

## 4.3—BIOLOGICAL RESOURCES

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This section of the draft subsequent environmental impact report (Draft SEIR) documents potential impacts of the project on biological resources, including special-status plant, wildlife, and invertebrate species and their habitat.

The information in this section is based on a peer review of applicant-prepared studies and publicly available sources. The applicant-prepared studies used are:

- *Biological Resources Assessment, ±920-Acre Eliot Facility Plan Area, Alameda County, California* (Foothill Associates 2019) (Appendix D-1, “Biological Resources Assessment”)
- *Addendum to the Biological Resources Assessment for the 920-Acre Eliot Facility Plan Area, in Alameda County, California* (Helix 2020b) (Appendix D-2, “BRA Addendum”)
- *±920-Acre Eliot Facility Plan Boundary, Aquatic Resources Delineation Report* (Helix Environmental, Inc. [Helix] 2020a) (Appendix D-3, “Aquatic Resources Delineation Report”)

The Biological Resources Assessment (BRA) by Foothill Associates (acquired by Helix in 2019) was initially peer reviewed as a draft by County-retained Stillwater Sciences in 2018. The peer review letter reports are on file with the County. The applicant prepared an addendum to the referenced 2019 analysis, revised the Aquatic Resources Delineation Report, and provided responses to the peer reviewer comments, which are also on file with the County. The Aquatic Resources Delineation report, the BRA, and the BRA addendum adequately addressed the peer reviewer’s comments and questions.

### 4.3.1 Environmental Setting

This section discusses the existing biological resources conditions within and adjacent to the project site. Methods for evaluating site conditions, including literature review and field surveys, are discussed first, which is followed by a description of the habitat types and species composition at the project site.

#### 4.3.1.1 Biological Resources Conditions at the Time of the LAVQAR EIR

The project site had already been greatly modified from its natural state at the time of the *Livermore-Amador Valley Quarry Area Reclamation Specific Plan Environmental Impact Report* (LAVQAR EIR). The LAVQAR EIR states that the primary area of biotic significance was the ADV and its associated riparian vegetation. The ADV contained largemouth bass, bluegill, hitch, carp, Sacramento blackfish, goldfish, Sacramento sucker, Mississippi silversides, white catfish, and Sacramento squawfish near the Quarry Area near Shadow Cliffs Park. No rare or endangered plant or animal species were identified to exist in the area at the time (CDFG 1979).

The LAVQAR EIR also noted the presence of waterfowl in the settling ponds and quarry pits, as well as the project area’s location within Southern Bald Eagle and American Peregrine Falcon hunting area (CDFG 1979).

#### 4.3.1.2 Data Collection and Field Survey Methods

Information regarding existing conditions is based on a combination of literature review and field investigations.

## Literature Review

Foothill Associates and Helix Environmental, Inc. (Helix) collected observational records for natural resources within the Livermore 7.5-minute U.S. Geological Survey (USGS) quadrangle from the following sources:

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Data Base (CNDDB)
- California Native Plant Society's (CNPS) online Inventory of Rare and Endangered Plants
- United States Fish and Wildlife Service (USFWS)'s Information for Planning and Conservation (IPaC) Trust Resource Report: Arroyo Del Valle
- United States Department of Agriculture (USDA), Natural Resources Conservation Service's (NRCS) Web Soil Survey

Foothill Associates reviewed the *Soil Survey, Alameda County, California* (USDA 1966) to determine soil types on the site and identify any soil types (e.g., sandy, acidic, or highly alkaline soils; serpentinite) that may support special-status plants and/or sensitive communities, including wetlands. Biological communities at the project site were mapped using Google Earth aerial imagery and ArcGIS Collector application for Android and iPhones.

## Field Surveys

Existing information, including soil maps, and the results of the records search and five-mile radius CNDDB query, was summarized in a species-occurrence table (see Appendix D-1) prior to conducting site surveys. Field surveys of the project were conducted on October 26 and 27 and November 1 and 2, 2017 and April 3 and 4, 2018 by Foothill Associates and on November 25 and 26, 2019 by Helix on an expanded study area ("revised Study Area"). The revised Study Area was systematically surveyed on foot, driving, using public roadways, and scanning the project site with binoculars to ensure total search coverage, with special attention given to identifying those portions of the project site with the potential for supporting special-status species and sensitive habitats. During the field surveys, biologists recorded plant and animal species observed (see Appendix D-2), as well as characterized biological communities occurring onsite. Biological features such as wetlands, trees, or active nests were mapped using a hand-held GPS unit with sub-meter accuracy. Following the site survey, the potential for each species identified in the records search to occur at the project site was determined based on the site surveys, soils, and species-specific information, as shown in Appendix D-1.

