related to this application, please reference the Project name and WDID number as shown in the subject line. The materials must be converted to a searchable portable document in PDF format. Please submit the required materials

electronically to CentralValleySacramento@waterboards.ca.gov. Documents that are 50 MB or larger should be transferred to a disk and mailed to the address listed below.

Attention: Jenna Yang
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6114

Please contact Jenna Yang immediately at (916) 464-4764 or at Jenna.Yang@waterboards.ca.gov if you have any questions or if there are changes to the project description.

Stephanie Tadlock
Senior Environmental Scientist
401 Water Quality Certification Unit

cc: [Via email only]

Matthew Di Loreto (SPK-2024-00486)
United States Army Corps of Engineers
Sacramento District Office
Regulatory Division
Matthew.J.DiLoreto@usace.army.mil
SPKRegulatoryMailbox@usace.army.mil

United States Environmental Protection Agency
R9CWA401@epa.gov

CWA Section 401 WQC Program
State Water Resources Control Board
StateBoard401@waterboards.ca.gov

Ann Crisp
California Energy Commission
Ann.Crisp@energy.ca.gov

Naomi Schowalter
Integral Consulting Inc.
NSchowalter@integral-corp.com

Message

From: Chang, Kaycee@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DD3D2FC8670840BDA4ACDC455903E787-CHANG, KAYC]
Sent: 7/10/2025 8:17:19 PM
To: Kelly Strain [kstrain@capstoneinfra.com]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
CC: Ronelle Candia [rcandia@dudek.com]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]
Subject: Re: PoVI project, CEC status for data completeness

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Thank you,
Kaycee

Kaycee Chang (she, her, hers)
Supervisor
Siting, Transmission, and Environmental Protection Division
Book time to meet with me

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Thursday, July 10, 2025 11:15 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: PoVI project, CEC status for data completeness

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Sincerely,

Kelsey Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 838-6340
Facsimile +1 (416) 618-1995
Email kstrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

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Eric W. Veerkamp
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California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov

www.energy.ca.gov

Message

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To: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Kelly Strain [kstrain@capstoneinfra.com]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
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Thank you Kelly.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
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Siting, Transmission, and Environmental Protection Division
Book time to meet with me

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Please let me know if you have any questions.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 795-5340
Facsimile +1 (416) 649-1855
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: June 23, 2025 11:44 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rps@euro-windenergy.com>
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Thanks.

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Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

Message

From: Kelly Strain [kstrain@capstoneinfra.com]
Sent: 7/16/2025 11:36:02 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
CC: Ronelle Candia [rcandia@dudek.com]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Joel Moore [Jmoore@moore-devservices.com]
Subject: RE: PoVI project, CEC status for data completeness

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Good afternoon, Eric~

We had a successful meeting today and we anticipate having the following items revised and submitted to the CEC by this Friday, July 18:

- ITP redlined version addressing CBB
- LSAA updated figure and possible redlined LSAA document
- Mitigation lands biological resources assessment document and DR Bio-1 response (I will reconfirm this tomorrow as we need input from Westervelt)

Please let us know if you have any questions or need additional data not indicated above.

Sincerely,

Kelena Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 839-5540
Facsimile +1 (416) 618-1995
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 16, 2025 8:13 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <Jmoore@moore-devservices.com>
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Good Morning,

Thank you for the information. If not overly burdensome, sharing a brief list of the items you plan to include in the resubmittals in an email would help our team to confirm what to expect. The submittal of the information itself is best filed to the docket. If this does not cover it, please let me know.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Tuesday, July 15, 2025 3:35 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

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Hello, Eric

Thank you for the update. Yes, we are meeting tomorrow to wrap up the outstanding data request indicated below. Many of our critical team members were out on vacation so we had a slight delay. I believe we can quickly triage these remaining items and have a response to you either later this week or early next week. I will know more tomorrow after our meeting at 11:00 AM PDT and provide a more accurate date of submittal. Are we to simply email you the responses, or do you prefer they be uploaded to the docket?

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 899-6340
Facsimile +1 (424) 675-1335
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Web www.capstoneinfrastructure.com

Los Angeles, California

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Sent: July 15, 2025 3:27 PM

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To: Kelene Strain [kstrain@capstoneinfra.com]; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]

CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]

Subject: PoVI, Request for Information, follow up to REV-1 Data Requests, Air Quality and Public Health

Hi Kelly,

For Potentia-Viridi 24-OPT-IN-04 the CEC is requesting clarifying information for Air Quality and Public Health. Staff has noted these items are for additional clarification; therefore, the CEC is sending this email (rather than another round of data requests), which will be filed to the docket, as will responses.

Please reference the REV-1 Data Requests, issued on April 7, 2025; responses to those data requests were received on May 30, 2025 (TN 263584). For all items below, please refer back to the previous DRs and Responses or previously submitted tracking numbers (TN's).

Please provide responses to the following requests for information as soon as possible. If you have any questions about these items, let us know. If we need to, we can meet with appropriate technical staff for clarification.

:Air Quality and Public Health

1. Rev 1 DR GHG-2 requested the applicant to confirm whether any refrigerant would be used for the building or BESS cooling and requested the specifications if any refrigerant would be used on the project, including GHG emissions calculation due to refrigerant leakage. The applicant provided information for the BESS cooling in response to Rev 1 DR GHG-2 (TN 263584). Please provide information for the buildings' air conditioning system(s).
2. In response to Rev 1 DR GHG-2, the applicant listed three potential suppliers for the BESS thermal management systems (TMS). However, two of the suppliers are proposing to use R-134a (GWP=1430) which has a GWP exceeding the indicated maximum of 750 GWP in the CARB HFC Prohibition Regulation for chillers. Will all the suppliers be able to comply with the HFC prohibition regulation?
3. In Table 26 of the Air Quality and Greenhouse Gas Emissions Technical Report (TN 263584), the applicant states that the project would not be subject to the CALGreen Tier-2 electric vehicle parking requirements. How many parking spaces will be available onsite and explain why the project is not subject to CALGreen Tier 2 EV parking requirements?
4. Reference revised AQ and GHG Technical Report, (TN 263584) Please confirm that the proposed project complies with all applicable city and state green building standards measures, including California Code of Regulations, Title 24, Part 6, baseline standard requirements for energy efficiency, based on the 2022 Energy Efficiency Standards requirements, and the 2022 California Green Building Standards Code, commonly referred to as CALGreen (California Code of Regulations, Title 24, Part 11).
5. The applicant provided information from three BESS suppliers (TN 263584). Please provide the total number of cells and modules per container for each BESS supplier.

Staff expects to send two more emails to you requesting clarification, one for Biological Resources (minus the items expected to be received from you on Friday, 7/19), and one for Net Economic Benefits (a component of Mandatory Opt-In requirements).

Thank you.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission

916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From:	Veerkamp, Eric@Energy
To:	kstrain@capstoneinfra.com; Ronelle Candia; Rocio Perez
Cc:	Chang, Kaycee@Energy
Bcc:	Giorgi, Erika@Energy; Ponce, Mariah@Energy
Subject:	PoVI, Request for Information, follow up to REV-1 Data Requests, Air Quality and Public Health
Date:	Thursday, July 17, 2025 2:15:00 PM
Attachments:	image001.png

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Please file your responses to the docket. If you have any questions about these items, let us know. If we need to, we can meet with appropriate technical staff for clarification.

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Thank you.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

Message

From: Kelly Strain [kstrain@capstoneinfra.com]
Sent: 7/8/2025 5:48:39 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Paul Miller [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4d4ce365f8bd442a8cb7d479381e2476-8906af8e-0e]
CC: Ronelle Candia [rcandia@dudek.com]; Joel Moore [Jmoore@moore-devservices.com]; Lauren McLeod [LMcLeod@capstoneinfra.com]; Paul Miller [pam@eurowindenergy.com]
Subject: FW: Potentia-Viridi Battery Energy Storage System (BESS)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Kaycee, Eric, and Paul~

Below is the most recent correspondence with Chief Nichols.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 839-5510
Facsimile +1 (416) 618-1995
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Nichols, Jeff@CALFIRE <Jeff.Nichols@fire.ca.gov>
Sent: May 5, 2025 6:34 PM
To: Kelly Strain <kstrain@capstoneinfra.com>
Subject: Re: Potentia-Viridi Battery Energy Storage System (BESS)

Hello Kelly,

I am being told by my supervisor that this was supposed to be handled with the Fire Marshals Office in Sacramento. I am not sure if this has been handed off to them. I am unfortunately not available this week. I will be on vacation and will be back on duty starting May 16th. Let me check with my Chief to see if he has any more information regarding this. I forwarded the last email to him but have not heard anything back on this.

Thank you for your time,

Jeff Nichols

Battalion Chief – Santa Clara Unit

Battalion 4 - Alameda County

11345 Pleasanton Sunol Road, Sunol, Ca 94586

(925)862-2197 Office

(408)472-1614 Cell

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Friday, May 2, 2025 4:55 PM
To: Nichols, Jeff@CALFIRE <Jeff.Nichols@fire.ca.gov>
Subject: FW: Potentia-Viridi Battery Energy Storage System (BESS)

Good afternoon, Jeff

Nice to connect with you again. As you can see below, we are processing our Potentia-Viridi Battery Energy Storage System Project though the CEC's Opt-In Certification Program. It appears you have been in contact with Paul Miller (RCH Group) regarding our project, and he has provided you the attached documents. We were informed by the CEC that CalFire is indeed the AHJ for our project, and we would greatly value meeting with you to further discussions regarding our project. Please let me know if you are available this week or next to meet via Teams or Zoom.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 539-6340
Facsimile +1 (818) 612-1445
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: April 29, 2025 1:10 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Subject: FW: Potetentia-Viridi Battery Energy Storage System (BESS)

Kelly,
For your use as we discussed on the phone today.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Paul Miller <pmiller@therchgroup.com>
Sent: Monday, April 28, 2025 9:53 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Fooks, Brett@Energy <Brett.Fooks@energy.ca.gov>
Subject: FW: Potetentia-Viridi Battery Energy Storage System (BESS)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

FYI – my communication with Jeff Nichols

From: Paul Miller
Sent: Monday, April 14, 2025 3:15 PM
To: 'Jeff.nichols@fire.ca.gov' <Jeff.nichols@fire.ca.gov>
Cc: Fooks, Brett@Energy <Brett.Fooks@energy.ca.gov>; Daniel Jones <Djones@therchgroup.com>
Subject: Potetentia-Viridi Battery Energy Storage System (BESS)

Chief Nichols,

Thanks for providing your email. I am attaching some key information about the project.

1. Project Description
2. Attachment 11 – Fire Protection Tech Assistance Report (I added the yellow highlighted texts – for my own review)
3. Attachment 26 – most current Fire Master Plan

All these are in the CEC official docket for the project.

Bonny Terra (ACFD) indicated that they will defer to CAL FIRE based on the location of the project.

The CEC looks forward to your review and comments on the Site Plan and any CAL FIRE needs for this project.

After you have had a chance to review these materials, we should set up a virtual call to get your initial thoughts. CEC will be the Lead Agency on the environmental document, which will be published no sooner than 5 months from now.

On the call we will further describe the OPT-In process – a new certification process that applies to battery energy storage systems --being used for this project. It is a streamlined process for energy projects.

Looking forward to meeting with you and receiving your feedback.

Let us know if you have any follow-up questions and potential times when we can do a virtual call and answer any of your questions.

Paul Miller
Managing Principal
pmiller@TheRCHGroup.com
(916) 212-9600 Cell

Message

From: Kelly Strain [KStrain@capstoneinfra.com]
Sent: 7/8/2025 6:08:12 PM
To: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Paul Miller [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4d4ce365f8bd442a8cb7d479381e2476-8906af8e-0e]
CC: Paul Miller [pam@eurowindenergy.com]; Lauren McLeod [LMcLeod@capstoneinfra.com]; Joel Moore [jmoore@moore-devservices.com]
Subject: FW: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

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Eric, Kaycee, and Paul~

We received the following additional correspondence from Calfire. It should be noted we were previously told by Alameda County Fire that our Project is under Calfire jurisdiction. This information was previously provided to Eric Veerkamp.

Sincerely,

Kelene Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 293-5240
Facsimile +1 (424) 849-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: CALFIRE Code Development Public Email <CodeDevelopment@fire.ca.gov>
Sent: April 25, 2025 10:07 AM
To: Kelly Strain <KStrain@capstoneinfra.com>
Subject: RE: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

This Message Is From an Untrusted Sender Report Suspicious
You have not previously corresponded with this sender.

Hi Kelene,

I was able to confirm the Fire Authority for your project. Here is a link to their webpage, where you can verify and submit plans.

Fire Prevention | Alameda County Fire Department

It was a pleasure helping you contact the correct AHJ. Please let me know if I can be of further assistance.

Cheers,

Jena Garcia
Deputy State Fire Marshal III (Supervisor)
Code Development and Analysis
602 E. Huntington Dr. Ste A Monrovia CA. 91016
(916) 531-7650 Cell

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Friday, April 25, 2025 9:59 AM
To: CALFIRE Code Development Public Email <CodeDevelopment@fire.ca.gov>
Subject: RE: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

Here is the project site address: 17257 PATTERSON PASS RD MOUNTAIN HOUSE 95377

From: Kelly Strain
Sent: April 25, 2025 9:57 AM
To: CodeDevelopment@fire.ca.gov
Subject: RE: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

Here is a link to our project going through California Energy Commission:

https://www.energy.ca.gov/powerplant/energy-storage-system/potentia-viridi-battery-energy-storage-system

Thank you,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 388 5360
Facsimile +1 (424) 675 1337
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: April 24, 2025 12:47 PM
To: CodeDevelopment@fire.ca.gov
Subject: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

Good afternoon,

We are seeking input on our proposed Potentia Viridi – battery energy storage Project in Alameda County. As you can see below, we were working with Steven Blythe with CalFire, however, he directed us to your division. Would you be so kind as to provide a contact number and name for us to reach out to?

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 899 5140
Facsimile +1 (415) 643-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Blythe, Steven@CALFIRE <Steven.Blythe@fire.ca.gov>
Sent: March 19, 2025 10:13 AM
To: Kelly Strain <KStrain@capstoneinfra.com>
Subject: Re: Potentia Viridi - BEES Project in Alameda County - Meeting Request

Kelly,
I have reached out to the Office of the State Fire Marshall, and I have included their contact information below for you. My recommendation is for you to contact them for your needs and further communication as they will be having oversight on this project. Let me know if you have any questions.

Code Development and Analysis Division
Sacramento Office
P.O. Box 944246
Sacramento, CA 94244
(916) 568-3800
CodeDevelopment@fire.ca.gov

Thank you,

Steven Blythe

Assistant Chief - Santa Clara Unit

East Bay Operations

15670 Monterey Rd. Morgan Hill, CA 95037

(408) 472-1604 Cell

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Tuesday, March 4, 2025 7:40 AM
To: Blythe, Steven@CALFIRE <Steven.Blythe@fire.ca.gov>
Subject: FW: Potentia Viridi - BEES Project in Alameda County - Meeting Request

Good morning, Steven

Just checking in to see if you have any questions regarding my previous email and the attached documents. Also, we would like to meet with you to discuss the revisions in these documents and address any concerns CalFire may have regarding our Potentia Viridi Project. We would be happy to meet with you in person, or we can meet via Zoom or Teams, which ever you prefer. Please let us know what days and times work best for you.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 833 5310
Facsimile +1 (415) 670-1355
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: February 18, 2025 9:21 AM
To: Blythe, Steven@CALFIRE <Steven.Blythe@fire.ca.gov>
Cc: Paul Miller <parn@eurowindenergy.com>; Rocio Perez <rpe@eurowindenergy.com>
Subject: Potentia Viridi - BEES Project in Alameda County - Meeting Request

Good morning, Steven

While the California Energy Commission provided the attached revised Project Fire Master Plan, Emergency Response Plan, and Fire Protection Technical Assistance Report, we believe it best to also provide copies directly to you. Also, we would like to meet with you to discuss the revisions in these documents and address any concerns CalFire may have regarding our Potentia Viridi Project. We would be happy to meet with you in person, or we can meet via Zoom or Teams, which ever you prefer. Please let us know what days and times work best for you.

Please let me know if you have any questions.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 499-5740
Facsimile +1 (415) 670-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

Message

From: Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent: 7/15/2025 8:30:03 PM
To: Kelly Strain [KStrain@capstoneinfra.com]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Paul Miller [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4d4ce365f8bd442a8cb7d479381e2476-8906af8e-0e]
CC: Fooks, Brett@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=870df74143964b71ada0039bf13c5a9a-Fooks, Bret]
Subject: RE: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

All,
With Paul Miller's help, I forwarded the text string, email conversations that Paul had with Jeff Nichols at CalFine about this project. Kelly indicated that was good information to allow them to confirm the path with CalFire. Brett, perhaps we need to get on the phone with the agencies to put this issue to bed once and for all because it sounds like someone is not receiving clear communication about responsibility for PoVI.

Let me know what you thing.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Tuesday, July 8, 2025 11:08 AM
To: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Paul Miller <pmiller@therchgroup.com>
Cc: Paul Miller <pam@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Joel Moore <jmoore@moore-devservices.com>
Subject: FW: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

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Eric, Kaycee, and Paul~

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Sincerely,

Kelene Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 399-8340
Facsimile +1 (415) 849-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

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Fire Prevention | Alameda County Fire Department

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Cheers,

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Deputy State Fire Marshal III (Supervisor)
Code Development and Analysis
602 E. Huntington Dr. Ste A Monrovia CA. 91016
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Thank you,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 899 5140
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Email KStrain@capstoneinfra.com
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Los Angeles, California

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Kelsie Strain
Environmental & Permitting Manager

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Web www.capstoneinfrastructure.com

Los Angeles, California

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P.O. Box 944246
Sacramento, CA 94244
(916) 568-3800
CodeDevelopment@fire.ca.gov

Thank you,

Steven Blythe

Assistant Chief - Santa Clara Unit

East Bay Operations

15670 Monterey Rd. Morgan Hill, CA 95037

(408) 472-1604 Cell

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Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 809-5740
Facsimile +1 (415) 813-1005
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: February 18, 2025 9:21 AM
To: Blythe, Steven@CALFIRE <Steven.Blythe@fire.ca.gov>
Cc: Paul Miller <pam@eurowindenergy.com>; Rocio Perez <rpe@eurowindenergy.com>
Subject: Potentia Viridi - BEES Project in Alameda County - Meeting Request

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Please let me know if you have any questions.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 399-5840
Facsimile +1 (424) 249-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

Message

From: Kelly Strain [KStrain@capstoneinfra.com]
Sent: 7/15/2025 8:32:48 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Paul Miller [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4d4ce365f8bd442a8cb7d479381e2476-8906af8e-0e]
CC: Fooks, Brett@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=870df74143964b71ada0039bf13c5a9a-Fooks, Bret]; Paul Miller [pam@eurowindenergy.com]; Rocio Perez [rpe@eurowindenergy.com]; Lauren McLeod [LMcLeod@capstoneinfra.com]; Ronelle Candia [rcandia@dudek.com]
Subject: RE: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Thank you for following up on this CalFire matter, Eric.

Yes, please do reach out to them and let me know if you need anything from us.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 839-5540
Facsimile +1 (416) 613-1945
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 15, 2025 1:30 PM
To: Kelly Strain <KStrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Paul Miller <pmiller@therchgroup.com>
Cc: Fooks, Brett@Energy <Brett.Fooks@energy.ca.gov>
Subject: RE: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

All,
With Paul Miller's help, I forwarded the text string, email conversations that Paul had with Jeff Nichols at CalFine about this project. Kelly indicated that was good information to allow them to confirm the path with CalFire. Brett, perhaps we need to get on the phone with the agencies to put this issue to bed once and for all because it sounds like someone is not receiving clear communication about responsibility for PoVI.

Let me know what you thing.

Eric W. Veerkamp
Project Manager
STEP Division

California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Tuesday, July 8, 2025 11:08 AM
To: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Paul Miller <pmiller@therchgroup.com>
Cc: Paul Miller <pam@eurowindenergy.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Joel Moore <jmoore@moore-devservices.com>
Subject: FW: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

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Eric, Kaycee, and Paul~

We received the following additional correspondence from Calfire. It should be noted we were previously told by Alameda County Fire that our Project is under Calfire jurisdiction. This information was previously provided to Eric Veerkamp.

Sincerely,

Kelene Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 393 5040
Facsimile +1 (416) 849 1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: CALFIRE Code Development Public Email <CodeDevelopment@fire.ca.gov>
Sent: April 25, 2025 10:07 AM
To: Kelly Strain <KStrain@capstoneinfra.com>
Subject: RE: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender. Report suspicious

Hi Kelene,

I was able to confirm the Fire Authority for your project. Here is a link to their webpage, where you can verify and submit plans.

Fire Prevention | Alameda County Fire Department

It was a pleasure helping you contact the correct AHJ. Please let me know if I can be of further assistance.

Cheers,

Jena Garcia
Deputy State Fire Marshal III (Supervisor)
Code Development and Analysis
602 E. Huntington Dr. Ste A Monrovia CA. 91016
(916) 531-7650 Cell

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Friday, April 25, 2025 9:59 AM
To: CALFIRE Code Development Public Email <CodeDevelopment@fire.ca.gov>
Subject: RE: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

Here is the project site address: 17257 PATTERSON PASS RD MOUNTAIN HOUSE 95377

From: Kelly Strain
Sent: April 25, 2025 9:57 AM
To: CodeDevelopment@fire.ca.gov
Subject: RE: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

Here is a link to our project going through California Energy Commission:

https://www.energy.ca.gov/powerplant/energy-storage-system/potentia-viridi-battery-energy-storage-system

Thank you,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 496-5240
Facsimile +1 (415) 670-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: April 24, 2025 12:47 PM

To: CodeDevelopment@fire.ca.gov
Subject: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

Good afternoon,

We are seeking input on our proposed Potentia Viridi – battery energy storage Project in Alameda County. As you can see below, we were working with Steven Blythe with CalFire, however, he directed us to your division. Would you be so kind as to provide a contact number and name for us to reach out to?

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 833 5340
Facsimile +1 (415) 670-1355
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Blythe, Steven@CALFIRE <Steven.Blythe@fire.ca.gov>
Sent: March 19, 2025 10:13 AM
To: Kelly Strain <KStrain@capstoneinfra.com>
Subject: Re: Potentia Viridi - BEES Project in Alameda County - Meeting Request

Kelly,
I have reached out to the Office of the State Fire Marshall, and I have included their contact information below for you. My recommendation is for you to contact them for your needs and further communication as they will be having oversight on this project. Let me know if you have any questions.

Code Development and Analysis Division
Sacramento Office
P.O. Box 944246
Sacramento, CA 94244
(916) 568-3800
CodeDevelopment@fire.ca.gov

Thank you,

Steven Blythe

Assistant Chief - Santa Clara Unit

East Bay Operations

15670 Monterey Rd. Morgan Hill, CA 95037

(408) 472-1604 Cell

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Tuesday, March 4, 2025 7:40 AM
To: Blythe, Steven@CALFIRE <Steven.Blythe@fire.ca.gov>
Subject: FW: Potentia Viridi - BEES Project in Alameda County - Meeting Request

Good morning, Steven

Just checking in to see if you have any questions regarding my previous email and the attached documents. Also, we would like to meet with you to discuss the revisions in these documents and address any concerns CalFire may have regarding our Potentia Viridi Project. We would be happy to meet with you in person, or we can meet via Zoom or Teams, which ever you prefer. Please let us know what days and times work best for you.

Sincerely,

Kelena Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 899 5140
Facsimile +1 (415) 643-1365
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: February 18, 2025 9:21 AM
To: Blythe, Steven@CALFIRE <Steven.Blythe@fire.ca.gov>
Cc: Paul Miller <pam@eurowindenergy.com>; Rocio Perez <rpe@eurowindenergy.com>
Subject: Potentia Viridi - BEES Project in Alameda County - Meeting Request

Good morning, Steven

While the California Energy Commission provided the attached revised Project Fire Master Plan, Emergency Response Plan, and Fire Protection Technical Assistance Report, we believe it best to also provide copies directly to you. Also, we would like to meet with you to discuss the revisions in these documents and address any concerns CalFire may have regarding our Potentia Viridi Project. We would be happy to meet with you in person, or we can meet via Zoom or Teams, which ever you prefer. Please let us know what days and times work best for you.

Please let me know if you have any questions.

Sincerely,

Kelana Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 888 5340
Facsimile +1 (415) 649-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

Message

From: Paul Miller [pmiller@therchgroup.com]
Sent: 7/15/2025 8:51:18 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Kelly Strain [KStrain@capstoneinfra.com]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
CC: Fooks, Brett@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=870df74143964b71ada0039bf13c5a9a-Fooks, Bret]; Daniel Jones [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=352cfed2f4d849749d3d8f98a9563279-082cef18-97]
Subject: RE: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

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Eric,
We finally were able to set up a meeting with CalFire on July 8. They clarified that it is Alameda County Fire Department (ACFD) that would have Plan review (notwithstanding AB 205 Opt-in Requirements). We meet with Marcus Hernandez and Steven Blythe of CalFire. They would have no permitting authority and only provide comments when they review plans. They did look over the plans and commented that they would like to see 20' wide access roads.

However, Calfire sent us back to ACFD for more detailed review of plans. We need to get back in touch with Bonnie Terra at ACFD to review compliance with Alameda County codes.

Paul Miller
Managing Principal
pmiller@TheRCHGroup.com
(916) 212-9600 Cell
(916) 782-4427 (All RCH Staff)

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Tuesday, July 15, 2025 1:30 PM
To: Kelly Strain <KStrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Paul Miller <pmiller@therchgroup.com>
Cc: Fooks, Brett@Energy <Brett.Fooks@energy.ca.gov>
Subject: RE: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

All,
With Paul Miller's help, I forwarded the text string, email conversations that Paul had with Jeff Nichols at CalFine about this project. Kelly indicated that was good information to allow them to confirm the path with CalFire. Brett, perhaps we need to get on the phone with the agencies to put this issue to bed once and for all because it sounds like someone is not receiving clear communication about responsibility for PoVI.

Let me know what you thing.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-861-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

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Eric, Kaycee, and Paul~

We received the following additional correspondence from Calfire. It should be noted we were previously told by Alameda County Fire that our Project is under Calfire jurisdiction. This information was previously provided to Eric Veerkamp.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 499-5940
Facsimile +1 (415) 670-1355
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: CALFIRE Code Development Public Email <CodeDevelopment@fire.ca.gov>
Sent: April 25, 2025 10:07 AM
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Subject: RE: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

This Message Is From an Untrusted Sender.
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Report Suspicious

Hi Kelene,

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Fire Prevention | Alameda County Fire Department

It was a pleasure helping you contact the correct AHJ. Please let me know if I can be of further assistance.

Cheers,

Jena Garcia
Deputy State Fire Marshal III (Supervisor)
Code Development and Analysis
602 E. Huntington Dr. Ste A Monrovia CA. 91016
(916) 531-7650 Cell

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Subject: RE: Potentia Viridi - Battery Energy Storage Project in Alameda County - Meeting Request

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https://www.energy.ca.gov/powerplant/energy-storage-system/potentia-viridi-battery-energy-storage-system

Thank you,

Kelene Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 833 5310
Facsimile +1 (310) 849 1337
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

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To: CodeDevelopment@fire.ca.gov
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Environmental & Permitting Manager

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Direct +1 (310) 899 5140
Facsimile +1 (415) 643-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

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Sent: March 19, 2025 10:13 AM
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Code Development and Analysis Division
Sacramento Office
P.O. Box 944246
Sacramento, CA 94244
(916) 568-3800
CodeDevelopment@fire.ca.gov

Thank you,

Steven Blythe

Assistant Chief - Santa Clara Unit

East Bay Operations

15670 Monterey Rd. Morgan Hill, CA 95037

(408) 472-1604 Cell

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Sincerely,

Kelsey Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 399-5870
Facsimile +1 (424) 249-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: February 18, 2025 9:21 AM
To: Blythe, Steven@CALFIRE <Steven.Blythe@fire.ca.gov>
Cc: Paul Miller <pam@eurowindenergy.com>; Rocio Perez <rpe@eurowindenergy.com>
Subject: Potentia Viridi - BEES Project in Alameda County - Meeting Request

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Please let me know if you have any questions.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 399-6340
Facsimile +1 (424) 242-7934
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

Message

From: Paul Miller [pmiller@therchgroup.com]
Sent: 7/15/2025 10:27:24 PM
To: bonnie.terra@acgov.org
CC: Fooks, Brett@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=870df74143964b71ada0039bf13c5a9a-Fooks, Bret]; Daniel Jones [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=352cfed2f4d849749d3d8f98a9563279-082cef18-97]
Subject: Potentia-Viridi Battery Energy Storage System (BESS)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Bonnie Terra,

I am working as contract staff to the California Energy Commission on this energy project that is off Patterson Pass Road near the existing Tesla Substation.

You previous directed me to Chief Nichols at CalFire, but CalFire Marcus Hernandez and Steven Blythe indicate ClaFIre has no permitting authority in that location.
They recommended that ACFD would have permitting authority for the project, absent the authority of CEC by AB 205 (Opt-in program for renewable power plants and BESS).
CEC staff desire as much input as possible from ACFD, including plan review of the BESS proposal.

I would like to suggest a brief Teams/Zoom call with you and my supervisor Brett Fooks and Dan Jones to go over the CEC process with you. It is a fairly new process and we can share what we know; and gain more understanding of what is needed for fire protection for this project. Your input would be invaluable.

If you can suggest any 30 minute slots on your calendar over the next week or two we will be available to discuss the process. We will be attending the Office of State Fire Marshall BESS Safety Symposium on July 24th.

The CEC main page for the project is:
https://www.energy.ca.gov/powerplant/battery-storage-system/potentia-viridi-battery-energy-storage-system

Thank You,

Paul Miller
Managing Principal
pmiller@TheRCHGroup.com
(916) 212-9600 Cell
(916) 782-4427 (All RCH Staff)

Message

From: Terra, Bonnie, ACFD [bonnie.terra@acgov.org]
Sent: 7/15/2025 10:42:56 PM
To: Paul Miller [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4d4ce365f8bd442a8cb7d479381e2476-8906af8e-0e]
CC: Fooks, Brett@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=870df74143964b71ada0039bf13c5a9a-Fooks, Bret]; Daniel Jones [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=352cfed2f4d849749d3d8f98a9563279-082cef18-97]
Subject: RE: Potentia-Viridi Battery Energy Storage System (BESS)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good day,

ACFD is not the permitting authority for this. You will have to get them to review or go through the CEC.

Sincerely,
Bonnie S. Terra, Division Chief
Alameda County Fire
6363 Clark Ave
Dublin, CA. 94568
925-833-3473 ext. 1210

From: Paul Miller <pmiller@therchgroup.com>
Sent: Tuesday, July 15, 2025 3:27 PM
To: Terra, Bonnie, ACFD <bonnie.terra@acgov.org>
Cc: Fooks, Brett@Energy <brett.fooks@energy.ca.gov>; Daniel Jones <Djones@therchgroup.com>
Subject: Potentia-Viridi Battery Energy Storage System (BESS)

Hello Bonnie Terra,

I am working as contract staff to the California Energy Commission on this energy project that is off Patterson Pass Road near the existing Tesla Substation.

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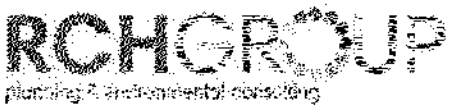
Thank You,

Paul Miller
Managing Principal
pmiller@TheRCHGroup.com
(916) 212-9600 Cell
(916) 782-4427 (All RCH Staff)



** This email was sent from an external source. If you do not know the sender, do not click on links or attachments. **

Message

From: Kelly Strain [KStrain@capstoneinfra.com]
Sent: 7/18/2025 11:04:38 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
CC: Ronelle Candia [rcandia@dudek.com]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Joel Moore [Jmoore@moore-devservices.com]; Palmer, Dana [dpalmer@allenmatkins.com]; Lauren McLeod [LMcLeod@capstoneinfra.com]; Paul Miller [pam@eurowindenergy.com]; Palmer, Dana [dpalmer@allenmatkins.com]
Subject: RE: PoVI project, CEC status for data completeness
Attachments: PVBESS_ITP_fnl_07162025_v3_redline.pdf

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Eric,

Attached you will find the revised ITP. The Redlined LSAA, and the revised mitigation lands biological assessment will be uploaded this weekend or Monday. We are also working on the latest set of DRs pertaining to air quality. We are also seeking clarification on the outstanding public benefits questions as that will greatly aid in our efforts. Our team will provide a thorough response to our desired date for a data completeness deadline of July 31 on Monday.

Please let me know if you have any questions.

Sincerely,

Kelena Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 498 5340
Facsimile +1 (416) 649 1945
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 17, 2025 3:32 PM
To: Kelly Strain <KStrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <Jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

Thanks Kelly,
Our emails kinda crossed in cyber space. I just sent a request for clarification on five items related to Air Quality and Public Health. I appreciate your attentiveness to Biological Resources needs, the substance of which will be used in preparing our second email, minus those items you will be submitting tomorrow, Friday. One additional email requesting clarification on Net Economic Benefits analysis is also undergoing final review.

Your mention of the date of July 31 is the first instance of such a requested date, although our counsel has shared that they recently heard that same date. Our target currently is still late-August. Thank you for your willingness to fill in any remaining data gaps, and there are not many. Are you able to provide any additional substantive background about why that date has been circled as a desired date for a data completeness determination?

Thanks again.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-861-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, July 17, 2025 2:20 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcleod@capstoneinfra.com>; Paul Miller <pain@eurovindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon, Eric~

I am just following up on the voice message I just left you and the email I sent you yesterday. Please let us know if you have any questions or need additional data. The documents indicated below will be submitted tomorrow. We can also commit to resolving any additional data gaps to ensure a deemed complete status by the end of this month, July 31.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

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Los Angeles, California

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: July 16, 2025 4:36 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

Good afternoon, Eric~

We had a successful meeting today and we anticipate having the following items revised and submitted to the CEC by this Friday, July 18:

- ITP redlined version addressing CBB
- LSAA updated figure and possible redlined LSAA document
- Mitigation lands biological resources assessment document and DR Bio-1 response (I will reconfirm this tomorrow as we need input from Westervelt)

Please let us know if you have any questions or need additional data not indicated above.

Sincerely,

Kelena Strain
Environmental & Permitting Manager

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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 16, 2025 8:13 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

Good Morning,
Thank you for the information. If not overly burdensome, sharing a brief list of the items you plan to include in the resubmittals in an email would help our team to confirm what to expect. The submittal of the information itself is best filed to the docket. If this does not cover it, please let me know.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission

916-661-8458
Eric.Veerkamp@energy.ca.gov
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From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Tuesday, July 15, 2025 3:35 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

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Hello, Eric

Thank you for the update. Yes, we are meeting tomorrow to wrap up the outstanding data request indicated below. Many of our critical team members were out on vacation so we had a slight delay. I believe we can quickly triage these remaining items and have a response to you either later this week or early next week. I will know more tomorrow after our meeting at 11:00 AM PDT and provide a more accurate date of submittal. Are we to simply email you the responses, or do you prefer they be uploaded to the docket?

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

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From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 15, 2025 3:27 PM
To: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Kelly Strain <kstrain@capstoneinfra.com>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: PoVI project, CEC status for data completeness

Hi Kelly,
I am reaching out to you as follow up to Kaycee's email below on 7/10. We are still working to resolve remaining outstanding items where CEC still needs additional information.

Staff has completed and is finalizing requests for clarifying information for the following technical areas. For these items, we hope to send to you an email (for later docketing) clarifying several items, very shortly.

- Air Quality and Public Health
- Public Benefit (Net Economic Benefit to the local gov't.)

The following one technical area and corresponding data items are potentially more significant and, in their absence, may be a decision point in our ability to make a determination of completeness. Ann Crisp and her team is meeting today to determine what information is still needed. The difficulty we are facing is that post-completeness determination, our ability to request further project details and information is limited. For this reason, we are trying to ensure we have all the information we need.

- Biological Resources

I also wanted to inquire again from the July 10 email below from Kaycee (highlighted in yellow) held over from the last meeting on July 8. Are you still planning to provide this to us?

Thank you Kelly.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Sent: Thursday, July 10, 2025 1:17 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: Re: PoVI project, CEC status for data completeness

Hi Kelly,

We were checking with our teams on the clarification needed on how to submit the following items as discussed at the July 8th meeting:

- LSAA (Attachment 7) – Resubmit the entire revised notification in track changes/red-line strikethrough
- CBB ITP – Resubmit the entire redline strikethrough ITP
    - Please clarify if the applicant is requesting full take coverage (nests and foraging individuals) or make clear what the applicant expects they can avoid
- Mitigation Lands – Resubmit the relevant subsections in redline strikethrough

Note: Our team is reviewing the data request responses and may have a few follow-up questions.

To help ensure alignment, we'd also appreciate if you could share a list of specific items you plan to include in your resubmittals based on our discussion. This will allow our team to confirm whether anything else may be needed in advance, and help make the process more efficient for everyone by avoiding some back-and-forth later.

Regarding the data completeness decision, please allow me to clarify: we asked our teams to review the data request responses by the end of this week and confirm whether they have all the information needed for their topic areas or if they will have additional data requests. For additional data requests, we plan to transmit those via email once reviewed by management and legal internally, with a request for the responses to be filed to the docket and to include a copy of our original request(s). That said, you should hear more from us next week.

As mentioned below, we may have follow-up questions for bio. I'll also share a heads up that we just received a few questions related to air quality and public health - those are undergoing legal review now. As soon as data requests are ready, we will get them over to you.

Please let me know if you have any questions.

Thank you,
Kaycee

Kaycee Chang (she, her, hers)
Supervisor
Siting, Transmission, and Environmental Protection Division
Book time to meet with me

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Thursday, July 10, 2025 11:15 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: PoVI project, CEC status for data completeness

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Hello, Eric and Ann~

We are just checking in to see if the CEC or CDFW has any additional questions for us, or clarification to some of the topics discussed in Tuesday's meeting. Eric's email below indicated we would have your data completeness decision by today, July 10; however, it also states ***Friday***, July 10. Perhaps you meant Friday, July 11. In the meantime, we are working on responses / revisions to our previously submitted Bio DR responses to address the Tuesday meeting CEC and CDFW's comments.

Please let me know if you have any questions.

Sincerely,

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Los Angeles, California

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Sent: June 23, 2025 11:44 AM
To: Kelly Strain <kstrain@capstoneintra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI project, CEC status for data completeness

Hi Kelly,
Please allow to me to update you with our staff process for data completion; I have conveyed this information to the team and they are working towards these dates.

The responses you provided to the CEC Rev-1 DRs completed filing on Wednesday, June 11. Ann Crisp, the Biological Resources supervisor has requested that our partners at CDFW provide any comment on the BIO responses (filed on 6/10) by Tuesday, July 1. This in in accordance with our inter-agency agreement with CDFW. Following that, I have requested staff target their data completeness decision by Friday, July 10 or before. Staff is working going through the responses; Biological Resources would likely be the last discipline to be completed, due to the coordination with CDFW.

At this point, no specific issues to share. If you are ok with it, I suggest we could pass on the meeting tomorrow, 6/24.

Thanks.

P.S. You beat me to it with your email earlier.

Eric W. Veerkamp
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STEP Division
California Energy Commission
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www.energy.ca.gov

Stantec

Incidental Take Permit Application- Potentia-Viridi Battery Energy Storage System Project

~~January 31, 2025~~July 16, 2025

Prepared for:

Levy Alameda, LLC
155 Wellington Street West, Suite 2930
Toronto, Ontario M5V 3H1, Canada
Contact: Kelene Strain
KStrain@capstoneinfra.com

Prepared by:

Stantec Consulting Services Inc.
2999 Oak Road, Suite 800
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California Endangered Species Act Incidental Take Permit Application for California tiger salamander (*Ambystoma californiense*) Central California Distinct Population Segment, Crotch's bumble bee (*Bombus crotchii*), San Joaquin kit fox (*Vulpes macrotis mutica*), and Western burrowing owl (*Athene cunicularia hypugaea*)

Potentia-Viridi Battery Energy Storage System Project

Alameda County, California

~~January~~ July 2025

Levy Alameda, LLC

Submitted by:
Levy Alameda, LLC
155 Wellington Street West, Suite 2930
Toronto, Ontario M5V 3H1, Canada
Contact: Kelene Strain, Environmental & Permitting Manager

Prepared for:
California Energy Commission
~~Lisa~~ Eric Veerkamp ~~Worrall~~, ~~Project Manager~~ ~~Senior Environmental Planner~~
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Appendix C – Mitigation Property Biological Resources Assessment
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List of Abbreviated Terms

ºF	degrees Fahrenheit
AC	alternating current
Applicant	Levy Alameda, LLC
AMM	Avoidance and Minimization Measure
BESS	Battery Energy Storage System
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practices
BMS	battery management system
CAL FIRE	California Department of Forestry and Fire Protection
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
cy	cubic yards
DC	direct curent
DPS	Distinct Population Segment
EACCS	East Alameda County Conservation Strategy
HVAC	heating, ventilation, and air conditioning
ITP	Incidental Take Permit
LFP	lithium iron phosphate
LGIA	Large Generator Interconnection Agreement
MPT	main power transformer
MV	Medium voltage
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NWI	National Wetlands Inventory
O&M	operations and maintenance
PCS	Power Conversion Systems
PG&E	Pacific Gas and Electric
POCO	Point of Change of Ownership
POI	point of interconnection
Project	Potentia-Viridi Battery Energy Storage System Project
RWQCB	Regional Water Quality Control Board
SCADA	Supervisory Control and Data Acquisition
UL	Underwriters Laboratories

USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service

Chapter 1. Introduction

This report serves as the formal application for an Incidental Take Permit (ITP) under Section 2081(b) of the California Endangered Species Act (CESA) for the Potentia-Viridi Battery Energy Storage System (BESS) Project (Project). This application was prepared pursuant to Sections 702 and 2081(b,c) of the California Fish and Game Code, and contains the information requested herein.

This permit application is being submitted for the Incidental Take of the California tiger salamander (*Ambystoma californiense*) Central California Distinct Population Segment (DPS), Crotch's bumble bee (*Bombus crotchii*), San Joaquin kit fox (*Vulpes macrotis mutica*) and western burrowing owl (*Athene cunicularia hypugaea*) for construction activities associated with the Project. For Project location, refer to Appendix A, Figure 1 and Figure 2.

Additional State and federal permit applications may be required for proposed stormwater outfall work associated with the Project. These additional permits may include a United States Army Corps of Engineers (USACE) 404 Nationwide Permit, a Regional Water Quality Control Board (RWQCB) 401 Water Quality Certification and a California Department of Fish and Wildlife (CDFW) 1602 Streambed Alteration Agreement. The requirement for these permit applications will be determined based on proposed impacts to non-wetland waters of the United States and State.

1.1 Project Applicant

Levy Alameda, LLC
155 Wellington Street West, Suite 2930
Toronto, Ontario M5V 3H1, Canada

1.2 Applicant Contact

Kelene Strain, Environmental & Permitting Manager
Capstone Infrastructure Corporation
155 Wellington Street West, Suite 2930
Toronto, Ontario M5V 3H1, Canada
Email: ~~LMcLeodK~~Strain@capstoneinfra.com

1.3 California Environmental Quality Act Lead Agency Contact

California Energy Commission.
~~Lisa WorrallEric Veerkamp~~, ~~Project ManagerBiological Unit Supervisor~~
~~Lisa.WorrallEric.Veerkamp@energy.ca.gov~~

~~@energy.ca.gov~~

1.4 Species for Which Incidental Take Coverage Is Requested

Levy Alameda, LLC is seeking authorization under Section 2081(b) of the California Fish and Game Code for incidental take of California tiger salamander, Crotch's bumble bee, ~~and~~ San Joaquin kit fox and western burrowing owl because of construction activities for the Project as described in this application. These species are listed as follows:

- California tiger salamander Central California DPS – State threatened

- Crotch's bumble bee – State candidate threatened
- San Joaquin kit fox – State threatened
- Western burrowing owl -- State candidate threatened

1.5 Location of Project

The Project would be located in Alameda County, California within a portion of Assessor Parcel Number (APN) 99B-7890-002-04 located at 17257 Patterson Pass Road, southwest of Interstate 580 and Interstate 205 (Figure 1 Regional Map, Figure 2 Project ~~Vicinity~~Site Aerial, ~~and Figure 3 Project Site Aerial~~). Development of the BESS facility would occur within a 70 acre~~s~~ leased area of APN 99B-7890-002-04, which currently consists of fallowed annual grasslands suitable for grazing. Of the approximately 70-acre lease area, approximately 58.8 acres would be permanently disturbed for development of the BESS facility. The gen-tie line would extend southeast from the Project substation, crossing Patterson Pass Rd, and then proceed east to the Point of Interconnection (POI) at the Tesla Substation. The Project's gen-tie line would be sited on APNs 99B-7890-2-4, 99B-7890-2-6, and 99B-7885-12. As shown on Figure ~~3~~ 2 Project Site Aerial, a gen-tie study area of approximately 32 acres was evaluated. Out of the 32 acres evaluated, only 1.9 acres is expected to be permanently disturbed for installation of the transmission and interconnecting facilities. A total of 60.7 acres within the approximately 102-acre project area would disturbed as part of Project implementation.

The Project location was selected due to it being large enough to support development of the Project, its proximity to existing electrical infrastructure and the Tesla Substation, thereby minimizing length of the proposed gen-tie line to the POI, and because it is located immediately adjacent to existing roadways for construction and O&M access.

Chapter 2. Project Description

2.1 Project Objectives

The Project objectives are:

- Construct and operate an economically viable, and commercially financeable, 400-MW battery energy storage facility in Alameda County with an interconnection at the Tesla Substation.
- Assist California electric utilities in meeting obligations under California's Renewable Portfolio Standard Program and Senate Bills 100 and 1020, which require renewable energy sources and zero-carbon resources to supply 60% of all retail sales of electricity to California end-use customers by December 31, 2030, 90% of all retail sales of electricity to California end-use customers by December 31, 2035, 95% of all retail sales of electricity to California end-use customers by December 31, 2040, and 100% of all retail sales of electricity to California end-use customers by December 31, 2045.
- Assist California utilities in meeting obligations under the CPUC's Mid-Term Reliability Procurement Requirements.
- Develop an electricity storage facility in close proximity to a utility grid-connected substation with existing capacity available for interconnection to minimize environmental impacts.
- Relieve grid congestion, and enhance electricity reliability, without requiring the construction of new regional transmission infrastructure or substantial network upgrades.
- Construct and operate a battery energy storage facility in Alameda County, resulting in economic benefits to the County, creating prevailing wage construction jobs, and facilitating local community benefits.

2.2 Project Description

2.2.1 Project Components

The Project would include construction, O&M, and eventual decommissioning of a 400 MW BESS with an energy storage capacity up to 3,200 MWhs. Charging from or discharging to the electrical grid would be a 500kV gen-tie connecting the Project substation to the POI within the existing PG&E Tesla Substation. The BESS Facility would include the following components:

- Battery Energy Storage System (BESS) Enclosures
- 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

Project components are described in the following subsections. Figure 32, Project Design Features, shows the project layout. Table 1 summarizes the preliminary dimensions of major BESS facility components, and Table 2 summarizes the preliminary footprint/disturbance acreage associated with the BESS facility.

Table 1. Preliminary Dimensions of Major BESS Facility Components

Component	Quantity	Approximate Dimensions
BESS Enclosures	1,000*	20 ft x 8 ft x 10 ft (L x W x H)
PCS	140*	22 ft x 7 ft x 8 ft (L x W x H)
MV Collection system	—	Buried in trenches up to 5 ft x 10 ft (W x D)
Project Substation Area	—	500 ft x 450 ft; (5) 120 ft (H) (lightning masts)
Control Building	—	52 ft x 20 ft x 15 ft (L x W x H)
Wireless Communication Tower	—	18 ft x 18 ft x 199 ft (L x W x H)
Access Roads	—	20 ft (W) internal radii ~~25~~ 50 ft minimum for outer loop
Laydown Yards	4	Variable
Stormwater Detention Facilities	5	Variable
Stormwater Outfall	—	500 ft x 5 ft x 10 ft (L x W x D)
Security Fencing	1	9 ft (H) 8 ft tall fence topped with 1 ft of barbed/razor wire
Operations and Maintenance Buildings	~~1~~3	100 ft x ~~50~~ 48 ft x ~~30~~ 24 ft (L x W x H)
Fire Water Storage Tank (30,000 Gallon) – Above Ground	2	10 ft x 24 ft (H x D)
Water Storage Tank (10,000 Gallon) – Above Ground	—	11.5 ft x 11.75 ft (H x D)
Wastewater Holding Tank (5,000 Gallon) – Below Ground	1	16.5 ft x 7.5 ft x 8 ft (L x W x H)
Emergency Generators	2	25 ft x 10 ft x 12 ft (L x W x H)

- Notes: * The number of BESS enclosures and PCS units would depend on the manufacturer selected. The total number of BESS enclosures and PCS units may increase or decrease in the final design. It is also possible that the BESS units ultimately procured may incorporate the PCS units within the BESS enclosures.

Table 2. Preliminary Permanent Project Footprint

Component	Permanent Disturbance
BESS Yards	13.3 acres
Project Substation	5.4 acres
Access Roads	7.1 acres
Laydown Yards/Storage Areas	14.0 acres
O&M Area	1.8 acres
Stormwater Detention Areas	9.0 acres

Stormwater Outfall	0.6 acres
Other*	7.6 acres
Total BESS+	58.8 acres
Transmission and Interconnection Facilities	1.9 acres
Total BESS and Transmission and Interconnection+	60.7 acres

- Notes: * Other areas include maximum grading limits. The analyses assume that all areas used for the BESS facility are permanently disturbed and kept free of vegetation to comply with fire requirements.
- +The total permanent disturbance acreage is a conservative estimate, and final designs may require fewer acres. Underground components within the BESS facility would be located within the footprint of above ground disturbance areas.

2.2.1.1 BATTERY ENERGY STORAGE SYSTEM

The energy storage facility would 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 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 Project reaches the procurement stage, it is possible for other battery cell technology with proven safety and performance records to be suitable for the Project. Although the number and dimensions of the containers may change (as it does between LFP technology providers), the technology ultimately procured would result in potential environmental impacts substantially similar to, or less than, those analyzed based on this Project Description.

The BESS enclosures would be prefabricated off-site and arrive at the site ready to be installed and commissioned. Each modular BESS enclosure would 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 would not exceed approximately 10 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 would be provided through separate auxiliary power connection to the on-site project substation with connection lines installed above and/or below ground.

2.2.1.2 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 would 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 would 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 would be unattended systems designed to operate in all conditions. The inverters would be monitored and controlled remotely, and there would be on-site disconnects for use in case of an emergency or a situation requiring unscheduled maintenance.

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

2.2.1.3 MV COLLECTION SYSTEM

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

2.2.1.4 PROJECT SUBSTATION

The Project substation would 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 would be stepped down from 500kV to 34.5kV and sent from the 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 would be sent to the PCS units, stepped up to 34.5kV, and transported to the 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 would be installed within the Project substation area and contain an energy management system, metering, and telecommunication equipment for communication with PG&E/CAISO facilities and to support remote Project operations monitoring, as well as monitoring by the 18 full-time operations staff members. The Project substation area would 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.

2.2.2 Access Roads

The Project's roadway system would 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 would be constructed from an existing private road near the northeastern portion of the site and would serve as the primary access to the site. The Southeast Emergency Access Road would be constructed from Patterson Pass Road near the southeastern portion of the site and would be used for emergency access only. As such, the majority of Project traffic would not be expected to travel along the unimproved stretches of Patterson Pass Road. The driveway apron of the Southeast Emergency Access Road would 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' of straight driveway perpendicular to the centerline of Patterson Pass Road. The grade has been adjusted to provide a maximum 6% grade for 50' from the road edge.

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

2.2.3 Laydown Yards/Storage Area

The Project would include up to 4 laydown yards for equipment and material staging and storage during construction. These areas would also be used for worker parking during construction. The primary laydown yard would be located directly adjacent to the Project substation area (see Figure 4). The primary laydown yard would 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 yards than those currently proposed. The proposed Project's preliminary layout, earthwork volumes, and Project component dimensions assumed for environmental analyses in subsequent chapters are conservatively large to allow for design flexibility and Project schedule preservation.

2.2.4 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 would 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 would be located around the perimeter of the site to capture stormwater runoff from side slopes (Figure ~~3~~2). Stormwater treatment and storage sizing would 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 would 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 would 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 10 cubic yards of clean riprap would 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.

2.2.5 Site Secuirty

The BESS facility site would be enclosed with an 8-foot-tall chain link fence topped with 1 foot of three-strand barbed wire or razor wire. The fence would be installed on the outside of the perimeter road. An additional fence with the same specifications would be installed around the Project substation area. The fences would be required to prevent unauthorized access and to comply with human health and safety regulations. Gates would 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 would only be in areas where it is required for safety, security, or operations. Low-elevation (less than 14 feet) controlled security lighting would be installed at the Project substation and around the BESS yards, in accordance with applicable requirements and regulations. Permanent motion-sensitive, directional security lights would be installed to provide adequate illumination around the substation area and points of ingress/egress. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties, compliant with applicable codes and regulations. Security cameras would be placed on site and monitored 24/7.

2.2.6 Fire Protection System

Fire protection would include multiple fire detection systems on-site and within the individual BESS enclosures. An infrared camera system would 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 would have a fire rating in conformance with the California Fire Code 2022. In addition, each BESS

enclosure would contain an onboard BMS that monitors the appropriate state of individual battery cells and relays information 24-7. In the event of an anomaly, the system is designed to shut down and mitigate the hazard.

The Project's fire protection design would 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 (NFPA 855). BESS enclosures would 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 would not propagate from one enclosure to a neighboring enclosure. The Project's BESS enclosures, as part of the testing and listing process, would be subjected to destructive testing including fire testing. The Project's BESS enclosures would 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) would review and comment on the facility fire protection plans.

2.2.7 Operations and Maintenance Building

Following construction of the BESS facility, three O&M buildings would be constructed a minimum of 20' apart within the primary laydown yard for the Project's anticipated 18 full-time operations staff. The main O&M building would include basic offices, meeting rooms, and washroom facilities. A 10,000 gallon above ground potable water storage tank would provide water for washroom and sanitary facilities, and sewage/wastewater would be collected in a 2 separate 5,000 gallon below ground sewer holding tanks. Potable water would be trucked to the water storage tank periodically during O&M, and sewage/wastewater would 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 would be used primarily for storage, maintenance and repair activities associated with the Project . Neither of these buildings would have washroom facilities. All O&M buildings would be powered via a distribution line from the Project substation.

2.2.8 Transmission and Interconnection Description, Design, and Operation

The Project would 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 project substation and the PG&E Tesla Substation. The Applicant would construct and own the portion of the gen-tie line between the project substation and the Point of Change of Ownership (POCO) transmission structure, and PG&E would construct and own the remaining portion of the gen-tie from the POCO to the POI within the Tesla Substation. This ITP is seeking coverage that includes construction and operation of all transmission infrastructure from the project substation to the Tesla Substation, including the portions that would be constructed and owned by PG&E (POCO

to Tesla Substation). The Project's transmission and interconnection facilities would 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. Project components associated with transmission and interconnection facilities are described in the following subsections. Figure ~~3~~2, Transmission Line Route, shows the gen-tie route, scattered rural residences, and existing transmission lines within 1 mile of the proposed route. Table 3 summarizes the preliminary dimensions of major transmission components, and Table 4 summarizes the preliminary new ground disturbance area associated with construction of the transmission and interconnection facilities.

Table 3. Preliminary Dimensions of Major Transmission Components

Component	Quantity	Approximate Dimensions
500kV Gen-Tie Line	1	Applicant Owned: 1,557ft long
		PG&E Owned: 1,327ft long
Substation Bay Dead-End Transmission Structure	2	Applicant Owned: 1 structure; up to 110ft above ground level; two seven-foot diameter foundations, installed up to 30ft deep; constructed within project substation area footprint
		PG&E Owned: 1 structure; up to 110ft above ground level; two seven-foot diameter foundations, installed up to 30ft deep; constructed within Tesla Substation footprint.
Angled Dead-End Transmission Structure	3	Applicant Owned: 2 structures; Up to 199ft above ground level; three nine foot diameter foundations, installed up to 40ft deep, per structure
		PG&E Owned: 1 structure; Up to 199ft above ground level; three nine foot diameter foundations, installed up to 40ft deep.
H-Frame Tangent Transmission Structure	1	Applicant Owned: Up to 199ft above ground level; two six-foot diameter foundations, installed up to 30ft deep.
Conductors	6	Two 2,300 kcmil 61W AAC "Pigweed" per phase. 30ft minimum ground clearance.
Overhead Shield Wire	2	Two 3/8in extra high strength 7-strand steel
Fiber Optic Utility Poles	16	Up to 40ft above ground level; up to 20in diameter wood poles direct embedded up to 8ft deep.

Fiber Optic Cables	2	All dielectric self-supporting fiber optic cable. Two redundant and diverse routes. Installed above ground on utility poles by Applicant from Project Substation to POCO. Installed by PG&E underground in trenches up to 2ft wide and 4ft deep between POCO and Tesla Substation.
Transmission Structure Access Path	1	Applicant Owned: 20ft wide; up to 1,750ft long
		PG&E Owned: 20ft wide; up to 950ft long
Transmission Line Corridor	1	200ft wide

Table 4. Approximate New Ground Disturbance Area Associated with Transmission and Interconnection Facilities

Component	Permanent Disturbance	Temporary Disturbance
Applicant Portion		
Transmission Structure Pads	0.4 acres	-
Transmission Structure Access Path	0.7 acres	-
Fiber Optic Utility Poles	0.7 acres	-
Tension and Pulling Site	-	3.6 acres
Applicant Total	*~1.2 acres*	*~3.6 acres*
PG&E Portion		
Transmission Structure Pad	0.7 acres	-
Transmission Structure Access Path	0.4 acres	-
Tension and Pulling Site	-	3.1 acres
PG&E Total	*~0.7 acres*	*~3.1 acres*
Total	*~1.9 acres*	*~6.7 acres*

2.2.9 500kV Gen-Tie Line

The 500kv gen-tie line would originate at the 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 would 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 would 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 would be on the same PG&E-owned parcel that includes the 500kV Tesla Substation and POI. Table 2 includes the approximate number and dimensions of the three different types of transmission structures that would be used. The gen-tie would 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).

2.2.10 Transmission Structure Access Path

A transmission structure access path would 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 would 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.

2.2.11 Telecommunication Facilities

Telecommunications equipment would be installed between the control building at the 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 Project substation area and the POCO structure, the Applicant would install the two fiber optic lines above ground on separate utility structures within the transmission corridor. One route would be installed near the northern boundary of the transmission corridor and the other would be installed near the southern boundary of the transmission corridor. The fiber optic utility poles would 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 would be brought down to an underground pull box. PG&E would 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 Project substation area, an optical ground wire installed on the 500kV structures, or placed underground within the transmission structure access path, between the Project substation and POCO may be used in lieu of a second set of utility poles.

2.2.12 Interconnection Facilities within Existing PG&E Tesla Substation Footprint

To facilitate interconnection of the BESS facility to the electric transmission grid, PG&E would 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.

2.2.13 Transmission System Impact Studies

The Applicant filed an Interconnection Request with CAISO in the Cluster 13 Interconnection Request window. CAISO, in cooperation with PG&E, prepared the Phase I Interconnection Study (February 12, 2021), and Phase II Interconnection Study (November 22, 2021). The Applicant entered into a Large Generator Interconnection Agreement (LGIA) with CAISO and PG&E on October 31, 2022. No Affected Systems controlled by CAISO or PG&E were identified during the interconnection study process. Non-CAISO systems potentially affected by the Project and other Cluster 13 projects are Western Area Power Administration and Modesto Irrigation District. The Applicant is working with both system operators to identify specific impacts and will take all reasonable steps to address potential reliability system impacts prior to the initial synchronization of the Project.

2.2.14 Construction

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

2.2.14.1 Schedule and Workforce

The 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 would take place

over 6 months. Initial mobilization and site preparation is anticipated to begin no later than Q4 2026 and testing and commissioning is anticipated to conclude no later than Q2 2028. It is anticipated that construction crews would work 8 to 10 hours per day, with work occurring Monday through Friday. Overtime, night work, and weekend work would be used only as necessary to meet the project schedule or complete time-sensitive or safety critical work. All work schedules would comply with applicable California labor laws, county regulations, and the Project Labor Agreement. Estimated durations of construction activities are presented in Table 5. However, the duration of particular construction activities may be affected by weather, unanticipated site conditions, the supply chain, and coordination between the different activities.

The expected average workforce for each construction activity is also included in Table 5.

Table 5. Estimated Construction Activity Duration and Average Workforce Expected

Construction Activity	Estimated Duration	Average Workforce Expected (Number of Employees)
Site Preparation	8 Weeks	25
Civil Work and Grading	24 Weeks	55
Foundations and Underground Equipment	16 Weeks	50
BESS Equipment Installation	20 Weeks	60
Project Substation Installation	24 Weeks	20
Gen-Tie Foundations and Structure Erection	8 Weeks	10
Gen-Tie Line Stringing and Pulling	2 Weeks	10
Testing and Commissioning	24 Weeks	10
PG&E Interconnection Facility Upgrades within Tesla Substation	26 Weeks	10

2.2.14.2 SEQUENCING

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 the vehicle trips and equipment listed in Table 6.

Table 6. BESS Project - Construction Equipment and Usage Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Worker Trips Per Day	Average Daily Vendor Trips	Haul Truck Trips	Equipment Type	Quantity	Hours/ Day
Site Preparation	50	10	600	Graders	2	8
				Rubber Tired Loaders	2	8

Construction Phase	One Way Vehicle Trips			Equipment		
	Worker Trips Daily (Vehicle Trips)	Average Daily Vendor Truck Trips	Peak Hour Vendor Truck Trips	Equipment Name	Quantity	Usage Hours
				Skid Steer Loaders	2	8
				Tractors/Loaders/ Backhoes	2	8
Site Grading and Civil Work	110	76	70	Graders	4	8
				Rollers	4	8
				Rubber Tired Loaders	4	8
				Skid Steer Loaders	4	8
				Tractors/Loaders/ Backhoes	4	8
				Pavers	2	8
				Paving Equipment	2	8
				Rollers	2	8
				Plate Compactors	1	8
				Cement and Mortar Mixers	1	4
				Rock Crushers	4	8
Foundations and Underground Equipment Installation*	100	10	10	Paving Equipment	2	8
				Rollers	2	8
				Plate Compactors	2	8
				Cement and Mortar Mixers	2	8
				Bore/Drill Rig	3	8
				Tractors/Loaders/ Backhoes	6	8
				Excavators	2	8
				Rubber Tired Dozers	2	8
				Trenchers	4	8
				Skid Steer Loaders	2	8
BESS Installation*	160	20	20	Air Compressors	2	8
				Cranes	2	8
				Generator Sets	4	8
				Rough Terrain Forklifts	2	8
				Skid Steer Loaders	2	8

Construction Phase	One Way Vehicle Trips			Equipment		
	Worker Trips Daily	Average Daily Vendor Truck Trips	One Way Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Project Substation Installation	40	20	20	Air Compressors	2	8
				Aerial Lifts	6	8
				Cranes	2	8
				Generator Sets	2	8
				Rough Terrain Forklifts	2	8
Gen-tie foundation and tower erection	28	2	2	Bore/Drill Rig	1	8
				Cranes	2	8
				Forklifts	2	8
				Boom Truck	2	8
				Flat Bed Truck	1	8
				Cement and Morter Mixer	1	8
				Bucket Lift Truck	2	8
Gen-tie stringing and pulling	24	2	2	Heavy-duty Truck (Puller)	2	8
				Heavy-duty Truck (Tensioner)	1	8
				Forklifts	2	8
				Generator Sets	2	8
				Tractors/Loaders/ Backhoes	2	8
				Boom Truck	1	8
				Trencher	2	8
PG&E Interconnection Facility Upgrades	40	20	20	Air Compressors	4	8
				Cranes	2	8
				Excavators	2	8
				Generator Sets	4	8
				Rough Terrain Forklifts	2	8
				Skid Steer Loaders	2	8
				Tractors/Loaders/ Backhoes	2	8
				Trencher	1	8
Testing and Commissioning	52	0	0	Rough Terrain Forklifts	1	8
				Off-Highway Trucks	2	8

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total One-Way Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Decommissioning	40	2	2	Concrete/Industrial Saws	2	8
				Cranes	2	8
				Rubber Tired Dozers	2	8
				Tractors/Loaders/ Backhoes	2	8

Notes: * The project layout depicted in Figure 32 shows the "End of Life" configuration of the BESS, meaning it shows the equipment layout after all augmentation units are implemented. The numbers in this table conservatively assume that foundations and BESS equipment installation related to augmentation occurs during initial construction of the facility. Construction of foundations and BESS equipment installation for augmentation may occur during O&M periodically within the BESS facility footprint.

2.2.14.3 Site Preparation

Environmental clearance surveys would be performed at the Project site prior to commencement of construction activities. The limits of construction disturbance areas delineated in the final approved engineering design packages would be surveyed and staked. Initial ground disturbing activities in preparation for construction would include installation of erosion and sediment control measures prior to start of major earthworks activities. Rough grading and grubbing/vegetation removal would be performed where required to accommodate site drainage and allow construction equipment to access the site. Detention basins and stormwater facilities would be created for hydrologic control. The construction contractor would 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 would be installed at driveways to reduce tracking of sediment onto adjacent public roadways.

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

Vegetation on the site would 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 would 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 would be permanently disturbed.

2.2.14.4 Site Grading and Civil Work

Following site preparation activities, grading and civil work would commence. Construction activities during this phase would include excavation and grading of the 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 would 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 Project's excess material resulting from earthwork may be used beneficially used on-site for the construction of berms or other onsite needs. Where appropriate, excess material would 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 would be performed throughout the 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, would 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 would be graded, compacted, and surfaced with gravel or aggregate. Class II road base would be imported to create necessary compaction under the equipment, as determined by geotechnical testing and Project specifications. Once the roadways have been constructed, the Project perimeter fence and access gates would be constructed.

2.2.14.5 Foundations and Underground Equipment Installation

Following completion of major site grading and civil work, equipment foundations and below grade equipment would be installed. A grounding grid and underground conduit would be installed below grade beneath the 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 would be backfilled, compacted, and leveled followed by application of an aggregate rock base. A containment area within the MPT foundations would 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 10 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 Project components may be installed on concrete slab foundations depending on the geotechnical conditions at the final locations.

Additional underground work would 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 would either be installed in conduit, cable-trays, or direct-buried, depending upon final design and application

2.2.14.6 BESS and Project Substation Equipment Installation

Where possible, major equipment would 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 would be stored at one of the laydown areas near its permanent location and installed at a later date. Major aboveground equipment would be the MPTs and other Project substation components, control building, BESS enclosures, PCS units, DC/DC converters, BESS auxiliary transformers and panels, and O&M building.

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

2.2.14.7 Gen-Tie Structure Erection

Environmental clearance surveys would 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 would be surveyed and flagged. Initial activities would 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 would 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 would 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 would be trimmed, mowed, or removed. At locations where gen-tie line structures and fiber optic utility poles would be installed, minor cuts may be required where the foundation would be installed.

Cast-in-place concrete foundations would 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 would be set on anchor bolts on top of the foundation with cranes. Fiber optic utility poles would be direct embedded in holes up to 8 feet deep. Holes would be excavated using a truck-mounted drill rig or standalone auger rig. Poles would be delivered on a flat-bed trailer and hoisted into place with a crane. The annular space between the poles and holes would be backfilled with concrete or soil. Excavated spoil material not used for backfilling would be spread around the structure work areas.

2.2.14.8 Gen-Tie Stringing and Pulling

Conductors would be strung between transmission structures with heavy duty trucks and a telescoping boom lift. Cables would 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.

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

PG&E would 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 would bring the fiber optic cables to underground pull boxes at the POCO structure, and PG&E would 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 3 feet wide, and the trenches for the redundant routes would need to be at least 10 feet apart to meet PG&E's diverse path requirements. It is anticipated that PG&E would 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 would also construct the interconnection upgrades within the Tesla Substation footprint at the POI. These upgrades would include erection of a new substation bay dead-end transmission structure and expanding the POI's existing 500kV substation bay-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 Project to the grid are not anticipated to exceed 5 additional acres of disturbance beyond the estimates Table 4. To clarify, the Applicant is seeking coverage for all activities outside of the Tesla Substation, including POCO, but is not seeking coverage for activities within the Tesla Substation.

2.2.14.10 CONSTRUCTION WATER USE

During construction, an estimated 16,000,000 million gallons (~49.1 acre-feet) of untreated water would 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 Project. A sanitary water supply line would not be required during construction because restroom facilities would be portable units, serviced by licensed providers, and water and sewage from the restroom facilities would be stored in onsite tanks and serviced by trucks. Drinking water would be provided via portable water coolers. Construction water is anticipated to be purchased from a local water purveyor and trucked to the site.

2.2.14.11 SOLID AND NON-HAZARDOUS WASTE

The Project would 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 would be segregated, where practical, for recycling. Non-recyclable waste would 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.

2.2.14.12 HAZARDOUS MATERIALS

The hazardous materials used for construction would be typical of most construction 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 would be prepared prior to commencement of construction activities. The hazardous materials business plan would include a complete list of all materials used on site and information regarding how the materials would be transported and in what form they would be used. This information would be recorded to maintain safety and prevent possible environmental contamination or worker exposure. During Project construction, material safety data sheets for all applicable materials present at the site would be made readily available to on-site personnel.

