ATTACHMENT 5.4-A: BIOLOGICAL RESOURCES TECHNICAL REPORT

INSIGNIA ENVIRONMENTAL

LS POWER GRID CALIFORNIA, LLC

COLLINSVILLE 500/230 KILOVOLT SUBSTATION PROJECT

TERRESTRIAL BIOLOGICAL RESOURCES TECHNICAL REPORT

JULY 2024

PREPARED FOR:

LS POWER GRID CALIFORNIA

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1 – INTRODUCTION

LS Power Grid California, LLC (LSPGC) retained Insignia Environmental (Insignia) to conduct a pre-project survey for the Collinsville 500/230 Kilovolt (kV) Substation Project (Proposed Project). The Proposed Project would involve the construction of a new 500/230 kV substation (Collinsville Substation), the construction of two new 500 kV single-circuit transmission line segments that will loop Pacific Gas and Electric Company's (PG&E's) existing Vaca Dixon-Tesla 500 kV Transmission Line into the proposed Collinsville Substation, and the construction of one new 230 kV double-circuit transmission line that will connect the proposed Collinsville Substation to PG&E's existing Pittsburg Substation. The Proposed Project's general location is depicted in Figure 1: Project Overview Map and the Proposed Project components located within the survey area associated with this report are depicted in Figure 2: Project Components Map. The Proposed Project has been designed to address overloads on the existing Contra Costa-Newark 230 kV corridor and provide an additional supply into the northern greater San Francisco Bay Area to increase reliability to the area and advance additional renewable generation.

This Biological Resources Technical Report was prepared to identify any existing or potentially sensitive biological resources (e.g., vegetation communities, hydrologic features, and special-status plant and animal species and their associated habitats) that may be present within or adjacent to the Proposed Project's survey area.[1]

2 – PROJECT DESCRIPTION

2.0 PROJECT LOCATION

As depicted in Figure 2: Project Components Map, the Collinsville Substation will be near the unincorporated community of Collinsville, located in the southwestern portion of Solano County. The survey area is bordered on the south and southwest by the Sacramento River, where it debouches into the Suisun Bay; on the west by the Montezuma Hills and Suisun Marsh; and to the north and east by agricultural lands. The Proposed Project will create a connection to the existing Pittsburg Substation located in the City of Pittsburg in the northern portion of Contra Costa County.

2.1 PROJECT COMPONENTS

The main components of the Proposed Project are depicted on Figure 2: Project Components Map and include the following:

- A new approximately 8-acre 500/230 kV substation (Collinsville Substation);

[1] The survey area primarily consists of all terrestrial areas of the Proposed Project area north of the Sacramento River, as well as an approximately 10-acre buffer. Terrestrial areas south of Suisun Bay, in the vicinity of PG&E's existing Pittsburgh Substation, comprise a small portion of the survey area.

- Two approximately 1.5-mile-long single-circuit 500 kV transmission line segments that would interconnect Pacific Gas and Electric Company's (PG&E's) existing Vaca Dixon-Tesla 500 kV Transmission Line into the proposed Collinsville Substation;[2] and

- A new approximately 6-mile-long double-circuit 230 kV transmission line connecting the proposed Collinsville Substation to PG&E's existing Pittsburg Substation. The new 230 kV transmission line would include:

  - An approximately 1-mile-long overhead transmission line segment, that would connect the proposed Collinsville Substation to an in-river monopole structure (north side of the Sacramento River),

  - One steel in-river monopole structure to transition the overhead conductors to submarine cables on the northern edge of the Sacramento River,

  - Up to six approximately 4.5-mile-long submarine cables running in a northeast to southwest direction installed approximately 6 to 15 feet below the sediment surface, and

  - Utility vaults near PG&E's existing Pittsburg Substation to connect the submarine cables to underground cables that would terminate at two new riser poles adjacent to PG&E's existing Pittsburg Substation.

- Two new telecommunications paths to the Collinsville Substation—a new microwave tower would be constructed at the substation and new fiber optic paths would be installed between existing fiber in the City of Pittsburg and the substation.

3 – REGULATORY FRAMEWORK

3.0 FEDERAL

3.0.0 Federal Endangered Species Act

The federal Endangered Species Act (FESA) protects plant and wildlife species that are listed as endangered or threatened by the United States (U.S.) Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's (NOAA's) National Marine Fisheries Service (NOAA Fisheries).

Under Section 9 of the FESA, any take of endangered wildlife is prohibited; "take" is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (16 U.S. Code [U.S.C.] 1532[19] and 1538). This can also include the modification of a species' habitat. For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land, as well as removing,

[2] PG&E will be responsible for the final configuration of the northern tie in of the 500 kV loop-in between the proposed Collinsville Substation and the existing Vaca Dixon-Tesla 500 kV Transmission Line. LSPGC will be responsible for the installation of dead-end structures near the Collinsville Substation to facilitate looping in the 500 kV lines.

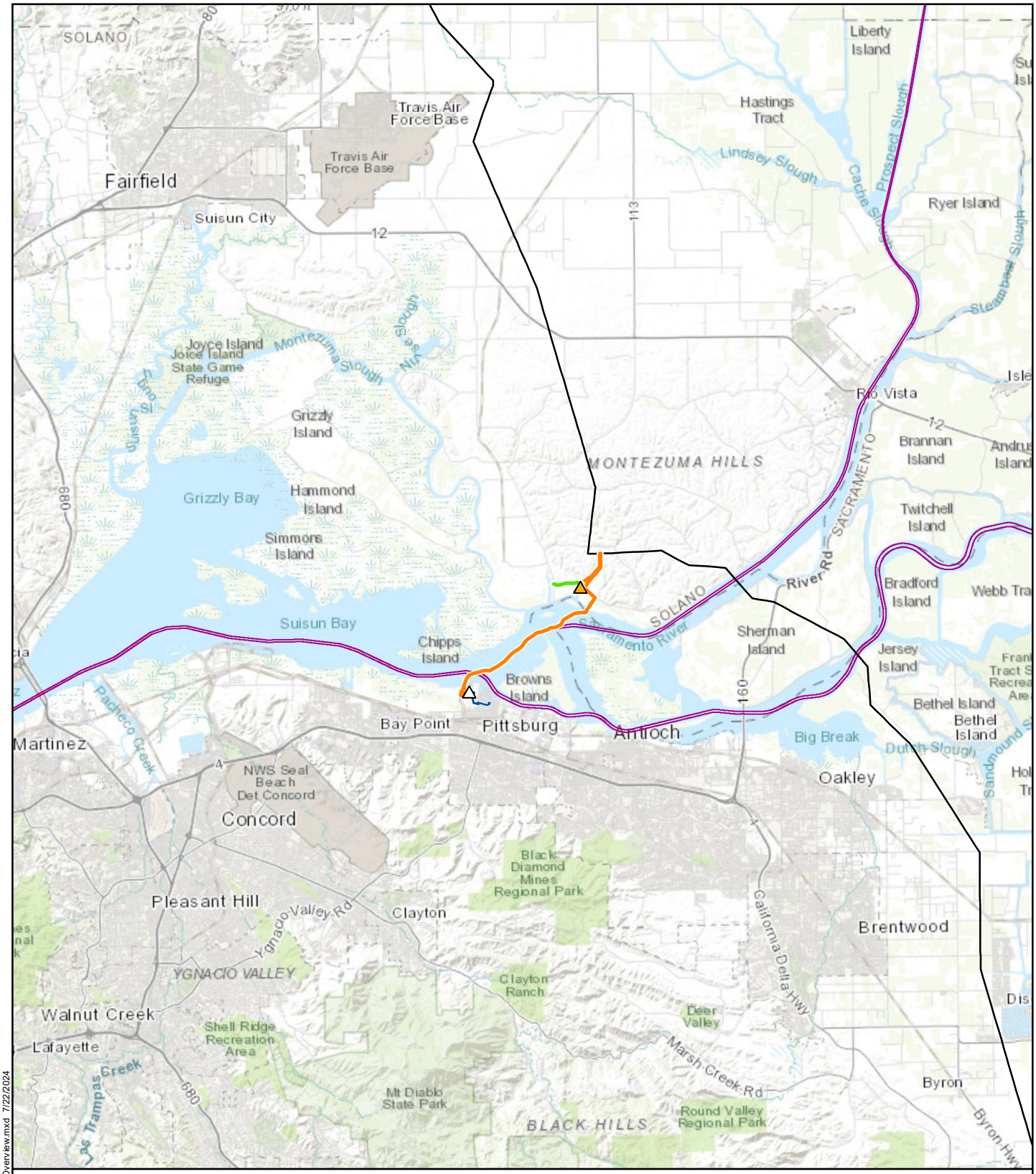

Figure 1: Project Overview Map **Collinsville 500/230 Kilovolt Substation Project**

- Proposed LSPGC Collinsville Substation
- Existing PG&E Pittsburg Substation
- Proposed Project Transmission Lines
- Proposed PG&E 12 kV Distribution Line
- Existing PG&E Vaca Dixon-Tesla Transmission Line
- Proposed LSPGC Telecommunications Line
- Navigational Channel

1:250,000

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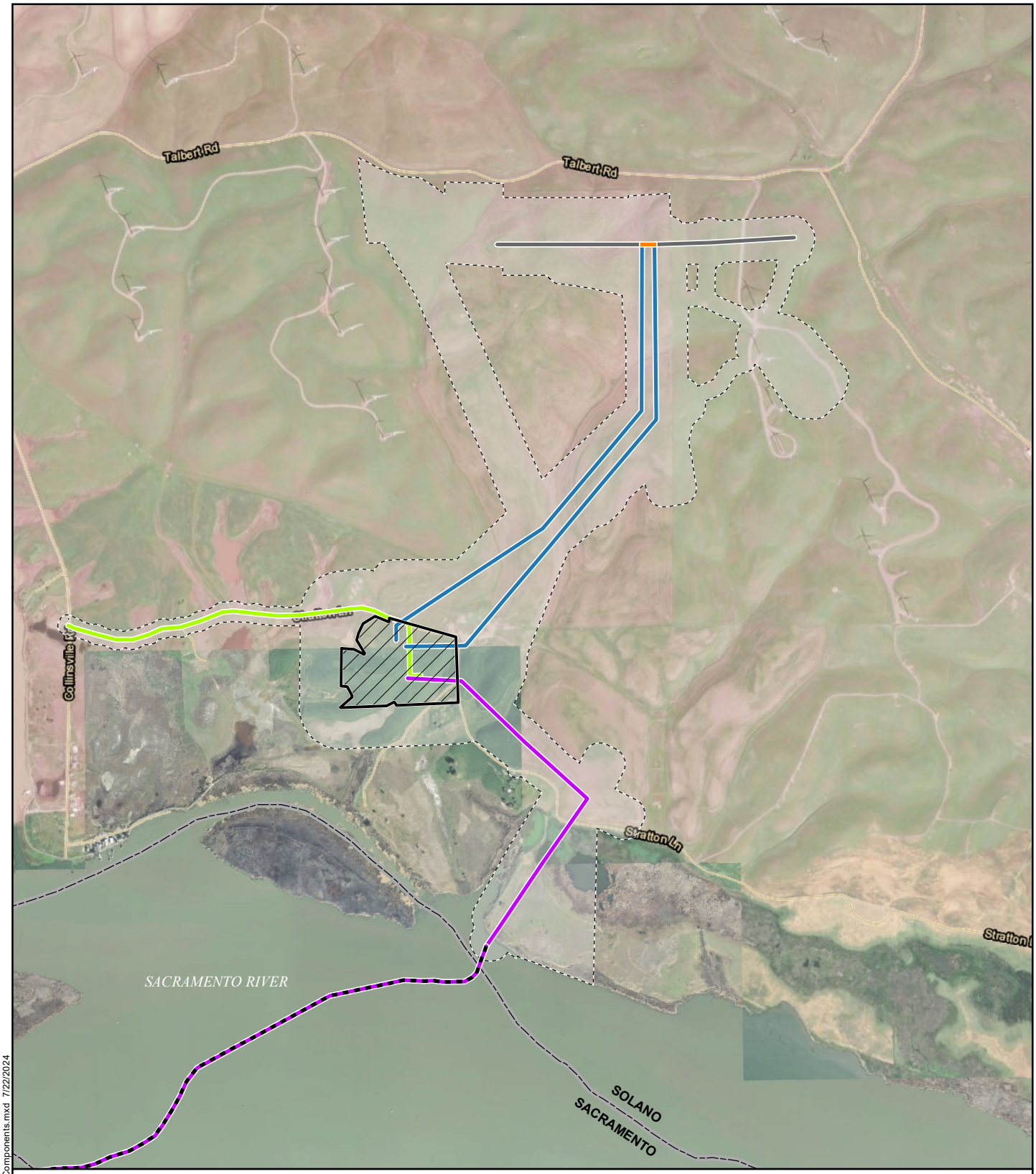

Figure 2: Project Components Map 1 of 2 **Collinsville 500/230 Kilovolt Substation Project**

- Existing PG&E 500 kV Overhead Transmission Line
- Proposed LSPGC 230 kV Overhead Segment
- Proposed LSPGC 230 kV Submarine Segment
- Proposed PG&E 12 kV Distribution Line
- Proposed PG&E 500 kV Interconnection
- Existing PG&E 500 kV Overhead Transmission Line to be Removed
- County Boundary
- Survey Area
- Proposed Collinsville Substation

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Figure 2: Project Components Map 2 of 2 — **Collinsville 500/230 Kilovolt Substation Project**

- Proposed LSPGC 230 kV Submarine Segment
- Proposed LSPGC 230 kV Underground Segment
- Proposed LSPGC Telecommunications Line
- Survey Area
- Existing PG&E Pittsburg Substation
- Proposed Riser
- Proposed Utility Vault

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0 500 1,000 Feet

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cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 U.S.C. 1538[c]). Under Section 7 of the FESA, federal agencies are required to consult with the USFWS and/or NOAA Fisheries if their actions, including permit approvals or federal funding, could adversely affect a listed species (including plants) or its critical habitat. Through Section 7 consultation and the issuance of a Biological Opinion, the USFWS and/or NOAA Fisheries may issue an incidental take permit, allowing take of the species that is incidental to another authorized activity, provided that the action will not jeopardize the continued existence of the species.

Section 10 of the FESA provides for the issuance of incidental take permits for private actions that have no federal involvement through the development of a Habitat Conservation Plan (HCP).

3.0.1 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) recognizes international treaties between the U.S. and other countries that have afforded protection to migratory birds and any of their parts, eggs, and nests, from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The MBTA prohibits acts to "pursue, hunt, take, capture, or kill, or attempt to take, capture, or kill" migratory birds and a range of buying, selling, and transporting activities (16 U.S.C. 703). "Take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to pursue or collect" a bird. Birds, nests, and eggs are all protected. The regulations governing migratory bird permits can be found in Title 50, Part 13 (General Permit Procedures) and Part 21 (Migratory Bird Permits) of the Code of Federal Regulations.

3.0.2 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) affords additional legal protection to bald eagles and golden eagles. This law prohibits the take, sale, purchase, barter, offer of sale, purchase, or barter, transport, export or import, at any time or in any manner of any bald or golden eagle, alive or dead, or any part, nest, or egg thereof (16 U.S.C. 668-668d). The BGEPA also defines "take" to include "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb," and includes criminal and civil penalties for violating the statute. The USFWS further defines the term "disturb" as agitating or bothering an eagle to a degree that causes or is likely to cause injury, or a decrease in productivity or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior.

3.0.3 Clean Water Act

Section 404

Section 404 of the Clean Water Act (CWA) requires project proponents to obtain a permit from the U.S. Army Corps of Engineers (USACE) before performing any activity involving a discharge of dredged or fill material into waters of the U.S. Waters of the U.S. include the following:

- navigable waters of the U.S.,
- interstate waters,

- all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce,
- tributaries to any of these waters, and
- wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries.

Many surface waters and wetlands in California meet the criteria for waters of the U.S.

Section 402

CWA Section 402 regulates construction-related storm water discharges to surface waters through the National Pollutant Discharge Elimination System program, which is administered by the U.S. Environmental Protection Agency (EPA). In California, the State Water Resources Control Board is authorized by the EPA to oversee the program through the Regional Water Quality Control Boards (RWQCBs). The Proposed Project is within the jurisdiction of the Central Valley RWQCB (Region 5).

Section 401

Under CWA Section 401(a)(1), the applicant for a federal license or permit to conduct an activity that may result in a discharge into waters of the U.S. must provide the federal licensing or permitting agency with a certification that any such discharge will not violate state water quality standards. The RWQCBs administer the Section 401 program to prescribe measures for projects that are necessary to avoid, minimize, and mitigate adverse effects on water quality and ecosystems.

3.0.4 Plant Protection Act of 2000

Some non-native plant species are officially categorized as “noxious weeds” because they are highly invasive or interfere with an area’s management objectives, or both. Both the U.S. and California governments maintain lists of plants that are considered threats to the well-being of the nation or the state. The Federal Noxious Weed Act of 1974, as amended (7 U.S.C. 2801 et seq.; 88 Stat. 2148), established a federal program to control the spread of noxious weeds. The act was superseded by the federal Plant Protection Act of 2000 (7 U.S.C. 7701 et seq.; 114 Stat. 438), which consolidated and modernized all major statutes pertaining to plant protection and quarantine (e.g., the Federal Noxious Weed Act and Plant Quarantine Act).

The Plant Protection Act revised the original definition of a “noxious weed” as listed in the Federal Noxious Weed Act to include the following:

> “any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products), livestock, poultry, or other interests of agriculture, irrigation, navigation, the natural resources of the United States, the public health, or the environment.”

Under the Plant Protection Act, the Secretary of Agriculture was authorized to designate plants as “noxious weeds” by regulation, and to prohibit or restrict all such weeds from entering the U.S. or moving through interstate commerce. The secretary was also given authority to inspect, seize, and destroy products and to quarantine areas, if necessary, to prevent the spread of such

weeds. The Secretary of Agriculture was also authorized to cooperate with other federal, state, and local agencies; farmers' associations; and private individuals in measures to control, eradicate, prevent, or retard the spread of such weeds.

3.1 CALIFORNIA

3.1.0 Fish and Game Code Sections 3511, 4700, 5050, and 5515

The state of California first began to designate species as "fully protected" prior to the creation of the California Endangered Species Act (CESA) and the FESA. Lists of fully protected species were initially developed to provide protection to animals (i.e., fish, amphibians, reptiles, birds, and mammals) that were rare or facing possible extinction. Most fully protected species have since been listed as threatened or endangered under the CESA and/or the FESA. Fully protected species may not be taken or possessed at any time, and incidental take permits cannot be issued for these species (California Fish and Game Code Section 4700).

3.1.1 Fish and Game Code Sections 3503, 3503.5, and 3513

California Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 specifies these protections for birds in the orders Falconiformes and Strigiformes (i.e., raptors). Section 3513 also makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.

3.1.2 Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the state fall under the jurisdiction of the appropriate RWQCB. The RWQCB must prepare and periodically update water quality control plans, also known as basin plans. Each basin plan establishes numerical or narrative water quality objectives to protect established beneficial uses, which include wildlife, fisheries, and their habitats. Projects that affect wetlands or waters of the state, including groundwater, must meet the discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the CWA.

3.1.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) (California Fish and Game Code Sections 1900-1913) was created with the intent to "preserve, protect, and enhance rare and endangered plants in this State." The NPPA is administered by the California Department of Fish and Wildlife (CDFW). The California Fish and Game Commission has the authority to designate native plants as "endangered" or "rare" and to protect them from take. The NPPA also stipulates that no person may take or possess any endangered or rare native plant, or any part or product thereof. However, this does not apply to the removal of endangered or rare native plants within a right-of-way by the owner of the land or his/her agent, nor does it apply to the obligation of a publicly or privately owned public utility to provide service to the public.