## Definition of Special-Status Species

For the purposes of this analysis, special-status species are defined as meeting one or more of the following criteria:

- Listed, formally proposed, or designated as candidates for listing as threatened or endangered under the Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA);
- Protected under other regulations (e.g. Migratory Bird Treaty Act [MBTA]);
- Included on the CDFW Special Animals List;
- Designated as fully protected in the Fish and Game Code (e.g., white-tailed kite);
- Identified as Rank 1 through 4 by CNPS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis were based on queries of the CNDDDB, the U.S. Fish and Wildlife Service (USFWS), and CNPS ranked species (online versions) for the Livermore, and eight surrounding quadrangles: Diablo, Tassajara, Byron Hot Springs, Mendenhall Springs, Altamont, La Costa Valley, Niles, and Dublin. Appendix A of the BRA (Appendix D-1 of this SEIR) includes the common name and scientific name for each species, regulatory status (federal, State, local, CNPS), habitat descriptions, and potential for occurrence at the project site. The following set of criteria was used to determine each species' potential for occurrence at the project site:

- **Present:** Species known to occur at the project site based on CNDDDB records and/or observed at the project site during the biological surveys.
- **High:** Species known to occur on or in the vicinity of the project site (based on CNDDDB records within five miles and/or based on professional expertise specific to the project site or species) and there is suitable habitat at the project site.
- **Low:** Species known to occur in the vicinity of the project site and there is marginal habitat within the project site **-OR-** Species is not known to occur in the vicinity of the project site, however, there is suitable habitat on the project site .
- **None:** Species is not known to occur on or in the vicinity of the project site and there is no suitable habitat at the project site **-OR-** Species was surveyed for during the appropriate season with negative results **-OR-** The project site occurs outside of the known elevation or geographic ranges.

Only those species that are known to be present or have a high or low potential for occurrence are discussed further in the following sections.

### **Sensitive Biological Communities**

Sensitive biological communities include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified by CDFW on local or regional plans, policies, or regulations. The CDFW ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in its California Natural Diversity Database (CDFW 2017). Sensitive plant communities are also identified by CDFW (CDFW 2017) and the California Native Plant Society (CNPS 2017, cited in Foothill Associates 2019). Vegetation alliances are ranked 1 through 5 in the CNDDDB based on NatureServe's methodology, with those alliances ranked globally (G) or statewide (S). Rankings 1 through 3 are considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or United States Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G). Specific habitats may also be identified as sensitive in city or county general plans or ordinances.

#### **4.3.1.3 Project Site General Habitat Conditions**

The project site is an active gravel quarry. Arroyo del Valle (ADV), part of the Alameda Creek watershed and one of the major drainages of the Livermore-Amador Valley, flows through the site. Prior to completion of the Del Valle reservoir in 1968, the arroyo had an intermittent flow, containing water in most winters and springs and drying in the summer. The Arroyo now contains a perennial flow caused by managed releases from Lake del Valle. The topography of the site was historically a broad outwash plain with a braided stream channel. The site is now made up predominantly of the Lake A and B pits with the Arroyo channel relocated to the south of the currently active pits.

The condition of vegetation growing within the active portions of the quarry depends on the timing of the most recent disturbance. Recently disturbed areas remain barren, while those that have been undisturbed for several years can support a cover of grasses and forbs. Older disturbed areas where groundwater is present support emergent marsh and riparian species (see Figure 4.3-1, “Revised Biological Communities”).

Aggregate mining along ADV results in excavating below the existing water table. As a result, groundwater from the surrounding area seeps into these pits. To prevent the active pits from ponding while mining is underway, the water is pumped to unused pits. Currently, quarrying is only occurring within the Lake B portion of the site. Water seeping into this pit is collected in a sump and pumped into a small pond at the western end of the main pit. Water in the pond is eventually pumped into one of the old quarry pits.

The pattern of flow in the ADV has changed since the Arroyo was dammed upstream in 1968. Releases from the Del Valle reservoir have resulted in year-round (perennial) flow and a reduction in the volume of flood flows. These changes have altered the character of the stream. The reduction in flood flows has reduced the historic meandering of the channel and left the bed in a more consistent configuration. The stability of the channel and the year-round availability of water has encouraged the establishment of willow and cottonwood at the expense of sycamores and buckeye.