2.2.14.13 HAZARDOUS WASTE

Small quantities of hazardous waste would 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 would be trained to properly identify and handle all hazardous materials. Hazardous waste would 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 would be transported by a licensed hazardous waste hauler.

2.2.15 Commissioning

As part of 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 (NFPA 70), 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 requirement 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 system. 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.

2.2.16 Operations and Maintenance

Once constructed, the Project would operate 7 days per week, 365 days per year. The facility would be remotely monitored by the original equipment manufacturer or an affiliated company. Project operations would be monitored remotely through the SCADA system and by the Project's anticipated three full-time operations staff members located onsite.

Onsite maintenance would be required, which would include replacement of inverter power modules, filters, and miscellaneous electrical repairs on an as-needed basis. During operation of the project substation, O&M staff would visit the substation periodically for switching and other operation activities. Maintenance trucks would 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 would take place annually.

Batteries within utility-scale BESS facilities degrade with use over time, leading to a loss of capacity. To maintain the Project's capacity in compliance with interconnection requirements and commercial contracts, periodic augmentation by installing new batteries and related equipment within the Project site would occur to maintain the capacity over an approximate 35-year life. Augmentation would include constructing new foundations, installing BESS equipment on the foundations, and completing electrical work within the existing Project footprint. The preliminary site layout depicted on Figure 32 shows an "end of life" configuration, meaning it shows the equipment layout after all augmentation units are implemented. The construction sequencing and equipment usage assumptions in Tables 3 and 4 above, and environmental analyses in subsequent Chapters, conservatively assume that all initial BESS equipment and augmentation BESS equipment are constructed at the same time.

2.2.16.1 Solid and Nonhazardous Waste

The 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 would be collected and delivered back to the manufacturer or to recyclers. Non-recyclable waste would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill.

2.2.16.2 Hazardous Materials

Limited amounts of hazardous materials would 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 would be maintained during operation of the Project. A spill prevention control and countermeasures plan would be developed for site operations.

2.2.16.3 HAZARDOUS WASTE

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

2.2.16.4 DECOMMISSIONING

In general, the BESS would be recycled at the end of the 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 would 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 would be left in place.

Fuel, hydraulic fluids, and oils would be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks and vessels would 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, would 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 would be recycled at an appropriate facility. Site personnel involved in handling these materials would be trained to properly handle them. Containers used to store hazardous materials would be inspected regularly for any signs of failure or leakage. Additional procedures would be specified in a Hazardous Materials Business Plan closure plan submitted to the Certified Unified Program Agencies. Transportation of the removed hazardous materials would 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.

2.3 Existing Environmental Conditions

The Project site is relatively flat, with an approximate elevation of 383 to 523 feet at mean sea level. According to the US Department of Agriculture (USDA) Natural Resources Conservation Service, three soil types are present: Linne clay loam, 3% to 15% slopes (65.65 acres); Linne clay loam, 15% to 30% slopes, MLRA 15 (2.80 acres); and Rincon clay loam, 0% to 3% slopes (19.75 acres) (USDA 2024). The Linne series consists of moderately deep, well drained soils that formed in material from soft shale and sandstone. The Rincon series consists of deep, well drained soils that formed in alluvium from sedimentary rock. None of the three soil types mapped on site are included on the USDA list of hydric soils (USDA 2023) commonly associated with wetlands or other waters. Additional information regarding existing environmental conditions can be found in Appendix B.

The Project site occurs within the North Diablo Range of the Alameda Creek Watershed (USGS 2023). According to the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), there are several freshwater ponds, freshwater wetlands, and riverine aquatic features in the vicinity of the Project (USFWS 2023a; ~~Appendix B~~). The NWI is based on coarse aerial mapping and does not involve ground-truthing. The national hydrography dataset shows Patterson Run and one other drainage crossing the Project site from south to north. Patterson Run is an ephemeral stream system that runs parallel to Patterson Road adjacent to the Project site, flows in a northerly direction, and eventually terminates approximately 2.3 miles northeast of the Project site in agricultural land just north of the Delta Mendota Canal. Patterson Run is classified in the NWI as a freshwater emergent wetland (USFWS 2023a). The second drainage is classified by the NWI as freshwater

emergent wetland (USFWS 2023a), however, there is no physical evidence of this drainage within the Project site either on aerial imagery or when surveyed on the ground.

2.3.1 Climate

The Project site is within a Mediterranean climate where annual temperatures range from 38.3 degrees Fahrenheit (°F) to 92.6°F (WRCC 2023). According to the Tracy Pumping Plant (049001) Weather Station Gauge, yearly precipitation averages 12.03 inches, with the highest average rainfall recorded in January (2.54 inches) (WRCC 2023). The past winter season has had higher than average rainfall.

2.3.2 Potential Jurisdictional Features

A preliminary wetland assessment was conducted during the reconnaissance survey on August 2, 2023, to generally identify and coarsely map aquatic resources that may require further protocol jurisdictional delineations. Dudek then conducted a complete aquatic resources delineation concurrent with the reconnaissance-level biological field survey on January 18, 2024, to identify and map the extent of aquatic resources within the entire Project site that are potentially subject to regulation under federal Clean Water Act Sections 401 and 404, CFGC Section 1602, or under the Porter-Cologne Act.

There is one seasonal channel (EPH-01; 0.37 acre, 846.07 linear feet), Patterson Run, within the Project site where the BESS facility site connects to the gen-tie alignment, paralleling Patterson Pass Road (Figure 4). This seasonal channel flows southwest to northeast. The channel had moderate flow during the March 2023 and January 2024 surveys and was dry during the May and August 2023 surveys.

2.3.3 Vegetation

Vegetation communities are based on descriptions provided in Manual of California Vegetation. One vegetation community occurs in the Project site, Wild oats and annual brome grassland (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance) (CNPS 2023a). This community, often referred to as California annual grassland, is characterized by an herbaceous layer dominated by non-native grass species including wild oats (*Avena* spp.), bromes (*Bromus* spp.), and barleys (*Hordeum* spp.). The herbaceous layer is less than 1.2 meters in height and cover is open to continuous (CNPS 2023). Annual grassland covers the entire Project site outside of the aquatic features (88.24 acres).

Protocol-level rare plant surveys were conducted on May 16, 2023, August 2, 2023, January 18, 2024, April 15, 2024, May 3, 2024, and May 24, 2024, to identify special-status rare plant species within the updated Project site boundaries. Dudek qualified biologists surveyed the entire Project site on foot in approximately 20-meter parallel transects to provide complete visual coverage within the updated project boundaries and gen-tie alignment. Rare plants surveys were conducted in accordance with the Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 2000), the Protocol for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018), and the CNPS Botanical Survey Guidelines (CNPS 2001). Three individuals of big tarplant (*Blepharizonia plumosa*) were observed during protocol-level botanical surveys conducted on August 2, 2023.

Big tarplant is an annual herb that endemic to California, with limited distribution throughout the state. This species has a California Rare Plant Rank rank of 1B.1 (rare, threatened or endangered in California and elsewhere), and is a covered species under the East Alameda County Conservation Strategy (EACCS). This species prefers habitats in valley grassland vegetation communities, as well as in foothill woodlands and chaparral (Calflora 2023). Threats to this species include urbanization, disking, residential development, and encroachment by non-native plant species (CNPS 2023b). All three individuals are located near the southwest corner of the PG&E substation in an area of sparse

grassland that shows evidence of drainage patterns from the surrounding hills, including cracked soils, reduced grass cover and increased scrub species cover, and increased bare ground.

2.4 Conservation Measures Incorporated into the Project

The Project has been designed to minimize its footprint and thereby minimize disturbance of habitat. In addition, the Project will adhere to applicable Avoidance and Minimization Measures (AMMs) directly from the EACCS and the Programmatic Biological Opinion for the EACCS (USFWS 2012). These approaches to address the potential impacts of Project activities are described in Chapter 5.

Chapter 3. Project Impacts to Special-Status Species

This effects analysis evaluates the potential direct and indirect effects of Project activities on California tiger salamander, Crotch's bumble bee, San Joaquin kit fox and western burrowing owl and their habitats compared to current baseline conditions. Direct effects are the immediate effects of the construction activities on these species or their habitats. Indirect effects occur later in time and may occur outside of the construction area but are reasonably certain to occur. Additional information related to special-status species can be found in Appendix B.

3.1 California Tiger Salamander

3.1.1 Distribution, Biology, and Habitat Requirements

The Central California DPS of California tiger salamander is federally listed as threatened. This species is a large, stocky, terrestrial salamander with a broad, rounded snout. Total body length of adults range from 6 to 9.5 inches and coloration consists of randomly occurring white or yellow spots on an all-black body (USFWS 2017). Larvae coloration is variable, with a majority being pale and sometimes having dark grey spots.

The California tiger salamander Central California DPS is restricted to disjunct populations that form a ring along the foothills of the Central Valley and Inner Coast Range from San Luis Obispo, Kern, and Tulare Counties in the south, to Sacramento and Yolo Counties in the north. The recovery priority number for the California tiger salamander Central California DPS is 9C, which indicates that the DPS faces a moderate degree of threat, has a high potential for recovery, and is in conflict with development projects, such as conversion to agriculture or urban development.

This species is found in annual grassland, valley-foothill hardwood, and valley-foothill riparian habitats and breeds in vernal pools, ephemeral pools, stock ponds, and (infrequently) along streams and human-made water bodies if predatory fishes are absent. This species has an obligate biphasic life cycle where it utilizes both aquatic habitats as larvae and terrestrial habitats as adults. Although larvae develop in the ponds and wetlands where they hatch, once an individual undergoes metamorphosis, it will leave its natal pond and enters a burrow or other upland refugia, and then spend most its life underground, generally only returning to aquatic habitats to breed. Adult California tiger salamander engage in mass migrations during a few rainy nights per year, typically from November through April, although migrating adults have been observed as early as October and as late as May. During these rain events, adults will travel overland to breeding ponds at night to mate before returning to their underground burrows. Males typically arrive before the females and generally remain in the ponds longer than females (USFWS 2017). This species has been documented to cover distances from 492 feet to 1.3 miles, traveling from breeding ponds to upland terrestrial habitat (Orloff 2011). On average, it is estimated that California tiger salamander migrate an average of 1,844 feet and could potentially migrate up to 1.5 miles each breeding season (Searcy and Shaffer 2011).

3.1.2 Occurrence of the California Tiger Salamander Central California Tiger Salamander in the Project Area

There are 209 California Natural Diversity Database (CNDDB) occurrences for California tiger salamander within a 9-quadrangle search of the Project site (Figure 5). The nearest documented occurrence is approximately 1.6 miles southwest of the Project site from 2012 (Occ. No. 1003), but there are numerous other records within 5 miles of the Project site (CDFW 2024). The Project site also occurs within the EACCS Conservation Zone 10 or designated as "California tiger salamander

North" and is a high priority for the EACCS for protecting a substantial portion of potential breeding ponds within this area (ICF 2010).

The habitat on the Project site 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 approximately 0.3 miles from the Project site (Appendix B). No California tiger salamanders were observed during the field surveys, but this species is extremely difficult to detect without focused surveys in accordance with USFWS and CDFW-sanctioned protocols (USFWS 2003). 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 Project site to identify potential aquatic breeding sites within dispersal distance of the Project site. Not all aquatic habitats within 1.24 miles were able to be surveyed due to access restrictions. Habitat assessments were conducted in accordance with the USFWS Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander (USFWS 2003). Aquatic features were coarsely mapped along top of bank using ArcGIS Field Maps (Esri).

3.1.3 Potential for Take of the Central California Tiger Salamander

The Project could result in direct or indirect impacts on California tiger salamander. Direct impacts 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. The AMMs in Chapter 5 are intended to reduce the likelihood of direct take during Project activities. Indirect impacts include disturbance due to increased human activity and impacts to water quality from construction activities.

3.2 Crotch's Bumble Bee

3.2.1 Distribution, Biology, and Habitat Requirements

Crotch's bumble bee is a state candidate for listing as endangered under CESA and is not covered under the EACCS. The Crotch's bumble bee occurs almost exclusively in California, currently primarily in the Central Valley, but has been described as having historically occupied grasslands and shrublands in southern to central California. Bumble bees are known to be generalist pollinators but have preferences based on flower color including purple, blue, and yellow. Specifically, this species is found in grasslands with food plant genera that include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*, among others (USFS 2012). The queen flight season for this species is February to March, and the colony active period (highest detection probability) is April to August (CDFW 2023). Additionally, suitable habitat may contain any of the following: 1) areas of grasslands and upland scrub that contain requisite habitat elements, such as small mammal burrows and forage plants; 2) potential nest habitat (late February through late October) containing underground abandoned small mammal burrows, perennial bunch grasses and/or thatched annual grasses, brush piles, old bird nests, dead trees or hollow logs; 3) overwintering sites (November through early February) utilized by mated queens in self-excavated hibernacula potentially in soft, disturbed soil, sandy, well-drained, or loose soils, under leaf litter or other debris with ground cover requisites such as barren areas, tree litter, bare-patches within short grass in areas lacking dense vegetation.

3.2.2 Occurrence of the Crotch's Bumble Bee in the Project Area

There is 1 CNDDB occurrence for Crotch's bumble bee within a 9-quadrangle search of the Project site (Figure 5). This documented occurrence is approximately 8 miles northeast of the Project site from 1959, a record of a collection in May (Occ. No. 323; CDFW 2024).

The habitat on site is suitable for this species as the only vegetation community is annual grassland. Focused Crotch's bumble bee habitat assessments were conducted on May 16 and August 2, 2023, and January 18, 2024. Scattered floral resources were observed including lupines (*Lupinus* spp.), Mexican whorled milkweed (*Asclepias fascicularis*), and exserted Indian paintbrush (*Castilleja exserta*), along with potential nesting substrates such as bare cracked soil, small rocky areas, and small rodent burrows. No bumble bee species were seen during the field surveys.

3.2.3 Potential for Take of the Crotch's Bumble Bee

Direct impacts to Crotch's bumble bee nests include mortality or injury from ground-disturbing activities, construction equipment, grading, or other construction activities; and permanent loss of potential foraging and nesting habitat within the construction footprint. Direct mortality and habitat reduction will contribute to further population declines in this species. The AMMs in Chapter 5 are intended to reduce the likelihood of direct take during Project activities.

3.3 San Joaquin Kit Fox

3.3.1 Distribution, Biology, and Habitat Requirements

San Joaquin kit fox is federally listed as endangered. This species is a small, tan fox with a bushy black-tipped tail. They are the smallest foxes in North America, with an average body length of 20 inches and a weight of about 5 pounds. It has a narrow nose and a small, slim body. The foot pad of kit foxes are small by comparison with other canids. The fox is specially adapted for its desert habitat because it's large, close-set ears help dissipate heat, keeping it cool in the hot desert (USFWS 2024).

Currently, they occur in some areas of suitable habitat within the San Joaquin Valley and in the surrounding foothills of the Coast Range, Sierra Nevada, and Tehachapi Mountains from Kern County north to Contra Costa, Alameda, and San Joaquin Counties. Historically, San Joaquin kit fox were believed to inhabit the area from Contra Costa and Jan Joaquin Counties in the north to Kern County in the south (USFWS 1998).

This species occurs in a variety of habitats, including grasslands; scrublands; vernal pool areas; alkali meadows and playas; and an agricultural matrix of row crops, irrigated pastures, orchards, vineyards, and grazed annual grasslands. They prefer habitats with loose textured soils that are suitable for digging, but they occur on virtually every soil type. Dens are generally located in open areas with grass and/or scattered brush, and seldom occur in areas with thick brush. They feed primarily on small mammals, including California ground squirrels, rabbits, mice, kangaroo rats, and have been known to prey on ground-nesting birds, reptiles, and insects (USFWS 1998).

3.3.2 Occurrence of the San Joaquin Kit Fox in the Project Area

There are 44 CNDDB occurrences for San Joaquin kit fox within a 9-quadrangle search of the Project site (Figure 5). The nearest documented occurrence is approximately 0.3 miles southwest of the Project site, a historical record from 1984 (Occ. No. 6); multiple other historical records are within 5 miles of the Project site, all prior to 1992 (CDFW 2024). The Project site also falls within the EACCS Conservation Zone 10 for San Joaquin kit fox or "San Joaquin kit fox East." EACCS indicates this area likely supports connectivity through the Altamont Hills for SJKF but connectivity across I-580 has been compromised by infrastructure development (ICF 2010).

The habitat on the Project site is moderate-quality annual grassland for San Joaquin kit fox. Focused burrow surveys were conducted on May 16 and August 2, 2023, and January 18, 2024, and additional burrow assessment was conducted during protocol-level burrowing owl surveys on April 12, May 3, May 24, and June 17, 2024, to identify a variety of animal burrows within the updated Project site boundaries, including for San Joaquin kit fox. Several large burrow tailings were observed on the eastern side of the Project site along Patterson Pass Road, evidence of highly suitable soils for burrowing. No San Joaquin kit foxes were observed during the field surveys.

3.3.3 Potential for Take of the San Joaquin Kit Fox

The Project site occurs within the range of the species and may directly and indirectly impact potential dispersal and migration habitat for San Joaquin kit fox. The Project will have temporary and permanent impacts to potential dispersal and migration habitat; however, these impacts are considered minimal as the Project site is within the northern limits of their dispersal or migration boundary. There are no permanent or temporary impacts to potential breeding or denning habitat within the Project site. The AMMs in Chapter 5 are intended to reduce the likelihood of direct take during Project activities.

3.4 Western Burrowing Owl

3.4.1 Distribution, Biology, and Habitat Requirements

The western burrowing owl is a State candidate species. The western burrowing owl is a small ground-dwelling owl that prefers open, arid, and relatively flat to rolling terrain characterized by low growing vegetation and the presence of burrows (Haug et al. 1993; Klute et al. 2003). Common habitat types include grasslands, deserts, prairies, shrub steppes, ephemeral washes, open agricultural areas, and sometimes in human altered environments such as vacant lots, golf courses, community parks, and airports (Haug et al. 1993; Rosenberg and Haley 2004). western burrowing owls can tolerate a certain amount of non-threatening human activity, noise, and disturbance as long as essential habitat requirements are met (Coulombe 1971; Voous 1988; Johnsgard 1998). Essential habitat requirements include short vegetation for foraging opportunities and suitable burrows for nesting, roosting, and predator avoidance.

Western burrowing owl inhabits arid lands throughout much of the western United States and southern interior of western Canada (Haug et al. 1993). In California, western burrowing owl distribution is widely scattered throughout much of the lowlands where suitable habitat persists (Shuford and Gardali 2008). Western burrowing owls in California are predominately nonmigratory year-round residents (Klute et al. 2003). Resident owls breed in California, generally between February 1 and August 31, with peak breeding activity from April through July (CDFW 2012; Haug et al. 1993). After breeding, resident western burrowing owls may move from their breeding areas to wander within the region during the winter months, particularly in central and southern California (Coulombe 1971; Martin 1973; Botelho 1996). Western burrowing owls exhibit strong site fidelity and adults often return to the same burrow or a nearby area each year for breeding.

~~In addition, the California resident population of western burrowing owl is supplemented with migratory owls. Migratory owls breed in Canada and the northern United States, leave their breeding grounds in September and October to overwinter in the south, then return north to their breeding grounds in March and April (Klute et al. 2003; Trulio et al. 2024). Most migrant owls are thought to winter in Mexico and in the southern portion of the western burrowing owl range in the United States, including California.~~

Western burrowing owls may utilize different areas throughout the year for breeding, foraging, overwintering, dispersal, or transient/migration stops, and therefore may only occupy areas for a short period of the year. Western burrowing owls require open areas with low and sparse growing vegetation for foraging opportunities and unobstructed visibility for predator avoidance (Klute et al. 2003). Western burrowing owls are most active in foraging bouts during night, dawn, and dusk, but may be active throughout the day. As an opportunistic foraging generalist, a western burrowing owls diet primarily comprises large insects and small rodents but can include a wide variety of prey.

Western burrowing owls are unique among the North American owls in that they nest and roost in abandoned burrows, especially those created by ground squirrels, kit fox (*Vulpes* sp.), desert tortoise (*Gopherus agassizii*), and other wildlife. They generally depend on other species to dig suitable burrows for use but may also use anthropogenic surrogate burrows such as rubble piles or drainage pipes when natural burrows are limited (Ronan 2002). If formerly occupied burrows are

badly damaged or collapsed, western burrowing owls cannot repair them and must seek alternate sites.

Nesting western burrowing owls select nest burrows with shorter vegetation, greater burrow density, and greater percentage of bare ground than generally available (Plumpton and Lutz 1993). western burrowing owls have a strong affinity for previously occupied nesting and wintering sites and will often return to previously occupied burrows, particularly if they had successful reproduction in previous years (Gervais et al. 2008). Although western burrowing owls nest within one burrow, they usually occupy a "nest site" composed of both the nesting cavity burrow and nearby satellite burrows where nesting activities are not occurring. In addition, western burrowing owls may change burrows several times during the breeding season, starting when nestlings are about three weeks old (Haug et al. 1993).

Historically, the western burrowing owl was widespread and described as common or abundant in California. Western burrowing owls occurred throughout most of California's counties where suitable low growing vegetation habitat existed except for coastal counties north of Marin County and in mountainous areas (Shuford and Gardali 2008). The highest densities of western burrowing owl were historically reported in interior valleys and coastal lowlands (Grinnell and Miller 1944).

The most current research indicates that the western burrowing owl range in California has not drastically changed from its historical range, but the species has disappeared or greatly declined as a breeding bird in many areas that were previously occupied. Western burrowing owls have been extirpated as a breeding species from at least 19 of the 51 California counties that it previously occurred in and is nearing extirpation in an additional 10 counties (DeSante et al. 1996, 2007; Wilkerson and Siegel 2010). This approximately equates to a 16 percent decrease in the former California breeding range and is nearing extirpation in an additional 13 percent of the former breeding range as a result of numerous anthropogenic sources. The most important of these are direct mortality and permanent habitat loss caused by urbanization, and reduction or elimination of their primary burrow excavators, ground squirrels, from grazing and agricultural lands.

3.4.2 Occurrence of the Western Burrowing Owl in the Project Area

There are three documented occurrences adjacent or overlapping with the PSA, from 1982, 2002, and 2006 (Occ. Nos. 48, 468, and 1229). Multiple other documented occurrences are within 5 miles of the PSA, most recently from 2015 (CDFW 2024).

The habitat on the Project site is moderate-quality annual grassland for western burrowing owl. Focused burrow surveys were conducted on May 16 and August 2, 2023, and January 18, 2024, and additional burrow assessment was conducted during protocol-level burrowing owl surveys on April 12, May 3, May 24, and June 17, 2024, to identify a variety of animal burrows within the updated Project site boundaries, including for western burrowing owl. Several large burrow tailings were observed on the eastern side of the Project site along Patterson Pass Road, evidence of highly suitable soils for burrowing. No western burrowing owls were observed during the field surveys.

3.4.3 Potential for Take of the Western Burrowing Owl

The Project site occurs within the range of the species and may directly and indirectly impact potential foraging and nesting habitat for western burrowing owl; however, no owls have been observed within the Project site following multiple rounds of surveys in 2023, 2024 and 2025. The Project will have temporary and permanent impacts to potential foraging and nesting habitat. The AMMs in Chapter 5 are intended to reduce the likelihood of direct take during Project activities.

Chapter 4. Project Impact on Continued Existence of the Covered Species

4.1 Jeopardy Analysis for California Tiger Salamander

The *Recovery Plan for the Central California Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* (USFWS 2017) and the *5-Year Review, California Tiger Salamander, Central California Distinct Population Segment (Ambystoma californiense)* (USFWS 2023b) states that virtually nothing is known concerning the historical abundance of the Central California tiger salamander. The available data suggest that most extant populations consist of relatively small numbers of breeding adults, in the range of a few to a few dozen pairs, and that populations that number above 100 breeding individuals are rare. California tiger salamanders also exhibit high year-to-year variation in survey counts. Studies show high variability in numbers of breeding adults observed, as well as numbers of larvae produced in a given year; and large annual variation in breeding activity by Central California tiger salamanders has been reported in Alameda County. Also, in some cases, the CNDDB lists California tiger salamander as "presumed extant," but that information may now be incorrect because the California tiger salamander and/or their breeding habitat at that location may have been extirpated by development.

The USFWS determined that there was a 20.7% loss of known Central California tiger salamander occurrences as of 2002 because of habitat loss and degradation (USFWS 2017).

4.1.1 Potential Project Impacts

Project activities will result in 60.7 acres of permanent impacts and 6.7 acres of temporary impacts to California tiger salamander upland and dispersal habitat associated with the grassland vegetation community. There is no suitable aquatic habitat present within the Project site and the nearest stock ponds that provide suitable aquatic breeding habitat are approximately 0.3 miles from the Project study area. Therefore, the Project will not jeopardize the continued existence of the species.

4.1.2 Cumulative Impacts

Implementation of AMMs mentioned in Chapter 5 would ensure that potential adverse effects to California tiger salamander are minimized. Potential Project effects to this species would be direct temporary and permanent effects associated with dispersal and upland habitat only. Because the Project does not have any temporary or permanent effects to breeding habitat for this species, along with the implementation of AMMs, the Project is not expected to have a measurable effect on the local and regional population of these species and is therefore not cumulatively considerable.

4.2 Jeopardy Analysis for Crotch's Bumble Bee

The petition to list Crotch's bumble bee as endangered under CESA (The Xerces Society et al. 2018) states that this species was historically common in the southern two-thirds of California, but is now absent from most of its range, specifically in the center of its range including the Central Valley. In the Central Valley, agriculture and rapid urbanization have been the main threat to this species nesting and foraging habitat. It is estimated that this species has gone through an average decline of 67%, including relative abundance and persistence in their current range (The Xerces Society et al. 2018). Tracking extant populations of Crotch's bumble bee is limited due to the species still being surveyed in its historical range throughout the state and additional studies on the species and their habitat are still recommended to help with this effort.

4.2.1 Potential Project Impacts

Project activities will result in 60.7 acres of permanent impacts to Crotch's bumble bee nesting and foraging habitat and 6.7 acres of temporary impacts to Crotch's bumble bee nesting and foraging habitat associated with the grassland vegetation community. Although suitable nesting habitat is present, no bumble bee species were observed during the 2023 and 2024 field surveys. Therefore, the Project will not jeopardize the continued existence of the species.

4.2.2 Cumulative Impacts

Implementation of AMMs mentioned in Chapter 5 would ensure that potential adverse effects to Crotch's bumble bee nesting and foraging habitat are minimized. Potential Project effects to this species would be direct temporary and permanent effects associated with nesting and foraging habitat. Although suitable nesting habitat will be impacted, there is only 1 historical CNDDB record within a 9-quadrangle search of the Project site and no bumble bees were observed during focused surveys. With the implementation of AMMs, the Project is not expected to have a measurable effect on the local and regional population of these species and is therefore not cumulatively considerable.

4.3 Jeopardy Analysis for San Joaquin Kit Fox

The *Recovery Plan for Upland Species of the San Joaquin Valley, California* (USFWS 1998) and the *5-Year Review, San Joaquin kit fox (Vulpes macrotis mutica)* (USFWS 2020) states that San Joaquin kit foxes can exhibit significant population size variability. Most of the populations in natural habitats fluctuate regularly depending on environmental conditions, including extremes of rainfall that have effects on prey species.

San Joaquin kit fox populations have decreased due to natural habitat conversion to agriculture and urban development, creating fragmented habitat throughout its range. This species requires habitat corridors of appropriate size so this species can maintain its genetic and ecological diversity and distribution of resilient populations across its range.

4.3.1 Potential Project Impacts

Project activities will result in 60.7 acres of permanent impacts and 6.7 acres of temporary impacts to San Joaquin kit fox dispersal and migration habitat associated with the grassland vegetation community. There is no suitable breeding or denning habitat present within the Project site. Therefore, the Project will not jeopardize the continued existence of the species.

4.3.2 Cumulative Impacts

Implementation of AMMs mentioned in Chapter 5 would ensure that potential adverse effects to San Joaquin kit fox are minimized. Because the Project impacts to this species' habitat are not anticipated to have a significant impact on the species or jeopardize its continued existence, it is not expected to have a measurable effect on the local and regional population of this species and is therefore not cumulatively considerable.

4.4 Jeopardy Analysis for Western Burrowing Owl

The petition to list western burrowing owl as threatened or endangered under CESA (CDFW 2024) states that the California counties where burrowing owls are thought to have been extirpated, including portions of the northern Central Valley, all of the coastal Bay Area, most of the central and southern coast, as well as some areas in the interior of the Bay Area. The petition states areas of extirpation comprise roughly 16% of the burrowing owls' former range. The petition states burrowing owls are likely to be very close to being extirpated from another 13% of their range, including in portions of the Central Valley, the remaining areas in the interior Bay Area, and the central and southwestern coasts.

4.4.1 Potential Project Impacts

Project activities will result in 60.7 acres of permanent impacts and 6.7 acres of temporary impacts to potential western burrowing owl foraging and nesting habitat associated with the grassland vegetation community. Although suitable nesting habitat is present, no western burrowing owls were observed during the 2023, 2024 and 2025 field surveys. Therefore, the Project will not jeopardize the continued existence of the species.

4.4.2 Cumulative Impacts

Implementation of AMMs mentioned in Chapter 5 would ensure that potential adverse effects to western burrowing owl are minimized. Because the Project impacts to this species' habitat are not anticipated to have a significant impact on the species or jeopardize its continued existence, it is not expected to have a measurable effect on the local and regional population of this species and is therefore not cumulatively considerable.

4.5 Indirect Impacts

Any potential indirect impacts to California tiger salamander, burrowing owl, Crotch's bumble bee and San Joaquin kit fox associated with project activities such as noise, vibration, increased human presence will be minimized through the implementation of avoidance and minimization measures listed in Chapter 5 along. Specific avoidance and minimization measures include minimizing off-road vehicle travel, seasonal work restrictions, establishment of work boundaries with fencing, preconstruction surveys and biological monitoring. The Applicant is not seeking coverage for additional State listed species, including Swainson's hawk, California red-legged frog or golden eagle; therefore, impact analysis of these species is not incorporated into this ITP application.

Chapter 5. Minimization and Mitigation Measures

The Project applicant has worked closely with wildlife biologists, in consultation with resource agencies, through the design process to minimize impacts on California tiger salamander, Crotch's bumble bee, San Joaquin kit fox, and western burrowing owl. The Project site is within the EACCS; therefore, avoidance, minimization, and mitigation measures described below for each species are directly from the EACCS and the Programmatic Biological Opinion for the EACCS (USFWS 2012).

5.1 Work Window Restrictions

For California tiger salamander, work will be avoided within suitable aquatic habitat from October 15 (or the first measurable fall rain of 1" or greater) to May 1. This work window applies regardless of the results of pre-construction surveys.

Other work windows and avoidance areas depend on the results of pre-construction surveys, as described in more detail below and in Table 7.

For Crotch's bumble bee, if nest resources occupied by Crotch's bumble bee are detected within the construction area during pre-construction surveys, 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.

For western burrowing owl, 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. These are shown in Table 7 and discussed further below.

Table 7. Summary of Work Window Restrictions

California tiger salamander	October 15 – May 1	Aquatic habitat
Crotch's bumble bee	February 1 – October 31	Nesting habitat only
San Joaquin kit fox	N/A	No seasonal restrictions
Western burrowing owl	March 15 – September 1	Active nests only

~~5.15.2~~ General Avoidance and Minimization Measures for Construction and Decommissioning

Implementation of applicable general avoidance and minimization measures will reduce potential adverse effects to EACCS special-status wildlife during construction of the Project. A summary of seasonal work window restrictions are shown in Table 7 above ~~These~~and general avoidance measures are listed below.

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.

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).

5.25.3 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 aquatic habitat from October 15 (or the first measurable fall rain of 1" or greater) to May 1.

5.2.15.3.1 Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, impacts to California tiger salamander will be minimized. To compensate for direct impacts California tiger salamander, the Applicant will purchase and ensure long-term conservation of a turnkey mitigation property within the same Conservation Zone as the Project site (Conservation Zone 10) as described in Appendix C. 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 California tiger salamander are 3:1 (three acres preserved for each acre removed). EACCS mitigation scoring sheets are found in Appendix D.

Therefore, Permanent impacts will be mitigated at a minimum of 3:1 for California tiger salamander (See Table 7 in Section 5.7). Final mitigation ratios will be based on consultation with CDFW.

5.35.4 Crotch's Bumble Bee Avoidance and Minimization Measures

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.

- ~~In the event an Incidental Take Permit is needed, mitigation for direct impacts to Crotch's bumble bee will be fulfilled through compensatory mitigation at a minimum 1:1 nesting habitat replacement of equal or better functions and values to those impacted by the Project, or as otherwise determined through the Incidental Take Permit process. Mitigation will be accomplished either through off site conservation or through a CDFW-approved mitigation bank. If mitigation is not purchased through a mitigation bank, and lands are conserved separately, a cost estimate will be prepared to estimate the initial start-up costs and ongoing annual costs of management activities for the management of the conservation easement area(s) in perpetuity. The funding source will be in the form of an endowment to help the qualified natural lands management entity that is ultimately selected to hold the conservation easement(s). The endowment amount will be established following the completion of a Project-specific Property Analysis Record to calculate the costs of in-perpetuity land management. The Property Analysis Record will take into account all management activities required in the Incidental Take Permit to fulfill the requirements of the conservation easement(s), which are currently in review and development.~~

~~5.3.15.4.1~~ Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, compensatory mitigation proposed is associated with the preservation of nesting and foraging habitat for this species. To compensate for direct impacts on nesting and foraging habitat for Crotch's bumble bee, the Applicant will purchase a turnkey mitigation property within the same Conservation Zone as the Project site (Conservation Zone 10) as described in Appendix C. 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.. Since this species is not included in the EACCS, the standard mitigation ratio for other species in the plan (3:1) will be applied to this species. Final mitigation ratios will be based on consultation with CDFW.

~~5.45.5~~ San Joaquin Kit Fox Avoidance and Minimization Measures

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.

~~5.4.15.5.1~~ Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, compensatory mitigation proposed is associated with the preservation of dispersal and migration habitat for this

species. To compensate for direct impacts on dispersal and migration habitat for San Joaquin kit fox, the Applicant will purchase a turnkey mitigation property within the same Conservation Zone as the Project site (Conservation Zone 10) as described in Appendix C. 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 San Joaquin kit fox are 3:1 (three acres preserved for each acre removed) (ICF 2010). Final mitigation ratios will be based on consultation with CDFW. EACCS mitigation scoring sheets are found in Appendix D.

~~5.65.6~~ Western Burrowing Owl Avoidance and Minimization Measures

Implementation of applicable birds 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.

~~5.6.15.6.1~~ Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, compensatory mitigation proposed is associated with the preservation of nesting and foraging habitat for this species. To compensate for direct impacts on potential nesting and foraging habitat for western burrowing owl, the Applicant will purchase a turnkey mitigation property within the same Conservation Zone as the Project site (Conservation Zone 10) as described in Appendix C. 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 standard mitigation ratio for this species in the plan (3:1) will be applied. Final mitigation ratios will be based on consultation with CDFW. EACCS mitigation scoring sheets are found in Appendix D.

~~6.65.7~~ Funding

To compensate for direct impacts on habitat for California tiger salamander, Crotch's bumble bee, San Joaquin kit fox and western burrowing owl, the Applicant will purchase a turnkey mitigation property within the same Conservation Zone as the Project site (Conservation Zone 10) as described in Appendix C. The Applicant will ensure a long-term conservation plan is implemented with the turnkey 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 CDFW and USFWS. 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. All necessary requirements to acquire the proposed mitigation property will be completed prior to ground disturbance and this process has already been initiated. 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 Applicant does not plan to provide alternate financial assurances to cover the cost of mitigation. The Security shall be in the form of an irrevocable letter of credit or another form of Security approved in advance in writing by CDFW's Office of the General Counsel.

Table ~~7~~8 provides the proposed mitigation ratios and acreages for each species. EACCS Mitigation Scoring sheets are provided in Appendix D.

Table ~~8~~7. Proposed Compensatory Mitigation for Listed Species

Species	Permanent Impacts		
	Impact (acres)	Ratio	Mitigation (acres)
California tiger salamander	60.7	3:1	182.1
Crotch's bumble bee	60.7	3:1	182.1
San Joaquin kit fox	60.7	3:1	182.1
Western burrowing owl	60.7	3:1	182.1

Chapter 6. Certification

I certify that the information submitted in this application is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to suspension or revocation of this permit and to civil and criminal penalties under the laws of the State of California.

Signature

Date

Patrick Leitch, Chief Operating Officer
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Chapter 7. References

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APPENDIX A – Figures

Figure 1. Project Location

Figure 2. Project Site Aerial

~~Figure 3. Project Design Features~~

Figure ~~4~~3. Potential Waters of the United States within the Project Site

Figure ~~5~~4. CNDDB Occurrences within a 9-Quad Search of the Project Site

APPENDIX B – Biological ~~Resources~~ Technical Report

APPENDIX C – Mitigation Property Biological Resources Report Assessment

Appendix D - EACCS Mitigation Scoring Sheets

Message

From: Kelly Strain [KStrain@capstoneinfra.com]
Sent: 7/18/2025 11:18:29 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
CC: Ronelle Candia [rcandia@dudek.com]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Joel Moore [Jmoore@moore-devservices.com]; Palmer, Dana [dpalmer@allenmatkins.com]; Lauren McLeod [LMcLeod@capstoneinfra.com]; Paul Miller [pam@eurowindenergy.com]; Palmer, Dana [dpalmer@allenmatkins.com]
Subject: RE: PoVI project, CEC status for data completeness

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Eric,

Correction to my previous email as we have some late worker bees on a Friday evening.

We just uploaded the ITP, 401 Permit Figures, and the clean and redline versions of the mitigation lands biological assessment to the Docket.

Please let us know if you have any questions.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 848-3340
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Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: July 18, 2025 4:05 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <Jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>; Palmer, Dana <dpalmer@allenmatkins.com>
Subject: RE: PoVI project, CEC status for data completeness

Eric,

Attached you will find the revised ITP. The Redlined LSAA, and the revised mitigation lands biological assessment will be uploaded this weekend or Monday. We are also working on the latest set of DRs pertaining to air quality. We are also

seeking clarification on the outstanding public benefits questions as that will greatly aid in our efforts. Our team will provide a thorough response to our desired date for a data completeness deadline of July 31 on Monday.

Please let me know if you have any questions.

Sincerely,

Kelone Strain
Environmental & Permitting Manager

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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 17, 2025 3:32 PM
To: Kelly Strain <KStrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pain@eurovindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

Thanks Kelly,
Our emails kinda crossed in cyber space. I just sent a request for clarification on five items related to Air Quality and Public Health. I appreciate your attentiveness to Biological Resources needs, the substance of which will be used in preparing our second email, minus those items you will be submitting tomorrow, Friday. One additional email requesting clarification on Net Economic Benefits analysis is also undergoing final review.

Your mention of the date of July 31 is the first instance of such a requested date, although our counsel has shared that they recently heard that same date. Our target currently is still late-August. Thank you for your willingness to fill in any remaining data gaps, and there are not many. Are you able to provide any additional substantive background about why that date has been circled as a desired date for a data completeness determination?

Thanks again.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, July 17, 2025 2:20 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

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Good afternoon, Eric~

I am just following up on the voice message I just left you and the email I sent you yesterday. Please let us know if you have any questions or need additional data. The documents indicated below will be submitted tomorrow. We can also commit to resolving any additional data gaps to ensure a deemed complete status by the end of this month, July 31.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

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Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: July 16, 2025 4:36 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

Good afternoon, Eric~

We had a successful meeting today and we anticipate having the following items revised and submitted to the CEC by this Friday, July 18:

- ITP redlined version addressing CBB
- LSAA updated figure and possible redlined LSAA document
- Mitigation lands biological resources assessment document and DR Bio-1 response (I will reconfirm this tomorrow as we need input from Westervelt)

Please let us know if you have any questions or need additional data not indicated above.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

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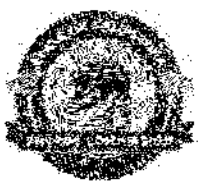
Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 16, 2025 8:13 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

Good Morning,
Thank you for the information. If not overly burdensome, sharing a brief list of the items you plan to include in the resubmittals in an email would help our team to confirm what to expect. The submittal of the information itself is best filed to the docket. If this does not cover it, please let me know.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov



From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Tuesday, July 15, 2025 3:35 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

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Hello, Eric

Thank you for the update. Yes, we are meeting tomorrow to wrap up the outstanding data request indicated below. Many of our critical team members were out on vacation so we had a slight delay. I believe we can quickly triage these remaining items and have a response to you either later this week or early next week. I will know more tomorrow after our meeting at 11:00 AM PDT and provide a more accurate date of submittal. Are we to simply email you the responses, or do you prefer they be uploaded to the docket?

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 15, 2025 3:27 PM
To: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Kelly Strain <kstrain@capstoneinfra.com>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: PoVI project, CEC status for data completeness

Hi Kelly,
I am reaching out to you as follow up to Kaycee's email below on 7/10. We are still working to resolve remaining outstanding items where CEC still needs additional information.

Staff has completed and is finalizing requests for clarifying information for the following technical areas. For these items, we hope to send to you an email (for later docketing) clarifying several items, very shortly.

- Air Quality and Public Health
- Public Benefit (Net Economic Benefit to the local gov't.)

The following one technical area and corresponding data items are potentially more significant and, in their absence, may be a decision point in our ability to make a determination of completeness. Ann Crisp and her team is meeting today to determine what information is still needed. The difficulty we are facing is that post-completeness determination, our ability to request further project details and information is limited. For this reason, we are trying to ensure we have all the information we need.

- Biological Resources

I also wanted to inquire again from the July 10 email below from Kaycee (highlighted in yellow) held over from the last meeting on July 8. Are you still planning to provide this to us?

Thank you Kelly.

Eric W. Veerkamp
Project Manager

STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Sent: Thursday, July 10, 2025 1:17 PM
To: Kelly Strain <kstrain@capstoneinfre.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: Re: PoVI project, CEC status for data completeness

Hi Kelly,

We were checking with our teams on the clarification needed on how to submit the following items as discussed at the July 8th meeting:

- LSAA (Attachment 7) – Resubmit the entire revised notification in track changes/red-line strikethrough
- CBB ITP – Resubmit the entire redline strikethrough ITP
    - Please clarify if the applicant is requesting full take coverage (nests and foraging individuals) or make clear what the applicant expects they can avoid
- Mitigation Lands – Resubmit the relevant subsections in redline strikethrough

Note: Our team is reviewing the data request responses and may have a few follow-up questions.

To help ensure alignment, we'd also appreciate if you could share a list of specific items you plan to include in your resubmittals based on our discussion. This will allow our team to confirm whether anything else may be needed in advance, and help make the process more efficient for everyone by avoiding some back-and-forth later.

Regarding the data completeness decision, please allow me to clarify: we asked our teams to review the data request responses by the end of this week and confirm whether they have all the information needed for their topic areas or if they will have additional data requests. For additional data requests, we plan to transmit those via email once reviewed by management and legal internally, with a request for the responses to be filed to the docket and to include a copy of our original request(s). That said, you should hear more from us next week.

As mentioned below, we may have follow-up questions for bio. I'll also share a heads up that we just received a few questions related to air quality and public health - those are undergoing legal review now. As soon as data requests are ready, we will get them over to you.

Please let me know if you have any questions.

Thank you,
Kaycee

Kaycee Chang (she, her, hers)
Supervisor
Siting, Transmission, and Environmental Protection Division

Book time to meet with me

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Thursday, July 10, 2025 11:15 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: PoVI project, CEC status for data completeness

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Hello, Eric and Ann~

We are just checking in to see if the CEC or CDFW has any additional questions for us, or clarification to some of the topics discussed in Tuesday's meeting. Eric's email below indicated we would have your data completeness decision by today, July 10; however, it also states ***Friday***, July 10. Perhaps you meant Friday, July 11. In the meantime, we are working on responses / revisions to our previously submitted Bio DR responses to address the Tuesday meeting CEC and CDFW's comments.

Please let me know if you have any questions.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
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Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: June 23, 2025 11:44 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI project, CEC status for data completeness

Hi Kelly,
Please allow to me to update you with our staff process for data completion; I have conveyed this information to the team and they are working towards these dates.

The responses you provided to the CEC Rev-1 DRs completed filing on Wednesday, June 11. Ann Crisp, the Biological Resources supervisor has requested that our partners at CDFW provide any comment on the BIO responses (filed on 6/10) by Tuesday, July 1. This in in accordance with our inter-agency agreement with CDFW. Following that, I have requested staff target their data completeness decision by Friday, July 10 or before. Staff is working going through the responses; Biological Resources would likely be the last discipline to be completed, due to the coordination with CDFW.

At this point, no specific issues to share. If you are ok with it, I suggest we could pass on the meeting tomorrow, 6/24.

Thanks.

P.S. You beat me to it with your email earlier.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

Message

To: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Kelly Strain [kstrain@capstoneinfra.com]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
CC: Ronelle Candia [rcandia@dudek.com]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]
Subject: RE: PoVI project, CEC status for data completeness

Good Morning Kelly,
I am reaching out to you as follow up to Kaycee's email below on 7/10. I am actively working on resolving remaining outstanding items where CEC still needs additional information.

Staff has completed requests for clarifying information for the following technical areas. For these items, we hope to send to you an email (for later docketing) clarifying several items.

- Air Quality and Public Health
- Public Benefit (Net Economic Benefit to the local gov't.)

The following technical areas and corresponding data items are potentially more significant and, in their absence, may hinder our ability to make a determination of completeness. Ann Crisp and her team is meeting today to determine if the items can be considered clarification, or if a formal data request is necessary. The difficulty we are facing is that post-completeness determination, our ability to request further project details and information is limited (or non-existent). For this reason, we need to make sure we have all the information we need.

- Biological Resources

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Sent: Thursday, July 10, 2025 1:17 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: Re: PoVI project, CEC status for data completeness

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    - Please clarify if the applicant is requesting full take coverage (nests and foraging individuals) or make clear what the applicant expects they can avoid
- Mitigation Lands – Resubmit the relevant subsections in redline strikethrough

Note: Our team is reviewing the data request responses and may have a few follow-up questions.

To help ensure alignment, we'd also appreciate if you could share a list of specific items you plan to include in your resubmittals based on our discussion. This will allow our team to confirm whether anything else may be needed in advance, and help make the process more efficient for everyone by avoiding some back-and-forth later.

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As mentioned below, we may have follow-up questions for bio. I'll also share a heads up that we just received a few questions related to air quality and public health - those are undergoing legal review now. As soon as data requests are ready, we will get them over to you.

Please let me know if you have any questions.

Thank you,
Kaycee

Kaycee Chang (she, her, hers)
Supervisor
Siting, Transmission, and Environmental Protection Division
Book time to meet with me

From: Kelly Strain <kstrain@capitolinfra.com>
Sent: Thursday, July 10, 2025 11:15 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <Kaycee.Chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: PoVI project, CEC status for data completeness

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Hello, Eric and Ann~

We are just checking in to see if the CEC or CDFW has any additional questions for us, or clarification to some of the topics discussed in Tuesday's meeting. Eric's email below indicated we would have your data completeness decision by today, July 10; however, it also states ***Friday***, July 10. Perhaps you meant Friday, July 11. In the meantime, we are working on responses / revisions to our previously submitted Bio DR responses to address the Tuesday meeting CEC and CDFW's comments.

Please let me know if you have any questions.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
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Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: June 23, 2025 11:44 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI project, CEC status for data completeness

Hi Kelly,
Please allow to me to update you with our staff process for data completion; I have conveyed this information to the team and they are working towards these dates.

The responses you provided to the CEC Rev-1 DRs completed filing on Wednesday, June 11. Ann Crisp, the Biological Resources supervisor has requested that our partners at CDFW provide any comment on the BIO responses (filed on 6/10) by Tuesday, July 1. This in in accordance with our inter-agency agreement with CDFW. Following that, I have requested staff target their data completeness decision by Friday, July 10 or before. Staff is working going through the responses; Biological Resources would likely be the last discipline to be completed, due to the coordination with CDFW.

At this point, no specific issues to share. If you are ok with it, I suggest we could pass on the meeting tomorrow, 6/24.

Thanks.

P.S. You beat me to it with your email earlier.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

Message

To: Kelly Strain [KStrain@capstoneinfra.com]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
CC: Ronelle Candia [rcandia@dudek.com]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Joel Moore [Jmoore@moore-devservices.com]; Palmer, Dana [dpalmer@allenmatkins.com]; Lauren McLeod [LMcLeod@capstoneinfra.com]; Paul Miller [pam@eurowindenergy.com]
Subject: RE: PoVI project, CEC status for data completeness

Thanks Kelly,
Our emails kinda crossed in cyber space. I just sent a request for clarification on five items related to Air Quality and Public Health. I appreciate your attentiveness to Biological Resources needs, the substance of which will be used in preparing our second email, minus those items you will be submitting tomorrow, Friday. One additional email requesting clarification on Net Economic Benefits analysis is also undergoing final review.

Your mention of the date of July 31 is the first instance of such a requested date, although our counsel has shared that they recently heard that same date. Our target currently is still mid-August. Thank you for your willingness to fill in any remaining data gaps, and there are not many. Are you able to provide any additional substantive background about why that date has been circled as a desired date for a data completeness determination?

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, July 17, 2025 2:20 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <Jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon, Eric~

I am just following up on the voice message I just left you and the email I sent you yesterday. Please let us know if you have any questions or need additional data. The documents indicated below will be submitted tomorrow. We can also commit to resolving any additional data gaps to ensure a deemed complete status by the end of this month, July 31.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

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Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: July 16, 2025 4:36 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jlmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

Good afternoon, Eric~

We had a successful meeting today and we anticipate having the following items revised and submitted to the CEC by this Friday, July 18:

- ITP redlined version addressing CBB
- LSAA updated figure and possible redlined LSAA document
- Mitigation lands biological resources assessment document and DR Bio-1 response (I will reconfirm this tomorrow as we need input from Westervelt)

Please let us know if you have any questions or need additional data not indicated above.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

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Facsimile +1 (416) 649-1565
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Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 16, 2025 8:13 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore

<jmoore@jmoore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

Good Morning,
Thank you for the information. If not overly burdensome, sharing a brief list of the items you plan to include in the resubmittals in an email would help our team to confirm what to expect. The submittal of the information itself is best filed to the docket. If this does not cover it, please let me know.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Tuesday, July 15, 2025 3:35 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@jmoore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello, Eric

Thank you for the update. Yes, we are meeting tomorrow to wrap up the outstanding data request indicated below. Many of our critical team members were out on vacation so we had a slight delay. I believe we can quickly triage these remaining items and have a response to you either later this week or early next week. I will know more tomorrow after our meeting at 11:00 AM PDT and provide a more accurate date of submittal. Are we to simply email you the responses, or do you prefer they be uploaded to the docket?

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

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Facsimile +1 (424) 649-1335
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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 15, 2025 3:27 PM
To: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Kelly Strain <kstrain@capstoneintra.com>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: PoVI project, CEC status for data completeness

Hi Kelly,
I am reaching out to you as follow up to Kaycee's email below on 7/10. We are still working to resolve remaining outstanding items where CEC still needs additional information.

Staff has completed and is finalizing requests for clarifying information for the following technical areas. For these items, we hope to send to you an email (for later docketing) clarifying several items, very shortly.

- Air Quality and Public Health
- Public Benefit (Net Economic Benefit to the local gov't.)

The following one technical area and corresponding data items are potentially more significant and, in their absence, may be a decision point in our ability to make a determination of completeness. Ann Crisp and her team is meeting today to determine what information is still needed. The difficulty we are facing is that post-completeness determination, our ability to request further project details and information is limited. For this reason, we are trying to ensure we have all the information we need.

- Biological Resources

I also wanted to inquire again from the July 10 email below from Kaycee (highlighted in yellow) held over from the last meeting on July 8. Are you still planning to provide this to us?

Thank you Kelly.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Sent: Thursday, July 10, 2025 1:17 PM
To: Kelly Strain <kstrain@capstoneintra.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: Re: PoVI project, CEC status for data completeness

Hi Kelly,

We were checking with our teams on the clarification needed on how to submit the following items as discussed at the July 8th meeting:

- LSAA (Attachment 7) – Resubmit the entire revised notification in track changes/red-line strikethrough
- CBB ITP – Resubmit the entire redline strikethrough ITP
    - Please clarify if the applicant is requesting full take coverage (nests and foraging individuals) or make clear what the applicant expects they can avoid
- Mitigation Lands – Resubmit the relevant subsections in redline strikethrough

Note: Our team is reviewing the data request responses and may have a few follow-up questions.

To help ensure alignment, we'd also appreciate if you could share a list of specific items you plan to include in your resubmittals based on our discussion. This will allow our team to confirm whether anything else may be needed in advance, and help make the process more efficient for everyone by avoiding some back-and-forth later.

Regarding the data completeness decision, please allow me to clarify: we asked our teams to review the data request responses by the end of this week and confirm whether they have all the information needed for their topic areas or if they will have additional data requests. For additional data requests, we plan to transmit those via email once reviewed by management and legal internally, with a request for the responses to be filed to the docket and to include a copy of our original request(s). That said, you should hear more from us next week.

As mentioned below, we may have follow-up questions for bio. I'll also share a heads up that we just received a few questions related to air quality and public health - those are undergoing legal review now. As soon as data requests are ready, we will get them over to you.

Please let me know if you have any questions.

Thank you,
Kaycee

Kaycee Chang (she, her, hers)
Supervisor
Siting, Transmission, and Environmental Protection Division
Book time to meet with me

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Thursday, July 10, 2025 11:15 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: PoVI project, CEC status for data completeness

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello, Eric and Ann~

We are just checking in to see if the CEC or CDFW has any additional questions for us, or clarification to some of the topics discussed in Tuesday's meeting. Eric's email below indicated we would have your data completeness decision by today, July 10; however, it also states ***Friday***, July 10. Perhaps you meant Friday, July 11. In the meantime, we are working on responses / revisions to our previously submitted Bio DR responses to address the Tuesday meeting CEC and CDFW's comments.

Please let me know if you have any questions.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
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Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: June 23, 2025 11:44 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI project, CEC status for data completeness

Hi Kelly,
Please allow to me to update you with our staff process for data completion; I have conveyed this information to the team and they are working towards these dates.

The responses you provided to the CEC Rev-1 DRs completed filing on Wednesday, June 11. Ann Crisp, the Biological Resources supervisor has requested that our partners at CDFW provide any comment on the BIO responses (filed on 6/10) by Tuesday, July 1. This in in accordance with our inter-agency agreement with CDFW. Following that, I have requested staff target their data completeness decision by Friday, July 10 or before. Staff is working going through the responses; Biological Resources would likely be the last discipline to be completed, due to the coordination with CDFW.

At this point, no specific issues to share. If you are ok with it, I suggest we could pass on the meeting tomorrow, 6/24.

Thanks.

P.S. You beat me to it with your email earlier.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-9458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

Message

From: Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent: 7/22/2025 3:55:07 PM
To: kstrain@capstoneinfra.com; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Koch, Andrea@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8024cfdec6344412812ea6c8320f29b2-Koch, Andre]
Subject: Potentia-Viridi discussion item for today's 10:00 meeting, Land Use item

Hi Kelly,
Andrea Koch, the land use expert in our Community Resource Unit, asked the following question to clarify a point of confusion. I thought the best way to handle it might be to solicit a verbal response from your expert in our meeting today. Thanks so much.

Page 2-1 of the application states: "Development of the BESS facility would occur on about 70 acres of APN 99B-7890-002-04, which currently consists of fallowed annual grasslands suitable for grazing." Also, page 3.6-2 of the application states: "The BESS facility site and surrounding land have been used for cattle grazing in the past. However, the BESS facility site and PG&E Tesla Substation property have not been grazed recently, whereas APN 99B-7890-2-6, the property crossed by the gen-tie between the BESS facility site and PG&E Tesla Substation property is currently used as cattle pasture."

Data Response Set 2, however, states that the BESS facility site is currently used for grazing. Page 29 of Data Response Set 2 states: "According to the property owner, the property is currently used for livestock grazing, and has been used for livestock grazing since before the property was subject to a Williamson Act contract in 1972."

Eric W. Veerkamp
Compliance Project Manager
California Energy Commission
916-661-8458
www.energy.ca.gov

Message

From: Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent: 7/28/2025 11:35:17 PM
To: kstrain@capstoneinfra.com; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]
Subject: PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources, Round 2

Hi Kelene and Ronelle,
For Potentia-Viridi, 24-OPT-04, the CEC is requesting one more item of clarification regarding Biological Resources, alluded to in the email of 7/22 on biological resources. The CEC plans to file this email to the docket.

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.

Please file your responses to the docket. If you have any questions about these items, let us know.

Thank you.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

From: Kelly Strain [kstrain@capstoneinfra.com]
Sent: 7/29/2025 8:13:45 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]
Subject: RE: PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources, Round 2

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Good afternoon, Eric

We are currently in the process of finalizing the revised figures and LSAA, and we plan to have them completed and uploaded to the docket by this Friday. Thank you for the additional clarification regarding CDFW's regulatory authority. At this time, could you please let us know if there are any forthcoming questions or data requests related to biological resources?

Sincerely,

Kelene Strain
Environmental & Permitting Manager

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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 28, 2025 4:35 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources, Round 2

Hi Kelene and Ronelle,
For Potentia-Viridi, 24-OPT-04, the CEC is requesting one more item of clarification regarding Biological Resources, alluded to in the email of 7/22 on biological resources. The CEC plans to file this email to the docket.

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.

Please file your responses to the docket. If you have any questions about these items, let us know.

Thank you.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

From: Kelly Strain [KStrain@capstoneinfra.com]
Sent: 8/5/2025 3:03:53 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Ronelle Candia [rcandia@dudek.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
Subject: RE: PoVI, Request for LSAA KMZ - Meeting Today at 10
Importance: High

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning, Eric

Just checking in to confirm you received the kmz file and that we are still meeting this morning at 10:00 AM PDT.

Sincerely,

Kelena Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

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Facsimile +1 (416) 618-1995
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Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: August 4, 2025 8:05 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Ronelle Candia <rcandia@dudek.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: RE: PoVI, Request for Information, follow up to REV-1 Data Requests/Response, BIO

Eric,

Attached you will find the KMZ requested by CDFW. We will continue to upload the remaining responses to the docket. Please let me know if you have any questions.

Sincerely,

Kelena Strain
Environmental & Permitting Manager

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Facsimile +1 (416) 649-1995

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Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 30, 2025 5:28 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: PoVI, Request for Information, follow up to REV-1 Data Requests/Response, BIO

Hi Kelly and Ronelle,
In response to your inquiry, CEC staff has now forwarded all remaining requests for clarification for Biological Resources, so there will be nothing additional.

TY. We look forward to your responses.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Tuesday, July 29, 2025 1:14 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources, Round 2

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Good afternoon, Eric

We are currently in the process of finalizing the revised figures and LSAA, and we plan to have them completed and uploaded to the docket by this Friday. Thank you for the additional clarification regarding CDFW's regulatory authority. At this time, could you please let us know if there are any forthcoming questions or data requests related to biological resources?

Sincerely,

Kelene Strain
Environmental & Permitting Manager

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Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 28, 2025 4:35 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources, Round 2

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Please file your responses to the docket. If you have any questions about these items, let us know.

Thank you.

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California Energy Commission
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STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

From: Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent: 8/5/2025 3:32:57 PM
To: Kelly Strain [KStrain@capstoneinfra.com]; Ronelle Candia [rcandia@dudek.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]
Subject: RE: PoVI, Request for LSAA KMZ - Meeting Today at 10

Thank you Kelly. I received the KMZ files, thank you very much.

Based on what I know, we should not have a need to meet today. Does your staff have any additional questions or items for our staff?

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Tuesday, August 5, 2025 8:04 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Ronelle Candia <rcandia@dudek.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: RE: PoVI, Request for LSAA KMZ - Meeting Today at 10
Importance: High

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning, Eric

Just checking in to confirm you received the kmz file and that we are still meeting this morning at 10:00 AM PDT.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 399 5340
Facsimile +1 (416) 642-1835

Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: August 4, 2025 8:05 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Ronelle Candia <rcandia@dudek.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: RE: PoVI, Request for Information, follow up to REV-1 Data Requests/Response, BIO

Eric,

Attached you will find the KMZ requested by CDFW. We will continue to upload the remaining responses to the docket. Please let me know if you have any questions.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
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To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: PoVI, Request for Information, follow up to REV-1 Data Requests/Response, BIO

Hi Kelly and Ronelle,
In response to your inquiry, CEC staff has now forwarded all remaining requests for clarification for Biological Resources, so there will be nothing additional.

TY. We look forward to your responses.

Eric W. Veerkamp
Project Manager
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916-661-8458
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From: Kelly Strain <kstrain@capstoneinfra.com>
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Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
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Good afternoon, Eric

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Sincerely,

Kelene Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 998 5010
Facsimile +1 (416) 649 1565
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

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Sent: July 28, 2025 4:35 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources, Round 2

Hi Kelene and Ronelle,
For Potentia-Viridi, 24-OPT-04, the CEC is requesting one more item of clarification regarding Biological Resources, alluded to in the email of 7/22 on biological resources. The CEC plans to file this email to the docket.

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.

Please file your responses to the docket. If you have any questions about these items, let us know.

Thank you.

Eric W. Veerkamp
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California Energy Commission
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From: Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent: 8/7/2025 3:55:12 PM
To: Kelly Strain [kstrain@capstoneinfra.com]; Ronelle Candia [rcandia@dudek.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]
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Sincerely,

Kelsie Strain
Environmental & Permitting Manager

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Sincerely,

Kelene Strain
Environmental & Permitting Manager

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Thank you.

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Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

From: Kelly Strain [kstrain@capstoneinfra.com]
Sent: 8/7/2025 3:58:26 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Ronelle Candia [rcandia@dudek.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]
Subject: RE: PoVI, Request for Information, follow up to REV-1 Data Requests/Response, BIO

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Eric,

Thank you for letting us know the KMZ file isn't clear. I will get a response back to you as soon as possible, preferably today.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 339-5510
Facsimile +1 (818) 849-1965
Email kstrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: August 7, 2025 8:55 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: PoVI, Request for Information, follow up to REV-1 Data Requests/Response, BIO

Good Morning Kelly and Ronelle,
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TY.

Eric W. Veerkamp

Project Manager
California Energy Commission
916-661-8458
STFPSiting@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Monday, August 4, 2025 8:05 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Ronelle Candia <rcandia@dudek.com>
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Sincerely,

Kelena Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 899 5010
Facsimile +1 (424) 648 7555
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

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TY. We look forward to your responses.

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California Energy Commission
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Environmental & Permitting Manager

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Los Angeles, California

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Message

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Sent: 8/7/2025 11:12:39 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Lauren McLeod [LMcLeod@capstoneinfra.com]; Joel Moore [Jmoore@moore-devservices.com]; Rocio Perez [rpe@eurowindenergy.com]; Ronelle Candia [rcandia@dudek.com]
Subject: RE: PoVI, Request for Information, follow up to REV-1 Data Requests/Response, BIO
Attachments: 25.08.07 232059 Capstone.kmz

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Eric,

Our team revised the KMZ to clearly indicate the information requested below. Please request that your team and CDFW review various layers if they believe data may be missing. Please let us know if you have any questions.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 498 5340
Facsimile +1 (416) 649 1965
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Los Angeles, California

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Sent: July 28, 2025 4:35 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <Kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field

@EnergyVeterans.org <field@energyveterans.org>
Subject: PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources, Round 2

Hi Kelene and Ronelle,
For Potentia-Viridi, 24-OPT-04, the CEC is requesting one more item of clarification regarding Biological Resources, alluded to in the email of 7/22 on biological resources. The CEC plans to file this email to the docket.

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.

Please file your responses to the docket. If you have any questions about these items, let us know.

Thank you.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

From: Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent: 8/21/2025 2:10:13 PM
To: kstrain@capstoneinfra.com; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]
Subject: PoVI, total disturbed acreage, please clarify

Hi Kelly,
I have been asked to pass on a question to you from our biologist, Julie Myrah regarding total disturbed areas. This issue came up during the final reviews by our agency partners at California Fish and Wildlife:

- LSAA notification section 10A says 1,450 sq ft disturbed area for the low water crossing and 80 sq ft for the outfall
- LSAA notification section 11A says a total of 1,530 sq ft permanent impacts (which makes sense if you add 1450 sq ft and 80 sq ft in section 10A)
- Design Plan sheets C-4.1 and C-4.2 show 80 sq ft total disturbed area for the outfall and 1,600 sq ft total disturbed area for the low water crossing. The table shows top of bank as 1,450 sq ft and 650 sq ft for the OHWM quantities
-

To eliminate any confusion, can you please confirm which total disturbed area is correct for the low water crossing?

Thanks so much.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

From: Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
Sent: 7/30/2025 6:45:31 PM
To: Yang, Jenna@Waterboards [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e41e549c7a4a4634bdb4de7fcb65914d-Waterboards]; pleitch@capstoneinfra.com
CC: Di Loreto, Matthew J CIV USARMY CESPK (USA) [matthew.j.diloreto@usace.army.mil]; SPKRegulatoryMailbox [spkregulatorymailbox@usace.army.mil]; R9cwa401 [r9cwa401@epa.gov]; WB-DWQ-Stateboard401 [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=99458b7784134f4184ab349a6fd7a6e5-Waterboards]; Naomi Schowalter [nschowalter@integral-corp.com]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject: Re: Notice of Complete Application - Potentia-Viridi Battery Energy Storage System - 5B01CR00050
Attachments: 5B01CR00050_NOCA.pdf

Hi Jenna,

Thank for the email, I am looping in Eric Veerkamp the project manager and the Kaycee Chang, PM supervisor. Please include on future emails.

Talk soon,

Ann

From: Yang, Jenna@Waterboards <Jenna.Yang@Waterboards.ca.gov>
Sent: Thursday, July 10, 2025 12:14 PM
To: pleitch@capstoneinfra.com <pleitch@capstoneinfra.com>
Cc: Di Loreto, Matthew J CIV USARMY CESPK (USA) <matthew.j.diloreto@usace.army.mil>; SPKRegulatoryMailbox <spkregulatorymailbox@usace.army.mil>; R9cwa401 <r9cwa401@epa.gov>; WB-DWQ-Stateboard401 <Stateboard401.Stateboard401@waterboards.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Naomi Schowalter <nschowalter@integral-corp.com>
Subject: Notice of Complete Application - Potentia-Viridi Battery Energy Storage System - 5B01CR00050

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon,

Thank you for submitting an application to enroll under Section 401 Water Quality Certification for the Potentia-Viridi Battery Energy Storage System Project (PV-BESS), WDID: 5B01CR00050. See attached for a Notification of Complete Section 401 Water Quality Certification Application.

Please let me know if you have any questions.

CALIFORNIA Water Boards

Jenna Yang
Water Resource Control Engineer

R5 CENTRAL VALLEY - SACRAMENTO
R5 Point Source Permitting

Email: Jenna.Yang@Waterboards.ca.gov
Phone: +1 (916) 464-4764

Regional Water Quality Control Boards
11020 Sun Center Drive, Suite 200, Rancho Cordova CA 95760
Website: www.waterboards.ca.gov

Follow: X | YouTube | Facebook | LinkedIn

9 July 2025

Patrick Leitch
Levy Alameda, LLC
155 Wellington Street, Suite 2930
Toronto, Ontario, M5V 3H1, Canada
PLeitch@capstoneinfra.com

NOTIFICATION OF A COMPLETE SECTION 401 WATER QUALITY CERTIFICATION APPLICATION; LEVY ALAMEDA, LLC, POTENTIA-VIRIDI BATTERY ENERGY STORAGE SYSTEM PROJECT (PV-BESS) (WDID#5B01CR00050), ALAMEDA COUNTY

Thank you for submitting an application for Section 401 Water Quality Certification (Certification) for the Potentia-Viridi Battery Energy Storage System Project (PV-BESS) (Project) dated 17 June 2025. Based on review of the above materials submitted, the application appears to be complete. Central Valley Regional Water Quality Control Board staff will be preparing a Certification for the Project.

Pursuant to title 23, section 3856, subdivision (b) of the California Code of Regulations, "[a] full, technically accurate description, including the purpose and final goal, of the entire activity" must be provided before an application will be considered "complete." If there are any changes to the Project, your application may be deemed incomplete, and we may contact you for other information to assist us in preparing the Certification.

Pursuant to California Code of Regulations, Title 23, section 3856, subdivision f, a copy of any draft CEQA document(s) prepared for the activity shall be submitted to the certifying agency. A valid CEQA document, which includes the final CEQA document and a Notice of Determination filed with the State Clearinghouse, while not required for a complete application, must be provided and the certifying agency shall have ample time to properly review a final copy of valid CEQA documentation before taking a certification action.

Failure to submit valid CEQA documentation may result in a denial without prejudice. The denial without prejudice is issued for procedural rather than substantive reasons, and carries with it no judgement on the technical merits of the activity.

When submitting materials related to this application, please reference the Project name and WDID number as shown in the subject line. The materials must be converted to a searchable portable document in PDF format. Please submit the required materials

electronically to CentralValleySacramento@waterboards.ca.gov. Documents that are 50 MB or larger should be transferred to a disk and mailed to the address listed below.

Attention: Jenna Yang
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6114

Please contact Jenna Yang immediately at (916) 464-4764 or at Jenna.Yang@waterboards.ca.gov if you have any questions or if there are changes to the project description.