3.1.4 California Code of Regulations

Title 14, Section 251.1 of the California Code of Regulations (CCR) restricts the harassment of nongame birds and mammals. Harassment is defined as an intentional act that disrupts an animal's normal behavior patterns, which includes, but is not limited to breeding, feeding, or sheltering. Sections 670.2 and 670.5 list animals designated as "threatened" or "endangered" in California. California Species of Special Concern (SSC) is a category conferred by the CDFW on species that are indicators of regional habitat changes or that are considered potential future protected species. SSCs do not have any special legal status, but this category is intended as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

3.2 LOCAL

The CPUC has sole and exclusive state jurisdiction over the siting and design of the Proposed Project. Pursuant to CPUC General Order 131-D (GO 131-D), Section XIV.B, "Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC's jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters" (CPUC, 1995). Consequently, public utilities are directed to consider local regulations and consult with local agencies, but county regulations are not applicable as Solano County does not have jurisdiction over the Proposed Project. This section includes a summary of local biological resources-related policies, plans or programs for informational purposes and to assist with CEQA review. Although LS Power Grid California, LLC (LSPGC) is not subject to local discretionary permitting, ministerial permits would be secured as appropriate.

3.2.0 Solano County General Plan

The Solano County General Plan Conservation Element and Open Space Element (Solano County 2008) include the following policies that may be applicable to resources affected by the Proposed Project:

- Policy RS.P-1: Protect and enhance the county's natural habitats and diverse plant and animal communities, particularly occurrences of special-status species, wetlands, sensitive natural communities, and habitat connections.

- Policy RS.P-2: Manage the habitat found in natural areas and ensure its ecological health and ability to sustain diverse flora and fauna.

- Policy RS.P-3: Focus conservation and protection efforts on high-priority habitat areas depicted in Figure RS-1 [of the Solano County General Plan].

- Policy RS.P-4: Together with property owners and federal and state agencies, identify feasible and economically viable methods of protecting and enhancing natural habitats and biological resources.

- Policy RS.P-5: Protect and enhance wildlife movement corridors to ensure the health and long-term survival of local animal and plant populations. Preserve contiguous habitat areas to increase habitat value and to lower land management costs.

- Policy RS.P-6: Protect oak woodlands and heritage trees and encourage the planting of native tree species in new developments and along road rights-of-way.

- Policy RS.P-7: Preserve and enhance the diversity of habitats in marshes, delta to maintain these unique wildlife resources.

- Policy RS.P-8: Protect marsh waterways, managed wetlands, tidal marshes, seasonal marshes, and lowland and grasslands because they are critical habitats for marsh-related wildlife and are essential to the integrity of the marshes.

- Policy RS.P-9: Encourage restoration of historic marshes to wetland status, either as tidal marshes or managed wetlands. When managed wetlands are no longer used for waterfowl hunting, restore them as tidal marshes.

3.2.1 Habitat Conservation Plans

Solano County Water Agency Solano Multispecies Habitat Conservation Plan

In October 2012, the Solano County Water Agency (SCWA) published a draft of the Solano Multispecies HCP (SCWA 2012), but the HCP has not yet been adopted. The draft HCP establishes a framework for complying with federal and state endangered species regulations while accommodating future urban growth, infrastructure development, and ongoing operations and maintenance for flood control, irrigation facilities, and other public infrastructure undertaken by or under the permitting authority/control of the plan participants in Solano County over the next 30 years (SCWA 2012). A total of 37 species are proposed to be covered under the HCP.

East Contra Costa County Habitat and Natural Community Conservation Plan

The East Contra Costa County Habitat Conservation Plan Association intends to use the East Contra Costa County Habitat and Natural Community Conservation Plan (HNCCP) to protect natural resources in eastern Contra Costa County while improving environmental permitting processes for impacts to endangered species and contributing to their recovery. The East Contra Costa County HNCCP covers the cities of Clayton, Pittsburg, Antioch, Oakley, and Brentwood, and the unincorporated areas between those cities. The Pittsburg Substation falls within the East Contra Costa County HNCCP. The East Contra Costa County HNCCP addresses comprehensive species, wetlands, and ecosystem conservation. Agencies involved with approving permits for endangered species within the county request from USFWS and California Department of Fish and Wildlife (CDFW) to have authorized 30-year take permits for species covered under the federal Endangered Species Act (ESA) and the Natural Community Conservation Planning Act (NCCPA).

PG&E Bay Area Operations and Maintenance Habitat Conservation Plan

This HCP is intended to avoid, minimize, and mitigate temporary and permanent impacts on threatened and endangered species resulting from PG&E's operations and management and minor new construction activities in the Plan Area. It additionally provides the basis for incidental take authorization pursuant to the ESA for PG&E's current and future operations and management activities and minor new construction in the Plan Area.

4 – PRELIMINARY AGENCY CONSULTATION

No pre-survey contact with applicable wildlife agencies was conducted with regards to this BRTR. No agency-approvals were required for biologists conducting surveys. Agency protocols and best practices applied to the survey effort are detailed in Section 5.2 Biological Resource Survey Method.

5 – METHODS

5.0 DEFINITIONS

The following definitions were used to define special-status resources within the survey area.

5.0.0 Special-Status Plants

Plants were considered special-status species if they met one or more of the following criteria:

- species listed or candidates for listing as threatened or endangered under the FESA;
- species listed or candidates for listing as threatened or endangered under the CESA;
- species meeting the definition of endangered, rare, or threatened under the California Environmental Quality Act (CEQA) (14 CCR Section 15380) that may include species not found on either federal or state endangered species lists; and
- species considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered in California (i.e., California Rare Plant Ranks [CRPRs] 1A, 1B, 2A, 2B, and 3).

5.0.1 Sensitive Natural Communities and Habitats

Natural communities were considered sensitive if they met one or more of the following criteria:

- sensitive vegetation communities/habitats identified in local or regional plans, policies, or regulations, or designated as sensitive by the CDFW or USFWS (including communities assigned a State Rarity Rank of S1-S3 under the CDFW Vegetation Classification and Mapping Program);
- areas that provide habitat for locally unique biotic species/communities (e.g., oak woodlands, grasslands, and forests);

- habitat that contains or supports rare, endangered, or threatened wildlife or plant species as defined by the CDFW and USFWS;
- habitat that supports one or more CDFW Species of Special Concern;
- areas that provide habitat for rare or endangered species and that meet the definition in CEQA Guidelines Section 15380;[3]
- existing game and wildlife refuges and reserves;
- lakes, wetlands, estuaries, lagoons, streams, and rivers; and
- riparian corridors.

5.0.2 Special-Status Wildlife

Wildlife species were considered special-status species if they met one or more of the following criteria:

- species listed or candidates for listing as threatened or endangered under the FESA;
- species listed or candidates for listing as threatened or endangered under the CESA;
- species that are fully protected in California (California Fish and Game Code Sections 3511, 4700, 5050, and 5515);
- species meeting the definition of endangered, rare, or threatened under CEQA (14 CCR Section 15380) that may include species not found on either federal or state endangered species lists;
- migratory birds and any of their parts, eggs, and nests, as protected by the MBTA;
- birds of prey (California Fish and Game Code Sections 3503, 3503.5, 3513, and 3800);
- species designated as an SSC or as fully protected by the CDFW;
- species protected under the BGEPA;
- species designated as Birds of Conservation Concern or Watch List species by the CDFW; and
- bats considered by the Western Bat Working Group to be “high” or “medium” priority species.

[3] California Code of Regulations Title 14; Division 6; Chapter 3; Section 15380 - Endangered, Rare or Threatened Species

5.0.3 Special-Status Species with Potential to Occur

Species identified from a literature search were assigned one of the following potentials to occur:

- Present: The species was observed during surveys.

- High Potential: Suitable habitat for the species is present within the survey area, and recent (i.e., within 30 years) occurrences have been reported within 1 mile of the survey area; or marginal habitat is present, and recent occurrences have been recorded within 0.25 mile of the survey area. For plants, recent occurrences have been recorded within 0.25 mile, but the species was not observed during floristic surveys or was surveyed for outside of the known bloom period for the species.

- Moderate Potential: Suitable habitat for the species is present, and the survey area is located within the species' known range, but no recent (i.e., within 30 years) occurrences have been recorded between 1 and 5 miles from the survey area; or marginal habitat is present, the survey area is located within the species' known range, and multiple recent occurrences have been recorded between 1 and 5 miles from the survey area. For plants, recent occurrences have been recorded within 1 mile, but the species was not observed during floristic surveys or was surveyed for outside of the known bloom period for the species.

- Low Potential: Poor or marginal habitat for the species exists, and at least one recent occurrence has been recorded between 1 and 5 miles from the survey area; barriers to migration/dispersal may be present; or suitable habitat for the species is present within the survey area, but either no recent occurrences have been recorded between 1 and 5 miles from the survey area or the survey area is located outside of the species' known range. For plants, recent occurrences have been recorded within 5 miles, but the species was not observed during floristic surveys or was surveyed for outside of the known bloom period for the species.

- No Potential: No habitat exists for the species; no occurrences have been recorded between 1 and 5 miles from the survey area, or the survey area is outside of the species' known geographic or elevation range; and/or the species has been confirmed to be extirpated from the area.

5.1 RECORDS SEARCH

A literature and database review, including a geographic information system (GIS) review of records from the California Natural Diversity Database (CNDDB) (CDFW 2023), was conducted of the U.S. Geological Survey 7.5-minute quadrangles within and adjacent to the survey area. Records for all known special-status species within 0.25 mile, 1 mile, and 5 miles of the Proposed Project were compiled and reviewed. The CNPS Inventory of Rare and Endangered Plants of California (CNPS 2023a) was reviewed to obtain additional information regarding special-status plant species. The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) (USFWS 2023a) was queried for a list of federally threatened and endangered species known to occur within or near the Proposed Project and to determine the project's proximity to USFWS designated critical habitat.

Further, the USFWS National Wetlands Inventory (USFWS 2023b) and the USGS National Hydrography Dataset (USGS 2023) were queried to determine if potentially jurisdictional waters had been previously mapped within the survey area.

5.2 BIOLOGICAL RESOURCE SURVEY METHOD

The geographical boundaries of the survey area were provided by LSPGC in the form of GIS shapefiles. This survey area included land-based portions of the proposed substation sites, as well as proposed transmission line routes, staging areas, and access roads. Due to access constraints imposed by the property owner, the terrestrial areas south of Suisun Bay, in the vicinity of PG&E's existing Pittsburgh Substation were not included in biological resource surveys.

On the dates of May 23 to 26, 30, and 31, June 9, and July 10, 11, and 12, September 21 and 22 2023, and December 19, 2023, Insignia biologists conducted surveys to characterize the existing conditions within the survey area and identify potential biological resources (e.g., habitat for special-status species, sensitive natural communities, and jurisdictional waters) that may occur. The survey area is shown in Attachment A: Biological Resources Map. Approximately 569.7 acres of terrestrial habitat and land cover were surveyed.

The biologists conducted a habitat assessment, floristic botanical surveys, and a preliminary assessment of water features potentially under the jurisdiction of the USACE, RWQCB, and CDFW within the approximately 325-acre survey area (original survey area) between May 23 and July 12, 2023. Following the initial surveys, the original survey area was expanded to include an additional approximately 244 acres (expanded survey area), as shown in Attachment A: Biological Resources Map. A habitat assessment and preliminary assessment of water features was conducted on September 21 and 22 and December 19 within this expanded survey area, which includes terrestrial areas north of the Sacramento River and terrestrial areas south of Suisun Bay in the vicinity of PG&E's existing Pittsburgh Substation. Floristic botanical surveys are scheduled to commence in 2024 for the expanded survey area. All sensitive natural resources observed were photographed and recorded using a submeter-accurate Global Positioning System (GPS) unit.

Surveys were conducted during daylight hours with clear to partly cloudy skies and did not occur in inclement weather conditions or fog cover. Temperatures ranged from 65 to 91 degrees Fahrenheit with wind speeds between 5 and 20 miles per hour.

5.2.0 Habitat Assessment

A habitat assessment was conducted within the survey area to determine whether the Proposed Project contained habitat suitable to support special-status species. Insignia biologists searched for areas of potential habitat by walking meandering transects that covered 100 percent of the survey area that was accessible. Areas that were inaccessible due to tall, non-transparent fencing and/or lack of landowner permission were not surveyed. The areas not surveyed are shown in Attachment A: Biological Resources Map.

As part of the habitat assessment, natural communities were mapped to the alliance level, as described in *A Manual of California Vegetation Online* (CNPS 2023b). Other non-vegetative

land covers were documented as well. The biologists identified dominant species, assigned alliances, and mapped the natural community and land cover boundaries using a submeter-accurate GPS unit. Natural communities were evaluated using NatureServe's Heritage Methodology, the same system used to assign global and state rarity ranks for plant and animal species in the California Natural Diversity Database (CNDDB). Sensitive natural communities are natural communities with ranks of S1, S2, or S3.

5.2.1 Special-Status Plant Surveys

Special-status plant surveys were conducted and covered 100 percent of the original survey area. Following the botanical surveys in July 2023, the survey area was expanded by approximately 244 acres. This expansion also occurred after the bloom period for most of the special-status plants with potential to occur concluded. As a result, additional surveys are recommended in 2024 during the appropriate bloom periods for special-status plant species with the potential to occur within the expanded survey area.

Transect spacing between surveyors was less than or equal to 10 meters. Surveys were fully floristic in nature. The surveys were conducted in accordance with guidelines published by the CNPS (2001), the CDFW (2009), and the USFWS (2000), which state the following:

- Surveys should be conducted at the proper time of year when locally significant plants are both evident and identifiable.
- Surveys must be floristic in nature, and the species, subspecies, or variety must be identified for every observed plant to determine the rarity status.
- Surveys must be conducted in a manner that is consistent with conservation ethics and accepted plant collection and documentation techniques.

Field surveys were conducted within the bloom period for all but four special-status plant species with the potential to occur within the survey area; these special-status species are discussed further in Section 6 – Results. If present within the original survey area, the likelihood of encountering these four species was considered reasonably high; two of these species are perennial and observable year-round and the other two are annual species that have bloom periods extending into April. Given the unusually protracted rainy season and the associated cooler temperatures of the preceding winter, it was assumed that annual plants would delay their bloom periods by approximately 1 month (Moore and Laurenroth 2017).

5.2.2 Preliminary Jurisdictional Determination

Potentially jurisdictional waters assessments were conducted by walking meandering transects that were spaced no more than 15 meters apart and covered 100 percent of the survey area. Insignia biologists used guidance from *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008) to determine the location and size of linear water features potentially under the jurisdiction of the USACE, RWQCB, and/or CDFW. Photographs were taken for each linear water feature to record downstream and upstream conditions. OHWM indicators and measurements of each jurisdictional linear water feature were recorded on electronic data sheets. Top of bank (TOB) measurements were also noted for each linear water feature to assess the areas that may be CDFW-jurisdictional under Section 1600 of the California Fish and Game Code.

Potentially jurisdictional wetland features were identified through combined observations of visible hydrology, vegetation typically associated with wetlands, and elevation relative to the surrounding topography. These areas will require formal wetland delineation studies to determine if they are within the jurisdiction of the USACE, RWQCB, and/or CDFW.

6 – RESULTS

6.0 GEOGRAPHY, CLIMATE, AND HYDROLOGY

The Proposed Project area receives an average of 23 inches of rainfall per year, with the majority of precipitation falling between November and March. Average annual temperatures range from 48 to 73 degrees Fahrenheit (NOAA 2023). The elevation ranges from 3 to 250 feet above sea level.

6.1 RECORDS SEARCH

Results of the initial desktop analysis indicated that the upland areas around the proposed Collinsville Substation and transmission line routes are mainly grassland habitat and agricultural areas. Grassland habitats, in general, may provide suitable habitat for special-status plants. The survey area along the northern shore of the Sacramento River supports native riparian habitat areas and freshwater/estuarine wetlands. Areas adjacent to PG&E's existing Pittsburg Substation in Contra Costa County may have some fringe marsh habitat near the shoreline, but the majority of the facility is developed (e.g., graveled or paved) and rip-rap is present along much of the shoreline.

From this records search, Insignia compiled a list of 28 special-status plant species and 32 special-status wildlife species that have the potential to occur within 5 miles of the survey area. Eight potentially jurisdictional waters were identified within the survey area during USGS National Wetland Inventory database review.

6.2 VEGETATION COMMUNITIES

Twenty-two vegetation community alliances and land cover types were identified in the survey area, as presented in Table 1: Vegetation Community Alliances and Land Cover Types. The vegetation community and land cover locations are documented in Attachment A: Biological Resources Map. Photographs are provided in Attachment B: Habitat Assessment Photographs. The natural communities observed in the Survey Area are ranked S3, S4, S5, and semi-natural alliance (SNA) (semi-natural stands dominated by non-native species). Six of the 15 natural communities observed are considered sensitive. The following subsections describe each vegetation community identified within the survey area.

Approximately 2 acres of the survey area were inaccessible to Insignia biologists due to tall, non-transparent fencing and lack of landowner permission, as shown in Attachment A: Biological Resources Map. Based on aerial imagery from Google Earth, the unsurveyed areas are at an elementary school and are suspected to include both developed and bare ground.

Table 1: Vegetation Community Alliances and Land Cover Types

Vegetation Community Alliance or Land Cover Type	Approximate Size in Area Surveyed (acres)
Baccharis pilularis Shrubland Alliance	0.1
Bare Ground	1.6
Brassica nigra – Centaurea (*solstitialis, melitensis*) Herbaceous SNA	29.3
Developed	28.9
Distichlis spicata Herbaceous Alliance	17.5
Disturbed	16.6
Frankenia salina Herbaceous Alliance*	3.8
Juncus arcticus (var. *balticus, mexicanus*) Herbaceous Alliance	1.5
Lepidium latifolium – Lactuca serriola Herbaceous SNA	7.9
Lolium perenne Herbaceous SNA	394.2
Open Water	7.4
Ornamental Vegetation	2.9
Polygonum lapathifolium – Xanthium strumarium Herbaceous Alliance	0.1
Rip-Rap	0.5
Rosa californica Shrubland Alliance*	3.2
Salix exigua Shrubland Alliance	2.6
Sarcocornia pacifica (*Salicornia depressa*) Herbaceous Alliance*	1.0
Schoenoplectus (*acutus, californicus*) Herbaceous Alliance*	17.6
Schoenoplectus acutus/*Rosa californica* Association*	2.1
Schoenoplectus americanus Herbaceous Alliance*	0.3
Typha (*angustifolia, domingensis, latifolia*) Herbaceous Alliance	<0.1
Not Surveyed**	2.0
Total* **	**569.7**

* CDFW-designated sensitive natural community (State Rarity Rank S1-S3).
** Areas that were inaccessible due to tall, non-transparent fencing and/or lack of landowner permission were not surveyed.
*** Due to rounding, total may not sum.

6.2.0 *Baccharis pilularis* Shrubland Alliance (S5)

The *Baccharis pilularis* Shrubland Alliance can be found in coastal bluffs, terraces, stabilized dunes, and river mouths with variable soils ranging from sandy to relatively heavy clay. Coyote brush (*Baccharis pilularis*) is the dominant plant species; it generally occupies at least 50 percent of the shrub canopy or is co-dominant with silk tassel bush (*Garrya elliptica*) or coffeeberry (*Frangula californica*). This community was observed within the survey area south of Suisun Bay near PG&E's existing Pittsburg Substation and alongside non-native forbs.