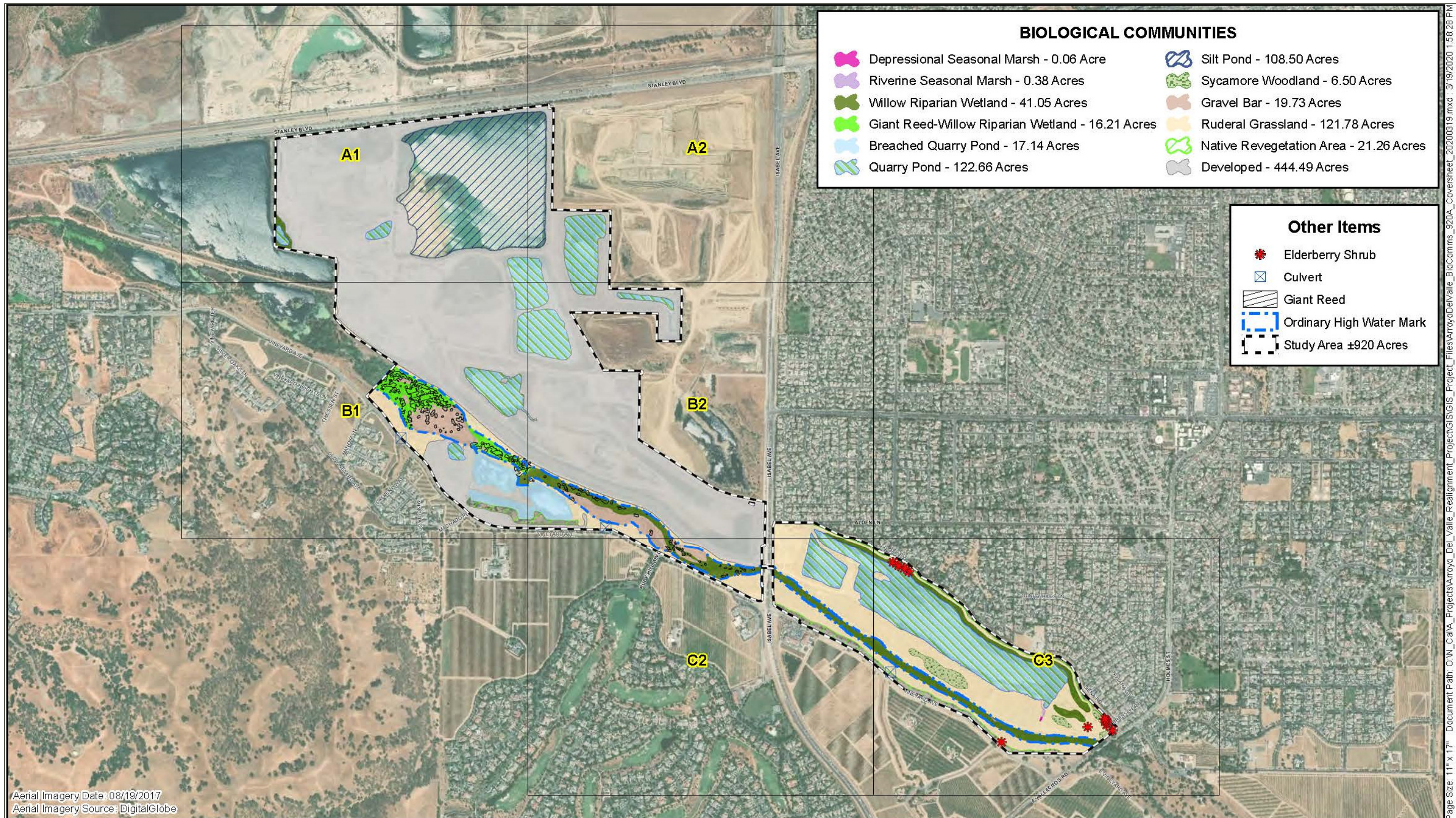
Previous mining activity has resulted in relocating and confining the ADV channel to the southern side of the plan area. The Lake A reach of the Arroyo was constructed by excavating a 6- to 10-foot-deep channel with 2:1 slopes with an approximately 120-foot-wide bed on the downstream side of Vallecitos Road. A weakly defined low-flow channel is present supporting recently established emergent and riparian vegetation. Few pools are in this reach and the creek largely sheet flows through this area.

The Lake B reach of the Arroyo flows through the southern edge of its historic floodplain. This reach was previously realigned to facilitate mining in the area. Depending on adjacent quarry activities, it is either confined to a single channel or a braided channel, particularly at its western end. The riparian species composition is more diverse and more mature in this reach and in places the trees have shaded out emergent species. This reach also contains significant stands of the invasive *Arundo* reed. The active channel along this reach contains pools that are occasionally more than 3 feet deep. These pools provide habitat for aquatic animals such as fish, turtles, and frogs.

#### **4.3.1.4 Biological Communities**

Twelve biological communities occur at the project site (see Figure 4.3-1 and Appendix D-2, Attachment A for greater detail). Historic and ongoing mining activities have reduced the habitat function and values of many of these communities. For example, the ADV has extensive expanses of exotic, invasive plant species within the Ordinary High-water Mark of the channel including common reed, giant reed, and pampas grass. The majority of the project site has been subject to disturbance associated with mining activities. Therefore, biological communities at the project site have been subject to various sources of disturbance over time.

Biological communities that occur at the project site include: riverine seasonal marsh, willow riparian wetland, gravel bar, ruderal grassland, giant reed-willow riparian wetland, breached quarry ponds, quarry ponds, native revegetation area, developed land depressional seasonal marsh, sycamore woodland, and silt pond. These communities provide habitat to a number of common species of wildlife and may provide suitable habitat for special-status plant and wildlife species.



SOURCE: Helix 2020b, BRA Addendum Attachment A, pg. 1; modified by Benchmark Resources in 2020.  
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The distribution of these communities on the project site is shown in Figure 4.3-1, and approximate acreages of each are listed below in Table 4.3-1, “Biological Communities and Acreages.”