Stephanie Tadlock
Senior Environmental Scientist
401 Water Quality Certification Unit

cc: [Via email only]

Matthew Di Loreto (SPK-2024-00486)
United States Army Corps of Engineers
Sacramento District Office
Regulatory Division
Matthew.J.DiLoreto@usace.army.mil
SPKRegulatoryMailbox@usace.army.mil

United States Environmental Protection Agency
R9CWA401@epa.gov

CWA Section 401 WQC Program
State Water Resources Control Board
StateBoard401@waterboards.ca.gov

Ann Crisp
California Energy Commission
Ann.Crisp@energy.ca.gov

Naomi Schowalter
Integral Consulting Inc.
NSchowalter@integral-corp.com

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 Tesla 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)
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

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Message

From: Kelly Strain [kstrain@capstoneinfra.com]
Sent: 8/4/2025 3:05:10 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Ronelle Candia [rcandia@dudek.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
Subject: RE: PoVI, Request for Information, follow up to REV-1 Data Requests/Response, BIO
Attachments: Patterson_Run.kmz

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Eric,

Attached you will find the KMZ requested by CDFW. We will continue to upload the remaining responses to the docket. Please let me know if you have any questions.

Sincerely,

Kelona Strain
Environmental & Permitting Manager

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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 30, 2025 5:28 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: PoVI, Request for Information, follow up to REV-1 Data Requests/Response, BIO

Hi Kelly and Ronelle,
In response to your inquiry, CEC staff has now forwarded all remaining requests for clarification for Biological Resources, so there will be nothing additional.

TY. We look forward to your responses.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov

www.energy.ca.gov

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Tuesday, July 29, 2025 1:14 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources, Round 2

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Good afternoon, Eric

We are currently in the process of finalizing the revised figures and LSAA, and we plan to have them completed and uploaded to the docket by this Friday. Thank you for the additional clarification regarding CDFW's regulatory authority. At this time, could you please let us know if there are any forthcoming questions or data requests related to biological resources?

Sincerely,

Kelene Strain
Environmental & Permitting Manager

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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 28, 2025 4:35 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources, Round 2

Hi Kelene and Ronelle,
For Potentia-Viridi, 24-OPT-04, the CEC is requesting one more item of clarification regarding Biological Resources, alluded to in the email of 7/22 on biological resources. The CEC plans to file this email to the docket.

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.

Please file your responses to the docket. If you have any questions about these items, let us know.

Thank you.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

From: Kelly Strain [kstrain@capstoneinfra.com]
Sent: 8/22/2025 5:19:09 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]
Subject: RE: PoVI, total disturbed acreage, please clarify

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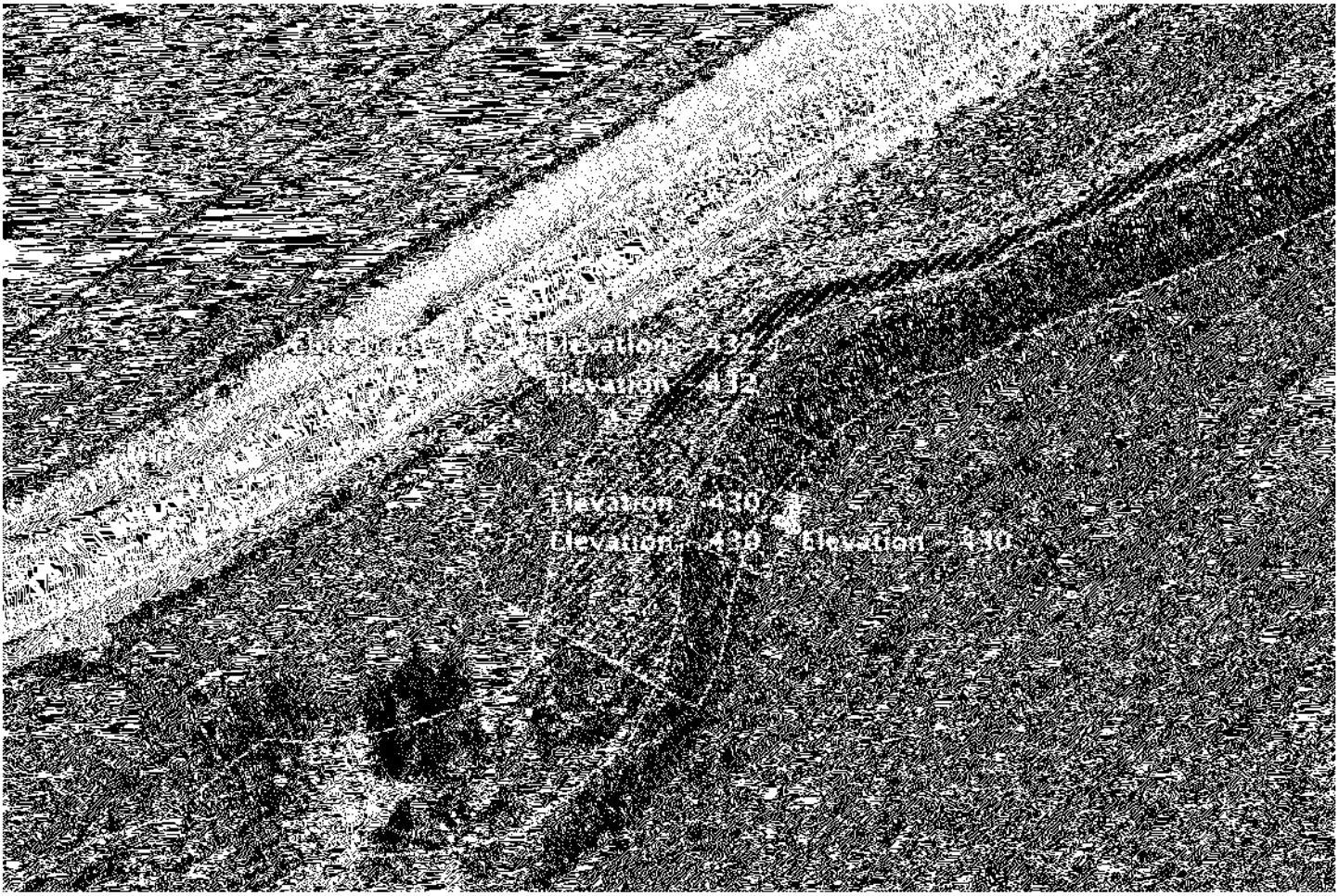
Good morning, Eric

Julie Myrah is correct in her conclusion in the second bullet point, which states that the 1,530 sq ft of total impact is the sum of the permanent disturbance areas for the low water crossing (1,450 sq ft) and outfall (80 sq ft). Design Plan sheets C-4.1 and C-4.2 show a total disturbance area of 1,600 feet for the low water crossing because a portion of the low water crossing is outside of the CDFW/RWQCB jurisdictional area. In other words, the footprint of the low water crossing is 1,600 sq ft; 1,450 sq ft of this footprint is below top of bank and the remaining 150 sq ft (highlighted in pink in the image below) are above top of bank (outside of CDFW/RWQCB jurisdiction and therefore not included in the impacts identified in Sections 10A and 11A of the LSAA notification). I've included screenshots below from the KMZ to illustrate the area in question. Please let me know if you or Julie have any additional questions.



Please let me know if you or your team have any additional questions.

Sincerely,

Kelona Strain
Environmental & Permitting Manager

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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: August 21, 2025 7:10 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: PoVI, total disturbed acreage, please clarify

Hi Kelly,
I have been asked to pass on a question to you from our biologist, Julie Myrah regarding total disturbed areas. This issue came up during the final reviews by our agency partners at California Fish and Wildlife:

- LSAA notification section 10A says 1,450 sq ft disturbed area for the low water crossing and 80 sq ft for the outfall
- LSAA notification section 11A says a total of 1,530 sq ft permanent impacts (which makes sense if you add 1450 sq ft and 80 sq ft in section 10A)
- Design Plan sheets C-4.1 and C-4.2 show 80 sq ft total disturbed area for the outfall and 1,600 sq ft total disturbed area for the low water crossing. The table shows top of bank as 1,450 sq ft and 650 sq ft for the OHWM quantities
-

To eliminate any confusion, can you please confirm which total disturbed area is correct for the low water crossing?

Thanks so much.

Eric W. Veerkamp
Project Manager
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Message

From: Paul Miller [pam@eurowindenergy.com]
Sent: 8/19/2025 9:53:11 PM
To: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Kelly Strain [KStrain@capstoneinfra.com]
CC: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Ronelle Candia [rcandia@dudek.com]; Joel Moore [Jmoore@moore-devservices.com]; Palmer, Dana [dpalmer@allenmatkins.com]; Lauren McLeod [LMcLeod@capstoneinfra.com]; Vorters, Dian@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2c5604e712a74c029e412542e0db72ac-Vorters, Di]; Knight, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=be42548337f44852a291a9845f226f62-Knight, Eri]
Subject: RE: PoVI project, CEC status for data completeness

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Dear Kaycee,

On behalf of the applicant group I would like to thank you and your team for their continued efforts and diligence in helping us get our application submittal to a very high standard. I appreciate your continued consideration of our desire to move such a beneficial project through the Opt-in Process to the Deemed Complete stage in a timely manner.

We are looking forward to continued collaboration as we enter the next phase of the Opt-in Process and begin the formal evaluation of our submitted materials. It has been a pleasure to interact with the team at the CEC and Eric has been very helpful in ensuring we understood what was being asked in the DR's generated by our submittal.

As we approach the end of August, we are keenly aware of the work that is being put into having our project Deemed Complete. If there is anything that does come up, please do not hesitate to reach out as we are standing by to assist immediately should the need arise. It is our understanding that all information requests have been fully satisfied.

Thank you again and we look forward to continuing the productive interaction with the CEC.

Best regards,

Paul Miller
Country Manager US

Mobile US: +1 (442) 341-7688
Office: +1 (760) 291-8603
E-mail: pam@eurowindenergy.com

Eurowind Energy

Eurowind Energy US Development LLC
16875 W. Bernardo Dr., Ste 200
San Diego, CA 92127
USA

eurowindenergy.com

CVR./VAT.:
Data Protection.
Eurowind processes personal data in accordance with applicable general data protection regulation. Please review Eurowind´s Data Protection Policy here to see how we collect, store and erase personal data and how to exercise rights as data subject.

From: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Sent: Wednesday, July 23, 2025 4:16 PM
To: Kelly Strain <KStrain@capstoneinfra.com>
Cc: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Ronelle Candia <rcandia@dudek.com>; Joel Moore <Jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>; Vorters, Dian@Energy <Dian.Vorters@Energy.ca.gov>; Knight, Eric@Energy <Eric.Knight@energy.ca.gov>
Subject: Re: PoVI project, CEC status for data completeness

Hello Kelly,

Thank you for providing valuable insight with additional context about your team's desired date of July 31, 2025, for a completeness determination for the Potentia-Viridi Battery Energy Storage System Opt-In application. We recognize that energy projects are affected by federal decisions, and remain committed to supporting energy projects that advance California's goals.

We appreciate the productive collaboration with your team, particularly in discussing information needs and addressing data requests. As project manager Eric Veerkamp has previously shared, our few remaining data requests are forthcoming or have already been sent to you. We continue to work towards a determination of completeness by the end of August, as previously communicated, and we remain on track to meet that timeframe, provided your responses to data requests are timely and adequate.

Trusting there will be no substantial, unforeseen changes to the project that would impact the timeline under Public Resources Code 25545.4(e)(2), our target to bring Potentia-Viridi for a Commission decision remains the end of May 2026 (by day 270). Based on our understanding, this timeline supports the required in-service date of December 2028.

Please let us know if you have any questions.

Thank you,
Kaycee

Kaycee Chang (she, her, hers)
Supervisor
Siting, Transmission, and Environmental Protection Division
Book time to meet with me

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Tuesday, July 22, 2025 10:57 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <Jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

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Eric,

As a follow-up to your request for background about why July 31, 2025, is our desired date for a data completeness determination, we prepared the following response:

The Potentia-Viridi BESS project secured its Tax Credit Benefits under section 48 of the IRA through Safe Harboring at the end of 2024 by purchasing a main power transformer. The terms of the safe harbor require the project to be in service by December 31, 2028, to maintain the Tax Credits. These credits provide significant monetary value which is currently 40% of the project capital costs. Without the IRA provided tax benefits this project is not viable and will not be built. The continued delays in being deemed complete are putting considerable pressure on the projects ability to take the necessary actions to ensure it hits the required in service date. The largest risk in any project in California is permitting. It is extremely difficult to secure the project financing needed to procure the major pieces of equipment to ensure timely delivery to site without clarity on when the project would be permitted. This uncertainty is further compounded by the current administration's continued attack on the benefits awarded to project developers under the IRA. These attacks are having the immediate effect of lengthening equipment delivery times and in some cases taking vendors out of the market due to tariff's and blocking tactics. The net effect is driving up project costs and pushing out delivery timelines, something that this project has very little room to accommodate. As we approach the one-year anniversary of our application submittal to the CEC it is becoming urgent that the project be granted the Application Deemed Complete Status, and that we work together to close any minor information gaps that still exist as we move through the formal process of evaluation.

As owners of this project, we appreciate the efforts of CEC staff in reviewing our application, but we feel that we need to begin the formal evaluation stage of the application. Continued delays around minor issues that can be easily accommodated during the evaluation process are putting significant pressure on the viability of the project. All the positive impacts that the project would provide to the state and the local community partners is in jeopardy of being lost every day that we go without being Deemed Complete. If the project misses the December 2028 in service date, the safe harbored tax benefits are lost, and as a result, the project would be lost.

Please let us know if you have any questions.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 795-5940
Facsimile +1 (416) 649-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 17, 2025 3:32 PM
To: Kelly Strain <KStrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

Thanks Kelly,
Our emails kinda crossed in cyber space. I just sent a request for clarification on five items related to Air Quality and Public Health. I appreciate your attentiveness to Biological Resources needs, the substance of which will be used in

preparing our second email, minus those items you will be submitting tomorrow, Friday. One additional email requesting clarification on Net Economic Benefits analysis is also undergoing final review.

Your mention of the date of July 31 is the first instance of such a requested date, although our counsel has shared that they recently heard that same date. Our target currently is still late-August. Thank you for your willingness to fill in any remaining data gaps, and there are not many. Are you able to provide any additional substantive background about why that date has been circled as a desired date for a data completeness determination?

Thanks again.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, July 17, 2025 2:20 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

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Good afternoon, Eric~

I am just following up on the voice message I just left you and the email I sent you yesterday. Please let us know if you have any questions or need additional data. The documents indicated below will be submitted tomorrow. We can also commit to resolving any additional data gaps to ensure a deemed complete status by the end of this month, July 31.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 399-5340
Facsimile +1 (424) 619-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: July 16, 2025 4:36 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

Good afternoon, Eric~

We had a successful meeting today and we anticipate having the following items revised and submitted to the CEC by this Friday, July 18:

- ITP redlined version addressing CBB
- LSAA updated figure and possible redlined LSAA document
- Mitigation lands biological resources assessment document and DR Bio-1 response (I will reconfirm this tomorrow as we need input from Westervelt)

Please let us know if you have any questions or need additional data not indicated above.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
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Facsimile +1 (416) 649 1845
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 16, 2025 8:13 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

Good Morning,
Thank you for the information. If not overly burdensome, sharing a brief list of the items you plan to include in the resubmittals in an email would help our team to confirm what to expect. The submittal of the information itself is best filed to the docket. If this does not cover it, please let me know.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Tuesday, July 15, 2025 3:35 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

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Hello, Eric

Thank you for the update. Yes, we are meeting tomorrow to wrap up the outstanding data request indicated below. Many of our critical team members were out on vacation so we had a slight delay. I believe we can quickly triage these remaining items and have a response to you either later this week or early next week. I will know more tomorrow after our meeting at 11:00 AM PDT and provide a more accurate date of submittal. Are we to simply email you the responses, or do you prefer they be uploaded to the docket?

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
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Facsimile +1 (424) 649-1355
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 15, 2025 3:27 PM
To: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Kelly Strain <kstrain@capstoneinfra.com>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: PoVI project, CEC status for data completeness

Hi Kelly,
I am reaching out to you as follow up to Kaycee's email below on 7/10. We are still working to resolve remaining outstanding items where CEC still needs additional information.

Staff has completed and is finalizing requests for clarifying information for the following technical areas. For these items, we hope to send to you an email (for later docketing) clarifying several items, very shortly.

- Air Quality and Public Health

- Public Benefit (Net Economic Benefit to the local gov't.)

The following one technical area and corresponding data items are potentially more significant and, in their absence, may be a decision point in our ability to make a determination of completeness. Ann Crisp and her team is meeting today to determine what information is still needed. The difficulty we are facing is that post-completeness determination, our ability to request further project details and information is limited. For this reason, we are trying to ensure we have all the information we need.

- Biological Resources

I also wanted to inquire again from the July 10 email below from Kaycee (highlighted in yellow) held over from the last meeting on July 8. Are you still planning to provide this to us?

Thank you Kelly.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Sent: Thursday, July 10, 2025 1:17 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: Re: PoVI project, CEC status for data completeness

Hi Kelly,

We were checking with our teams on the clarification needed on how to submit the following items as discussed at the July 8th meeting:

- LSAA (Attachment 7) – Resubmit the entire revised notification in track changes/red-line strikethrough
- CBB ITP – Resubmit the entire redline strikethrough ITP
    - Please clarify if the applicant is requesting full take coverage (nests and foraging individuals) or make clear what the applicant expects they can avoid
- Mitigation Lands – Resubmit the relevant subsections in redline strikethrough

Note: Our team is reviewing the data request responses and may have a few follow-up questions.

To help ensure alignment, we'd also appreciate if you could share a list of specific items you plan to include in your resubmittals based on our discussion. This will allow our team to confirm whether anything else may be needed in advance, and help make the process more efficient for everyone by avoiding some back-and-forth later.

Regarding the data completeness decision, please allow me to clarify: we asked our teams to review the data request responses by the end of this week and confirm whether they have all the information needed for their topic areas or if they will have additional data requests. For additional data requests, we plan to transmit those via email once reviewed by

management and legal internally, with a request for the responses to be filed to the docket and to include a copy of our original request(s). That said, you should hear more from us next week.

As mentioned below, we may have follow-up questions for bio. I'll also share a heads up that we just received a few questions related to air quality and public health - those are undergoing legal review now. As soon as data requests are ready, we will get them over to you.

Please let me know if you have any questions.

Thank you,
Kaycee

Kaycee Chang (she, her, hers)
Supervisor
Siting, Transmission, and Environmental Protection Division
Book time to meet with me

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Thursday, July 10, 2025 11:15 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: PoVI project, CEC status for data completeness

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Hello, Eric and Ann~

We are just checking in to see if the CEC or CDFW has any additional questions for us, or clarification to some of the topics discussed in Tuesday's meeting. Eric's email below indicated we would have your data completeness decision by today, July 10; however, it also states ***Friday***, July 10. Perhaps you meant Friday, July 11. In the meantime, we are working on responses / revisions to our previously submitted Bio DR responses to address the Tuesday meeting CEC and CDFW's comments.

Please let me know if you have any questions.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 399-5340
Facsimile +1 (416) 815-1995
Email Kstrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: June 23, 2025 11:44 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>

Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI project, CEC status for data completeness

Hi Kelly,
Please allow to me to update you with our staff process for data completion; I have conveyed this information to the team and they are working towards these dates.

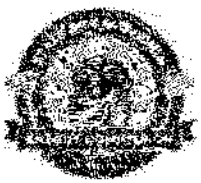
The responses you provided to the CEC Rev-1 DRs completed filing on Wednesday, June 11. Ann Crisp, the Biological Resources supervisor has requested that our partners at CDFW provide any comment on the BIO responses (filed on 6/10) by Tuesday, July 1. This in in accordance with our inter-agency agreement with CDFW. Following that, I have requested staff target their data completeness decision by Friday, July 10 or before. Staff is working going through the responses; Biological Resources would likely be the last discipline to be completed, due to the coordination with CDFW.

At this point, no specific issues to share. If you are ok with it, I suggest we could pass on the meeting tomorrow, 6/24.

Thanks.

P.S. You beat me to it with your email earlier.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov



Message

From: Chang, Kaycee@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DD3D2FC8670840BDA4ACDC455903E787-CHANG, KAYC]
Sent: 7/23/2025 11:16:11 PM
To: Kelly Strain [KStrain@capstoneinfra.com]
CC: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Ronelle Candia [rcandia@dudek.com]; Joel Moore [Jmoore@moore-devservices.com]; Palmer, Dana [dpalmer@allenmatkins.com]; Lauren McLeod [LMcLeod@capstoneinfra.com]; Paul Miller [pam@eurowindenergy.com]; Vorters, Dian@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2c5604e712a74c029e412542e0db72ac-Vorters, Di]; Knight, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=be42548337f44852a291a9845f226f62-Knight, Eri]
Subject: Re: PoVI project, CEC status for data completeness

Hello Kelly,

Thank you for providing valuable insight with additional context about your team's desired date of July 31, 2025, for a completeness determination for the Potentia-Viridi Battery Energy Storage System Opt-In application. We recognize that energy projects are affected by federal decisions, and remain committed to supporting energy projects that advance California's goals.

We appreciate the productive collaboration with your team, particularly in discussing information needs and addressing data requests. As project manager Eric Veerkamp has previously shared, our few remaining data requests are forthcoming or have already been sent to you. We continue to work towards a determination of completeness by the end of August, as previously communicated, and we remain on track to meet that timeframe, provided your responses to data requests are timely and adequate.

Trusting there will be no substantial, unforeseen changes to the project that would impact the timeline under Public Resources Code 25545.4(e)(2), our target to bring Potentia-Viridi for a Commission decision remains the end of May 2026 (by day 270). Based on our understanding, this timeline supports the required in-service date of December 2028.

Please let us know if you have any questions.

Thank you,
Kaycee

Kaycee Chang (she, her, hers)
Supervisor
Siting, Transmission, and Environmental Protection Division
Book time to meet with me

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Tuesday, July 22, 2025 10:57 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <Jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

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Eric,

As a follow-up to your request for background about why July 31, 2025, is our desired date for a data completeness determination, we prepared the following response:

The Potentia-Viridi BESS project secured its Tax Credit Benefits under section 48 of the IRA through Safe Harboring at the end of 2024 by purchasing a main power transformer. The terms of the safe harbor require the project to be in service by December 31, 2028, to maintain the Tax Credits. These credits provide significant monetary value which is currently 40% of the project capital costs. Without the IRA provided tax benefits this project is not viable and will not be built. The continued delays in being deemed complete are putting considerable pressure on the projects ability to take the necessary actions to ensure it hits the required in service date. The largest risk in any project in California is permitting. It is extremely difficult to secure the project financing needed to procure the major pieces of equipment to ensure timely delivery to site without clarity on when the project would be permitted. This uncertainty is further compounded by the current administration's continued attack on the benefits awarded to project developers under the IRA. These attacks are having the immediate effect of lengthening equipment delivery times and in some cases taking vendors out of the market due to tariff's and blocking tactics. The net effect is driving up project costs and pushing out delivery timelines, something that this project has very little room to accommodate. As we approach the one-year anniversary of our application submittal to the CEC it is becoming urgent that the project be granted the Application Deemed Complete Status, and that we work together to close any minor information gaps that still exist as we move through the formal process of evaluation.

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Please let us know if you have any questions.

Sincerely,

Kelene Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 889-5900
Facsimile +1 (310) 943-1335
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 17, 2025 3:32 PM
To: Kelly Strain <KStrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <Jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

Thanks Kelly,
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Your mention of the date of July 31 is the first instance of such a requested date, although our counsel has shared that they recently heard that same date. Our target currently is still late-August. Thank you for your willingness to fill in any remaining data gaps, and there are not many. Are you able to provide any additional substantive background about why that date has been circled as a desired date for a data completeness determination?

Thanks again.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, July 17, 2025 2:20 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

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Good afternoon, Eric~

I am just following up on the voice message I just left you and the email I sent you yesterday. Please let us know if you have any questions or need additional data. The documents indicated below will be submitted tomorrow. We can also commit to resolving any additional data gaps to ensure a deemed complete status by the end of this month, July 31.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 849 5010
Facsimile +1 (424) 643 7555
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: July 16, 2025 4:36 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

Good afternoon, Eric~

We had a successful meeting today and we anticipate having the following items revised and submitted to the CEC by this Friday, July 18:

- ITP redlined version addressing CBB
- LSAA updated figure and possible redlined LSAA document
- Mitigation lands biological resources assessment document and DR Bio-1 response (I will reconfirm this tomorrow as we need input from Westervelt)

Please let us know if you have any questions or need additional data not indicated above.

Sincerely,

Kelsie Strain
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Facsimile +1 (416) 649 1845
Email KStrain@capstoneinfra.com
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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 16, 2025 8:13 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

Good Morning,
Thank you for the information. If not overly burdensome, sharing a brief list of the items you plan to include in the resubmittals in an email would help our team to confirm what to expect. The submittal of the information itself is best filed to the docket. If this does not cover it, please let me know.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Tuesday, July 15, 2025 3:35 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

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Hello, Eric

Thank you for the update. Yes, we are meeting tomorrow to wrap up the outstanding data request indicated below. Many of our critical team members were out on vacation so we had a slight delay. I believe we can quickly triage these remaining items and have a response to you either later this week or early next week. I will know more tomorrow after our meeting at 11:00 AM PDT and provide a more accurate date of submittal. Are we to simply email you the responses, or do you prefer they be uploaded to the docket?

Sincerely,

Kelana Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 998 5010
Facsimile +1 (416) 649 [illegible]
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 15, 2025 3:27 PM
To: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Kelly Strain <kstrain@capstoneinfra.com>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: PoVI project, CEC status for data completeness

Hi Kelly,
I am reaching out to you as follow up to Kaycee's email below on 7/10. We are still working to resolve remaining outstanding items where CEC still needs additional information.

Staff has completed and is finalizing requests for clarifying information for the following technical areas. For these items, we hope to send to you an email (for later docketing) clarifying several items, very shortly.

- Air Quality and Public Health

- Public Benefit (Net Economic Benefit to the local gov't.)

The following one technical area and corresponding data items are potentially more significant and, in their absence, may be a decision point in our ability to make a determination of completeness. Ann Crisp and her team is meeting today to determine what information is still needed. The difficulty we are facing is that post-completeness determination, our ability to request further project details and information is limited. For this reason, we are trying to ensure we have all the information we need.

- Biological Resources

I also wanted to inquire again from the July 10 email below from Kaycee (highlighted in yellow) held over from the last meeting on July 8. Are you still planning to provide this to us?

Thank you Kelly.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Sent: Thursday, July 10, 2025 1:17 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: Re: PoVI project, CEC status for data completeness

Hi Kelly,

We were checking with our teams on the clarification needed on how to submit the following items as discussed at the July 8th meeting:

- LSAA (Attachment 7) – Resubmit the entire revised notification in track changes/red-line strikethrough
- CBB ITP – Resubmit the entire redline strikethrough ITP
    - Please clarify if the applicant is requesting full take coverage (nests and foraging individuals) or make clear what the applicant expects they can avoid
- Mitigation Lands – Resubmit the relevant subsections in redline strikethrough

Note: Our team is reviewing the data request responses and may have a few follow-up questions.

To help ensure alignment, we'd also appreciate if you could share a list of specific items you plan to include in your resubmittals based on our discussion. This will allow our team to confirm whether anything else may be needed in advance, and help make the process more efficient for everyone by avoiding some back-and-forth later.

Regarding the data completeness decision, please allow me to clarify: we asked our teams to review the data request responses by the end of this week and confirm whether they have all the information needed for their topic areas or if they will have additional data requests. For additional data requests, we plan to transmit those via email once reviewed by

management and legal internally, with a request for the responses to be filed to the docket and to include a copy of our original request(s). That said, you should hear more from us next week.

As mentioned below, we may have follow-up questions for bio. I'll also share a heads up that we just received a few questions related to air quality and public health - those are undergoing legal review now. As soon as data requests are ready, we will get them over to you.

Please let me know if you have any questions.

Thank you,
Kaycee

Kaycee Chang (she, her, hers)
Supervisor
Siting, Transmission, and Environmental Protection Division
Book time to meet with me

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Thursday, July 10, 2025 11:15 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: PoVI project, CEC status for data completeness

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello, Eric and Ann~

We are just checking in to see if the CEC or CDFW has any additional questions for us, or clarification to some of the topics discussed in Tuesday's meeting. Eric's email below indicated we would have your data completeness decision by today, July 10; however, it also states ***Friday***, July 10. Perhaps you meant Friday, July 11. In the meantime, we are working on responses / revisions to our previously submitted Bio DR responses to address the Tuesday meeting CEC and CDFW's comments.

Please let me know if you have any questions.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 399-5340
Facsimile +1 (416) 619-1995
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Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: June 23, 2025 11:44 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>

Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI project, CEC status for data completeness

Hi Kelly,
Please allow to me to update you with our staff process for data completion; I have conveyed this information to the team and they are working towards these dates.

The responses you provided to the CEC Rev-1 DRs completed filing on Wednesday, June 11. Ann Crisp, the Biological Resources supervisor has requested that our partners at CDFW provide any comment on the BIO responses (filed on 6/10) by Tuesday, July 1. This in in accordance with our inter-agency agreement with CDFW. Following that, I have requested staff target their data completeness decision by Friday, July 10 or before. Staff is working going through the responses; Biological Resources would likely be the last discipline to be completed, due to the coordination with CDFW.

At this point, no specific issues to share. If you are ok with it, I suggest we could pass on the meeting tomorrow, 6/24.

Thanks.

P.S. You beat me to it with your email earlier.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

Message

Sent:	7/21/2025 3:57:58 PM
To:	Kelene Strain [kstrain@capstoneinfra.com]; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC:	Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
BCC:	Giorgi, Erika@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d171e5d706e34c26ad9d13c230f2349f-1324b266-6e]; Ponce, Mariah@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bc5faa5d564c4cf3a2f49468b736b6c2-b2346f64-e7]
Subject:	PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources

For Potentia-Viridi, 24-OPT-04, the CEC is requesting information for Biological Resources. Staff has noted these items are for additional clarification; therefore, the CEC is sending this email (rather than another round of data requests), which will be filed to the docket, as will responses.

Please reference the REV-1 Data Requests, issued on April 7, 2025; responses to those data requests were received on June 10, 2025 (TN 264162). For all items below, please refer back to the previous DRs and Responses or previously submitted tracking numbers (TN's).

1. 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.
2. 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

Please file your responses to the docket. If you have any questions about these items, let us know. If we need to, we can meet with appropriate technical staff for clarification.

To recap the discussion from the July 8 discussion on this same subject of the LSAA, the request at that time was to "clarify delineation of CDFW jurisdiction, including appropriate use of top of bank versus ordinary high water mark in calculations, address inconsistencies in design plan dimensions for water crossing features, and confirm inclusion of CDFW jurisdiction in all relevant maps and legends, and provide .kmz files, if not already submitted. Please resubmit the entire revised notification in track changes/red-line strikethrough."

Our agency partners at CDFW continue to review the materials for the LSAA and plan to complete their review by Friday, July 25. We will wait for completion of CDFW review to determine if the information submitted is final, but at a minimum, please resubmit the figures that were submitted on July 18, 2025 as "401 Permit Figures" and label "LSAA 1602 permit figures" so it is clear why the materials are being submitted. Finally, please include the .kmz files.

Thank you.

Eric W. Veerkamp
Project Manager
California Energy Commission

916-661-8458
www.energy.ca.gov

Message

Sent: 7/21/2025 5:46:33 PM
To: Kelly Strain [kstrain@capstoneinfra.com]; Ronelle Candia [rcandia@dudek.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject: RE: PoVI, venue suggestions for upcoming scoping meeting

Hi Kelly,
According to the Public Resources Code, section 25545.7.2 (a)(3), the scoping meeting is to be conducted within 30 days following a finding of data completeness. As of now, there is no date certain. If you need provide a date range to any potential venue, the last two weeks of September would be appropriate.

Eric W. Veerkamp
Compliance Project Manager
California Energy Commission
916-661-8458
www.energy.ca.gov

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Monday, July 21, 2025 9:42 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Ronelle Candia <rcandia@dudek.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: PoVI, venue suggestions for upcoming scoping meeting

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Eric,

Do we know what date the CEC intends to conduct the scoping meeting? Are there other venues in the area we should look at, such as local community centers or government buildings?

Thank you,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 639-5340
Facsimile +1 (416) 642-1995
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 18, 2025 3:17 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI, venue suggestions for upcoming scoping meeting

Thanks Kelly,
It is normal for the applicant to have a role at the scoping meeting, please plan to prepare a presentation on the proposed project. I envision you would want to send a small team, but whatever you are comfortable with.

The Delta College seems like the logical choice, but from past experience, it may not be available. We will have our student assistants contact the college ASAP, but any existing contacts/relationships you have that could help pinpoint at least two other solid options, would be an immense help. If we don't need them, all the better.

TY.

Eric W. Veerkamp
Compliance Project Manager
California Energy Commission
916-661-8458
www.energy.ca.gov

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Friday, July 18, 2025 2:51 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI, venue suggestions for upcoming scoping meeting

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Eric,

Let's go with the San Joaquin Delta College in Mountain House for the scoping session. It is very close to the project site and can accommodate the needed space. Will you need one or more of us to attend the scoping meeting?
More to follow (bio responses).

Sincerely,

Kelsie Strain
Environmental & Permitting Manager

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Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 17, 2025 3:48 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI, venue suggestions for upcoming scoping meeting

Hi Kelly,
Looking ahead to our next steps following our determination of completeness for PoVI, which is getting very close, I am reaching out to you to see if you have any thoughts about venue locations to hold our scoping meeting. Taking a quick look at a map, I see a campus of San Joaquin Delta College in Mountain House that might be suitable. If we need to look in more populated areas such as Livermore, we can do that also. Please let us know if you have any existing contacts or other suggested locations that we can begin to run down. The sooner is better to begin this logistics effort.

Thank you. Let me know if you have any questions.

Eric W. Veerkamp
Compliance Project Manager
California Energy Commission
916-661-8458
www.energy.ca.gov

Message

Sent: 7/24/2025 10:20:54 PM
To: Kelene Strain [kstrain@capstoneinfra.com]; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject: PoVI, CEC request for GIS shapefiles associated with adjacent properties

Hi Kelly,
As part of our preparation of the mailing list for noticing and distribution, we are requesting GIS shapefiles associated with the parcels in Attachment 8, Updated Surrounding Ownership Information, TN 261408, part of Data request responses Set 2.

Depending on what works for you, we are prepared to use a Kiteworks account.

Thank you. Let me know if you have any questions.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

Sent:	7/28/2025 9:49:03 PM
To:	Kelene Strain [kstrain@capstoneinfra.com]; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC:	Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Julie Myrah [field@energyveterans.org]
BCC:	Giorgi, Erika@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d171e5d706e34c26ad9d13c230f2349f-1324b266-6e]; Ponce, Mariah@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bc5faa5d564c4cf3a2f49468b736b6c2-b2346f64-e7]
Subject:	PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources, Round 2

Hi Kelene and Ronelle,
For Potentia-Viridi, 24-OPT-04, the CEC is requesting one more item of clarification regarding Biological Resources, alluded to in the email of 7/22 on biological resources. The CEC plans to file this email to the docket.

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.

Please file your responses to the docket. If you have any questions about these items, let us know.

Thank you.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

Sent: 7/30/2025 11:57:25 PM
To: Kelly Strain [kstrain@capstoneinfra.com]; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]
BCC: Giorgi, Erika@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d171e5d706e34c26ad9d13c230f2349f-1324b266-6e]; Ponce, Mariah@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bc5faa5d564c4cf3a2f49468b736b6c2-b2346f64-e7]
Subject: RE: PoVI, Request for Information, follow up to REV-1 Data Requests/Response

Hi Kelly and Ronelle,
In response to your question, CEC staff has forwarded all remaining requests for clarification for Biological Resources, so there will be nothing additional.

In addition, following our call on

We look forward to your responses.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Tuesday, July 29, 2025 1:14 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources, Round 2

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon, Eric

We are currently in the process of finalizing the revised figures and LSAA, and we plan to have them completed and uploaded to the docket by this Friday. Thank you for the additional clarification regarding

CDFW's regulatory authority. At this time, could you please let us know if there are any forthcoming questions or data requests related to biological resources?

Sincerely,

Kelene Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

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Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 28, 2025 4:35 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources, Round 2

Hi Kelene and Ronelle,
For Potentia-Viridi, 24-OPT-04, the CEC is requesting one more item of clarification regarding Biological Resources, alluded to in the email of 7/22 on biological resources. The CEC plans to file this email to the docket.

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.

Please file your responses to the docket. If you have any questions about these items, let us know.

Thank you.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

Sent: 8/7/2025 9:09:30 PM
To: Kelene Strain [kstrain@capstoneinfra.com]; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Blossom, Gabriel@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f8ee69cb49fa4d6e8563734cf9a495b3-Blossom, Ga]; Cano, Lorenzo@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0e34c6eb717e49ef951f1089c0ccdaf4-98021d95-c2]
Subject: PoVI, list of APN's and parcel map,

Hi Kelly,

While working with the data you sent to us, our CEC staff notices some discrepancies in the boundaries. Referencing Appendix 1A, contained in Attachment 8, TN 261408 of the application materials, it appears the 1000ft buffer does not follow the project boundary in black. It appears to follow the hatched green area called "Proposed BESS Facility Site". We do not possess this layer in our records though I can tell that if I were to recreate this this layer and buffer it at 1000ft, I would end up with the same list provided in TN261408_20250129T075956. So, it looks correct, insofar as "Proposed BESS Facility Site" is the proper layer to buffer. If we buffer the project boundary instead, we end up with one extra APN (99B-7950-3). Would you like me to add this parcel to the list attached?. Another odd aspect of this list provided is it includes APN 99B-7885-2, which is outside the buffer area by about 2000 ft. I do not know why this parcel is included.

PS: The parcels provided in Parcels_Alameda_Vicinity.shp are about 8 miles from the site and none of the Parcels_SJ_Vicinity.shp are within the buffers.

If there are any additional shapefiles that we would need as part of this, please send those also.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

From:	Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent:	7/22/2025 11:51:40 PM
To:	kstrain@capstoneinfra.com; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC:	Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
BCC:	Giorgi, Erika@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d171e5d706e34c26ad9d13c230f2349f-1324b266-6e]; Ponce, Mariah@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bc5faa5d564c4cf3a2f49468b736b6c2-b2346f64-e7]
Subject:	PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources

For Potentia-Viridi, 24-OPT-04, the CEC is requesting information for Biological Resources. Staff has noted these items are for additional clarification; therefore, the CEC is sending this email (rather than another round of data requests), which will be filed to the docket, as will responses.

Please reference the REV-1 Data Requests, issued on April 7, 2025; responses to those data requests were received on June 10, 2025 (TN 264162). For all items below, please refer back to the previous DRs and Responses or previously submitted tracking numbers (TN's).

1. 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.
2. 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

Please file your responses to the docket. If you have any questions about these items, let us know. If we need to, we can meet with appropriate technical staff for clarification.

To recap the discussion from the July 8 discussion on this same subject of the LSAA, the request at that time was to "clarify delineation of CDFW jurisdiction, including appropriate use of top of bank versus ordinary high water mark in calculations, address inconsistencies in design plan dimensions for water crossing features, and confirm inclusion of CDFW jurisdiction in all relevant maps and legends, and provide .kmz files, if not already submitted. Please resubmit the entire revised notification in track changes/red-line strikethrough."

Our agency partners at CDFW continue to review the materials for the LSAA and plan to complete their review by Friday, July 25. We will wait for completion of CDFW review to determine if the information submitted is final, but at a minimum, please resubmit the figures that were submitted on July 18, 2025 as "401 Permit Figures" and label "LSAA 1602 permit figures" so it is clear why the materials are being submitted. Finally, please include the .kmz files.

Thank you.

P.S. I hope to be able to lock in our CEC/Capstone discussion for Thursday afternoon about the Net Econ. Benefit topics.

Eric W. Veerkamp
Project Manager

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Message

From: Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent: 7/23/2025 9:46:23 PM
To: kstrain@capstoneinfra.com; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Negar Vahidi [nvahidi@aspeneg.com]; Irene Kaufman [ikaufman@aspeneg.com]
BCC: Giorgi, Erika@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d171e5d706e34c26ad9d13c230f2349f-1324b266-6e]; Ponce, Mariah@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bc5faa5d564c4cf3a2f49468b736b6c2-b2346f64-e7]
Subject: PoVI, Request for Information, follow up to Data Requests, Net Economic Benefits (Mandatory Opt-In Requirements)

Hi Kelene and Ronelle,

For Potentia-Viridi 24-OPT-04, the CEC is requesting clarifying information related to Net Economic Benefits to communities. Staff has noted these items are for additional clarification; therefore, the CEC is sending this email (rather than another round of data requests), which will be filed to the docket, as will responses.

Please refer to the Data Responses submitted to the CEC on January 29, 2025 (TN 261398), in response to CEC Data Requests (TN 259038) . For all items below, please refer back to the previous DRs and Responses or previously submitted tracking numbers (TN's).

Mandatory Opt-in Requirements

California Code of Regulations (CCR), title 20, section 1877(f) requires Opt-In Applications to identify preliminary information demonstrating overall net positive economic benefit to the local government that would have had permitting authority over the site and related facility, consistent with Public Resources Code section 25545.9. California Code of Regulations, title 20, section 1879 (a) (7) further states that the net positive benefits identified in an Opt-In Application may include, but are not limited to the following: (a) employment growth, (b) housing development, (c) infrastructure and environmental improvements, (d) assistance to public schools and education, (e) assistance to public safety agencies and departments, and (f) property taxes and sales and use tax revenues.
As part of Data Request Response No. 2 (TN 261398) and Revised Section 3.10 Socioeconomics (TN 261399), the Applicant provided information on project net benefits. In the Revised Socioeconomics Section 3.10, the Applicant states, "…[t]he construction phase would have positive fiscal impacts in the study area on Alameda County, including higher levels of property tax and sales tax accruing to the Alameda County General Fund and Special Funds. The Revised Socioeconomics Section 3.10 further states,
"…[t]he proposed Project would replace current grazing activities on 70 acres of the total of 235.97 acres for parcel APN 99B-7890-002-04. This parcel is currently under the California Land Conservancy Act (CLCA) (the Williamson Act) and therefore receives a lower level of property tax assessment from the Alameda County Assessor. Based on the assessor records, the parcel in 2024-25 was assessed an annual property tax of about $991 for the total 235.97 acres. Therefore, the BESS portion of the Project would contribute to a prorated property tax amount of about $294 annually."
In Table 3-8 of the confidential Socioeconomics report, the Applicant provides annual expenditure in property taxes. For the purposes of net benefits from property taxes, this number is compared to the current $294 annual property tax amount for the 70-acre portion of the project.
In the Land Use section of the application and in Data Response No. 2, the Applicant states "…[t]he subject parcel is currently classified as a Williamson Act property; therefore, the post-development property valuation and ad-valorem tax is not determined here, at this time," and that the Williamson Act contract would not need to be cancelled.

Refer to DRR-MAND-2 (TN 261398) Per California Code of Regulations, title 20, section 1877(f) requirement, staff have the following additional data requests:

a. Based on the information provided by the applicant regarding current property tax values of the project parcel, if the parcel remains under a Williamson Act contract, would the proposed project site valuation remain at the current lower property tax assessment of $294 for the 70 acres (or $991 for the full parcel) annually for the

duration of the Williamson Act contract, versus the project-generated property tax value reported in Table 3-8 of the confidential Revised Socioeconomics report?

b. If the value in Table 3-8 of the confidential Revised Socioeconomics report is the correct property tax rate given the site's Williamson Act contract, would the property tax be generated for just the 70-acre portion of the project parcel, or does this number reflect taxes generated for the entire 235-acre parcel? Please provide the average annual property tax generated over the 35-year life of the project, rather than the year 5 rate.
c. Would the remaining 165 acres of the parcel that is not part of the project continue to be used for agricultural purposes (i.e., grazing)?
d. The values provided in Table 3-8 of the confidential Revised Socioeconomics report include BESS LTSA, BESS warranty, BESS capacity guarantee, augmentation, insurance, land lease, operations labor and trading, property tax, aux load, and other annual O&M costs all starting at year 5. Please revise O&M values to reflect annualized costs over the 35-year life of the project. The inclusion of these items and data from year 5 that do not occur annually throughout the life of the project (e.g., augmentation) may create an overinflated O&M value.
e. Table 3-8 of the confidential Revised Socioeconomics report provides both the cost of the annual project lease amount that would be paid by the applicant to the parcel owner, and the annual property taxes that would be generated by the project (and that would typically be paid by the parcel owner to Alameda County). Please provide an explanation of why both items are listed as project expenditures in the table. Also, provide information on how the parcel owner would pay the annual property tax listed in Table 3-8 to the County when the project lease payment is substantially less.

Please file your responses to the docket. We are open to further discussions if you choose to file responses under confidential cover; however, it would be an expedited process since it would be a repeated application. I plan to send a meeting request soon for a time early next week to make staff available to discuss.

Eric W. Veerkamp
Project Manager
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Message

From: Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent: 8/8/2025 3:53:28 PM
To: Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]; Joel Moore [jmoore@moore-devservices.com]; Lauren McLeod [lmcleod@capstoneinfra.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; kstrain@capstoneinfra.com
Subject: PoVI, list of APN's and parcel map, extraneous parcel

Hi Ronelle,

While working with the data you sent to us, our CEC staff noticed a discrepancy in one of the parcel numbers. Referencing Appendix 1A, contained in Attachment 8, TN 261408 of the application materials, included is APN 99B-7885-2, which is outside the buffer area by about 2000 ft. Is this included in error or was there a specific reason? If it is erroneous, we will remove it for our mailing/distribution list.

Thank you.

Eric W. Veerkamp
Project Manager
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STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

From: Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent: 8/21/2025 2:10:13 PM
To: kstrain@capstoneinfra.com; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Field @EnergyVeterans.org [field@energyveterans.org]
Subject: PoVI, total disturbed acreage, please clarify

Hi Kelly,
I have been asked to pass on a question to you from our biologist, Julie Myrah regarding total disturbed areas. This issue came up during the final reviews by our agency partners at California Fish and Wildlife:

- LSAA notification section 10A says 1,450 sq ft disturbed area for the low water crossing and 80 sq ft for the outfall
- LSAA notification section 11A says a total of 1,530 sq ft permanent impacts (which makes sense if you add 1450 sq ft and 80 sq ft in section 10A)
- Design Plan sheets C-4.1 and C-4.2 show 80 sq ft total disturbed area for the outfall and 1,600 sq ft total disturbed area for the low water crossing. The table shows top of bank as 1,450 sq ft and 650 sq ft for the OHWM quantities
-

To eliminate any confusion, can you please confirm which total disturbed area is correct for the low water crossing?

Thanks so much.

Eric W. Veerkamp
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Message

From: Kelly Strain [KStrain@capstoneinfra.com]
Sent: 7/22/2025 5:57:21 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
CC: Ronelle Candia [rcandia@dudek.com]; Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Joel Moore [Jmoore@moore-devservices.com]; Palmer, Dana [dpalmer@allenmatkins.com]; Lauren McLeod [LMcLeod@capstoneinfra.com]; Paul Miller [pam@eurowindenergy.com]
Subject: RE: PoVI project, CEC status for data completeness

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Eric,

As a follow-up to your request for background about why July 31, 2025, is our desired date for a data completeness determination, we prepared the following response:

The Potentia-Viridi BESS project secured its Tax Credit Benefits under section 48 of the IRA through Safe Harboring at the end of 2024 by purchasing a main power transformer. The terms of the safe harbor require the project to be in service by December 31, 2028, to maintain the Tax Credits. These credits provide significant monetary value which is currently 40% of the project capital costs. Without the IRA provided tax benefits this project is not viable and will not be built. The continued delays in being deemed complete are putting considerable pressure on the projects ability to take the necessary actions to ensure it hits the required in service date. The largest risk in any project in California is permitting. It is extremely difficult to secure the project financing needed to procure the major pieces of equipment to ensure timely delivery to site without clarity on when the project would be permitted. This uncertainty is further compounded by the current administration's continued attack on the benefits awarded to project developers under the IRA. These attacks are having the immediate effect of lengthening equipment delivery times and in some cases taking vendors out of the market due to tariff's and blocking tactics. The net effect is driving up project costs and pushing out delivery timelines, something that this project has very little room to accommodate. As we approach the one-year anniversary of our application submittal to the CEC it is becoming urgent that the project be granted the Application Deemed Complete Status, and that we work together to close any minor information gaps that still exist as we move through the formal process of evaluation.

As owners of this project, we appreciate the efforts of CEC staff in reviewing our application, but we feel that we need to begin the formal evaluation stage of the application. Continued delays around minor issues that can be easily accommodated during the evaluation process are putting significant pressure on the viability of the project. All the positive impacts that the project would provide to the state and the local community partners is in jeopardy of being lost every day that we go without being Deemed Complete. If the project misses the December 2028 in service date, the safe harbored tax benefits are lost, and as a result, the project would be lost.

Please let us know if you have any questions.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 17, 2025 3:32 PM
To: Kelly Strain <KStrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <Jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

Thanks Kelly,
Our emails kinda crossed in cyber space. I just sent a request for clarification on five items related to Air Quality and Public Health. I appreciate your attentiveness to Biological Resources needs, the substance of which will be used in preparing our second email, minus those items you will be submitting tomorrow, Friday. One additional email requesting clarification on Net Economic Benefits analysis is also undergoing final review.

Your mention of the date of July 31 is the first instance of such a requested date, although our counsel has shared that they recently heard that same date. Our target currently is still late-August. Thank you for your willingness to fill in any remaining data gaps, and there are not many. Are you able to provide any additional substantive background about why that date has been circled as a desired date for a data completeness determination?

Thanks again.

Eric W. Veerkamp
Project Manager
STEP Division
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916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, July 17, 2025 2:20 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <Jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

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Good afternoon, Eric~

I am just following up on the voice message I just left you and the email I sent you yesterday. Please let us know if you have any questions or need additional data. The documents indicated below will be submitted tomorrow. We can also commit to resolving any additional data gaps to ensure a deemed complete status by the end of this month, July 31.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

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Los Angeles, California

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: July 16, 2025 4:36 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@jmoore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

Good afternoon, Eric~

We had a successful meeting today and we anticipate having the following items revised and submitted to the CEC by this Friday, July 18:

- ITP redlined version addressing CBB
- LSAA updated figure and possible redlined LSAA document
- Mitigation lands biological resources assessment document and DR Bio-1 response (I will reconfirm this tomorrow as we need input from Westervelt)

Please let us know if you have any questions or need additional data not indicated above.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 16, 2025 8:13 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

Good Morning,
Thank you for the information. If not overly burdensome, sharing a brief list of the items you plan to include in the resubmittals in an email would help our team to confirm what to expect. The submittal of the information itself is best filed to the docket. If this does not cover it, please let me know.

Eric W. Veerkamp
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From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Tuesday, July 15, 2025 3:35 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello, Eric

Thank you for the update. Yes, we are meeting tomorrow to wrap up the outstanding data request indicated below. Many of our critical team members were out on vacation so we had a slight delay. I believe we can quickly triage these remaining items and have a response to you either later this week or early next week. I will know more tomorrow after our meeting at 11:00 AM PDT and provide a more accurate date of submittal. Are we to simply email you the responses, or do you prefer they be uploaded to the docket?

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 15, 2025 3:27 PM
To: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Kelly Strain <kstrain@capstoneinfra.com>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: PoVI project, CEC status for data completeness

Hi Kelly,
I am reaching out to you as follow up to Kaycee's email below on 7/10. We are still working to resolve remaining outstanding items where CEC still needs additional information.

Staff has completed and is finalizing requests for clarifying information for the following technical areas. For these items, we hope to send to you an email (for later docketing) clarifying several items, very shortly.

- Air Quality and Public Health
- Public Benefit (Net Economic Benefit to the local gov't.)

The following one technical area and corresponding data items are potentially more significant and, in their absence, may be a decision point in our ability to make a determination of completeness. Ann Crisp and her team is meeting today to determine what information is still needed. The difficulty we are facing is that post-completeness determination, our ability to request further project details and information is limited. For this reason, we are trying to ensure we have all the information we need.

- Biological Resources

I also wanted to inquire again from the July 10 email below from Kaycee (highlighted in yellow) held over from the last meeting on July 8. Are you still planning to provide this to us?

Thank you Kelly.

Eric W. Veerkamp
Project Manager
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Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Sent: Thursday, July 10, 2025 1:17 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: Re: PoVI project, CEC status for data completeness

Hi Kelly,

We were checking with our teams on the clarification needed on how to submit the following items as discussed at the July 8th meeting:

- LSAA (Attachment 7) – Resubmit the entire revised notification in track changes/red-line strikethrough
- CBB ITP – Resubmit the entire redline strikethrough ITP
    - Please clarify if the applicant is requesting full take coverage (nests and foraging individuals) or make clear what the applicant expects they can avoid
- Mitigation Lands – Resubmit the relevant subsections in redline strikethrough

Note: Our team is reviewing the data request responses and may have a few follow-up questions.

To help ensure alignment, we'd also appreciate if you could share a list of specific items you plan to include in your resubmittals based on our discussion. This will allow our team to confirm whether anything else may be needed in advance, and help make the process more efficient for everyone by avoiding some back-and-forth later.

Regarding the data completeness decision, please allow me to clarify: we asked our teams to review the data request responses by the end of this week and confirm whether they have all the information needed for their topic areas or if they will have additional data requests. For additional data requests, we plan to transmit those via email once reviewed by management and legal internally, with a request for the responses to be filed to the docket and to include a copy of our original request(s). That said, you should hear more from us next week.

As mentioned below, we may have follow-up questions for bio. I'll also share a heads up that we just received a few questions related to air quality and public health - those are undergoing legal review now. As soon as data requests are ready, we will get them over to you.

Please let me know if you have any questions.

Thank you,
Kaycee

Kaycee Chang (she, her, hers)
Supervisor
Siting, Transmission, and Environmental Protection Division
Book time to meet with me

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Thursday, July 10, 2025 11:15 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: PoVI project, CEC status for data completeness

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello, Eric and Ann~

We are just checking in to see if the CEC or CDFW has any additional questions for us, or clarification to some of the topics discussed in Tuesday's meeting. Eric's email below indicated we would have your data completeness decision by today, July 10; however, it also states ***Friday***, July 10. Perhaps you meant Friday, July 11. In the meantime, we are working on responses / revisions to our previously submitted Bio DR responses to address the Tuesday meeting CEC and CDFW's comments.

Please let me know if you have any questions.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 838 5040
Facsimile +1 (416) 848 1815
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: June 23, 2025 11:44 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI project, CEC status for data completeness

Hi Kelly,
Please allow to me to update you with our staff process for data completion; I have conveyed this information to the team and they are working towards these dates.

The responses you provided to the CEC Rev-1 DRs completed filing on Wednesday, June 11. Ann Crisp, the Biological Resources supervisor has requested that our partners at CDFW provide any comment on the BIO responses (filed on 6/10) by Tuesday, July 1. This in in accordance with our inter-agency agreement with CDFW. Following that, I have requested staff target their data completeness decision by Friday, July 10 or before. Staff is working going through the responses; Biological Resources would likely be the last discipline to be completed, due to the coordination with CDFW.

At this point, no specific issues to share. If you are ok with it, I suggest we could pass on the meeting tomorrow, 6/24.

Thanks.

P.S. You beat me to it with your email earlier.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

Message

From: Kelly Strain [kstrain@capstoneinfra.com]
Sent: 7/24/2025 10:50:39 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject: RE: PoVI, CEC request for GIS shapefiles associated with adjacent properties

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Eric,

We will get those shapefiles to you as soon as possible.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

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Facsimile +1 (416) 818-1495
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Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 24, 2025 3:25 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI, CEC request for GIS shapefiles associated with adjacent properties

Hi Kelly,
As part of our preparation of the mailing list for noticing and distribution, we are requesting GIS shapefiles associated with the parcels in Attachment 8, Updated Surrounding Ownership Information, TN 261408, part of Data request responses Set 2.

Depending on what works for you, we are prepared to use a Kiteworks account.

Thank you. Let me know if you have any questions.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

From: Ronelle Candia [rcandia@dudek.com]
Sent: 8/8/2025 4:43:58 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Rocio Perez [rpe@eurowindenergy.com]; Joel Moore [jmoore@moore-devservices.com]; Lauren McLeod [lmcleod@capstoneinfra.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; kstrain@capstoneinfra.com
Subject: RE: PoVI, list of APN's and parcel map, extraneous parcel

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Eric,

It looks like it was included in the spreadsheet by error. There is no specific reason it was included and can be removed.

Thanks!

Ronelle Candia
Project Manager II

O: 661 509 2787 **C:** 661 203 7312
dudek.com

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Friday, August 8, 2025 8:53 AM
To: Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>; Joel Moore <jmoore@moore-devservices.com>; Lauren McLeod <lmcleod@capstoneinfra.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; kstrain@capstoneinfra.com
Subject: PoVI, list of APN's and parcel map, extraneous parcel

Hi Ronelle,

While working with the data you sent to us, our CEC staff noticed a discrepancy in one of the parcel numbers. Referencing Appendix 1A, contained in Attachment 8, TN 261408 of the application materials, included is APN 99B-7885-2, which is outside the buffer area by about 2000 ft. Is this included in error or was there a specific reason? If it is erroneous, we will remove it for our mailing/distribution list.

Thank you.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

From:	Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent:	7/22/2025 11:51:40 PM
To:	kstrain@capstoneinfra.com; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC:	Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject:	PoVI, Request for Information, follow up to REV-1 Data Requests/Responses, Biological Resources

For Potentia-Viridi, 24-OPT-04, the CEC is requesting information for Biological Resources. Staff has noted these items are for additional clarification; therefore, the CEC is sending this email (rather than another round of data requests), which will be filed to the docket, as will responses.

Please reference the REV-1 Data Requests, issued on April 7, 2025; responses to those data requests were received on June 10, 2025 (TN 264162). For all items below, please refer back to the previous DRs and Responses or previously submitted tracking numbers (TN's).

1. 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.
2. 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

Please file your responses to the docket. If you have any questions about these items, let us know. If we need to, we can meet with appropriate technical staff for clarification.

To recap the discussion from the July 8 discussion on this same subject of the LSAA, the request at that time was to "clarify delineation of CDFW jurisdiction, including appropriate use of top of bank versus ordinary high water mark in calculations, address inconsistencies in design plan dimensions for water crossing features, and confirm inclusion of CDFW jurisdiction in all relevant maps and legends, and provide .kmz files, if not already submitted. Please resubmit the entire revised notification in track changes/red-line strikethrough."

Our agency partners at CDFW continue to review the materials for the LSAA and plan to complete their review by Friday, July 25. We will wait for completion of CDFW review to determine if the information submitted is final, but at a minimum, please resubmit the figures that were submitted on July 18, 2025 as "401 Permit Figures" and label "LSAA 1602 permit figures" so it is clear why the materials are being submitted. Finally, please include the .kmz files.

Thank you.

P.S. I hope to be able to lock in our CEC/Capstone discussion for Thursday afternoon about the Net Econ. Benefit topics.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-3458
www.energy.ca.gov

Message

From: Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent: 7/23/2025 9:46:23 PM
To: kstrain@capstoneinfra.com; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Negar Vahidi [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cb23cc0e70ac4e44ab61714491954981-4e241c75-c7]; Irene Kaufman [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f4ae9e57a76f4e0bb81d46c1217ee928-8b02fa12-20]
Subject: PoVI, Request for Information, follow up to Data Requests, Net Economic Benefits (Mandatory Opt-In Requirements)

Hi Kelene and Ronelle,

For Potentia-Viridi 24-OPT-04, the CEC is requesting clarifying information related to Net Economic Benefits to communities. Staff has noted these items are for additional clarification; therefore, the CEC is sending this email (rather than another round of data requests), which will be filed to the docket, as will responses.

Please refer to the Data Responses submitted to the CEC on January 29, 2025 (TN 261398), in response to CEC Data Requests (TN 259038) . For all items below, please refer back to the previous DRs and Responses or previously submitted tracking numbers (TN's).

Mandatory Opt-in Requirements

California Code of Regulations (CCR), title 20, section 1877(f) requires Opt-In Applications to identify preliminary information demonstrating overall net positive economic benefit to the local government that would have had permitting authority over the site and related facility, consistent with Public Resources Code section 25545.9. California Code of Regulations, title 20, section 1879 (a) (7) further states that the net positive benefits identified in an Opt-In Application may include, but are not limited to the following: (a) employment growth, (b) housing development, (c) infrastructure and environmental improvements, (d) assistance to public schools and education, (e) assistance to public safety agencies and departments, and (f) property taxes and sales and use tax revenues.
As part of Data Request Response No. 2 (TN 261398) and Revised Section 3.10 Socioeconomics (TN 261399), the Applicant provided information on project net benefits. In the Revised Socioeconomics Section 3.10, the Applicant states, "…[t]he construction phase would have positive fiscal impacts in the study area on Alameda County, including higher levels of property tax and sales tax accruing to the Alameda County General Fund and Special Funds. The Revised Socioeconomics Section 3.10 further states,
"…[t]he proposed Project would replace current grazing activities on 70 acres of the total of 235.97 acres for parcel APN 99B-7890-002-04. This parcel is currently under the California Land Conservancy Act (CLCA) (the Williamson Act) and therefore receives a lower level of property tax assessment from the Alameda County Assessor. Based on the assessor records, the parcel in 2024-25 was assessed an annual property tax of about $991 for the total 235.97 acres. Therefore, the BESS portion of the Project would contribute to a prorated property tax amount of about $294 annually."
In Table 3-8 of the confidential Socioeconomics report, the Applicant provides annual expenditure in property taxes. For the purposes of net benefits from property taxes, this number is compared to the current $294 annual property tax amount for the 70-acre portion of the project.
In the Land Use section of the application and in Data Response No. 2, the Applicant states "…[t]he subject parcel is currently classified as a Williamson Act property; therefore, the post-development property valuation and ad-valorem tax is not determined here, at this time," and that the Williamson Act contract would not need to be cancelled.

Refer to DRR-MAND-2 (TN 261398) Per California Code of Regulations, title 20, section 1877(f) requirement, staff have the following additional data requests:

a. Based on the information provided by the applicant regarding current property tax values of the project parcel, if the parcel remains under a Williamson Act contract, would the proposed project site valuation remain at the current lower property tax assessment of $294 for the 70 acres (or $991 for the full parcel) annually for the

duration of the Williamson Act contract, versus the project-generated property tax value reported in Table 3-8 of the confidential Revised Socioeconomics report?

b. If the value in Table 3-8 of the confidential Revised Socioeconomics report is the correct property tax rate given the site's Williamson Act contract, would the property tax be generated for just the 70-acre portion of the project parcel, or does this number reflect taxes generated for the entire 235-acre parcel? Please provide the average annual property tax generated over the 35-year life of the project, rather than the year 5 rate.
c. Would the remaining 165 acres of the parcel that is not part of the project continue to be used for agricultural purposes (i.e., grazing)?
d. The values provided in Table 3-8 of the confidential Revised Socioeconomics report include BESS LTSA, BESS warranty, BESS capacity guarantee, augmentation, insurance, land lease, operations labor and trading, property tax, aux load, and other annual O&M costs all starting at year 5. Please revise O&M values to reflect annualized costs over the 35-year life of the project. The inclusion of these items and data from year 5 that do not occur annually throughout the life of the project (e.g., augmentation) may create an overinflated O&M value.
e. Table 3-8 of the confidential Revised Socioeconomics report provides both the cost of the annual project lease amount that would be paid by the applicant to the parcel owner, and the annual property taxes that would be generated by the project (and that would typically be paid by the parcel owner to Alameda County). Please provide an explanation of why both items are listed as project expenditures in the table. Also, provide information on how the parcel owner would pay the annual property tax listed in Table 3-8 to the County when the project lease payment is substantially less.

Please file your responses to the docket. We are open to further discussions if you choose to file responses under confidential cover; however, it would be an expedited process since it would be a repeated application. I plan to send a meeting request soon for a time early next week to make staff available to discuss.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

From: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Sent: 7/23/2025 11:16:11 PM
To: Kelly Strain [KStrain@capstoneinfra.com]
CC: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Ronelle Candia [rcandia@dudek.com]; Joel Moore [Jmoore@moore-devservices.com]; Palmer, Dana [dpalmer@allenmatkins.com]; Lauren McLeod [LMcLeod@capstoneinfra.com]; Paul Miller [pam@eurowindenergy.com]; Vorters, Dian@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2c5604e712a74c029e412542e0db72ac-Vorters, Di]; Knight, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=be42548337f44852a291a9845f226f62-Knight, Eri]
BCC: Giorgi, Erika@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d171e5d706e34c26ad9d13c230f2349f-1324b266-6e]; Ponce, Mariah@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bc5faa5d564c4cf3a2f49468b736b6c2-b2346f64-e7]
Subject: Re: PoVI project, CEC status for data completeness

Hello Kelly,

Thank you for providing valuable insight with additional context about your team's desired date of July 31, 2025, for a completeness determination for the Potentia-Viridi Battery Energy Storage System Opt-In application. We recognize that energy projects are affected by federal decisions, and remain committed to supporting energy projects that advance California's goals.

We appreciate the productive collaboration with your team, particularly in discussing information needs and addressing data requests. As project manager Eric Veerkamp has previously shared, our few remaining data requests are forthcoming or have already been sent to you. We continue to work towards a determination of completeness by the end of August, as previously communicated, and we remain on track to meet that timeframe, provided your responses to data requests are timely and adequate.

Trusting there will be no substantial, unforeseen changes to the project that would impact the timeline under Public Resources Code 25545.4(e)(2), our target to bring Potentia-Viridi for a Commission decision remains the end of May 2026 (by day 270). Based on our understanding, this timeline supports the required in-service date of December 2028.

Please let us know if you have any questions.

Thank you,
Kaycee

Kaycee Chang (she, her, hers)
Supervisor
Siting, Transmission, and Environmental Protection Division
Book time to meet with me

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Tuesday, July 22, 2025 10:57 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <Jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

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Eric,

As a follow-up to your request for background about why July 31, 2025, is our desired date for a data completeness determination, we prepared the following response:

The Potentia-Viridi BESS project secured its Tax Credit Benefits under section 48 of the IRA through Safe Harboring at the end of 2024 by purchasing a main power transformer. The terms of the safe harbor require the project to be in service by December 31, 2028, to maintain the Tax Credits. These credits provide significant monetary value which is currently 40% of the project capital costs. Without the IRA provided tax benefits this project is not viable and will not be built. The continued delays in being deemed complete are putting considerable pressure on the projects ability to take the necessary actions to ensure it hits the required in service date. The largest risk in any project in California is permitting. It is extremely difficult to secure the project financing needed to procure the major pieces of equipment to ensure timely delivery to site without clarity on when the project would be permitted. This uncertainty is further compounded by the current administration's continued attack on the benefits awarded to project developers under the IRA. These attacks are having the immediate effect of lengthening equipment delivery times and in some cases taking vendors out of the market due to tariff's and blocking tactics. The net effect is driving up project costs and pushing out delivery timelines, something that this project has very little room to accommodate. As we approach the one-year anniversary of our application submittal to the CEC it is becoming urgent that the project be granted the Application Deemed Complete Status, and that we work together to close any minor information gaps that still exist as we move through the formal process of evaluation.

As owners of this project, we appreciate the efforts of CEC staff in reviewing our application, but we feel that we need to begin the formal evaluation stage of the application. Continued delays around minor issues that can be easily accommodated during the evaluation process are putting significant pressure on the viability of the project. All the positive impacts that the project would provide to the state and the local community partners is in jeopardy of being lost every day that we go without being Deemed Complete. If the project misses the December 2028 in service date, the safe harbored tax benefits are lost, and as a result, the project would be lost.

Please let us know if you have any questions.

Sincerely,

Kelene Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
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Facsimile +1 (310) 943-1335
Email KStrain@capstoneinfra.com
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Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 17, 2025 3:32 PM
To: Kelly Strain <KStrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <Jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurowindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

Thanks Kelly,

Our emails kinda crossed in cyber space. I just sent a request for clarification on five items related to Air Quality and Public Health. I appreciate your attentiveness to Biological Resources needs, the substance of which will be used in preparing our second email, minus those items you will be submitting tomorrow, Friday. One additional email requesting clarification on Net Economic Benefits analysis is also undergoing final review.

Your mention of the date of July 31 is the first instance of such a requested date, although our counsel has shared that they recently heard that same date. Our target currently is still late-August. Thank you for your willingness to fill in any remaining data gaps, and there are not many. Are you able to provide any additional substantive background about why that date has been circled as a desired date for a data completeness determination?