6.2.1 *Brassica nigra - Centaurea* (*solstitialis, melitensis*) Herbaceous Semi-Natural Alliance

This community is typically associated with disturbed areas where black mustard (*Brassica nigra*) and short-pod mustard (*Hirshfeldia incana*) achieve 80 percent relative cover in the herbaceous layer. Similar ruderal forbs, including tocolote (*Centaurea melitensis*) and yellow star thistle (*Centaurea solstitialis*), may achieve dominance or co-dominance. Within the survey area, this community was generally observed in dense colonies between stands of non-native grassland in areas where heavy cattle grazing historically occurred.

6.2.2 *Distichlis spicata* Herbaceous Alliance (S4)

The *Distichlis spicata* Herbaceous Alliance is found commonly in alkaline or saline ecosystems adjacent to estuarine marshes or other wetland habitats that may be tidally influenced. Salt grass (*Distichilis spicata*) typically contains greater than 30 percent relative cover in the herbaceous layer; however, it can be co-dominant with other halophytes, including spear-leaved orache (*Atriplex prostrata*) and alkali heath (*Frankenia salina*). The herbaceous layer is continuous and typically leaves an undeveloped or sparse shrub layer. This community was generally observed north of the Sacramento River within standing water in tidally influenced brackish areas.

6.2.3 *Frankenia salina* Herbaceous Alliance (S3)

The *Frankenia salina* Herbaceous Alliance is found commonly adjacent to coastal salt marshes or brackish marshes. Typically, alkali heath contains greater than 30 percent relative cover in the herbaceous layer and stands are often found in the high marsh where soils are intermittently or seasonally flooded. Pickleweed (*Salicornia pacifica*) is often found among this community in lower percentages of 5 to 10 percent. This community was observed in the portion of the survey area located on the northern shore of the Sacramento River at the highest point of the marsh and adjacent to water that seasonally and tidally inundates this community.

6.2.4 *Juncus arcticus* (var. *balticus*, *mexicanus*) Herbaceous Alliance (S4)

The *Juncus arcticus* (var. *balticus*, *mexicanus*) Herbaceous Alliance varies widely in species composition based on the geographic location, but it typically includes greater than 30 percent relative cover in the shrub layer of arctic rush (*Juncus arcticus*) or Baltic rush (*Juncus balticus*). This community generally occurs in wet meadows with poor draining soils between estuarine marshes and sloughs. This community was observed in the portion of the survey area located on the northern shore of the Sacramento River adjacent to the shoreline and in upland areas of the marsh between sloughs.

6.2.5 *Lolium perenne* Herbaceous Semi-Natural Alliance

This community contains Italian rye grass (*Festuca perennis*) that is dominant or co-dominant with other non-natives in the herbaceous layer, including rip-gut brome (*Bromus diandrus*), sea barley (*Hordeum marinum*), and wild oat (*Avena fatua*). Typically, the herbaceous layer is continuous and often forms monocultures, which contributes to a poorly developed shrub layer. Within the survey area, this community is the most widespread and is found in upland areas that lack native species and have low species diversity. Additionally, this community shows evidence of heavy grazing, landowner maintenance, and agriculture use. During the September 2023 survey, large tracts of this community were being actively converted into access roads as part of the Solano 4 Wind Project.

6.2.6 *Polygonum lapathifolium – Xanthium strumarium* Herbaceous Alliance (S4)

This community contains rough cocklebur (*Xanthium strumarium*) that is dominant or co-dominant with lanceleaf water plantain (*Alisma lanceolatum*), Northern water plantain (*Alisma triviale*), Common sunflower (*Helianthus annuus*) as well as a variety of knotweeds and smartweeds (*Polygonum* spp.) in the herbaceous layer. Within the survey area, this community is dominated primarily by rough cocklebur and other smartweeds. During the September 2023 survey, one isolated community was found situated west of Stratton Lane and east of Latin Lane within stands of *Lolium perenne* Herbaceous Semi-Natural Alliance.

6.2.7 *Lepidium latifolium – Lactuca serriola* Herbaceous Semi-Natural Alliance

The *Lepidium latifolium – Lactuca serriola* Herbaceous SNA is dominated by non-native species in the shrub layer. This vegetation community can be found near disturbed or developed areas within the survey area south of Suisun Bay adjacent to PG&E's existing Pittsburg Substation. Species observed within this cover type include stinkwort (*Dittrichia graviolens*) as 30 percent of the ground cover, accompanied by Russian thistle (*Salsola* spp.), coyote brush, and various others to create an intermittent to continuous herbaceous layer.

6.2.8 *Rosa californica* Shrubland Alliance (S3)

The *Rosa californica* Shrubland Alliance is commonly found in creek bottoms, stream terraces, and bordering sloughs and channels. California wild rose (*Rosa californica*) typically contains greater than 50 percent relative cover in the shrub canopy and may be co-dominant with Himalayan blackberry (*Rubus armeniacus*). The shrub layer is thick and continuous while the herbaceous layer is open. Emergent trees, including willows (*Salix* spp.), may be present in low quantities. This community is found within the survey area on the northern shore of the Sacramento River adjacent to intertidal sloughs. Himalayan blackberry was commonly observed, and in some cases co-dominant, among thick patches of California wild rose. Isolated red willows (*Salix laevigata*) were observed scattered throughout this community.

6.2.9 *Salix exigua* Shrubland Alliance (S4)

The *Salix exigua* Shrubland Alliance is widespread in California and contains significant variation when determining habitat and shrub composition. Often the shrub layer is intermittent to continuous dominated by sandbar willow (*Salix exigua*) and contains greater than 20 percent absolute cover in the shrub layer. In a high-quality habitat, sandbar willow may be co-dominant with other willow species and emergent riparian trees may be present at a low cover. Within the

survey area, this community was observed between tidally influenced sloughs and estuarine marshes containing sandy soil. Heavy cattle grazing was observed to have a direct impact on this community, leading to a sparse shrub layer dominated by sandbar willows that are in the process of re-growing.

6.2.10 *Sarcocornia pacifica* (*Salicornia depressa*) Herbaceous Alliance (S3)

The *Sarcocornia pacifica* (*Salicornia depressa*) Herbaceous Alliance is found almost exclusively in coastal salt marsh and alkaline flat habitats and typically contains greater than 50 percent cover of pickleweed (*Sarcocornia pacifica*) in the herbaceous layer. Other salt-tolerant marsh plants such as alkali heath (*Frankenia salina*) and salt grass (*Distichlis spicata*) are frequently associated with this community. Within the survey area, this community was observed within dry salt flats adjacent to grazed and cultivated Italian ryegrass fields. Along the margins of these communities, pickleweed was codominant with annual grasses.

6.2.11 *Schoenoplectus* (*acutus*, *californicus*) Herbaceous Alliance (S3S4)

This community is found in a variety of wetland habitats, including brackish marshes, freshwater ponds, sloughs, swamps, and roadside ditches. The herbaceous layer is intermittent to continuous, forming thick stands that often result in a poorly developed shrub layer. Hardstem bulrush (*Schoenoplectus acutus*) or giant bulrush (*Schoenoplectus californicus*) typically contain greater than 50 percent relative cover in the herbaceous layer. Within the survey area, this community was observed adjacent to the north shore of the Sacramento River, within sloughs, and in tidally influenced areas that are semi-brackish. Species composition varied depending on the salinity of the water and proximity to the shoreline, as hardstem bulrush is generally less tolerant of brackish conditions.

6.2.12 *Schoenoplectus acutus/Rosa californica* Association (S3S4)

Schoenoplectus acutus/Rosa californica Association occurs on tidal sloughs that are seasonally or tidally inundated with brackish or semi-brackish water. This association contains greater than 50 percent relative cover of hardstem bulrush and giant bulrush with as low as 5 percent absolute cover of California wild rose. Within the survey area, this habitat occurred primarily on man-made earthen levees bordering sloughs adjacent to the shoreline. California wild rose was observed in high quantities growing among stands of bulrush (*Schoenoplectus* spp.), sometimes achieving 20 to 30 percent relative cover.

6.2.13 *Schoenoplectus americanus* Herbaceous Alliance (S3)

Similar to the *Schoenoplectus* (*acutus*, *californicus*) Herbaceous Alliance, this community is found in a variety of wetland habitats, including brackish marshes, freshwater ponds, sloughs, swamps, and roadside ditches. The herbaceous layer is intermittent to continuous, forming thick stands. Chairmaker's bulrush (*Schoenoplectus americanus*) typically make up greater than 50 percent of relative cover. Within the survey area, this community was observed within wetlands adjacent to Stratton Lane and immediately adjacent to dense stands of *Schoenoplectus acutus*.

6.2.14 *Typha* (*angustifolia*, *domingensis*, *latifolia*) Herbaceous Alliance (S5)

Typha (*angustifolia*, *domingensis*, *latifolia*) Herbaceous Alliance occurs in semi-permanently flooded freshwater or brackish marshes. This alliance contains 50 percent or greater of various Typha spp. along with saltgrass and smartweed comprising the remainder of the herbaceous layer. Within the survey area, this community occurred within wetland habitats immediately adjacent to Stratton Lane.

6.3 SPECIAL-STATUS PLANT SPECIES

Background research conducted for the Proposed Project generated a list of 28 special-status plant species that have a potential to occur in the survey area. This list was generated by comparing the species' ranges and habitat requirements with the location of the Proposed Project and habitat types within it. These species are presented in Table 2: Special-Status Plant Species with the Potential to Occur, which provides the listing status, life history, and bloom period for each species. Special-status plant surveys were fully floristic. CNDDB occurrences of special-status wildlife are presented in Attachment C: CNDDB Occurrences of Special-Status Plant Species.

Reference checks were performed for recorded populations of special-status plant species. Eight reference sites were visited by the botanical survey team prior to floristic botanical surveys within the survey area. Many locations with historically documented occurrences of special-status plants have been converted to active agriculture, which is extensive and is the primary land use within 5 miles of the survey area. Further, reference populations for many special-status plant species were located on private property that was inaccessible to the survey team. No special-status plants were observed during field reference checks.

To supplement field reference checks, local botanists working in areas adjacent to the Proposed Project were consulted. Four special-status plant species (*Fritillaria liliacea*, *Helianthella castanea*, *Centromadia parryi* ssp. *parryi*, and *Senecio aphanactis*) were confirmed to be blooming in habitats adjacent to the Proposed Project before or during the May and July survey periods (H. Bartosh 2023).

Three special-status plant species were observed during field surveys of the original survey area: Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*), Mason's lilaeopsis (*Lilaeopsis masonii*), and Welsh mudwort (*Limosella australis*). The locations of these plants and the boundaries of the original survey area are shown in Attachment A: Biological Resources Map. All observed occurrences of special-status plants were along the northern shore of the Sacramento River within potentially jurisdictional wetland habitat.

Four special-status plants with the potential to occur within the survey area have bloom periods that were not captured during this botanical survey. These include:

- Carquinez goldenbush (*Isocoma arguta*)
- Chaparral ragwort (*Senecio aphanactis*)
- Diamond-petaled California poppy (*Eschscholzia rhombipetala*)
- Fragrant fritillary (*Fritillaria liliacea*)

Table 2: Special-Status Plant Species with the Potential to Occur

Common Name	Scientific Name	Listing Status[4]	Habitat Preferences, Distribution Information, and Additional Notes	Flowering Phenology	Life Form	Potential to Occur in the Survey Area
Alkali milkvetch	*Astragalus tener* var. *tener*	1B.2	This species occurs in alkali playas, valley and foothill grasslands, vernal pools, and wetlands at elevations between 5 and 195 feet.	March to June	Annual herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented within 5 miles of the survey area. **Low Potential**
Antioch Dunes buckwheat	*Eriogonum nudum* var. *psychicola*	1B.1	This species occurs in Interior dunes at elevations between 0 to 65 feet.	July to October	Perennial herb	This species has been documented between 1 and 5 miles from the survey area and suitable habitat and conditions for this species are present within the survey area; however, no observations were recorded during floristic field surveys in May and July 2023. **No Potential**

[4] Explanation of federal and state listing codes:

Federal listing code:

-FE: Federally listed as endangered

State listing code:

-SE: State-listed as endangered

CNPS CRPRs:

-1A: Presumed Extinct in California and rare/extinct elsewhere
-1B: Rare or endangered in California and elsewhere
-2B: Rare, threatened, or endangered in California, but more common elsewhere

CRPR Threat Code:

-0.1: Seriously threatened in California (over 80 percent of occurrences threatened, high degree and immediacy of threat)
-0.2: Moderately threatened in California (20 to 80 percent of occurrences threatened, moderate degree and immediacy of threat)

Common Name	Scientific Name	Listing Status[4]	Habitat Preferences, Distribution Information, and Additional Notes	Flowering Phenology	Life Form	Potential to Occur in the Survey Area
Antioch Dunes evening-primrose	*Oenothera deltoides* ssp. *howellii*	FE, SE, 1B.1	This species occurs in Interior dunes at elevations between 0 to 100 feet.	March to September	Perennial herb	Suitable habitat and conditions for this species are not present within the survey area, and no observations were recorded during floristic field surveys in May and July 2023. This species has been documented within 1 mile of the survey area south of Suisun Bay, in the vicinity of PG&E's existing Pittsburgh Substation, but is otherwise found between 1 and 5 miles from the remainder of the survey area. **Low Potential**
Bearded popcornflower	*Plagiobothrys hystriculus*	1B.1	This species occurs in Valley & foothill grassland, Vernal pool, Wetland at elevations between 0 to 900 feet.	April to May	Annual herb	This species has been documented between 1 and 5 miles from the survey area and suitable habitat and conditions for this species are present within the survey area; however, no observations were recorded during floristic field surveys in May and July 2023. **Low Potential**
Big tarplant	*Blepharizonia plumosa*	1B.1	This species occurs in Valley & foothill grassland at elevations between 100 to 1,655 feet.	July to October	Annual herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented within 5 miles of the survey area. **Low Potential**
Bolander's water-hemlock	*Cicuta maculata* var. *bolanderi*	2B.1	This species occurs in Marsh & swamp, Salt marsh, Wetland at elevations between 0 to 655 feet.	July to September	Perennial herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented within 0.25 mile of the survey area. **High Potential**

Common Name	Scientific Name	Listing Status[4]	Habitat Preferences, Distribution Information, and Additional Notes	Flowering Phenology	Life Form	Potential to Occur in the Survey Area
Brittlescale	*Atriplex depressa*	1B.2	This species occurs in Alkali playa, Chenopod scrub, Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland at elevations between 5 to 1,050 feet.	April to October	Annual herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented within 5 miles of the survey area. **Low Potential**
Carquinez goldenbush	*Isocoma arguta*	1B.1	This species occurs in Valley & foothill grassland at elevations between 5 to 65 feet.	August to December	Perennial shrub	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented within 5 miles of the survey area. **Low Potential**
Chaparral ragwort	*Senecio aphanactis*	2B.2	This species occurs in Chaparral, Cismontane woodland, Coastal scrub at elevations between 50 to 2,625 feet.	January to April	Annual herb	This species has been documented between 1 and 5 miles from the survey area however suitable habitat and conditions for this species are not present within the survey area; no observations were recorded during floristic field surveys in May and July 2023. **No Potential**
Contra Costa goldfields	*Lasthenia conjugens*	FE, 1B.1	This species occurs in Alkali playa, Cismontane woodland, Valley & foothill grassland, Vernal pool, Wetland at elevations between 0 to 1,540 feet.	March to June	Annual herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented within 5 miles of the survey area. **Low Potential**

Common Name	Scientific Name	Listing Status[4]	Habitat Preferences, Distribution Information, and Additional Notes	Flowering Phenology	Life Form	Potential to Occur in the Survey Area
Contra Costa wallflower	*Erysimum capitatum* var. *angustatum*	FE, SE, 1B.1	This species occurs in Interior dunes at elevations between 10 to 65 feet.	March to July	Perennial herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented within 5 miles of the survey area. **Low Potential**
Welsh mudwort	*Limosella australis*	2B.1	This species occurs in Brackish marsh, Freshwater marsh, Marsh & swamp, Riparian scrub, Wetland at elevations between 0 to 10 feet.	May to August	Perennial stoloniferous herb	Suitable habitat is present within the survey area. Multiple observations of this species were made during floristic field surveys. **Present**
Delta tule pea	*Lathyrus jepsonii* var. *jepsonii*	1B.2	This species occurs in Freshwater marsh, Marsh & swamp, Wetland at elevations between 0 to 15 feet.	May to July	Perennial herb	Suitable habitat is present within the survey area. Multiple observations of this species were made during floristic field surveys. **Present**
Diablo Helianthella	*Helianthella castanea*	1B.2	This species occurs in Broadleaved upland forest, Chaparral, Cismontane woodland, Coastal scrub, Valley & foothill grassland at elevations between 195 to 4,265 feet.	March to June	Perennial herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented within 5 miles of the survey area. **Low Potential**

Common Name	Scientific Name	Listing Status[4]	Habitat Preferences, Distribution Information, and Additional Notes	Flowering Phenology	Life Form	Potential to Occur in the Survey Area
Diamond-petaled California poppy	*Eschscholzia rhombipetala*	1B.1	This species occurs in Valley & foothill grassland at elevations between 0 to 3,200 feet.	March to April	Annual herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented within 5 miles of the survey area. **Low Potential**
Dwarf downingia	*Downingia pusilla*	2B.2	This species occurs in Valley & foothill grassland, Vernal pool, Wetland at elevations between 5 to 1,460 feet.	March to May	Annual herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented within 5 miles of the survey area. **Low Potential**
Fragrant fritillary	*Fritillaria liliacea*	1B.2	This species occurs in Cismontane woodland, Coastal prairie, Coastal scrub, Ultramafic, Valley & foothill grassland at elevations between 10 to 1,345 feet.	February to April	Perennial bulbiferous herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented within 5 miles of the survey area. **Low Potential**
Hall's bush-mallow	*Malacothamnus hallii*	1B.2	This species occurs in Chaparral, Coastal scrub, Ultramafic at elevations between 35 to 2,495 feet.	May to September	Perennial deciduous shrub	This species has been documented between 1 and 5 miles from the survey area; however, suitable habitat and conditions for this species are not present within the survey area. In addition, this species was not observed during floristic field surveys in May and July 2023. **No Potential**

Common Name	Scientific Name	Listing Status[4]	Habitat Preferences, Distribution Information, and Additional Notes	Flowering Phenology	Life Form	Potential to Occur in the Survey Area
Heartscale	*Atriplex cordulata* var. *cordulata*	1B.2	This species occurs in Chenopod scrub, Meadow & seep, Valley & foothill grassland at elevations between 0 to 1,835 feet.	April to October	Annual herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented between 1 and 5 miles from the survey area. **Low Potential**
Hoover's cryptantha	*Cryptantha hooveri*	1A	This species occurs in Interior dunes, Valley & foothill grassland at elevations between 30 to 490 feet.	April to May	Annual herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented between 1 and 5 miles from the survey area. **Low Potential**
Keck's checkerbloom	*Sidalcea keckii*	FE, 1B.1	This species occurs in Cismontane woodland, Ultramafic, Valley & foothill grassland at elevations between 245 to 2,135 feet.	April to June	Annual herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented between 1 and 5 miles from the survey area. **Low Potential**
Mason's lilaeopsis	*Lilaeopsis masonii*	1B.1	This species occurs in Freshwater marsh, Marsh & swamp, Riparian scrub, Wetland at elevations between 0 to 35 feet.	April to November	Perennial rhizomatous herb	Suitable habitat is present within the Project area. Multiple observations of this species were made during floristic field surveys. **Present**