**TABLE 4.3-1  
BIOLOGICAL COMMUNITIES AND ACREAGES<sup>1</sup>**

<b>Biological Community</b>	<b>Area on Site (acres)</b>
Breached Quarry Ponds	17.14
Depressional Seasonal Marsh	0.06
Developed	444.49
Giant Reed-Willow Riparian Wetland	16.21
Gravel Bar	19.73
Native Revegetation Area	21.26
Quarry Ponds	122.66
Riverine Seasonal Marsh	0.38
Ruderal Grassland	121.78
Silt Pond	108.50
Sycamore Woodland	6.50
Willow Riparian Wetland	41.05
<b>TOTAL APPROXIMATE ACRES</b>	<b>920</b>

Source: Helix 2020b

**Notes:**

1. Biological communities and acreages are based on Table 1 (page 5) of Helix 2020b.

Dominant vegetation observed within each biological community is discussed in detail below. A comprehensive list of plants observed at the project site is provided in Appendix D-2. The location and extent of each biological community are depicted in Figure 4.3-1, with additional detail provided in Attachment A of Appendix D-2 of this SEIR.

**Vegetation and Suitable Wildlife Habitat**

Vegetation in the upland portions of the site associated with the quarry varies from disturbed ruderal habitat to a grassland community. Riparian vegetation has developed within groundwater seeps on the floor of the active Lake B quarry. Vegetation along the ADV channel includes a mosaic of freshwater marsh and riparian woodlands. Furthermore, most wildlife species found on the project site occur within and along the ADV and the quarry pit ponds. The dry disturbed grasslands on the site provide limited habitat for a smaller number of wildlife species.

***Riverine Seasonal Marsh***

A total of 0.38 acres of riverine seasonal marsh were mapped at the project site. This acreage includes 0.09 acre of riverine seasonal marsh above the ordinary high water mark (OHWM) of the ADV and 0.29 acre of riverine seasonal marsh located within the OHWM. Marsh habitats provide habitat for numerous wildlife species including various amphibians and reptiles and provide potential foraging habitat for raptors. Vegetation within this community also provides potential nesting habitat for various bird species.

The aquatic resources delineation for the project site (HELIX 2020b) references 0.09 acre of this community because the remainder (0.29 acre) is located within the OHWM and thus included in the perennial stream classification (HELIX 2020a). This acreage also includes a re-categorization of areas



that were previously mapped by Foothill Associates as freshwater marsh. This biological community is comprised of common reed (*Phragmites australis*), cattails (*Typha* spp.), tall flatsedge (*Cyperus eragrostis*), and tule (*Schoenoplectus acutus* var. *occidentalis*).

### **Willow Riparian Wetland**

A total of 41.05 acres of willow riparian wetland were mapped at the project site. Of this 41.05 acres, 2.69 acres is located above the OHWM of the ADV and 38.36 acres is within the OHWM of the ADV. Riparian areas provide habitat for a variety of wildlife species including nesting birds, raptors, and numerous mammals. This biological community has the potential to support American badger as well as providing habitat for western pond turtles, and potentially California redlegged frog (CRLF) and California tiger salamander (CTS).

The 38.36 acres within the OHWM is included in the perennial stream classification in the aquatic resources delineation for the Project site (HELIX 2020b). The total acreage of this community was reduced, due to some previously mapped acreage of this community being re-categorized as giant reed-willow riparian wetland (see below). These riparian communities at the project site have been subject to disturbance from mining activities over time. The overstory is dominated by red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), Fremont's cottonwood *Populus fremontii* ssp. *fremontii*), white alder (*Alnus rhombifolia*), sandbar willow (*Salix exigua* var. *hindsiana*), and pampas grass (*Cortaderia jubata*). The understory is dominated by cattails, tall flatsedge, tule, Bigelow's sneezeweed (*Helenium bigelovii*), and watercress (*Nasturtium officinale*).

### **Gravel Bar**

A total of 19.73 acres of gravel bar were mapped at the project site. This entire biological community is within the OHWM of the ADV and is therefore included in the perennial stream classification in the aquatic resources delineation for the project site (HELIX 2020b). This community consists of sediment deposits of varying size gravel and some sand. These gravel bars have formed braided bars and cut banks within the OHWM of the ADV. Vegetation within this community is sparse and includes tall flatsedge, American water fern (*Azolla filiculoides*), and duckweed (*Lemna minor*). Gravel bars provide potential habitat for numerous amphibian and reptile species including CRLF and CTS, western spadefoot (*Spea hammondi*), and western pond turtle.