Thanks again.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Thursday, July 17, 2025 2:20 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>; Palmer, Dana <dpalmer@allenmatkins.com>; Lauren McLeod <LMcLeod@capstoneinfra.com>; Paul Miller <pam@eurovindenergy.com>
Subject: RE: PoVI project, CEC status for data completeness

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Good afternoon, Eric~

I am just following up on the voice message I just left you and the email I sent you yesterday. Please let us know if you have any questions or need additional data. The documents indicated below will be submitted tomorrow. We can also commit to resolving any additional data gaps to ensure a deemed complete status by the end of this month, July 31.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 849 5042
Facsimile +1 (416) 643 1005
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: July 16, 2025 4:36 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

Good afternoon, Eric~

We had a successful meeting today and we anticipate having the following items revised and submitted to the CEC by this Friday, July 18:

- ITP redlined version addressing CBB
- LSAA updated figure and possible redlined LSAA document
- Mitigation lands biological resources assessment document and DR Bio-1 response (I will reconfirm this tomorrow as we need input from Westervelt)

Please let us know if you have any questions or need additional data not indicated above.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
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Facsimile +1 (418) 619-1995
Email Kstrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 16, 2025 8:13 AM
To: Kelly Strain <kstrain@capstoneinfra.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@moore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

Good Morning,
Thank you for the information. If not overly burdensome, sharing a brief list of the items you plan to include in the resubmittals in an email would help our team to confirm what to expect. The submittal of the information itself is best filed to the docket. If this does not cover it, please let me know.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-3458

Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Tuesday, July 15, 2025 3:35 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>; Joel Moore <jmoore@jmoore-devservices.com>
Subject: RE: PoVI project, CEC status for data completeness

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello, Eric

Thank you for the update. Yes, we are meeting tomorrow to wrap up the outstanding data request indicated below. Many of our critical team members were out on vacation so we had a slight delay. I believe we can quickly triage these remaining items and have a response to you either later this week or early next week. I will know more tomorrow after our meeting at 11:00 AM PDT and provide a more accurate date of submittal. Are we to simply email you the responses, or do you prefer they be uploaded to the docket?

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 838 5540
Facsimile +1 (416) 848 1845
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: July 15, 2025 3:27 PM
To: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Kelly Strain <kstrain@capstoneinfra.com>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: RE: PoVI project, CEC status for data completeness

Hi Kelly,
I am reaching out to you as follow up to Kaycee's email below on 7/10. We are still working to resolve remaining outstanding items where CEC still needs additional information.

Staff has completed and is finalizing requests for clarifying information for the following technical areas. For these items, we hope to send to you an email (for later docketing) clarifying several items, very shortly.

- Air Quality and Public Health
- Public Benefit (Net Economic Benefit to the local gov't.)

The following one technical area and corresponding data items are potentially more significant and, in their absence, may be a decision point in our ability to make a determination of completeness. Ann Crisp and her team is meeting today to determine what information is still needed. The difficulty we are facing is that post-completeness determination, our ability to request further project details and information is limited. For this reason, we are trying to ensure we have all the information we need.

- Biological Resources

I also wanted to inquire again from the July 10 email below from Kaycee (highlighted in yellow) held over from the last meeting on July 8. Are you still planning to provide this to us?

Thank you Kelly.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

From: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Sent: Thursday, July 10, 2025 1:17 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: Re: PoVI project, CEC status for data completeness

Hi Kelly,

We were checking with our teams on the clarification needed on how to submit the following items as discussed at the July 8th meeting:

- LSAA (Attachment 7) – Resubmit the entire revised notification in track changes/red-line strikethrough
- CBB ITP – Resubmit the entire redline strikethrough ITP
    - Please clarify if the applicant is requesting full take coverage (nests and foraging individuals) or make clear what the applicant expects they can avoid
- Mitigation Lands – Resubmit the relevant subsections in redline strikethrough

Note: Our team is reviewing the data request responses and may have a few follow-up questions.

To help ensure alignment, we'd also appreciate if you could share a list of specific items you plan to include in your resubmittals based on our discussion. This will allow our team to confirm whether anything else may be needed in advance, and help make the process more efficient for everyone by avoiding some back-and-forth later.

Regarding the data completeness decision, please allow me to clarify: we asked our teams to review the data request responses by the end of this week and confirm whether they have all the information needed for their topic areas or if they will have additional data requests. For additional data requests, we plan to transmit those via email once reviewed by management and legal internally, with a request for the responses to be filed to the docket and to include a copy of our original request(s). That said, you should hear more from us next week.

As mentioned below, we may have follow-up questions for bio. I'll also share a heads up that we just received a few questions related to air quality and public health - those are undergoing legal review now. As soon as data requests are ready, we will get them over to you.

Please let me know if you have any questions.

Thank you,
Kaycee

Kaycee Chang (she, her, hers)
Supervisor
Siting, Transmission, and Environmental Protection Division
Book time to meet with me

From: Kelly Strain <kstrain@capstoneinfra.com>
Sent: Thursday, July 10, 2025 11:15 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Cc: Ronelle Candia <rcandia@dudek.com>
Subject: RE: PoVI project, CEC status for data completeness

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello, Eric and Ann~

We are just checking in to see if the CEC or CDFW has any additional questions for us, or clarification to some of the topics discussed in Tuesday's meeting. Eric's email below indicated we would have your data completeness decision by today, July 10; however, it also states ***Friday***, July 10. Perhaps you meant Friday, July 11. In the meantime, we are working on responses / revisions to our previously submitted Bio DR responses to address the Tuesday meeting CEC and CDFW's comments.

Please let me know if you have any questions.

Sincerely,

Kelsie Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 399-6340
Facsimile +1 (416) 619-1995
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: June 23, 2025 11:44 AM

To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI project, CEC status for data completeness

Hi Kelly,
Please allow to me to update you with our staff process for data completion; I have conveyed this information to the team and they are working towards these dates.

The responses you provided to the CEC Rev-1 DRs completed filing on Wednesday, June 11. Ann Crisp, the Biological Resources supervisor has requested that our partners at CDFW provide any comment on the BIO responses (filed on 6/10) by Tuesday, July 1. This in in accordance with our inter-agency agreement with CDFW. Following that, I have requested staff target their data completeness decision by Friday, July 10 or before. Staff is working going through the responses; Biological Resources would likely be the last discipline to be completed, due to the coordination with CDFW.

At this point, no specific issues to share. If you are ok with it, I suggest we could pass on the meeting tomorrow, 6/24.

Thanks.

P.S. You beat me to it with your email earlier.

Eric W. Veerkamp
Project Manager
STEP Division
California Energy Commission
916-661-8458
Eric.Veerkamp@energy.ca.gov
www.energy.ca.gov

Message

To: Albert.lopez@acgov.org
CC: Knight, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=be42548337f44852a291a9845f226f62-Knight, Eri]
Attachments: TN265907_20250908T103051_Notice of Informal and Environmental Scoping Meeting for the Proposed Poten.pdf

Hi Albert.

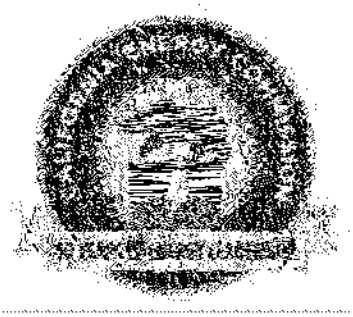
We just wanted to let you know about an Informational and Environmental Scoping meeting taking place for the Potentia-Viridi project on September 18 from 2-5 pm at the Tracy Transit Center. Attendees may attend in person or over Zoom. Hope you can make it, and we look forward to coordinating more as we review the project.

Please let me know if you have any questions. Thanks!

Andrea

Andrea Koch
Environmental Planning Specialist
Land Use & Public Services Unit
Siting and Environmental Branch
Siting, Transmission and Environmental Protection Division
Phone: 1-279-226-1028

California Energy Commission
Website: www.energy.ca.gov



DOCKETED	
Docket Number:	24-OPT-04
Project Title:	Potentia-Viridi Battery Energy Storage System
TN #:	265907
Document Title:	Notice of Informal and Environmental Scoping Meeting for the Proposed Potentia-Viridi Battery Energy Storage System
Description:	N/A
Filer:	Marichka Haws
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	9/8/2025 10:30:55 AM
Docketed Date:	9/8/2025

CALIFORNIA ENERGY COMMISSION
715 P Street
Sacramento, California 95814

energy.ca.gov

CEC-70 (Revised 7/22)

IN THE MATTER OF: Potentia-Viridi Battery Energy Storage System Opt-In Application for Certification	DOCKET NO. 24-OPT-04 NOTICE OF INFORMATIONAL and ENVIRONMENTAL SCOPING MEETING RE: Potentia-Viridi Battery Energy Storage System (SCH 2025090227)

Notice of Informational and Environmental Scoping Meeting for the Proposed Potentia-Viridi Battery Energy Storage System

Hybrid Meeting In-Person and via Zoom
September 18, 2025
2:00 p.m. – 5:00 p.m.

In-person at:

Tracy Transit Center – Meeting Room
50 E. 60th Street
Tracy, CA 95376

Remote Access via Zoom:
See attendance instructions below.

The California Energy Commission (CEC) will host an informational and environmental scoping meeting pursuant to Public Resources Code section 25545.7.2 to present and solicit information on the proposed Potentia-Viridi Battery Energy Storage System (BESS) (project). Members of the public can participate in the meeting consistent with the attendance instructions below. This will be a hybrid meeting with a publicly accessible physical location and access online or by phone through Zoom™. The meeting will include informational presentations and time for public comment.

Please see the CEC project webpage for more information on the project:
https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-04.

The CEC aims to begin promptly at the start time posted and the end time is an estimate based on the proposed agenda. The meeting may end sooner or later than the posted end time. Breaks will be announced during the meeting.

An event recording will be posted on the event webpage (linked above).

Agenda:

1. Welcome and Introductions
2. CEC staff presentation on the Opt-In Certification Program
3. Applicant presentation on the proposed project
4. CEC staff presentation on the scope and content of the Staff Assessment and environmental analysis
5. CEC Office of the Public Advisor, Energy Equity, and Tribal Affairs presentation on public participation and California Native American tribal consultation opportunities
6. Government Comments: California Native American tribes and federal, state and local government entities
7. Public Comments
8. Closing Remarks and Adjournment

Background

CEC's Opt-In Certification Program, authorized in Public Resources Code sections 25545 - 25545.13, allows specified clean energy projects to seek consolidated permitting at the CEC until June 30, 2029. These projects include, but are not limited to, energy storage systems capable of storing 200 megawatt-hours (MWh) or more, electric transmission lines associated with these storage facilities to the first point of interconnection, and other facilities specified in statute.

Under this program, the CEC permit is in lieu of any permit that would normally be required by the local land use authority and most, but not all, state permits. More information about the Opt-In Certification Program can be found at https://www.energy.ca.gov/programs-and-topics/topics/power-plants/opt-certification-program.

Under the Opt-In Certification program, CEC is the lead agency under the California Environmental Quality Act (CEQA) and, after an application is deemed complete, does the following:

1. Prepare a Staff Assessment, which includes an environmental impact report (EIR).
2. Hold public informational and scoping, public workshop, and other public meetings, as close as practicable to the proposed project site.

3. Invite consultation with California Native American tribes that are culturally and traditionally associated with the geographic area of the proposed site.
4. Certify compliance with requirements for community benefits, labor standards, and economic benefits.
5. Approve or deny the proposed project at a publicly noticed business meeting.

Levy Alameda, LLC (applicant), filed an Opt-In application on August 7, 2024, for the Potentia-Viridi BESS project proposed in Alameda County, California. On September 6, 2024, and April 7, 2025, the CEC deemed the application incomplete and docketed letters detailing the information deficiencies. On August 15, 2025, the CEC sent applicable California Native American tribes a letter inviting tribal consultation on the Potentia-Viridi BESS project. On August 29, 2025, after receiving additional data, the CEC determined that the application was complete. The CEC sent a Notice of Preparation of a Draft EIR (NOP) to analyze the potential environmental impacts of the project to the State Clearinghouse (Land Use and Climate Innovation, LCI), and mailed the NOP on August 29, 2025, to the trustee agency, Alameda County Clerk, and local, regional, and federal agencies. These and other documents are available on the CEC docket for this proceeding at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-04

Project Summary

Levy Alameda, LLC (Applicant), a wholly owned subsidiary of Obra Maestra Renewables, LLC, proposes to construct, operate, and eventually repower or decommission the 400-megawatt (MW) Potentia-Viridi BESS project on approximately 102 acres in eastern Alameda County. Development of the BESS facility would be within a 70-acre leased portion, which currently consists of fallowed annual grasslands suitable for grazing. Of the leased area, approximately 58.8 acres would be permanently disturbed for development of the BESS facility. In addition to the 70-acre leased portion, approximately 32 acres were evaluated in the application for the overhead intertie transmission (gen-tie) study area, and approximately 1.9 acres would be permanently disturbed for the gen-tie and interconnecting facilities. Under remote operation, the project would draw electricity from the power grid to charge and store electrical energy and discharge back to the power grid when the stored energy is needed.

The primary components of the project would include an up to 3,200-megawatt-hour (MWh) BESS facility, an operations and maintenance (O&M) building, a project substation, a 500-kilovolt (kV) gen-tie line, and interconnection facilities within the Pacific Gas and Electric (PG&E) owned and operated Tesla Substation.

For more details about the project, see Chapter 2 Project Description in TN 261401, at the following link:
DR Response 2 - Attachment 7, Revised Section 2, Project Description,
https://efiling.energy.ca.gov/GetDocument.aspx?tn=261401&DocumentContentId=97784

The CEC maintains a website for this project with proposed project information, a link to the docket, email subscription sign-up, and more at: https://www.energy.ca.gov/powerplant/battery-storage-system/potentia-viridi-battery-energy-storage-system

Purpose of the Informational and Environmental Scoping Meeting

The Informational and Environmental Scoping Meeting will provide an opportunity for interested members of the public, including surrounding communities, to learn about the proposed project and the CEC's Opt-In Certification process. The public will be able to obtain information, identify areas of environmental concern to be addressed during the CEC's environmental review of the project, and provide comments.

During the public meeting, the applicant will explain its proposed plans for constructing and operating the project and related facilities. CEC staff will describe the CEC and staff's role and responsibilities in reviewing the Opt-In application and engaging with government agencies, the public, and California Native American Tribes to inform this review. The CEC's Public Advisor will describe how interested members of the public can participate in the process, including during the environmental review and CEC decision-making.

The CEC will prepare a Staff Assessment (SA). The SA will include a Draft EIR following the requirements of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) and the CEQA Guidelines (Cal. Code Regs., tit. 14, div. 6, ch. 3). The Notice of Preparation of the Draft EIR is available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=265893&DocumentContentId=102895. As discussed in the Notice of Preparation, the CEC is conducting public outreach to solicit input on the Potentia-Viridi Battery Energy Storage System project application to identify the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in depth in the Draft EIR. The Informational and Environmental Scoping Meeting also assists CEC staff in obtaining additional information to prepare the Draft EIR and determining whether the project meets all program requirements.

Attendance Instructions

Hybrid Meeting with in-person and remote attendance options

In-person participants may join the meeting at:

Tracy Transit Center – Meeting Room
50 E. 60th Street
Tracy, CA 95376

Remote participants may join via Zoom by internet or phone.

- **To join via Zoom.** Click on https://energy.zoom.us/j/84176987091?pwd=aSqaga2i2NSWYhKzUIUbtyaGnHE2QO.1
- or login in at https://zoom.us/ and enter the Webinar ID 841 7698 7091 and passcode 392582 and follow all prompts.
- **To join by telephone.** Call at (669) 219-2599. When prompted, enter the Webinar ID 841 7698 7091 and passcode 392582.

Zoom Closed Captioning Service. At the bottom of the screen, click the Live Transcript CC icon and choose "Show Subtitle" or "View Full Transcript" from the pop-up menu. To stop closed captioning, close the "Live Transcript" or select "Hide Subtitle" from the pop-up menu. If joining by phone, closed captioning is automatic and cannot be turned off. While closed captioning is available in real-time, it can include errors. A more accurate transcript of the meeting will be docketed and posted as soon as possible after the meeting concludes.

Zoom Difficulty. Contact Zoom at (888) 799-9666 ext. 2, or the CEC Public Advisor at publicadvisor@energy.ca.gov, or by phone at (916) 957-7910.

Public Comment

A public comment period will be provided at the meeting. Comments may be limited to two minutes or less depending on the number of comments. Comments can be made whether attending in-person or via Zoom (online or by phone).

Written and oral comments, attachments, and associated contact information (including address, phone number, and email address) will become part of the public record of this proceeding with access available via any internet search engine.

If participating via Zoom's online platform, use the "raise hand" feature to indicate you would like to make a comment. The CEC will open your line to speak. Please restate and spell your name for the record, indicate if you have an affiliation, and begin your comments.

If participating by telephone, press *9 to "raise your hand" and *6 to mute/unmute. The CEC will announce the last three digits of the phone number listed and open your line. Make sure to unmute your phone before speaking then restate and spell your name for the record, indicate if you have an affiliation, state your position on the proposed project, if any, and begin your comments.

The CEC encourages the use of its electronic commenting system. Visit the e-commenting page for this docket California Energy Commission: e-comment: Submit Comment at https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=24-OPT-04. Enter your contact information and a subject title that describes your comment. Comments may be included in the "Comment Text" box or attached as a downloadable, searchable document in Microsoft® Word or Adobe® Acrobat®. The maximum file size allowed is 10 MB.

Written comments may be submitted to the Docket Unit by 5:00 p.m. on October 3, 2025. Written and oral comments, attachments, and associated contact information (including address, phone number, and email address) will become part of the public record of this proceeding with access available via any internet search engine. Written comments may also be submitted by email. Include docket number 24-OPT-04 and Potentia-Viridi Battery Energy Storage System in the subject line and email to docket@energy.ca.gov.

A paper copy may be mailed to:
California Energy Commission

Docket Unit, MS-4
Docket No. 24-OPT-04
715 P Street
Sacramento, California 95814

Public Advisor. The CEC's Public Advisor assists the public with participation in CEC proceedings. To request assistance, interpreting services, or reasonable modifications and accommodations, call (916) 957-7910 or email publicadvisor@energy.ca.gov as soon as possible but at least five days in advance. The CEC will work diligently to meet all requests based on availability.

Media Inquiries. Email mediaoffice@energy.ca.gov or call (916) 654-4989.

Technical Subject and General Inquiries. Email Eric Veerkamp at STEPsiting@energy.ca.gov or call (916) 661-8458.

Availability of Documents: Documents and presentations for this meeting will be available at California Energy Commission: Docket Log at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-04.

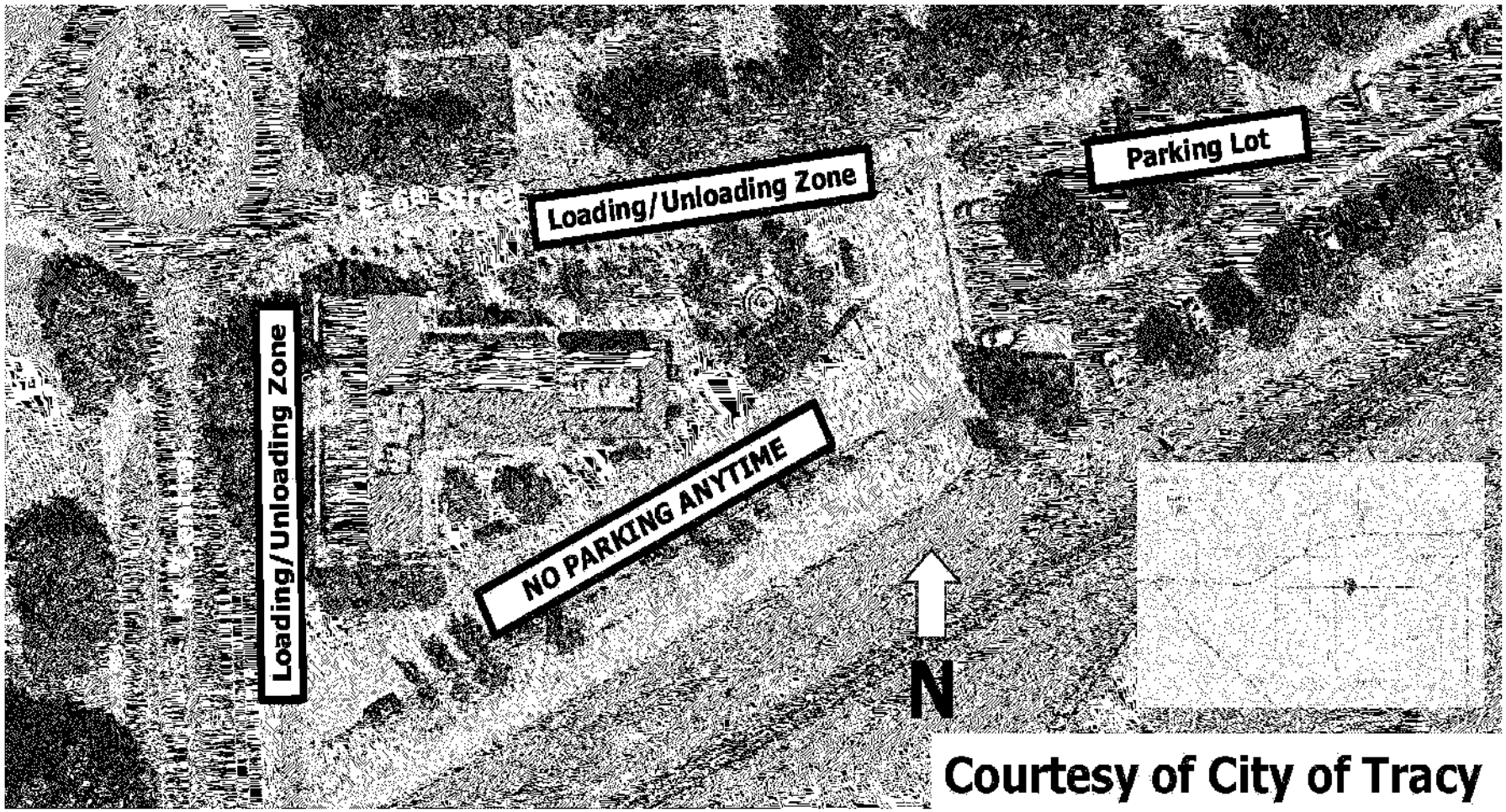
When new information is posted, an email will be sent to those subscribed to the Potentia-Viridi BESS project. To receive these notices or notices of other email subscription topics, visit Subscriptions, at https://www.energy.ca.gov/subscriptions.

Dated: September 8, 2025, at Sacramento, California.

Joseph Hughes

(Joseph Hughes, for Dian Vorters)
Dian Vorters, Deputy Director
Siting, Transmission, and Environmental Protection Division

Subscriptions:
Potentia-Viridi Battery Energy Storage System



Courtesy of City of Tracy

Message

From: Knight, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BE42548337F44852A291A9845F226F62-KNIGHT, ERI]
Sent: 9/20/2025 12:58:12 AM
To: Albert.lopez@acgov.org
CC: Koch, Andrea@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8024cfdec6344412812ea6c8320f29b2-Koch, Andre]
Subject: Re: Potentia-Viridi Informational and Environmental Scoping Meeting- Sept. 18th

Hi Albert -

Glad you were able to join yesterday's public meeting. Thank you for your comments.

Andrea will be reaching out to you in the near future to discuss her analysis of the project's conformity with the county's plans/ordinances, and Williamson Act contract.

If there are other topic areas you'd like to discuss with CEC staff, please feel fee to reach out to me and I can facilitate that for you.

Regards,

Eric Knight
Program Manager
Siting and Environmental Branch
Siting, Transmission, and Environmental Protection Division

California Energy Commission
Website: www.energy.ca.gov

From: Koch, Andrea@Energy <Andrea.Koch@energy.ca.gov>
Sent: Tuesday, September 9, 2025 1:53 PM
To: Albert.lopez@acgov.org <Albert.lopez@acgov.org>
Cc: Knight, Eric@Energy <Eric.Knight@energy.ca.gov>
Subject: Potentia-Viridi Informational and Environmental Scoping Meeting- Sept. 18th

Hi Albert.

We just wanted to let you know about an Informational and Environmental Scoping meeting taking place for the Potentia-Viridi project on September 18th from 2-5 pm at the Tracy Transit Center. Attendees may attend in person or over Zoom. Hope you can make it, and we look forward to coordinating more as we review the project.

Please let me know if you have any questions. Thanks!

Andrea

Andrea Koch
Environmental Planning Specialist
Land Use & Public Services Unit
Siting and Environmental Branch
Siting, Transmission and Environmental Protection Division
Phone: 1-279-226-1028

California Energy Commission
Website: www.energy.ca.gov

Message

From: Cameron Johnson [cjohnson@integral-corp.com]
Sent: 9/12/2025 11:42:50 PM
To: Yang, Jenna@Waterboards [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e41e549c7a4a4634bdb4de7fcb65914d-Waterboards]
CC: Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Tadlock, Stephanie@Waterboards [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8c816f7cdb324c09b5cbd2d6ecf38a6a-Waterboards]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Kelly Strain [kstrain@capstoneinfra.com]; Ronelle Candia [rcandia@dudek.com]; Naomi Schowalter [nschowalter@integral-corp.com]
Subject: Re: Compensatory Mitigation Plan
Attachments: Updated plans 091225.pdf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Jenna-

I am attaching a set of updated impact maps / plans. There was a request from CDFW to make slight changes the limits of the Top of Bank on the application for a Streambed Alteration Agreement. In the original application that we sent the total area measurement for fill below the Top of Bank was calculated to be 1656 Square Feet (0.0380-ac, which was rounded to 0.04-ac) (for the Arizona Crossing and Outfall), and the new measurements are 1,530 SF (0.0351-ac, which was also rounded to 0.04-ac) (for the Arizona Crossing the outfall structure).

The impact number has not changed due to the minor changes requested by CDFW, however we wanted to provide you with the updated figures and plan set. Please see the tables on Pages C-4.1 and C-4.2 (TOB Quantities)

Best - Cameron

CAMERON JOHNSON
Tel: 415.456.6701 | Cell: 415.602.2971
INTEGRAL CONSULTING INC.

From: Cameron Johnson <cjohnson@integral-corp.com>
Sent: Tuesday, June 17, 2025 12:03 PM
To: Yang, Jenna@Waterboards <Jenna.Yang@Waterboards.ca.gov>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <ann.crisp@energy.ca.gov>; Tadlock, Stephanie@Waterboards <Stephanie.Tadlock@waterboards.ca.gov>; Veerkamp, Eric@Energy <eric.veerkamp@energy.ca.gov>; Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Naomi Schowalter <nschowalter@integral-corp.com>
Subject: Re: Compensatory Mitigation Plan

Jenna - please see the attached Final (signed) copy of the permit application document. It includes (as an attachment) the mitigation proposal that we previously submitted. We are working on getting the fee paid now; it is either going to be paid directly to RWQCB (usual method), or to the CEC as CEC has been collecting State agency costs. The total fee is estimated to be $4,212 (using the fee calculator). I will ping you as soon as we know where the fee is going.

From: Yang, Jenna@Waterboards <Jenna.Yang@Waterboards.ca.gov>
Sent: Tuesday, June 3, 2025 9:41 AM
To: Cameron Johnson <cjohnson@integral-corp.com>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Tadlock, Stephanie@Waterboards <Stephanie.Tadlock@waterboards.ca.gov>
Subject: Re: Compensatory Mitigation Plan

[CAUTION: External email. Think before you click links or open attachments.]
Good morning,

My management has approved the compensatory mitigation plan for preserving 213 acre of grassland habitat at Mulqueeney Ranch which includes 2.80 acres of waters and wetlands. At a 3:1 ratio, a minimum preservation of 0.12 acre of waters is required for this project.

The Water Board will not track the remaining 2.68 acres of preserved waters. If/when you have a new project, you can submit a draft compensatory mitigation plan requesting use of the remaining preserved waters. It will be up to you and Westervelt to keep track of the amount of preserved waters remaining. Additionally, please note that preservation is not the preferred compensatory mitigation option since it does not result in a gain of aquatic resource area or functions to offset the permanent loss of aquatic resources from project activities; therefore, I cannot guarantee that your next project will be approved to use the remaining 2.68 acres of preserved waters for compensatory mitigation. We will have to review it on a case-by-case basis.

I believe the remaining item for a complete application now is just payment of the application fee and a signed copy of the 401 Certification Application.

Please note that I will be out of the office starting 4 June 2025 and returning 16 June 2025. If you need anything before my return, please contact my supervisor, Stephanie Tadlock, who has been copied here.

Jenna Yang
Water Resource Control Engineer
401 Water Quality Certification and Dredging Unit
Central Valley Regional Water Quality Control Board
jenna.yang@waterboards.ca.gov

From: Cameron Johnson <cjohnson@integral-corp.com>
Sent: Wednesday, May 28, 2025 12:47 PM
To: Yang, Jenna@Waterboards <Jenna.Yang@Waterboards.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Knight, Eric@Energy <Eric.Knight@energy.ca.gov>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Cc: KStrain@capstoneinfra.com <KStrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>
Subject: Re: Compensatory Mitigation Plan

Caution: External Email. Use caution when clicking links or opening attachments. When in doubt, contact DIT or use the Phish Alert Button.

Hello All - Jenna pointed out a typo in the submittal (thank you Jenna). I have made the edit and replaced the file (in the same folder that was previously shared). You should be able to pick up the eidited .pdf. If for some reason the access does not work, please let me know.

Best- Cameron

Cameron Johnson | Principal
Permitting and Planning
Tel: 415.458.6701 | Cell: 415.602.2970 | Brisbane | CA
cjohnson@integral-corp.com | Bio

integral INSIGHT FOR AN EVOLVING WORLD

From: Cameron Johnson <cjohnson@integral-corp.com>
Sent: Wednesday, May 21, 2025 5:29 PM
To: Yang, Jenna@Waterboards <Jenna.Yang@Waterboards.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Eric.Knight@energy.ca.gov <Eric.Knight@energy.ca.gov>; Ann.Crisp@energy.ca.gov <ann.crisp@energy.ca.gov>
Cc: KStrain@capstoneinfra.com <KStrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>
Subject: Re: Compensatory Mitigation Plan

Hello Jenna- I just sent you an invite to "share" a file. The file includes the mitigation proposal that we discussed. Please note that I am cc'ing the California Energy Commission (CEC) regulators on this email as well as the project managers. I am including a link (below), in case any of you did not receive the invite.

The proposal outlines the mitigation area that is being currently reviewed by the U.S. Fish & Wildlife Service, and the California Department of Fish & Wildlife. The mitigation property is located directly west of the proposed project site and includes the same habitat types, topography, and vegetation associations; it also includes waters and wetlands that will be preserved as a part of the mitigation package. These include ponds, swales, and seasonal wetlands.

Please review the proposal and let me know if you have any questions, or if you require any additional information to support the 401 review.

Best - Cameron Johnson

Shared with RWQCB and CEC 052125

From: Yang, Jenna@Waterboards <Jenna.Yang@Waterboards.ca.gov>
Sent: Monday, May 5, 2025 10:22 AM
To: Cameron Johnson <cjohnson@integral-corp.com>
Subject: Compensatory Mitigation Plan

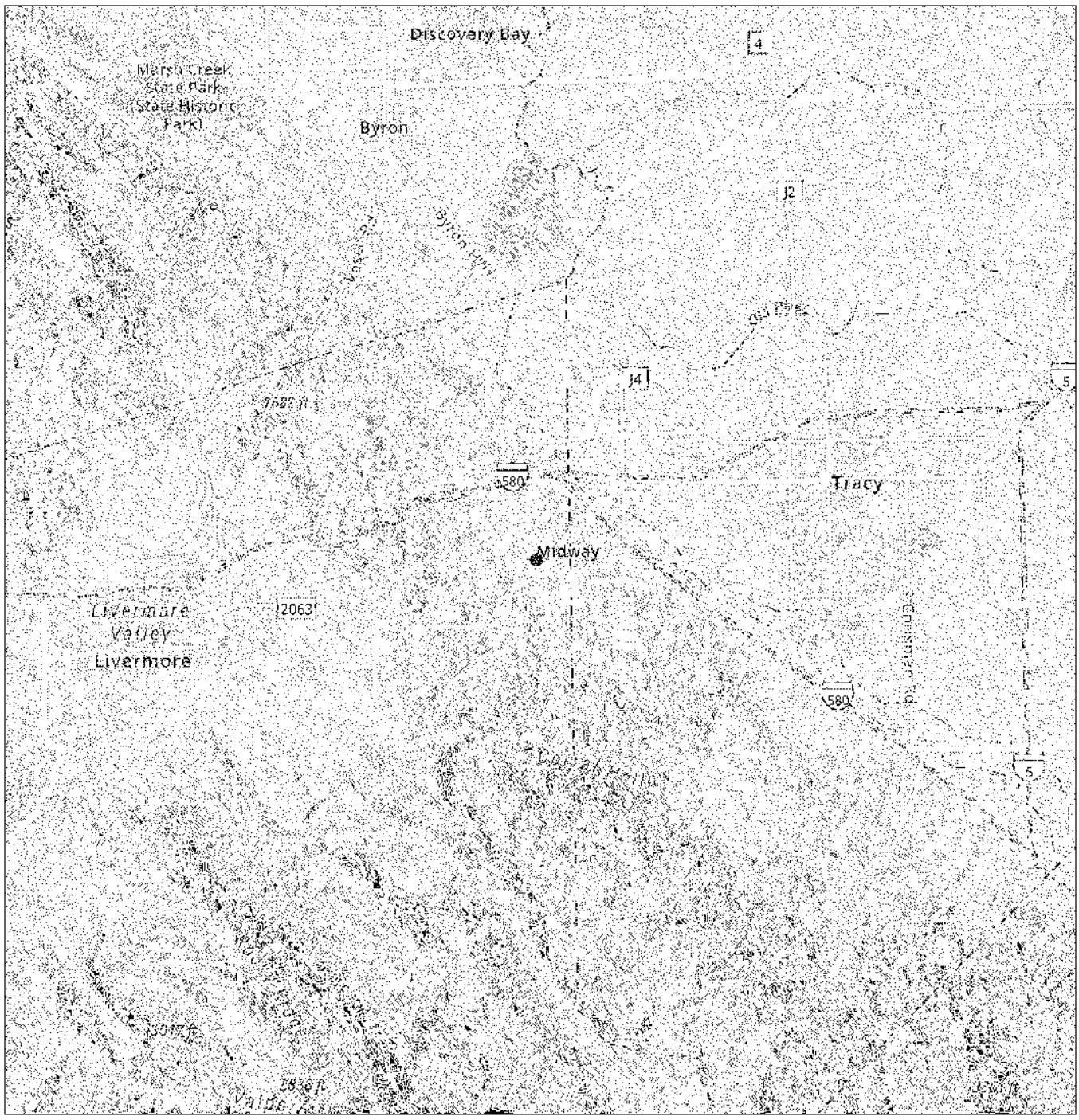
[CAUTION: External email. Think before you click links or open attachments.]
Hi Cameron,

I just left you a voicemail.

The Compensatory Mitigation Plan can be attached via email and be in something as simple as a memo format telling me what the plan is, as long as the information complies with our Procedures. We do not have a specific form requirement for the compensatory mitigation plan. Please make sure that you're copying the CEC as well so that everyone is up-to-speed on what's going on.

Thank you,

Jenna Yang
Water Resource Control Engineer
401 Water Quality Certification and Dredging Unit
Central Valley Regional Water Quality Control Board
jenna.yang@waterboards.ca.gov



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

Stantec

Project Location
Mimeny
Alameda County, CA

Prepared by KDP on 2024-08-12
IR by SF on 2024-08-12

Client/Project

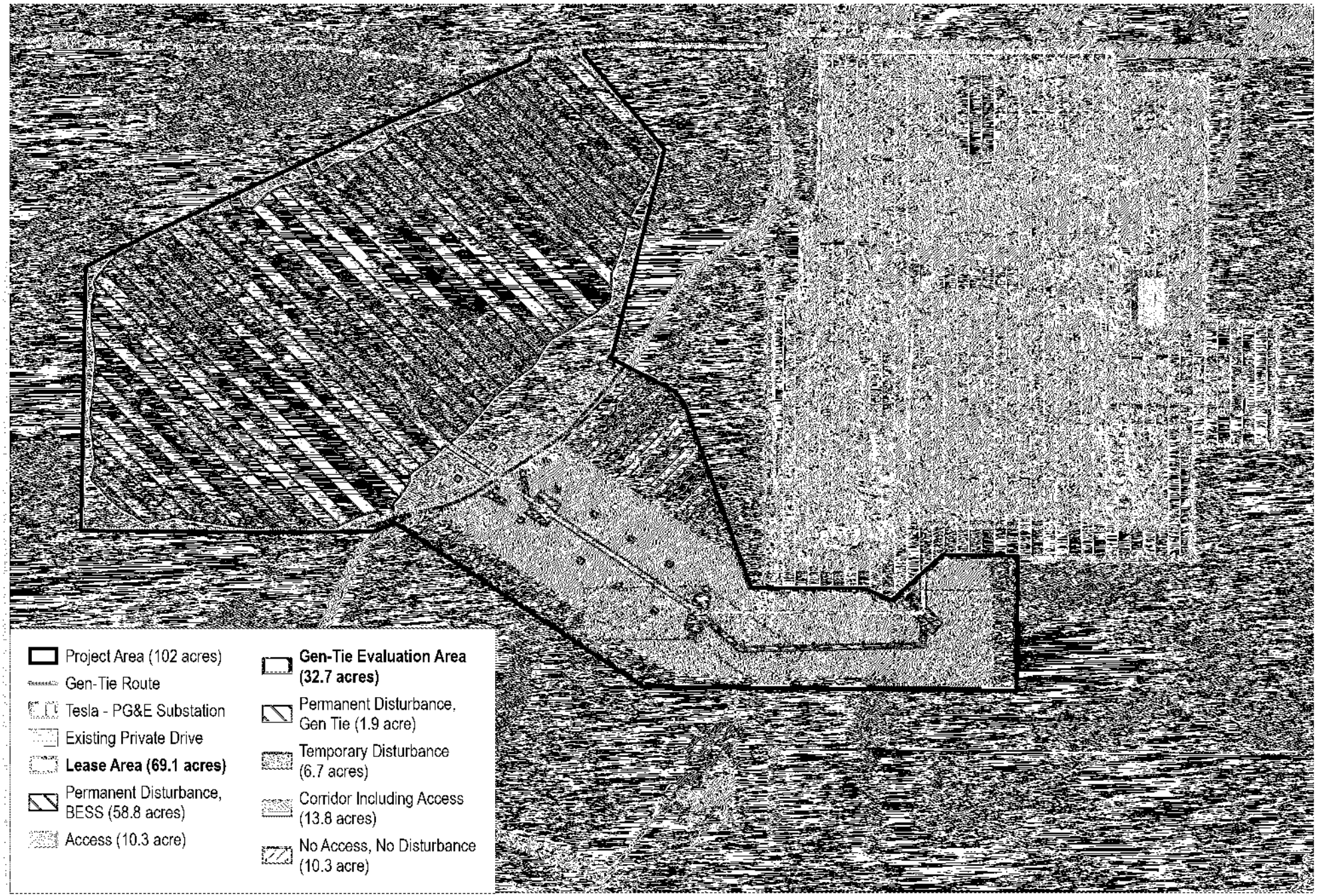
165701705

Potentia-Viridi Battery Energy Storage System
Biological Assessment

Figure No.
Figure 1

Title
Project Location

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.



SOURCE: Bing Maps 2023

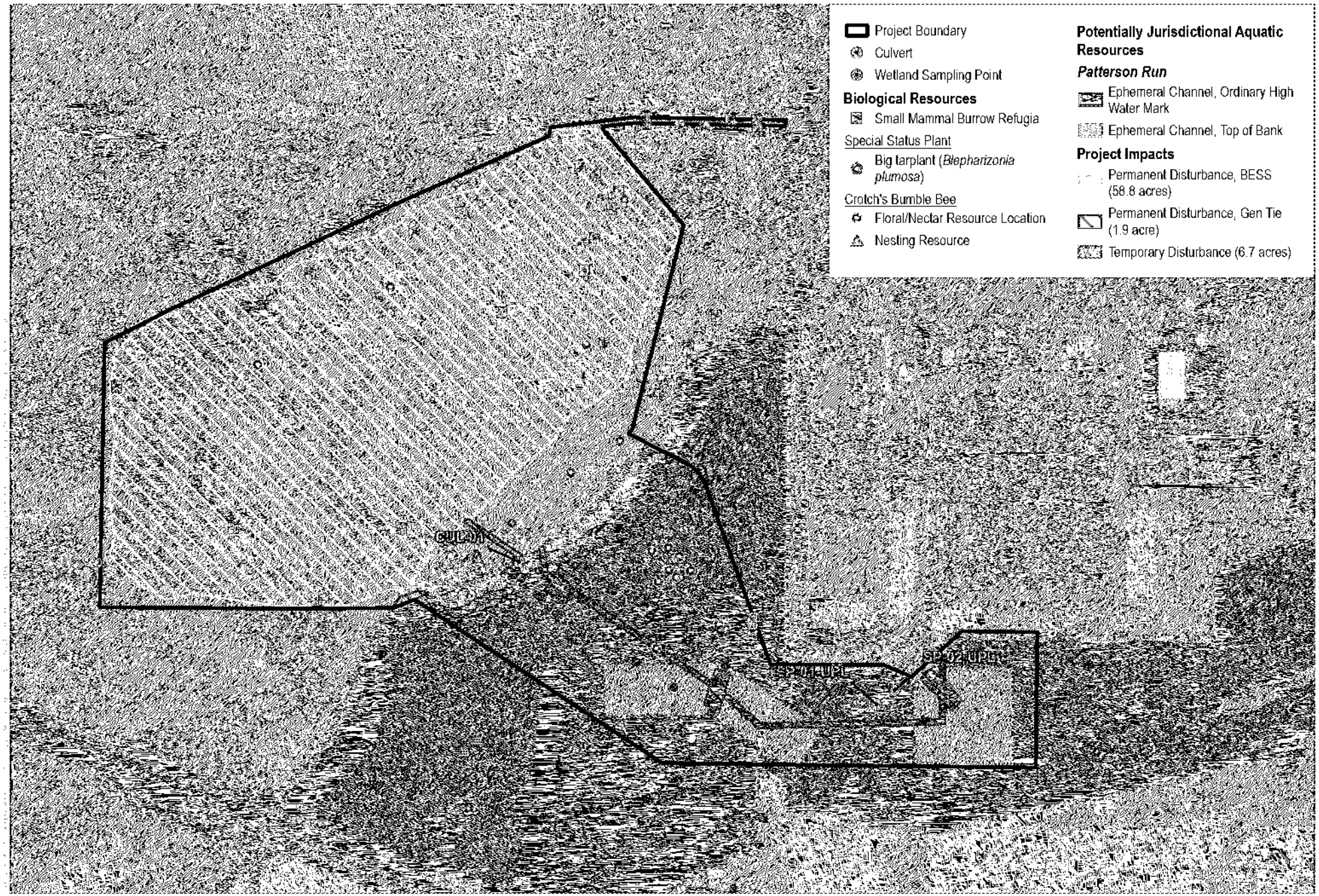
DUDEK

0 250 500 Feet

FIGURE 2

Project Site Aerial

Potentia-Viridi BESS Project



SOURCE: ESRI Aerial Imagery (accessed 2025)

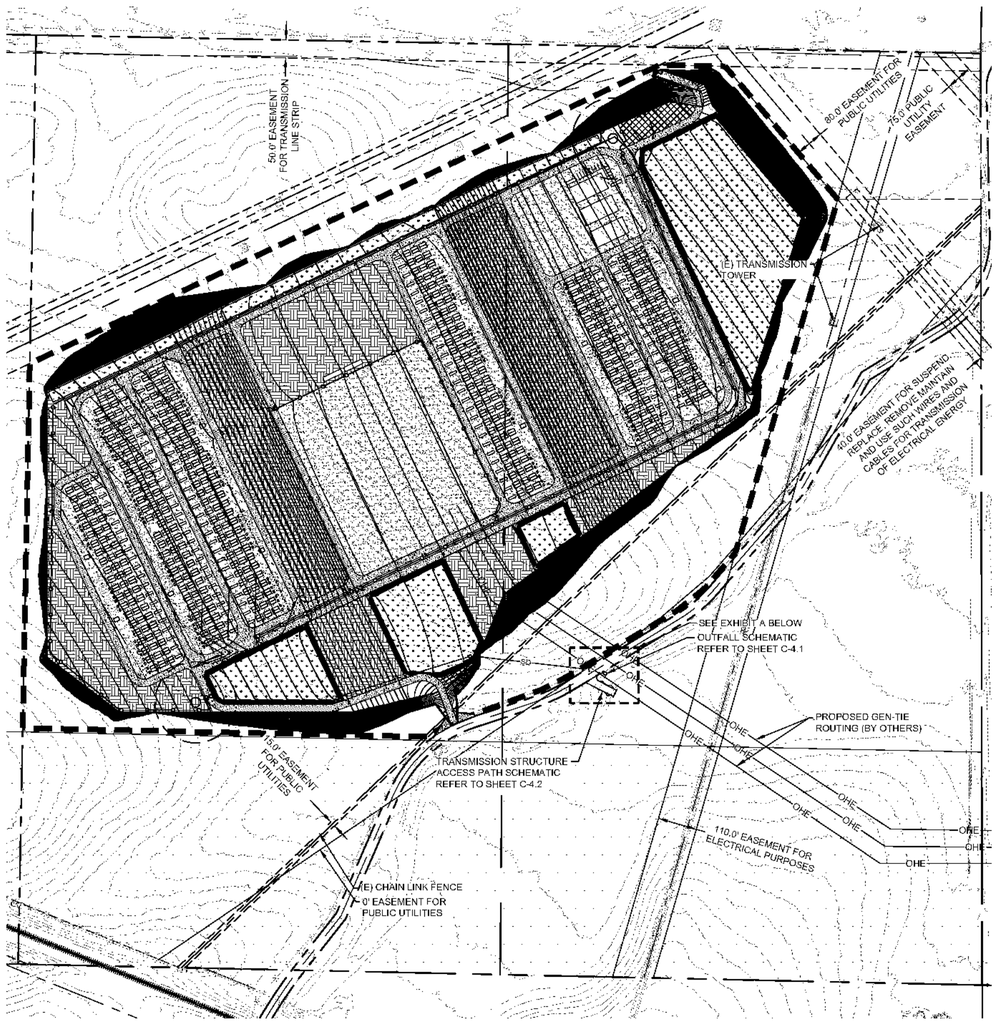
1:6,000 | 1 inch equals 500 feet

BUDER 0 250 500 Feet

FIGURE 3

Proposed Project Impacts

Potrero-Vendi Battery Energy Storage System Project



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
- RAILROAD
- EXISTING UTILITY POLE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- ORDINARY HIGH WATER MARK
- TOP OF BANK
- STORMWATER/LID AREA

ABBREVIATIONS

OHWM	ORDINARY HIGH WATER MARK
TOB	TOP OF BANK

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

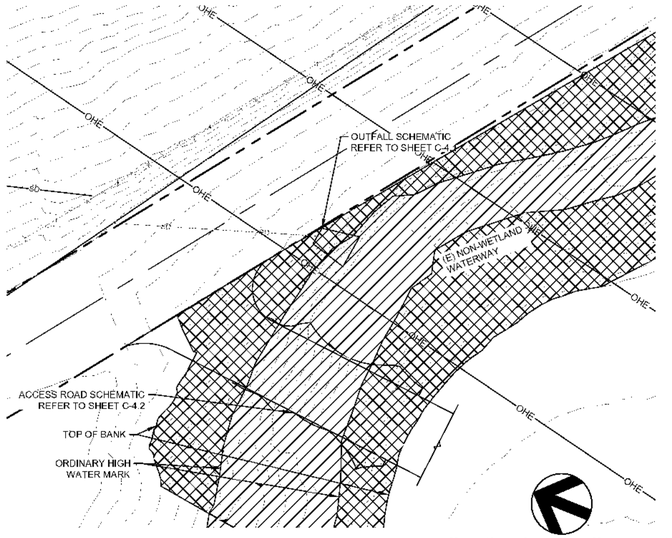


EXHIBIT A
SCALE: 1"=20'

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

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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

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SHEET TITLE:

CDFW STREAMBED ALTERATION AGREEMENT

SHEET NO:

C-4.0

SHEET OF 7

POVI 0003166

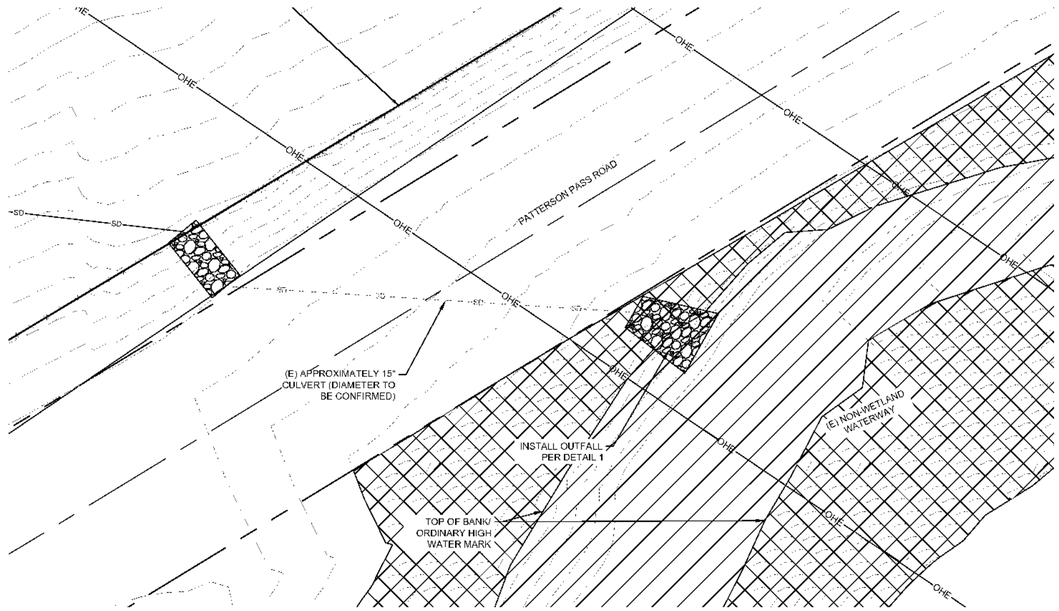
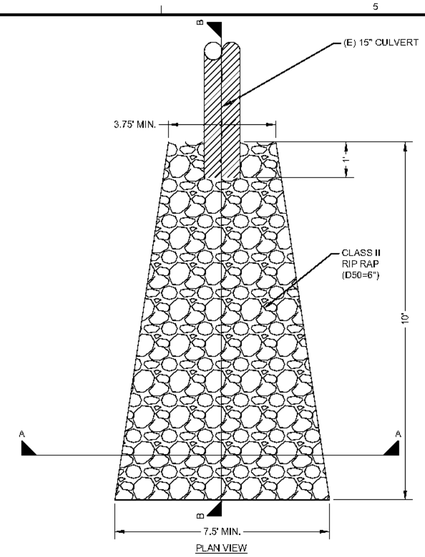
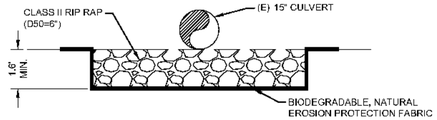


EXHIBIT A
SCALE: 1"=10'

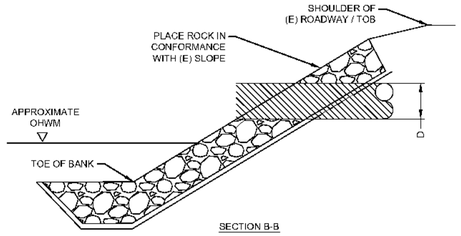


PLAN VIEW



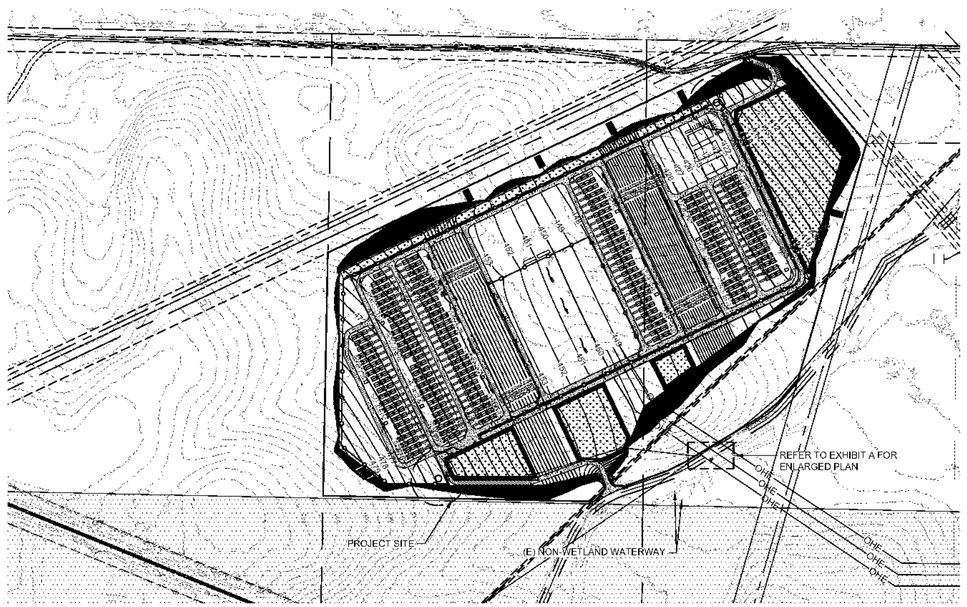
SECTION A-A

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 (225, 200)
- PROPOSED CONTOURS
- 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	6	6

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

UTILITY STATEMENT
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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

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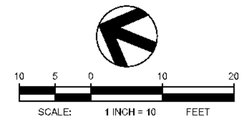
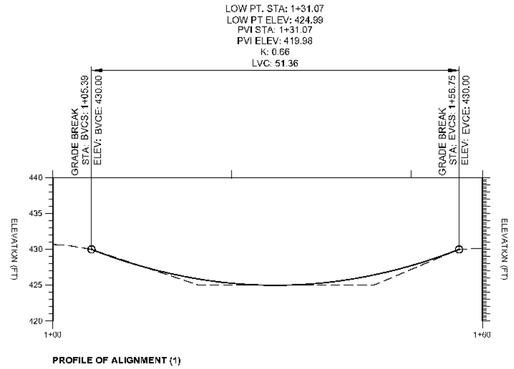
SHEET TITLE:
CONCEPTUAL CIVIL HYDROLOGY HYDRAULIC OUTFALL SCHEMATIC

SHEET NO:
C-4.1

SHEET 4 OF 7

POVI 0003167





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	18	1	17	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	7	6	12

UTILITY STATEMENT
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4	7/28/25	REV 4
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2	5/5/25	REV 2
1	1/17/25	REV 1

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

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SHEET TITLE:

CONCEPTUAL ACCESS ROAD SCHEMATIC

SHEET NO:

C-4.2

SHEET OF 7

POVI 0003168

Message

From: Grundy, Farl@DOC [Farl.Grundy@conservation.ca.gov]
Sent: 9/23/2025 1:50:18 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
CC: OPR State Clearinghouse [state.clearinghouse@opr.ca.gov]
Subject: Potentia-Viridi Battery Storage Project NOP comments, SCH# 2025090227
Attachments: PotentiaViridiNOPcomments.pdf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning,

Attached are the Department of Conservation's comments on the Notice of Preparation of a Draft Environmental Impact Report for the Potentia-Viridi Battery Energy Storage System Project, SCH# 2025090227. Please let me know if you have any problem viewing the attached pdf, as a hard copy of these comments will not be sent unless specifically requested.

Sincerely,

Farl Grundy
Associate Environmental Planner
Division of Land Resource Protection
Williamson Act / CEQA

California Department of Conservation
715 P Street, MS 1904
Sacramento, CA, 95814
E: Farl.Grundy@conservation.ca.gov
T: (916) 617-0522

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SEPTEMBER 23, 2025

VIA EMAIL: ERIC.VEERKAMP@ENERGY.CA.GOV
ERIC W. VEERKAMP
CALIFORNIA ENERGY COMMISSION
715 P STREET, MS 40
SACRAMENTO, CA 95814

Dear Ms. Veerkamp:

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE POTENTIA-VIRIDI BATTERY ENERGY STORAGE SYSTEM PROJECT, SCH# 2025090227

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the Potentia-Viridi Battery Energy Storage System Project (Project).

The Division monitors and maps farmland conversion on a statewide basis, provides technical assistance regarding the Williamson Act, and administers various agricultural land conservation programs. Public Resources Code, section 614, subdivision (b) authorizes the Department to provide soil conservation advisory services to local governments, including review of CEQA documents.

Protection of the state's agricultural land resources is part of the Department's mission and central to many of its programs. The CEQA process gives the Department an opportunity to acknowledge the value of the resource, identify areas of Department interest, and offer information on how to assess potential impacts or mitigation opportunities.

The Department respects local decision-making by informing the CEQA process and is not taking a position or providing legal or policy interpretation.

We offer the following comments for consideration with respect to the project's potential impacts on agricultural land and resources within the Department's purview.

PROJECT ATTRIBUTES

The Project proposes a battery energy storage system (BESS) facility including an operations and maintenance (O&M) building, a project substation, the gen-tie line, and interconnection facilities within the PG&E owned and operated Tesla Substation. The energy storage facility would utilize modular and containerized components to operate a 400-megawatt (MW) BESS with an energy storage capacity up to 3,200 MW-hours. The project would draw electricity from the power grid to charge and store electrical

energy and discharge back to the power grid when the stored energy is needed. The project site is subject to a Williamson Act contract.

PROJECT CONSIDERATIONS

The conversion of agricultural land represents a permanent reduction and impact to California's agricultural land resources. The Department generally advises discussion of the following in any environmental review for the loss or conversion of agricultural land:

- Type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project.
- Impacts on any current and future agricultural operations in the vicinity; e.g., land-use conflicts, increases in land values and taxes, loss of agricultural support infrastructure such as processing facilities, etc.
- Incremental impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely future projects.
- Implementation of any City or County Agricultural Mitigation Plans, Programs, or Policies.
- The project's compatibility with lands within an agricultural preserve and/or enrolled in a Williamson Act contract.

WILLIAMSON ACT

Where, as here, the project site is located on land subject to a Williamson Act contract, the Department advises that the environmental review discuss the compatibility of the project with the contract and local Williamson Act program requirements.

MITIGATING AGRICULTURAL LAND LOSS OR CONVERSION

Consistent with CEQA Guidelines, the Department advises that the environmental review address mitigation for the loss or conversion of agricultural land. An agricultural conservation easement is one potential method for mitigating loss or conversion of agricultural land. (*See* Cal. Code Regs., tit. 14, § 15370 [mitigation includes "compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements."]; *see also King and Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814.)

Mitigation through agricultural conservation easements can take at least two forms: the outright purchase of easements or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements. The conversion of agricultural land may be viewed as an impact of at least regional significance. Hence, the search for replacement lands may not need to be limited strictly to lands within the project's surrounding area. A helpful source for regional and statewide agricultural mitigation

banks is the California Council of Land Trusts. They provide helpful insight into farmland mitigation policies and implementation strategies, including a guidebook with model policies and a model local ordinance. The guidebook can be found at:

California Council of Land Trusts

Of course, the use of conservation easements is only one form of mitigation, and the Department urges consideration of any other feasible measures necessary to mitigate project impacts.

Thank you for giving us the opportunity to comment on the Notice of Preparation of a Draft Environmental Impact Report for the Potentia-Viridi Battery Energy Storage System Project. Please provide the Department with notices of any future hearing dates as well as any staff reports pertaining to this project. If you have any questions regarding our comments, please contact Farl Grundy, Associate Environmental Planner via email at Farl.Grundy@conservation.ca.gov.

Sincerely,

Monique Wilber

Monique Wilber

Conservation Program Support Supervisor

Message

From: Kelly Strain [kstrain@capstoneinfra.com]
Sent: 9/30/2025 8:41:42 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject: RE: PoVI, clarification questions for Project Description

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Thank you, Eric~

We will circulate these with the team and provide responses back to you as soon as possible.

Sincerely,

Kelsey Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 809-5510
Facsimile +1 (416) 815-1905
Email kstrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: September 30, 2025 1:15 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI, clarification questions for Project Description

Hi Kelly,
I have developed a solid first draft of the Project Description, based primarily on the below materials, all on the docket. I encountered some conflicting/unclear information in a few instances and I am requesting clarification. Depending on what additional information you can provide, I may make updates to my project description before it goes into the Staff Assessment.

00_TN258369_20240807T113251_Cover Letter	7/29/2023 10:12 AM	Adobe
00_TN258333_20240806T145718_Table of Contents	7/29/2023 10:12 AM	Adobe
TN258273_20240801T155851_Crosswalk Matrix	7/29/2023 10:11 AM	Adobe
APP_2C_TN258050_20240726T110609_Decommissioning Plan	7/29/2023 10:10 AM	Adobe
APP_1J_TN258044_20240726T110530_Emergency Response Plan	7/29/2023 10:09 AM	Adobe
APP_1C_TN258230_20240731T083056_Community Benefits Plan	7/29/2023 10:08 AM	Adobe
4_TN258035_20240726T100211_Alternatives	7/29/2023 10:03 AM	Adobe
1_TN258017_20240725T170629_Introduction	7/29/2023 9:58 AM	Adobe
3-6_TN258011_20240725T170635_Land Use	7/29/2023 9:56 AM	Adobe
TN261403_20250129T070655_DR Response 2 - Revised Executive Summary	2/14/2025 9:53 AM	Adobe
TN261401_20250129T073952_DR Response 2 - Attachment 7, Revised Section 2, Project Descriptio...	2/14/2025 9:53 AM	Adobe

Item 1; I was unable to find any mention of temporary construction power in the application materials. Can you provide additional explanation of how power will be supplied during construction.

Item 2; I see conflicting statements about climate controlled storage as part of the O&M building. In the Revised Project Description it is stricken, but the language shows up in the Introduction. Since the project description was revised and the Introduction came before that, I am guessing the language in the Introduction is no longer accurate, but can you confirm.

Item 3; A sentence was added to the Revised Project Description under Section 2.5, Decommissioning, regarding unexpected closure of the facility; however, there is no discussion of unexpected closure procedures in the Decommissioning Plan, Appendix 2C, only planned decommissioning activities.

Item 4; Question about the expandability of the facility, language that some of the infrastructure to accommodate future growth of the facility (additional MWs?) would be installed at the outset. I see no reason this cannot be accomplished, but additional future capacity would likely be subject to an Post Certification project change petiton.

Thank you. These items are not urgent, but I look forward to hearing back from you when you have the information available.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-6458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

From: Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent: 9/5/2025 4:25:40 PM
To: kstrain@capstoneinfra.com; Ronelle Candia [rcandia@dudek.com]; Rocio Perez [rpe@eurowindenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject: PoVI, scoping meeting presentation, Power Point slides and topics of concern

Hi Kelly,
I have two specific requests of you. We need a brief (approximately 6 -10 pages) presentation to include in our Power Point for the Scoping meeting. Please keep it to the facts, project overview, location, existing site conditions, project need, perhaps a brief history of the site, major project components, one slide covering construction, one slide covering operations. If you need, we can likely provide you with an example to follow, please let me know.

Second, we will be asking staff to provide a brief contribution to our Power Point. We expect to highlight the following environmental topics for potential environmental effects. We recommend that you be prepared for potential discussion of these areas.

Biological Resources
Air Quality
Cultural/Tribal Cultural Resources
Hazards and Hazardous Materials (to cover battery technology)
Visual Resources
Worker Safety and Fire Protection (again, to cover batter technology)

Due to time constraints, my requested turnaround for the Power Point slides is next Wednesday, September 10, to allow us to incorporate the slides into our presentation.

Thanks for your help, let me know if you have questions.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

Sent: 10/9/2025 5:06:07 PM
To: Lopez, Albert, CDA [albert.lopez@acgov.org]
CC: Knight, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=be42548337f44852a291a9845f226f62-Knight, Eri]; Giorgi, Erika@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d171e5d706e34c26ad9d13c230f2349f-1324b266-6e]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
Subject: Potentia-Viridi and the 10/10 Rule

Hi Albert.

In reviewing the Potentia-Viridi project, we are looking at the 10/10 rule (Uniform Rule 2.I.B.3.c) stating that compatible, non-agricultural uses that do not qualify as buildings shall be cumulatively restricted to no more than 10% of the contracted property, or 10 acres, whichever is less.

Do you have any guidance on whether "contracted property" refers to just the parcel on which the development is proposed, or to the entire property under a particular Williamson Act contract? I remember you bringing this up as something to consider in a preliminary meeting a while back, and I wondered if the County has a take on this, and how this has been handled on past development projects.

Also, what are the usual or preferred agricultural land mitigations used by the County? In the East County Area Plan, I came across the following language:

Program 39: The County shall support the efforts of the non-profit South Livermore Valley Agricultural Land Trust and the Alameda County Open Space Land Trust to purchase or receive and hold fee title or agricultural easements as governed by its by-laws. The County shall support continued private ownership and productive use of agricultural lands, and public acquisition of open space lands for public park purposes, outside the Urban Growth Boundary. (From East County Area Plan)

Thanks!

Andrea

Andrea Koch
Environmental Planning Specialist
Land Use & Public Services Unit
Siting and Environmental Branch
Siting, Transmission and Environmental Protection Division
Phone: 1-279-226-1028

California Energy Commission
Website: www.energy.ca.gov

From: Kelly Strain
To: Veerkamp, Eric@Energy; Ronelle Candia; Rocio Perez
Cc: Chang, Kaycee@Energy
Subject: RE: PoVI, clarification questions for Project Description
Date: Monday, October 13, 2025 5:55:55 PM
Attachments: image002.png
image003.png

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Eric,

Below in RED are our responses to the CEC's four questions. We may need to expound upon a couple items below, but please let us know.

Best,

Kelly Strain
Environmental & Permitting Manager
CAPSTONE INFRASTRUCTURE CORPORATION
Direct +1 (310) 854-5340
Facsimile +1 (415) 670-1435
Email kstrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: September 30, 2025 1:15 PM
To: Kelly Strain <kstrain@capstoneinfra.com>; Ronelle Candia <rcandia@dudek.com>; Rocio Perez <rpe@eurowindenergy.com>
Cc: Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI, clarification questions for Project Description

Hi Kelly,
I have developed a solid first draft of the Project Description, based primarily on the below materials, all on the docket. I encountered some conflicting/unclear information in a few instances and I am requesting clarification. Depending on what additional information you can provide, I may make updates to my project description before it goes into the Staff Assessment.

00_TN258369_20240807T118251_Cover Letter	7/28/2025 10:12 AM	Adobe
00_TN258333_20240806T145718_Table of Contents	7/28/2025 10:12 AM	Adobe
TN258273_20240801T155851_Crosswalk Matrix	7/28/2025 10:11 AM	Adobe
APP_2C_TN258053_20240726T110639_Decommissioning Plan	7/28/2025 10:10 AM	Adobe
APP_1J_TN258044_20240726T110530_Emergency Response Plan	7/28/2025 10:09 AM	Adobe
APP_1C_TN258230_20240731T083056_Community Benefits Plan	7/28/2025 10:08 AM	Adobe
4_TN258035_20240726T100211_Alternatives	7/28/2025 10:06 AM	Adobe
1_TN258017_20240725T170629_Introduction	7/28/2025 9:58 AM	Adobe
3-6_TN258011_20240725T170605_Land Use	7/28/2025 9:56 AM	Adobe
TN261403_20250129T070655_DR Response 2 - Revised Executive Summary	7/14/2025 9:55 AM	Adobe
TN261401_20250129T073952_DR Response 2 - Attachment 7, Revised Section 2, Project Descriptio...	7/14/2025 9:52 AM	Adobe

Item 1; I was unable to find any mention of temporary construction power in the application materials. Can you provide additional explanation of how power will be supplied during construction.

The air quality and GHG modelling made assumptions with respect to the generators and power during construction. It is ideal to get temporary power for stationary things (the laydown yard/offices from an existing powerline tap yes). Some mobile needs are still supplied by small generators though for specific activities across the site (it's not practical to run extension cords everywhere across the large site and some activities can't be covered with battery powered tools). So ideally, we say it's a combination of both.

Item 2; I see conflicting statements about climate controlled storage as part of the O&M building. In the Revised Project Description it is stricken, but the language shows up in the Introduction. Since the project description was revised and the Introduction came before that, I am guessing the language in the Introduction is no longer accurate, but can you confirm.

Our understanding was that the main O&M building where the employees and conference rooms were located would be climate controlled, but the two storage buildings would not be. We stated this in the very last informal DR: "The main operations and maintenance building would include a HVAC system that would utilize up to 13 lbs of refrigerant R454b. GHG emissions were calculated for this refrigerant using a standard leak rate and were added to Table 24 of the AQ-GHG technical report." Eric, we may need to provide additional clarification on this item.

Item 3; A sentence was added to the Revised Project Description under Section 2.5, Decommissioning, regarding unexpected closure of the facility; however, there is no discussion of unexpected closure procedures in the Decommissioning Plan, Appendix 2C, only planned decommissioning activities.

The sentence Eric is referring to states "In the event of unexpected cessation of operations, the processes described in the Decommissioning Plan in Appendix 2C would be followed in coordination with the CEC." I remember writing a whole procedure on unexpected closure in the decommissioning section of the PD that was deleted/rejected . I believe it was Paul that stated because it is detailed in the lease agreement that Levy Alameda would be required to decommission the same way as detailed in the Plan , whether closure was anticipated or not. As such, we just added that sentence and rejected the addition of the language in the PD. Happy to add an approach in the current Decommissioning Plan about unexpected cessation of operations, but what steps are you thinking should be added since we don't currently specify? Eric, please let us know if additional clarification is needed.

Item 4; Question about the expandability of the facility, language that some of the infrastructure to accommodate future growth of the facility (additional MWs?) would be installed at the outset. I see no reason this cannot be accomplished, but additional future capacity would likely be subject to an Post Certification project change petiton.
From Eric V "Under Cal. Code of Regulations 1882, Post Certification Project Changes are subject to a review and approval process. For traditional generating plants, there would typically be plant improvements involved at the time of application. With a BESS facility, where all infrastructure for the augmentation would have been installed at the outset, as you have described, there is the possibility the petition would not apply. There may be an element of uncertainty here."