Common Name	Scientific Name	Listing Status[4]	Habitat Preferences, Distribution Information, and Additional Notes	Flowering Phenology	Life Form	Potential to Occur in the Survey Area
Mt. Diablo buckwheat	*Eriogonum truncatum*	1B.1	This species occurs in Chaparral, Coastal scrub, Valley & foothill grassland at elevations between 10 to 1,150 feet.	April to September	Annual herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented between 1 and 5 miles from the survey area. **Low Potential**
Papoose tarplant	*Centromadia parryi* ssp. *parryi*	1B.2	This species occurs in Chaparral, Coastal prairie, Meadow & seep, Marsh & swamp, Valley & foothill grassland at elevations between 0 to 1,380 feet.	May to November	Annual herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented between 1 and 5 miles from the survey area. **Low Potential**
San Joaquin spearscale	*Extriplex joaquinana*	1B.2	This species occurs in Alkali playa, Chenopod scrub, Meadow & seep, Valley & foothill grassland at elevations between 5 to 2,740 feet.	April to October	Annual herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented between 1 and 5 miles from the survey area. **Low Potential**
Showy golden madia	*Madia radiata*	1B.1	This species occurs in Cismontane woodland, Valley & foothill grassland at elevations between 80 to 3,985 feet.	March to May	Annual herb	This species has been documented between 1 and 5 miles from the survey area and suitable habitat and conditions for this species are present within the survey area; however, no observations were recorded during floristic field surveys in May and July 2023. **No Potential**

Common Name	Scientific Name	Listing Status[4]	Habitat Preferences, Distribution Information, and Additional Notes	Flowering Phenology	Life Form	Potential to Occur in the Survey Area
Soft salty bird's-beak	*Chloropyron molle* ssp. *molle*	FE, 1B.2	This species occurs in Marsh & swamp, Salt marsh, Wetland at elevations between 0 to 10 feet.	June to November	Annual herb (hemiparasitic)	Suitable habitat and conditions for this species are not present within the survey area, and no observations were recorded during floristic field surveys in May and July 2023. This species has been documented between 1 and 5 miles from the survey area. **Low Potential**
Suisun Marsh aster	*Symphyotrichum lentum*	1B.2	This species occurs in Brackish marsh, Freshwater marsh, Marsh & swamp, Wetland at elevations between 0 to 10 feet.	April to November	Perennial rhizomatous herb	Suitable habitat and conditions for this species are present within the survey area, but no observations were recorded during floristic field surveys in May and July 2023. This species has been documented within 0.25 mile of the survey area. **High Potential**

Two of these species (Carquinez goldenbush and fragrant fritillary) are perennial species and would be observable within the survey area year-round. However, the remaining two species (Diamond-petaled California poppy and chaparral ragwort) are annual herbs and, if present within the survey areas, may not have been readily identifiable during the survey periods of May and July. Chaparral ragwort was confirmed to be in bloom on March 3, 2023 in surrounding areas (H. Bartosh 2023), however as described in Table 2: Special-Status Plant Species with the Potential to Occur, no suitable habitat for this species is found within the original survey area. A supplemental targeted survey will be conducted within the original survey area in 2024 during the bloom period for diamond-petaled California poppy (March to April). Additionally, floristic surveys will be conducted in 2024 within the expanded survey area.

6.3.0 Species Present within the Survey Area

Welsh Mudwort

Welsh mudwort (*Limosella australis*) can be observed on large patches of tidal mudflats with brackish or tidal freshwater, as well as alkali playa, cismontane woodland, valley and foothill grasslands, vernal pools, and wetlands. The plant will generally grow grass-like leaves in clumps of 5-10, with short, white flowers about an inch tall. This species was observed during the survey several times along the northern intertidal margins of the Sacramento River.

Delta Tule Pea

The Delta Tule Pea (*Lathyrus jepsonii* var. *jepsonii*) can be found in wetlands and dunes, among other suitable habitats. The plant can be identified via its pink to purple inflorescence or based on characteristics of its family (Fabaceae) such as branched tendrils, lance-shaped leaflets, or legume pods. Multiple observations of this species were made during the survey, usually closely associated with *Rosa californica* in close proximity to the northern shore of the Sacramento River. Several additional observations of this species were made on the southern shore of the Sacramento River along a metal fence within rip rap.

Mason's Lilaeopsis

Mason's Lilaeopsis (*Lilaeopsis masonii*), endemic to California, is found in freshwater and brackish marshes and other estuary habitats. The species spreads laterally by rhizomatous growth and grows linear leaves averaging around 2-7 centimeters long. It has small, white or greenish flowers in numbers of 3-8 per umbel. Multiple observations of this species were made along the northern intertidal margins of the Sacramento River.

6.3.1 Species with a High Potential to Occur

Bolander's water-hemlock

Bolander's Water hemlock (*Circuta maculata* var. *bolanderi*) will often be associated with ditches, stream banks, pond margins, and marshes among other suitable habitats like valley and foothill grasslands, vernal pools, and other wetlands. Water birds often consume the round fruits of the plant. The small white flowers of this species comprise an umbel atop tall stems, which are accompanied by fern-like leaves. There is suitable habitat within the survey area in wetlands immediately adjacent to the northern shore of the Sacramento River and recent CNDDB

observations for this plant have been recorded within 0.25 mile of the survey area, thus making it highly likely that this species will occur within the survey area.

Suisun Marsh Aster

The Suisun Marsh Aster (*Symphyotrichum lentum*), an endemic species to Suisun Marsh, is a spreading herb that can grow up to 4 feet tall. Like other members of Asteraceae, this species features an inflorescence with yellow flowers in the middle, surrounded by white flowers on the outside. It can be found in brackish or freshwater marshes and alongside the backs of sloughs and watercourses. This species prefers soils with higher clay and loam contents and attracts butterflies. Suitable wetland habitat for the species was observed within the survey area in wetlands immediately adjacent to the northern shore of the Sacramento River. Observations within 0.25 of a mile of the survey area have been recently documented. This species has a high potential to occur within the survey area.

6.4 SPECIAL-STATUS WILDLIFE SPECIES

Based on the literature and database review, 32 special-status wildlife species were identified that have the potential to occur within the survey area. The species name, listing status, life history, known locations, and a brief assessment of the potential to occur within the survey area are provided for each species in Table 3: Special-Status Wildlife Species with the Potential to Occur. CNDDB occurrences of special-status wildlife are presented in Attachment D: CNDDB Occurrences of Special-Status Wildlife Species. The approximate nest location is shown in Attachment A: Biological Resources Map.

6.4.0 Species Present within the Survey Area

Avian Species

Northern Harrier

The Northern Harrier (*Circus cyaneus*) utilizes a wide variety of open habitats with herbaceous cover, including saltwater and freshwater wetlands, grasslands, idlefields, agricultural pasturelands, deserts, and cropland. This species will forage on small rodents and birds within open fields with dense vegetation. Ideal breeding and nesting grounds include wetland or upland habitats with tall, dense grasses, forbs, or low shrubs for concealment of nests. Northern Harriers will construct nests on the ground or over water on platforms of vegetation.

The survey area has attracted nesting Northern Harriers; an active northern harrier nest was observed within the survey area with two parents tending to nestlings and delivering food. The nest is situated on the ground within dense marsh vegetation in wetlands adjacent to the northern shore of the Sacramento River. The approximate nest location is shown in Attachment A: Biological Resources Map. This species was also observed foraging within clearings surrounded by dense vegetation during the field survey.

Table 3: Special-Status Wildlife Species with the Potential to Occur

Common Name	Scientific Name	Listing Status[5]	Habitat and Life History	Potential to Occur in the Survey Area
Amphibians				
California red-legged frog	*Rana draytonii*	FT, SSC	This highly aquatic species typically inhabits quiet pools of streams, marshes and ponds, preferring habitat with extensive shoreline vegetation. Its diet is highly variable and may include various invertebrates, amphibians, and small mammals. In Northern California, breeding usually takes place between March and July.	Suitable wetland habitat is not present within the survey area. This species has been recently documented between 1 and 5 miles from the survey area. This species was not observed during the field survey. **Low Potential**
California tiger salamander – central California Distinct Population Segment (DPS)	*Ambystoma californiense* pop. 1	FT, ST, WL	This species occupies grassland, savanna, or open woodland habitats and spends much of the year in underground refuges, especially ground squirrel (*Ammospermopholis beechyi*) burrows. Vernal pools or other seasonal water sources are required for breeding and egg laying. Adults may travel hundreds of meters across upland habitat to reach breeding ponds following seasonal rains during November to February. Its diet is highly variable and may include invertebrates, amphibians, or small mammals.	Annual grassland habitat is present within the survey area; however, no suitable refuge burrows were observed during field surveys. Further, no suitable vernal pools were observed within the survey area. These findings are consistent with previous habitat assessments for this species within the survey area. These protocol-level assessments concluded that the survey area lacks suitable aquatic habitat (Jennings 2010), contains multiple barriers to movement/dispersal (Area West Environmental [AWE] 2017), has land use practices that inhibit dispersal (AECOM 2018b), and has a scarcity of suitable burrows refugia. This species has been recently documented between 1 and 5 miles from the survey area. This species was not observed during the field survey. **Low Potential**

[5] Explanation of federal and state listing codes:

Federal listing codes:

-FE: Federally listed as endangered
-FT: Federally listed as threatened
-BCC: USFWS Bird of Conservation Concern

State listing codes:

-SE: State-listed as endangered
-ST: State-listed as threatened
-FP: Fully protected species
-SSC: Species of special concern
-WL: Watch list species
-WBWG-H: Western Bat Working Group high designation

Common Name	Scientific Name	Listing Status[5]	Habitat and Life History	Potential to Occur in the Survey Area
Birds				
American peregrine falcon	*Falco peregrinus anatum*	FP	This species can be found occupying several biomes throughout California year-round. Breeding takes place from April to June. A majority of nests are constructed on ledges on relatively tall cliffs in remote areas with minimal human disturbance and are often reused from year to year. Foraging occurs in a variety of habitat types, and its diet consists almost exclusively of other birds.	Suitable nesting habitat does not occur in or near the survey area. Foraging and migrating individuals may occur in or near the survey area; however, because this species is highly mobile, any potential Proposed Project-related encounters are not likely to impact this species. This species was not observed during the field survey. **No Potential (Nesting)** **Low Potential (Foraging/Migration)**
Burrowing owl	*Athene cunicularia hypugaea*	SSC, BCC	This species can be found in a variety of open habitat types, including grassland, savanna, desert scrub, agricultural, and urban areas. Breeding occurs from March through October, and nesting takes place within abandoned burrows dug by burrowing mammals. This species preys on large insects and small mammals.	Grassland habitat suitable for foraging is found in the survey area north of the Sacramento River; however, burrows suitable for species occupation and breeding were not observed during the field surveys. Migrating individuals have been reported to occur within the survey area during winter months (AECOM 2018a), and all CNDDB occurrences north of the Sacramento River were recorded during the non-breeding season. Nesting habitat is limited and marginal given the ongoing agricultural activity north of the Sacramento River, but ground squirrels may recolonize and provide suitable burrow habitat if the fields are left fallow or grazed (AECOM 2018a). This species was not observed during the field surveys. **Moderate Potential (Nesting)** **High Potential (Foraging/Migration)**

Common Name	Scientific Name	Listing Status[5]	Habitat and Life History	Potential to Occur in the Survey Area
California black rail	*Laterallus jamaicensis coturniculus*	ST, FP	This species is found in tidal emergent wetlands dominated by pickleweed (*Salicornia* spp.) or in brackish marshes supporting bulrushes in association with pickleweed. Breeding occurs from March to June, and nests are concealed in dense vegetation (often pickleweed) near the upper limits of tidal flooding.	Suitable habitat capable of supporting foraging individuals is present in the survey area adjacent to the Sacramento River. Wetland habitats within the survey area lack large stands of pickleweed and tidal flux preferred by the species for breeding sites. This species has been recently documented within 1 mile of the survey area, but was not observed during the field survey. **Moderate Potential (Nesting)** **High Potential (Foraging)**
California least tern	*Sternula antillarum browni*	FE, SE, FP	This species is found throughout California and requires undisturbed stretches of beach and coastline. Adults forage in bays and estuaries for a variety of fish species. The California least tern nests in colonies on relatively open beaches where vegetation is limited by natural scouring from tidal action. However, to avoid humans, tern colonies have been known to move to inland mud flats and dredge fill sites. The breeding season typically begins in early to mid-May, and nests are constructed directly on the ground.	Suitable foraging habitat for this species is found adjacent to the survey area within the Sacramento River and Suisun Bay. However, no suitable breeding habitat is found within the survey area. This species has been documented between 1 and 5 miles from the survey area; however, all records are more than 30 years old. This species was not observed during the field survey. **No Potential (Nesting)** **Moderate Potential (Foraging/Migration)**

Common Name	Scientific Name	Listing Status[5]	Habitat and Life History	Potential to Occur in the Survey Area
Northern harrier	*Circus cyaneus*	SSC, BCC	This species is found in a variety of open grassland, wetland, and agricultural habitats. Open wetland habitats used for breeding include marshy meadows, wet and lightly grazed pastures, and freshwater and brackish marshes. Breeding habitat also includes dry upland habitats, such as grassland, cropland, drained marshland, and shrub-steppe in cold deserts. Wintering habitat includes open areas dominated by herbaceous vegetation, such as grassland, pastures, cropland, coastal sand dunes, brackish and freshwater marshes, and estuaries.	Suitable foraging and nesting habitat are present in the survey area, and two individuals were observed foraging within the survey area in wetland habitat adjacent to the northern shore of the Sacramento River. This species has been documented between 1 and 5 miles from the survey area. **High Potential (Nesting)** **Present (Foraging)**
Saltmarsh common yellowthroat	*Geothlypis trichas sinuosa*	SSC, BCC	This species occurs in freshwater and saltwater marshes. It requires thick, continuous cover down to the water surface for foraging, and tall grasses, tule patches, and willows for nesting.	Suitable habitat for this species is present within the portion of the survey area located on the northern shore of the Sacramento River. This species has been documented within 1 mile of the survey area, but was not observed during the field survey. **High Potential (Nesting)** **High Potential (Foraging)**
Short-eared owl	*Asio flammeus*	SSC, BCC	This species occurs in agricultural fields, grazed and ungrazed grasslands, and freshwater and saltwater marshes. This species requires open country that supports concentrations of microtine rodents and herbaceous cover sufficient to conceal its nest from predators. Its nests are built on the ground. This species' diet consists of small mammals and is particularly affected by the 3- to 4-year cycle of the California vole (*Microtus californicus*). Its breeding season occurs from April through July.	Suitable foraging and breeding habitat is present in the survey area. This species has been documented between 1 and 5 miles from the survey area; however, all records are more than 30 years old. This species was not observed during the field survey period. **Low Potential (Nesting)** **Low Potential (Foraging)**

Common Name	Scientific Name	Listing Status[5]	Habitat and Life History	Potential to Occur in the Survey Area
Song sparrow ("Modesto" population)	*Melospiza melodia* pop. 1	SSC	This species inhabits freshwater marshes, riparian thickets, sparsely vegetated irrigation canals, and valley oak restoration sites. It seeks cover and nests in willow and nettle thickets, growths of tules and cattails, and riparian oak forests with a sufficient understory of blackberry.	Suitable breeding and foraging habitat for this species is within the portion of the survey area located on the northern shore of the Sacramento River. This species has been documented between 1 and 5 miles from the survey area; however, all records are over 30 years old. This species was not observed during the field survey. **Low Potential (Nesting)** **Low Potential (Foraging)**
Suisun song sparrow	*Melospiza melodia maxillaris*	SSC	This species occurs throughout California, primarily in saltwater and brackish marshes. The species requires dense vegetation as protection from predators and high tide, for perching, and for nesting habitat. Breeding season is from early March through July.	Suitable breeding and foraging habitat for this species can be found within the portion of the survey area located on the northern shore of the Sacramento River. This species has been documented within 1 mile of the survey area south of Suisun Bay, in the vicinity of PG&E's existing Pittsburgh Substation and within 5 miles of the survey area along the northern shore of the Sacramento River, but was not observed during the field survey. **High Potential (Nesting)** **High Potential (Foraging)**
Swainson's hawk	*Buteo swainsoni*	ST	This species occurs in open grasslands, prairies, and farmlands that have nearby trees for nesting. It nests in bushes and in several tree species, including oaks (*Quercus* spp.), willow, and eucalyptus, and usually nests in trees in riparian areas near open fields. This species primarily hunts small rodents, rabbits, birds, and reptiles during the breeding season. It largely lives off insects, such as grasshoppers and beetles, during the non-breeding season. It reproduces from March through April, incubates for 34 to 35 days, and fledges 6 weeks later.	An adult male hawk was observed flying overhead during field surveys. Suitable foraging and breeding habitat is present, and multiple occurrences of the species have been documented between 1 and 5 miles from the survey area. **High Potential (Nesting)** **Present (Foraging/Migration)**

Common Name	Scientific Name	Listing Status[5]	Habitat and Life History	Potential to Occur in the Survey Area
Tricolored blackbird	*Agelaius tricolor*	ST, SSC, BCC	This highly colonial species requires open water, protected nesting substrate, and foraging areas adjacent to the colony with insect prey. Breeding occurs near fresh water, often in emergent wetlands with tall, dense cattails or tules, but also in thickets of willow; blackberry; wild rose; or tall, dense forbs. Seeds and cultivated grains, such as rice and oats, compose most of its fall and winter diet. Tricolored blackbird forages on the ground in croplands, grassy fields, flooded land, and along edges of ponds. The breeding season usually occurs from mid-April to late July.	Some marginal willow thicket and wild rose habitat is present within the survey area; however, fresh waterbodies suitable for nesting are not present. Suitable foraging habitat is present in the northern portion of the survey area. This species has been documented between 1 and 5 miles from the survey area; however, all records are over 30 years old. This species was not observed during the field survey. **Low Potential (Nesting)** **Moderate Potential (Foraging)**
White-tailed kite	*Elanus leucurus*	FP	This species nests in riparian or oak woodland adjacent to undisturbed, open fields and grasslands, meadows, farmlands, and emergent wetlands, where it hunts rodents. Breeding generally occurs from February through October. White-tailed kite lays three to five eggs, which it incubates for 30 to 32 days, after which fledging occurs at 5 to 6 weeks of age.	Suitable foraging habitat for the species is present in the survey area; however, oak woodland suitable for nesting is not present. This species has been documented between 1 and 5 miles from the survey area, but was not observed during the field survey. **Low Potential (Nesting)** **Moderate Potential (Foraging)**
Yellow rail	*Coturnicops noveboracensis*	SSC	This species breeds in densely vegetated, shallow freshwater marshes and wet meadows. Breeding occurs from May through September. Wintering birds frequent mature salt marshes well above the water line.	Marginal breeding habitat and suitable wintering habitat are present within the survey area. This species has been documented between 1 and 5 miles from the survey area, but was not observed during the field survey. **Low Potential (Nesting)** **Moderate Potential (Foraging/Wintering)**