### **Ruderal Grassland**

A total of 121.78 acres of ruderal grassland were mapped at the project site. Ruderal grasslands are areas that have been disturbed by human activity. When vegetation is present, the areas are similar to non-native grasslands and include ripgut brome (*Bromus diandrus*), slender oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), and milk thistle (*Silybum marianum*). Some native species were also present within this biological community including coyote brush (*Baccharis pilularis*) and toyon (*Heteromeles arbutifolia*). Ruderal grasslands support numerous wildlife species including California ground squirrel (*Otospermophilus beecheyi*), black-tailed jackrabbit (*Lepus californicus*), coyote (*Canis latrans*), and provide foraging habitat for numerous raptors and nesting birds including, golden eagle, bald eagle, American peregrine falcon, red-tailed hawk (*Buteo jamaicensis*), and white-tailed kite. This community provides potential foraging and nesting habitat for burrowing owls, ground nesting birds, and marginal upland habitat for some amphibian species of concern. Additionally, this community has the potential to support San Joaquin whipsnake (*Masticophis flagellum ruddocki*).

Several small aquatic features occur within this biological community including 0.34 acre of intermittent stream, 0.09 acre of ephemeral drainage, 0.14 acre of seasonal excavated basin, 0.24 acre

of excavated basin, and 0.07 acre of percolation ponds. These small aquatic features are discussed in further detail in the aquatic resources delineation report (HELIX 2020b).

### **Giant Reed-Willow Riparian Wetland**

A total of 16.21 acres of giant reed-willow riparian wetland were mapped at the project site. This community lies entirely within the OHWM of the ADV and is included in the perennial stream classification in the aquatic resources delineation for the project site (HELIX 2020b). This biological community is dominated by invasive giant reed (*Arundo donax*) and willow (*Salix* spp.) trees, with interspersed pampas grass. These exotic species provide marginal habitat values. Portions of this community were previously mapped as willow riparian wetland but have been re-categorized based on field verification of the biological community composition with a significant composition of giant reed.

Riparian areas provide habitat for a variety of wildlife species including nesting birds, raptors, and numerous mammals. This biological community has the potential to support American badger as well as providing habitat for western pond turtles, and potentially CRLF and CTS.

### **Breached Quarry Ponds**

A total of 17.14 acres of breached quarry ponds were mapped at the project site south of the ADV by Lake B. This biological community was reassessed during the final evaluation of the project site and minor changes were made to boundary margins of these previously mapped features. These features are hydrologically connected to the ADV stream channel and receive flows directly from the ADV. Overstory vegetation surrounding these features include red, sand bar, and arroyo willow. Dominant understory vegetation in the centrally located breached ponds includes tall flatsedge, fennel (*Foeniculum vulgare*), Himalayan blackberry (*Rubus armeniacus*), and rough cocklebur (*Xanthium strumarium*). The northern breached quarry pond is dominated by overstory of cottonwoods and willows with steep banks dominated by coyote brush and non-native grasses.

Breached quarry ponds provide habitat for numerous wildlife species. A great horned owl (*Bubo virginianus*) was observed roosting in a cottonwood adjacent to the southern stream impoundment. A nesting colony of double-breasted cormorants (*Phalacrocorax auratus*) was observed on a willow riparian island surrounded by the northern feature within the project site. Additional species that have the potential to occur in this community include nesting birds and amphibian species.

### **Quarry Ponds**

A total of 122.66 acres of quarry ponds were mapped at the project site. This biological community was reassessed during the final evaluation of the expanded study area in the BRA Addendum (Appendix D-2), and minor changes were made to boundary margins of these previously mapped features. These man-made features are a result of aggregate mining activities. These mining pits are now used for water storage and supply for the active mining and processing operations. Dominant vegetation within riparian fringes of these features include red willow, and arroyo willow along the eastern portion of Quarry Pond A. Additionally, elderberry shrubs (*Sambucus nigra* ssp. *caerulea*) and white sage (*Salvia apiana*) line the margins of Quarry Pond A in the eastern portion of the project site.

Quarry ponds provide habitat for an array of wildlife species. Numerous waterfowl including ring-necked duck (*Aythya collaris*) and bufflehead were observed during the site visits. California scrub-jay (*Aphelocoma californica*), Anna's hummingbird (*Calypte anna*), American coot (*Fulica americana*), dark-eyed junco (*Junco hyemalis*), mourning dove (*Zenaida macroura*), and black phoebe (*Sayornis nigricans*) were also observed utilizing quarry ponds. The steep slopes of the ponds could potentially provide

nesting habitat for cliff-dwelling raptors such as American peregrine falcons and marginal roosting habitat for listed bat species including pallid bats (*Antrozous pallidus*) along with providing foraging habitat over the open water for other special-status bat species. However, cliff-dwelling raptors and bat species were not observed utilizing the slopes of the ponds during site visits.

### **Native Revegetation Areas**

A total of 21.26 acres of native revegetation areas were mapped at the project site. This biological community was reassessed during the final evaluation of the project site and minor changes were made to boundary margins. Native revegetation areas were previously barren or sparsely vegetated and have been planted with native species including coast live oak (*Quercus agrifolia*) and California buckeye (*Aesculus californica*). Some shrubs and herbaceous species have become naturalized in these areas, including toyon and elderberry. The herbaceous layer is dominated primarily by non-native grasses. Additionally, a portion of native revegetation area occupies the southeastern portion of the project site. This vegetation is comprised of valley oak (*Quercus lobata*), coast live oak, and occasionally northern California black walnut (*Juglans hindsii*), as well as California sycamore.