Correct this is augmentation, we have accounted for all impacts over the life of the project.

Thank you. These items are not urgent, but I look forward to hearing back from you when you have the information available.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STPFSiting@energy.ca.gov
www.energy.ca.gov

6 October 2025

Eric W. Veerkamp
California Energy Commission
715 P Street, MS 40
Sacramento, CA 95814
eric.veerkamp@energy.ca.gov

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, POTENTIA-VIRIDI BATTERY ENERGY STORAGE SYSTEM PROJECT, SCH#2025090227, ALAMEDA AND SAN JOAQUIN COUNTIES

Pursuant to the State Clearinghouse's 5 September 2025 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the Potentia-Viridi Battery Energy Storage System Project, located in Alameda and San Joaquin Counties.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as

required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention

Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more

information on the General Order 2004-0004, visit the State Water Resources Control Board website at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

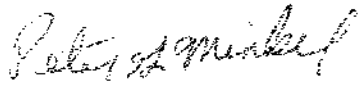
Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4684 or Peter.Minkel2@waterboards.ca.gov.



Peter G. Minkel
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

Kelene Strain
Capstone Infrastructure Corporation
KStrain@capstoneinfra.com

Message

Sent: 11/6/2025 6:01:20 PM
To: Lopez, Albert, CDA [albert.lopez@acgov.org]
CC: Knight, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=be42548337f44852a291a9845f226f62-Knight, Eri]
Subject: Potentia-Viridi Comments

Hi Albert.

I wanted to check one last time if you have any comments on the Potentia-Viridi application. We can discuss your comments on a call instead of via e-mail if you prefer.

Also, I wanted to ask if you have any recent projects at the County that mitigated for loss of agricultural land. Does the County have a preferred method of mitigation?

In the East County Area Plan, I came across the following language:

Program 39: The County shall support the efforts of the non-profit South Livermore Valley Agricultural Land Trust and the Alameda County Open Space Land Trust to purchase or receive and hold fee title or agricultural easements as governed by its by-laws. The County shall support continued private ownership and productive use of agricultural lands, and public acquisition of open space lands for public park purposes, outside the Urban Growth Boundary.

Thanks!

Andrea

Andrea Koch
Environmental Planning Specialist
Land Use & Public Services Unit
Siting and Environmental Branch
Siting, Transmission and Environmental Protection Division
Phone: 1-279-226-1028

California Energy Commission
Website: www.energy.ca.gov

Message

Sent: 11/6/2025 8:23:06 PM
To: Lopez, Albert, CDA [albert.lopez@acgov.org]
CC: Knight, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=be42548337f44852a291a9845f226f62-Knight, Eri]
Subject: RE: Potentia-Viridi Comments

Excellent- thank you so much, Albert. This is very helpful!

I'll

Andrea Koch
Environmental Planning Specialist
Land Use & Public Services Unit
Siting and Environmental Branch
Siting, Transmission and Environmental Protection Division
Phone: 1-279-226-1028

California Energy Commission
Website: www.energy.ca.gov

From: Lopez, Albert, CDA <albert.lopez@acgov.org>
Sent: Thursday, November 6, 2025 12:19 PM
To: Koch, Andrea@Energy <Andrea.Koch@energy.ca.gov>
Cc: Knight, Eric@Energy <Eric.Knight@energy.ca.gov>
Subject: RE: Potentia-Viridi Comments

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Andrea, thanks for talking this morning about the BESS project and some possible solutions to grazing impacts. We discussed local land trusts that could play a part in mitigation if that is on the table when all is said and done. A couple of contacts from the local land trusts we work with should be helpful and get you started – they both mostly work in getting and administering conservation easements, see below:

KATERINA WEBSTER
LAND TRANSACTION SPECIALIST

CALIFORNIA RANGELAND TRUST

3900 Lennane Drive, Suite 210
Sacramento, CA 95834
OFFICE: 916-444-2096
FAX: 916-329-3488
www.rangelandtrust.org
kwebster@rangelandtrust.org

Tri-Valley Conservancy (TVC)
Diana Roberts
Conservation Manager
925.449.8706 ex 3 | 1457 First Street, Livermore, CA 94550
Diana Roberts <droberts@trivalleyconservancy.org>

From: Koch, Andrea@Energy <Andrea.Koch@energy.ca.gov>
Sent: Thursday, November 6, 2025 10:12 AM
To: Lopez, Albert, CDA <albert.lopez@acgov.org>
Cc: Knight, Eric@Energy <Eric.Knight@energy.ca.gov>
Subject: Potentia-Viridi Comments

Hi Albert.

I wanted to check one last time if you have any comments on the Potentia-Viridi application. We can discuss your comments on a call instead of via e-mail if you prefer.

Also, I wanted to ask if you have any recent projects at the County that mitigated for loss of agricultural land. Does the County have a preferred method of mitigation?

In the East County Area Plan, I came across the following language:

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Thanks!

Andrea

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Message

Sent: 11/6/2025 10:03:07 PM
To: Lopez, Albert, CDA [albert.lopez@acgov.org]
CC: Knight, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=be42548337f44852a291a9845f226f62-Knight, Eri]
Subject: RE: Potentia-Viridi Comments

You're welcome!

I just found out that the draft analysis for Potentia-Viridi isn't being published until January 26, 2026- later than I thought. I'll make sure to let you know when it's out, and I think you're on the project distribution list as well. I'll check with Eric Veerkamp to make sure.

Please let me know if you have any other comments on the project, and I'll be in touch next week about your other question.

Have a great weekend!

Andrea

Andrea Koch
Environmental Planning Specialist
Land Use & Public Services Unit
Siting and Environmental Branch
Siting, Transmission and Environmental Protection Division
Phone: 1-279-226-1028

California Energy Commission
Website: www.energy.ca.gov

From: Lopez, Albert, CDA <albert.lopez@acgov.org>
Sent: Thursday, November 6, 2025 12:29 PM
To: Koch, Andrea@Energy <Andrea.Koch@energy.ca.gov>
Cc: Knight, Eric@Energy <Eric.Knight@energy.ca.gov>
Subject: RE: Potentia-Viridi Comments

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Wonderful, thank you!

From: Koch, Andrea@Energy <Andrea.Koch@energy.ca.gov>
Sent: Thursday, November 6, 2025 12:28 PM
To: Lopez, Albert, CDA <albert.lopez@acgov.org>
Cc: Knight, Eric@Energy <Eric.Knight@energy.ca.gov>
Subject: RE: Potentia-Viridi Comments

Excellent- thank you so much, Albert. This is very helpful!

I've e-mailed Eric Veerkamp, the project manager, about his expected publishing date, and I'll get that to you as soon as I receive it.

Also, I will get back to you by next week about your legislative question regarding these projects.

Thanks again for your help!

Andrea

Andrea Koch
Environmental Planning Specialist
Land Use & Public Services Unit
Siting and Environmental Branch
Siting, Transmission and Environmental Protection Division
Phone: 1-279-226-1028

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Tri-Valley Conservancy (TVC)
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Diana Roberts <droberts@trivalleyconservancy.org>

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To: Lopez, Albert, CDA <albert.lopez@acgov.org>
Cc: Knight, Eric@Energy <Eric.Knight@energy.ca.gov>
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Also, I wanted to ask if you have any recent projects at the County that mitigated for loss of agricultural land. Does the County have a preferred method of mitigation?

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Thanks!

Andrea

Andrea Koch
Environmental Planning Specialist

Land Use & Public Services Unit
Siting and Environmental Branch
Siting, Transmission and Environmental Protection Division
Phone: 1-279-226-1028

California Energy Commission
Website: www.energy.ca.gov

** This email was sent from an external source. If you do not know the sender, do not click on links or attachments. **

Message

From: Lopez, Albert, CDA [albert.lopez@acgov.org]
Sent: 11/6/2025 8:20:08 PM
To: Koch, Andrea@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8024cfdec6344412812ea6c8320f29b2-Koch, Andre]
CC: Knight, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=be42548337f44852a291a9845f226f62-Knight, Eri]
Subject: RE: Potentia-Viridi Comments

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Also, if you have a rough idea of when the DEIR is due out, that would be great. Thx!

From: Koch, Andrea@Energy <Andrea.Koch@energy.ca.gov>
Sent: Thursday, November 6, 2025 10:12 AM
To: Lopez, Albert, CDA <albert.lopez@acgov.org>
Cc: Knight, Eric@Energy <Eric.Knight@energy.ca.gov>
Subject: Potentia-Viridi Comments

Hi Albert.

I wanted to check one last time if you have any comments on the Potentia-Viridi application. We can discuss your comments on a call instead of via e-mail if you prefer.

Also, I wanted to ask if you have any recent projects at the County that mitigated for loss of agricultural land. Does the County have a preferred method of mitigation?

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From: Lopez, Albert, CDA [albert.lopez@acgov.org]
Sent: 11/6/2025 8:29:17 PM
To: Koch, Andrea@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8024cfdec6344412812ea6c8320f29b2-Koch, Andre]
CC: Knight, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=be42548337f44852a291a9845f226f62-Knight, Eri]
Subject: RE: Potentia-Viridi Comments

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Wonderful, thank you!

From: Koch, Andrea@Energy <Andrea.Koch@energy.ca.gov>
Sent: Thursday, November 6, 2025 12:28 PM
To: Lopez, Albert, CDA <albert.lopez@acgov.org>
Cc: Knight, Eric@Energy <Eric.Knight@energy.ca.gov>
Subject: RE: Potentia-Viridi Comments

Excellent- thank you so much, Albert. This is very helpful!

I've e-mailed Eric Veerkamp, the project manager, about his expected publishing date, and I'll get that to you as soon as I receive it.

Also, I will get back to you by next week about your legislative question regarding these projects.

Thanks again for your help!

Andrea

Andrea Koch
Environmental Planning Specialist
Land Use & Public Services Unit
Siting and Environmental Branch
Siting, Transmission and Environmental Protection Division
Phone: 1-279-226-1028

California Energy Commission
Website: www.energy.ca.gov

From: Lopez, Albert, CDA <albert.lopez@acgov.org>
Sent: Thursday, November 6, 2025 12:19 PM
To: Koch, Andrea@Energy <Andrea.Koch@energy.ca.gov>
Cc: Knight, Eric@Energy <Eric.Knight@energy.ca.gov>
Subject: RE: Potentia-Viridi Comments

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Hi Andrea, thanks for talking this morning about the BESS project and some possible solutions to grazing impacts. We discussed local land trusts that could play a part in mitigation if that is on the table when all is said and done. A couple of contacts from the local land trusts we work with should be helpful and get you started – they both mostly work in getting and administering conservation easements, see below:

KATERINA WEBSTER
LAND TRANSACTION SPECIALIST
CALIFORNIA RANGELAND TRUST

3900 Lennane Drive, Suite 210
Sacramento, CA 95834
OFFICE: 916-444-2096
FAX: 916-329-3488
www.rangelandtrust.org
kwebster@rangelandtrust.org

Tri-Valley Conservancy (TVC)
Diana Roberts
Conservation Manager
925.449.8706 ex 3 | 1457 First Street, Livermore, CA 94550
Diana Roberts <droberts@trivalleyconservancy.org>

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To: Lopez, Albert, CDA <albert.lopez@acgov.org>
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Message

From: Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent: 11/4/2025 6:45:29 PM
To: aubrey.rose@acgov.org
CC: Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
Subject: FW: PoVI, question to Alameda County staff
Attachments: Potentia Vicinity exhbt for PD.png

Thanks Aubrey for taking my call. The questions below were provided to me by our biologist, Julie Myrah. Any help you could provide would be much appreciated, or if you could direct to the individual(s) who may have the information. I have included an exhibit showing the location of the proposed Potentia-Viridi project (in licensing with the Ca. Energy Commission).

Thank you.

I don't believe this is an urgent matter, a response in the next couple of days would be fine.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

From: Field @EnergyVeterans.org <field@energyveterans.org>
Sent: Monday, November 3, 2025 3:10 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

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Yes, that would be great.

1) Regarding the Mulqueeny project, what is the current status of construction near the PG&E Tesla substation that overlaps with the Potentia gen-tie corridor? Has ground disturbance started? When will it be completed? What activities are being done in that corridor?
2) Were pre-construction surveys conducted and if so, can they share the results? For example, were there any positive surveys for plants/wildlife?

Much appreciated, Julie

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Monday, November 3, 2025 2:43 PM
To: Field @EnergyVeterans.org <field@energyveterans.org>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

Julie,
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Eric W. Veerkamp
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Hi Eric,
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My main question for the county is what is the status of the construction that is occurring as part of the Mulqueeney project – I'm really only interested in the section that overlaps – I believe it is the gen-tie corridor. Have they started ground disturbance? Any other information – for example, pre-construction survey results would also be helpful for our analysis as well.

Thanks, Julie

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Monday, November 3, 2025 1:46 PM
To: Field @EnergyVeterans.org <field@energyveterans.org>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI, question to Alameda County staff

Hi Julie,
I saw an email that you sent to Kaycee about inquiring with Alameda County about the Mulqueeny Project. My recollection is we (you) have been trying to reach the county staff for quite a while, but I do not recall what information we need from the county. I don't think the county has been very responsive generally.

Is there anything I can do to help with this request?

Please let me know. TY.

Eric W. Veerkamp
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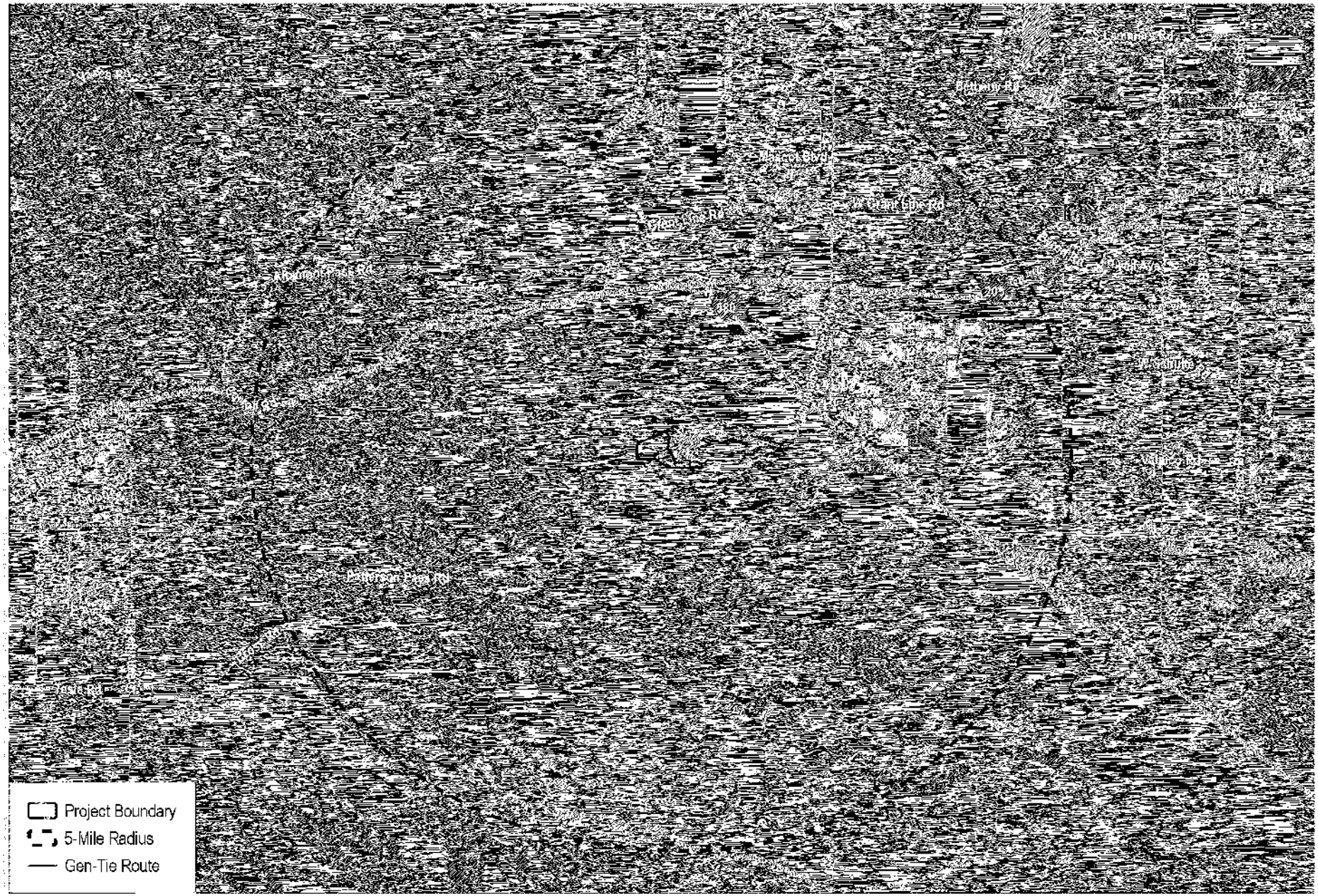

SOURCE: BingMaps 2023

DUDEK

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Q:\arcmap\Viridi\DRR\fig3-2_Project_Vicinity.mxd (9/28/2023)

FIGURE 3-2

Project Vicinity

Potentia Viridi DEIS Project

Message

From: Rose, Aubrey, CDA [aubrey.rose@acgov.org]
Sent: 11/4/2025 6:46:59 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
CC: Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
Subject: RE: PoVI, question to Alameda County staff

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Thanks Eric,

Pls consider this received and under review – hope to have info for you soon

Sincerely,
Aubrey

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Tuesday, November 4, 2025 10:45 AM
To: Rose, Aubrey, CDA <aubrey.rose@acgov.org>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
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Thank you.

I don't believe this is an urgent matter, a response in the next couple of days would be fine.

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Yes, that would be great.

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Hi Eric,
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My main question for the county is what is the status of the construction that is occurring as part of the Mulqueeney project – I'm really only interested in the section that overlaps – I believe it is the gen-tie corridor. Have they started

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From: Lopez, Albert, CDA [Albert.Lopez@acgov.org]
Sent: 11/4/2025 8:35:12 PM
To: Rose, Aubrey, CDA [Aubrey.Rose@acgov.org]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
CC: Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
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Hello Eric and Julie, the Mulqueeney project is fully entitled and they are now building the project. I don't know exactly if ground disturbance has occurred and how that relates to the gen-tie work you're describing. They did have a CEQA requirement for pre-construction survey's however. If helpful I can connect us all through an email to the project applicant who can surely answer some of these questions.

Albert

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To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
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www.energy.ca.gov

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To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>

Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
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Sent: 11/4/2025 9:33:45 PM
To: Lopez, Albert, CDA [Albert.Lopez@acgov.org]; Rose, Aubrey, CDA [Aubrey.Rose@acgov.org]
CC: Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
Subject: RE: PoVI, question to Alameda County staff

Hi Albert,
Thanks for getting back so quickly. Would you be so kind as to provide an email for the project applicant, maybe one of their specialists can provide the detail we are looking for.

Thanks again.

Eric W. Veerkamp
Project Manager
California Energy Commission
916 661 8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

From: Lopez, Albert, CDA <Albert.Lopez@acgov.org>
Sent: Tuesday, November 4, 2025 12:35 PM
To: Rose, Aubrey, CDA <Aubrey.Rose@acgov.org>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
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To: Rose, Aubrey, CDA <aubrey.rose@acgov.org>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: FW: PoVI, question to Alameda County staff

Thanks Aubrey for taking my call. The questions below were provided to me by our biologist, Julie Myrah. Any help you could provide would be much appreciated, or if you could direct to the individual(s) who may have the information. I have included an exhibit showing the location of the proposed Potentia-Viridi project (in licensing with the Ca. Energy Commission).

Thank you.

I don't believe this is an urgent matter, a response in the next couple of days would be fine.

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California Energy Commission
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STEPSiting@energy.ca.gov
www.energy.ca.gov

From: Field @EnergyVeterans.org <field@energyveterans.org>
Sent: Monday, November 3, 2025 3:10 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

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Much appreciated, Julie

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To: Field @EnergyVeterans.org <field@energyveterans.org>
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Message

From: Lopez, Albert, CDA [Albert.Lopez@acgov.org]
Sent: 11/4/2025 10:37:04 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Rose, Aubrey, CDA [Aubrey.Rose@acgov.org]
CC: Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
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You should be hearing from them shortly, we traded emails just now indicating as much.

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To: Lopez, Albert, CDA <Albert.Lopez@acgov.org>; Rose, Aubrey, CDA <Aubrey.Rose@acgov.org>
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Message

From: Gursoy, Berk [Berk.Gursoy@brookfieldrenewable.com]
Sent: 11/4/2025 10:44:54 PM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
CC: Field @EnergyVeterans.org [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=028b79d1e64c47218ca23229d1319826-3859a5b7-75]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Schafer, Brad [brad.schafer@icf.com]
Subject: FW: PoVI, question to Alameda County staff

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Thanks,

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Vice President, Asset Development
Brookfield Renewable
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To: Gursoy, Berk [Berk.Gursoy@brookfieldrenewable.com]; Schafer, Brad [brad.schafer@icf.com]
CC: Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
Subject: RE: PoVI, question to Alameda County staff

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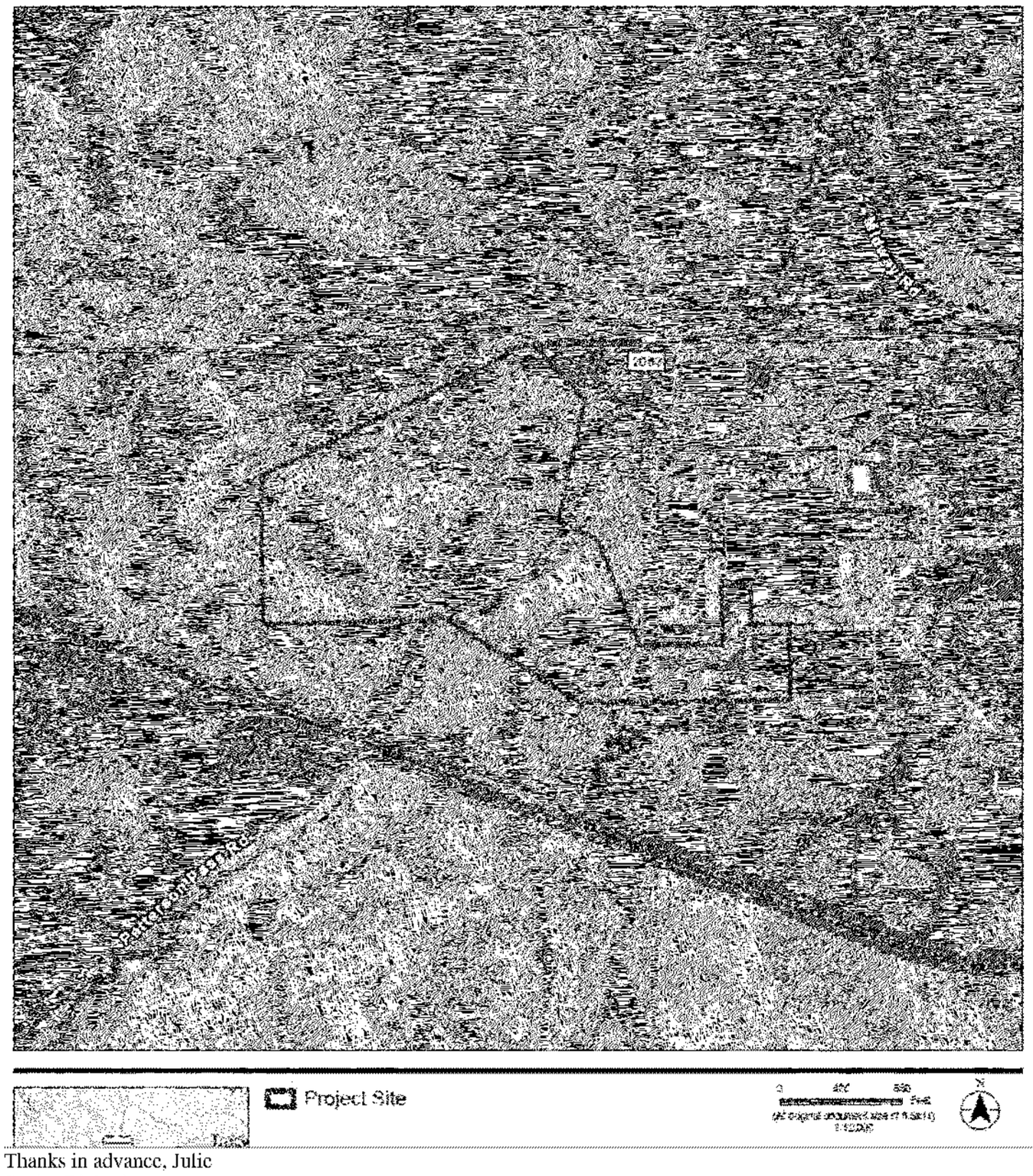
Good morning Berk and Brad,
I am the biology consultant working with CEC to write the bio section of the environmental document for the Potentia-Viridi Battery Energy Storage System project. It appears that our projects may overlap within the gen-tie corridor at the substation. I was hoping to include a brief paragraph in our document about the Mulqueeny project currently in construction so I could use the following information if you are able to share:

1) What type of work is occurring in the area where our projects overlap (see below). Has ground disturbance started? What is the target date for completion in this overlap area? What is your overall construction schedule timeline – when did construction start and when is the target completion date?
2) Were pre-construction surveys conducted for special status plants and animals within and surrounding the overlap area? If so, could you share what those results were with date/time of the surveys and outcome?
3) If you have any other knowledge of this area to share too.

This information would greatly help further our analysis.



Thanks in advance, Julie
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Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

Thanks Eric,

Pls consider this received and under review – hope to have info for you soon

Sincerely,
Aubrey

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Tuesday, November 4, 2025 10:45 AM
To: Rose, Aubrey, CDA <aubrey.rose@acgov.org>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: FW: PoVI, question to Alameda County staff

Thanks Aubrey for taking my call. The questions below were provided to me by our biologist, Julie Myrah. Any help you could provide would be much appreciated, or if you could direct to the individual(s) who may have the information. I have included an exhibit showing the location of the proposed Potentia-Viridi project (in licensing with the Ca. Energy Commission).

Thank you.

I don't believe this is an urgent matter, a response in the next couple of days would be fine.

Eric W. Veerkamp

Project Manager
California Energy Commission
916 661 8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

From: Field @EnergyVeterans.org <field@energyveterans.org>
Sent: Monday, November 3, 2025 3:10 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

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Yes, that would be great.

1) Regarding the Mulqueeny project, what is the current status of construction near the PG&E Tesla substation that overlaps with the Potentia gen-tie corridor? Has ground disturbance started? When will it be completed? What activities are being done in that corridor?
2) Were pre-construction surveys conducted and if so, can they share the results? For example, were there any positive surveys for plants/wildlife?

Much appreciated, Julie

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Monday, November 3, 2025 2:43 PM
To: Field @EnergyVeterans.org <field@energyveterans.org>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

Julie,
Would it be helpful if I reach out to see if I can get some information? If you could add anything specific you need to to the question(s) you note below, I will see what I can do.

Eric W. Veerkamp
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Thanks, Julie

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Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI, question to Alameda County staff

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Is there anything I can do to help with this request?

Please let me know. TY.

Eric W. Veerkamp
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California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

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Message

From: Field @EnergyVeterans.org [field@energyveterans.org]
Sent: 11/14/2025 9:17:29 PM
To: Gursoy, Berk [Berk.Gursoy@brookfieldrenewable.com]; Schafer, Brad [brad.schafer@icf.com]
CC: Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
Subject: RE: PoVI, question to Alameda County staff

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Good afternoon,
I am just following up on the email below.
Thank you, Julie

From: Field @EnergyVeterans.org
Sent: Wednesday, November 5, 2025 10:20 AM
To: Gursoy, Berk <Berk.Gursoy@brookfieldrenewable.com>; Schafer, Brad <brad.schafer@icf.com>
Cc: Ann.Crisp@energy.ca.gov; Veerkamp, Eric@Energy <eric.veerkamp@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

Good morning Berk and Brad,
I am the biology consultant working with CEC to write the bio section of the environmental document for the Potentia-Viridi Battery Energy Storage System project. It appears that our projects may overlap within the gen-tie corridor at the substation. I was hoping to include a brief paragraph in our document about the Mulqueeney project currently in construction so I could use the following information if you are able to share:

1) What type of work is occurring in the area where our projects overlap (see below). Has ground disturbance started? What is the target date for completion in this overlap area? What is your overall construction schedule timeline – when did construction start and when is the target completion date?
2) Were pre-construction surveys conducted for special status plants and animals within and surrounding the overlap area? If so, could you share what those results were with date/time of the surveys and outcome?
3) If you have any other knowledge of this area to share too.

This information would greatly help further our analysis.

Thanks in advance, Julie
Senior Biologist
(209) 747-7994

From: Gursoy, Berk <Berk.Gursoy@brookfieldrenewable.com>
Sent: Tuesday, November 4, 2025 2:45 PM
To: Eric.Veerkamp@energy.ca.gov
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Ann.Crisp@energy.ca.gov; Schafer, Brad

<brad.schafer@icf.com>
Subject: FW: PoVI, question to Alameda County staff

Good afternoon Eric,

Albert Lopez from Alameda County passed along your questions. I lead project development for Brookfield and am the sponsor for our Mulqueeney wind project.

Our project is under construction with ground disturbance nearing completion by year end. As Albert noted, we have our CUP and have done pre-construction surveys. Can you please provide some context as to what you are looking for and the purpose of it so we can be thoughtful in what to share?

Happy to hop on a quick call with our expert permitting consultants from ICF (cc'd) if easier.

Thanks,

Berk Gursoy

Vice President, Asset Development
Brookfield Renewable
M: 213-359 9009
berk.gursoy@brookfieldrenewable.com
www.brookfieldrenewable.com

From: Lopez, Albert, CDA <Albert.Lopez@acgov.org>
Sent: Tuesday, November 4, 2025 2:20 PM
To: Gursoy, Berk <Berk.Gursoy@brookfieldrenewable.com>
Subject: FW: PoVI, question to Alameda County staff

***CAUTION! EXTERNAL SENDER *** STOP. ASSESS. VERIFY! DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS UNLESS YOU KNOW THE CONTENT IS SAFE. If suspicious, report email using the Phish Alert button.
***ATTENTION ! EXPÉDITEUR EXTERNE *** ARRÊTEZ, ÉVALUEZ ET VÉRIFIEZ ! NE CLIQUEZ PAS SUR LES LIENS OU N'OUVREZ PAS LES PIÈCES JOINTES À MOINS DE SAVOIR QUE LE CONTENU EST SÉCURISÉ. Si vous recevez un courriel suspect, veuillez utiliser le bouton PhishAlert.

Hi Berk, some questions on your project, coming from State of CA. See below – thx!

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Tuesday, November 4, 2025 1:34 PM
To: Lopez, Albert, CDA <Albert.Lopez@acgov.org>; Rose, Aubrey, CDA <Aubrey.Rose@acgov.org>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

Hi Albert,
Thanks for getting back so quickly. Would you be so kind as to provide an email for the project applicant, maybe one of their specialists can provide the detail we are looking for.

Thanks again.

Eric W. Veerkamp
Project Manager
California Energy Commission
916 661 8458
STL-PSiting@energy.ca.gov

www.energy.ca.gov

From: Lopez, Albert, CDA <Albert.Lopez@acgov.org>
Sent: Tuesday, November 4, 2025 12:35 PM
To: Rose, Aubrey, CDA <Aubrey.Rose@acgov.org>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

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Hello Eric and Julie, the Mulqueeney project is fully entitled and they are now building the project. I don't know exactly if ground disturbance has occurred and how that relates to the gen-tie work you're describing. They did have a CEQA requirement for pre-construction survey's however. If helpful I can connect us all through an email to the project applicant who can surely answer some of these questions.

Albert

From: Rose, Aubrey, CDA <aubrey.rose@acgov.org>
Sent: Tuesday, November 4, 2025 10:47 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

Thanks Eric,

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Subject: FW: PoVI, question to Alameda County staff

Thanks Aubrey for taking my call. The questions below were provided to me by our biologist, Julie Myrah. Any help you could provide would be much appreciated, or if you could direct to the individual(s) who may have the information. I have included an exhibit showing the location of the proposed Potentia-Viridi project (in licensing with the Ca. Energy Commission).

Thank you.

I don't believe this is an urgent matter, a response in the next couple of days would be fine.

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1) Regarding the Mulqueeny project, what is the current status of construction near the PG&E Tesla substation that overlaps with the Potentia gen-tie corridor? Has ground disturbance started? When will it be completed? What activities are being done in that corridor?
2) Were pre-construction surveys conducted and if so, can they share the results? For example, were there any positive surveys for plants/wildlife?

Much appreciated, Julie

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Sent: Monday, November 3, 2025 2:43 PM
To: Field @EnergyVeterans.org <field@energyveterans.org>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

Julie,
Would it be helpful if I reach out to see if I can get some information? If you could add anything specific you need to to the question(s) you note below, I will see what I can do.

Eric W. Veerkamp
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Thanks, Julie

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To: Field @EnergyVeterans.org <field@energyveterans.org>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
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Is there anything I can do to help with this request?

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Eric W. Veerkamp
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California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

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Message

From: Giorgi, Erika@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D171E5D706E34C26AD9D13C230F2349F-1324B266-6E]
Sent: 11/5/2025 12:17:16 AM
To: Mulligan, Jack M. [jack.mulligan@cpuc.ca.gov]
CC: Reiger, J. Jason [Jonathan.Reiger@cpuc.ca.gov]; Babula, Jared@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6cf386251c7a47f697f411cee0910882-Babula, Jar]; Borkowski, Barbara@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ab8f496b4b784ff199bebeb01ec055e2-51690376-8e]
Subject: Re: [EXTERNAL] CEC BESS Project

Hi Jack and Jason
I was wondering if you have time to briefly discuss Potentia-Viridi BESS siting project ? We have an update to below and we wanted to run it by you. Please let me know if there's a time/day that will work better and I will send a meeting invite.
Thank you in advance,
Erika

Erika Giorgi
Senior Attorney
California Energy Commission – Chief Counsel's Office, MS-14
715 P Street, Sacramento, CA 95814
(279) 250-8801

From: Giorgi, Erika@Energy <Erika.Giorgi@Energy.ca.gov>
Sent: Tuesday, September 3, 2024 9:52 PM
To: Mulligan, Jack M. <jack.mulligan@cpuc.ca.gov>; Babula, Jared@Energy <Jared.Babula@energy.ca.gov>
Cc: Cabrera, Crystal@Energy <Crystal.Cabrera@Energy.ca.gov>; Cusato, Anthony@Energy <anthony.cusato@energy.ca.gov>; Reiger, J. Jason <Jonathan.Reiger@cpuc.ca.gov>
Subject: RE: [EXTERNAL] CEC BESS Project

Thank you! Looking forward to talking more about this project with you and Jason.
Erika

Erika Giorgi
Senior Attorney
California Energy Commission – Chief Counsel's Office, MS-14
715 P Street, Sacramento, CA 95814
(279) 250-8801

From: Mulligan, Jack M. <jack.mulligan@cpuc.ca.gov>
Sent: Tuesday, September 3, 2024 4:27 PM
To: Babula, Jared@Energy <Jared.Babula@energy.ca.gov>

Cc: Giorgi, Erika@Energy <Erika.Giorgi@Energy.ca.gov>; Cabrera, Crystal@Energy <Crystal.Cabrera@Energy.ca.gov>; Cusato, Anthony@Energy <anthony.cusato@energy.ca.gov>; Reiger, J. Jason <Jonathan.Reiger@cpuc.ca.gov>
Subject: Re: [EXTERNAL] CEC BESS Project

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Thanks Jared,

I look forward to working with the team! For some reason "unusual" projects seem to find me.

I'm looping in my colleague, Jason Reiger, who is my partner on all things CEQA/siting at the CPUC.

Jack

Jack Mulligan (he, him, his)
Staff Attorney - CPUC

From: Babula, Jared@Energy <Jared.Babula@energy.ca.gov>
Sent: Tuesday, September 3, 2024 3:18 PM
To: Mulligan, Jack M. <jack.mulligan@cpuc.ca.gov>
Cc: Giorgi, Erika@Energy <Erika.Giorgi@Energy.ca.gov>; Cabrera, Crystal@Energy <Crystal.Cabrera@Energy.ca.gov>; Cusato, Anthony@Energy <anthony.cusato@energy.ca.gov>
Subject: [EXTERNAL] CEC BESS Project

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Jack,

I want to introduce you to Erika, Crystal and Anthony who are new star attorneys to the CEC and are working on the Potentia-Viridi BESS siting project. The project is near PG&E's Tesla substation and has an bit of an unusual interconnection. Rather than the project's T-line running all the way into Tesla, PG&E will be building a short line coming off of the Tesla substation which will meet up with the line the project is building. At this point I am not sure how far beyond the Tesla footprint the PG&E line will go, but should not be to far.

As CEC review moves forward, Erika maybe in contact with you to discuss a game plan regarding this interface between the project's line and PG&E's line. Thanks

Jared Babula
Attorney V
Chief Counsel's Office
California Energy Commission

Message

To:	aubrey.rose@acgov.org
CC:	Julie Myrah [field@energyveterans.org]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
BCC:	Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject:	FW: PoVI, question to Alameda County staff
Attachments:	Potentia Vicinity exhbt for PD.png

Thanks Aubrey for taking my call. The questions below were provided to me by our biologist, Julie Myrah. Any help you could provide would be much appreciated, or if you could direct to the individual(s) who may have the information. I have included an exhibit showing the location of the proposed Potentia-Viridi project (in licensing with the Ca. Energy Commission).

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Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

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Subject: RE: PoVI, question to Alameda County staff

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Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI, question to Alameda County staff

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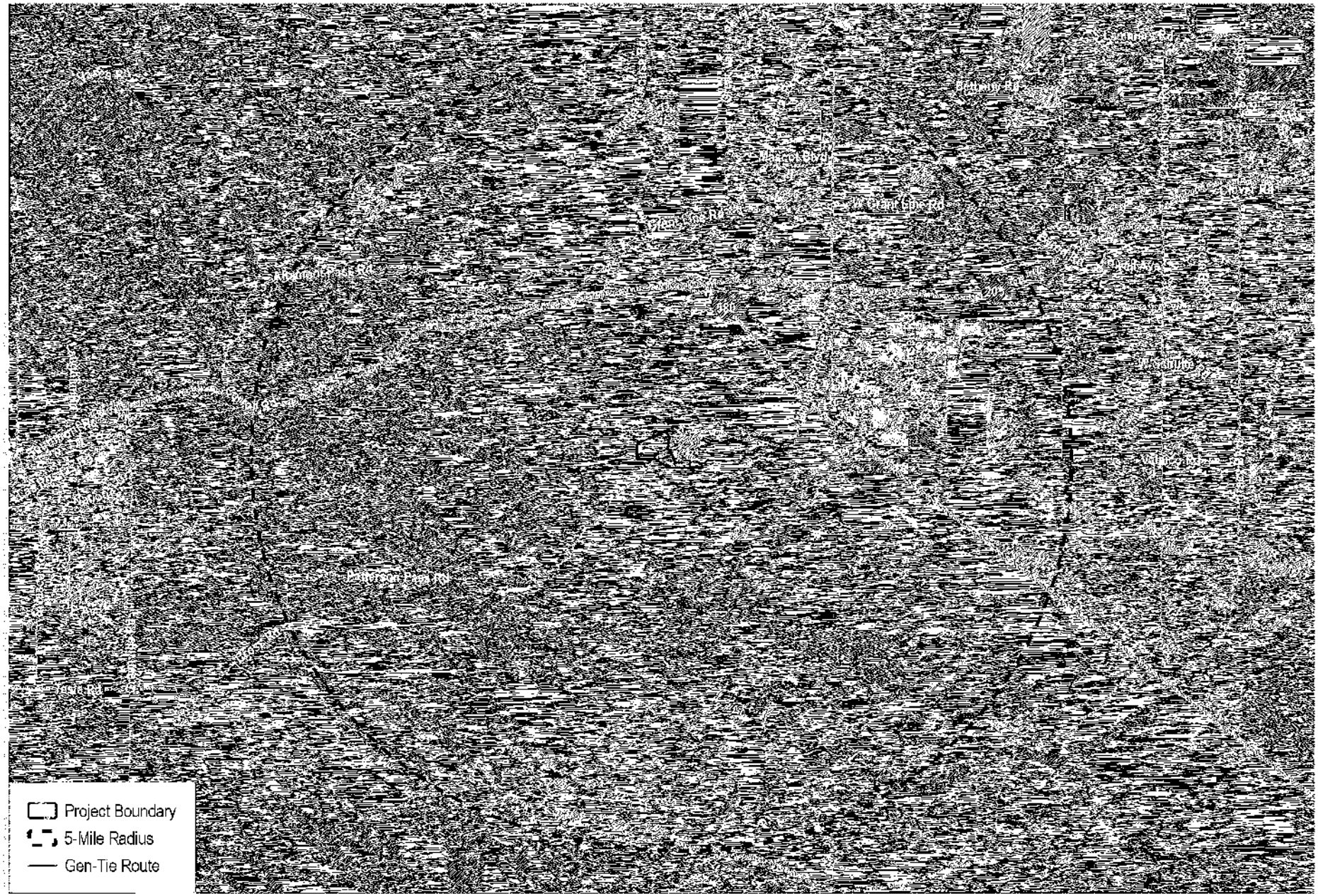
Please let me know. TY.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-6458
STFPSiting@energy.ca.gov
www.energy.ca.gov



SOURCE: Bing Maps 2023

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0 4,500 9,000 Feet

Drawn: Saved DRR on: Fig 3-2, Duplex, 09 28 '23

FIGURE 3-2

Project Vicinity

Potentia-Viridi BESS Project

Message

Sent: 11/5/2025 6:47:32 PM
To: kstrain@capstoneinfra.com
CC: Rocio Perez [rpe@eurowindenergy.com]; Ronelle Candia [rcandia@dudek.com]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject: RE: PoVI, Question and Request for clarification about T-line point of change of ownership
Attachments: excerpt from TN261401_20250129T073952_Tline route.pdf

Hi Kelly, I have a follow up question.

In the attached exhibit from the Revised project description, can you confirm the alignment of the gen-tie line (in red) is proposing three transmission towers/structures. They are not called out specifically, only the telecom poles (green dots) are in the key. So the POCO would be the second structure from the Tesla substation if I am correct. And please confirm the type of structure proposed is the "H" frame or "portal tower" type, correct?

Of note,

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

From: Veerkamp, Eric@Energy
Sent: Tuesday, November 4, 2025 5:15 PM
To: kstrain@capstoneinfra.com
Cc: Rocio Perez <rpe@eurowindenergy.com>; Ronelle Candia <rcandia@dudek.com>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI, Question and Request for clarification about T-line point of change of ownership

Hi Kelly,
Thanks for taking my call last evening. As I said I was inquiring to see if you could shed some light on why PG&E is operating under the current approach of establishing the point of change of ownership outside the fenceline of the Tesla substation (seems like it is part of the battery storage projects now). I thought maybe a particular reason or benefit of the approach was shared. On prior CEC projects I have been involved with, the point of interconnect was at the fenceline of the nearest substation. I have been operating with the understanding that despite the proposed POCO (which establishes the POI at the first transmission tower), that our jurisdiction for licensing would still be the fenceline of the substation.

Our staff analysis will account for these slight differences, but I am hoping to understand this a little bit better.

Thanks.

Eric W. Veerkamp
Project Manager

California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

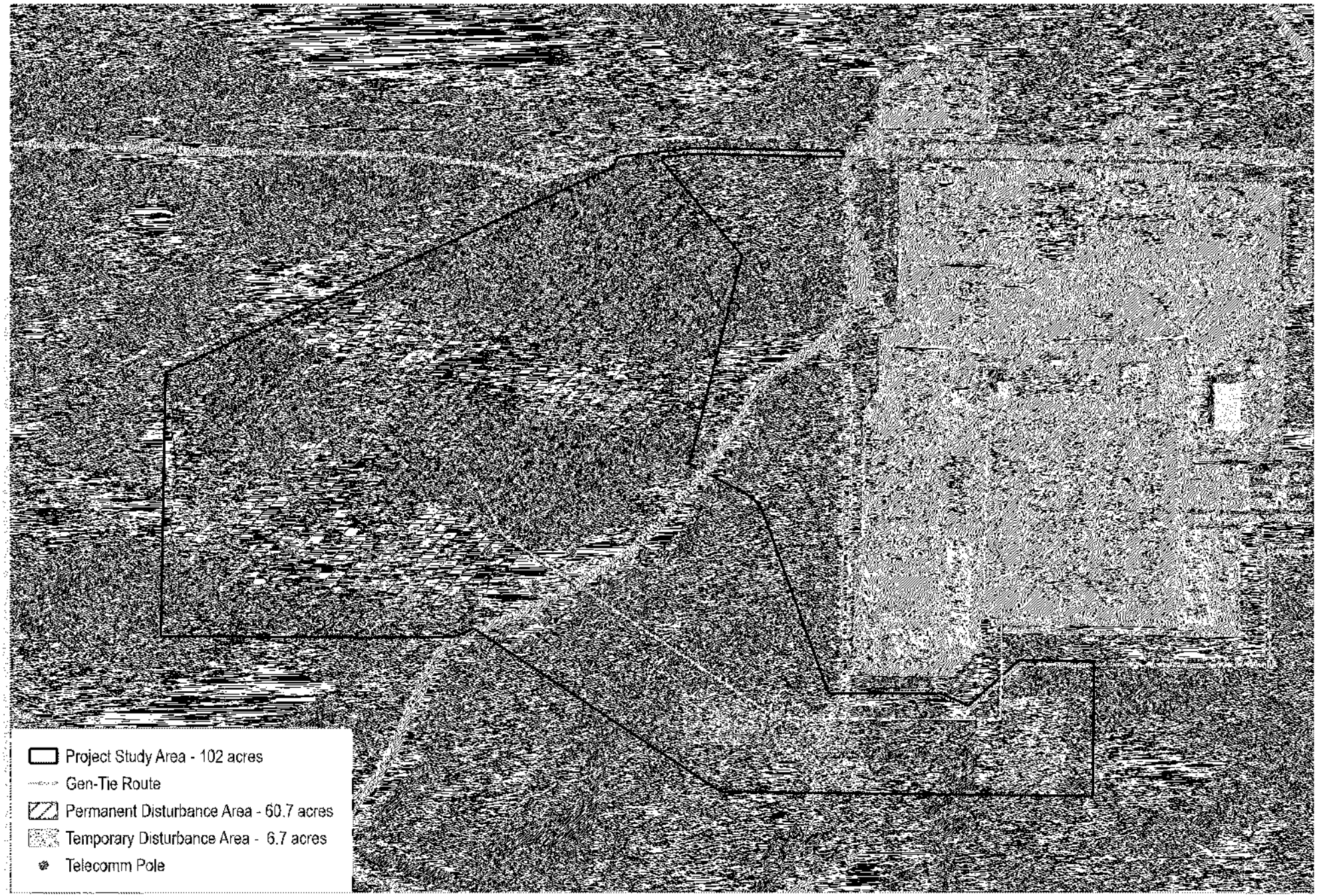

FIGURE 2-3

Project Site Aerial

Potentia-Vindi SESS Project

Message

From:	Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent:	11/4/2025 6:45:29 PM
To:	aubrey.rose@acgov.org
CC:	Field @EnergyVeterans.org [field@energyveterans.org]; Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
BCC:	Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject:	FW: PoVI, question to Alameda County staff
Attachments:	Potentia Vicinity exhbt for PD.png

Thanks Aubrey for taking my call. The questions below were provided to me by our biologist, Julie Myrah. Any help you could provide would be much appreciated, or if you could direct to the individual(s) who may have the information. I have included an exhibit showing the location of the proposed Potentia-Viridi project (in licensing with the Ca. Energy Commission).

Thank you.

I don't believe this is an urgent matter, a response in the next couple of days would be fine.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

From: Field @EnergyVeterans.org <field@energyveterans.org>
Sent: Monday, November 3, 2025 3:10 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

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Yes, that would be great.

1) Regarding the Mulqueeny project, what is the current status of construction near the PG&E Tesla substation that overlaps with the Potentia gen-tie corridor? Has ground disturbance started? When will it be completed? What activities are being done in that corridor?
2) Were pre-construction surveys conducted and if so, can they share the results? For example, were there any positive surveys for plants/wildlife?

Much appreciated, Julie

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Monday, November 3, 2025 2:43 PM
To: Field @EnergyVeterans.org <field@energyveterans.org>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

Julie,
Would it be helpful if I reach out to see if I can get some information? If you could add anything specific you need to to the question(s) you note below, I will see what I can do.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

From: Field @EnergyVeterans.org <field@energyveterans.org>
Sent: Monday, November 3, 2025 1:54 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

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Hi Eric,
I haven't tried to reach the county before so maybe someone else you are thinking of? I wasn't sure of protocol if I can reach out to them directly or not.

My main question for the county is what is the status of the construction that is occurring as part of the Mulqueeney project – I'm really only interested in the section that overlaps – I believe it is the gen-tie corridor. Have they started ground disturbance? Any other information – for example, pre-construction survey results would also be helpful for our analysis as well.

Thanks, Julie

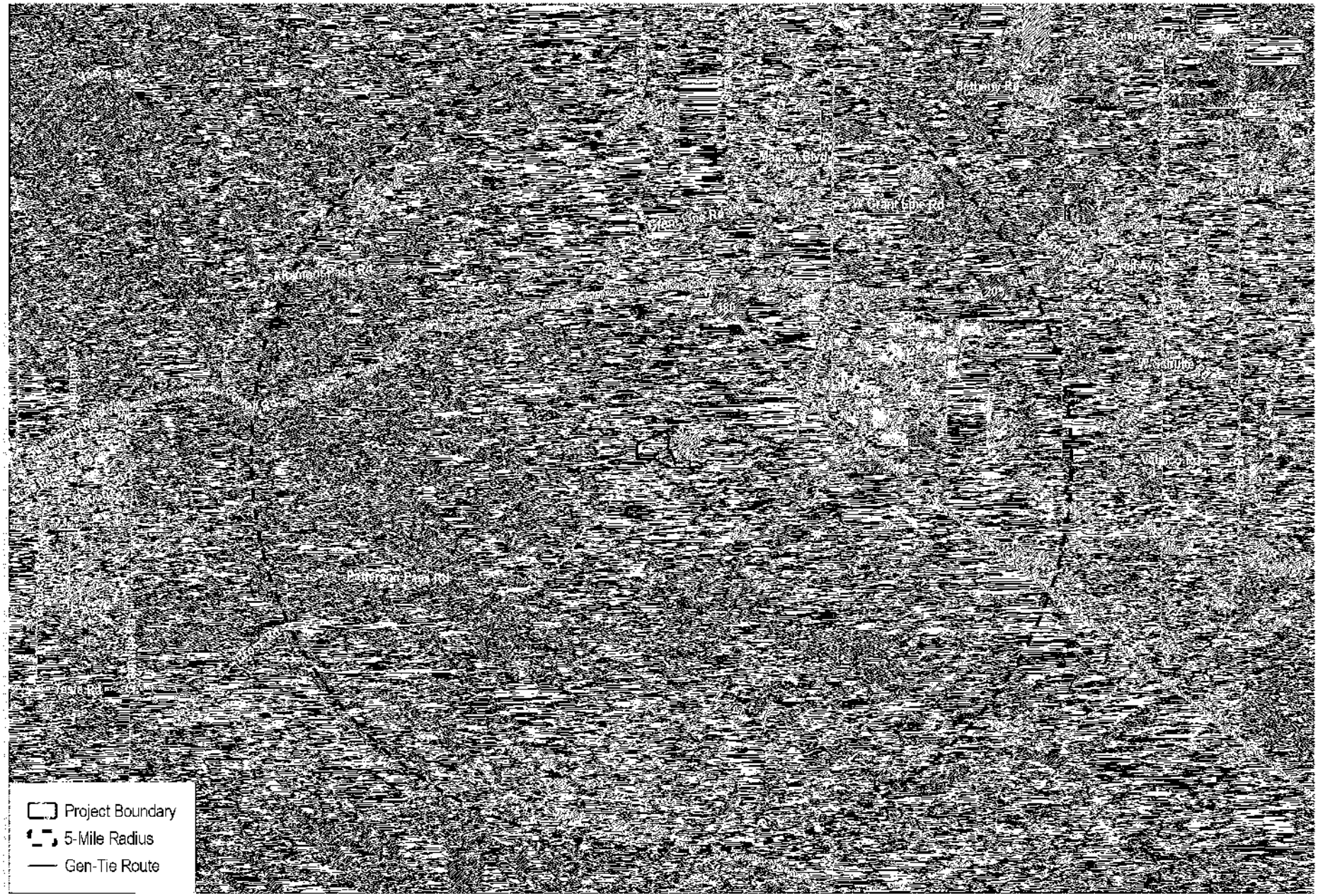
From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Monday, November 3, 2025 1:46 PM
To: Field @EnergyVeterans.org <field@energyveterans.org>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI, question to Alameda County staff

Hi Julie,
I saw an email that you sent to Kaycee about inquiring with Alameda County about the Mulqueeny Project. My recollection is we (you) have been trying to reach the county staff for quite a while, but I do not recall what information we need from the county. I don't think the county has been very responsive generally.

Is there anything I can do to help with this request?

Please let me know. TY.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov



SOURCE: Bing Maps 2023

DUDEK

0 4,500 9,000 Feet

Source: Revised DRR fig 3-2, Dudek, 09/28/23

FIGURE 3-2

Project Vicinity

Potrero Viridi BESS Project

Message

From: Luo, Yiming@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F5DF6732DBCF4FD3A7BC7639E421BE64-D849B685-C5]
Sent: 11/12/2025 6:13:27 PM
To: Aubrey.rose@acgov.org
CC: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject: Cumulative impacts list request for Potentia-Viridi Battery Energy Storage System Project

Hello Aubrey,

My name is Yiming and I'm a student assistant in the CEQA Project Management Unit at the California Energy Commission. As the lead agency under CEQA for the proposed Potentia-Viridi Battery Energy Storage System Project, we are reaching out to see whether your jurisdiction would be able to provide a list of current and reasonably foreseeable projects that could be considered in a cumulative impacts analysis.

Please feel free to reply if you have any questions.

Thank you,
Yiming

Yiming Luo
Student Assistant
California Energy Commission
916-232-6321
STEPSiting@energy.ca.gov
www.energy.ca.gov

Message

From: Rose, Aubrey, CDA [Aubrey.rose@acgov.org]
Sent: 11/12/2025 6:15:12 PM
To: Luo, Yiming@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f5df6732dbcf4fd3a7bc7639e421be64-d849b685-c5]
CC: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject: RE: Cumulative impacts list request for Potentia-Viridi Battery Energy Storage System Project

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Hello Yiming,

Thanks for your interest, let me see what info I can collect & try to update you by end of week – have a great morning

Sincerely,
Aubrey

From: Luo, Yiming@Energy <Yiming.Luo@energy.ca.gov>
Sent: Wednesday, November 12, 2025 10:13 AM
To: Rose, Aubrey, CDA <Aubrey.rose@acgov.org>
Cc: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: Cumulative impacts list request for Potentia-Viridi Battery Energy Storage System Project

Hello Aubrey,

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Please feel free to reply if you have any questions.

Thank you,
Yiming

Yiming Luo
Student Assistant
California Energy Commission
916-232-6321
STEPSiting@energy.ca.gov
www.energy.ca.gov

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Message

From: Nicola Park [Nicola.Park@clearwayenergy.com]
Sent: 11/12/2025 11:28:14 PM
To: Grefsrud, Marcia@Wildlife [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4cae2e4113054707a12ac17d6a0d49fe-d65dd704-b3]; Kelly Strain [KStrain@capstoneinfra.com]; Blinn, Brenda@Wildlife [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=35d13e8c62424b8a96837fec8ad35259-1dc2fa29-35]; Aarty Joshi [Aarty.Joshi@clearwayenergy.com]
CC: Lauren McLeod [LMcLeod@capstoneinfra.com]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject: RE: Sale of Potential Viridi BESS Project (PoVi) and Clearway Introductions

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Thanks for the intro and handoff, Kelene.

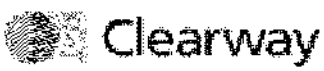
Hi Marcia, Brenda, and team,

Great to meet you by email and look forward to working with you. The Clearway team is excited to take ownership of the project.

Looping in Aarty Joshi, Senior Director Permitting for Clearway. We will be in touch as the project progresses through the CEC process. Please feel free to reach out to myself and Aarty as key POC in the meantime.

Best,

Nicola



Nicola Park
Clearway Energy Group LLC
Director, Hawaii

+1 (949) 439-3349 cell

From: Grefsrud, Marcia@Wildlife <Marcia.Grefsrud@wildlife.ca.gov>
Sent: Wednesday, November 12, 2025 12:02 PM
To: Kelly Strain <KStrain@capstoneinfra.com>; Blinn, Brenda@Wildlife <Brenda.Blinn@wildlife.ca.gov>; Nicola Park <Nicola.Park@clearwayenergy.com>
Cc: Lauren McLeod <LMcLeod@capstoneinfra.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: Sale of Potential Viridi BESS Project (PoVi) and Clearway Introductions

CAUTION: This message originated from an external sender.

Thank you, Kelly!
Marcia

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Wednesday, November 12, 2025 2:01 PM
To: Grefsrud, Marcia@Wildlife <Marcia.Grefsrud@wildlife.ca.gov>; Blinn, Brenda@Wildlife <Brenda.Blinn@wildlife.ca.gov>; Nicola Park <Nicola.Park@clearwayenergy.com>

Cc: Lauren McLeod <LMcLeod@capstoneinfra.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: Sale of Potential Viridi BESS Project (PoVi) and Clearway Introductions

Some people who received this message don't often get email from kstrain@capstoneinfra.com. Learn why this is important

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Marcia and Brenda~

We would like to inform you that the sale of the PoVi Project has officially closed, and ownership has now transferred to Clearway. It has been a pleasure working with you on this project.

Please don't hesitate to contact Nicola or me if you have any questions. That said, Clearway will be following up with you shortly.

Kind regards,

Kelona Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 995 5010
Facsimile +1 (416) 649 1555
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

Message

From: Grefsrud, Marcia@Wildlife [Marcia.Grefsrud@wildlife.ca.gov]
Sent: 11/13/2025 1:24:39 AM
To: Nicola Park [Nicola.Park@clearwayenergy.com]; Kelly Strain [KStrain@capstoneinfra.com]; Blinn, Brenda@Wildlife [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=35d13e8c62424b8a96837fec8ad35259-1dc2fa29-35]; Aarty Joshi [Aarty.Joshi@clearwayenergy.com]
CC: Lauren McLeod [LMcLeod@capstoneinfra.com]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]
Subject: RE: Sale of Potential Viridi BESS Project (PoVi) and Clearway Introductions

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Thanks Nicola,
We look forward to working with you and Aarty, as well.
Marcia

From: Nicola Park <Nicola.Park@clearwayenergy.com>
Sent: Wednesday, November 12, 2025 3:28 PM
To: Grefsrud, Marcia@Wildlife <Marcia.Grefsrud@wildlife.ca.gov>; Kelly Strain <KStrain@capstoneinfra.com>; Blinn, Brenda@Wildlife <Brenda.Blinn@wildlife.ca.gov>; Aarty Joshi <Aarty.Joshi@clearwayenergy.com>
Cc: Lauren McLeod <LMcLeod@capstoneinfra.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: Sale of Potential Viridi BESS Project (PoVi) and Clearway Introductions

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

Thanks for the intro and handoff, Kelene.

Hi Marcia, Brenda, and team,

Great to meet you by email and look forward to working with you. The Clearway team is excited to take ownership of the project.

Looping in Aarty Joshi, Senior Director Permitting for Clearway. We will be in touch as the project progresses through the CEC process. Please feel free to reach out to myself and Aarty as key POC in the meantime.

Best,

Nicola

Nicola Park
Clearway Energy Group LLC
Director, Hawaii

+1 (949) 439-3349 cell

From: Grefsrud, Marcia@Wildlife <Marcia.Grefsrud@wildlife.ca.gov>
Sent: Wednesday, November 12, 2025 12:02 PM
To: Kelly Strain <KStrain@capstoneinfra.com>; Blinn, Brenda@Wildlife <Brenda.Blinn@wildlife.ca.gov>; Nicola Park

<Nicola.Park@clearwayenergy.com>
Cc: Lauren McLeod <LMcLeod@capstoneinfra.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: Sale of Potential Viridi BESS Project (PoVi) and Clearway Introductions

CAUTION: This message originated from an external sender.

Thank you, Kelly!
Marcia

From: Kelly Strain <KStrain@capstoneinfra.com>
Sent: Wednesday, November 12, 2025 2:01 PM
To: Grefsrud, Marcia@Wildlife <Marcia.Grefsrud@wildlife.ca.gov>; Blinn, Brenda@Wildlife <Brenda.Blinn@wildlife.ca.gov>; Nicola Park <Nicola.Park@clearwayenergy.com>
Cc: Lauren McLeod <LMcLeod@capstoneinfra.com>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: Sale of Potential Viridi BESS Project (PoVi) and Clearway Introductions

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Marcia and Brenda~

We would like to inform you that the sale of the PoVi Project has officially closed, and ownership has now transferred to Clearway. It has been a pleasure working with you on this project.

Please don't hesitate to contact Nicola or me if you have any questions. That said, Clearway will be following up with you shortly.

Kind regards,

Kelsie Strain
Environmental & Permitting Manager

CAPSTONE INFRASTRUCTURE CORPORATION

Direct +1 (310) 639-5340
Facsimile +1 (416) 642-1995
Email KStrain@capstoneinfra.com
Web www.capstoneinfrastructure.com

Los Angeles, California

From: Nicola Park
To: Veerkamp, Eric@Energy
Subject: RE: Meeting with Staff - Bio Mitigation Methodology, and other questions
Date: Monday, December 15, 2025 5:31:20 PM
Attachments: image001.png
image002.png

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Eric,

Here are some questions and agenda items to help guide the conversation on Wednesday. Perhaps we can let CAL FIRE folks drop off after we cover that topic upfront.

1. Fire Safety Communication
    a. CAL FIRE Intro to Clearway. Confirm status of CEC and CAL FIRE engagement. Discuss next steps for coordination and degree of engagement required with City of Tracy and Alameda County Fire Dept and any other agencies (AC Emergency Services?)
    b. Update on outreach to date and how such outreach is being framed (what are Alameda County/ City of Tracy being asked to do/review given that CAL FIRE is the lead?)

2. Bio Mitigation Methodology
    a. Project's intent is to comply with Eastern Alameda Conservation Strategy (EACCS) and mitigation requirements within it, which USFWS has accepted. Has CEC received any feedback from CDFW on this? How is CEC viewing the Project in light of the EACCS? Are other requirements expected to be imposed?
    b. Project's intent is to incorporate grazing into the long-term management plan for the mitigation lands as the chief means of vegetation management as well as to create habitat for threatened species. Project also intends for landowner to continue grazing the area around the BESS. Are there any other agricultural requirements that are anticipated or that were previously proposed/discussed related to Williamson Act or otherwise?

3. Williamson Act - Has the CEC decided whether the BESS is a compatible use under the Williamson Act? When does it anticipate making this determination?

4. Septic/ Zone 7
    a. General discussion/ update – septic exclusively to be used for O&M facility/ limited O&M staff so would expect to be treated as domestic
    b. Call with Alameda County Environmental Services and Zone 7 (with CEC) to discuss permit and process/ requirements. Will CEC communicate to County and Zone 7 that, as these two agencies are exercising delegated authority from the Regional Board, they

must act within 90 days of CEC's certification under AB 205? Given 90-day requirement, does CEC recommend that applications be made now to County and Zone 7?

5. Native Tribes - Understand that AB consultation is on-going. Appreciate the status update. Has the CEC received any specific comments from the tribes about the Project?

Please let us know if you want to discuss other topics and/or have any questions or feedback on the below in advance of our discussion.

Thanks,

Nicola

Clearway

Nicola Park
Clearway Energy Group LLC
Director, Development

+1 (949) 439-3349 cell

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Wednesday, December 10, 2025 11:51 AM
To: Nicola Park <Nicola.Park@clearwayenergy.com>
Subject: RE: Meeting with Staff - Bio Mitigation Methodology, and other questions

CAUTION: This message originated from an external sender.

Hi Nicola,
I think it should be doable to calendar a meeting for a staff discussion before the holiday. It took me a minute to make the connection, but I think you must have been talking to Eric Knight about a BIO meeting. I can double check with Ann, but I do not see a problem sharing generally what our approach will be on mitigation.

Other items that it sounds like you are seeking more information on are the fire services communication protocols and the water/sewer permitting issue. I am gathering updated information to share with you because I didn't realize that even though the septic permits are issued through the County, they originate with the Waterboards. I am gathering more information to share about process.

I will be working to set up a meeting with BIO, fire safety, and our water staff, the meetings may be separate, or combined.

Regarding the tribal issue, hopefully the information below provides a sufficient update on consultation. Bill Larson, our culturalist for this project does not think there is any reason for you to

do additional outreach beyond AB52.

The NAHC responded to CEC inquiry on September 9, 2024, with negative results for the Sacred Lands File search and a list of Native American tribes culturally affiliated with the location of the Project site and recommended contacting them for further information. The CEC sent initial informational notification letters on September 30, 2024. Once the application was deemed complete, official consultation letters were mailed on August 15, 2025, with follow-up e-mails sent on September 9, 2025, to one or more representatives from the following tribes:

- Northern Valley Yokut/Ohlone Tribe
- Amah Mutsun Tribal Band
- Confederated Villages of Lisjan Nation
- Muwekma Ohlone Tribe of the San Francisco Bay Area
- The Ohlone Indian Tribe
- Tule River Indian Tribe
- Wilton Rancheria
- Wuksachi Indian Tribe/Eshom Valley Band

On September 30, 2024, an e-mail requesting a desire to consult was received from the Confederated Villages of the Lisjan Nation. The CEC staff responded on October 8, 2024, acknowledging their request to consult. On October 3, 2024, an e-mail was received from the Northern Valley Yokut Tribe requesting consultation on the project. The CEC staff sent a response on October 8, 2024, acknowledging their desire to consult. On September 2, 2025, an email was received from Wilton Rancheria stating they do not wish to open consultation at this time. The CEC staff acknowledged their letter with an e-mail on September 2, 2025. On September 22, 2025, an e-mail was received from a representative from the Muwekma Ohlone Tribe of the San Francisco Bay Area with a list of tribal contacts and services and a request that the CEC update their mailing list. No other responses have been received, and consultation is on-going.

Thanks.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

From: Nicola Park <Nicola.Park@clearwayenergy.com>
Sent: Friday, December 5, 2025 1:58 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Subject: Meeting with Staff - Bio Mitigation Methodology

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Hi Eric,

Just wanted to follow up on your offer to set up a meeting with staff, and Anne Crisp specifically, to discuss thoughts on methodology related to the biological mitigations and required mitigation lands. Is that something we can coordinate in the next few weeks?

Thanks,

Nicola

Clearway

Nicola Park
Clearway Energy Group LLC
Director, Hawaii

+1 (949) 439-3349 cell

Message

From: Leane Dunn [LDunn@aspeneg.com]
Sent: 12/10/2025 8:24:14 PM
To: Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]; Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
Subject: FW: BESS prj eagle and bird recommendations

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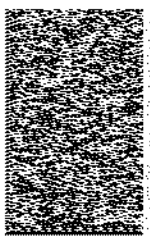
FYI – from USFWS regarding eagles.

Leane Dunn
Biologist / Arborist
Aspen Environmental Group
707-800-2729

From: Beeler, Heather <Heather_Beeler@fws.gov>
Sent: Wednesday, December 10, 2025 11:41 AM
To: Leane Dunn <LDunn@aspeneg.com>; Field @EnergyVeterans.org <field@energyveterans.org>
Subject: BESS prj eagle and bird recommendations



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If suspicious, do not click links, open attachments, or provide credentials.

Leane & Kim,
I've been coordinating with each of you independently on CEC's considerations of the Viracocha Hill BESS and Potentia-Viridi BESS projects. As the process for eagle and bird considerations are largely the same, I thought I'd share this with both of you. I'll look for Altamont area specific eagle analyses and pass those along too.

Below are some general recommendations and resources that you might find helpful. I keep this as a resource to share with a variety of agencies and project types as you'll see. I don't know if a full project ECP or BBCS is warranted for these types of projects, but some of the considerations would probably be appropriate for the project and the CEC to consider.

We appreciate your request for assistance from the Migratory Bird Program. We realize it's important to have the appropriate technical input and permit advice needed to provide for the conservation of birds and eagles. Here, we provide the U.S Fish and Wildlife Service's (Service) Migratory Bird Program recommendations for project proponents and agencies. We hope these recommendations are beneficial for your process.

We recommend you evaluate the potential impacts to eagles. Drafting a project-specific Eagle Conservation Plan (ECP) can be a helpful tool to describe eagles in your area and to comply with the Bald and Golden Eagle Protection Act (Eagle Act). For birds protected under the Migratory Bird Treaty Act (MBTA), we recommend you consider development of a Bird and Bat Conservation Strategy (BBCS). It may be appropriate for a BBCS to include a Nesting Bird Management Plan. These documents could be used to describe how a project and/or an agency intends to avoid and minimize impacts and may be helpful for the National Environmental Policy Act (NEPA) or similar state environmental review analyses. Below we first provide brief recommendations, and further down, we provide more detailed recommendations for MBTA, Eagle Act and NEPA documents/analyses.