Common Name	Scientific Name	Listing Status[5]	Habitat and Life History	Potential to Occur in the Survey Area
Fish				
Delta smelt	*Hypomesus transpacificus*	FT, SE	Delta smelt are a euryhaline species (i.e., a species adapted to living in fresh and brackish water) that occupies estuarine areas with salinities below 2 parts per thousand. This species is found only from the San Pablo Bay upstream through the Sacramento-San Joaquin River Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. Delta smelt spawn in shallow, fresh, or slightly brackish water upstream from the brackish water habitat associated with the mixing zone.	Critical habitat and documented occurrences of this species can be found within the waters adjacent to the survey area. However, no suitable aquatic/estuarine habitat for this species was present within the survey area. **No Potential**
Green sturgeon - southern DPS	*Acipenser medirostris* pop. 1	FT	This species is found in a variety of estuarine and freshwater habitats within the San Francisco Bay, San Pablo Bay, and Sacramento-San Joaquin River Delta. Spawning occurs in the Sacramento, Feather, and Yuba rivers in cool (11 to 15 degrees Celsius) sections of mainstem rivers in deep pools (i.e., 8 to 9 meters) with substrate containing small- to medium-sized sand, gravel, cobble, or boulders.	Suitable habitat and documented occurrences of this species can be found within the waters adjacent to the survey area. However, suitable aquatic/estuarine habitat for this species is not present within the survey area. **No Potential**

Common Name	Scientific Name	Listing Status[5]	Habitat and Life History	Potential to Occur in the Survey Area
Longfin smelt	*Spirinchus thaleichthys*	ST	The known range of this species extends from the San Francisco Bay Estuary and Sacramento-San Joaquin Delta (Bay-Delta) in California northward to the Cook Inlet in Alaska. In the Bay-Delta, longfin smelt spawn primarily in freshwater in the lower reaches of the Sacramento and San Joaquin rivers. Juvenile and adult longfin smelt have been found throughout the year in salinities ranging from pure freshwater to pure seawater. Once past the juvenile stage, they are typically collected in waters with salinities ranging from 14 to 28 parts per thousand. The life cycle of most longfin smelt generally requires estuarine conditions. Longfin smelt occur in the Bay-Delta typically from January to April.	Suitable habitat and documented occurrences of this species can be found within the waters adjacent to the survey area. However, suitable aquatic/estuarine habitat for this species is not present within the survey area. **No Potential**
Sacramento perch	*Archoplites interruptus*	SSC	This freshwater fish species is endemic to California's Central Valley. It inhabits a range of aquatic habitats, including rivers, streams, lakes, reservoirs, and ponds. This species shows a preference for habitats with vegetated banks that provide both food sources and protective cover. Breeding typically occurs during the spring and early summer in shallow areas with gravel or sandy substrate. This species feeds primarily on small invertebrates but will opportunistically feed on small fish or fish eggs.	Suitable habitat and documented occurrences of this species can be found within the waters adjacent to the survey area. However, suitable aquatic/estuarine habitat for this species is not present within the survey area. **No Potential**

Common Name	Scientific Name	Listing Status[5]	Habitat and Life History	Potential to Occur in the Survey Area
Steelhead - Central Valley DPS	*Oncorhynchus mykiss irideus* pop. 11	FT	This DPS of steelhead represents a population that spawns in freshwater habitats located in California's Central Valley. This species is anadromous, meaning they are born in freshwater, migrate to the ocean to grow and mature, and return to their natal streams to spawn. Suitable freshwater breeding habitats include rivers, streams, and tributaries with clean, cold water and gravel substrate. After hatching, the young steelhead spend several years in fresh water before migrating to the ocean, where they feed on a variety of prey, including small fish, invertebrates, and plankton.	Suitable habitat and documented occurrences of this species can be found within the waters adjacent to the survey area. However, suitable aquatic/estuarine habitat for this species is not present within the survey area. **No Potential**
Invertebrates				
Conservancy fairy shrimp	*Branchinecta conservatio*	FE	This species occurs within vernal pool habitats in California's Central Valley. It mostly lives in relatively large, turbid freshwater vernal pools called playa pools. This species can be found at elevations ranging from 16 to 5,577 feet in grassland, rural, and wetland habitats. This species opportunistically filter-feeds on various planktonic food sources including algae and protozoa.	No suitable vernal pool habitat was observed during the field survey. It is possible that suitable vernal pool habitat for this species may develop during the rainy season and outside of this report's survey window. This species has been documented between 1 and 5 miles from the survey area, but was not observed during the field survey. **Low Potential**

Common Name	Scientific Name	Listing Status[5]	Habitat and Life History	Potential to Occur in the Survey Area
Lange's metalmark butterfly	*Apodemia mormo langei*	FE	This species is associated with the Antioch Dunes, a riverbank dune system along the San Joaquin River. Currently, this species can only be found in the Antioch Dunes National Wildlife Refuge, the last remnants of the Antioch Dunes. All life stages are closely associated with naked-stemmed buckwheat (*Eriogonum nudum* var. *psychicola*), which is the primary nectar source for adults, is used to lay eggs, and is a larval food plant. The leaves of the larval host plant provide both food and shelter throughout the larval instar phases.	Suitable habitat for this species is not present within the survey area. Further, while there are documented occurrences within 0.25 mile of the survey area, there were no observations of this species or its obligate host plant during field surveys. This species may occur incidentally within the survey area given the proximity of suitable habitat, but the lack of suitable foraging and breeding habitat within the survey area makes this unlikely. **Low Potential**
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT	This species occurs within vernal pool habitats throughout California. Female vernal pool fairy shrimp carry fertilized eggs in a sac on the underside of their body. The eggs are either dropped to the pool bottom or remain in the brood sac until the mother dies and sinks to the bottom of the pool. This species opportunistically filter-feeds on various planktonic food sources, including algae and protozoa.	No suitable vernal pool habitat was observed during the field survey. It is possible that suitable vernal pool habitat for this species may develop during the rainy season and outside of this report's survey window. This species has been documented between 1 and 5 miles from the survey area, but was not observed during the field survey. **Low Potential**

Common Name	Scientific Name	Listing Status[5]	Habitat and Life History	Potential to Occur in the Survey Area
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE	This species occurs within vernal pool habitats with a patchy distribution within California's Central Valley. Female vernal pool tadpole shrimp produce up to six clutches of eggs containing 32 to 61 eggs per clutch during each wet season. They carry fertilized eggs in a sac on the underside of their body. The eggs are either dropped to the pool bottom or remain in the brood sac until the mother dies and sinks to the bottom of the pool. This species opportunistically filter-feeds on other fairy shrimp (*Branchinecta* spp.), invertebrates, and waste from other vernal pool species.	No suitable vernal pool habitat was observed during the field survey. It is possible that suitable vernal pool habitat for this species may develop during the rainy season and outside of this report's survey window. This species has been documented between 1 and 5 miles from the survey area, but was not observed during the field survey. **Low Potential**
Mammals				
Salt marsh harvest mouse	*Reithrodontomys raviventris*	FE, SE, FP	This species inhabits salt marshes in California and is adapted to live in marsh vegetation, including pickleweed and cordgrass, which provide cover, food sources, and breeding habitats. Breeding typically occurs between March and October. Its diet consists of marsh vegetation, including seeds, stems, and leaves.	Suitable salt marsh habitat for this species is present within the survey area in salt marshes north of the Sacramento River. This species has been documented within 0.25 mile of the survey area on both the north shore of the Sacramento River and south shore of the Suisun Bay, but was not observed during field surveys. **High Potential**
San Joaquin kit fox	*Vulpes macrotis mutica*	FE, ST	This species inhabits a variety of open habitats, including grasslands, chenopod scrublands, and semi-arid regions. Breeding occurs from January to March, with a gestation period of 49 to 55 days. The female constructs a den in the ground, often utilizing existing burrows dug by other animals. Its diet primarily consists of small mammals, such as rodents, rabbits, and ground squirrels.	Grassland habitat suitable for foraging is present within the survey area; however, no suitable breeding burrows/dens were encountered during the survey. This species has been documented between 1 and 5 miles from the survey area, but these records are more than 30 years old. **Low Potential**

Common Name	Scientific Name	Listing Status[5]	Habitat and Life History	Potential to Occur in the Survey Area
Western red bat	*Lasiurus blossevillii*	SSC, WBWG-H	This species occurs a variety of habitats, including forests, woodlands, and riparian areas. It roosts and forages among trees and vegetation and exhibits a preference for mixed coniferous and deciduous forests. Breeding occurs in the spring and early summer. This species typically seeks out tree foliage, such as leaves or branches, to create roosting sites. The diet consists mainly of insects, such as moths, beetles, and flies.	Marginally suitable roosting habitat is present in the survey area within the limited stands of trees, and suitable foraging habitat is present. This species has been documented between 1 and 5 miles from the survey area, but was not observed during field surveys. **Moderate Potential (Roosting)** **Moderate Potential (Foraging)**
Reptiles				
Alameda whipsnake	*Masticophis lateralis euryxanthus*	FT, ST	This species inhabits grasslands, chaparral, and oak woodlands within Alameda and Contra Costa counties. It is primarily diurnal, being active during the day and seeking shelter in vegetation or underground burrows at night. Breeding typically occurs in the spring and summer months. The diet consists of small vertebrates, including lizards, rodents, and birds.	Suitable grassland habitat is present; however, the survey area is outside of the geographic range for this species. The species has been documented between 1 and 5 miles from the survey area. **No Potential**
California glossy snake	*Arizona elegans occidentalis*	SSC	This species is typically found in desert scrub, grasslands, and rocky areas. It is primarily nocturnal, being active during the night and seeking shelter in burrows, crevices, or under rocks during the day. Breeding occurs in the spring and early summer. Females lay eggs in sandy soil or loose substrate, where they are left to incubate. Its diet consists mainly of small mammals, including rodents, lizards, and occasionally birds or eggs.	Suitable grassland habitat is present; however, the survey area is outside of the geographic range for this species. The species has been documented between 1 and 5 miles from the survey area, but all occurrences are more than 30 years old. **No Potential**

Common Name	Scientific Name	Listing Status[5]	Habitat and Life History	Potential to Occur in the Survey Area
Giant gartersnake	*Thamnophis gigas*	FT, ST	This semi-aquatic species inhabits marshes, wetlands, and slow-moving bodies of water. It is often closely associated with water sources, which serve as its hunting grounds. Breeding typically occurs in the spring and early summer. After mating, females give birth to live young. The diet primarily consists of small fish, amphibians, and aquatic invertebrates.	Suitable wetland habitat is not present within the survey area. Although species has been documented between 1 and 5 miles from the survey area, these observations were made in habitats upstream of the survey area with far less salt-water intrusion. Further, extensive grazing and land modification over much of the project has greatly diminished potential upland refugia. The species was not observed during field surveys. **Low Potential**
Northern California legless lizard	*Anniella pulchra*	SSC	This species is found in grasslands, chaparral, and open woodlands and requires loose, friable soils for burrowing. Breeding typically occurs in the spring or early summer. Females lay small clutches of eggs in underground burrows or hidden areas. The diet primarily consists of small invertebrates, such as insects, spiders, and other arthropods.	Marginal grassland habitat for this species is present within the survey area. This species has been documented between 1 and 5 miles from the survey area, but was not observed during field surveys. **Low Potential**
Western pond turtle	*Emys marmorata*	SSC	This freshwater turtle species primarily inhabits ponds, lakes, and slow-moving streams with suitable basking sites. It spends a significant amount of time basking on logs or rocks. Breeding typically occurs in the spring and early summer. Females dig nests in sandy or gravelly areas near water, where they lay their eggs. The hatchlings emerge several months later and make their way to the water. The diet is omnivorous and consists of various aquatic plants, insects, small fish, and amphibians.	Suitable wetland habitat is present within the survey area; however, suitable nesting habitat is not present. This species has been documented within 1 mile of the survey area, but was not observed during field surveys. **High Potential**

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) feeds almost exclusively on insects, the majority being grasshoppers. Young will occasionally be fed rodents, rabbits, and reptiles. Suitable habitat for this species requires riparian areas, shrub-steppe areas with scattered trees, as well as large shrubs. Swainson's hawk nests are typically located in small, shrubby trees. This species can be found throughout North America from southern Canada to northern Mexico.

This species may nest within the survey area within the limited tree nesting sites available. An individual was observed during the field survey foraging in upland grassland and cropland and CNDDB (CDFW 2023a) documentation has been recorded near the survey area. Foraging Swainson's hawks may be present all throughout the survey area.

6.4.1 Species with a High Potential to Occur

Avian Species

Burrowing Owl

The burrowing owl (*Athene cunicularia hypugaea*) occupies wide-open, sparsely vegetated areas like prairies, deserts, grasslands, and agricultural fields. Males are generally territorial and chase or attack other individuals of the same species, except for their breeding partner. Burrowing owls often use burrows dug by other animals like ground squirrels. Although insects and small mammals are the primary source of food for this species, the burrowing owl is an opportunistic predator and eats anything it can physically handle. Unlike other owl species, the burrowing owl nests in the ground and actively hunts in the daytime.

Suitable grassland habitat for foraging is present, particularly in the survey area north of the Sacramento River. Several CNDDB occurrences for this species have been documented within 5 miles of the survey area; however, all occurrences north of the Sacramento River were recorded during the non-breeding season (CDFW 2023). Further, anecdotal reports of overwintering burrowing owls within the survey area have been reported along Talbert Lane (AECOM 2018a). The survey area contains marginal and limited nesting habitat for owls; suitably sized small mammal burrows were largely absent given the large-scale disking within the majority of grassland habitats. However, if agricultural lands are left fallow or unmaintained, small mammals, such as California ground squirrels, may reestablish burrow networks and provide suitable overwintering or breeding habitat for burrowing owls. This species was not observed or detected during field surveys. This species has a moderate potential to occur for nesting and high potential for foraging within grassland habitats of the survey area.

Saltmarsh Common Yellowthroat

The saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) prefers freshwater and salt marshes with nearby willow thickets. This species forages on or near the ground, looking for insects and spiders in low vegetation. Females of this species will nest in higher marsh ground to avoid flooding and conceal their young with a loose, bulky outer cup of grasses and sedges, sometimes with a roof over the nest. The saltmarsh common yellowthroat is endemic and a resident to the greater San Francisco Bay Area year-round with some individuals wintering in San Diego County.

Suitable grassland habitat for nesting and foraging is present within the survey area. This species was not observed during the field surveys but has documented CNDDB (CDFW 2023) occurrences within 1 mile of the survey area south of Suisun Bay, in the vicinity of PG&E's existing Pittsburgh Substation and within 5 miles of suitable habitats within the portion of the survey area north of the Sacramento River. For these reasons, this species has a high potential to nest and forage within the survey area.

Suisun Song Sparrow

The Suisun song sparrow (*Melospiza melodia maxillaris*), an endemic species to Suisun Marsh, has been associated with tidal channels, particularly in marshes with dominant species of pickleweed and gumplant (*Grindelia sp.*). The diet of this species mainly consists of vegetables and some animal matter. The nests of the Suisun song sparrow can be found in an array of different substrates and dense vegetation. These include gumplant, sedges (*Scirpus sp.*), rushes (*Juncus sp.*), perennial pepperweed (*Lepidium latifolium*), pickleweed, saltgrass (*Distichlis spicata*), and arrowgrass (*Triglochin maritima*).

The portion of the survey area located on the northern shore of the Sacramento River provides suitable marsh habitat for foraging. This species has CNDDB (CDFW 2023a) occurrences in nearby marsh habitats within 0.25 mile of the survey area in the vicinity of PG&E's existing Pittsburgh Substation within 1 to 5 miles of the survey area north of the Sacramento River. Although this species was not detected during field surveys, it has a high potential to occur for both nesting and foraging.

Mammal Species

Salt Marsh Harvest Mouse

The Salt Marsh Harvest Mouse (*Reithrodontomys raviventris*) is generally restricted to salt or brackish marshes in the general San Francisco Bay Area. This species is highly associated with pickleweed in saline soil. This is due to the plant's ability to provide year-round cover from predators, a source of food, and refugia from flooding. Salt Marsh Harvest mice will build nests from dry grasses and sedges on the ground and within dense vegetation.

This species has a high potential to occur within survey area due to the abundance of suitable habitat within marshlands north of the Sacramento River. This species was not observed during the field survey but has recent CNDDB occurrences near and within the survey area. Further, there have been recent confirmations of salt marsh harvest mouse presence within 1 mile of the survey area based on trapping detections from San Francisco Estuary Institute's (SFEI) salt marsh harvest mouse database.

Reptile Species

Western Pond Turtle

The western pond turtle (*Actinemys marmorata*) can be found in Puget Sound, Washington ranging down to Northwestern Baja California. They will utilize both terrestrial and aquatic habitats, including permanent and seasonal aquatic habitats like rivers, sloughs, lakes, reservoirs, ponds, and irrigation canals. This species will nest, winter, disperse, and aestivate within 100 feet

of a water source onto land. Western pond turtles will consume various aquatic plants, insects, small fish, and amphibians.

Suitable wetland habitat is present within the survey area; however, conditions suitable for nesting were not observed during surveys. Although no observations were made during field surveys, multiple observations have been recorded through CNDDB (2023a) within 1 mile of the survey area north of the Sacramento River. This species has a high potential to occur within the survey area.

6.4.2 Species with a Moderate Potential to Occur

Avian Species

California Black Rail

The California black rail (*Lateralis jamaicensis coturniculus*) inhabits saltwater and brackish marshes with Pickleweed (*Salicornia sp.*), sedges (*Carex sp.*), saltgrass (*Distichlis sp.*), and bulrush (*Scirpus sp.*). They favor high marsh habitat for breeding but are frequently faced with high and moderate tides in the San Francisco Bay Area. California black rails prefer low-growing forms of vegetation with abundant insects. Their diet consists of small invertebrates and seeds of aquatic plants.

Suitable habitat capable of supporting foraging individuals is present in the survey area north of the Sacramento River. Wetland habitats within the survey area lack large stands of pickleweed and tidal flux preferred by the species for breeding sites. This species has been recently documented within 1 mile of the survey area near PG&E's existing Pittsburgh Substation and within 5 miles of the survey area north of the Sacramento River, but was not observed during the field survey. This species has a moderate potential to occur within the survey area.

California Least Tern

The California least tern (*Strernula antillarum browni*) is typically found in colonies of 25 pairs that nest on relatively open beaches free of vegetation. Breeding season usually begins in May and nests are constructed on bare ground. Roosting individuals will forage within 2 miles of their nest location. Adults will forage for fish primarily in near shore ocean waters and in shallow estuaries and lagoons. This species has been known to move further inland to avoid humans and onto mudflats and dredge fill sites.

Suitable nesting habitat for the species does not occur within the survey area; however, suitable foraging habitat is present. CNDDB occurrences of this species have been documented within 5 miles of the survey area (CDFW 2023a). This species was not observed during the field survey, but there is moderate potential California least tern occur within the survey area.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) will be found in colonies near a water source and natural grasslands, woodlands, or agricultural croplands. This species has historically been associated with emergent marshes, but they may be found in non-native vegetation and active agricultural areas. Breeding colonies may consist of thousands of birds and may be found in the Central Valley of California and surrounding foothills. The tricolor blackbird diet may include

local, abundant food sources, ranging from invertebrates to grains. They can be seen foraging in deep dense grasses and other vegetation.

Although there is limited nesting habitat, suitable foraging habitat can be found the grasslands and croplands along the northern portions of the survey area. No occurrences have been documented near the survey area in over 30 years and tricolored blackbirds were not observed during field surveys. This species has moderate potential to occur in foraging habitat provided by croplands and grasslands.

White-Tailed Kite

The white-tailed kite (*Elanus leucurus*) feeds mostly on voles and other small, diurnal mammals. For habitat to be considered suitable to the species, it must include undisturbed open grasslands, meadows, farmlands, and emergent wetlands to find prey in and dense canopies for roosting. This species is a resident of coastal and valley lowlands.

Grassland and marsh habitat suitable for foraging is present within the survey area; however, nesting habitat is limited given the lack of suitable trees. This species has been recently documented (CNDDB 2023a) near the survey area, but was not observed during field surveys. Therefore, there is moderate potential for this species to occur within the survey area for the purposes of foraging.