Native revegetation areas provide potential habitat for numerous wildlife species. Ground squirrel burrows were noted in this community and providing potential habitat for burrowing owls. Additionally, the understory grassland may provide habitat for the San Joaquin whipsnake.

### **Developed**

A total of 444.49 acres of developed areas were mapped at the project site. This biological community was reassessed during the final evaluation of the project site and minor changes were made to boundary margins. This area contains active quarry pits, developed roads, offices, mining stockpiles, and processing facilities. The substrate within the developed/mining area is highly disturbed and is composed of a mix of native and non-native soil types, often with a high proportion of gravel and cobbles. Vegetative cover is sparse and is dominated by non-native, often invasive grasses and forbs, and shrubs such as soft chess, foxtail chess (*Bromus madritensis*), ripgut brome, slim oat, and yellow star thistle (*Centaurea solstitialis*).

The developed areas support foraging, and marginal shelter habitat for several species of wildlife. A white-tailed kite (*Elanus leucurus*) was observed foraging near Silt Pond 1 (S-01) in the northeastern portion of the project site, and an American peregrine falcon (*Falco peregrinus anatum*) was observed foraging between Quarry Pond H (QP-H) in the northeastern portion of the project site.

### **Depressional Seasonal Marsh**

A total of 0.06 acre of depressional seasonal marsh was mapped at the project site. This biological community is above the OHWM of the ADV. This biological community contains similar vegetation as the riverine seasonal marsh community, and is comprised of common reed, cattails, tall flatsedge, and tule.

Marsh habitats provide habitat for numerous wildlife species including various amphibians and reptiles and provide potential foraging habitat for raptors. Vegetation within this community also provides potential nesting habitat for various bird species.

### **Sycamore Woodland**

A total of 6.50 acres of sycamore woodland were mapped at the project site. This community is comprised of patches of California sycamore and a mix of non-native grassland. The small, isolated patches of sycamores are in varying degrees of health with the majority of the trees being in poor

health. The understory of this community is comprised of non-native grasses and milk thistle. This community is associated with isolated remnant wetland features that appear to be located in the vicinity of previous alignments of the ADV. These areas are adjacent to developed areas and therefore subject to ongoing human disturbance.

Sycamore woodland provides habitat for numerous wildlife species. Trees in poor health that have trunk decay provide potential roosting habitat for numerous bat species including pallid bat and hoary bat (*Lasiurus cinereus*).

**Silt Pond**

A total of 108.50 acres of operational silt ponds were mapped at the project site. This actively managed manmade basin is part of ongoing quarry operations. Vegetation cover is moderate and dominated by nonnative grasses and forbs such as soft chess, riggut brome, and slim oat. Milk thistle and coyote brush line the steep slopes of the pond.

Silt ponds provide habitat for a variety of wildlife species. Numerous waterfowl were observed including western grebe (*Aechmophorus occidentalis*), ring-necked duck (*Aythya collaris*), and bufflehead (*Bucephala albeola*). Additionally, three western pond turtles (*Actinemys marmorata*) were observed in Silt Pond 1 (S-01) located in the northeastern section of the project site (Foothill Associates 2019).

**4.3.1.5 Project Site Wetlands and Waters of the United States**

The ADV is a naturally occurring drainage feeding into the Alameda Creek system. However, much of the ADV has been realigned through the project reach to facilitate mining in the area. This feature is regulated by United States Army Corps of Engineers (USACE) and the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) under the jurisdiction of the federal Clean Water Act (CWA) and Porter Cologne. The presence of a bed and bank means the Arroyo is also regulated by CDFW under Section 1600 of the Fish and Game Code. Aquatic resources were identified and delineated following the technical guidelines provided in the Corps of Engineers Wetlands Delineation Manual (USACE Manual) (Environmental Laboratory 1987, cited in Helix 2020b) and the USACE Arid West Regional Supplement (Regional Supplement) (USACE 2008b, cited in Helix 2020b). The Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Arid West Region. The jurisdictional boundaries for other waters of the U.S. were identified based on the presence of an OHWM as defined in 33 C.F.R. 328.3(c)(6).

A total of 318.98 acres of aquatic resources were delineated at the project site consisting of depressional seasonal marsh, riverine seasonal marsh, willow riparian wetland, intermittent streams, a perennial stream (ADV), ephemeral drainage, breached quarry ponds, seasonal excavated basin, quarry ponds, silt pond, percolation ponds, and excavated basin. Details for the delineated resources at the project site are provided in Table 4.3-2, “Potentially Jurisdictional Aquatic Resources Within the Project Area,” below.