MBTA:

- We recommend the project proponent and lead agency outline how projects will avoid and minimize impacts to birds protected under the MBTA, perhaps by developing a Bird and Bat Conservation Strategy to include a nesting bird management plan with appropriate nest protection buffers. Examples exist for other energy projects specifically designed for Southern Nevada and California, available from Southern Nevada BLM and NDOW. Southern California Edison has examples they readily share too. These nest buffer distances for various species and were developed in coordination with the BLM, NDOW and CDFW.

Eagle Act:

- **Golden Eagle Breeding Survey Recommendations in Nevada** https://www.fws.gov/media/golden-eagle-breeding-survey-recommendations-nevada
- **Nest Buffers**: To avoid disturbance to nests that could cause take, see our eagle nest buffer recommendations. https://www.fws.gov/library/collections/eagle-nest-buffers-california-and-nevada
- **Eagle Act Overview**: Permits are available for situations where take may not be practicably avoidable.
    - Please see our Eagle Management Page for more information (https://www.fws.gov/program/eagle-management).
    - **Eagle Disturbance Take Permits and Nest Take Permits –** (https://www.fws.gov/program/eagle-management/eagle-incidental-disturbance-and-nest-take-permits)
    - **Bald Eagle General Permits** - General Permits are a "do it yourself" online permit type available for bald eagles. Bald eagle General Permits are available for nest removals and incidental take permits for many areas/situations. See information at above link, about one third down the page. Eligibility criteria and permit conditions are available for you to view on webpage before requesting a permit.
    - **General Permits for Powerlines** - are also available for Electric Utility companies and covers the incidental take of both bald and golden eagles (https://www.fws.gov/program/eagle-management/power-line-permits).
    - **Eagle Nest Removal Permits:** Under the Bald and Golden Eagle Protection Act, projects that necessitate removal of eagle nests (including trees or rocky ledges supporting eagle nests), should obtain a nest removal permit prior to removing a nest. Nest removal can only be done if the nest is not in use (no eggs or young), unless there is an emergency situation. Please see this webpage for more information: https://www.fws.gov/program/eagle-management/eagle-incidental-disturbance-and-nest-take-permitshttps://www.fws.gov/program/eagle-management/eagle-incidental-disturbance-and-nest-take-permits
    - **Specific Permits** -for **incidental take** caused by **disturbance** (prevents successful reproduction), or incidental **injury/mortality** of eagles are also available should take not be practicably avoidable (https://www.fws.gov/program/eagle-management/eagle-incidental-disturbance-and-nest-take-permits)

Detailed Recommendations

ECPs

An ECP should assess risk and demonstrate how a project would comply with the Eagle Act. If the ECP describes how take will be avoided, then it provides helpful documentation in project or agency records. If the take is unavoidable, then the ECP may be submitted as the foundation of an eagle take permit application. Below are the topics for inclusion in ECPs and consideration for environmental analyses.

1. Project Description
2. Project Area Eagle Population and Habitats
3. Avoidance and Minimization Measures (e.g., seasonal nest buffers, Avian Power Line Interaction Committee suggested practices, hazardous substance best management practices, etc.)
4. Risk Assessment
    A. Assess direct take (mortality) and indirect take (e.g., loss of productivity from disturbance, habitat loss, and potential for territory loss through the loss of nests or foraging habitat)
    B. Results of analysis, which could be one of the following:
        i. Demonstrate that avoidance measures would avoid take of eagles (e.g., nest buffers)

ii. Quantify impacts and amount of unavoidable take, as applicable
   a. number of eagle fatalities per year, per five-year period, or over life of project (up to 30 years)
   b. number of disturbance take "incidents" per year, per five-year period, or over life of project (each take "incident" results in the loss of productivity to a breeding territorial pair in a given year)
   c. number of breeding territories that would be lost
   d. number of nest removals
   e. any uncertainty about impacts (e.g., habitat loss would result in loss or a particular territory) should err toward assuming take would occur

5. Compensatory Mitigation

Note that power pole retrofits are currently our primary form of compensatory mitigation. The U.S. Fish and Wildlife Service has authorized two programs, the Bald Eagle and Golden Eagle Electrocution Prevention In-lieu Fee Program and the Eagle Protection and Offset Program, to sell compensatory mitigation credits for bald and golden eagle take. These two third-party mitigation banking options are specific to eagles and authorized by USFWS to offset incidental eagle take. (Note: USFWS authorization of these programs does not constitute blanket endorsement of either company, or a parent company, operating these programs.) Links to these programs can be found under the heading *Bald Eagle and Golden Eagle Compensatory Mitigation Programs* at this link: https://www.fws.gov/program/eagle-management/eagle-permits

6. Other Mitigation (e.g., if requesting nest removals)

7. Monitoring Plan (i.e., to validate risk assessment and inform avoidance and minimization measures, including which nests are in use proximate to activities in each given year and implementation of nest buffers). See FWS Golden Eagle Breeding Survey Recommendations in Nevada

i. Two years pre-construction baseline (and prior to project expansion) surveys out to 1 -10 miles from the project area depending on project type (see NV survey recommendations).
   a. Linear projects should consider 2 miles on either side of projects. (Helpful if a nest is located within 1 mile, and the breeding territory has alternate nest(s) further away, we maybe able to determine take did not occur if the pair uses an alternate nest further away).
ii. Subsequent surveys and monitoring should be reduced to 4 miles from the project area
iii. Survey and annual monitoring objectives:
   a. Cover all suitable nesting habitat to provide a nest inventory
   b. Estimating number of eagle territories
   c. Determine territory occupancy
   d. Assess nesting attempts and breeding success
iv. Ideal survey windows:
   a. Eagle ground occupancy: January – February (to mid-March depending on elevation and snow conditions)
   b. Eagle aerial occupancy: February – mid-March
   c. Follow up occupancy: March – mid/late April
   d. Eagle breeding success/productivity: late May – June

8. Adaptive Management (e.g., if monitoring or other information indicate risk is greater than expected, what steps would be implemented to evaluate and/or reduce impacts to remain in compliance with the Eagle Act or authorized level of impacts or take)

BBCS

Preparation of a BBCS helps assess potential impacts to birds protected under the Migratory Bird Treaty Act. A BBCS should describe the project, habitats, bird species, populations, risks, and proposed commitments and/or adaptive management measures to minimize impacts. Some types of projects should include a 2–3-year mortality monitoring study to evaluate and verify impacts to birds and inform the approving agency's adaptive management. Please include consideration of potential effects to local bird populations, particularly Birds of Conservation Concern (BCC), which are our at-risk species that can be found on project IPaC lists (see https://ipac.ecosphere.fws.gov/). Also consider State or Agency specific sensitive species lists. These recommendations are consistent with our trust responsibilities to work with others to conserve eagles and bird habitats and their populations.

NEPA (or CEQA)

We recommend ECPs and an agency's NEPA process initially consider both eagle species. If you have appropriate evidence confirming that no eagles, or only one species of eagle, occurs in your project area, the project proponent or Agency can briefly describe the evidence and then focus your analysis of the appropriate eagle species. Please also review our nest buffer recommendations, which are important to follow to avoid disturbance take under the Eagle Act. Please be mindful that eagle nests can be constructed in new locations, such as within trees, electric utility poles/towers, on cliff ledges or on mine high walls. The Service recommends evaluating the project's proximity to nesting habitat and not just locations with recent nest detections as eagles can change nesting locations from year to year. Please be mindful of the habitat in question and species ecology. For example, golden eagle nests in trees can be difficult to locate. In forest and wood land habitats, courtship surveys may verify the presence of breeding territorial golden eagles even if a nest is not easily located.

Please note that the Nevada Department of Wildlife maintains a Statewide Raptor Nest Database that includes eagles. Similarly, the California Department of Fish and Wildlife similarly maintains databases with eagle nest and observation information. These are good source for historical nest locations but should not be substituted for contemporary surveys.

Once draft ECPs, BBCSs, reports or NEPA/CEQA sections are prepared and ready for review, please share them with us, or otherwise reach out for focused technical assistance. We want to be helpful and hope this information provides a good start. Please let me know if you have further questions.

Please let me know if you have any questions.
Thanks,
Heather

Heather Beeler
Eagle Permit Coordinator
Migratory Bird Program, R8
U.S. Fish and Wildlife Service
Cell: 775-508-9754

Message

From: Crisp, Ann@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b89c4de7ece742679d19e1e3ee713dc2-Crisp, Ann@]
Sent: 12/8/2025 2:42:15 PM
To: Energy - Biology [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3cae6f83c68942659a64404ec7f1734e-Energy - Bi]
Subject: Fw: PoVI, question to Alameda County staff

From: Schafer, Brad <Brad.Schafer@icf.com>
Sent: Friday, December 5, 2025 12:37 PM
To: Field @EnergyVeterans.org <field@energyveterans.org>; Gursoy, Berk <Berk.Gursoy@brookfieldrenewable.com>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Julie, apologies for the delayed response. Please see notes and comments in your email below in red text.

Regards,
Brad

From: Field @EnergyVeterans.org <field@energyveterans.org>
Sent: Tuesday, December 2, 2025 9:37 AM
To: Gursoy, Berk <Berk.Gursoy@brookfieldrenewable.com>; Schafer, Brad <Brad.Schafer@icf.com>
Cc: Ann.Crisp@energy.ca.gov; Veerkamp, Eric@Energy <eric.veerkamp@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

Good morning,
Following up on the email below from November 5th.
Thank you, Julie

From: Field @EnergyVeterans.org
Sent: Friday, November 14, 2025 1:17 PM
To: Gursoy, Berk <Berk.Gursoy@brookfieldrenewable.com>; Schafer, Brad <brad.schafer@icf.com>
Cc: Ann.Crisp@energy.ca.gov; Veerkamp, Eric@Energy <eric.veerkamp@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

Good afternoon,
I am just following up on the email below.
Thank you, Julie

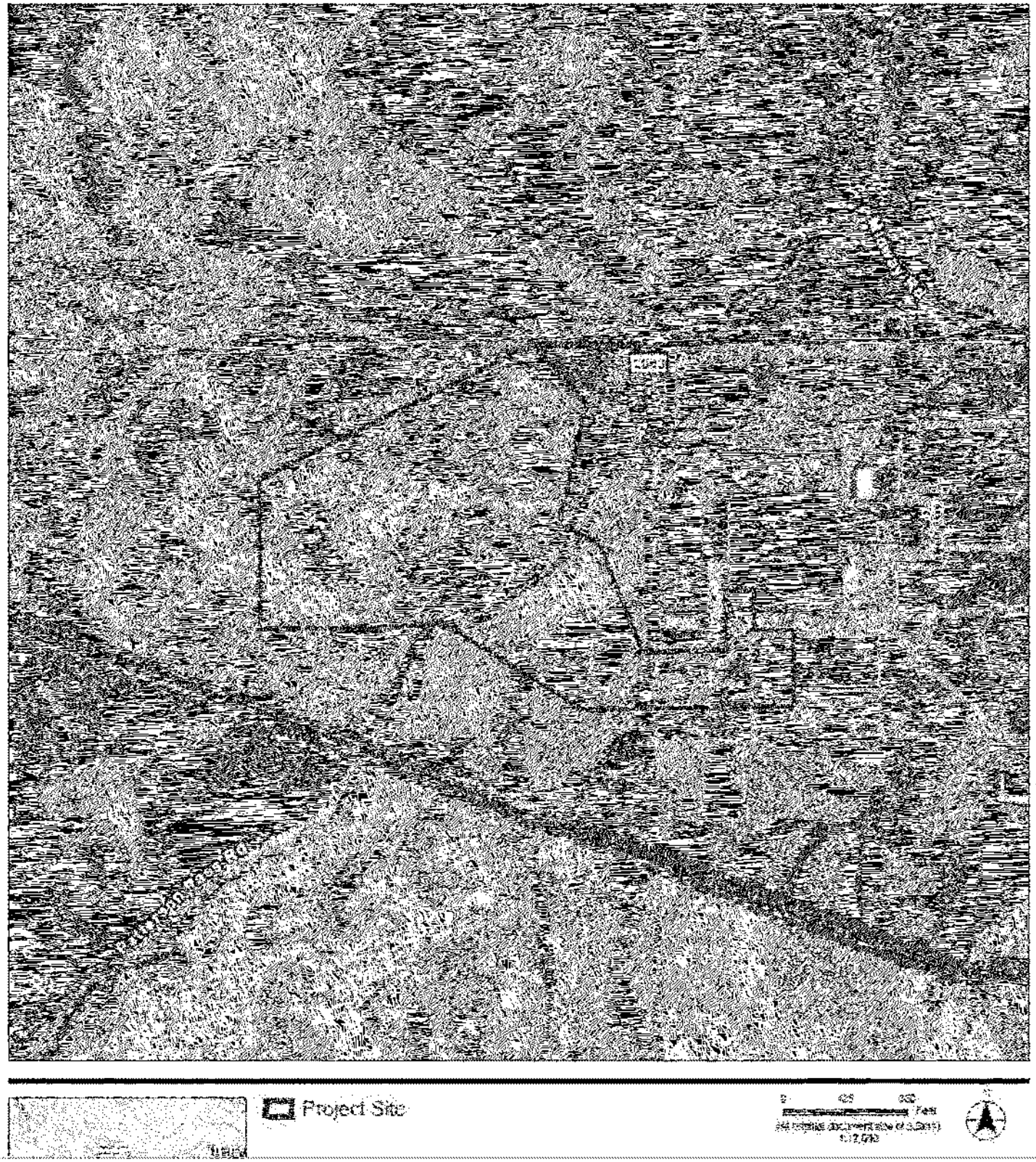
From: Field @EnergyVeterans.org
Sent: Wednesday, November 5, 2025 10:20 AM
To: Gursoy, Berk <Berk.Gursoy@brookfieldrenewable.com>; Schafer, Brad <brad.schafer@icf.com>
Cc: Ann.Crisp@energy.ca.gov; Veerkamp, Eric@Energy <eric.veerkamp@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

Good morning Berk and Brad,

I am the biology consultant working with CEC to write the bio section of the environmental document for the Potentia-Viridi Battery Energy Storage System project. It appears that our projects may overlap within the gen-tie corridor at the substation. I was hoping to include a brief paragraph in our document about the Mulqueeney project currently in construction so I could use the following information if you are able to share:

1. What type of work is occurring in the area where our projects overlap (see below). Within the area to the north/west of Patterson Pass Road there is no overlap between projects (disturbance for a collection line appears to be immediately adjacent). Within the area south/east of Patterson Pass Road is partially within the wind project laydown yard and substation area. Google Earth has a current image available for this area dated 10/30/25 which indicates the extent of the laydown yard. Has ground disturbance started? Work started in this area in April 2025. What is the target date for completion in this overlap area? Work should be complete late in 2026, concluding with removal and restoration of the laydown yard but retention of the substation in this area. What is your overall construction schedule timeline – when did construction start and when is the target completion date? Work is expected to be complete in late 2026.
2. Were pre-construction surveys conducted for special status plants and animals within and surrounding the overlap area? If so, could you share what those results were with date/time of the surveys and outcome? Preconstruction surveys for plants and animals (e.g., big tarplant, burrowing owl, San Joaquin kit fox, California tiger salamander, etc.) were completed in fall 2024/spring 2025 (big tarplant and other special status plants) and spring 2025 (pre-construction wildlife) just prior to construction. No special-status species, plants or animals, were observed within the laydown/substation area.
3. If you have any other knowledge of this area to share too. The aerial image available in Google Earth also depicts a recent fire that was started adjacent to Patterson Pass road. This was not started by the wind project, but likely by a cigarette from a passing car. It appears as disturbance on the aerial photograph but is a burned area.

This information would greatly help further our analysis.



Thanks in advance, Julie
Senior Biologist
(209) 747-7994

From: Gursoy, Berk <Berk.Gursoy@brookfieldreneweble.com>
Sent: Tuesday, November 4, 2025 2:45 PM
To: Eric.Veerkamp@energy.ca.gov
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Ann.Crisp@energy.ca.gov; Schafer, Brad

<brad.schafer@icf.com>
Subject: FW: PoVI, question to Alameda County staff

Good afternoon Eric,

Albert Lopez from Alameda County passed along your questions. I lead project development for Brookfield and am the sponsor for our Mulqueeney wind project.

Our project is under construction with ground disturbance nearing completion by year end. As Albert noted, we have our CUP and have done pre-construction surveys. Can you please provide some context as to what you are looking for and the purpose of it so we can be thoughtful in what to share?

Happy to hop on a quick call with our expert permitting consultants from ICF (cc'd) if easier.

Thanks,

Berk Gursoy

Vice President, Asset Development
Brookfield Renewable
M: 213-359 0009
berk.gursoy@brookfieldrenewable.com
www.brookfieldrenewable.com

From: Lopez, Albert, CDA <Albert.Lopez@acgov.org>
Sent: Tuesday, November 4, 2025 2:20 PM
To: Gursoy, Berk <Berk.Gursoy@brookfieldrenewable.com>
Subject: FW: PoVI, question to Alameda County staff

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***ATTENTION ! EXPÉDITEUR EXTERNE *** ARRÊTEZ, ÉVALUEZ ET VÉRIFIEZ ! NE CLIQUEZ PAS SUR LES LIENS OU N'OUVREZ PAS LES PIÈCES JOINTES À MOINS DE SAVOIR QUE LE CONTENU EST SÉCURISÉ. Si vous recevez un courriel suspect, veuillez utiliser le bouton Phish Alert.

Hi Berk, some questions on your project, coming from State of CA. See below – thx!

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Tuesday, November 4, 2025 1:34 PM
To: Lopez, Albert, CDA <Albert.Lopez@acgov.org>; Rose, Aubrey, CDA <Aubrey.Rose@acgov.org>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

Hi Albert,
Thanks for getting back so quickly. Would you be so kind as to provide an email for the project applicant, maybe one of their specialists can provide the detail we are looking for.

Thanks again.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov

www.energy.ca.gov

From: Lopez, Albert, CDA <Albert.Lopez@acgov.org>
Sent: Tuesday, November 4, 2025 12:35 PM
To: Rose, Aubrey, CDA <Aubrey.Rose@acgov.org>; Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

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Hello Eric and Julie, the Mulqueeney project is fully entitled and they are now building the project. I don't know exactly if ground disturbance has occurred and how that relates to the gen-tie work you're describing. They did have a CEQA requirement for pre-construction survey's however. If helpful I can connect us all through an email to the project applicant who can surely answer some of these questions.

Albert

From: Rose, Aubrey, CDA <aubrey.rose@acgov.org>
Sent: Tuesday, November 4, 2025 10:47 AM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

Thanks Eric,

Pls consider this received and under review – hope to have info for you soon

Sincerely,
Aubrey

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Tuesday, November 4, 2025 10:45 AM
To: Rose, Aubrey, CDA <aubrey.rose@acgov.org>
Cc: Field @EnergyVeterans.org <field@energyveterans.org>; Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>
Subject: FW: PoVI, question to Alameda County staff

Thanks Aubrey for taking my call. The questions below were provided to me by our biologist, Julie Myrah. Any help you could provide would be much appreciated, or if you could direct to the individual(s) who may have the information. I have included an exhibit showing the location of the proposed Potentia-Viridi project (in licensing with the Ca. Energy Commission).

Thank you.

I don't believe this is an urgent matter, a response in the next couple of days would be fine.

Eric W. Veerkamp

Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

From: Field @EnergyVeterans.org <field@energyveterans.org>
Sent: Monday, November 3, 2025 3:10 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

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Yes, that would be great.

1. Regarding the Mulqueeny project, what is the current status of construction near the PG&E Tesla substation that overlaps with the Potentia gen-tie corridor? Has ground disturbance started? When will it be completed? What activities are being done in that corridor?
2. Were pre-construction surveys conducted and if so, can they share the results? For example, were there any positive surveys for plants/wildlife?

Much appreciated, Julie

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Monday, November 3, 2025 2:43 PM
To: Field @EnergyVeterans.org <field@energyveterans.org>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

Julie,
Would it be helpful if I reach out to see if I can get some information? If you could add anything specific you need to to the question(s) you note below, I will see what I can do.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

From: Field @EnergyVeterans.org <field@energyveterans.org>
Sent: Monday, November 3, 2025 1:54 PM
To: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: RE: PoVI, question to Alameda County staff

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Hi Eric,
I haven't tried to reach the county before so maybe someone else you are thinking of? I wasn't sure of protocol if I can reach out to them directly or not.

My main question for the county is what is the status of the construction that is occurring as part of the Mulqueeney project – I'm really only interested in the section that overlaps – I believe it is the gen-tie corridor. Have they started ground disturbance? Any other information – for example, pre-construction survey results would also be helpful for our analysis as well.

Thanks, Julie

From: Veerkamp, Eric@Energy <Eric.Veerkamp@energy.ca.gov>
Sent: Monday, November 3, 2025 1:46 PM
To: Field @EnergyVeterans.org <field@energyveterans.org>
Cc: Crisp, Ann@Energy <Ann.Crisp@energy.ca.gov>; Chang, Kaycee@Energy <kaycee.chang@energy.ca.gov>
Subject: PoVI, question to Alameda County staff

Hi Julie,
I saw an email that you sent to Kaycee about inquiring with Alameda County about the Mulqueeny Project. My recollection is we (you) have been trying to reach the county staff for quite a while, but I do not recall what information we need from the county. I don't think the county has been very responsive generally.

Is there anything I can do to help with this request?

Please let me know. TY.

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

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Message

From: Terra, Bonnie, ACFD [Bonnie.Terra@alamedacountyfire.gov]
Sent: 12/19/2025 9:11:27 PM
To: Daniel Jones [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=352cfed2f4d849749d3d8f98a9563279-082cef18-97]; Terra, Bonnie, ACFD [bonnie.terra@acgov.org]
CC: Fooks, Brett@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=870df74143964b71ada0039bf13c5a9a-Fooks, Bret]; Paul Miller [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4d4ce365f8bd442a8cb7d479381e2476-8906af8e-0e]
Subject: Re: Potentia-Viridi Battery Energy Storage System (BESS) Fire Response

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Good day,

Thanks for the email. To my knowledge. This project is in SRA. As such I recommend you meet with Cal Fire and if they with ACFD operations. As the Chief of Fire Code Administration. I cannot speak about fire response.

Get Outlook for iOS

From: Daniel Jones <Djones@therchgroup.com>
Sent: Friday, December 19, 2025 11:01:45 AM
To: Terra, Bonnie, ACFD <bonnie.terra@acgov.org>
Cc: Fooks, Brett@Energy <brett.fooks@energy.ca.gov>; Paul Miller <pmiller@therchgroup.com>
Subject: Potentia-Viridi Battery Energy Storage System (BESS) Fire Response

Good morning Chief Terra,

Over the next month, CEC staff is finalizing the staff assessment for the proposed Potentia-Viridia BESS in Alameda County.

The CEC main page for the project is:
https://www.energy.ca.gov/powerplant/battery-storage-system/potentia-viridi-battery-energy-storage-system

Given that the ACFD would provide initial response to a BESS fire at the proposed facility, would you be willing to join a virtual call with CEC staff to discuss fire response?

Alternatively, if it would be easier for you to answer a questionnaire, we could send you our list of questions to better understand fire response to the site.

Thank you,

Dan Jones

RCH GROUP
planning & environmental consulting

(916) 764-0295 (cell)
DJones@TheRCHGroup.com

Message

From: Daniel Jones [Djones@therchgroup.com]
Sent: 12/19/2025 10:27:46 PM
To: Terra, Bonnie, ACFD [Bonnie.Terra@alamedacountyfire.gov]; Terra, Bonnie, ACFD [bonnie.terra@acgov.org]
CC: Fooks, Brett@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=870df74143964b71ada0039bf13c5a9a-Fooks, Bret]; Paul Miller [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4d4ce365f8bd442a8cb7d479381e2476-8906af8e-0e]
Subject: RE: Potentia-Viridi Battery Energy Storage System (BESS) Fire Response

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Thank you for your response,

We have met with CalFire and they indicated they would only provide initial response for wildland fires not structure fires.

Can you provide the appropriate contact at ACFD to discuss fire response with?

Thank you,

Dan Jones

RCH GROUP
planning & environmental consulting

(916) 764-0295 (cell)
DJones@TheRCHGroup.com

From: Terra, Bonnie, ACFD <Bonnie.Terra@alamedacountyfire.gov>
Sent: Friday, December 19, 2025 1:11 PM
To: Daniel Jones <Djones@therchgroup.com>; Terra, Bonnie, ACFD <bonnie.terra@acgov.org>
Cc: Fooks, Brett@Energy <brett.fooks@energy.ca.gov>; Paul Miller <pmiller@therchgroup.com>
Subject: Re: Potentia-Viridi Battery Energy Storage System (BESS) Fire Response

Good day,

Thanks for the email. To my knowledge. This project is in SRA. As such I recommend you meet with Cal Fire and if they with ACFD operations. As the Chief of Fire Code Administration. I cannot speak about fire response.

Get Outlook for iOS

From: Daniel Jones <Djones@therchgroup.com>
Sent: Friday, December 19, 2025 11:01:45 AM
To: Terra, Bonnie, ACFD <bonnie.terra@acgov.org>
Cc: Fooks, Brett@Energy <brett.fooks@energy.ca.gov>; Paul Miller <pmiller@therchgroup.com>
Subject: Potentia-Viridi Battery Energy Storage System (BESS) Fire Response

Good morning Chief Terra,

Over the next month, CEC staff is finalizing the staff assessment for the proposed Potentia-Viridia BESS in Alameda County.

The CEC main page for the project is:
https://www.energy.ca.gov/powerplant/battery-storage-system/potentia-viridi-battery-energy-storage-system

Given that the ACFD would provide initial response to a BESS fire at the proposed facility, would you be willing to join a virtual call with CEC staff to discuss fire response?

Alternatively, if it would be easier for you to answer a questionnaire, we could send you our list of questions to better understand fire response to the site.

Thank you,

Dan Jones

RCH GROUP
planning & environmental consulting

(916) 764-0295 (cell)
DJones@TheRCHGroup.com

Message

From: Veerkamp, Eric@Energy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A16598E8714E422FB3216B7B05602C48-VEERKAMP, E]
Sent: 12/15/2025 4:38:32 PM
To: nicola.park@clearwayenergy.com; Aarty Joshi [aarty.joshi@clearwayenergy.com]
CC: Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Jiang, Tao@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=385e043d00344c059acf8926c0dbd8d1-Jiang, Tao@]; Qian, Wenjun@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e4421be8df5f40ec851d73affcbff913-Qian, Wenju]
Subject: Potentia-Viridi, request confirmation on air emissions
Attachments: TN265753_20250805T142215_CEC Data Request – Air Quality and Public Health Follow-Up Response August .pdf

Good Morning Nicola,

I received the below request for clarification on air emissions from staff on Friday. If possible, please confirm by Wednesday, 12/17; if it will take longer to confirm, please let me know. TY.

"Staff used Table 9 (page 54 of attached PDF) to estimate the project's construction emissions, and Table 14 (page 58 of attached PDF) to estimate operational emissions. Please confirm whether the emissions reported in the tables include all project components outside the CEC's Opt-In Certification, i.e., an approximately 1,300-foot segment of the gen-tie line and associated fiber line, two "H"-frame transmission tower structures and related conductors, a substation bay dead-end transmission structure, and expansion of a 500 kV breaker-and-a-half with a new circuit breaker, within the Tesla substation, to be constructed and owned by PG&E."

Eric W. Veerkamp
Project Manager
California Energy Commission
916-661-8458
STEPSiting@energy.ca.gov
www.energy.ca.gov

DOCKETED	
Docket Number:	24-OPT-04
Project Title:	Potentia-Viridi Battery Energy Storage System
TN #:	265753
Document Title:	CEC Data Request – Air Quality and Public Health Follow-Up Response August 2025 - Public
Description:	On July 17, 2025, Levy Alameda, LLC (Applicant) received an email 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 air quality and public health. This document responds to the CEC's request and provides further clarification on air quality and public health topics related to the Project. This is the Public Version of the document.
Filer:	Ronelle Candia
Organization:	Dudek
Submitter Role:	Applicant Consultant
Submission Date:	8/5/2025 2:22:20 PM
Docketed Date:	8/5/2025

CEC Data Request – Air Quality and Public Health Follow-Up Response

Potentia-Viridi Battery Energy Storage Project

AUGUST 2025

Prepared for:

CALIFORNIA ENERGY COMMISSION

Prepared by:

LEVY ALAMEDA LLC

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2.1.5 Data Request DR 5 4

ATTACHMENT

1 Redlined AQ/GHG Technical Report

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1 Introduction

On July 17, 2025, Levy Alameda, LLC (Applicant) received an email 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 air quality and public health. This document responds to the CEC's request and provides further clarification on air quality and public health topics related to the Project.

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2 Air Quality and Public Health

2.1 Data Requests 1 through Data Requests 5

2.1.1 Data Request DR 1

DR 1. ***Rev 1 DR GHG-2 requested the applicant to confirm whether any refrigerant would be used for the building or BESS cooling and requested the specifications if any refrigerant would be used on the project, including GHG emissions calculation due to refrigerant leakage. The applicant provided information for the BESS cooling in response to Rev 1 DR GHG-2 (TN 263584). Please provide information for the buildings' air conditioning system(s).***

Response: The main operations and maintenance building would include a HVAC system that would utilize up to 13 lbs of refrigerant R454b. GHG emissions were calculated for this refrigerant using a standard leak rate and were added to Table 24 of the AQ-GHG technical report.

2.1.2 Data Request DR 2

DR 2. ***In response to Rev 1 DR GHG-2, the applicant listed three potential suppliers for the BESS thermal management systems (TMS). However, two of the suppliers are proposing to use R-134a (GWP=1430) which has a GWP exceeding the indicated maximum of 750 GWP in the CARB HFC Prohibition Regulation for chillers. Will all the suppliers be able to comply with the HFC prohibition regulation?***

Response: [redacted]

2.1.3 Data Request DR 3

DR 3. ***In Table 26 of the Air Quality and Greenhouse Gas Emissions Technical Report (TN 263584), the applicant states that the project would not be subject to the CALGreen Tier-2 electric vehicle parking requirements. How many parking spaces will be available onsite and explain why the project is not subject to CALGreen Tier 2 EV parking requirements?***

Response: The report has been revised; the project will comply with the tier 2 CalGreen Standards. The exact parking requirements for the project are unknown at this time but they will meet the standards for EV capable spaces and electrical vehicle charging stations shown in table A5. 106.5.3.2 of the CalGreen Standards.

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2.1.4 Data Request DR 4

DR 4. ***Reference revised AQ and GHG Technical Report, (TN 263584) Please confirm that the proposed project complies with all applicable city and state green building standards measures, including California Code of Regulations, Title 24, Part 6, baseline standard requirements for energy efficiency, based on the 2022 Energy Efficiency Standards requirements, and the 2022 California Green Building Standards Code, commonly referred to as CALGreen (California Code of Regulations, Title 24, Part 11).***

Response: The project's operations and maintenance building is required to, and will comply with, all the applicable requirements of the 2022 energy efficiency (part 6) and Green Building Standards (Part 11) of the Title 24 building standards.

2.1.5 Data Request DR 5

DR 5. ***The applicant provided information from three BESS suppliers (TN 263584). Please provide the total number of cells and modules per container for each BESS supplier.***

Response: [redacted]

Attachment 1

Redlined AQ/GHG Technical Report

Air Quality and Greenhouse Gas Emissions Technical Report

Potentia Viridi BESS Project

AUGUST 2025

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Prepared for:

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DUDEK

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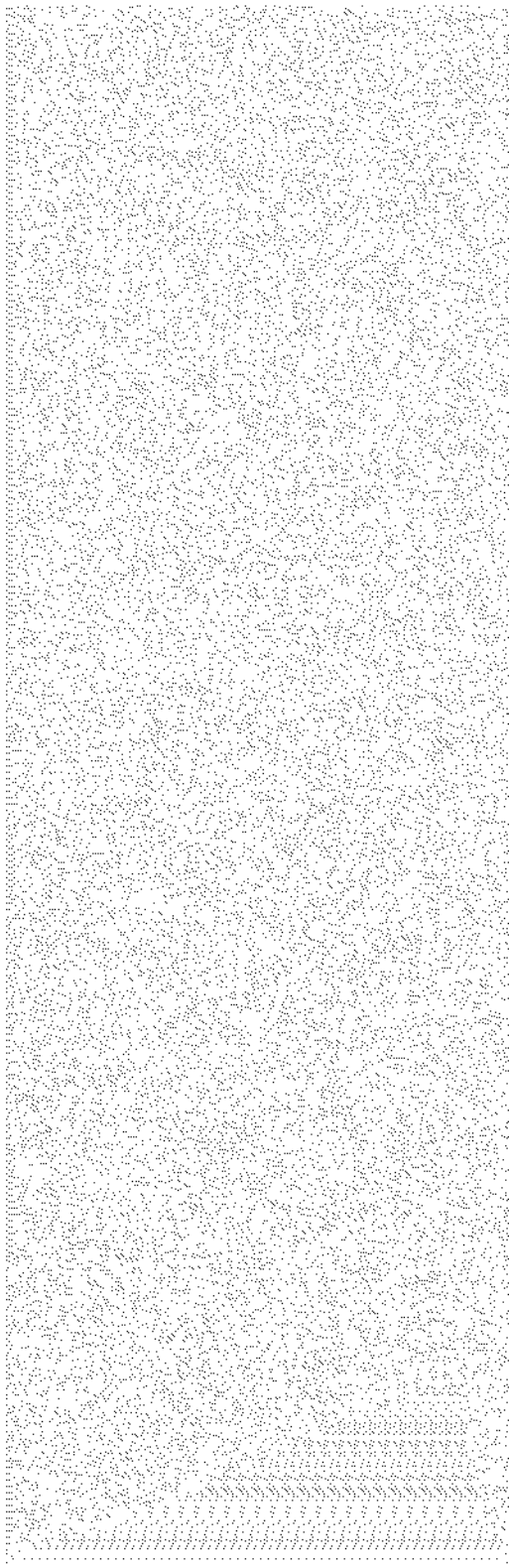

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
CO	carbon monoxide
DPM	diesel particulate matter
EPA	U.S. Environmental Protection Agency
g/L	grams per liter
HAP	hazardous air pollutant
kWh	kilowatt-hour
LOS	level of service
NAAQS	National Ambient Air Quality Standards
NO	nitric oxide
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
O_3	Ozone
$PM_{2.5}$	fine particulate matter
PM_{10}	coarse particulate matter
RAQS	Regional Air Quality Strategy
SIP	state implementation plan
SO_2	sulfur dioxide
SO_x	sulfur oxides
TAC	toxic air contaminant
ROG	reactive organic compound

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Executive Summary

The purpose of this technical report is to assess the potential air quality impacts associated with implementation of the Potentia Viridi BESS Project (Project). This assessment uses the significance thresholds in Appendix G of the California Environmental Quality Act Guidelines.

Project Overview

The Project proposes to develop a utility-scale battery energy storage system (BESS) that would store up to 400 megawatts (MW) /1,600MWh megawatts hours (MWh) of energy. Development of the BESS facility would occur on about 70 acres of APN 99B-7899-002-04 located at 17257 Patterson Pass Road.

Deleted: The Project site includes the BESS site, which is comprised of approximately 22.55 acres

Air Quality

The air quality impact analysis evaluated the potential for adverse impacts to air quality due to construction and operational emissions resulting from the Project. Impacts were evaluated for their significance based on the Bay Area Air Quality Management District (BAAQMD) mass daily criteria air pollutant thresholds of significance. Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards (criteria) for outdoor concentrations to protect public health. Criteria air pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead. Pollutants that are evaluated include reactive organic compounds (ROGs) (also referred to as volatile organic compounds), oxides of nitrogen (NO_x), CO, sulfur oxides (SO_x), PM_{10}, and $PM_{2.5}$. ROGs and NO_x are important because they are precursors to O_3.

Air Quality Plan Consistency

BAAQMD's CEQA Air Quality Guidelines identify a three-step methodology for determining a project's consistency with the current Clean Air Plan, which is BAAQMD's Spare the Air: Cool the Climate – Final 2017 Clean Air Plan. If these three questions can be answered in the affirmative and those conclusions are supported by substantial evidence, then BAAQMD considers the project to be consistent with air quality plans prepared for the Bay Area. The three questions are as follows:

1. Does the project support the goals of the Clean Air Plan?
2. Does the project include applicable control measures from the Clean Air Plan?
3. Does the project disrupt or hinder implementation of any control measures from the Clean Air Plan

The Project would generate emissions that would be below the BAAQMD thresholds for criteria air pollutants and thus would support the goals of the Clean Air Plan. The Project would also comply with the applicable control measures from the Clean Air Plan and would not disrupt or hinder implementation of any control measures from the Clean Air Plan. Thus, the Project would not conflict with or obstruct implementation of the Clean Air Plan. This impact would be less than significant after mitigation.

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Construction Criteria Air Pollutant Emissions

Construction of the Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and ROG off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). The maximum daily construction emissions would not exceed the BAAQMD significance thresholds for ROGs, NO_x, PM_{10} exhaust, and $PM_{2.5}$ during construction. Therefore, the Project would have a less than significant impact.

Operational Criteria Air Pollutant Emissions

The analysis herein conservatively assumed an operational year of 2028. Operation of the Project would generate operational criteria air pollutants from mobile sources (vehicles), area sources (consumer product use and landscape maintenance equipment), energy, off-road sources, and stationary sources. Maximum operational emissions would not exceed the BAAQMD operational significance thresholds for ROGs, NO_x, PM_{10} exhaust, and $PM_{2.5}$.Therefore, the Project would have a less than significant impact during operation.

Cumulative Impacts

The potential for a Project to result in a cumulatively considerable impact, according to the BAAQMD guidance and thresholds, is based on the Project's potential to exceed the Project-specific daily thresholds. Because maximum construction and operational emissions would not exceed the BAAQMD significance thresholds for ROGs, NO_x, PM_{10} exhaust, and $PM_{2.5}$, the Project would not result in a cumulatively considerable increase in criteria air pollutants and impacts would be less than significant.

Exposure of Sensitive Receptors

A health risk assessment (HRA) was also conducted to determine the potential impacts of exposure to diesel particulate matter (DPM), which is a toxic air contaminant (TAC), at existing proximate sensitive receptors in the Project vicinity during construction. The results of the HRA found that with the incorporation of MM-AQ-1, which requires use of Tier 4 Final equipment during construction, the TAC exposure from construction diesel exhaust emissions would result in cancer risk below the BAAQMD 10 in 1 million threshold and chronic risk below the threshold of 1. Therefore, impacts to sensitive receptors would be less than significant with mitigation.

Regarding long-term operations, an operational HRA was also conducted to determine the potential impacts of exposure to DPM, at existing proximate sensitive receptors in the Project vicinity during operation. The results of the operational HRA found that the cancer and chronic health risks during operation of the project would below the BAAQMD thresholds. Therefore, potential health risk impacts associated with Project operations would be less than significant.

In regard to localized impacts from CO, the Project would comply with the BAAQMD screening criteria for CO hotspots and would result in a less-than-significant impact.

Other Emissions

Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and asphalt pavement application, which would disperse rapidly from the

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Project site and generally occur at magnitudes that would not affect substantial numbers of people. Impacts associated with odors during construction would be less than significant.

Greenhouse Gas Emissions

Global climate change is primarily considered a cumulative impact but must also be evaluated on a Project-level under CEQA. A Project contributes to this potential impact through its incremental emissions combined with the cumulative increase of all other sources of greenhouse gas (GHG) emissions. GHGs are gases that absorb infrared radiation in the atmosphere. Principal GHGs regulated under state and federal law and regulations include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). GHG emissions are measured in metric tons of CO_2 equivalent (MT CO_2e), which account for weighted global warming potential (GWP) factors for CH_4 and N_2O.

Project Impacts

Construction of the Project would result in GHG emissions primarily associated with the use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. The Project would generate operational GHG emissions from area sources (landscape maintenance), energy sources (electricity consumption), mobile sources (vehicle trips), off-road sources, stationary sources, refrigerants, water supply and wastewater treatment, and solid waste. Estimated annual Project-generated operational emissions in 2028, plus amortized Project construction emissions would be approximately 3,646 MT CO_2e per year. The Project also would provide a secure and reliable electricity supply, improve community infrastructure, and support sustainable electricity generation.

Furthermore, the proposed Project is deemed to not conflict with the measurable goals outlined in CARB's 2017 Scoping Plan, CARB's 2022 Scoping Plan, and MTC's Plan Bay Area 2050. As such, the Project is not expected to generate GHG emissions that may have a significant impact on the environment, and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and the impact would be less than significant.

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1 Introduction

1.1 Report Purpose and Scope

The purpose of this technical report is to assess the potential air quality and greenhouse gas (GHG) emissions impacts associated with construction and operation of the Potentia Viridi Energy Storage Project (Project). This analysis uses the significance thresholds in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.) and the emissions-based significance thresholds recommended by the Bay Area Air Quality Management District (BAAQMD) and other applicable thresholds of significance.

1.2 Project Location

The proposed Project is located in Alameda County, California and has been sited within Assessor Parcel Number (APN) 99B-7890-002-04 located at 17257 Patterson Pass Road, southwest of Interstate 580 and Interstate 205. The development of the BESS facility would occur on approximately 70 acres area of APN 99B-7890-002-04 that is currently comprised of vacant, agricultural farmland used for cattle grazing. The Project's gen-tie line would be sited on APNs 99B-7890-2-6 and 99B-7885-12 and would extend from the Project site across Patterson Pass Rd, and over additional agricultural lands surrounding the Tesla Substation which is located directly to the east. In addition to the Tesla Substation, the Project site and gen-tie route are surrounded by vacant rural agricultural land, multiple high-voltage transmission lines, rural roads, and a railroad line. The nearest settlement is the City of Tracy approximately 2.5 miles to the east. The area surrounding the Tesla Substation is sparsely developed for residential use, with the nearest residence, which is also owned by the same landowner leasing the area for the Project's gen-tie line, is approximately 1,500 feet southeast of the Project site and 560 feet south of the proposed gen-tie line. The next closest residence is approximately 3,500 feet east of the project site and 2,300 feet east of the proposed gen-tie line.

1.3 Project Description

The Project proposes to construct a 400-MW BESS facility. The Project would include battery storage containers, inverters and transformers, and an on-site collector substation. The Project would be interconnected at the existing Pacific Gas and Electric (PG&E) Tesla substation and would use battery technology to store electrical energy from the grid for future discharge to the grid when customer demand is high and grid supply is low, providing grid reliability support. When built and operational, the Project would accommodate the integration of additional intermittent renewable energy sources, such as wind and solar, reducing the need to operate natural gas power plants.

1.4 Project Design Features

The Project includes project design features (PDFs) to proactively reduce potential Project-generated criteria air pollutant, toxic air contaminant (TAC), and GHG emissions associated with Project construction and/or operation.

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BAAQMD's CEQA Air Quality Guidelines recommend construction best management practices (BMPs) for all projects. Consistent with BAAQMD's recommendations, the Project includes PDF-AQ/GHG-1, as follows, to reduce potential Project-generated emissions during construction (BAAQMD 2022).

PDF-AQ/GHG-1: The Project shall implement the following during construction:

1. All exposed surfaces (e.g., parking/staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off site shall be covered.
3. All visible mud or dirt track-out onto local roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. A publicly visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

PDF-AQ-1, would be required as County-imposed Conditions of Approval to ensure they are implemented during construction of the proposed Project.

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2 Air Quality

2.1 Environmental Setting

The Project Site is located within the boundaries of the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB encompasses all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, and the southern portions of Solano and Sonoma Counties.

Air pollutants are emitted by a variety of sources, including mobile sources (vehicles), area sources (hearths, consumer product use, architectural coatings, and landscape maintenance equipment), energy sources (natural gas), and stationary sources (generators or other stationary equipment). Some air pollutants need to be examined at the local level, and others are predominantly an issue at the regional level. For instance, ozone (O_3) is formed in the atmosphere in the presence of sunlight by a series of chemical reactions involving oxides of nitrogen (NO_x) and reactive organic gases (ROGs) (also termed volatile organic compounds [VOCs]). Because these reactions are broad scale in effects, O_3 is typically analyzed at the regional level (i.e., in the SFBAAB) rather than the local level. On the other hand, air pollutants such as coarse particulate matter (particulate matter with an aerodynamic diameter less than or equal to 10 microns, or PM_{10}), fine particulate matter (particulate matter with an aerodynamic diameter less than or equal to 2.5 microns, or $PM_{2.5}$), carbon monoxide (CO), and TACs are a potential concern in the immediate vicinity of the pollutant source because the pollutants are emitted directly by or are formed close to the source. Therefore, the study area for emissions of PM_{10}, $PM_{2.5}$, CO, and TACs is the local area near the source, such as in the vicinity of the Project Site, and the study area for regional pollutants such as NO_x and ROGs is the entire SFBAAB.

2.1.1 Climate and Topography

Air quality is a function of the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, and consequently affect air quality.

The climate of the SFBAAB is determined largely by a high-pressure system that is usually present over the eastern Pacific Ocean off the west coast of North America. During winter, the Pacific high-pressure system shifts southward, allowing more storms to pass through the region. During summer and early fall, when few storms pass through the region, emissions generated within the Bay Area can combine with abundant sunshine under the restraining influences of topography and subsidence inversions to create conditions that are conducive to the formation of photochemical pollutants, such as O_3, and secondary particulates, such as nitrates and sulfates.

In the SFBAAB, temperature inversions can often occur during the summer and winter months. An inversion is a layer of warmer air over a layer of cooler air that traps and concentrates pollutants near the ground. As such, the highest air pollutant concentrations in the SFBAAB generally occur during inversions (BAAQMD 2023).

The Project Site is located in the Livermore Valley climatological subregion. Specific conditions for the subregion are described in BAAQMD's California Environmental Quality Act Air Quality Guidelines (BAAQMD 2023) as follows:

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The Livermore Valley is a sheltered inland valley near the eastern border of SFBAAB. The western side of the valley is bordered by 1,000 to 1,500 foot hills with two gaps connecting the valley to the central SFBAAB, the Hayward Pass and Niles Canyon. The eastern side of the valley also is bordered by 1,000 to 1,500 foothills with one major passage to the San Joaquin Valley called the Altamont Pass and several secondary passages. To the north lie the Black Hills and Mount Diablo. A northwest to southeast channel connects the Diablo Valley to the Livermore Valley. The south side of the Livermore Valley is bordered by mountains approximately 3,000 to 3,500 feet high.

During the summer months, when there is a strong inversion with a low ceiling, air movement is weak and pollutants become trapped and concentrated. Maximum summer temperatures in the Livermore Valley range from the high-80's to the low-90's, with extremes in the 100's. At other times in the summer, a strong Pacific high pressure cell from the west, coupled with hot inland temperatures causes a strong onshore pressure gradient which produces a strong, afternoon wind. With a weak temperature inversion, air moves over the hills with ease, dispersing pollutants.

In the winter, with the exception of an occasional storm moving through the area, air movement is often dictated by local conditions. At night and early morning, especially under clear, calm and cold conditions, gravity drives cold air downward. The cold air drains off the hills and moves into the gaps and passes. On the eastern side of the valley the prevailing winds blow from north, northeast and east out of the Altamont Pass. Winds are light during the late night and early morning hours. Winter daytime winds sometimes flow from the south through the Altamont Pass to the San Joaquin Valley. Average winter maximum temperatures range from the high-50's to the low-60's, while minimum temperatures are from the mid-to-high-30's, with extremes in the high teens and low-20's.

Air pollution potential is high in the Livermore Valley, especially for photochemical pollutants in the summer and fall. High temperatures increase the potential for ozone to build up. The valley not only traps locally generated pollutants but can be the receptor of ozone and ozone precursors from San Francisco, Alameda, Contra Costa and Santa Clara counties. On northeasterly wind flow days, most common in the early fall, ozone may be carried west from the San Joaquin Valley to the Livermore Valley.

During the winter, the sheltering effect of the valley, its distance from moderating water bodies, and the presence of a strong high pressure system contribute to the development of strong, surface-based temperature inversions. Pollutants such as carbon monoxide and particulate matter, generated by motor vehicles, fireplaces and agricultural burning, can become concentrated. Air pollution problems could intensify because of population growth and increased commuting to and through the subregion (BAAQMD 2023).

2.1.2 Pollutants and Effects

2.1.2.1 Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O_3, NO_2, CO, sulfur dioxide (SO_2), PM_{10}, $PM_{2.5}$, and lead. These pollutants

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are discussed in the following paragraphs.[1] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone (O_3). O_3 is a strong-smelling pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly NO_x and ROGs. The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric O_3) and at the Earth's surface in the troposphere.[2] The O_3 that the U.S. Environmental Protection Agency (EPA) and the CARB regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good," O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Nitrogen Dioxide (NO_2). NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_x plays a major role, together with ROGs, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2016a).

Carbon Monoxide (CO). CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the Project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

1 The following descriptions of health effects for each of the criteria air pollutants associated with Project construction and operations are based on the U.S. Environmental Protection Agency's "Criteria Air Pollutants" (EPA 2023a) and the California Air Resources Board's "Glossary" (CARB 2023b) published information.

2 The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

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In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide (SO_2). SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO_2 can injure lung tissue and reduce visibility and the level of sunlight. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter (PM). Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Coarse particulate matter (PM_{10}) consists of particulate matter that is 10 microns or less in diameter and is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) consists of particulate matter that is 2.5 microns or less in diameter and is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and ROGs.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in PM_{10} and $PM_{2.5}$ (EPA 2009).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline,

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secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including IQ performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Reactive Organic Gases. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as ROGs or VOCs. Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry-cleaning solutions, and paint.

The primary health effects of ROGs result from the formation of O_3 and its related health effects. High levels of ROGs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs.

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere and can result in respiratory impairment, as well as reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

Visibility-Reducing Particles. Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for $PM_{2.5}$.

2.1.2.2 Non-Criteria Pollutants

Toxic Air Contaminants (TACs). A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs

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into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter (DPM). DPM is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair), and thus is a subset of $PM_{2.5}$ (CARB 2023c). DPM is typically composed of carbon particles ("soot," also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2023c). CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM) as a TAC in August 1998 (17 CCR 93000). DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2023c). Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

2.1.3 Sensitive Receptors

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion.

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Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by the California Air Resources Board (CARB), include children, older adults, and people with cardiovascular and chronic respiratory diseases. Accordingly, land uses where sensitive-receptor population groups are likely to be located include hospitals, medical clinics, schools, playgrounds, childcare centers, residences, and retirement homes (BAAQMD 2023). These uses are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality The closest sensitive receptor to the Project site is a residence located approximately 400 feet from the Project's southern boundary.

2.2 Regulatory Setting

2.2.1 Federal

2.2.1.1 Criteria Pollutants

The federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the CAA, including the setting of National Ambient Air Quality Standards (NAAQS) for major air pollutants, hazardous air pollutant (HAP) standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O_3 protection, and enforcement provisions.

NAAQS are established by the EPA for "criteria pollutants" under the CAA, which are O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The CAA requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan (SIP) that demonstrates how those areas will attain the standards within mandated time frames.

The EPA has also adopted technology-based standards that limit the emissions of criteria pollutants from new or modified facilities in specific source categories. These standards are referred to as New Source Performance Standards and are found in 40 Code of Federal Regulations (CFR) Part 60. The applicability of these standards depends on the equipment size or rating; material or fuel process rate; and/or the date of construction, modification, or reconstruction. In the event that emergency backup generators are required for project facilities, the Project's diesel-powered emergency generators would be subject to Subpart IIII, which establishes emission and operational limits of criteria pollutants for new stationary compression ignition engines. To comply with the requirements of Subpart IIII, the Project's diesel-fired emergency generators would be operated and maintained as per the manufacturer specifications and would be certified to comply with Tier 4 emission rates.

2.2.1.2 Hazardous Air Pollutants

The 1977 CAA Amendments required the EPA to identify national emission standards for hazardous air pollutants to protect the public health and welfare. HAPs include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other

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mammals. Under the 1990 CAA Amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

Corporate Average Fuel Economy Standards

Established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and USEPA jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy (NHTSA, 2020). Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by USEPA and NHTSA.

2.2.2 State

2.2.2.1 Criteria Pollutants

The federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the CAA, including the setting of National Ambient Air Quality Standards (NAAQS) for major air pollutants, hazardous air pollutant (HAP) standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O_3 protection, and enforcement provisions.

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2.2.2.2 Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions.

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TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment (HRA), and if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The regulation was anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel powered equipment. Several Airborne Toxic Control Measures (ATCM) that reduce diesel emissions include In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025). CARB established the ATCM for Stationary Compression Ignition Engines (17 CCR Section 93115) to reduce diesel particulate matter (DPM) and criteria pollutant emissions from stationary diesel-fueled compression ignition engines through fuel requirements, operational restrictions, and emission limits.

California Health and Safety Code Section 41700

This section of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

2.2.3 Local

2.2.3.1 Bay Area Air Quality Management District

BAAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the SFBAAB, where the Project Site is located. BAAQMD's clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution, inspection of stationary sources of air pollution and response to citizen complaints, monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by the federal and California Clean Air Acts.

On April 19, 2017, BAAQMD adopted Spare the Air: Cool the Climate – Final 2017 Clean Air Plan (2017 Clean Air Plan; BAAQMD 2017b). The 2017 Clean Air Plan provides a regional strategy to protect public health and protect the climate. To protect public health, the 2017 Clean Air Plan includes all feasible measures to reduce emissions of O_3 precursors (ROGs and NO_x) and reduce O_3 transport to neighboring air basins. In addition, the 2017 Clean Air Plan builds on BAAQMD efforts to reduce $PM_{2.5}$ and TACs. To protect the climate, the 2017 Clean Air Plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious GHG reduction targets for 2030 and 2050 and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG reduction targets.

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BAAQMD establishes and administers a program of rules and regulations to attain and maintain state and national air quality standards and regulations related to TACs. The rules and regulations that may apply to the project include, but would not be limited to, the following:

- **Regulation 2, Rule 1 – Permits.** This rule specifies the requirements for authorities to construct and permits.
- **Regulation 6, Rule 1 – General Requirements.** This rule limits the quantity of particulate matter in the atmosphere through the establishment of limitations on emission rates, concentration, visible emissions, and opacity.
- **Regulation 6, Rule 3 – Wood-Burning Devices.** This rule limits the emissions of particulate matter and visible emissions from wood-burning devices used for primary heat, supplemental heat, or ambiance.
- **Regulation 6, Rule 6 – Prohibition of Trackout.** This rule addresses fugitive road dust emissions associated with trackout of solid materials onto paved public roads outside the boundaries of large bulk material sites, large construction sites, and large disturbed surface sites (sites of 1 acre or more).
- **Regulation 8, Rule 1 – General Provisions.** This rule limits the emission of organic compounds into the atmosphere.
- **Regulation 8, Rule 3 – Architectural Coatings.** This rule limits the quantity of ROGs in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the BAAQMD.
- **Regulation 8, Rule 15 – Emulsified and Liquid Asphalts.** This rule limits the emissions of ROGs caused by the use of emulsified and liquid asphalt in paving materials and paving and maintenance operations.

2.2.3.2 County of Alameda

The County's East County Area Plan includes goals and policies that are designed to reduce the emissions of criteria air pollutants, in buildings, conservation, and other methods of efficiency. The goals and policies that are related directly and indirectly to air quality are as follows (County of Alameda 2000):

- **Goal**: To ensure that air pollution levels do not threaten public health and safety, economic development or future growth.
  - **Policy 291.** The County shall strive to meet federal and state air quality standards for local air pollutants of concern. In that that standards are exceeded; the County shall require appropriate mitigation measures on new development.
  - **Policy 292**: The County shall coordinate subregional air quality planning and mitigation among East County cities using the result of the biennial monitoring report.
  - **Policy 293.** The County shall support the BAAQMD in monitoring air pollutants of concern on a continuous basis.
  - **Policy 294**. The County shall require new development projects to include traffic and air pollutant reduction measures to help attain air quality standards. For non-residential projects, these measures could include Transportation Demand Management Programs such as ridesharing and transit promotion; for residential projects, these measures could include site plan features to reduce traffic trip generation such as mixed use development and transit-oriented development.

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- **Policy 295.** The County shall require major projects of commercial or industrial nature to include bicycle storage facilities for employees and customers, shower/locker areas, and other facilities identified in the East County Bicycle Plan for employees that commute using bicycles.
- **Policy 296.** The County shall review the cumulative impact of proposed project for their potential effect on air quality conditions.
- **Policy 297.** The County shall coordinate air quality planning efforts with other local, regional and state agencies.
- **Policy 298.** The County shall address air quality as a factor in its regional element to assist cities in their environmental review procedures.
- **Policy 299.** The County shall require projects that generate high levels of air pollutants, such as manufacturing facilities, hazardous waste handling operations, and drive-through restaurants and banks, to incorporate air quality mitigations in their designs.
- **Policy 300.** The County shall review proposed projects for their potential to generate hazardous air pollutants.
- **Policy 301.** The County shall only approve new air pollution point sources such as manufacturing and extraction facilities when they are located away from residential areas and sensitive receptors.
- **Policy 302.** The County shall include buffer zones within new residential and sensitive receptor site plans to separate those uses from freeways, arterials, point sources and hazardous material locations.
- **Policy 303.** The County shall incorporate the provisions of the MTC, ABAG, BAAQMD guidelines into project review procedures.
- **Policy 304.** The County shall notify cities and the BAAQMD of proposed projects which may significantly affect air quality.
- **Policy 305.** The County shall cooperate with the BAAQMD and CARB in their enforcement of the provisions of the Clean Air Act, state, regional policies and established standards for air quality.
- **Policy COS-14.9. Significant Producers of Air Pollutants.** Require projects that generate potentially significant levels of air pollutants and/or GHGs such as quarries, landfill operations, or large land development projects to incorporate renewable energy, and the best available control technologies and practices into the project design.

2.3 Regional and Local Air Quality

2.3.1 San Francisco Bay Area Air Basin Attainment Designation

Pursuant to the 1990 CAA Amendments, EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. As previously

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discussed, these standards are set by EPA or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable."

The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are redesignated as maintenance areas and must have approved maintenance plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as "attainment" or "nonattainment," but based on the CAAQS rather than the NAAQS.

Table 1 summarizes SFBAAB's federal and state attainment designations for each of the criteria pollutants.

Table 1. San Francisco Bay Area Air Basin Attainment Designation

Pollutant	Federal Designation	State Designation
Ozone (O_3), 1-hour	No NAAQS	**Nonattainment**
Ozone (O_3), 8-hour	**Nonattainment–marginal**	**Nonattainment**
Nitrogen dioxide (NO_2)	Unclassifiable/attainment	Attainment
Carbon monoxide (CO)	Attainment/maintenance	Attainment
Sulfur dioxide (SO_2)	Unclassifiable/attainment	Attainment
Coarse particulate matter (PM_{10})	Unclassifiable/attainment	**Nonattainment**
Fine particulate matter ($PM_{2.5}$)	**Nonattainment–moderate**	**Nonattainment**
Lead	Unclassifiable/attainment	Attainment
Hydrogen sulfide	No NAAQS	Unclassified
Sulfates	No NAAQS	Attainment
Visibility-reducing particles	No NAAQS	Unclassified
Vinyl chloride	No NAAQS	No designation

Sources: EPA 2022b (NAAQS); CARB 2020 (CAAQS).
Notes: NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; bold text = not in attainment; attainment = meets the standards; attainment/maintenance = achieves the standards after a nonattainment designation; nonattainment = does not meet the standards; unclassified or unclassifiable = insufficient data to classify; unclassifiable/attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

In summary, the SFBAAB is designated as a nonattainment area for federal and state O_3 and $PM_{2.5}$ standards. The SFBAAB is also designated as a nonattainment area for the state PM_{10} standards. The SFBAAB is designated as unclassified or in attainment for all other criteria air pollutants.

2.2.2 Air Quality Monitoring Data

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. BAAQMD monitors local ambient air quality within the SFBAAB, including a Livermore monitoring station that is representative of ambient air quality near the Project Site. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The most recent background ambient air quality data from 2020 to 2022 are presented in Table 2. The data collected at this station is considered generally representative of the air quality experienced in the Project vicinity. The number of days exceeding the ambient air quality standards is also shown in Table 2.

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Table 2. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	AAQS	Measured Concentration by Year			Exceedances by Year		
					2021	2022	2023	2021	2022	2023
Ozone (O_3)										
Livermore	ppm	Maximum 1-hour concentration	State	0.09	0.113	0.101	0.088	3	2	0
	ppm	Maximum 8-hour concentration	State	0.070	0.086	0.078	0.076	9	2	2
			Federal	0.070	0.086	0.077	0.075	9	2	1
Nitrogen Dioxide (NO_2)										
Livermore	ppm	Maximum 1-hour concentration	State	0.18	0.037	0.042	0.035	0	0	0
			Federal	0.100	0.037	0.042	0.035	0	0	0
	ppm	Annual concentration	State	0.070	0.006	0.008	0.006	-	-	-
			Federal	0.053	0.006	0.008	0.006	-	-	-
Carbon Monoxide (CO)										
Pleasanton	ppm	Maximum 1-hour concentration	State	20	1.3	1.2	16.5	0	0	0
			Federal	35	1.3	1.2	16.5	0	0	0
	ppm	Maximum 8-hour concentration	State	9.0	1.0	0.8	3.7	0	0	0
			Federal	9	1.0	0.8	3.7	0	0	0
Coarse Particulate Matter (PM_{10})										
Concord	µg/ m³	Maximum 24-hour concentration	State	50	26.0	33.4	39.7	0	0	0
			Federal	150	25.0	33.4	38.8	0	0	0
	µg/ m³	Annual concentration	State	20	6.4	6.5	6.7	-	-	-
Fine Particulate Matter ($PM_{2.5}$)										
Livermore	µg/ m³	Maximum 24-hour concentration	Federal	35	43.5	25.9	43.2	2.0 (2)	0 (0)	1.1 (1)
	µg/ m³	Annual concentration	State	12	8.0	ND	ND	-	-	-
			Federal	12.0	7.9	7.5	6.4	-	-	-

Sources: CARB 2023d, EPA 2023b.

Notes: ppm = parts per million; – = not available or applicable; µg/m³ = micrograms per cubic meter; ND = insufficient data available to determine the value.

Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year.

Exceedances of federal and state standards are only shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour O_3, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.

The Livermore monitoring station is located at 793 Rincon Ave, Livermore, California.

The Concord monitoring station is located at 2956-A Treat Boulevard, Concord.

The Pleasanton monitoring station is located at Owens Ct., Pleasanton, California.

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[a] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored.

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2.4 Significance Criteria and Methodology

2.4.1 Thresholds of Significance

The State of California has developed guidelines to address the significance of air quality impacts based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), which provides guidance that a Project would have a significant environmental impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether a Project would have a significant impact on air quality.

Notably, in the *California Building Industry Association v. Bay Area Air Quality Management District* case decided in 2015, the California Supreme Court held that CEQA does not generally require lead agencies to consider how existing environmental conditions might impact a project's occupants, except where the project would significantly exacerbate an existing environmental condition. Accordingly, the significance criterion above related to exposure of sensitive receptors to substantial pollutant concentrations is relevant only to the extent that the project would exacerbate existing air quality conditions.

While BAAQMD has initiated an update to their CEQA Air Quality Guidelines, the timeline for its release is unknown. Therefore, the BAAQMD CEQA Air Quality Guidelines remain as the applicable guidelines for the Project and include thresholds for criteria air pollutants, TACs, and GHG emissions (BAAQMD 2023). BAAQMD significance thresholds are summarized in Table 3.

Table 3. Air Quality - Thresholds of Significance

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (Pounds/Day)	Average Daily Emissions (Pounds/Day)	Maximum Annual Emissions (Tons/Year)
ROGs	54	54	10
NO_x	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
$PM_{10}/PM_{2.5}$ (fugitive dust)	Best management practices	None	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	

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Table 3. Air Quality - Thresholds of Significance

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (Pounds/Day)	Average Daily Emissions (Pounds/Day)	Maximum Annual Emissions (Tons/Year)
Risks and hazards (individual project)	Compliance with qualified community risk reduction plan or Increased cancer risk of >10.0 in a million Increased noncancer risk of >1.0 Hazard Index (chronic or acute) Ambient $PM_{2.5}$ increase >0.3 µg/m³ annual average Zone of Influence: 1,000-foot radius from property line of source or receptor		
Risks and hazards (cumulative)	Compliance with qualified community risk reduction plan or Cancer risk of >100 in a million (from all local sources) Noncancer risk of >10.0 Hazard Index (chronic, from all local sources) Ambient $PM_{2.5}$ >0.8 µg/m³ annual average (from all local sources) Zone of Influence: 1,000-foot radius from property line of source or receptor		
Accidental release of acutely hazardous air pollutants	None	Storage or use of acutely hazardous material located near receptors or new receptors located near stored or used acutely hazardous materials considered significant	
Odors	None	Five confirmed complaints to BAAQMD per year averaged over 3 years	

Source: BAAQMD 2023
Notes: ROGs = reactive organic gases; NO_x = oxides of nitrogen; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; CO = carbon monoxide; ppm = parts per million; µg/m³ = micrograms per cubic meter; BAAQMD = Bay Area Air Quality Management District.

The evaluation of whether the Project would conflict with or obstruct implementation of the applicable air quality plan (14 CCR 15000 et seq., Appendix G, Air Quality Threshold 1) is based on the BAAQMD CEQA Air Quality Guidelines, which identify a three-step methodology for determining a project's consistency with the current Clean Air Plan. The questions associated with these steps are as follows:

1. Does the project support the goals of the Clean Air Plan?
2. Does the project include applicable control measures from the Clean Air Plan?
3. Does the project disrupt or hinder implementation of any control measures from the Clean Air Plan?

The BAAQMD-recommended measure to assess the first question is consistency with BAAQMD thresholds of significance, which is addressed in detail in Section 2.5.2 (see Section 2.5, Impact Analysis). The second criterion is whether the Project would incorporate all feasible air quality plan control measures from the Clean Air Plan, which is discussed in Section 2.5.1. Regarding the third criterion, examples of how a project may cause the disruption or delay of control measures include a project that precludes an extension of a transit line or bike path or proposes excessive parking beyond parking requirements. This is also discussed in Section 2.5.1.

To evaluate the potential for the Project to result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard (14

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CCR 15000 et seq., Appendix G, Air Quality Threshold 2), this analysis applies BAAQMD's construction criteria pollutants average daily thresholds, as shown in Table 3. BAAQMD states that these thresholds are intended to maintain ambient air quality concentrations of these criteria air pollutants below state and federal standards and to prevent a cumulatively considerable contribution to regional nonattainment with ambient air quality standards. A project would potentially result in a cumulatively considerable net increase in O_3, which is a nonattainment pollutant, if the project's construction or operational emissions would exceed the BAAQMD ROG or NO_x thresholds shown in Table 3. These emissions-based thresholds for O_3 precursors are intended to serve as a surrogate for an ozone significance threshold (i.e., the potential for adverse O_3 impacts to occur). This approach is used because O_3 is not emitted directly, and the effects of an individual project's emissions of O_3 precursors (ROGs and NO_x) on O_3 levels in ambient air cannot be determined reliably or meaningfully through air quality models or other quantitative methods.

The assessment of the Project's potential to expose sensitive receptors to substantial pollutant concentrations (14 CCR 15000 et seq., Appendix G, Air Quality Threshold 3) includes an assessment of potential health risk impacts at existing off-site and future on-site sensitive receptors associated with TACs generated by Project construction, as well as cumulative health risk impacts at future on-site residential receptors from all sources of TACs within 1,000 feet of the Project Site boundary. Cancer risk, chronic risk, and $PM_{2.5}$ concentration impact determinations were based on the respective thresholds depicted in Table 3. In addition, localized impacts associated with CO hotspots were also evaluated based on whether the concentration thresholds in Table 3 would be exceeded. According to BAAQMD, a project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met (BAAQMD 2023):

1. Project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Finally, the potential for the Project to result in other emissions, specifically an odor impact (14 CCR 15000 et seq., Appendix G, Air Quality Threshold 4), is based on the Project's land-use types and anticipated construction activity, and the potential for the Project to create an odor nuisance.

2.4.2 Approach and Methodology

2.4.2.1 Construction Mass Emissions

Emissions from the construction phase of Project components were estimated using the California Emissions Estimator Model (CalEEMod) Version 2022.1.1[3]. Per preliminary Project details, it is conservatively assumed that construction of the Project would begin in February 2027 and would last approximately 18 months, ending in June

[3] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development Projects. The model was developed for the California Air Pollution Control Officers Association in collaboration with multiple air districts across the state. Numerous lead agencies in the state, including BAAQMD, use CalEEMod to estimate greenhouse gas emissions in accordance with CEQA Guidelines Section 15064.4(a)(1).