Yellow Rail

The yellow rail (*Corturnicops noveboracensis*) will eat small snails, aquatic insects, and seeds found in shallow marshes and wet meadows. Wintering habitat will include freshwater and brackish marshes with dense grass. This species breeds mostly in Canada and northern US states, often having two nests with one to incubate eggs and the other to brood young. Like other rails, this species is highly secretive.

Freshwater marshland habitat required for nesting is not present within the survey area. However, salt marsh habitat, suitable for wintering and foraging birds, is present within the survey area. This species has recent CNDDB occurrences within 5 miles of the survey area (CDFW 2023a), but was not observed during the field survey. For these reasons, this species has a moderate potential to occur within the survey area north of the Sacramento River.

Mammal Species

Western Red Bat

The western red bat (*Lasiurus blossevillii*) prefers riparian woodlands but is found in a variety of other forest habitats. This bat forages in and around vegetation and in open areas near roosting sites on cicadas, beetles, wasps, flies, and moths. Roosting sites are primarily located in trees and rock crevices along forest edges adjacent to streams or open fields, but day roosts will sometimes be located in orchard trees and buildings. This species makes relatively short migrations within California to summer and winter ranges in the north and south of the state. As this species prefers riparian woodlands, threats include loss of riparian zones, primarily due to agricultural conversion and creation of water storage reservoirs.

Limited suitable tree roosting habitat is present within the survey area; however, suitable foraging habitat is present throughout the grassland and marsh habitats north of the Sacramento River. This species has CNDDB occurrences within 1 to 5 miles of the survey area, but was not observed during field surveys. There is a moderate potential for this species to occur within the survey area for the purposes of foraging.

6.5 GENERAL WILDLIFE SPECIES

Thirty-five wildlife species were incidentally identified during the surveys; these included one reptile, four mammals, and 30 birds. Noted wildlife species were identified by direct observation, vocalizations, or the observance of scat and tracks. The wildlife identified are not necessarily comprehensive accounts of all species that utilize the survey area, because species that are nocturnal, secretive, or seasonally absent may not have been observed.

Although substantial portions of the survey area are dominated by non-native grassland that is frequently utilized for agriculture purposes, the portion of the survey area located on the northern shore of the Sacramento River contains tidally influenced estuarine marshes and sloughs that provide important habitat for a variety of species. Sloughs and marshes in the survey area were generally undisturbed, containing thick and continuous stands of hardstem and giant bulrush that provide ample nesting habitat for riparian birds. Several avian species were incidentally observed nesting within stands of bulrush, including marsh wren (*Cistothorus palustris*), northern harrier, and red-winged blackbird (*Agelaius phoeniceus*).

Observed occurrences of wildlife species are shown in Table 4: Wildlife Species Observed within the Survey Area.

6.6 CRITICAL HABITAT

No critical habitat is found within the survey area. However, the estuarine, open water habitat within the submarine cable alignment and surrounding Sacramento River is designated as critical habitat for delta smelt (*Hypomesus transpacificus*).

6.7 NATIVE WILDLIFE CORRIDORS AND NURSERY SITES

Wildlife migration corridors are areas that connect suitable wildlife habitats in a region that would otherwise be fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features (e.g., canyon drainages, ridgelines, or areas with vegetation cover) provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high-population or high-density areas; and facilitate genetic diversity. CEQA guidelines require that project proponents disclose and mitigate for significant impacts on wildlife corridors. Impacts to wildlife corridors, such as human disturbance and development, can cause harm to migrating species, cause species to exceed population thresholds in fragmented patches, or prevent healthy gene flow between populations. The California Essential Habitat Connectivity Project (CEHC) maintains a statewide Essential Habitat Connectivity Map, which broadly depicts large, relatively natural habitat blocks that support native biodiversity (Natural Landscape Blocks) and areas essential for

Table 4: Wildlife Species Observed within the Survey Area

Common Name	Scientific Name
American coot	*Fulica americana*
American bittern	Botaurus lentiginosus
American goldfinch	*Spinus tristis*
Barn swallow	*Hirundo rustica*
Black phoebe	*Sayornis nigricans*
Black-tailed jackrabbit	*Lepus californicus*
Brown-headed cowbird	*Molothrus ater*
Brewer's blackbird	*Euphagus cyanocephalus*
California gull	*Larus californicus*
California scrub jay	*Aphelocoma californica*
Cliff swallow	*Petrochelidon pyrrhonota*
Cottontail	*Sylvilagus audubonii*
European starling	*Sturnus vulgaris*
Gopher snake	*Pituophis catenifer*
Great blue heron	*Ardea herodias*
Great egret	*Ardea alba*
Horned lark	*Eremophila alpestris*
House finch	*Haemorhous mexicanus*
Killdeer	*Charadrius vociferus*
Mallard	*Anas platyrhynchos*
Marsh wren	*Cistothorus palustris*
Mourning dove	*Zenaida macroura*
Mute swan	*Cygnus olor*
Northern harrier	*Circus hudsonius*
Northern mockingbird	*Mimus polyglottos*
Red-winged blackbird	*Agelaius phoeniceus*
Ring-necked pheasant	*Phasianus colchicus*
River otter	*Lontra canadensis*
Savanah sparrow	*Passerculus sandwichensis*
Snowy egret	*Egretta thula*
Song sparrow	*Melospiza melodia*

Common Name	Scientific Name
Swainson's hawk	*Buteo swainsoni*
Tule elk	*Cervus canadensis nannodes*
Turkey vulture	*Cathartes aura*
Western meadowlark	*Sturnella neglecta*

ecological connectivity between them (Essential Connectivity Areas) (Spencer et al., 2010). The Survey Area region lies outside of any of these Natural Landscape Blocks and Essential Connectivity Areas (CDFW, 2021d).

The Proposed Project lies within the Pacific Flyway—an important north-south migration corridor that runs along the Pacific coast of the Americas from Alaska to Patagonia, including all of North America lying west of the Rocky Mountains. The Pacific Flyway links breeding grounds to the north with wintering areas to the south and is used by many different species of birds during migration. Many birds (especially waterfowl) use locations in California's Sacramento Valley as a stopover point or wintering area. One of those major locations is Suisun Marsh, which is less than 10 miles from the Survey Area. At the Proposed Project's latitude, the Pacific Flyway extends inland from the Pacific Ocean for approximately 700 miles. As a result, the Proposed Project's aboveground components would be placed in less than 0.3 percent of the width of the Pacific Flyway. The Proposed Project site does not occur in any nursery sites.

6.8 AQUATIC RESOURCES

Insignia biologists identified one linear water feature within the survey area that is potentially under the jurisdiction of the USACE, RWQCB, and CDFW. Further, seven potentially jurisdictional wetland features were observed within the survey area. Attachment A: Biological Resources Map depicts the locations of the potentially jurisdictional water features within the survey area. Attachment E: Linear Water Feature Photographs presents upstream and downstream photographs of the mapped ephemeral linear water feature. Attachment F: Wetland Feature Photographs presents representative photographs of each wetland feature. Attachment G: Potentially Jurisdictional Water Features Table lists the unique feature identification number, feature type, length, OHWM width and depth, TOB width and depth, Cowardin classification (for wetlands), and the approximate extent of USACE, RWQCB, and CDFW jurisdictions.

Wetland features W-3, W-4, W-7, and portions of W-2 lacked standing water or observable hydrology and were identified by the presence of wetland vegetation (i.e., *Distichilis* sp., *Salicornia* sp., *Frankenia* sp., and *Juncus* sp.). These areas will require formal wetland delineation studies to confirm the presence and extent of jurisdictional features.

A formal wetland delineation has not yet been conducted; however, a delineation will be conducted once further engineering is complete. Once complete, a preliminary jurisdictional determination will be presented to the USACE that includes all data sheets including National Wetlands Inventory maps (as shown in Attachment H: National Wetlands Inventory Map that show all proposed facilities.

7 – RECOMMENDATIONS

Proposed Project-specific avoidance and minimization measures will need to be developed to reduce the potential for impacts to all special-status species with moderate or high potential to occur within the project area as well as species that are present within the survey area.

Prior to initiating Project activities, the following pre-construction surveys will be required:

- Pre-construction nesting bird surveys conducted within 48 hours prior to work occurring between February 1 and September 30 each year. Surveys will be conducted within 500 feet of all Proposed Project work areas.

- Pre-construction roosting bat survey in areas within and adjacent to the Proposed Project where construction activities have the potential to directly impact active roosts or disrupt bat breeding activities.

- Pre-construction burrowing owl surveys conducted in all areas that may provide suitable nesting habitat according to the CDFW (CDFW 2012) guidelines. The take avoidance surveys, consisting of up to four visits, will be initiated within 30 days of and completed at least 14 days before construction is initiated at a given location. In areas with burrows or refuge that could potentially support burrowing owls, a clearance visit will be conducted within 24 hours of construction.

- A supplemental and floristic botanical survey conducted in 2024 during the appropriate bloom periods for special-status plants with the potential to occur within the expanded survey area north of the Sacramento River, as well as the survey area south of Suisun Bay, in the vicinity of PG&E's existing Pittsburgh Substation. This supplemental effort will provide full survey coverage of the survey area. Floristic surveys are recommended in April and July to capture the bloom periods of all non-perennial plant species with the potential to occur. A supplemental targeted survey will be conducted within the original survey area in 2024 during the bloom period for diamond-petaled California poppy (March to April). These surveys will also serve to confirm the population boundaries of previously observed Welsh's mudwort, Mason's lilaeopsis, and Delta tule pea.

- A formal wetland delineation will be required once further engineering is complete and prior to work commencing within the survey area. Once complete, a preliminary jurisdictional determination will be presented to the USACE that includes all data sheets including National Wetlands Inventory maps (as shown in Attachment H: National Wetlands Inventory Map that show all proposed facilities.

Given the high potential for salt marsh harvest mouse within the survey area and corroborating observation records in CNDDB and SFEI, surveys for this species should not be required, as presence for this species can be assumed within suitable habitats.

For all federally listed species with moderate- or high-potential to occur, if the Proposed Project has the potential to adversely affect the species or its habitat, consultation under Section 7 of the federal ESA will be necessary.

All of the state-listed species identified during the background research have low- or no potential to occur. However, if state-listed species are observed in the Proposed Project area and the Proposed Project has the potential to adversely affect the species, an incidental take permit (ITP) issued by the CDFW may be required to mitigate for potential impacts to those species.

Although the 28 bird species identified in Table 4: Wildlife Species Observed within the Survey Area do not carry listing statuses under the federal ESA or CESA, they are protected under the MBTA, California Fish and Game Code, and CCR. With the exception of the one northern harrier nest described in Section 6.4 Species Present within the Survey Area, no other nests were observed within the survey area.

Several regulatory approvals, authorizations, or permits are required for the Proposed Project, as provided in Table 5: Anticipated Biological Resource Permits and Authorizations. These approvals may include conditions that afford additional protection to species and/or their habitat. LSPGC will comply with all mitigation measures and permit conditions that result from these regulatory reviews and approvals.

Table 5: Anticipated Biological Resource Permits and Authorizations

Agency	Permit/Approval/Consultation	Jurisdiction/Purpose of Permit
Federal Agencies		
USACE	CWA Section 404 Nationwide Permit	Permanent and temporary fill of waters of the U.S.
USFWS	FESA Section 7 Consultation	Construction activities such as vegetation clearing or removal that may affect federally listed species or their habitats, including salt marsh harvest mouse
State Agencies		
CDFW	California Fish and Game Code Section 1600 Streambed Alteration Agreement	Activities that will disturb the bed or bank of a jurisdictional waterbody
RWQCB	CWA Section 401 Water Quality Certification	Activities authorized by federal agencies that may affect state water quality

As described in Section 5.2 Biological Resource Survey Method, due to access constraints imposed by the property owner, the survey area south of Suisun Bay, in the vicinity of PG&E's existing Pittsburgh Substation was not included in biological resource surveys. While this area was included in the records search and preliminary research for this report, formal field surveys and jurisdictional waters assessments will be required to identify any existing or potentially sensitive biological resources (e.g., vegetation communities, hydrologic features, and special-status plant and animal species and their associated habitats) that may be present within or adjacent to this portion of the survey area.

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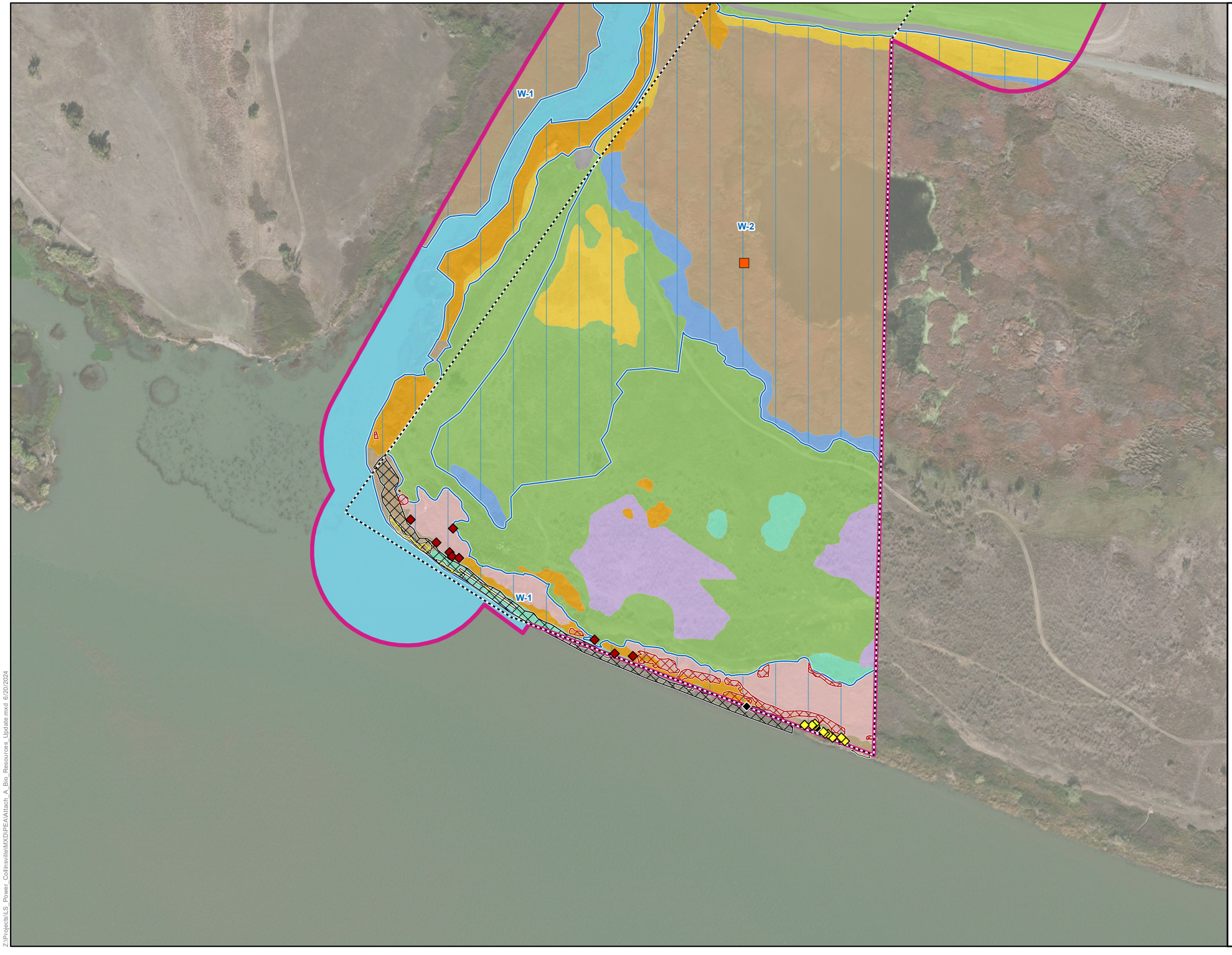
ATTACHMENT A: BIOLOGICAL RESOURCES MAP

Attachment A:
Biological Resources Map
Map 1 of 15

Collinsville 500/230 Kilovolt Substation Project



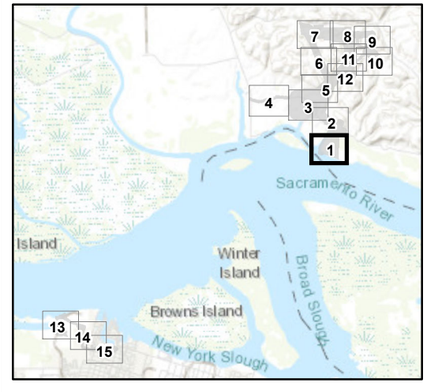
- Original Survey Area
- Expanded Survey Area
- Potential Wetland
- Northern Harrier Nest

Rare Plant

- Delta tule pea
- Mason's lilaeopsis
- Welsh mudwort
- Delta tule pea
- Mason's lilaeopsis
- Welsh mudwort

Vegetation Community

- *Distichlis spicata* Herbaceous Alliance
- *Frankenia salina* Herbaceous Alliance
- *Juncus arcticus (var. balticus, mexicanus)* Herbaceous Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- *Rosa californica* Shrubland Alliance
- *Salix exigua* Shrubland Alliance
- *Schoenoplectus (acutus, californicus)* Herbaceous Alliance
- *Schoenoplectus acutus/rosa californica* Association
- Road/Bare Ground
- Open Water



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LS POWER GRID CALIFORNIA

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Attachment A:
Biological Resources Map
Map 2 of 15

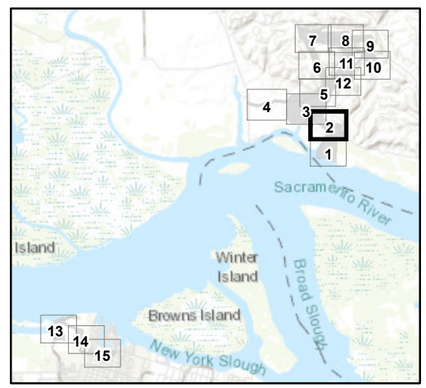
Collinsville 500/230 Kilovolt Substation Project

- Original Survey Area
- Expanded Survey Area
- Potential Wetland

Vegetation Community

- *Brassica nigra - Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural Alliance
- *Distichlis spicata* Herbaceous Alliance
- *Frankenia salina* Herbaceous Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- *Polygonum lapathifolium - Xanthium strumarium* Herbaceous Alliance
- *Rosa californica* Shrubland Alliance
- *Schoenoplectus (acutus, californicus)* Herbaceous Alliance
- Road/Bare Ground
- Open Water

W-1
W-2
W-3
W-4



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LS POWER GRID CALIFORNIA
INSIGNIA ENVIRONMENTAL

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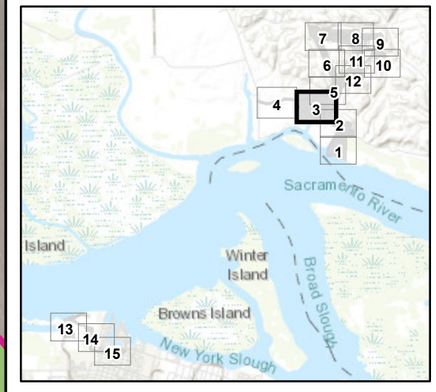
Attachment A:
Biological Resources Map
Map 3 of 15