**TABLE 4.3-2  
POTENTIALLY JURISDICTIONAL AQUATIC RESOURCES WITHIN THE PROJECT AREA**

Aquatic Resources Classification	Aquatic Resources Classification (Cowardin Code)	Aquatic Resources Size		Potentially Jurisdictional
		Acres	Linear Feet	
Depressional Seasonal Marsh	PEM	0.06	-	Yes
Riverine Seasonal Marsh	PEM	0.09	496	Yes

Aquatic Resources Classification	Aquatic Resources Classification (Cowardin Code)	Aquatic Resources Size		Potentially Jurisdictional
		Acres	Linear Feet	
Willow Riparian Wetland	PFO	2.69	1,410	Yes
Intermittent Stream	R4SB	0.34	597	Yes
Perennial Stream (ADV)	R2UB	66.96	13,275	Yes
Breached Quarry Pond	R2UB	17.14	-	Yes
Quarry Pond	L1UB	122.66		No
Silt Pond	L2UB	108.50		No
Percolation Pond	L2UB	0.07		No
Seasonal Excavated Basin	PEM	0.14	-	Yes
Excavated Basin	PUB	0.24		No
Ephemeral Drainage	R6	0.09	241	Yes <sup>1</sup>

Source: Helix 2020a, Table 1

**Notes:**

PEM = palustrine emergent

PFR = palustrine forested

1 = Not jurisdictional under the June 2020 Waters of the United States rule.

**4.3.1.6 Sensitive Habitats**

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, or Section 404 of the CWA. Based on CNDDDB queries, alkali meadow, alkali seep, cismontane alkali marsh, northern claypan vernal pool, valley needlegrass grassland, valley sink scrub, and California sycamore woodlands historically were known to occur in the vicinity of the project site. Of these sensitive habitats, only California sycamore woodland currently occurs at the project site. California sycamore woodland is listed as a sensitive plant community on the California Department of Fish and Wildlife Natural Communities List and is required to be considered in CEQA documents. In order for California sycamore woodlands to be considered a natural community, at least 30 percent of the relative cover in the tree canopy would need to be dominated by California sycamore. Salix species, or Fremont’s cottonwood (*Populus fremontii*) may be codominant (CNPS 2018). Although the sycamore woodland meets the criteria to be considered a sensitive community, it is very low quality due to small patch size, declining tree health, lack of supporting hydrology, and fragmented patches. Additional sensitive habitats at the project site include: potentially jurisdictional waters of the U.S. (seasonal wetlands, seasonal marshes, a perennial drainage, intermittent drainages, and willow riparian wetland habitats). The project site also contains native oak species that must be reviewed under CEQA and by Alameda County (Foothill Associates 2019).

The ADV in the Lake B reach is a highly degraded and disturbed system that hosts an abundance of non-native invasive species. Artificial stream impoundments are also present adjacent to the existing ADV channel in the Lake B reach, as a result of past mining excavations. An upstream dam and major hydrologic alterations within the channel and in adjacent areas have impacted stream flow, bank condition, flooding, and riparian vegetation from historical conditions in the ADV (see page 2 of Appendix B-1, “Proposed Reclamation Plan”).

The ADV, although highly degraded and disturbed as noted above, is a potential movement corridor for the Alameda whipsnake (striped racer) (*Masticophis lateralis euryxanthus*), the California red-legged frog (*Rana draytonii*), and the California tiger salamander (*Ambystoma californiense*).

### 4.3.1.7 Special-Status Plant Species

According to the records search, 65 special-status plant species have the potential to occur on or in the vicinity of the project site. Based on field observations and literature review, three special-status plant species were determined to have the potential to occur at the project site. No special-status plant species were considered to have a high potential to occur at the project site due to the high degree of ongoing disturbance caused by ongoing mining operations at the project site. The plant species that are considered to have a low potential to occur at the project site include Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), Mt. Diablo buckwheat (*Eriogonum truncatum*), and Mt. Diablo fairy-lantern (*Calochortus pulchellus*). See Table 4.3-3, "Special Status Plant Species Potentially Occurring on the Project Site," below.

**TABLE 4.3-3  
SPECIAL-STATUS PLANT SPECIES POTENTIALLY OCCURRING ON THE PROJECT SITE**

Species	Status*	Habitat Requirements	Potential to Occur on Site
<i>Centromadia parryi</i> (Greene) Greene ssp. <i>congdonii</i> (Rob. & Greenm.) B.G. Baldwin (Congdon's tarplant)	--; --; --; 1B	Annual herb found in valley and foothill grassland sometimes in alkaline soils from 0-230 meters (0-755 feet). Blooming period: May – October (November)	<b>Low;</b> the Ruderal grassland and native revegetation area at the project site provides marginal habitat for this species. The species was previously surveyed for at the project site with negative results. However, the age of the previous negative survey may require an updated survey to confirm absence given the presence of suitable habitat at the project site. Seven known occurrences within five miles of the project site have been noted (CDFW 2017).
<i>Eriogonum truncatum</i> (Mt. Diablo buckwheat)	--; --; --; 1B	Annual herb found on sandy soil in chaparral, coastal scrub, valley and foothill grassland from 3-350 meters (10-1,148 feet). Blooming period: April – September (November – December)	<b>Low;</b> the Northern Coastal Scrub located in the northern section of the project site may contain suitable habitat for this species as well as the Ruderal Grassland.
<i>Calochortus pulchellus</i> (Mt. Diablo fairy-lantern)	--; --; --; 1B	Perennial bulbiferous herb found in chaparral, cismontane woodland, riparian woodland, valley and foothill grassland, from 30-840 meters (98-2,755 feet). Blooming period: April – June	<b>Low;</b> the project site contains marginally suitable habitat for this species within the Ruderal grassland and Native Revegetation Area

