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FINAL

Biological Technical Report

Potentia-Viridi Battery Energy Storage System Project

JANUARY 2025

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Prepared for:

LEVY ALAMEDA LLC
c/o Capstone Infrastructure Corporation
155 Wellington Street West, Suite 2930
Toronto, Ontario M5V 3H1, Canada
Contact: Lauren McLeod

Prepared by:

DUDEK
1904 Franklin Street, Suite 600
Oakland, California 94612

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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

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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

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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.

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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

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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

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Deleted: (*Rana draytonii*), tricolored blackbird (*Agelaius tricolor*),...

Deleted: (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*),...

Deleted: (*Circus hudsonius*),

Deleted: (*Elanus leucurus*), American badger (*Taxidea taxus*), and San Joaquin kit fox (*Vulpes macrotis mutica*). Tricolored blackbirds were observed foraging during the field survey on January 18, 2024

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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 acres plus buffer); 99B-7890-2-6, 99B-7885-12 (gen-tie alignment, 20.44 acres including buffer)
- **Elevation Range (feet):** 383 to 523 feet above mean sea level (amsl)
- **PSA:** 88.2 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 acres (approximately ~~60~~-acre BESS facility lease area and survey buffer + approximately ~~6~~-are gen-tie corridor which includes approximately 20-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.

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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.

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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.

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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 element*s (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

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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;

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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

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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.

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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

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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.

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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).

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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.

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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.

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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.

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- 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.

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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

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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

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.

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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.

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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. 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 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).

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4.3.6 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 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 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) and wetland delineation datasheets were completed (Appendix I).

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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). 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). 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.

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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, Special-Status Species' Potential to Occur within the PSA) (CDFW

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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 D. All the special-status plant species are found in valley and foothill grassland, often with alkaline and/or clay soils.

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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.1/No	Moderate
Navarretia nigelliformis ssp. radians	shining navarretia	None/None/1B.2/No	Moderate
Tropidocarpum capparideum	caper-fruited tropidocarpum	None/None/1B.1/No	High

Notes: Additional information on determining potential to occur is in Appendix F, Special-Status Species Potential to Occur within the Project study area.

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[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)

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[2] **Potential to Occur:**
Known to Occur= Known occurrences recorded within the PSA.

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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) (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.

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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.

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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

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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, 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

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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).

- **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).

- **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).

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:

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- **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

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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.

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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

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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

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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.

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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).

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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.

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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.

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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.

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

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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

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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.).

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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 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. 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.

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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). Total mitigation acreages may vary depending on the location of selected mitigation areas the total habitat acreage affected by the Project.

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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 miles 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

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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

Appendix B
Database Search Results

Appendix C

Staff Resumes

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Appendix D

Plant and Wildlife Species Compendium

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Appendix E

Photo Record

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Appendix F

Special-Status Species Potential to Occur within the Project Study Area

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Appendix G

CRLF Habitat Assessment Datasheets

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Appendix H

EACCS Mitigation Score Sheets

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Appendix I
Wetland Delineation Forms

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