Collinsville 500/230 Kilovolt Substation Project

- Original Survey Area
- Expanded Survey Area
- Potential Wetland

Vegetation Community

- *Brassica nigra - Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural Alliance
- *Distichlis spicata* Herbaceous Alliance
- *Frankenia salina* Herbaceous Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- *Polygonum lapathifolium - Xanthium strumarium* Herbaceous Alliance
- *Sarcocornia pacifica* Herbaceous Alliance
- *Rosa californica* Shrubland Alliance
- *Schoenoplectus (acutus, californicus)* Herbaceous Alliance
- *Schoenoplectus americanus* Herbaceous Alliance
- *Typha (angustifolia, domingensis, latifolia)* Herbaceous Alliance
- Road/Bare Ground



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LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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Attachment A:
Biological Resources Map
Map 4 of 15

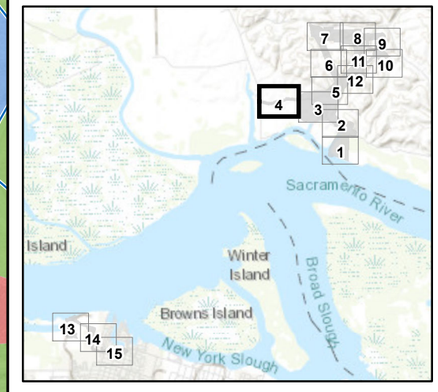
Collinsville 500/230 Kilovolt Substation Project

- Expanded Survey Area
- Potential Wetland

Vegetation Community

- *Brassica nigra - Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural Alliance
- *Distichlis spicata* Herbaceous Alliance
- *Frankenia salina* Herbaceous Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- *Sarcocornia pacifica* Herbaceous Alliance
- *Schoenoplectus (acutus, californicus)* Herbaceous Alliance
- Road/Bare Ground
- Developed

W-5
W-6
W-7



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LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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Attachment A:
Biological Resources Map
Map 5 of 15

Collinsville 500/230 Kilovolt Substation Project

D-1

W-6

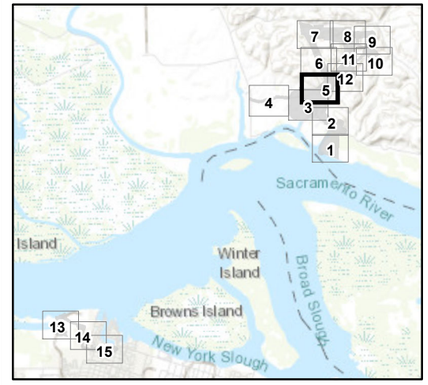
W-6

W-6

- Original Survey Area
- Expanded Survey Area
- Ephemeral Stream
- Potential Wetland

Vegetation Community

- *Brassica nigra - Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural Alliance
- *Distichlis spicata* Herbaceous Alliance
- *Frankenia salina* Herbaceous Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- *Typha (angustifolia, domingensis, latifolia)* Herbaceous Alliance
- Road/Bare Ground



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LSPOWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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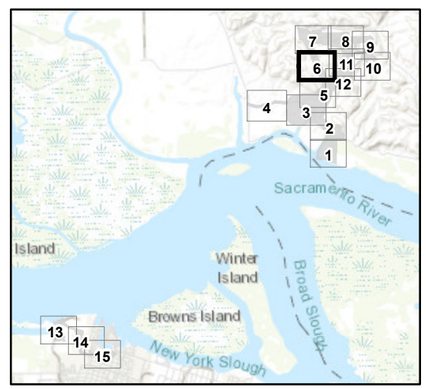
Attachment A:
Biological Resources Map
Map 6 of 15

Collinsville 500/230 Kilovolt Substation Project

- Original Survey Area
- Expanded Survey Area
- Ephemeral Stream

Vegetation Community

- *Brassica nigra - Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- Road/Bare Ground



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LS POWER GRID CALIFORNIA
INSIGNIA ENVIRONMENTAL

D-1

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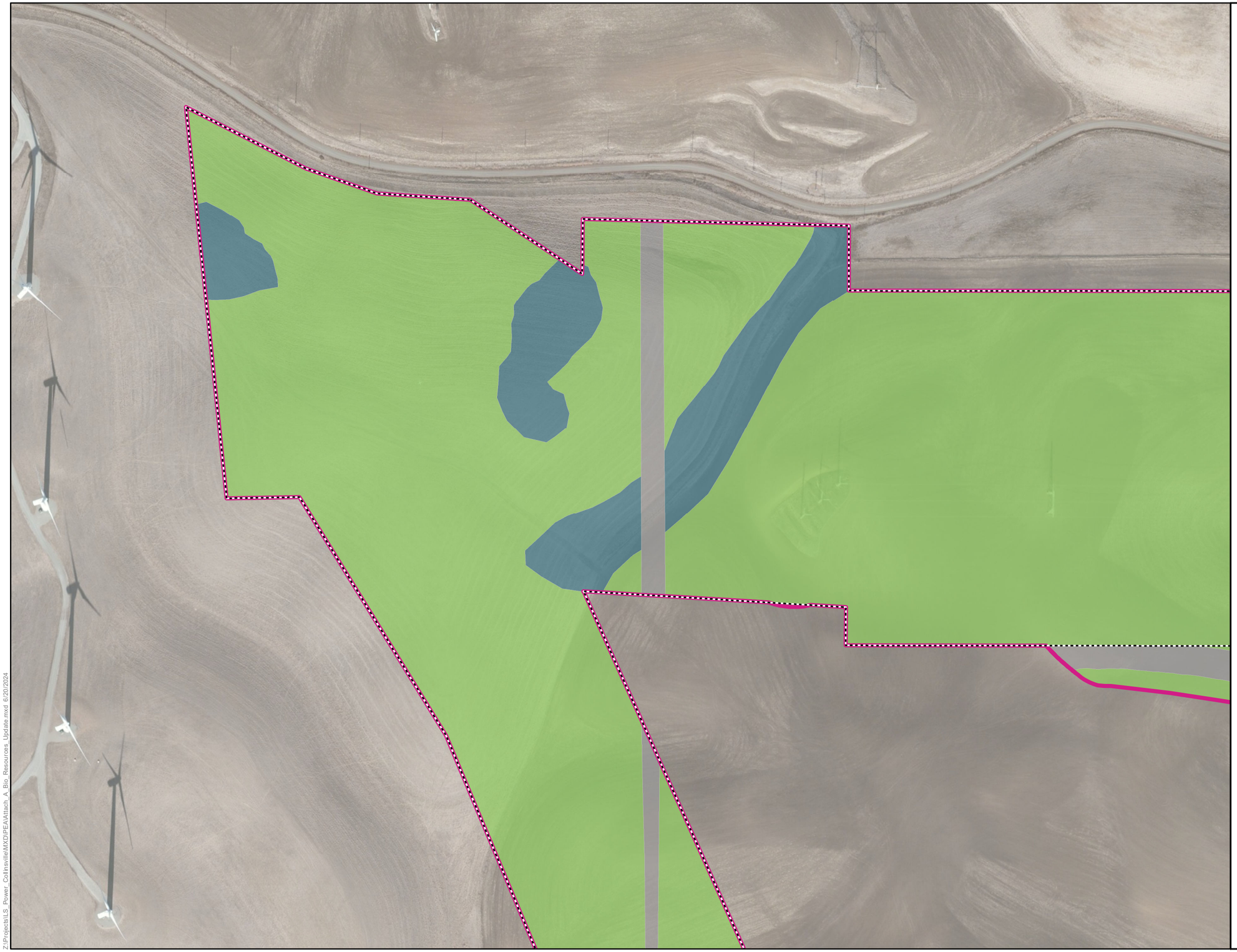


Attachment A:
Biological Resources Map
Map 7 of 15

Collinsville 500/230 Kilovolt Substation Project

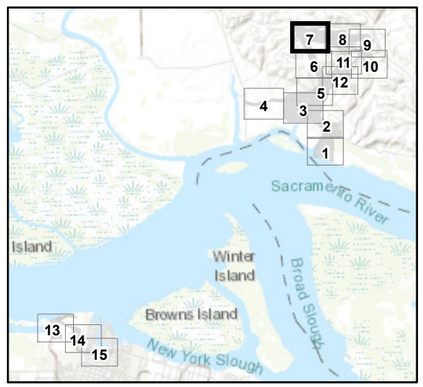
Original Survey Area
Expanded Survey Area

Vegetation Community

Brassica nigra - Centaurea (solstitialis, melitensis) Herbaceous Semi-Natural Alliance

Lolium perenne Herbaceous Semi-Natural Alliance

Road/Bare Ground



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LS POWER GRID CALIFORNIA
INSIGNIA ENVIRONMENTAL

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Attachment A:
Biological Resources Map
Map 8 of 15

Collinsville 500/230 Kilovolt Substation Project

Original Survey Area

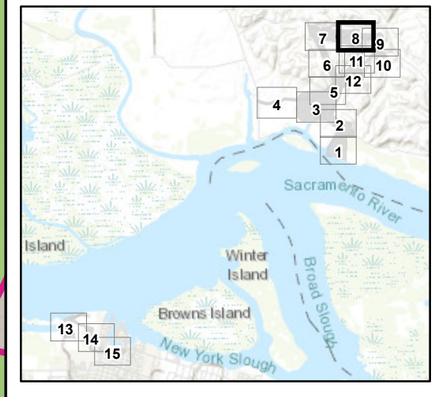
Expanded Survey Area

Vegetation Community

Brassica nigra - Centaurea (solstitialis, melitensis) Herbaceous Semi-Natural Alliance

Lolium perenne Herbaceous Semi-Natural Alliance

Road/Bare Ground



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0 125 250 500 Feet

LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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Attachment A:
Biological Resources Map
Map 9 of 15

Collinsville 500/230 Kilovolt Substation Project

Original Survey Area

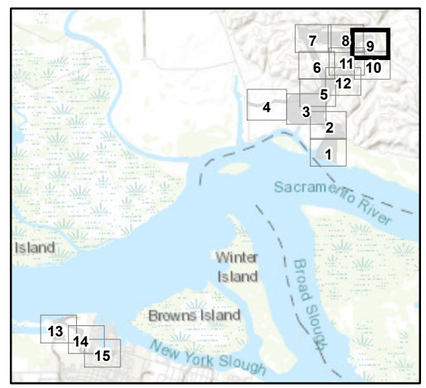
Expanded Survey Area

Vegetation Community

Brassica nigra - Centaurea (solstitialis, melitensis) Herbaceous Semi-Natural Alliance

Lolium perenne Herbaceous Semi-Natural Alliance

Road/Bare Ground



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0 125 250 500 Feet

LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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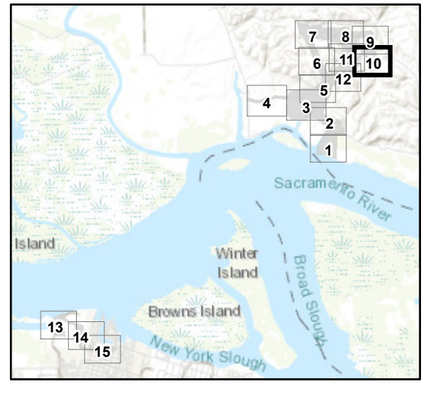
Attachment A:
Biological Resources Map
Map 10 of 15

Collinsville 500/230 Kilovolt Substation Project

- Original Survey Area
- Expanded Survey Area

Vegetation Community

- *Brassica nigra - Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- Road/Bare Ground



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0 125 250 500 Feet

LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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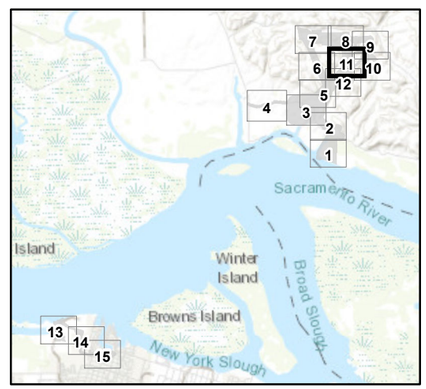
Attachment A:
Biological Resources Map
Map 11 of 15

Collinsville 500/230 Kilovolt Substation Project

- Original Survey Area
- Expanded Survey Area
- Ephemeral Stream

Vegetation Community

- *Brassica nigra - Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- Road/Bare Ground



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0 125 250 500 Feet

LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

D-1

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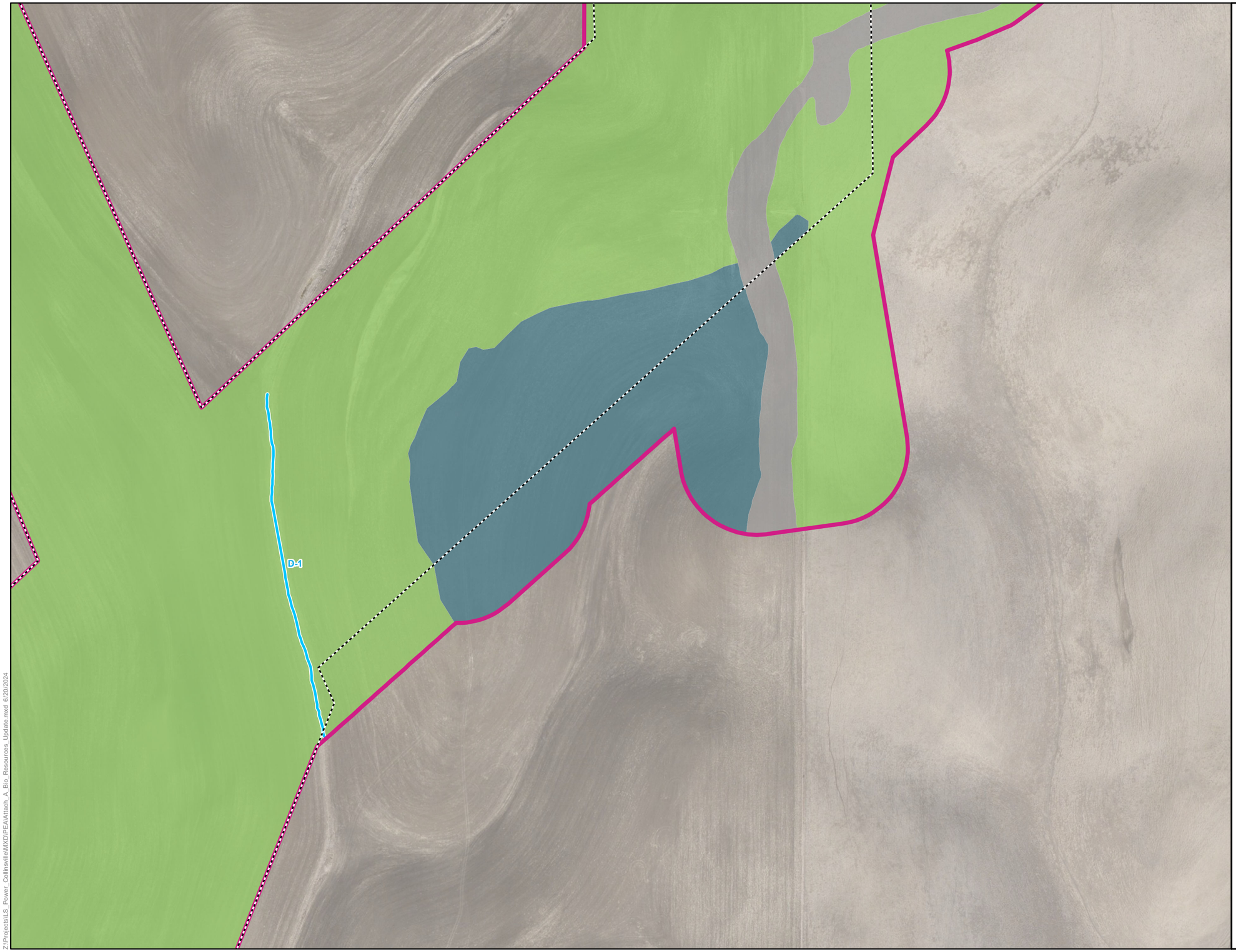


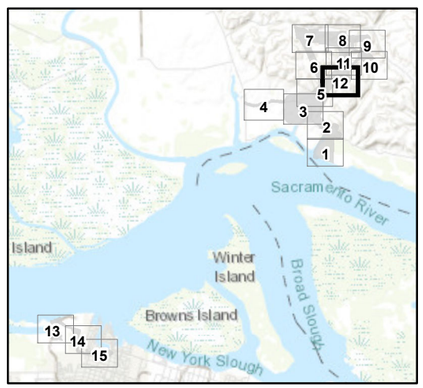
Attachment A:
Biological Resources Map
Map 12 of 15

Collinsville 500/230 Kilovolt Substation Project

- Original Survey Area
- Expanded Survey Area
- Ephemeral Stream

Vegetation Community

- *Brassica nigra - Centaurea (solstitialis, melitensis)* Herbaceous Semi-Natural Alliance
- *Lolium perenne* Herbaceous Semi-Natural Alliance
- Road/Bare Ground



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0 125 250 500 Feet

LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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Attachment A:
Biological Resources Map
Map 13 of 15

Collinsville 500/230 Kilovolt Substation Project

Expanded Survey Area

Rare Plant

Delta tule pea

Vegetation Community

Lepidium latifolium – Lactuca serriola Herbaceous Alliance

Ornamental Vegetation

Juncus arcticus (var. balticus, mexicanus) Herbaceous Alliance

Schoenoplectus (acutus, californicus) Herbaceous Alliance

Baccharis pilularis Shrubland Alliance

Disturbed

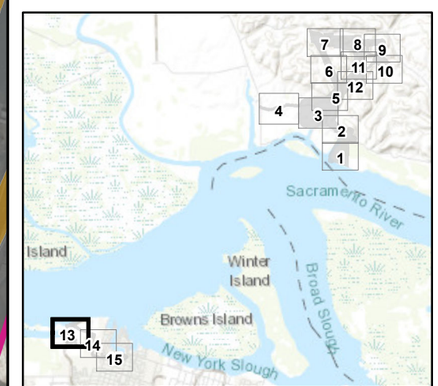
Road/Bare Ground

Rip Rap

Open Water

Developed

Not Surveyed



1:3,000

0 125 250 500 Feet

LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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Attachment A:
Biological Resources Map
Map 14 of 15

Collinsville 500/230 Kilovolt Substation Project

Expanded Survey Area

Vegetation Community

Lepidium latifolium – Lactuca serriola Herbaceous Alliance

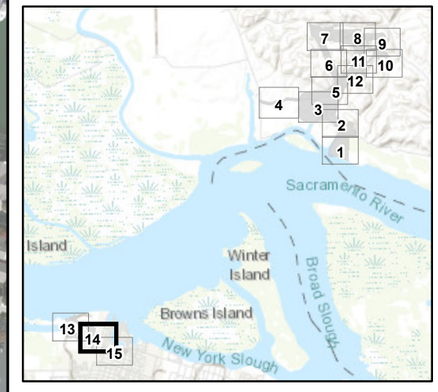
Ornamental Vegetation

Baccharis pilularis Shrubland Alliance

Disturbed

Developed

Not Surveyed



1:3,000

0 125 250 500 Feet

LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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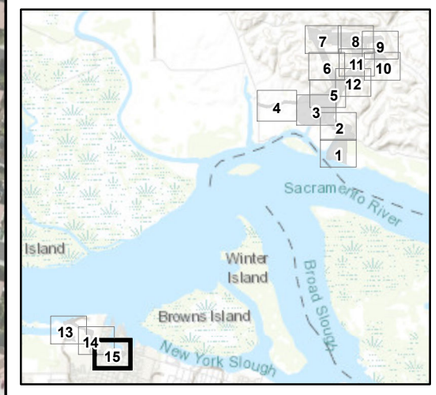
Attachment A:
Biological Resources Map
Map 15 of 15

Collinsville 500/230 Kilovolt Substation Project

Expanded Survey Area

Vegetation Community

- Ornamental Vegetation
- Disturbed
- Developed
- Not Surveyed



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0 125 250 500 Feet

LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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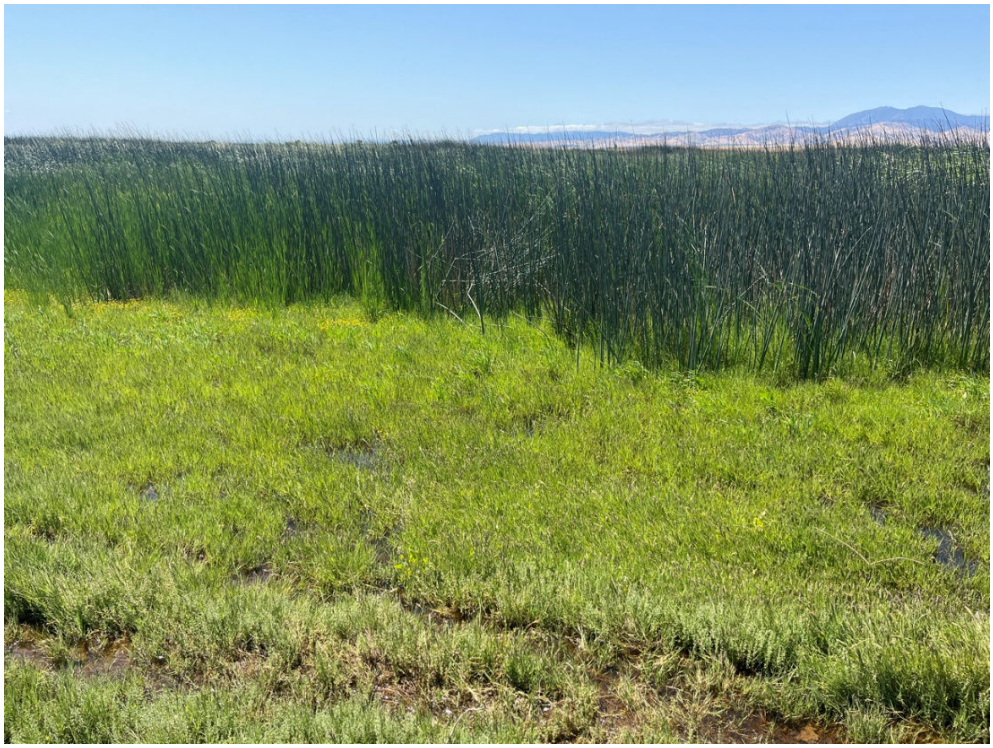
ATTACHMENT B: HABITAT ASSESSMENT PHOTOGRAPHS

ATTACHMENT B: HABITAT ASSESSMENT PHOTOGRAPHS

Photograph 1: *Lolium perenne* Herbaceous Semi-Natural Alliance, facing west.