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2028. The Project is assumed to have a 30-year lifespan, and at the end of operation, will be decommissioned. However, the EMFAC and OFFROAD models in CalEEMod only have emission factors through 2050. As such, the year 2050 was assumed for estimation emissions from the decommissioning phase. The analysis contained herein is based on the following schedule assumptions:

- Site Preparation – 8 Weeks
- Grading – 22 weeks
- BESS Foundations – 16 weeks
- Battery/Container Installation – 20 weeks
- PV Substation Installation – 32 weeks
- PG&E Substation Upgrades – 32 weeks
- Gen-tie foundation and Pole installation – 8 weeks
- Gen-tie stringing and pulling – 2 weeks
- Gen-tie stringing and pulling – 1 month
- Testing and commissioning – 26 weeks
- Decommissioning – 6 months

The construction schedule has been developed based on available information provided by the Project applicant, typical construction practices, and CalEEMod default assumptions. Construction phasing is intended to represent a schedule of anticipated activities for use in estimating potential Project-generated construction emissions. Table 4 provides the construction equipment mix and vehicle trips assumed for estimating Project-generated construction emissions. It is also estimated that 6-acre feet of water would be used during construction. Water trucks were modeled as vendor trucks as shown in the Table 4 below. Additional details regarding construction assumptions are provided in the modeling output, Appendix A.

Table 4 Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Site Preparation	50	10	600	Graders	2	8
				Rubber Tired Loaders	2	8
				Skid Steer Loaders	2	8
				Tractors/Loaders/ Backhoes	2	8
Grading	112	76	30,240	Graders	2	8
				Rollers	2	8
				Rubber Tired Loaders	2	8
				Skid Steer Loaders	2	8
				Tractors/Loaders/ Backhoes	2	8
	86	10	20	Paving Equipment	2	8

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Table 4 Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Battery/Container Foundation				Rollers	2	8
				Cement and Mortar Mixers	2	8
				Bore/Drill Rig	1	8
				Tractors/Loaders/ Backhoes	1	8
Battery/Container Installation	310	20	2,636	Cranes	2	8
				Generator Sets	4	8
				Rough Terrain Forklifts	2	8
				Skid Steer Loaders	2	8
				Air Compressors	4	8
PG&E Substation Interconnection Facility Upgrades	40	20	20	Cranes	2	8
				Excavators	2	8
				Generator Sets	4	8
				Rough Terrain Forklifts	2	8
				Skid Steer Loaders	2	8
				Tractors/Loaders/ Backhoes	2	8
PV Substation Installation	40	20	20	Aerial Lifts	4	8
				Bore/Drill Rigs	2	8
				Cranes	2	8
				Excavators	2	8
				Generator Sets	2	8
				Rough Terrain Forklifts	2	8
				Rubber Tired Dozers	2	8
				Skid Steer Loaders	2	8
				Tractors/Loaders/ Backhoes	4	8
				Trenchers	4	8
Gen-tie foundation and tower erection	62	2	2	Cranes	2	8
				Forklifts	2	8
				Generator Sets	2	8
Gen-tie stringing and pulling	24	2	2	Forklifts	2	8
				Generator Sets	2	8
				Tractors/Loaders/ Backhoes	2	8
Testing and Commissioning	52	0	0	Rough Terrain Forklift	4	8
Decommissioning	40	2	2,640	Concrete/Industrial Saws	2	8
				Cranes	2	8

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Table 4 Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
				Rubber Tired Dozers	2	8
				Tractors/Loaders/ Backhoes	2	8

Note: See Appendix A for additional details.

The equipment mix assumptions were based on CalEEMod default assumptions based on proposed land use and is meant to represent a reasonably conservative estimate of construction activity. For the analysis, it is generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours per day, 5 days per week. Default assumptions provided in CalEEMod were used to determine worker trips and vendor truck trips for each potential construction phase. The default CalEEMod trip distance for construction vehicles was assumed for all phases except for the Battery/Container installation phase. Default trip distances are a one-way distance of 11.97 miles for worker trips, 7.63 miles for vendor truck trips, and 20 miles for haul truck trips. In the Battery/Container Installation phase, the haul truck trip distance was assumed to be 55 miles, which is the approximate distance from the Project site to the Port of Oakland.

Implementation of the Project would generate criteria air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, and asphalt pavement application. Based on Project specific information, 243,118 cubic yards of material export is expected from the construction of the Project during the grading phase. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. The Project would be required to comply with PDF-AQ-1 (see Section 1.4, Project Design Features) to control dust emissions generated during the earthmoving activities. Standard construction practices that were assumed to be employed to reduce fugitive dust emissions per PDF-AQ-1 and were quantified in CalEEMod include watering of the active site twice a day, depending on weather conditions, and limitation of vehicle travel to 15 mph on unpaved roads; however, due to the developed nature of the Project Site, no unpaved roads are anticipated.

Internal combustion engines used by construction equipment, vendor trucks (i.e., delivery trucks), haul trucks, and worker vehicles would result in emissions of ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$. The application of architectural coatings, such as exterior application/interior paint and other finishes, and application of asphalt pavement would also produce ROG emissions; however, the contractor is required to procure architectural coatings from a supplier in compliance with the requirements of BAAQMD's Regulation 8, Rule 3 (Architectural Coatings). For additional details see Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*.

2.4.2.2 Construction Health Risk Analysis

The greatest potential for TAC emissions during Project construction would be DPM emissions from heavy equipment operations and heavy-duty trucks. As a precautionary measure, a construction HRA was performed to assess the impact of construction on sensitive receptors proximate to the Project Site. The construction HRA follows the methodologies prescribed in the Office of Environmental Health Hazard Assessment (OEHHA) document, Air Toxics

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Hot Spots Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments (OEHHA Guidelines) (OEHHA 2015). Cancer risk parameters, such as age-sensitivity factors, daily breathing rates, exposure period, fraction of time at home, and cancer potency factors were based on the values and data recommended by OEHHA are implemented in CARB's Hotspots Analysis and Reporting Program Version 2 (HARP2), which was used to estimate risk from construction activities.

The exhaust from diesel engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. DPM has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts. No short-term, acute relative exposure level has been established for DPM; therefore, acute impacts of DPM are not addressed in this assessment.

A dispersion modeling analysis was conducted of DPM emitted from diesel vehicles and construction equipment on the Project Site for the HRA to assess the health risk impacts of the construction on proximate existing off-site. The dispersion modeling was performed using the American Meteorological Society/EPA Regulatory Model (AERMOD), which is the model BAAQMD requires for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain. Principal parameters of this modeling are presented in Table 5.

Table 5. Construction HRA AERMOD Principal Parameters

Parameter	Details
Dispersion Model	The air dispersion model used was AERMOD Version 23132, with the Lakes Environmental Software implementation/user interface, AERMOD View, Version 12.0.0. A unit emission rate (1 gram per second [g/s]) was normalized over the line of adjacent volume sources for the AERMOD run to obtain the X/Q values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength. It is used as a way to simplify the representation of emissions from many sources. The maximum concentrations were determined for the 1-hour and PERIOD averaging periods.
Meteorological Data	The latest three-year meteorological data (2013-2016) for the Livermore Station were obtained from BAAQMD as the recommended meteorological station and input to AERMOD.
Urban versus Rural Option	Urban areas typically have more surface roughness, as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. The rural dispersion option was selected based on the site's rural location.
Terrain Characteristics	The elevation of the modeled site is approximately 125 meters above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
Elevation Data	Digital elevation data were imported into AERMOD, and elevations were assigned to the emission sources and receptors. Digital elevation data were obtained through AERMOD View in the U.S. Geological Survey's National Elevation Dataset format with a 30-meter resolution.
Emission Sources and Release Parameters	Air dispersion modeling of DPM from construction equipment was conducted using emissions estimated using CalEEMod, assuming emissions would occur eight hours per day, five days per week. Vendor and hauling trips were modified to account only for emissions occurring within 0.25 miles of the Project site. The proposed Project area was modeled as a series of adjacent line-volume sources.

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Table 5. Construction HRA AERMOD Principal Parameters

Parameter	Details
Source Release Characterizations	Based on U.S. Environmental Protection Agency methodology, the modeled line volume sources would result in a release height of 5 meters, a plume height of 10 meters, and a plume width of 10 meters for off-road equipment and diesel trucks (EPA 2023).
Receptors	Discrete receptors were placed over residences proximate to the Project site.

Notes: AERMOD = American Meteorological Society/EPA Regulatory Model; DPM = diesel particulate matter; CalEEMod = California Emissions Estimator Model.
See Appendix D for additional information.

Dispersion model plot files from AERMOD were then imported into CAR3's Hotspots Analysis and Reporting Program (HARP2) Version 2 (Version 22118) to determine health risk, which requires peak one-hour emission rates and annual emission rates for all pollutants for each modeling source. For the construction HRA, the TAC exposure period was assumed to be starting from the third trimester of pregnancy for 1.25 years (15 months) for all receptor locations.

2.4.2.3 Construction Ambient Air Quality Analysis

Dispersion modeling of construction criteria air pollutant emissions from the on-site off road equipment was also performed using AERMOD to determine compliance with the CAAQS and NAAQS. The principal parameters used in AERMOD are shown in Table 6.

Table 6. Construction AAQA AQAERMOD Principal Parameters

Parameter	Details
Dispersion Model	The air dispersion model used was AERMOD Version 23132, with the Lakes Environmental Software implementation/user interface, AERMOD View, Version 12.0.0. A unit emission rate (1 gram per second [g/s]) was normalized over the two adjacent point sources for the AERMOD run to obtain the X/Q values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength. It is used as a way to simplify the representation of emissions from many sources. The maximum concentrations were determined for the 1-hour and PERIOD averaging periods.
Meteorological Data	The latest three-year meteorological data (2013-2016) for the Livermore Station were obtained from BAAQMD as the recommended meteorological station and input to AERMOD.
Urban versus Rural Option	Urban areas typically have more surface roughness, as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. The rural dispersion option was selected based on the site's rural location.
Terrain Characteristics	The elevation of the modeled site is approximately 125 meters above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
Elevation Data	Digital elevation data were imported into AERMOD, and elevations were assigned to the emission sources and receptors. Digital elevation data were obtained through AERMOD View in the U.S. Geological Survey's National Elevation Dataset format with a 30-meter resolution.
Emission Sources and Release Parameters	Air dispersion modeling of emissions from construction equipment was conducted using emissions estimated using CalEEMod, assuming emissions would occur eight hours per day, five days per week. Vendor and hauling trips were modified to account only for emissions occurring within 0.25 miles of the Project site. The proposed Project area was modeled as a series of adjacent line-volume sources.

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Table 6. Construction AAQA AQAERMOD Principal Parameters

Parameter	Details
Source Release Characterizations	Based on U.S. Environmental Protection Agency methodology, the modeled line volume sources would result in a release height of 5 meters, a plume height of 10 meters, and a plume width of 10 meters for off-road equipment and diesel trucks (EPA 2023).
Receptors	A telescoping grid of receptors was generated with the following spacing: 25 meter spacing on the facility boundary; 25 meter spacing from the facility boundary out to 100 meters; 50 meter spacing from 100 meters to 250 meters; 100 meter spacing from 250 meters to 500 meters; 250 meter spacing from 500 meters to 1,000 meters; and 500 meter spacing from 1,000 meters to 2,000 meters.

Notes: AERMOD = American Meteorological Society/EPA Regulatory Model; DPM = diesel particulate matter; CalEEMod = California Emissions Estimator Model.
See Appendix B for additional information.

2.4.2.4 Operation

Operation of the proposed Project would generate ROG, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from area sources, energy sources mobile sources, offroad and stationary sources, which are discussed below. Emissions from these sources were estimated based on CalEEMod default assumptions for operations of the proposed Project land uses. It was assumed that the Project would be operational following the completion of construction, which would occur in 2028.

Area

The area source category calculates direct sources of air pollutant emissions located at the Project site, including consumer product use and landscape maintenance equipment. CalEEMod defaults were used to estimate emissions from area sources during operation of the Project.

Consumer products are various solvents used in non-industrial applications which emit ROGs during their product use, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Consumer product ROG emissions are estimated in CalEEMod based on the floor area of buildings and on the default factor of pounds of ROG per building square foot per day. The CalEEMod default utilization rates and emission factors were assumed.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers, as well as air compressors, generators, and pumps. The emissions associated from landscape equipment use were estimated using CalEEMod. The emission factors are multiplied by the number of summer days that represent the number of operational days.

Energy

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site. The Project does not include the use of natural gas during operation. Therefore, no emissions associated with energy sources were quantified for the air quality analysis. The estimated annual

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electricity consumption from the Project was provided by the applicant and assumed to be 17,520 megawatt-hours per year.

Mobile Sources

Following the completion of construction activities, the Project would generate criteria pollutant emissions from mobile sources (vehicular traffic) as a result of the periodic maintenance of the Project. The Project was assumed to require up to 20 employees visiting the BESS facility sites 7 days a week for operation and maintenance activities. The estimated trip lengths and trip modes were based on CalEEMod default data. CalEEMod was used to estimate emissions from proposed vehicular sources (refer to Appendix A). CalEEMod default data, including temperature, trip characteristics, variable start information, and emissions factors, were conservatively used for the model inputs. Project-related traffic was assumed to include a mixture of vehicles in accordance with the associated use, as modeled within CalEEMod, which is based on the California Air Resources Board (CARB) EMFAC2021 model. Emission factors representing the vehicle mix and emissions for 2028 were used to estimate emissions associated with vehicular sources.

Off-Road Sources

During irregular maintenance, the Project may require the movement or replacement of battery enclosures during the lifetime of the Project. As such, the use of 1 crane and 1 forklift were assumed to assist the lifting and movement of the BESS containers. CalEEMod was used to estimate criteria air pollutant emissions of the crane and forklift assuming 4 hours of operation on 2 days during a maintenance year.

Stationary Sources

The Project will install two emergency Diesel generators (4,360 horsepower) for emergency safety systems during a power outage that lasts longer than 24-48 hours. This 24-hour window would provide operations personnel enough time to safely de-energize and isolate equipment during operation. CalEEMod was used to estimate criteria air pollutant emissions of the generator assuming 2 hour per day and 400 hours per year for maintenance and testing per BAAQMD guidance. For additional details see Appendix A, Air Quality and Greenhouse Gas Emissions CalEEMod Output Files.

2.4.2.5 Operational Health Risk Analysis

The greatest potential for TAC emissions during Project operation would be DPM emissions from the testing and maintenance associated with the projects two emergency generators. As a precautionary measure, an operational HRA was performed to assess the impact of operation on sensitive receptors proximate to the Project Site. The operational HRA follows the methodologies prescribed in the Office of Environmental Health Hazard Assessment (OEHHA) document, Air Toxics Hot Spots Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments (OEHHA Guidelines) (OEHHA 2015). Cancer risk parameters, such as age-sensitivity factors, daily breathing rates, exposure period, fraction of time at home, and cancer potency factors were based on the values and data recommended by OEHHA are implemented in CARB's HARP2, which was used to estimate risk from operational activities.

The exhaust from diesel engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. DPM has established cancer risk factors and relative exposure values for long-term chronic

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health hazard impacts. No short-term, acute relative exposure level has been established for DPM; therefore, acute impacts of DPM are not addressed in this assessment.

A dispersion modeling analysis was conducted of DPM emitted from the emergency generators for the HRA to assess the health risk impacts of operation on off-site receptors. The dispersion modeling was performed using the AERMOD, which is the model BAAQMD requires for atmospheric dispersion of emissions. Principal parameters of this modeling are presented in Table 7.

Table 7. Operational HRA AERMOD Principal Parameters

Parameter	Details
Dispersion Model	The air dispersion model used was AERMOD Version 23132, with the Lakes Environmental Software implementation/user interface, AERMOD View, Version 12.0.0. A unit emission rate (1 gram per second [g/s]) was normalized over the two adjacent point sources for the AERMOD run to obtain the X/Q values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength. It is used as a way to simplify the representation of emissions from many sources. The maximum concentrations were determined for the 1-hour and PERIOD averaging periods.
Meteorological Data	The latest three-year meteorological data (2013-2016) for the Livermore Station were obtained from BAAQMD as the recommended meteorological station and input to AERMOD.
Urban versus Rural Option	Urban areas typically have more surface roughness, as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. The rural dispersion option was selected based on the site's rural location.
Terrain Characteristics	The elevation of the modeled site is approximately 125 meters above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
Elevation Data	Digital elevation data were imported into AERMOD, and elevations were assigned to the emission sources and receptors. Digital elevation data were obtained through AERMOD View in the U.S. Geological Survey's National Elevation Dataset format with a 30-meter resolution.
Emission Sources and Release Parameters	Air dispersion modeling of DPM from the emergency generators was conducted using emissions estimated using the CalEEMod. The maximum daily emissions were used in the screening assessment. The emergency generators were modeled as point sources
Source Release Characterizations	The following source parameters were assumed: Generator 1, release height 16.5 feet, exit temperature 966.2°F, stack diameter of 2.3 feet, and gas exit flow rate of 24,791 cubic feet per minute (CFM); and Generator 2, release height 16.5 feet, exit temperature 966.2°F, stack diameter of 2.3 feet, and gas exit flow rate of 24,791 CFM.
Receptors	Discrete receptors were placed over residences and workplaces proximate to the Project site.

Notes: AERMOD = American Meteorological Society/EPA Regulatory Model; DPM = diesel particulate matter; CalEEMod = California Emissions Estimator Model.
See Appendix E for additional information.

Dispersion model plot files from AERMOD were then imported into HARP2 (Version 22118) to determine health risk, which requires peak one-hour emission rates and annual emission rates for all pollutants for each modeling source. For the operational HRA, the TAC exposure period was assumed to be starting from the third trimester of pregnancy for 30 years for all receptor locations.

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In addition to evaluating the potential project's incremental contribution to cancer and non-cancer health risk impacts, a cumulative health risk assessment was performed to include other stationary sources of TACs within 6 miles of the project site. The BAAQMD Stationary Source Screening Map was used to identify and download cancer risk, chronic hazard index, and $PM_{2.5}$ concentrations from permitted stationary sources of TAC's within 6 miles of the project site (BAAQMD 2024). In accordance with BAAQMD guidance, the values obtained from the BAAQMD Stationary Source Screening Map must be adjusted based on the distance from the source to the receptor using the BAAQMD Health Risk Calculator with Distance Multipliers tool (BAAQMD 2022). The distance multiplier tool only has values out to 1,000 feet from the source. In consultation with the BAAQMD, an exponential trendline was fitted to the values in the BAAQMD Health Risk Calculator with Distance Multipliers tool and used to determine multipliers for distances up to 6 miles from the project site (Lau, pers. Comm., 2024). As applicable, these extrapolated multipliers were used with the results of the facilities within 6 miles of the project site. The BAAQMD Health Risk Calculator with Distance Multipliers tool does not apply to gasoline dispensing facilities and thus no distance multiplier was used.

2.4.2.6 Operational Air Quality Analysis

Dispersion modeling of operational criteria air pollutant emissions from the two on-site diesel emergency generators was also performed using AERMOD to determine compliance with the CAAQS and NAAQS. The principal parameters used in AERMOD are shown in Table 8.

Table 8. Operational AAQA AERMOD Principal Parameters

Parameter	Details
Dispersion Model	The air dispersion model used was AERMOD Version 23132. A unit emission rate (1 gram per second [g/s]) was normalized over the two adjacent point sources for the AERMOD run to obtain the X/Q values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength. It is used as a way to simplify the representation of emissions from many sources. The maximum concentrations were determined for the 1-hour, 3-hour, 8-hour, 24-hour, and Annual averaging periods.
Meteorological Data	The latest three-years of meteorological data (2013-2016) for the Livermore Station were obtained from BAAQMD as the recommended meteorological station and input to AERMOD.
Urban versus Rural Option	Urban areas typically have more surface roughness, as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. However, based on the Auer method for classifying a site as urban or rural as specified in US EPA's 40 CFR Part 51, Appendix W, the rural dispersion option was selected.
Terrain Characteristics	The elevation of the modeled site is approximately 125 meters above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
Elevation Data	Digital elevation data were imported into AERMOD, and elevations were assigned to the emission sources and receptors. Digital elevation data were obtained through AERMOD View in the U.S. Geological Survey's National Elevation Dataset format with a 30-meter resolution.
Emission Sources and Release Parameters	Air dispersion modeling of criteria air pollutant emissions from the emergency generators was conducted using emissions estimated using the CalEEMod. The maximum daily emissions were used in the screening assessment. The emergency generators were modeled as point sources.
Source Release Characterizations	The following source parameters were assumed: Generator 1, release height 16.5 feet, exit temperature 966.2°F, stack diameter of 2.3 feet, and gas exit flow rate of 24,791

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Table 8. Operational AAQA AERMOD Principal Parameters

Parameter	Details
	cubic feet per minute (CFM); and Generator 2, release height 16.5 feet, exit temperature 966.2°F, stack diameter of 2.3 feet, and gas exit flow rate of 24,791 CFM.
Receptors	A telescoping grid of receptors was generated with the following spacing: 25 meter spacing on the facility boundary; 25 meter spacing from the facility boundary out to 100 meters; 50 meter spacing from 100 meters to 250 meters; 100 meter spacing from 250 meters to 500 meters; 250 meter spacing from 500 meters to 1,000 meters; and 500 meter spacing from 1,000 meters to 2,000 meters.

Notes: AERMOD = American Meteorological Society/EPA Regulatory Model; CalEEMod = California Emissions Estimator Model. See Appendix C for additional information.

2.5 Impact Analysis

2.5.1 Would the Project conflict with or obstruct implementation of the applicable air quality plan?

An area is designated as in attainment when it complies with the federal and/or state standards. These standards are set by EPA or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or public welfare, with a margin of safety. The Project Site is located within the SFBAAB, which is designated as nonattainment for the federal 8-hour O_3 and 24-hour $PM_{2.5}$ standards. The area is in attainment or unclassified for all other federal standards. The area is designated as nonattainment for state standards for 1-hour and 8-hour O_3, 24-hour PM_{10}, annual PM_{10}, and annual $PM_{2.5}$.

On April 19, 2017, BAAQMD adopted its 2017 Clean Air Plan (BAAQMD 2017b). The BAAQMD CEQA Air Quality Guidelines identify a three-step methodology for determining a project's consistency with the current Clean Air Plan. If the responses to these three questions can be concluded in the affirmative and those conclusions are supported by substantial evidence, then the BAAQMD considers the project to be consistent with air quality plans prepared for the Bay Area. The three questions are as follows:

1. Does the project support the goals of the Clean Air Plan?
2. Does the project include applicable control measures from the Clean Air Plan?
3. Does the project disrupt or hinder implementation of any control measures from the Clean Air Plan?

The first question to be assessed in this methodology is "does the project support the goals of the Clean Air Plan"? The BAAQMD-recommended measure for determining project support for these goals is consistency with BAAQMD thresholds of significance. If a project would not result in significant and unavoidable air quality impacts, after the application of all feasible mitigation measures the project would be consistent with the goals of the 2017 Clean Air Plan. As indicated in Section 2.5.2, the Project would result in a less than significant impact associated with emissions of criteria air pollutant emissions during construction and operation. Therefore, the Project would be considered to support the primary goals and be consistent with BAAQMD's current Clean Air Plan.

The second question to be assessed is "does the project include applicable control measures from the Clean Air Plan?" The 2017 Clean Air Plan contains 85 control measures aimed at reducing air pollution in the Bay Area. Projects that incorporate all feasible air quality plan control measures are considered consistent with the Clean Air

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Plan. The control strategies of the 2017 Clean Air Plan include measures in the categories of stationary sources, the transportation sector, the buildings sector, the energy sector, the agriculture sector, natural and working lands, the waste sector, the water sector, and super-GHG measures. Depending on the control measure, the tools for implementation include leveraging the BAAQMD rules and permitting authority, regional coordination and funding, working with local governments to facilitate best policies in building codes, outreach and education, and advocacy strategies. The Project site is designated Large Parcel Acreage (LPA) in the Alameda County East County Plan Area. The zone classification is Agriculture-Combining 3 District (A-BE). The proposed battery energy storage project would be allowed within the County's conditional uses for these zoning and land use designations. Furthermore, the proposed Project would undergo decommissioning at the end of its useful life and the project site would be returned to its current state. The Project would result in the development of uses and growth that are consistent with the City General Plan and zoning designations. Furthermore, because the Project would comply with all applicable BAAQMD rules and would meet or exceed state and federal standards and/or local building codes, the Project would not conflict with any applicable control measures from the 2017 Clean Air Plan.

The third question to be assessed in this consistency methodology is "does the project disrupt or hinder implementation of any control measures from the Clean Air Plan?" Examples of how a project may cause the disruption or delay of control measures include a project that precludes an extension of a transit line or bike path or proposes excessive parking beyond parking requirements. The Project would not create any barriers or impediments to planned or future improvements to transit or bicycle facilities in the area, nor would it include excessive parking. Therefore, the project would not hinder implementation of 2017 Clean Air Plan control measures. Therefore, the Project would not conflict with or obstruct the implementation of the 2017 Clean Air Plan, and impacts would be less than significant.

2.5.2 Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

Past, present, and future development projects may contribute to the SFBAAB adverse air quality impacts on a cumulative basis. Per BAAQMD's CEQA Air Quality Guidelines, by its nature air pollution is largely a cumulative impact; no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be considered cumulatively considerable, resulting in a significant adverse air quality impact to the region's existing air quality conditions. Therefore, if the Project's emissions are below the BAAQMD thresholds or screening criteria, then the Project would not result in a cumulatively considerable net increase of any criteria air pollutant.

2.5.2.1 Construction

Construction of the proposed Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and ROG off-gassing) and off-site sources (vendor and haul truck trips, and worker vehicle trips). Construction emissions can vary substantially day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions.

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Criteria air pollutant emissions associated with construction activities were quantified using CalEEMod. Default values provided by the program were used where detailed proposed Project information was not available. A detailed depiction of the construction schedule—including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Section 2.4.2, above.

Development of the proposed Project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, and asphalt pavement application. As described previously, fugitive dust would be limited through compliance with BAAQMD Rules 6-1 Particulate Matter-General Requirements, Rule 6-6 Particulate Matter – Prohibition of Track out and PDF-AQ-1

Table 9 shows the estimated maximum unmitigated daily construction emissions associated with the conceptual construction years of the Project. Emissions represent maximum of summer and winter. "Summer" emissions are representative of the conditions that may occur during the Os season (May 1 to October 31), and "winter" emissions are representative of the conditions that may occur during the balance of the year (November 1 to April 30). Complete details of the emissions calculations are provided in Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*.

Table 9. Estimated Average Daily Construction Criteria Air Pollutant Emissions

Year	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2027	3.17	30.16	36.83	0.10	4.44	1.71
2028	124	10.88	15.25	0.03	0.37	0.31
2050	0.67	4.04	6.54	0.02	0.78	0.44
Maximum	***3.17***	***30.16***	***36.83***	***0.10***	***4.44***	***1.71***
BAAQMD Thresholds	*54*	*54*	*NA*	*NA*	*82*	*54*
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: ROG = reactive organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; BAAQMD = Bay Area Air Quality Management District
See Appendix A for complete results.
The values shown are the maximum summer and winter daily emissions results from CalEEMod.

As shown in Table 9, daily construction emissions for the Project would not exceed BAAQMD's significance thresholds for criteria air pollutants during construction with incorporation of PDF-AQ-1. Therefore, the Project would have a less-than-significant impact related to criteria air pollutant emissions during construction and would not require mitigation.

Construction Ambient Air Quality Analysis

The screening analysis consists of evaluating modeled Project emissions against the significant impact levels (SILs) established by the EPA to determine if a project's criteria air pollutant emissions are considered inconsequential in comparison to the NAAQS. If the SILs are not exceeded, then a project's impacts would be considered insignificant, and no further analysis would be required. For completeness, this analysis also evaluates Project emissions to the CAAQS and NAAQS. Modeled concentrations are compared to the SILs in Table 10. All maximum facility impacts occurred at the ambient boundary, and the estimated concentrations are all below the applicable SILs.

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Table 10. Construction Air Quality Impact Results – Significant Impact Levels – Unmitigated

Pollutant	Averaging Time	Maximum Concentration (µg/m³)	Class II SIL (µg/m³)
Nitrogen dioxide (NO_2)	1 hour	248.89	—
	Annual	53.50	1
Carbon monoxide (CO)	1 hour	397.76	2,000
	8 hours	227.69	500
Sulfur dioxide (SO_2)	1 hour	0.67	7.86
	24 hours	0.24	5
Course Particulate Matter (PM_{10})	24 hours	4.15	5
	Annual	1.95	1
Fine Particulate Matter ($PM_{2.5}$)	24 hours	3.70	1.2
	Annual	3.70	0.3

Notes: CAAQS are not listed because the SIL does not apply to CAAQS. µg/m³ = micrograms per cubic meter; SIL = Significant Impact Level.

As shown in Table 10, the maximum concentrations related by the project would not exceed the SILs established by the EPA for CO, and SO_2. However, the SIL for NO_x PM_{10} and $PM_{2.5}$ would exceed during construction for the annual averaging and $PM_{2.5}$ SIL would be exceeded for the 24-hour averaging. Because the SIL was exceed for NO_x PM_{10} and $PM_{2.5}$ maximum combined concentrations (modeled + background) are evaluated in Table 11.

Table 11. Construction Air Quality Impact Results – Ambient Air Quality Standards - Unmitigated

Pollutant	Averaging Time	Maximum Concentration[1] (µg/m³)	Background Concentration (µg/m³)	Total Concentration (µg/m³)	Ambient Air Quality Standard (µg/m³)	
					CAAQS	NAAQS
Nitrogen dioxide (NO_2)	1 hour	248.89	85	334	339	N/A
	1 hour	248.89	79	328	N/A	188
	Annual	53.50	15	69	57	100
Carbon monoxide (CO)	1 hour	397.76	18,902	19,300	23,000	40,000
	8 hours	227.69	4,239	4,466	10,300	10,300
Sulfur dioxide (SO_2)[a]	1 hour	0.67	40	41	655	N/A
	24 hours	0.24	7	7	105	N/A
Course Particulate Matter (PM_{10})	24 hours	4.15	40	44	50	150
	Annual	1.95	10	12	20	N/A
Fine Particulate Matter ($PM_{2.5}$)	24 hours	3.70	44	47	—	35
	Annual	1.74	8	10	12	12

Notes: µg/m³ = micrograms per cubic meter; CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards; PM_{10} = particulate matter less than 10 microns; $PM_{2.5}$ = particulate matter less than 2.5 microns; N/A = not applicable or available.

[1] Results for SO_2 and CO are reported as the H1H even though the NAAQS allows other forms of compliance. Using the H1H is a more conservative approach.

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As shown in Table 11, the proposed Project would exceed the CAAQS for NAAQS after accounting for background concentrations for all criteria air pollutants except for the 1-hour and annual NO_2 and 24-hour $PM_{2.5}$ NAAQS. Therefore, criteria air pollutant emissions would be potentially significant and thus mitigation is required. Mitigation required to minimize potentially significant air quality impacts during construction of the Project include the following:

MM-AQ-1 Require Use of Tier 4 Off-Road Equipment During Construction.

Prior to the commencement of construction activities for the Project, the Applicant shall require its construction contractor to demonstrate that all 50-horsepower or greater diesel-powered equipment is powered with California Air Resources Board (CARB)-certified Tier 4 Final engines.

An exemption from this requirement may be granted if (1) the Applicant documents equipment with Tier 4 Final engines are not reasonably available, and (2) the required corresponding reductions in criteria air pollutant emissions can be achieved for the Project from other combinations of construction equipment. Before an exemption may be granted, the Applicant's construction contractor shall: (1) demonstrate that at least two construction fleet owners/operators in the County of Alameda were contacted and that those owners/operators confirmed Tier 4 Final equipment could not be located within the County of Alameda during the desired construction schedule; and (2) the proposed replacement equipment has been evaluated using California Emissions Estimator Model (CalEEMod) or other industry standard emission estimation method and documentation provided to the County of Alameda to confirm that necessary Project-generated emissions reductions are achieved.

Table 12 summarizes the results of the construction AAQA after implementation of **MM-AQ-1**.

Table 12. Construction Air Quality Impact Results - Significant Impact Levels - Mitigated

Pollutant	Averaging Time	Maximum Concentration ($\mu g/m^3$)	Class II SIL ($\mu g/m^3$)
Nitrogen dioxide (NO_2)	1 hour	90.82	–
	Annual	19.52	1
Carbon monoxide (CO)	1 hour	457.77	2,000
	8 hours	262.04	500
Sulfur dioxide (SO_2)	1 hour	0.67	7.86
	24 hours	0.24	5
Course Particulate Matter (PM_{10})	24 hours	1.15	5
	Annual	0.54	1
Fine Particulate Matter ($PM_{2.5}$)	24 hours	0.67	1.2
	Annual	0.40	0.3

Notes: CAAQS are not listed because the SIL does not apply to CAAQS. $\mu g/m^3$ = micrograms per cubic meter; SIL = Significant Impact Level.

As shown in Table 12, the maximum mitigated concentrations related by the project would not exceed the SILs established by the EPA for CO, SO_2, and PM_{10}. However, the SIL for NO_x and $PM_{2.5}$ would exceed during construction

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for the annual averaging. Because the SIL was exceed for NO_x and $PM_{2.5}$ maximum combined concentrations (modeled + background) are evaluated in Table 13.

Table 13. Construction Air Quality Impact Results - Ambient Air Quality Standards - Mitigated

Pollutant	Averaging Time	Maximum Concentration (µg/m³)	Background Concentration (µg/m³)	Total Concentration (µg/m³)	Ambient Air Quality Standard (µg/m³)	
					CAAQS	NAAQS
Nitrogen dioxide (NO_2)	1 hour	90.94	85	176	339	N/A
	1 hour	90.94	79	179	N/A	188
	Annual	19.55	15	35	57	100
Carbon monoxide (CO)	1 hour	457.77	18,902	19,360	23,000	40,000
	8 hours	262.04	4,239	4,501	10,300	10,300
Sulfur dioxide (SO_2)[a]	1 hour	0.67	40	41	655	N/A
	24 hours	7	0.24	7	105	N/A
Course Particulate Matter (PM_{10})	24 hours	1.15	40	41	50	150
	Annual	0.54	10	10	20	N/A
Fine Particulate Matter ($PM_{2.5}$)	24 hours	0.85	40	35	—	35
	Annual	0.40	8	8	12	12

Notes: µg/m³ = micrograms per cubic meter; CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards; PM_{10} = particulate matter less than 10 microns; $PM_{2.5}$ = particulate matter less than 2.5 microns; N/A = not applicable or available.

[a] Results for SO_2 and CO are reported as the H1H even though the NAAQS allows other forms of compliance. Using the H1H is a more conservative approach.

As shown in Table 13, the proposed Project would not exceed the CAAQS for NAAQS after accounting for background concentrations for all criteria air pollutants except for the 24-hour $PM_{2.5}$ NAAQS. The exceedances for 24-hour $PM_{2.5}$ is due to the high level of background concentrations that already exceed the NAAQS. As shown in Table 12, the Project would not exceed the SIL for the 24-hour $PM_{2.5}$ after mitigation. Additionally, these emissions would be temporary and short-term construction-related emissions. Therefore, impacts would be **less than significant after mitigation**.

2.5.2.2 Operations

Operation of the proposed Project would generate ROG, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources (vehicle trips), area sources), energy sources, off-road equipment, and stationary sources. As discussed in Section 2.4.2.3, pollutant emissions associated with long-term operations were quantified using CalEEMod. Project-generated mobile source emissions were estimated in CalEEMod based on Project-specific trip rates. CalEEMod default values were used to estimate emissions from the proposed Project source. CalEEMod was also used to estimate emissions of the off-road equipment and the stationary source based on hours of operation.

Table 14 presents the maximum daily emissions associated with the operation of the Project in 2028 after all phases of construction have been completed. Emissions represent the average daily emissions over the length of

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construction. Complete details of the emissions calculations are provided in Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*.

Table 14. Estimated Average Daily Operational Criteria Air Pollutant Emissions

Source	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Mobile	0.14	0.12	0.13	<0.01	0.35	0.09
Area	0.37	<0.01	0.02	<0.01	<0.01	<0.01
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.02	0.20	0.20	<0.01	<0.01	<0.01
Stationary	21.48	1.05	54.78	0.10	0.42	0.42
Total	***21.99***	***1.39***	***56.24***	***0.11***	***0.78***	***0.52***
BAAQMD Operational Thresholds	***54***	***54***	***NA***	***NA***	***82***	***54***
Threshold exceeded?	**No**	**No**	**NA**	**NA**	**No**	**No**

Notes: ROG = reactive organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; BAAQMD = Bay Area Air Quality Management District. <0.01 = reported value is less than 0.01.
See Appendix A for complete results.
Columns may not add due to rounding.

As shown in Table 14, daily operational emissions for the Project would not exceed BAAQMD's significance thresholds for any criteria air pollutant. Therefore, the Project would result in a less-than-significant impact related to emissions of criteria air pollutant emissions during operation.

In analyzing cumulative impacts from a Project, the analysis must specifically evaluate the Project's contribution to the cumulative increase in pollutants for which the basin is designated as nonattainment for the CAAQS and NAAQS. If the Project does not exceed thresholds and is determined to have less than significant Project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the Project components, in combination with the emissions from other proposed or reasonably foreseeable future Projects, are in excess of established thresholds. However, the Project would only be considered to have a significant cumulative impact if it represents a "cumulatively considerable contribution" to the cumulative air quality impact.

Operational Ambient Air Quality Analysis

The screening analysis consists of evaluating modeled Project operational emissions against the significant impact levels (SILs) established by the EPA to determine if a project's criteria air pollutant emissions are considered inconsequential in comparison to the NAAQS. If the SILs are not exceeded, then a project's impacts would be considered insignificant, and no further analysis would be required. For completeness, this analysis also evaluates Project operational emissions to the CAAQS and NAAQS. Modeled concentrations are compared to the SILs in Table 15. All maximum facility impacts occurred at the ambient boundary, and the estimated concentrations are all below the applicable SILs.

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Table 15. Operational Air Quality Impact Results – Significant Impact Levels

Pollutant	Averaging Time	Maximum Concentration (µg/m³)	Class II SIL (µg/m³)
Nitrogen dioxide (NO_2)	1 hour	4.69	–
	Annual	0.12	1
Carbon monoxide (CO)	1 hour	57.42	2,000
	8 hours	28.15	500
Sulfur dioxide (SO_2)	1 hour	0.12	7.86
	24 hours	0.02	5
Course Particulate Matter (PM_{10})	24 hours	0.11	5
	Annual	0.02	1
Fine Particulate Matter ($PM_{2.5}$)	24 hours	0.10	1.2
	Annual	0.02	0.3

Notes: CAAQS are not listed because the SIL does not apply to CAAQS. µg/m3 = micrograms per cubic meter; SIL = Significant Impact Level.

As shown in Table 15, the maximum concentrations related by the Project would not exceed the SILs established by the EPA for NO_x CO, SO_2, PM_{10}, and $PM_{2.5}$.

Table 16 Operational Air Quality Impact Results – Ambient Air Quality Standards

Pollutant	Averaging Time	Maximum Concentration (µg/m³)	Background Concentration (µg/m³)	Total Concentration (µg/m³)	Ambient Air Quality Standard (µg/m³)	
					CAAQS	NAAQS
Nitrogen dioxide (NO_2)	1 hour	4.69	85	89	339	N/A
	1 hour	4.69	79	84	N/A	188
	Annual	0.12	15	15	57	100
Carbon monoxide (CO)	1 hour	57.42	18,902	18,960	23,000	40,000
	8 hours	28.15	4,239	4,267	10,000	10,000
Sulfur dioxide (SO_2)[a]	1 hour	0.12	40	40	655	N/A
	24 hours	0.02	7	7	105	N/A
Course Particulate Matter (PM_{10})	24 hours	0.12	40	40	50	N/A
	Annual	0.01	10	10	20	N/A
Fine Particulate Matter ($PM_{2.5}$)	24 hours	0.10	44	44	–	35
	Annual	0.02	8	8	12	12

Notes: µg/m3 = micrograms per cubic meter; CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards; PM_{10} = particulate matter less than 10 microns; $PM_{2.5}$ = particulate matter less than 2.5 microns; N/A = not applicable or available.

[a] Results for SO_2 and CO are reported as the H1H even though the NAAQS allows other forms of compliance. Using the H1H is a more conservative approach.

As shown in Table 16, the proposed Project would not exceed the CAAQS for NAAQS after accounting for background concentrations for all criteria air pollutants except for $PM_{2.5}$ NAAQS. The exceedance for $PM_{2.5}$ is due to the high level of background concentrations that already exceed the NAAQS. As shown in Table 15, the Project would not exceed the SIL for the $PM_{2.5}$ 24-hour concentration. Therefore, impacts would be **less than significant**.

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Cumulative Impact Analysis

The SFBAAB the 2017 Clean Air Plan serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions within the basin to ensure the SFBAAB continues to make progress toward NAAQS and CAAQS attainment status. As such, cumulative projects located in the bay area would have the potential to result in a cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the 2017 Clean Air Plan. Similarly, individual projects that are inconsistent with the regional planning documents on which the 2017 Clean Air Plan is based would have the potential to result in cumulative impacts if they represent development beyond regional projections.

The SFBAAB has been designated as a national nonattainment area for O_3 and $PM_{2.5}$, and a California nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The geographic extent for the analysis of cumulative impacts related to criteria air pollutants is the SFBAAB. Due to the O_3, PM_{10}, and $PM_{2.5}$ nonattainment status of the SFBAAB, the primary air pollutants of concern are ROG and NOx, which are O_3 precursors, and PM_{10} and $PM_{2.5}$. Because of the nature of O_3 as a regional air pollutant, emissions from the entire geographic area for this cumulative impact analysis would tend to be important, although maximum O_3 impacts generally occur downwind of the area where the O_3 precursors are released. PM_{10} and $PM_{2.5}$ impacts, on the other hand, tend to occur locally. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the SFBAAB. As shown in Table 9, the emissions of all criteria pollutants from the Project's construction would be below the significance threshold identified by the BAAQMD.

Construction schedules for potential future projects near the Project site are currently unknown; therefore, potential construction impacts associated with two or more simultaneous projects would be speculative.[4] However, future projects would be subject to CEQA and would require an air quality analysis and, where necessary, mitigation if the project would exceed BAAQMD's significance thresholds. Criteria air pollutant emissions associated with construction activity of future proposed projects would be reduced through implementation of control measures required by BAAQMD. Cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because the Project will incorporate PDF-AQ-1 to reduce fugitive dust emissions and MM-AQ-1 to reduce diesel PM emissions. Therefore, the Project's construction activities are not anticipated to result in a cumulatively significant impact on air quality.

Once construction is completed, construction-related emissions would cease. As shown in Table 14, operational emissions generated by the Project would not result in emissions that exceed significance thresholds for any criteria air pollutant and would be substantially less than construction impacts. Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the 2017 Clean Air Plan serves as the primary air quality planning documents for the state and SFBAAB, respectively. The 2017 Clean Air Plan relies on MTC growth projections based on population, vehicle trends, and land use plans developed by the cities and by the County as part of the development of their general plans. Therefore, projects that propose development that is consistent with the growth anticipated by local plans would be consistent with the 2017 Clean Air Plan and would not be considered to result in cumulatively considerable impacts from operational emissions.

[4] The CEQA Guidelines state that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (14 CCR 15145). This discussion is nonetheless provided in an effort to show good-faith analysis and to comply with CEQA's information disclosure requirements.

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As a result, the Project would not result in a cumulatively considerable contribution to regional Os concentrations or other criteria pollutant emissions. Cumulative impacts for construction and operation would be less than significant for the Project.

2.5.3 Would the Project expose sensitive receptors to substantial pollutant concentrations?

2.5.3.1 Carbon Monoxide Hotspots

Mobile source impacts occur on two scales of motion. Regionally, project-related travel would add to regional trip generation and increase the VMT within the local airshed and the SFBAAB. Locally, project generated traffic would be added to the County's roadway system near the Project Site. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles cold started and operating at pollution-inefficient speeds and is operating on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SFBAAB is steadily decreasing.

The BAAQMD thresholds of significance for local CO emissions are the 1-hour and 8-hour CAAQS of 20 ppm and 9 ppm, respectively. By definition, these represent levels that are protective of public health. According to BAAQMD, a project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met (BAAQMD 2023):

1. Project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The maximum estimated peak-hour traffic of 194 vehicles would be at the Midway Road East and Patterson Pass Road intersection assessed in the draft traffic study for the Project (Dudek 2024). This hourly volume would be substantially less than the BAAQMD screening criteria. Accordingly, Project-related traffic would not exceed CO standards; therefore, no further analysis was conducted for CO impacts. Thus, the CO emissions impact would be considered **less than significant** on a project level and cumulative basis.

2.5.3.2 Toxic Air Contaminants

Construction HRA

As discussed in Section 2.4.2.5, an HRA was performed to estimate the Maximum Individual Cancer Risk and Chronic Hazard Index for residential receptors associated with Project operations. Results of the operational HRA are presented in Table 17. Detailed operational model outputs are presented in Appendix D.

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Table 17. Construction Activity Health Risk Assessment Results Prior to Mitigation

Impact Parameter	Units	Project Impact	BAAQMD CEQA Threshold	Level of Significance
Cancer Risk	Per Million	37.26	10.0	**Potentially Significant**
HIC	Not Applicable	0.03	1.0	Less than Significant
$PM_{2.5}$	$\mu g/m^3$	0.072	0.3	Less than significant

Source: Appendix D
Notes: BAAQMD = Bay Area Air Quality Management District; CEQA = California Environmental Quality Act; HIC = Chronic Hazard Index; $PM_{2.5}$ = fine particulate matter; $\mu g/m^3$ = micrograms per cubic meter.

The results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions would result in cancer risk above the 10 in 1 million threshold and Chronic Hazard Index less than 1. Therefore, TAC emissions from construction of the Project would result in a potentially significant impact and thus mitigation is required. Mitigation required to minimize potentially significant air quality impacts during construction of the Project include **MM-AQ-1**, which is discussed in Section 2.5.2.1.

Table 18 summarizes the results of the construction HRA after implementation of **MM-AQ-1** for construction of the proposed Project.

Table 18. Construction Activity Health Risk Assessment Results After Mitigation

Impact Parameter	Units	Project Impact	BAAQMD CEQA Threshold	Level of Significance
Offsite				
Cancer Risk	Per Million	2.43	10.0	Less than Significant with mitigation
HIC	Not Applicable	0.03	1.0	Less than Significant
$PM_{2.5}$	$\mu g/m^3$	0.05	0.3	Less than significant

Source: Appendix D
Notes: BAAQMD = Bay Area Air Quality Management District; CEQA = California Environmental Quality Act; HIC = Chronic Hazard Index. $PM_{2.5}$ = fine particulate matter; $\mu g/m^3$ = micrograms per cubic meter.

As shown in Table 18, after mitigation, TAC exposure from construction diesel exhaust emissions would result in cancer risk below the 10 in 1 million threshold and Chronic Hazard Index would still be less than 1. Therefore, after implementation of mitigation, the Project would result in a less-than-significant impact related to exposure to TAC emissions during construction.

Operational HRA

As discussed in Section 2.4.2.6, an HRA was performed to estimate the Maximum Individual Cancer Risk and Chronic Hazard Index for residential receptors associated with Project operations. Results of the operational HRA are presented in Table 19. Detailed operational model outputs are presented in Appendix E.

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Table 19. Operational Health Risk Assessment Results - Unmitigated

Source	Cancer Risk (per million)	HIC	$PM_{2.5}$ ($\mu g/m^3$)
Project	3.03E-1	7.00E-05	0.073
Pacific Gas and Electric Co	3.98E-32	0.00E+00	0.00E+00
California Department of Water Resources	1.97E-30	0.00E+00	0.00E+00
Waste Management of Alameda County	5.66E-22	8.86E-24	9.93E-23
Verizon Wireless - Hwy 205/580	1.18E-12	0.00E+00	0.00E+00
San Luis & Delta Mendota Water Authority (SLDMWA)	9.68E-14	2.59E-17	1.29E-16
Mariposa Energy LLC	2.08E-26	1.37E-28	3.26E-26
EB Reg Comm Systems Authority	4.03E-17	0.00E+00	0.00E+00
New Cingular Wireless PCS LLC dba AT&T Mobility	9.81E-35	0.00E+00	0.00E+00
Verizon Wireless (Windfarm)	2.02E-23	1.04E-26	3.12E-26
Pacific Gas and Electric Company	1.53E-02	0.00E+00	2.87E-05
Golden Hills LLC Wind Energy Central	6.00E-04	0.00E+00	0.00E+00
State of CA-Dept of Water Resources	5.50E-01	0.00E+00	0.00E+00
Waste Management of Alameda County	1.40E-01	0.00E+00	0.00E+00
San Luis & Delta Mendota Water Authority	1.00E-02	0.00E+00	0.00E+00
Total	**1.02**	**0.0001**	**0.073**
BAAQMD CEQA Threshold	100	10.0	0.8
Level of Significance	Less Than Significant	Less Than Significant	Less than Significant

Source: Appendix E.
Notes: CEQA = California Environmental Quality Act

As shown in Table 19, the TAC emissions from operation of the Project would result in a Maximum Individual Cancer Risk of one in a million and a Chronic Hazard Index of 0.0001, which are below the significance thresholds. The Project operational TAC health risk impacts would be less than significant without mitigation.

2.5.3.5 Health Effects of Criteria Air Pollutants

Construction and operation of the Project would not result in emissions that exceed BAAQMD's emission thresholds for any criteria air pollutants. The BAAQMD thresholds are based on the SFBAAB complying with the NAAQS and CAAQS which are protective of public health; therefore, no adverse effects to human health would result from the Project. The following provides a general discussion of criteria air pollutants and their health effects.

Regarding ROGs, some ROGs would be associated with motor vehicles and construction equipment, while others are associated with architectural coatings and asphalt off-gassing, the emissions of which would not result in exceedances of BAAQMD's thresholds. Generally, the ROGs in architectural coatings and asphalt are of relatively low toxicity. Additionally, the contractor is required to procure architectural coatings from a supplier in compliance with the requirements of BAAQMD's Regulation 8, Rule 3 (Architectural Coatings).

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In addition, ROGs and NO_x are precursors to O_3, for which the SFBAAB is designated as nonattainment with respect to the NAAQS and CAAQS (the SDAB is designated by EPA as an attainment area for the 1-hour O_3 NAAQS standard and 1997 8-hour NAAQS standard). The health effects associated with O_3, as discussed in Section 2.1.2.1, Criteria Air Pollutants, are generally associated with reduced lung function. The contribution of ROGs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SDAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the ROG emissions would occur because exceedances of the O_3 NAAQS and CAAQS tend to occur between April and October, when solar radiation is highest. The holistic effect of a single Project's emissions of O_3 precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the ROG and NO_x emissions associated with Project construction could minimally contribute to regional O_3 concentrations and the associated health impacts. Due to the minimal contribution during construction and operation, health impacts would be considered less than significant.

Similar to O_3, construction of the Project would not exceed thresholds for PM_{10} or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter. Due to the minimal contribution of particulate matter during construction and operation, health impacts would be considered less than significant.

Regarding NO_2, which is a constituent of NO_x, construction of the Project would not contribute to exceedances of the NAAQS and CAAQS for NO_2 since NO_x emissions would be less than the applicable BAAQMD threshold. As described in Section 2.1.2.1, NO_2 health impacts are associated with respiratory irritation, which may be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, these operations would be relatively short term, and the off-road construction equipment would be operating on various portions of the site and would not be concentrated in one portion of the site at any one time. Construction of the Project would not require any stationary emission sources that would create substantial, localized NO_2 impacts.

Based on the preceding considerations, health impacts from Project-related criteria air pollutant emissions would be considered less than significant.

2.5.3.6 Conclusion

The results of the HRA demonstrate that with incorporation of PDF-AQ-1 and after implementation of **MM-AQ-1**, which requires use of Tier 4 Final equipment during construction, the TAC exposure from construction diesel exhaust emissions would result in cancer risk below the 10 in 1 million threshold and a Chronic Hazard Index less than 1.0. Therefore, impacts during construction would be less than significant after mitigation. Furthermore, the emergency generator would be subject to the ATCM and BAAQMD BACT requirements and would require minimal maintenance and testing, resulting in less than significant impacts during operation.

In addition, ROG and NO_x emissions, as described previously, would minimally contribute to regional O_3 concentrations and the associated health effects. In addition to O_3, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO_2. As shown in Table 2, the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected that the Project's operational NO_x emissions would result in exceedances of the NO_2 standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. The associated CO "hotspots" were discussed previously as a less than significant impact. Thus, the Project's CO emissions would not contribute to

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significant health effects associated with this pollutant. PM_{10} and $PM_{2.5}$ would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter and would not obstruct the SFBAAB from coming into attainment for these pollutants and would not contribute to significant health effects associated with particulates. In addition, the Project would not expose sensitive receptors to substantial pollutant concentrations. Therefore, overall health impacts associated with criteria air pollutants would be considered less than significant.

2.5.4 Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

2.5.4.1 Construction

Odors would be generated from vehicles and/or equipment exhaust emissions during construction of the Project. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and asphalt pavement application. Such odors are temporary and for the types of construction activities anticipated for Project components, would generally occur at magnitudes that would not affect substantial numbers of people. Odors are highest near the source and would quickly dissipate. Therefore, impacts associated with odors during construction would be considered less than significant.

2.5.4.2 Operational

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine if potential odors would have a significant impact. Examples of land uses and industrial operations that are commonly associated with odor complaints include agricultural uses, wastewater treatment plants, food processing facilities, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding facilities. In addition to the odor source, the distance between the sensitive receptor(s) and the odor source, as well as the local meteorological conditions, are considerations in the potential for a Project to frequently expose the public to objectionable odors. Although localized air quality impacts are focused on potential impacts to sensitive receptors, such as residences and schools, other land uses where people may congregate (e.g., workplaces) or uses with the intent to attract people (e.g., restaurants and visitor-serving accommodations) should also be considered in the evaluation of potential odor nuisance impacts. The Project would not include land uses that would generate objectionable odors, nor would it attract people to an area where there would be a potential for exposure to objectionable odors. The Project is not expected to produce any nuisance odors or place sensitive receptors next to existing objectionable odors; therefore, impacts related to odors caused by the Project during operations would be less than significant.

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3 Greenhouse Gas Emissions

3.1 Environmental Setting

3.1.1 Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2023c).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-20th century and is the most significant driver of observed climate change (IPCC 2014; EPA 2023c). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2014). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2014). Continued emissions of GHGs will cause further warming and changes in all components of the climate system, which is discussed further in Section 3.1.5, Potential Effects of Climate Change.

3.1.2 Greenhouse Gases and other Climate Forcing Substances

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. GHGs include, but are not limited to, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), water vapor, hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3) (see also 14 CCR 15364.5).[5] Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these

[5] Climate forcing substances include GHGs and other substances such as black carbon and aerosols.

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gases. CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, HCFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.[6]

Carbon Dioxide (CO_2). CO_2 is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are from the combustion of fuels such as coal, oil, natural gas, and wood and changes in land use.

Methane (CH_4). CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide (N_2O). N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (such as in rockets, racecars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone-depleting substances (e.g., CFCs, HCFCs, and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the ozone depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

[6] The descriptions of GHGs are summarized from the IPCC Fourth Assessment Report (2007), CARB's "Glossary of Terms Used in GHG Inventories" (2018), and EPA's "Climate Change" (2022).

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Chlorofluorocarbons (CFCs). CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3.

Hydrochlorofluorocarbons (HCFCs). HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential. Diesel particulate matter emissions are a major source of black carbon and are TACs that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from the California Air Resources Board's (CARB's) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone (O_3). Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

3.1.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2023c). The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of

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a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons CO_2 equivalent (MT CO_2e).

The current version of the CalEEMod (version 2022.1) assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the Project.

3.1.4 Sources of Greenhouse Gas Emissions

Global Inventory

Anthropogenic GHG emissions worldwide in 2020 (the most recent year for which data is available) totaled approximately 49,800 million metric tons (MMT) of CO_2e, excluding land use change and forestry (PBL 2022). The top six GHG emitters include China, the United States, the Russian Federation, India, Japan, and the European Union, which accounted for approximately 60% of the total global emissions, or approximately 30,270 MMT CO_2e (PBL 2022). Table 20 presents the top GHG-emissions-producing countries.

Table 20. Six Top GHG Producer Countries

Emitting Countries	2020 GHG Emissions (MMT CO_2e)[a,b]
China	14,300
United States	5,640
European Union	3,440
India	3,520
Russian Federation	2,210
Japan	1,160
Total	**30,270**

Source: PBL 2022.
Notes: MMT CO_2e = million metric tons of carbon dioxide equivalent.
[a] Column may not add due to rounding.
[b] GHG emissions do not include land use change and forestry-related GHG emissions.

National Inventory

Per the EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks[7]: 1990 to 2021, total United States GHG emissions were approximately 6,340 MMT CO_2e in 2021 (EPA 2023d). Total U.S. emissions have decreased by 2.3 percent from 1990 to 2021, down from a high of 15.8 percent above 1990 levels in 2007. Emissions increased from 2020 to 2021 by 5.2 percent (314.3 MMT CO_2e). Net emissions (i.e., including sinks) were 5,586.0 MMT CO_2e in 2021. Overall, net emissions increased 6.4 percent from 2020 to 2021 and decreased 16.6 percent from 2005 levels Between 2020 and 2021, the increase in total GHG emissions was driven largely by an increase in CO_2 emissions from fossil fuel combustion due to economic activity rebounding after the height of the COVID-19 pandemic. The CO_2 emissions from fossil fuel combustion increased by 6.8 percent from 2020 to 2021, including an 11.4 percent increase in transportation sector emissions and a 7.0 percent increase in electric power sector emissions. The increase in electric power sector emissions was due in part to an increase in electricity demand of 2.4 percent since 2020. Overall, there has been a decrease in electric power sector emissions from 1990 through

[7] A "sink" is a natural environment that absorbs carbon dioxide from the atmosphere.

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2021, which reflects the combined impacts of long-term trends in many factors, including population, economic growth, energy markets, technological changes including energy efficiency, and the carbon intensity of energy fuel choices (EPA 2023d).

State Inventory

According to California's 2000–2020 GHG emissions inventory (2022 edition), California emitted approximately 369.2 MMT CO_2e in 2020, including emissions resulting from out-of-state electrical generation (CARB 2022a). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high-GWP substances, and recycling and waste. Table 21 presents California GHG emission source categories and their relative contributions to the emissions inventory in 2020.

Table 21. GHG Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2e)	Percent of Total[a]
Transportation	136.60	37%
Industrial uses	73.84	20%
Electricity generation[a]	59.07	16%
Residential and commercial uses	36.92	10%
Agriculture and Forestry	36.92	9%
High GWP substances	22.15	6%
Recycling and waste	7.38	2%
Totals	**369.2**	**100%**

Source: CARB 2022a.
Notes: GHG = greenhouse gas; GWP = global warming potential; MMT CO_2e = million metric tons of carbon dioxide equivalent. Emissions reflect 2020 California GHG inventory.
Totals may not sum due to rounding.
[a] Includes emissions associated with imported electricity, which account for 18.46 MMT CO_2e.

Per capita GHG emissions in California have dropped from a 2001 peak of 13.8 MT per person to 9.3 MT per person in 2020, a 33% decrease. In 2016, statewide GHG emissions dropped below the 2020 GHG Limit of 431 MMT CO_2e and have remained below the Limit since that time (CARB 2022a).

Local Inventories

According to the GHG inventory data from the County's 2014 Community Climate Action Plan (CCAP), in 2005, the Unincorporated County emitted 930,000 CO_2e (County of Alameda 2014). As outlined in Table 22, Alameda County GHG Emissions by Sectors, Transportation generated 60% of these emissions. Similar to emissions trends statewide, electricity generation is the second biggest emitter.

Table 22. Alameda County GHG Emissions by Sectors in 2005

Sector	Annual GHG Emissions (MMT CO_2e)	Percent of Total
Transportation	556,000	59.8%
Residential Energy use	179,900	19.3%

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Table 22. Alameda County GHG Emissions by Sectors in 2005

Sector	Annual GHG Emissions (MMT CO2e)	Percent of Total
Commercial/Industrial Energy use	132,800	14.3%
Waste	30,400	3.3%
Water Consumption	30,400	3.3%
Total	**930,00**	**100**

Source: Alameda County 2014.

Notes: GHG = greenhouse gas; MMT CO2e = million metric tons of carbon dioxide equivalent per year

3.1.5 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 IPCC Synthesis Report indicated that warming of the climate system is unequivocal and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, and rising sea levels (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, frequency of severe weather events, and electricity demand and supply. The primary effect of global climate change has been a rise in average global tropospheric temperature. Reflecting the long-term warming trend since pre-industrial times, observed global mean surface temperature for the decade 2006–2015 was 0.87°C (1.6°F) (likely between 0.75°C [1.4°F] and 0.99°C [1.8°F]) higher than the average over the 1850–1900 period (IPCC 2018). Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Human activities are estimated to have caused approximately 1.0°C (1.8°F) of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C (1.4°F to 2.2°F) (IPCC 2018). Global warming is likely to reach 1.5°C (2.7°F) between 2030 and 2052 if it continues to increase at the current rate (IPCC 2018).

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The Office of Environmental Health Hazard Assessment identified various indicators of climate change in California, which are scientifically based measurements that track trends in various aspects of climate change. Many indicators reveal discernible evidence that climate change is occurring in California and is having significant, measurable impacts in the state. Changes in the state's climate have been observed, including an increase in annual average air temperature with record warmth from 2012 to 2016, more frequent extreme heat events, more extreme drought, a decline in winter chill, an increase in cooling degree days and a decrease in heating degree days, and an increase in variability of statewide precipitation (OEHHA 2018).

Warming temperatures and changing precipitation patterns have altered California's physical systems—the ocean, lakes, rivers, and snowpack—upon which the state depends. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the state's annual water supply. Impacts of climate on physical systems have been observed such as high variability of snow-water content (i.e., amount of water stored in snowpack), decrease in snowmelt runoff, glacier change (loss in area), rise in sea

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levels, increase in average lake water temperature and coastal ocean temperature, and a decrease in dissolved oxygen in coastal waters (OEHHA 2018).

Impacts of climate change on biological systems, including humans, wildlife, and vegetation, have also been observed, including climate change impacts on terrestrial, marine, and freshwater ecosystems. As with global observations, species responses include those consistent with warming: elevational or latitudinal shifts in range, changes in the timing of key plant and animal life cycle events, and changes in the abundance of species and in community composition. Humans are better able to adapt to a changing climate than plants and animals in natural ecosystems. Nevertheless, climate change poses a threat to public health as warming temperatures and changes in precipitation can affect vector-borne pathogen transmission and disease patterns in California as well as the variability of heat-related deaths and illnesses. In addition, since 1950, the area burned by wildfires each year has followed an increasing trend overall.

The California Natural Resources Agency (CNRA) has released four California Climate Change Assessments (2006, 2009, 2012, and 2018), which have addressed the following: acceleration of warming across the state, more intense and frequent heat waves, greater riverine flows, accelerating sea level rise, more intense and frequent drought, more severe and frequent wildfires, more severe storms and extreme weather events, shrinking snowpack and less overall precipitation, and ocean acidification, hypoxia, and warming. A summary of current and future climate change impacts to resource areas in California, as discussed in the Safeguarding California: Reducing Climate Risk (CNRA 2014), is provided in the following text.

Agriculture. The impacts of climate change on the agricultural sector are far more severe than the typical variability in weather and precipitation patterns that occur year to year. Some of the specific challenges faced by the agricultural sector and farmers include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought, to destructive storm events; significant shifts in water availably and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production. These challenges and associated short-term and long-term impacts can have both positive and negative effects on agricultural production. Nonetheless, it is predicted that current crop and livestock production will suffer long-term negative effects resulting in a substantial decrease in the agricultural sector if not managed or mitigated.

Biodiversity and Habitat. The state's extensive biodiversity stems from its varied climate and assorted landscapes, which have resulted in numerous habitats where species have evolved and adapted over time. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift, and novel combinations of species; pathogens, parasites and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; and threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss has occurs). Habitat restoration, conservation, and resource management across California and through collaborative efforts amongst public, private and nonprofit agencies has assisted in the effort to fight climate change impacts on biodiversity and habitat. One of the key measures in these efforts is ensuring species' ability to relocate as temperature and water availability fluctuate as a result of climate change, based on geographic region.

Energy. The energy sector provides California residents with a supply of reliable and affordable energy through a complex integrated system. Specific climate change challenges for the energy sector include temperature, fluctuating precipitation patterns, increasing extreme weather events and sea level rise. Increasing temperatures

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and reduced snowpack negatively impact the availability of a steady flow of snowmelt to hydroelectric reservoirs. Higher temperatures also reduce the capacity of thermal power plants since power plant cooling is less efficient at higher ambient temperatures. Natural gas infrastructure in coastal California is threatened by sea level rise and extreme storm events.

Forestry. Forests occupy approximately 33% of California's 100 million acres and provide key benefits such as wildlife habitat, absorption of CO_2, renewable energy and building materials. The most significant climate change related risk to forests is accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large-scale mortalities and combined with increasing temperatures have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts and vegetation conversions. These factors contribute to decreased forest growth, geographic shifts in tree distribution, loss of fish and wildlife habitat and decreased carbon absorption. Climate change may result in increased establishment of non-native species, particularly in rangelands where invasive species are already a problem. Invasive species may be able to exploit temperature or precipitation changes, or quickly occupy areas denuded by fire, insect mortality or other climate change effects on vegetation.

Ocean and Coastal Ecosystems and Resources. Sea level rise, changing ocean conditions and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea level rise in addition to more frequent and severe coastal storms and erosion are threatening vital infrastructure such as roads, bridges, power plants, ports and airports, gasoline pipes, and emergency facilities, as well as negatively impacting the coastal recreational assets such as beaches and tidal wetlands. Water quality and ocean acidification threaten the abundance of seafood and other plant and wildlife habitats throughout California and globally.

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the twenty-first century. Changes in precipitation patterns affect public health primarily through potential for altered water supplies, and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity and duration of extreme heat and heat waves is likely to increase the risk of mortality due to heat related illness as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness such as asthma and allergies. Additional health impacts that may be impacted by climate change include cardiovascular disease, vector-borne diseases, mental health impacts, and malnutrition injuries. Increased frequency of these ailments is likely to subsequently increase the direct risk of injury and/or mortality.

Transportation. Residents of California rely on airports, seaports, public transportation and an extensive roadway network to gain access to destinations, goods and services. While the transportation industry is a source of GHG emissions it is also vulnerable to climate change risks. Particularly, sea level rise and erosion threaten many coastal California roadways, airports, seaports, transit systems, bridge supports, and energy and fueling infrastructure. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure which can impair movement of peoples and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides, and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety.

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Water. Water resources in California support residences, plants, wildlife, farmland, landscapes and ecosystems and bring trillions of dollars in economic activity. Climate change could seriously impact the timing, form, amount of precipitation, runoff patterns, and frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the wintertime. Increased risk of flooding has a variety of public health concerns including water quality, public safety, property damage, displacement and post-disaster mental health problems. Prolonged and intensified droughts can also negatively groundwater reserves and result in increased overdraft and subsidence. Droughts can also negatively impact agriculture and farmland throughout the state. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality. Water temperatures are also prone to increase, which can negatively impact wildlife that rely on a specific range of temperatures for suitable habitat.

In addition to the potential statewide effects of climate change, to address local and regional governments need for information to support action in their communities, the CNRA Fourth Assessment includes reports for nine regions of the state, including the San Francisco Bay Region (which includes Alameda County, where the Project is located). Key projected climate changes for the San Francisco Bay Region include the following (CNRA 2019):

- The impacts of climate change are already being felt in the San Francisco Bay Area and Northern California:
  - Overall, the Bay Area's average annual maximum temperature increased by 1.7°F (0.95°C) from 1950 to 2005.
  - Several studies suggest that coastal fog along the California coast, so critical to the Bay Area climate, is less frequent than before.
  - Sea level in the Bay Area has risen over 20 centimeters (8 inches) in the last 100 years.
  - The powerful 2015–2016 El Niño, one of the three largest in the historical record, resulted in winter wave energy that was over 50% larger than the typical winter in the Bay Area, driving unprecedented outer coast beach erosion.
  - The 2012–2016 California drought led to the most severe moisture deficits in the last 1,200 years and a 1-in-500 year low in Sierra snowpack. The 2012–2016 record low snowpack resulted in $2.1 billion in economic losses and 21,000 jobs lost in the agricultural and recreational sectors statewide and exacerbated an ongoing trend of groundwater overdraft.
- These changes are projected to increase significantly in the coming decades over the region:
  - Even with substantial global efforts to reduce GHG emissions, the Bay Area will likely see a significant temperature increase by mid-century. By the end of the century, the difference between lower and higher global emissions scenarios will make a major difference in how much Bay Area temperatures rise.
  - Precipitation in the Bay Area will continue to exhibit high year-to-year variability—"booms and busts"—with very wet and very dry years. The Bay Area's largest winter storms will likely become more intense, and potentially more damaging, in the coming decades. Under a high emissions scenario, average Sierra Nevada snowpack is projected to decline by nearly 20% in the next 2–3 decades, 30% to 60% in mid-century, and by over 80% in late century.
  - Future increases in temperature, regardless of whether total precipitation goes up or down, will likely cause longer and deeper California droughts, posing major problems for water supplies, natural ecosystems, and agriculture.

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  - California's Fourth Climate Change Assessment projects median sea level rise between 0.74 meters [2.42 feet] (RCP [Regional Comprehensive Plan] 4.5) and 1.37 meters [4.49 feet] (RCP 8.5) for 2100 along the California coast. However, recent science studies, using advanced models and ice sheet observations, suggest the possibility of extensive loss from Antarctic ice sheets in the 21st century — possibly producing sea level rise by 2100 that could approach 3 meters [10 feet].
  - Even with high levels of emissions reductions, research now suggests that at least 2 meters [7 feet] of sea level rise is inevitable over the next several centuries due to the lag of sea level rise in response to increasing global temperatures.
- Changes in temperature, precipitation, and sea level rise will produce substantial impacts on Bay Area social systems and the built environment:
  - The three-way relationship between land use, transportation infrastructure, and energy systems—all of which are vulnerable to climate impacts—is perhaps the most critical interdependence in determining the future growth and prosperity of the Bay Area.
  - Future land use decisions will significantly influence the Bay Area's efforts to address climate change, affecting building and transportation energy, urban water demand, and wildfire ignitions. For example, the critical lack of affordable housing in the core of the region is forcing households further south, north, and inland, with negative energy and environmental consequences. At the same time, building energy demand is higher in inland regions (warmer summers/cooler winters) so reducing Bay Area energy consumption will strongly depend on where new housing and business growth are located.
  - Much of the Bay Area's transportation system—airports, roads, and railways—is concentrated along the bay where flooding from sea level rise and storm surge is a major vulnerability.
  - The Bay Area electrical grid is vulnerable to power outages during wind and wildfire events while much of the natural gas transmission system is located along waterways and will be impacted by flooding from sea level rise and extreme storm events.
  - Warmer summers will increase summer energy demand across the region, with the largest increase expected in coastal cities as air conditioning adoption grows there.
  - Climate impacts—such as earlier melting of snowpack, increasing seawater intrusion into groundwater, increased rates of evapotranspiration, and levee failures or subsidence that contaminate Delta supplies—will affect both the quantity of water available and the quality of supplies.
  - Wastewater treatment plants, historically located along bay shorelines where effluent discharge was convenient, are now highly vulnerable to future sea level rise. Rising bay water and groundwater levels will also increase salinity intrusion and subsurface flooding. Climate change will require improved stormwater management in the Bay Area as extreme storm events increase in size and frequency.
  - Bay Area public health is threatened by a number of climate-related changes, including more extreme heat events, increased air pollution from O_3 formation and wildfires, longer and more frequent droughts, and flooding from sea level rise and high-intensity rain events.
  - High levels of socioeconomic inequity in the Bay Area create large differences in the ability of individuals to prepare for and recover from heat waves, floods, and wildfires. Financial resources as well as improved social structures are important to enhance community resilience and reduce these disparities.
  - Heat waves pose increased health risks due to urban heat islands and lack of local experience and cooling infrastructure (air conditioning) in bayside cities. These risks are compounded for low-income communities.

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- Natural infrastructure can play an important role in climate change adaptation, enhancing biodiversity and ecosystem services while reducing societal risks.
- While bayside communities are on the front lines for future food risk, many may have limited ability or resources to pursue adaptation strategies. Without inclusive engagement among communities, disparities in economic and political power will undermine regional solutions and leave communities acting independently, with highly variable results for resilience and community health.

- Climate change will produce substantial impacts on Bay Area natural and managed resource systems:
  - The future climate of the Bay Area will become less suitable for evergreen forests—redwoods and Douglas fir—and more favorable for hot-adapted vegetation such as chaparral shrub land.
  - The ability of vegetation to respond to the rapidly changing conditions in the 21st century is poorly understood. It is possible that vegetation will be increasingly "out of sync" with climate and vulnerable to heat and drought.
  - The most threatening effect of climate change to Bay Area wildlife is the impact of rising sea levels on wetlands because of the limited potential for wetlands to move inland and become established. At the same time, less rainfall, more summer heat, and increased drought will hurt amphibians and reptiles, while heat and wildfires may negatively affect upland birds, mammals, amphibians, and reptiles. Some wildlife species may need to shift locations as the vegetation they inhabit transforms with a changing climate.
  - The Bay Area's mild climate and accessible open spaces are vital to the region's quality of life. Regional conservation efforts, including coordinated open space protection design and implementation of landscape corridors, climate-smart conservation, and restoration practices, will enhance success in a changing climate.
  - In the Bay Area, future fire activity will be driven by both changes in urban development and in climate. Land use planning, together with fire-safe building standards and near-building vegetation management, are important strategies for managing future fire risk to people and structures.
  - Forests can play an important role in carbon sequestration. Fuel and fire management will be critical, as fire is the primary source of carbon loss from forests. Recently, carbon loss from fires exceeded carbon uptake by vegetation in California.
  - Nearly every aspect of Bay–Delta ecosystems will be affected by climate change as a result of rising sea levels, increases in air temperatures, changes in precipitation, changes in sediment supply and more. All-natural areas of the shore will need to adapt or transform.
  - The interruption of natural processes over the past 200 years as the region has developed has decreased natural Bay–Delta resiliency. A dynamic, resilient ecosystem has become a rigid landscape with brittle features that will have trouble adapting. New approaches that use natural shoreline infrastructure, like beaches, marshes, and mudflats, together with managed retreat where necessary, can create more resilient shorelines that respond well to changing conditions.
  - Nearly 70% of California's existing area of wine production will be vulnerable under future climate change projections by mid-century. Wine grape production in the Bay Area could be vulnerable to extreme temperatures and temperature-related water scarcity.
  - The sensitivity of Bay Area rangeland vegetation to precipitation dynamics makes these ecosystems particularly vulnerable to climate change. Changes in rainfall regimes are also likely to affect plant production and associated patterns in soil carbon and GHG production. Grazing and rangeland management practices can play a significant role in enhancing soil moisture and belowground carbon

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sequestration. Current research highlights the potential role of compost together with grazing on California pasturelands as a targeted strategy to increase carbon sequestration.

- A growing number of Bay Area local governments, regional agencies, non-profits, and private sector stakeholders are taking actions that advance climate adaptation and resilience:
  - Projects include comprehensive vulnerability assessments, plans for infrastructure improvements, new governance structures, and actual on-the-ground projects to address sea level rise, drought, and other climate impacts.
  - Examples include Resilient by Design: Bay Area Challenge, the Sonoma County Regional Climate Authority, Adaptation to Rising Tides, the Bay Area Regional Reliability Project, Bay Area Regional Health Inequities Initiative, San Francisco Climate & Health Profile, RISeR SF Bay, Marin County C-SMART, Sea Change San Mateo County, Climate Ready North Bay, and the San Francisco Bay.

3.2 Regulatory Setting

3.2.1 Federal

Massachusetts v. EPA. In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The Administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is the "endangerment finding."
- The Administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Federal Clean Air Act. The EPA is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR® labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors. In 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the federal CAA. USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO2, CH4, N2O, HFCs, PFCs, and SF6). The Endangerment Finding was required before USEPA could regulate GHG emissions under Section 202(a)(1) of the CAA. USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is

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endangering public health and welfare. These findings do not themselves impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

Energy Independence and Security Act. The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions:

1. Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel by 2022.
2. Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
3. Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards. In response to a U.S. Supreme Court ruling, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (75 FR 25324–25728).

In 2010, President Barack Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 by model year 2025 on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021 (77 FR 62624–63200). On January 12, 2017, the EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks (EPA 2023e).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018 (76 FR 57106–57513). The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines.

In March 2022, NHTSA established new fuel economy standards that would require an industry-wide fleet average of approximately 49 miles per gallon for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8% annually for model years 2024 and 2025, and 10% annually for model year 2026.

Fuel Efficiency Standards for Construction Equipment

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The federal government sets fuel efficiency standards for non-road diesel engines that are used in construction equipment. The regulations, contained in 40 Code of Federal Regulations (CFR) Parts 1039, 1065, and 1068, include multiple tiers of emission standards. Most recently, the USEPA adopted a comprehensive national program to reduce emissions from non-road diesel engines by integrating engine and fuel controls as a system to gain the greatest reductions. To meet these Tier 4 emission standards, engine manufacturers will produce new engines with advanced control technologies (USEPA, 2004).

Inflation Reduction Act of 2022. The Inflation Reduction Act was signed into law by President Biden in August 2022. The bill includes specific investment in energy and climate reform and is projected to reduce GHG emissions within the U.S. by 40% as compared to 2005 levels by 2030. The bill allocates funds to boost renewable energy infrastructure (e.g., solar panels and wind turbines), includes tax credits for the purchase of electric vehicles, and includes measures that will make homes more energy efficient.

3.2.2 State

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes executive orders, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

The state has taken a number of actions to address climate change. These include executive orders, legislation, and CARB plans and requirements. These are summarized below.

EO S-3-05. EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010, GHG emissions should be reduced to 1990 levels by 2020, and GHG emissions should be reduced to 80% below 1990 levels by 2050.

EO S-3-05 also directed the California EPA to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed, which subsequently issued reports from 2006 to 2010 (CAT 2016).

AB 32. In furtherance of the goals established in EO S-3-05, the legislature enacted AB 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California's GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the state's long-range climate objectives.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050, as set forth in EO S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO_2e. The executive order also calls for state agencies to continue to develop and implement GHG emissions reduction programs in support of the reduction targets. Sector-specific agencies in transportation,

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energy, water, and forestry were required to prepare GHG reduction plans by September 2015, followed by a report on action taken in relation to these plans in June 2016. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

SB 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction target, make changes to CARB's membership and increase legislative oversight of CARB's climate change-based activities, and expand dissemination of GHG and other air-quality-related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

EO B-55-18. EO B-55-18 (September 2018) establishes a statewide policy for the state to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net-negative emissions thereafter. The goal is an addition to the existing statewide targets of reducing the state's GHG emissions. CARB will work with relevant state agencies to ensure that future scoping plans identify and recommend measures to achieve the carbon neutrality goal.

AB 1279. The Legislature enacted AB 1279, the California Climate Crisis Act, in September 2022. The bill declares the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter. Additionally, the bill requires that by 2045, statewide anthropogenic GHG emissions be reduced to at least 85% below 1990 levels. Although AB 1279 establishes an overall policy to achieve net zero greenhouse gas emissions as soon as possible, but no later than 2045, recognizing the need to implement carbon dioxide removal and carbon capture, utilization and storage technologies, the Legislature established a specific target of 85% below 1990 levels by 2045 for anthropogenic GHG emissions. Therefore, the net zero target does not directly apply to development Projects, but the 2045 target of 85% below 1990 levels represents the reductions required to contribute to accomplishing the State's overall net zero policy.

California Air Resources Board's Climate Change Scoping Plan. One specific requirement of AB 32 was for CARB to prepare a scoping plan for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code Section 38561[a]), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan. The Climate Change Scoping Plan: A Framework for Change (Scoping Plan) included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emissions limit and initiate the transformations needed to achieve the state's long-range climate objectives. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
2. Achieving a statewide renewable energy mix of 33%.
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions.

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4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (17 CCR 95480 et seq.).
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations, and for community emissions to reduce GHGs by approximately 15% from then levels (2008) by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The First Update to the Climate Change Scoping Plan: Building on the Framework (First Update) defined the state's GHG emission reduction priorities for the next 5 years, and laid the groundwork to start the transition to the post-2020 goals set forth in EO S-3-05 and EO B-16-2012. The First Update concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050, including energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the state's 1990 emissions level, using more recent GWPs identified by the IPCC, from 427 MMT CO_2e to 431 MMT CO_2e (CARB 2014).

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. The governor called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In the summer of 2016, the legislature affirmed the importance of addressing climate change through passage of SB 32.

In December 2017, CARB adopted California's 2017 Climate Change Scoping Plan (2017 Scoping Plan) for public review and comment (CARB 2017). The 2017 Scoping Plan builds on the successful framework established in the initial Scoping Plan and First Update while identifying new, technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target as established by SB 32 and define the state's climate change priorities to 2030 and beyond. The strategies' commitments include implementing renewable energy and energy efficiency strategies (including the mandates of SB 350), increasing stringency of the Low Carbon Fuel Standard, implementing measures identified in the Mobile Source and Freight Strategies, implementing measures identified in the proposed Short-Lived Climate Pollutant Reduction Strategy, and increasing stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, it recommends continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20%.

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For local governments, the 2017 Scoping Plan replaced the initial Scoping Plan's 15% reduction goal with a recommendation to aim for a community-wide goal of no more than 6 MT CO_2e per capita by 2030, and no more than 2 MT CO_2e per capita by 2050, which are consistent with the state's long-term goals. These goals are also consistent with the Under 2 Memorandum of Understanding (Under 2 2016) and the Paris Agreement, which are developed around the scientifically based levels necessary to limit global warming to below 2°C. The 2017 Scoping Plan recognized the benefits of local government GHG planning (e.g., through CAPs) and provided more information regarding tools CARB is working on to support those efforts. It also recognized the CEQA streamlining provisions for Project-level review where there is a legally adequate CAP.[8]

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32, and the executive orders, and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. A Project is considered consistent with the statutes and executive orders if it meets the general policies in reducing GHG emissions to facilitate the achievement of the state's goals and does not impede attainment of those goals. A Project would be consistent if it will further the objectives and not obstruct their attainment.

CARB adopted the 2022 Scoping Plan Update in December 2022, which outlines the state's plan to reach carbon neutrality by 2045 or earlier, while also assessing the progress the state is making toward reducing GHG emissions by at least 40% below 1990 levels by 2030, as is required by SB 32 and laid out in the Second Update. The carbon neutrality goal requires CARB to expand proposed actions from only the reduction of anthropogenic sources of GHG emissions to also include those that capture and store carbon (e.g., through natural and working lands, or mechanical technologies). The carbon reduction programs build on and accelerate those currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen (CARB 2022b).

The 2022 Scoping Plan also emphasizes that there is no realistic path to carbon neutrality without carbon removal and sequestration, and to achieve the state's carbon neutrality goal, carbon reduction programs must be supplemented by strategies to remove and sequester carbon. Strategies for carbon removal and sequestration include carbon capture and storage from anthropogenic point sources, where CO_2 is captured as it leaves a facility's smokestack and is injected into geologic formations or used in industrial materials (e.g., concrete); and carbon dioxide removal from ambient air, through mechanical (e.g., direct air capture with sequestration) or nature-based (e.g., management of natural and working lands) applications.

Senate Bill 605 and Senate Bill 1383. SB 605 (2014) required CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state, and SB 1383 (2016) required CARB to approve and implement that strategy by January 1, 2018. The Short-Lived Climate Pollutants Reduction Strategy was approved by CARB in March 2017, and lays out a range of options to reduce short-lived climate pollutant emissions in California, including regulations, incentives, and other market-supporting activities. SB 1383 also establishes specific targets for the reduction of short-lived climate pollutants (40% below 2013 levels by 2030 for CH_4 and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its Short-

[8] *Sierra Club v. County of Napa* (2004) 121 Cal.App.4th 1490; *San Francisco Tomorrow et al. v. City and County of San Francisco* (2015) 229 Cal.App.4th 498; *San Franciscans Upholding the Downtown Specific Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656; *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 719.

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Lived Climate Pollutant Reduction Strategy in March 2017. This strategy establishes a framework for the statewide reduction of emissions of black carbon, CH_4, and fluorinated gases.

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. Although not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality (CEC 2018). These energy efficiency standards are reviewed every few years by the Building Standards Commission and CEC and revised if necessary (California Public Resources Code [PRC] Section 25402[b][1]). The regulations receive input from members of industry and the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (PRC Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (PRC Section 25402[d]) and cost effectiveness (PRC Sections 25402[b][2] and [b][3]). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2022 Title 24 standards are the currently applicable building energy efficiency standards and became effective on January 1, 2023. The 2022 Title 24 standards improve upon the 2019 standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The CEC adopted the 2022 Title 24 Energy Code in August 2021 and the California Building Standards Commission approved incorporating the updated code into the California Building Standards Code (CALGreen) in December 2021. The 2022 Energy Code went into effect on January 1, 2023. The 2022 Energy Code focuses on four key areas in newly constructed homes and businesses:

- Encouraging electric heat pump technology for space and water heating, which consumes less energy and produces fewer emissions than gas-powered units.
- Establishing electric-ready requirements for single-family homes to position owners to use cleaner electric heating, cooking, and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100% clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as California's Green Building Standards (CALGreen), and establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings, schools, and hospitals. The CALGreen 2022 standards, which are the current standards, became effective January 1, 2023.

Renewable Energy and Energy Procurement

SB 1078 (2002) established the Renewables Portfolio Standard (RPS) program, which requires an annual increase in renewable generation by the utilities.

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Under the program, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location.

SB 1368. SB 1368 (September 2006) required the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission.

EO S-14-08. EO S-14-08 (November 2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO required that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020. Furthermore, the EO directed state agencies to take appropriate actions to facilitate reaching this target. The California Natural Resources Agency (CNRA), through collaboration with the CEC and California Department of Fish and Wildlife (formerly the California Department of Fish and Game), was directed to lead this effort.

EO S-21-09 and SBX1-2. EO S-21-09 (September 2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB was further directed to work with the California Public Utilities Commission and CEC to ensure that the regulation builds upon the RPS program and was applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB was to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health and can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard. However, this regulation was not finalized because of subsequent legislation (SB X1-2, Simitian, statutes of 2011) signed by Governor Brown in April 2011.

SB X1 2 expanded the Renewables Portfolio Standard by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location.

SB X1-2 applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet the renewable energy goals previously listed.

SB 350. SB 350 (October 2015, Clean Energy and Pollution Reduction Act) further expanded the RPS by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (e.g., heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the California Public Utilities Commission, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal. Regarding mobile sources, as one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (see California Public Utilities Code Section 740.12).

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SB 100. SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

SB 1020. SB 1020 (September 2022) revises the standards from SB 100, requiring the following percentage of retail sales of electricity to California end-use customers come from eligible renewable energy resources and zero-carbon resources: 90% by December 31, 2035; 95% by December 31, 2040; and 100% by December 31, 2045.

Mobile Sources

State Vehicle Standards (AB 1493 and EO B-16-12). AB 1493 (July 2002) was enacted in response to the transportation sector accounting for more than one-half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. AB 1493 required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. EO B-16-12 (March 2012) required that state entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. It ordered CARB, CEC, the California Public Utilities Commission, and other relevant agencies to work with the Plug-In Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

In March 2022, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards and ZEV sales mandate. EPA's action concludes its reconsideration of the 2019 SAFE-1 rule by finding that the actions taken under the previous administration as a part of SAFE-1 were decided in error and are now entirely rescinded.

Heavy Duty Truck and Bus Regulation. CARB adopted the final Heavy-Duty Truck and Bus Regulation on December 31, 2014, to reduce diesel particulate matter, a major source of black carbon, and oxides of nitrogen emissions from heavy-duty diesel vehicles (Cal. Code Regs. tit. 13, § 2025). The rule requires diesel particulate matter filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule will require nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxic Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (Cal. Code Regs. tit. 13, § 2485).

EO S-1-07. Issued on January 18, 2007, EO S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The initial target of the Low Carbon Fuel Standard was to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The Low Carbon

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Fuel Standard was subsequently amended in 2018 to require a 20% reduction in carbon intensity by 2030. This new requirement aligns with the California's overall 2030 target of reducing climate changing emissions to 40% below 1990 levels by 2030, set by SB 32. CARB has adopted implementing regulations for both the 10% and 20% carbon intensity reduction targets.

Senate Bill 375. SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations are then responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan (RTP). The goal of the SCS is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If an SCS is unable to achieve the GHG reduction target, a metropolitan planning organization must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to California Government Code Section 65080(b)(2)(K), an SCS does not regulate the use of land; supersede the land use authority of cities and counties; or require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

Advanced Clean Cars Program. The Advanced Clean Cars program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars. To improve air quality, CARB implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that by 2025, cars will emit 75% less smog-forming pollution than the average new car sold in 2012. To reduce GHG emissions, CARB, in conjunction with the EPA and NHTSA, adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The zero-emissions vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years.

The ACC II program establishes the next set of LEV and ZEV requirements for model years after 2025 to contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality standards (CARB 2023e). The ACC II rulemaking package also considers technological feasibility, environmental impacts, equity, economic impacts, and consumer impacts. The ACC II regulations were approved by the California Office of Administrative Law (OAL) and became effective on November 30, 2022.

AB 1236. AB 1236 (October 2015) (Chiu) required a city, county, or city and county to approve an application for the installation of electric vehicle charging stations, as defined, through the issuance of specified permits unless the city or county makes specified written findings based on substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. AB 1236 provided for appeal of that decision to the planning commission, as specified. The bill provided that the implementation of consistent statewide standards to achieve the timely and cost-effective installation of electric vehicle charging stations is a matter of statewide

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concern. The bill required electric vehicle charging stations to meet specified standards. AB 1236 required a city, county, or city and county with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that created an expedited and streamlined permitting process for electric vehicle charging stations. The bill also required a city, county, or city and county with a population of fewer than 200,000 residents to adopt this ordinance by September 30, 2017.

Advanced Clean Trucks (ACT) Regulation. The purpose of the ACT Regulation (June 2020) is to accelerate the market for zero-emission vehicles in the medium- and heavy-duty truck sector and to reduce emissions NO_x, fine particulate matter, TACs, GHGs, and other criteria pollutants generated from on-road mobile sources (CARB 2023f). Requiring medium- and heavy-duty vehicles to transition to zero-emissions technology will reduce health risks to people living in and visiting California and is needed to help California meet established near- and long-term air quality and climate mitigation targets.

EO N-79-20 (September 2020) requires CARB to develop regulations as follows: (1) Passenger vehicle and truck regulations requiring increasing volumes of new ZEVs sold in the State towards the target of 100% of in-State sales by 2035; (2) medium- and heavy-duty vehicle regulations requiring increasing volumes of new zero-emission trucks and buses sold and operated in the State towards the target of 100% of the fleet transitioning to zero-emission vehicles by 2045 everywhere feasible and for all drayage trucks to be zero emission by 2035; and (3) strategies, in coordination with other State agencies, the EPA and local air districts, to achieve 100% zero-emission from off-road vehicles and equipment operations in the State by 2035. EO N-79-20 called for the development of a Zero-Emissions Vehicle Market Development Strategy, which was released February 2021, to be updated every 3 years, that ensures coordination and implementation of the EO and outlines actions to support new and used ZEV markets. The primary mechanism for achieving the ZEV target for passenger cars and light trucks is the Advanced Clean Cars II (ACCII) Program, approved in August 2022. In addition to ACC II, the Clean Miles Standard regulation will also help enable the goal of 100% ZEV sales in 2035 by creating demand for ZEVs. This regulation will have aggressive requirements for electric miles that will transition ride-hailing fleets to zero-emission operations starting in 2023 and ramping up through 2030. This regulation was approved by CARB in 2021.

EO B-16-12. EO B-16-12 (2012) directs state entities under the Governor's direction and control to support and facilitate development and distribution ZEVs. On a statewide basis, EO B-16-12 also establishes a GHG emissions reduction target from the transportation sector equaling 80% less than 1990 levels by 2050. In furtherance of this executive order, the Governor convened an Interagency Working Group on ZEVs that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet.

Solid Waste

AB 939, AB 341, and AB 1826, and SB 1383. In 1989, AB 939, known as the Integrated Waste Management Act (PRC Sections 40000 et seq.), was passed because of the increase in waste stream and decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed of where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by 2000.

AB 341 (Chapter 476, Statutes of 2011 [Chesbro]) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by 2020, and annually thereafter. In addition, AB 341 required the California

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Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle conducted several general stakeholder workshops and several focused workshops, and in August 2015 published a discussion document titled AB 341 Report to the Legislature, which identified five priority strategies that CalRecycle believed would assist the state in reaching the 75% goal by 2020, legislative and regulatory recommendations, and an evaluation of program effectiveness (CalRecycle 2015).

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multi-family residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

SB 1383 (Chapter 395, Statutes of 2016) establishes targets to achieve a 50% reduction in the level of the Statewide disposal of organic waste from the 2014 level by 2020 and a 75% reduction by 2025. CalRecycle was granted the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20% of currently disposed edible food is recovered for human consumption by 2025 (CalRecycle 2019).

Water

SB X7-7/Water Conservation Act of 2009. This regulation required that all water suppliers increase their water use efficiency with an overall goal of reducing per capita urban water use by 20% by December 31, 2020. Each urban water supplier was required to develop water use targets to meet this goal.

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the executive order extended through February 28, 2016, although many of the directives have since become permanent water-efficiency standards and requirements. The executive order includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increased the requirements for landscape water use efficiency and broadened its applicability to include new development Projects with smaller landscape areas.

EO B-37-16. Issued May 2016, EO B-37-16 directed the State Water Resources Control Board to adjust emergency water conservation regulations through the end of January 2017 to reflect differing water supply conditions across the state. The State Water Resources Control Board also developed a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory 25% reduction called for in EO B-29-15. The State Water Resources Control Board and Department of Water Resources will develop new, permanent water use targets that build on the existing state law requirements that the state achieve 20% reduction in urban water usage by 2020. EO B-37-16 also specifies that the State Water Resources Control Board permanently prohibit water-wasting practices such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in fountains and other decorative water features; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.

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EO N-10-21. In response to a state of emergency due to severe drought conditions, EO N-10-21 (July 2021) called on all Californians to voluntarily reduce their water use by 15% from their 2020 levels. Actions suggested in EO N-10-21 include reducing landscape irrigation, running dishwashers and washing machines only when full, finding and fixing leaks, installing water-efficient showerheads, taking shorter showers, using a shut-off nozzle on hoses, and taking cars to commercial car washes that use recycled water.

Other State Actions

SB 97. SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor's Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a Project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2007). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular Project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider the extent to which a Project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of Project features or off-site measures. The adopted amendments do not establish a GHG emissions threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledged that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a Project's GHG emissions (CNRA 2009a).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance-based standards" (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: the extent a Project may increase or reduce GHG emissions as compared to the existing environmental setting; whether the Project emissions exceed a threshold of significance that the lead agency determines applies to the Project; and the extent to which the Project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

Executive Order S-13-08. EO Order S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the executive order directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009 (CNRA 2009b), and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the

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following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water.

3.2.3 Local

Association of Bay Area Governments

Regional Transportation/Sustainable Communities Strategy

SB 375 requires MPOs to prepare an SCS in their Regional Transportation Plan. In the Bay Area, MTC and ABAG are jointly responsible for developing and adopting an SCS that integrates transportation, land use, and housing to meet GHG reduction targets set by CARB. CARB set a target of a 7% per capita reduction by 2020 and a 15% per capita reduction by 2035 for the Bay Area. The Plan Bay Area 2050 is a 30-year plan that charts a course for a Bay Area that is affordable, connected, diverse, healthy, and vibrant for all residents through 2050 and beyond. The heart of the plan comprises 35 strategies to improve housing, the economy, transportation, and the environment across the Bay Area's nine counties (MTC and ABAG 2021). Under Plan Bay Area 2050's strategies, just under half of all Bay Area households would live within 0.5 miles of frequent transit by 2050, with this share increasing to more than 70% of households with low incomes. Transportation and environmental strategies that support active and shared modes, combined with a transit-supportive land use pattern, are forecasted to lower the share of Bay Area residents that drive to work alone from 50% in 2015 to 33% in 2050. GHG emissions from transportation would decrease significantly as a result of these transportation and land use changes, and the Bay Area would meet the state mandate of a 19% reduction in per capita emissions by 2035 — but only if all strategies are implemented (MTC and ABAG 2021).

Bay Area Air Quality Management District

Bay Area Clean Air Plan

Air districts typically act in an advisory capacity to local governments in establishing the framework for environmental review of air pollution impacts under CEQA. This may include recommendations regarding significance thresholds, analytical tools to estimate emissions and assess impacts, and mitigation for potentially significant impacts. As discussed in Section 3.3.1, Thresholds of Significance, BAAQMD has adopted numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts. See Section 2.2.3.1, Bay Area Air Quality Management District, for additional discussion on BAAQMD.

County of Alameda

Community Climate Action Plan

The County of Alameda adopted a Community Climate Action Plan (CCAP) in 2014 that outlined strategies and measures to reduce the County's contribution to GHG emissions and align with statewide emission targets (i.e., those outlined for 2020 in AB 32). The CCAP identifies six GHG emission reduction strategies: transportation, land use, building energy, water, waste and green infrastructure and a total of 48 reduction measures across all strategies. As previously mentioned, the CCAP was developed to meet the State's 2020 GHG reduction goal. The County is currently working on an updated CCAP that would implement the reduction strategies and measures required to meet the State's 2030 and 2050 GHG reduction targets.

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3.3 Significance Criteria and Methodology

3.3.1 Thresholds of Significance

California has developed guidelines to address the significance of GHG emissions impacts that are contained in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). Appendix G provides that a project would have a significant environmental impact if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The Appendix G thresholds for GHGs do not prescribe specific methodologies for performing an assessment, do not establish quantitative thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009a). Additional guidance regarding assessment of GHGs is discussed below.

CEQA Guidelines

With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or performance-based standards" (14 CCR 15064.4[a]). A lead agency may use a "model or methodology" to estimate greenhouse gas emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change" (14 CCR 15064.4[c]). The CEQA Guidelines provide that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment (14 CCR 15064.4[b]):

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009). The State of California has not adopted emission-based thresholds for GHG emissions under CEQA. The Governor's Office of Planning and Research's Technical Advisory, titled Discussion Draft CEQA and Climate Change Advisory (OPR 2018), states the following:

> [N]either the CEQA statute nor the CEQA Guidelines prescribe thresholds of significance or particular methodologies for perming an impact analysis. This is left to lead agency judgment and discretion,

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based upon factual data and guidance from regulatory agencies and other sources where available and applicable. Even in the absence of clearly defined thresholds for GHG emissions, such emissions must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact.

Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice." Section 15064.7(c) of the CEQA Guidelines specifies that "when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

On April 20, 2022, the BAAQMD Board of Directors held a public meeting and adopted new recommended CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans (Thresholds for Land Use Projects). BAAQMD recommends these thresholds only for projects that have Notices of Preparation issued after April 20, 2022. The BAAQMD "Thresholds for Land Use Projects" are as follows (BAAQMD 2022); either A or B would be required:

A. Projects must include, at a minimum, the following project design elements:
    1. Buildings
        a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
        b. The project will not result in any wasteful, inefficient, or unnecessary electrical usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.
    2. Transportation
        a. Achieve compliance with electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.
        b. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
            i. Residential projects: 15 percent below the existing VMT per capita
            ii. Office projects: 15 percent below the existing VMT per employee
            iii. Retail projects: no net increase in existing VMT.

B. Projects must be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

As previously discussed, the County adopted a CCAP in 2014 but it would not meet the requirements outlined under State CEQA Guidelines Section 15183.5(b). Therefore, the project will be evaluated based on Option A.

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Additionally, in accordance with Section 15064.4 of the State CEQA Guidelines, GHG emissions resulting from construction and operation of the Project were quantitatively estimated. The potential impacts from Project-related GHG emissions were assessed based on the total increase above the existing environmental setting, which is largely undeveloped, vacant land. The GHG emissions associated with implementation of the Project were estimated using industry standard and accepted software tools, techniques, and emissions factors, as described below for construction and operation under Sections 4.2 and 4.3, respectively. Estimation of emissions is for informational purposes only, for comparison with existing environmental conditions. The significance of the Project's GHG impacts is based on the Project's compliance the BAAQMD's GHG thresholds and with statewide GHG reduction regulations and requirements. At the state level, guidance on reduction strategies for GHG emissions has been provided through the CARB Scoping Plans, CNRA *Natural and Working Lands Climate Smart Strategy*.

As defined by AB 32, CARB is required to develop The Scoping Plan, which provides the framework for actions to achieve the State's GHG emission targets. The Scoping Plan is required to be updated every five years and requires CARB and other state agencies to adopt regulations and initiatives that will reduce GHG emissions statewide. The first Scoping Plan (*Climate Change Proposed Scoping Plan: A Framework for Change*) was adopted in 2008, and was updated in 2014, 2017, and most recently in 2022. The Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations.[9] However, given that the Scoping Plan establishes the official framework for the measures and regulations that will be implemented to reduce California's GHG emissions in alignment with the adopted targets, a project would be found to not conflict with the statutes if it would meet the general policies in reducing GHG emissions in order to facilitate the achievement of the state's goals and would not impede attainment of those goals. CARB's 2017 Scoping Plan update was the first to address the state's strategy for achieving the 2030 GHG reduction target set forth in SB 32 (CARB 2017), and the most recent CARB 2022 Scoping Plan update outlines the state's plan to reduce emissions and achieve carbon neutrality by 2045 in alignment with AB 1279 and assesses progress is making toward the 2030 SB 32 target (CARB 2022b). As such, given that SB 32 and AB 1279 are the relevant GHG emission targets, the 2017 and 2022 Scoping Plan updates that outline the strategy to achieve those targets, are the most applicable to the Project.

To achieve the 2030 goal of 40 percent below 1990 GHG emission levels, the 2017 Climate Change Scoping Plan Update (Second Update) included measures to promote renewable energy and energy efficiency (including the mandates of SB 350), increase stringency of the Low Carbon Fuel Standard (LCFS), measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increase stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, the Second Update recommended continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20%. Additionally, the 2017 Scoping Plan emphasizes the importance of reducing VMT to achieve mobile-source GHG emission reductions in pursuit of overall statewide climate goals and recommends a 15% reduction in total light-duty VMT from the business-as-usual scenario in 2050 in alignment with the Mobile Source Strategy (CARB 2017 and CARB 2021).

As noted in Section 3.2.1.6 above, CARB adopted the *2022 Scoping Plan Update* in November 2022 to discuss progress toward reaching the 2030 target and to address how the state will achieve 85% below 1990 levels and carbon neutrality by 2045, as required by AB 1279. In the 2022 Scoping Plan, CARB builds on and accelerates programs already in place to reduce anthropogenic sources of GHG emissions and introduces new strategies to

[9] The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009).

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capture and store carbon. *Appendix D: Local Actions* of the Draft Plan outlines local actions that residential and mixed-use projects can implement to address their largest sources of emissions including transportation electrification, VMT reduction, and building decarbonization. CARB identifies these three sources as "Priority Areas" given that they represent those with the highest GHG reduction potential and GHG reduction opportunities for which local governments and agencies have the most authority (CARB 2022b).

Importantly, the 2022 Update emphasizes that there is no realistic path to reaching the 2045 goal of carbon neutrality without removing and sequestering carbon from the atmosphere. So, in addition to programs that aim to reduce GHG emissions, the Draft Plan proposes strategies to capture and store carbon, highlighting the importance of nature-based solutions through preservation and climate smart management of the state's natural and working lands (NWLs)[10]. Modeling conducted for the 2022 Scoping Plan shows that California's NWLs are projected to be a net source of emissions (i.e., releasing more CO_2 emissions than they store) through 2045, which is historically due to human activities, such as land use change, and natural disturbances, such as wildfire. Therefore, the ability of the state's NWLs to act as a net sink (i.e., sequester and store more atmospheric CO_2 than they release) to help support the state's carbon neutrality goals is dependent on climate smart land management.

If the Project is compliant with the thresholds identified by the BAAQMD and the regulations and actions outlined in the applicable state plans (i.e., 2017 and 2022 Scoping Plan), the Project could appropriately rely on their use as showing compliance with performance-based standards adopted to fulfill the statewide goal for reducing GHG emissions. The Project's compliance with regulatory programs adopted by CARB, and other state and local agencies is therefore used to evaluate the significance of the Project's GHG emissions.

3.3.2 Approach and Methodology

3.3.2.1 Construction

Construction of the Project would result in emissions of GHGs primarily associated with use of off-road construction equipment, on-road haul and vendor (material delivery) truck trips, and worker vehicle trips. Emissions from the construction phase the Project were estimated using the CalEEMod Version 2022.1[11]. Per preliminary Project details, it is assumed that construction of the Project would begin in December 2026 and would last approximately 15 months. A detailed depiction of the construction schedule—including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Section 2.4.2.1 above. GHG emissions associated with construction were amortized over 30 years, which is the lifetime of the Project before decommissioning. In addition, it was assumed that 6 acre-feet of water would be used during construction. The complete details of the emissions calculations are provided in Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*.

[10] It is important to note that the Third Update emphasizes that reliance on carbon sequestration in the state's NWLs will not be sufficient to address residual GHG emissions, and achieving carbon neutrality will require research, development, and deployment of additional methods to capture atmospheric GHG emissions (e.g., mechanical direct air capture).

[11] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development Projects. The model was developed for the California Air Pollution Control Officers Association in collaboration with multiple air districts across the state. Numerous lead agencies in the state, including BAAQMD, use CalEEMod to estimate greenhouse gas emissions in accordance with CEQA Guidelines Section 15064.4(a)(1).

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3.3.2.2 Operation

Operation of the Project would generate GHG emissions from mobile sources, area sources, energy use, water use and wastewater generation, solid waste, refrigerants, off-road sources, and stationary sources. As with Project construction, CalEEMod Version 2022.1 was used to estimate potential Project-generated operational GHG emissions based on proposed Project land uses. It was assumed that the Project would be operational following the completion of construction, which would occur in 2028.

Area

CalEEMod was used to estimate operational emissions from area sources (landscaping).

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, roto tillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. The emissions associated from landscape equipment use were estimated using CalEEMod defaults. For Alameda County, CalEEMod assumes that landscaping equipment would operate 180 days per year. To be conservative, emissions were estimated assuming that landscape maintenance equipment was powered by gasoline or diesel fuel, and not electrified.

Energy

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). The estimated annual electricity consumption from the Project was provided by the applicant and assumed to be 17,520 megawatt-hours per year. The Project was not assumed to use natural gas. CalEEMod default energy intensity factors (CO_2, CH_4, and N_2O mass emissions per kilowatt-hour) for PG&E is based on the value for PG&Es energy mix in 2028.

Mobile Sources

Following the completion of construction activities, the Project would generate GHG emissions from mobile sources (vehicular traffic) as a result of the periodic maintenance of the Project. The Project was assumed to require up to three employees visiting the BESS facility sites 5 days a week for operation and maintenance. The estimated trip lengths and trip modes were based on CalEEMod default data. CalEEMod was used to estimate emissions from proposed vehicular sources (refer to Appendix A). CalEEMod default data, including temperature, trip characteristics, variable start information, and emissions factors, were conservatively used for the model inputs. Project-related traffic was assumed to include a mixture of vehicles in accordance with the associated use, as modeled within CalEEMod, which is based on the CARB EMFAC2021 model. Emission factors representing the vehicle mix and emissions for 2028 were used to estimate emissions associated with vehicular sources.

Off-Road Sources

During irregular maintenance, the Project may require the movement or replacement of battery enclosures during the lifetime of the Project. As such, the use of 1 crane and 1 forklift were assumed to assist the lifting and movement of the BESS containers. CalEEMod was used to estimate GHG emissions of the crane and forklift assuming 4 hours of operation on 2 days every year.

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Stationary Sources

The Project will install two emergency Diesel generators (4,360 horsepower each) for emergency safety systems during a power outage that lasts longer than 24-48 hours. This 24-hour window would provide operations personnel enough time to safely de-energize and isolate equipment during operation. CalEEMod was used to estimate GHG emissions of the generator assuming 1 hour per day and 400 hours per year for maintenance, testing and anticipated emergency use per BAAQMD guidelines.

Solid Waste

The Project would generate solid waste from the on-site employees, and therefore, result in CO_2e emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste.

Water and Wastewater

Water consumption estimates for the operations and maintenance building for both indoor and outdoor water use was assumed to be one acre foot based on information provided by the project applicant. Electricity use for water supply is based on the electric pump rating, pump flow rate, electricity intensity factors from CalEEMod for the County, and the indoor and outdoor water use default values in CalEEMod.

Refrigerants

Refrigerants are substances used in equipment for air conditioning (A/C) and refrigeration. Most of the refrigerants used today are HFCs or blends thereof, which can have high GWP values. All equipment that uses refrigerants has a charge size (i.e., quantity of refrigerant the equipment contains), and an operational refrigerant leak rate, and each refrigerant has a GWP that is specific to that refrigerant. Based on information supplied by the applicant approximately 13 pounds of refrigerant R454h would be required to operate the HVAC system for the operation and maintenance building. Although leakage is unlikely, for the purposes of the Project's emissions inventory, it was assumed that the BESS Unit would have a maximum annual leak rate of 0.5%. Emissions from R454h are included as part of refrigerant source emissions.

During operations and maintenance, one of the main sources of GHG emissions would be fugitive emissions from equipment containing sulfur hexafluoride (SF_6) gas installed at the proposed collector substation. SF_6 has a GWP of 23,900 using CO_2 at a reference value of 1 (IPCC 2007). The substation would include 230 kV breakers that would contain SF_6 gas. It is estimated that the Project would maintain a total of 1,160 pounds of SF_6 gas at the substation. Although leakage is unlikely, for the purposes of the Project's emissions inventory, it was assumed that the breakers would have a maximum annual leak rate of 0.5% in accordance with the Institute of Electrical and Electronics Engineers PC37.122 – Standard for High Voltage Gas-Insulated Substations Rated Above 52 kV (IEEE 2018). Emissions from SF_6 gas are included as part of refrigerant source emissions.

The BESS units would also contain refrigerants for the purpose of cooling. Each BESS Unit would contain approximately 17 pounds of R-134a which has a GWP of 1,430. It is estimated the Project would maintain a total of approximately 17,000 pounds of R-134a across 1,000 individual BESS units. Although leakage is unlikely, for the purposes of the Project's emissions inventory, it was assumed that the BESS Unit would have a maximum annual leak rate of 0.6%. Emissions from R-134a are included as part of refrigerant source emissions.

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3.4 Impact Analysis

This section evaluates the GHG emissions impacts associated with the Project. The significance criteria described in Section 3.3.1, Thresholds of Significance, were used to evaluate impacts associated with the construction and operation of the Project.

Threshold 1: ***Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

Threshold 2: ***Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?***

As discussed in Section 3.3.1, *Approach to Determining Significance* above, the significance of the Project's GHG emission impacts is determined through an evaluation of compliance with regulations and requirements adopted to implement statewide, regional, and local plans for the purpose of reducing GHG emissions. While the GHG emissions increase associated with the Project was quantified, the estimate is provided for informational purposes in accordance with Section 15064.4 of the State CEQA Guidelines and is not used for determination of significance. As such, the Appendix G thresholds are considered together below, beginning with the quantification of the Project's GHG emissions.

3.4.1 Project GHG Emissions

Construction

Table 23 shows the estimated annual GHG construction emissions associated with the Project. Additional information about methodology and approach are provided above in Section 3.3.2. Complete details of the construction emissions calculations are provided in Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*.

Table 23. Estimated Annual Construction GHG Emissions

Year	CO_2	CH_4	N_2O	R	CO_2e
	Metric Tons				
2027	2,265.94	0.10	0.20	1.42	2,330.42
2028	553.74	0.02	0.02	0.12	557.79
2050	423.37	0.02	0.02	<0.01	427.75
Total	***3,243.05***	***0.14***	***0.23***	***1.54***	***3,315.96***
			Amortized Emissions (30 years)		***110.53***

Source: CalEEMod Version 2022.1.
Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent. See Appendix A for complete results. <0.01 = reported value is less than 0.01.

As shown in Table 23, the estimated total GHG emissions from construction of the Project would be approximately 3,316 MT CO_2e. When amortized over 30 years, the estimated annual GHG emissions from construction of the Project would be approximately 111 MT CO_2e per year.

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Operation

Table 24 shows the estimated annual GHG operational emissions associated with the Project. Total annual operational emissions were calculated in CalEEMod and combined with amortized (35 years) construction emissions.

Table 24. Summary of Estimated Annual Operational GHG Emissions

Emissions Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Mobile	59.40	<0.01	<0.01	60.30
Area	0.01	6.13	1.25	0.01
Energy	1,621.04	0.26	0.03	1,637.07
Water	0.41	<0.01	<0.01	0.45
Waste	0.01	<0.01	0.00	0.29
Refrigerants[1]	-	-	-	90.91
Off-Road	11.61	<0.01	<0.01	11.65
Stationary	1,819.48	0.07	0.03	1,825.56
			Amortized Construction Emissions (35 years)	*110.53*
			Total Project Emissions	***3,736.76***

Source: See Appendix A for complete results.
Notes: GHG = greenhouse gas; MT = metric tons; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent. <0.01 = reported value is less than 0.01.
[1] Includes sulfur hexafluoride (SF_6) gas, R-404A and R-134a emissions from leakage.

As shown in Table 24, implementation of the Project would result in approximately 3,737 MT CO_2e per year including amortized construction emissions. Complete details of the construction emissions calculations are provided in Appendix A, *Air Quality and Greenhouse Gas Emissions CalEEMod Output Files*.

As noted previously, there is no numeric threshold appropriate to evaluate the significance of Project-generated GHG emissions. As such, the estimation of GHG emissions increase generated by the Project provided above is for informational purposes in accordance with Section 15064.4 of the State CEQA Guidelines. However, as discussed above, the Project's compliance with regulatory programs adopted by CARB, and other state and local agencies is used to evaluate the significance of the Project's GHG emissions. As detailed below, the Project is consistent with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. The Project also would improve energy grid reliability and support the integration of renewable energy sources, such as wind and solar, reducing the need to operate natural gas power plants and displacing GHG emissions. Therefore, the Project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, and impacts would be less than significant.

3.4.2 Project Potential to Conflict With Applicable Plans

The Project's compliance with regulatory programs adopted by CARB, and other state and local agencies is used to evaluate the significance of the Project's GHG emissions. As detailed below, the Project is consistent with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. The Project also would improve energy grid reliability

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3.4.2.1 Project Potential to Conflict County of Alameda Community Climate Plan.

The County of Alameda adopted a Community Climate Action Plan (CCAP) in 2014 that outlined strategies and measures to reduce the County's contribution to GHG emissions and align with statewide emission targets (i.e., those outlined for 2020 in AB 32). The CCAP identifies six GHG emission reduction strategies: transportation, land use, building energy, water, waste and green infrastructure and a total of 48 reduction measures across all strategies. As previously mentioned, the CCAP was developed to meet the State's 2020 GHG reduction goal. The County is currently working on an updated CCAP that would implement the reduction strategies and measures required to meet the State's 2030 and 2050 GHG reduction targets. An evulations of the Project's potential to conflict with the CCAP's reduction measures are outlined in Table 25.

Table 25. Project Potential to Conflict with the County of Alameda Community Climate Action Plan

Climate Action Areas	Potential to Conflict
Transportation	
T-1 Improve Bicycle near community activity areas	***No conflict.*** The Project would not obstruct or interfere with County efforts to implement this measure. The proposed project is located in a remote party of county not near existing community activity areas.
T-2. Develop appropriate bicycle infrastructure for high traffic intersections and corridors	***No conflict.*** The Project would not obstruct or interfere with County efforts to implement this measure.
T-3. Increase the number of bicycle racks and storage in underserved civic and comemrical areas	***No conflict***. The Project would not obstruct or interfere with County efforts to implement this measure.
T-4. Enhance pedestrian infrastructure within easy walking distance from community activity areas	***No conflict***. The Project would not obstruct or interfere with County efforts to enhance pedestrian infrastructure within easy walking distance from community activity areas
T-5. Enhance the traffic calming Program to improve pedestrian safety	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to enhance the traffic calming Program to improve pedestrian safety
T-6. Improve pedestrian connectivity and route choice in neighborhoods	***No conflict.*** The Project would not obstruct or interfere with County efforts to improve pedestrian connectivity and route choice in neighborhoods
T-7. Work with School Districts to develop a School Alternative Transportation Pan by improving/expanding walking, school bus use, safe routes to school program and school bus services	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to work with School Districts to develop a School Alternative Transportation Pan by improving/expanding walking, school bus use, safe routes to school program and school bus services.
T-8. Conduct a pubic transit study and implement ridership enhancement programs	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to conduct a pubic transit study and implement ridership enhancement programs.

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Table 25. Project Potential to Conflict with the County of Alameda Community Climate Action Plan

Climate Action Areas	Potential to Conflict
T-9. Work with AC transit to increase service frequency on select bus routes.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to implement this measure.
T-10. Provide transit buses with signal prioritization devices to facilitate time effective public service transit.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to provide transit buses with signal prioritization devices to facilitate time effective public service transit.
T-11. Work with AC Transit to provide transit essential improvements including shelters, route information, benches and lighting.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to work with AC Transit to provide transit essential improvements including shelters, route information, benches and lighting.
T-12. Work with public transit agencies to better accommodate bicycles	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to work with public transit agencies to better accommodate bicycles
T-13. Enhance rideshare infrastructure and services to increase community participation in this important travel mode.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to enhance rideshare infrastructure and services to increase community participation in this important travel mode.
T-14. Reduce minimum parking requirements for mixed-use, pedestrian and transit-oriented development.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to implement this measure. *The Project is located in a remote location not near other mixed uses or transit developments.*
Land Use	
L-1. Facilitate the establishment of mixed-use, pedestrian, and transit-oriented development near major transit stations or transit corridors.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to implement the establishment of mixed-use, pedestrian, and transit-oriented development near major transit stations or transit corridors.
L-2. Reduce restrictions on second units in single family residential districts near transit stations, major bus route corridors, neighborhood commercial centers and central business districts.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to reduce restrictions on second units in single family residential districts near transit stations, major bus route corridors, neighborhood commercial centers and central business districts.
L-3. Increase the diversity of uses in neighborhood serving commercial centers	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to increase the diversity of uses in neighborhood serving commercial centers
L-4. Improve the vitality of mixed-use neighborhood serving commercial centers through increased density allowances and enhanced design.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to improve the vitality of mixed-use neighborhood serving commercial centers through increased density allowances and enhanced design.
L-5. Conduct land use and market analyses to identify sites within expansive residential areas that could support new or expanded neighborhood commercial centers.	***Not Applicable.*** The Project would not obstruct or interfere with County effort to conduct land use and market analyses to identify sites within expansive residential areas that could support new or expanded neighborhood commercial centers.

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Table 25. Project Potential to Conflict with the County of Alameda Community Climate Action Plan

Climate Action Areas	Potential to Conflict
Building Energy	
E-1. Work with PG&E and Alameda County Cities to accelerate smart grid integration in the community.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to work with PG&E and Alameda County Cities to accelerate smart grid integration in the community.
E-2. Evaluate the potential for district energy systems in mixed-use and higher density areas of the community, and develop an implementation plan for cost-effective systems.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to evaluate the potential for district energy systems in mixed-use and higher density areas of the community, and develop an implementation plan for cost-effective systems.
E-3. Develop a comprehensive outreach program to facilitate voluntary home energy efficiency improvements	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to develop a comprehensive outreach program to facilitate voluntary home energy efficiency improvements
E-4. Identify and develop low-cost financing products and programs that encourage investments in energy efficiency residential buildings	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to identify and develop low-cost financing products and programs that encourage investments in energy efficiency residential buildings
E-5. Expand outreach to low-income homeowners in order to encourage participation in federally funded energy efficiency and weatherization programs.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to expand outreach to low-income homeowners in order to encourage participation in federally funded energy efficiency and weatherization programs.
E-6. Identify and implement opportunities to improve efficiency of rental units.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to identify and implement opportunities to improve efficiency of rental units.
E-7. Develop and implement an outreach and financial assistance program that encourages businesses to invest in efficiency improvements	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to develop and implement an outreach and financial assistance program that encourages businesses to invest in efficiency improvements.
E-8. Renew the County Green Building Ordinance	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to renew the County Green Building Ordinance.
E-9. Provide incentives, such as priority permitting for buildings that exceed Title 24 standards for energy efficiency by 30%.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to provide incentives, such as priority permitting for buildings that exceed Title 24 standards for energy efficiency by 30%.
E-10. Require or provide incentives for new construction to use building materials containing recycled content.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to require or provide incentives for new construction to use building materials containing recycled content.
E-11. Require new commercial parking lots with over 200 spaces to mitigate heat gain through the use of shade trees, solar arrays or cool pavement.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to require new commercial parking lots with over 200 spaces to mitigate heat gain through the use of shade trees, solar arrays or cool pavement.

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Table 25. Project Potential to Conflict with the County of Alameda Community Climate Action Plan

Climate Action Areas	Potential to Conflict
E-12. Require all new construction and major renovation of Multi-unit buildings to be sub-metered to enable each individual unit to monitor energy consumption.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to require all new construction and major renovation of Multi-unit buildings to be sub-metered to enable each individual unit to monitor energy consumption.
E-13. Establish solar empowerment districts that remove barriers to and facilitate installation of solar PV programs on eligible commercial and industrial buildings and parking lots.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to establish solar empowerment districts that remove barriers to and facilitate installation of solar PV programs on eligible commercial and industrial buildings and parking lots.
E-14. Facilitate the installation of solar hot water heating systems on large commercial buildings.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to facilitate the installation of solar hot water heating systems on large commercial buildings.
E-15. Develop a comprehensive residential renewable energy program that provides outreach, financing and other forms of assistance.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to develop a comprehensive residential renewable energy program that provides outreach, financing and other forms of assistance.
E-16. Develop a green jobs program for the unincorporated areas of Alameda County.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to develop a green jobs program for the unincorporated areas of Alameda County.
Water	
WT-1 Encourage residents and businesses to conserve water in existing buildings and landscapes	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to develop encourage residents and businesses to conserve water in existing buildings and landscapes
WT-2. Require new landscape projects to reduce outdoor potable water use by 40 precent.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to require new landscape projects to reduce outdoor potable water use by 40 precent.
WT-3. Adopt and ordinance that allows the installation and use of grey water systems for subsurface irrigation.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to adopt and ordinance that allows the installation and use of grey water systems for subsurface irrigation.
WT-4. Work with EBMUD and Zone 7 to redesign water bill format to encourage water conservation in residential and commercial users.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to work with EBMUD and Zone 7 to redesign water bill format to encourage water conservation in residential and commercial users.
Waste	
WS-1. Increase solid waste reduction and diversion to 90 percent by 2030.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to increase solid waste reduction and diversion to 90 percent by 2030.
WS-2. Strengthen the construction and demolition debris management ordinance.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to work with strengthen the construction and demolition debris management ordinance.

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Table 25. Project Potential to Conflict with the County of Alameda Community Climate Action Plan

Climate Action Areas	Potential to Conflict
WS-3. Develop a food waste collection program and adopt an ordinance that requires all household and commercial food wastes and food-soiled paper to be placed in organic carts.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to develop a food waste collection program and adopt an ordinance that requires all household and commercial food wastes and food-soiled paper to be placed in organic carts.
WS-4. Work with Stopwaste.Org, Alameda County cities, and other organizations to urge adoption of State and federal legislation that requires extended producer responsibility, and improves the recyclability of products and packaging.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to work with Stopwaste.Org, Alameda County cities, and other organizations to urge adoption of State and federal legislation that requires extended producer responsibility, and improves the recyclability of products and packaging.
Green Infrastructure	
G-1 Expand the urban forest in order to sequester carbon and reduce building energy consumption	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to expand the urban forest in order to sequester carbon and reduce building energy consumption.
G-2. Include carbon sequestration as an objective within county-led natural area restoration projects	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to include carbon sequestration as an objective within county-led natural area restoration projects.
G-3. Establish a local community garden program to increase local food security and provide local recreation amenities	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to establish a local community garden program to increase local food security and provide local recreation amenities.
G-4. Work with local farmers and agricultural non-profits to develop urban edge farming opportunities in the unincorporated county.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to work with local farmers and agricultural non-profits to develop urban edge farming opportunities in the unincorporated county.
G-5. Work with local organizations to establish farmers' market sites in the unincorporated county.	***Not Applicable.*** The Project would not obstruct or interfere with County efforts to work with local organizations to establish farmers' market sites in the unincorporated county.

Source: County of Alameda 2014.

3.4.2.1 Project Potential to Conflict with BAAQMD's Project Design Element Requirements

On April 20, 2022, the BAAQMD Board of Directors held a public meeting and adopted new recommended CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans (Thresholds for Land Use Projects). BAAQMD recommends these thresholds only for projects that have Notices of Preparation issued after April 20, 2022. Table 26 demonstrates the Project's potential to conflict with the BAAQMD's Project Design Elements.

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Table 26. Project's Potential to conflict with the BAAQMD's project design elements

Project Design Elements	Potential to Conflict
Buildings	
The Project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development)	***No conflict***. The project is an industrial scale battery energy storage project and would not include any natural gas infrastructure
The project will not result in any wasteful, inefficient or unnecessary electric usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.	***No conflict***. The Project is an industrial battery energy storage project and would assist the State in meetings its long-term renewable energy goals. The Project would not result in a wasteful or inefficient or unnecessary
Transportation	
Achieve compliance with electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.	***No conflict***. The proposed Project includes the construction and operation of an industrial scale battery energy storage project. The Project would comply with the CalGreen Tier 2 electrical vehicle parking requirements
Achieve a reduction project generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA	***No conflict***. As stated in the Transportation Impact Assessment, the Proposed Project would not have a significant impact on VMT per SB 743. OPR has identified a screening threshold of 110 trips per day for evaluation of VMT impacts. The Project would generate fewer than 110 trips per day.

Source: BAAQMD 2023.

Deleted: only include twenty fulltime onsite staff and would not be subject to comply with CalGreen Tier-2 electric vehicle parking requirements.

As shown in Table 23, the Project would not conflict with BAAQMD's required Project Design Measures. In addition, the Project would assist the State in meetings its long term renewable energy goals by assisting the facilitating the use of more wind and solar energy outside of standard generation windows.

3.4.2.2 Project Potential to Conflict with CARB's 2017 Scoping Plan Update

The 2017 Scoping Plan Update reflects the 2030 target of a 40% reduction below 1990 levels codified by SB 32. Table 27 evaluates the Project's potential to conflict with the 2017 Scoping Plan recommended actions.

Table 27. Project Potential to Conflict with 2017 Scoping Plan

Recommended Action Summary	Lead Agencies	Potential to Conflict
Implement SB 350 by 2030 ▪ Increase Renewable Portfolio Standard ▪ Establish annual targets for statewide energy efficiency	CPUC, CEC, CARB	***No conflict***. This action is directed towards policymakers and would not be directly applicable to the Project. Nonetheless, the Project would improve energy grid reliability and support the integration of additional

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Table 27. Project Potential to Conflict with 2017 Scoping Plan

Recommended Action Summary	Lead Agencies	Potential to Conflict
▪ Reduce GHG emissions in the electricity sector		intermittent renewable energy sources, such as wind and solar, reducing the need to operate natural gas power plants.
Implement Mobile Source Strategy (Cleaner Technology and Fuels) ▪ Increase zero emission and plug-in hybrid electric vehicles ▪ Increase GHG stringency on light-duty vehicles beyond Advanced Clean Cars ▪ Medium- and heavy-duty GHG Phase 2 ▪ Innovative Clean Transit ▪ Last Mile Delivery ▪ Further reduce VMT through SB 375 and regional Sustainable Communities Strategy	CARB, CalSTA, SGC, CalTrans, CEC, OPR, Local agencies	***No conflict***. This action is directed towards mobile sources and would not be directly applicable to the Project.
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets)	CARB	***No conflict***. This action is directed towards policymakers and would not be directly applicable to the Project.
Adjust performance measures used to select and design transportation facilities by 2019	CalSTA and SGC, OPR, CARB, GoBiz, IBank, DOF, CTC, Caltrans	***No conflict***. The action is directed towards CARB and Caltrans and the Project would not impede implementation.
Develop pricing policies to support low-GHG transportation (e.g., low-emission vehicle zones for heavy-duty, road user, parking pricing, transit discounts) by 2019	CalSTA, Caltrans, CTC, OPR/SGC, CARB	***No conflict***. This action is directed towards policymakers and would not be directly applicable to the Project.
Implement California Sustainable Freight Action Plan	CalSTA, CalEPA, CNRA, CARB, CalTrans, CEC, GoBiz	***No conflict*** The Sustainable Freight Action Plan provides a recommendation on a high-level vision and broad direction to the Governor to consider for State agencies to utilize when developing specific investments, policies, and programs related to the freight transport system that serves our State's transportation, environmental, and economic interests.
Adopt a Low Carbon Fuel Standard with a carbon intensity reduction of 18%	CARB	***No conflict*** This action is directed towards CARB and would not be directly applicable to the Project. However, emissions associated with Project vehicle travel would benefit

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Table 27. Project Potential to Conflict with 2017 Scoping Plan

Recommended Action Summary	Lead Agencies	Potential to Conflict
		from reductions associated with the Low Carbon Fuel Standard.
Implement the Short-Lived Climate Pollutant Strategy by 2030	CARB, CalRecycle, CDFA, SWRCB, Local air districts	***No conflict.*** The Project would be required to comply with the Short-Lived Climate Pollutant Strategy to the extent it is applicable.
Develop regulations and programs to support organic waste landfill reduction goals in the Short-Lived Climate Pollutant Strategy and SB 1383 by 2019	CARB, CalRecycle, CDFA, SWRCB, Local air districts	***No conflict.*** This action is not within the purview of this Project.
Implement the post-2020 Cap-and-Trade Program with declining annual caps	CARB	***No conflict.*** The Project is not subject to the California Cap-and-Trade Program.
Develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink by 2018	CNRA and departments within, CDFA, CalEPA, CARB	***No conflict.*** This action is not within the purview of this Project.
Establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018	CARB	***No conflict.*** This action is not within the purview of this Project.
Implement Forest Carbon Plan	CNRA, CAL FIRE, CalEPA and departments within	***No conflict.*** This action is not within the purview of this Project.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	***No conflict.*** This action is not within the purview of this Project.

Source: CARB 2017.
Notes: CalEPA = California Environmental Protection Agency; CAL FIRE = California Department of Forestry and Fire Protection; CalRecycle = California Department of Resources Recycling and Recovery; CalSTA = California State Transportation Agency; CalTrans = California Department of Transportation; CARB = California Air Resources Board; CDFA = California Department of Food and Agriculture; CEC = California Energy Commission; CNRA = California Natural Resources Agency; CPUC = California Public Utilities Commission; CTC = California Transportation Commission; DOF = Department of Finance; GHG = greenhouse gas; GoBiz = Governor's Office of Business and Economic Development; IBank = California Infrastructure Economic Development Bank; OPR = Governor's Office of Planning and Research; SB = Senate Bill; SGC = Strategic Growth Council; I- = Interstate.

As shown in Table 24, the Project would not conflict with the 2017 Scoping Plan. In addition, the Project would not impede the state and authoritative lead agencies from implementing incentives or regulations to achieve the 2017 Scoping Plan goals.

3.4.2.2 Project Potential to Conflict with CARB's 2022 Scoping Plan for Achieving Carbon Neutrality

The 2022 *Scoping Plan for Achieving Carbon Neutrality* reflects the 2030 target of a 40% reduction below 1990 emission levels codified by SB 32, and the 2045 target of 85% reduction below 1990 emissions levels and carbon neutrality codified by AB 1279. The 2022 Scoping Plan builds upon and accelerates programs currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings;

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reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; and displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines) (CARB 2022b). Many of the measures and programs included in the Scoping Plan would result in the reduction of Project-related GHG emissions with no action required at the Project-level. Table 28 evaluates the Project's potential to conflict with the measures from the 2022 Scoping Plan that are relevant and applicable to the Project.

Table 28. Project Potential to Conflict with 2022 Scoping Plan

Sector	Action	Potential to Conflict
GHG Emissions Reductions Relative to the SB 32 Target	40% below 1990 levels by 2030	***No conflict.*** While the SB 32 GHG emissions reduction target is not an Action that is analyzed independently, it is included in Table 2-1 of the 2022 Scoping Plan for reference. The Project would not obstruct or interfere with agency efforts to meet the SB 32 reduction goal. Specifically, the Project would allow for increased energy storage from intermittent renewable energy sources, thereby increasing grid reliability and increasing the opportunity for renewable energy development.
Smart Growth/VMT	VMT per capita reduced 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045	***No conflict.*** The Project would not obstruct or interfere with agency efforts to meet this regional VMT reduction goal, including through implementation of SB 375. As discussed earlier, Project would be consistent with the Plan Bay Area 2050 Regional Plan, which is the regional growth management strategy that targets per capita GHG reduction from passenger vehicles and light trucks in Bay Area region pursuant to SB 375.
Light-duty Vehicle (LDV) Zero Emission Vehicles (ZEVs)	100% of LDV sales are ZEV by 2035	***No conflict.*** As this action pertains to LDV sales within California, the Project would not obstruct or interfere with its implementation.
Truck ZEVs	100% of medium-duty vehicle (MDV)/ heavy-duty vehicle (HDV) sales are ZEV by 2040	***No conflict.*** As this action pertains to MDV and HDV sales within California, the Project would not obstruct or interfere with its implementation.

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Table 23. Project Potential to Conflict with 2022 Scoping Plan

Sector	Action	Potential to Conflict
Electricity Generation	Sector GHG target of 38 million metric tons of carbon dioxide equivalent (MMTCO2e) in 2030 and 30 MMTCO2e in 2035 Retail sales load coverage 20 gigawatts (GW) of offshore wind by 2045 Meet increased demand for electrification without new fossil gas-fired resources	***No conflict***. As this Action pertains to the statewide procurement of renewable energy, the Project would not obstruct or interfere with its implementation. However, the Project would support increased usage of renewable electricity by allowing for a more reliable local electric grid and reducing reliance on natural gas power plants.
New Residential and Commercial Buildings	All electric appliances beginning 2026 (residential) and 2029 (commercial), contributing to 6 million heat pumps installed statewide by 2030	***No conflict.*** The Project would not obstruct or interfere with CARB's efforts to meet the all-electric appliance and heat pump goals. The Project's appliances and heating, ventilation, and air conditioning (HVAC) system would be electrically powered.
Construction Equipment	25% of energy demand electrified by 2030 and 75% electrified by 2045	***No conflict***. As this Action pertains to the electrification of off-road equipment across California, the Project would not obstruct or interfere with its implementation.
Low Carbon Fuels for Transportation	Biomass supply is used to produce conventional and advanced biofuels, as well as hydrogen	***No conflict***. The Project would not obstruct or interfere with CARB's efforts to increase the provision of low carbon fuels for transportation. The development and use of biofuels in trucks and automobiles would occur at the state and regional level.
Low Carbon Fuels for Buildings and Industry	In 2030s biomethane blended in pipeline Renewable hydrogen blended in fossil gas pipeline at 7% energy (~20% by volume), ramping up between 2030 and 2040 In 2030s, dedicated hydrogen pipelines constructed to serve certain industrial clusters	***No conflict***. The Project would not obstruct or interfere with CARB's efforts to increase the provision of low carbon fuels for use in buildings and industry. The blending of biomethane and use of renewable hydrogen in existing natural gas pipelines would happen at the scale of the utility provider and without action required by the Project.

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Table 28. Project Potential to Conflict with 2022 Scoping Plan

Sector	Action	Potential to Conflict
High GWP Potential Emissions	Low GWP refrigerants introduced as building electrification increases, mitigating HFC emissions	***No conflict.*** The Project would not obstruct or interfere with agency efforts to introduce low GWP refrigerants. The State has established a prohibition on the sale or distribution of bulk HFCs identified as having a high GWP through SB 1206.

As shown in Table 28, the Project would not conflict with the 2022 Scoping Plan. In addition, the Project would not impede the state and authoritative lead agencies from implementing incentives or regulations to achieve the 2022 Scoping Plan goals. Based on these considerations, the Project would not potentially conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions and would result in a less-than-significant impact.

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Appendix A

CalEEMod Outputs and Estimated Emissions

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Appendix B

Construction Air Quality Impact Analysis Output Files

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Appendix C

Operational Air Quality Impact Analysis Output Files

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Appendix D

Construction Health Risk Assessment Output Files

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Appendix E

Operational Health Risk Assessment Output Files

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Appendix F
Emergency Generator Specifation Sheets

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Appointment

From: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]
Sent: 12/24/2025 1:07:46 AM
To: Veerkamp, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a16598e8714e422fb3216b7b05602c48-Veerkamp, E]; Alvert V. Lopez [albert.lopez@acgov.org]; damien.curry@acgov.org; rodrigo.orduna@acgov.org; samuel.tan@acpwa.org; dilan.roe@acgov.org; josh.barbosa@acgov.org; Natali.Colom@acgov.org [natali.colom@acgov.org]; Nicola Park [nicola.park@clearwayenergy.com]; Aarty Joshi [aarty.joshi@clearwayenergy.com]; Ackerman, James@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3cc35de240cf4253af9cc7d3d2cbb643-Ackerman, J]; Abulaban, Abdel-Karim@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c1ff1d38281a4068b2708271d22c0d94-Abulaban, A]; Chang, Kaycee@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3d2fc8670840bda4acdc455903e787-Chang, Kayc]; Giorgi, Erika@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d171e5d706e34c26ad9d13c230f2349f-1324b266-6e]; Borkowski, Barbara@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ab8f496b4b784ff199bebeb01ec055e2-51690376-8e]; Paul Miller [pmiller@therchgroup.com]; Daniel Jones [djones@therchgroup.com]; Fooks, Brett@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=870df74143964b71ada0039bf13c5a9a-Fooks, Bret]
CC: Knight, Eric@Energy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=be42548337f44852a291a9845f226f62-Knight, Eri]

Subject: California Energy Commission (Opt-In); Potentia-Viridi battery project, septic permits
Location: Microsoft Teams Meeting

Start: 1/22/2026 10:15:00 PM
End: 1/22/2026 11:15:00 PM
Show Time As: Busy

Hello,
We last convened on May 22, 2025, and CEC staff presented a general overview presentation of the Opt-In program, this in light of the proposed Potentia-Viridi battery storage project.

Since that time, as you may be aware, new ownership has taken over the project, Clearway has purchased the project from Eurowind Energy, so there could be some introductions to make.

CEC staff is in the process of finalizing our environmental document.

Microsoft Teams Need help?

Join the meeting now

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Passcode: oF2q6hn6

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+1 916-562-1816,,431860596# United States, Sacramento

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For organizers: Meeting options | Reset dial-in PIN