Photograph 2: *Rosa Californica* Shrubland Alliance, facing east.

Photograph 3: *Brassica nigra - Centaurea* (*solstitialis*, *melitensis*) Herbaceous Semi-Natural Alliance, facing east.

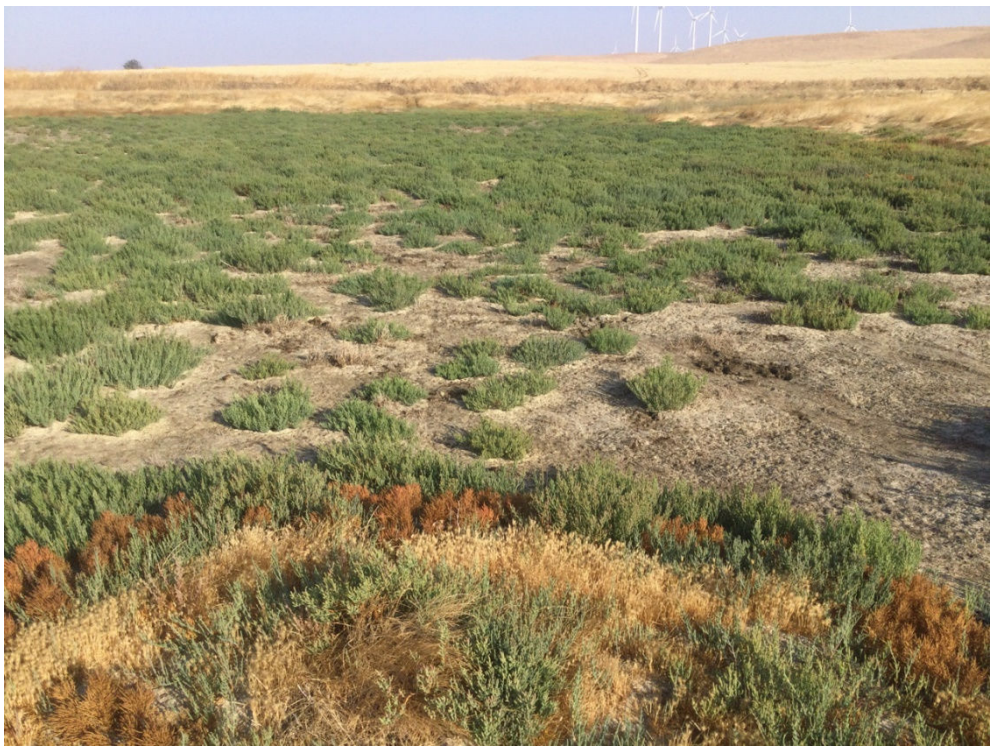


Photograph 4: *Juncus Arcticus* (var. *balticus*, *mexicanus*) Herbaceous Alliance, facing south.

Photograph 5: *Frankenia Salina* Herbaceous Alliance, facing south.

Photograph 6: *Distichlis Spicata* Herbaceous Alliance, facing northeast.

Photograph 7: *Salix Exigua* Shrubland Alliance, facing east.

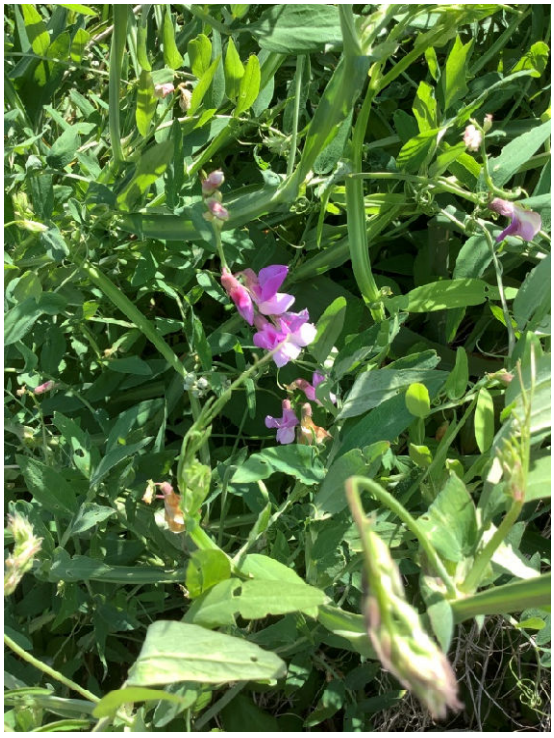


Photograph 8: Sarcocornia pacifica (*Salicornia depressa*) Herbaceous Alliance, facing northwest.

Photograph 9: *Schoenoplectus* (*acutus*, *californicus*) Herbaceous Alliance, facing east.

Photograph 10: *Schoenoplectus Acutus/Rosa Californica* Association, facing west.

Photograph 11: *Lepidium latifolium – Lactuca serriola* Herbaceous Semi-Natural Alliance, facing northeast.



Photograph 12: Delta tule pea (*Lathyrus jepsonii jepsonii*).

Photograph 13: Mason's lilaeopsis (*Lilaeopsis masonii*).

Photograph 14: Welsh mudwort (*Limosella australis*).

ATTACHMENT C: CNDDB OCCURRENCES OF SPECIAL-STATUS PLANT SPECIES

Attachment C:
CNDDB Occurrences of Special-Status Plant Species

Collinsville 500/230 Kilovolt Substation Project

- Proposed Project Buffers

Special Status Plant Species

- Alkali milk-vetch
- Antioch Dunes buckwheat
- Antioch Dunes evening-primrose
- Bearded popcornflower
- Big tarplant
- Bolander's water-hemlock
- Brittlescale
- Carquinez goldenbush
- Chaparral ragwort
- Contra Costa goldfields
- Contra Costa wallflower
- Delta mudwort
- Delta tule pea
- Diablo helianthella
- Diamond-petaled California poppy
- Dwarf downingia
- Fragrant fritillary
- Hall's bush-mallow
- Heartscale
- Hoover's cryptantha
- Keck's checkerbloom
- Mason's lilaeopsis
- Mt. Diablo buckwheat
- Pappose tarplant
- San Joaquin spearscale
- Showy golden madia
- Suisun Marsh aster
- Soft salty bird's-beak

1:96,000

0 1 2 Miles

LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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ATTACHMENT D: CNDDB OCCURRENCES OF SPECIAL-STATUS WILDLIFE SPECIES

Attachment D:
CNDDB Occurrences of Special-Status Wildlife Species
Amphibians - Map 1 of 6

Collinsville 500/230 Kilovolt Substation Project

- Proposed Project buffers
- California red-legged frog
- California tiger salamander - central California DPS

5-Mile
1-Mile
0.25-Mile

1:101,000
0 1 2 Miles

LS POWER GRID CALIFORNIA
INSIGNIA ENVIRONMENTAL

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Attachment D:
CNDDB Occurrences of Special-Status Wildlife Species
Birds - Map 2 of 6

Collinsville 500/230 Kilovolt Substation Project

- Proposed Project buffers
- American peregrine falcon
- Burrowing owl
- California Ridgway's rail
- California black rail
- California least tern
- Saltmarsh common yellowthroat
- Short-eared owl
- Song sparrow ("Modesto" population)
- Suisun song sparrow
- Swainson's hawk
- Tricolored blackbird
- White-tailed kite
- Yellow rail

5-Mile

1-Mile

0.25-Mile

1:101,000

0 1 2 Miles

LSPOWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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Attachment D:
CNDDB Occurrences of Special-Status Wildlife Species Crustaceans/Insects - Map 3 of 6

Collinsville 500/230 Kilovolt Substation Project

- Proposed Project buffers
- Conservancy fairy shrimp
- Lange's metalmark butterfly
- Vernal pool fairy shrimp
- Vernal pool tadpole shrimp

5-Mile
1-Mile
0.25-Mile

1:101,000
0 1 2 Miles

LS POWER GRID CALIFORNIA
INSIGNIA ENVIRONMENTAL

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Attachment D:
CNDDB Occurrences of Special-Status Wildlife Species Mammals - Map 4 of 6

Collinsville 500/230 Kilovolt Substation Project

- Proposed Project buffers
- Salt-marsh harvest mouse
- San Joaquin kit fox
- Western red bat

5-Mile

1-Mile

0.25-Mile

1:101,000

0 1 2 Miles

LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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Attachment D:
CNDDB Occurrences of Special-Status Wildlife Species
Reptiles - Map 5 of 6

Collinsville 500/230 Kilovolt Substation Project

- Proposed Project buffers
- Alameda whipsnake
- California glossy snake
- Giant gartersnake
- Northern California legless lizard
- Western pond turtle

5-Mile
1-Mile
0.25-Mile

1:101,000
0 1 2 Miles

LS POWER GRID CALIFORNIA
INSIGNIA ENVIRONMENTAL

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Attachment D:
CNDDB Occurrences of Special-Status Wildlife Species
Fish - Map 6 of 6

Collinsville 500/230 Kilovolt Substation Project

- Proposed Project buffers
- Delta smelt
- Green sturgeon - southern DPS
- Longfin smelt
- Steelhead - Central Valley DPS

5-Mile
1-Mile
0.25-Mile

1:101,000
0 1 2 Miles

LS POWER GRID CALIFORNIA
INSIGNIA ENVIRONMENTAL

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ATTACHMENT E: LINEAR WATER FEATURE PHOTOGRAPHS

ATTACHMENT E: LINEAR WATER FEATURE PHOTOGRAPHS

Photograph 1: D-1, facing upstream and northwest.

Photograph 2: D-1, facing downstream and south.

ATTACHMENT F: WETLAND FEATURE PHOTOGRAPHS

ATTACHMENT F: WETLAND FEATURE PHOTOGRAPHS

Photograph 1: W-1, facing south.

Photograph 2: W-2, facing southeast.

Photograph 3: W-3, facing southwest.

Photograph 4: W-4, facing northeast.

Photograph 5: W-5, facing southwest.

Photograph 6: W-6, facing northeast.

Photograph 7: W-7, facing west.

ATTACHMENT G: POTENTIALLY JURISDICTIONAL WATER FEATURES TABLE

ATTACHMENT G: POTENTIALLY JURISDICTIONAL WATER FEATURES TABLES

Table G-1: Potentially Jurisdictional Wetland Features

Wetland Identification Number	Vegetation Type	Cowardin Classification	Page Number in Attachment A	Potential USACE- and RWQCB-Jurisdictional Area within Survey Area (acres)	Potential CDFW-Jurisdictional Area within Survey Area (acres)
W-1	*Schoenoplectus* (*acutus, californicus*) Herbaceous Alliance, *Juncus arcticus* (var. *balticus, mexicanus*) Herbaceous Alliance, *Rosa californica* Shrubland Alliance, and *Schoenoplectus acutus*/*Rosa californica* Association	E2EM1	1, 2	7.43	7.43
W-2	*Schoenoplectus* (*acutus, californicus*) Herbaceous Alliance, *Distichlis spicata* Herbaceous Alliance, and *Frankenia salina* Herbaceous Alliance	PEM1	1, 2	22.43	22.43
W-3	*Distichlis spicata* Herbaceous Alliance	PEM1	2	0.25	0
W-4	*Frankenia salina* Herbaceous Alliance and *Schoenoplectus* (*acutus, californicus*) Herbaceous Alliance	PEM1	2	1.22	0
W-5	*Distichlis spicata* Herbaceous Alliance and *Juncus arcticus* (var. *balticus, mexicanus*) Herbaceous Alliance	PEM1	3, 4	15.16	15.16
W-6	*Distichlis spicata* Herbaceous Alliance and *Juncus arcticus* (var. *balticus, mexicanus*) Herbaceous Alliance	PEM1	5, 6	10.02	11.85
W-7	*Distichlis spicata* Herbaceous Alliance	PEM1	4	1.55	0
Total	**--**	**--**	**--**	**58.06**	**55.04**

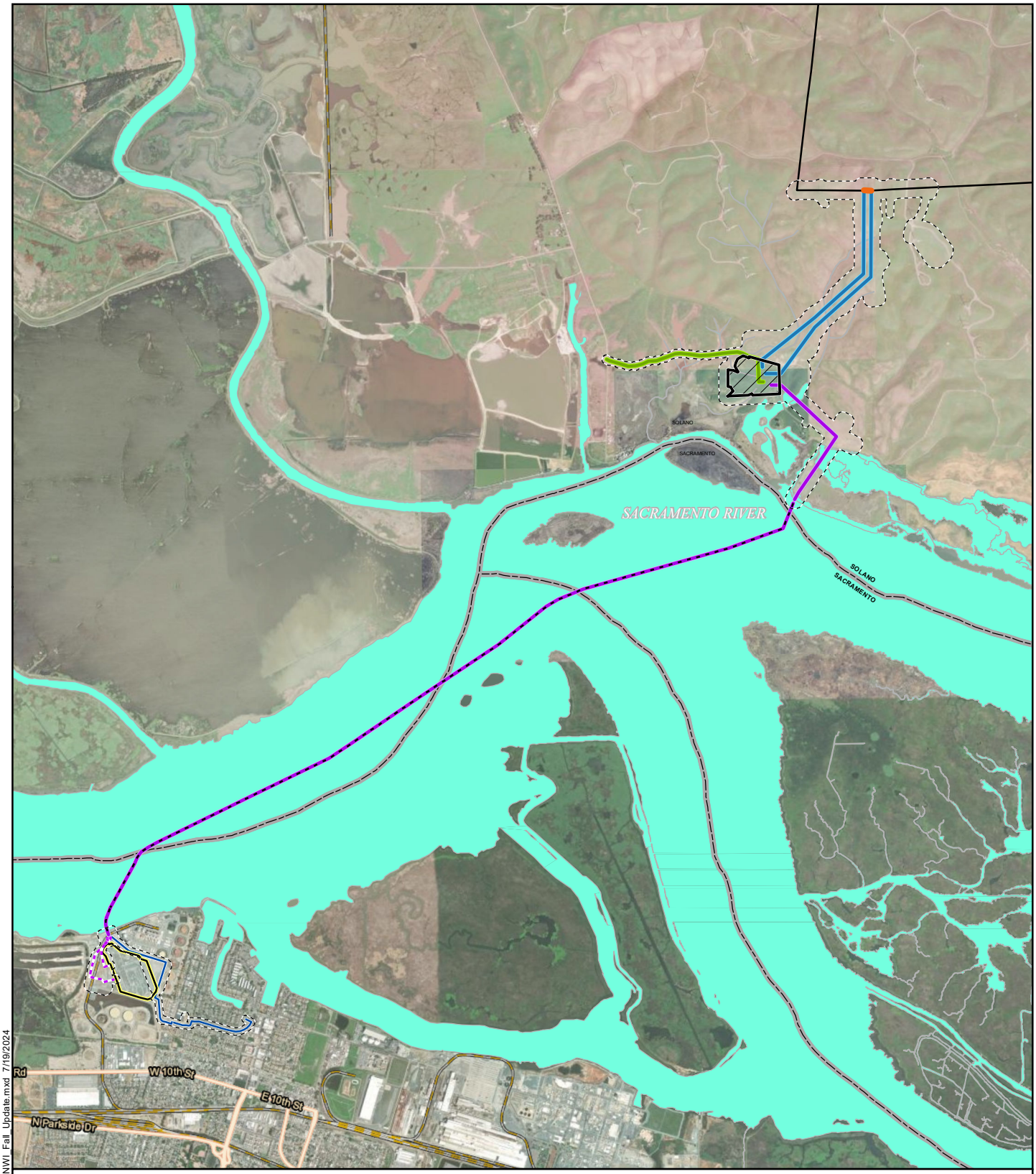
Notes: USACE = United States Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife

Table G-2: Potentially Jurisdictional Linear Water Features

ID	Feature Type	Average Measurements (feet)					Jurisdictional Areas (acres)		
		Length	OHWM Width	OHWM Depth	TOB Width	TOB Depth	USACE	RWQCB	CDFW
D-1	Ephemeral	926.12	3.00	0.10	4.90	2.20	0.06	0.06	0.10

Notes: OHWM = ordinary high water mark; TOB = top of bank

ATTACHMENT H: NATIONAL WETLANDS INVENTORY MAP



Attachment H: National Wetlands Inventory Map

Collinsville 500/230 Kilovolt Substation Project

- Proposed LSPGC 230 kV Overhead Segment
- Proposed LSPGC 230 kV Submarine Segment
- Proposed LSPGC 230 kV Underground Segment
- Proposed PG&E 500 kV Interconnection
- Proposed PG&E 12 kV Distribution Line
- Existing PG&E 500 kV Transmission Line to be Removed
- Survey Area
- Proposed Collinsville Substation
- Existing PG&E Pittsburg Substation
- National Wetlands Inventory Feature
- County Boundary
- Existing PG&E Vaca Dixon-Tesla Transmission Line
- Proposed LSPGC Telecommunications Line

1:45,000

0 2,000 4,000 Feet

LS POWER GRID CALIFORNIA

INSIGNIA ENVIRONMENTAL

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