Source: Foothill Associates 2019

**Notes:**

**\*Status:**

FE = Federally listed as endangered

CE = California state listed as endangered

List 1A = California Native Plant Society; plants presumed extinct in California

List 1B = California Native Plant Society; plants rare, threatened, or endangered in California and elsewhere

List 2 = California Native Plant Society; plants rare, threatened in California but more common elsewhere

**Congdon's Tarplant—California Rare Plant Rank 1B.1 (Plants Rare, Threatened, or Endangered in California and Elsewhere)**

This annual herb is rare throughout its range with the majority of its range located in California. Congdon's tarplant is in the Asteraceae family and blooms from May to November. This species is found in moderately alkaline to alkaline or saline soils in valley and foothill grasslands, at elevations from 0 to 230 meters (0 to 755 feet) (CNPS 2017, cited in Foothill Associates 2019). Seven occurrences are documented within five miles of the project site including the following locations: Camp Parks Reserve Forces Training Area (10,000 individuals reported in 2003) along Tassajara Road north of Livermore (4,000+ plants and 9,600 plants observed at two locations in 1998), east of Livermore along North Livermore Road (370,000 plants observed in 1998), and along the Contra Costa/Alameda County line along Collier Canyon Road (321,000 plants observed in 1998) (CDFW 2017). Focused surveys for this species were conducted at the project site in 2016 by WRA, Inc. with negative results (WRA 2016). In addition, the potential mapped habitat for this species in the East Alameda County Conservation Strategy (EACCS) does not overlap with the project site (ICF 2010). However, agencies consider focused plant surveys to be valid for generally two years. Therefore, based on the age of previous focused surveys for this species and the presence of marginally suitable habitat within the ruderal grassland and the native revegetation areas at the project site as well as the species' ability to colonize disturbed areas and the known CNDDDB records in the near vicinity of the project site, the potential for Congdon's tarplant to occur at the project site is considered low.

**Mt. Diablo Buckwheat—California Rare Plant Rank 1B.1**

Mt. Diablo buckwheat is an annual herb in the Polygonaceae family that blooms from April to September. This species is found in northern coastal scrub, valley grasslands, and chaparral, at an elevation from 3 to 350 meters (10 to 1,150 feet) (CNPS 2017, cited in Foothill Associates 2019). This species is known to occur in Alameda and Contra Costa counties. Mt. Diablo buckwheat is a small pink wildflower, believed to have been extinct since 1936 until its rediscovery in 2005. Although no occurrences have been recorded within a five-mile radius of the project site (CDFW 2017), the CNPS' estimated plant range for the species includes the project site (CNPS 2017, cited in Foothill Associates 2019). The northern coastal scrub and ruderal grassland at the project site provide potential habitat for this species. Based on the presence of marginally suitable habitat at the project site and the degree of ongoing disturbance at the project site, the potential for Mt. Diablo buckwheat to occur at the project site is considered low.

**Mt. Diablo Fairy-Lantern—California Rare Plant Rank 1B.1**

Mt. Diablo fairy-lantern is a perennial bulbiferous herb in the Liliaceae family that blooms from April to July. This species is found within valley grassland, foothill woodland, and chaparral at an elevation between 30 to 840 meters (98 to 2,755 feet). This species is known to occur in Alameda and Contra Costa counties. Mt. Diablo fairy-lantern produces bright yellow pendant flowers. Although no occurrences have been recorded within a five-mile radius of the project site, the CNPS' estimated plant range includes the project site (CNPS 2017). The ruderal grassland and native revegetation areas at the project site provide marginal potential habitat for this species. Based on the presence of marginally suitable habitat and the degree of ongoing disturbance at the project site, the potential for Mt. Diablo fairy-lantern to occur at the project site is considered low.

**4.3.1.8 Special-Status Fish Species**

The ADV historically supported a population of steelhead trout (*Oncorhynchus mykiss*). *Oncorhynchus mykiss* is unique in that individual fish develop differently depending on their environment. All trout

hatch in gravel-bottomed, fast-flowing, well-oxygenated rivers and streams. Those that stay in fresh water their entire lives are called rainbow trout. Those that migrate to the ocean and back are called steelhead, and they develop a much more pointed head, become more silvery in color, and typically grow much larger than the rainbow trout that remain in fresh water (Zone 7 2020).

However, over the course of the early- to mid-twentieth century, flood control structures and other barriers to fish migration downstream of the project site removed the potential for steelhead and other special-status fish species to occur at the project site (Hanson et al. 2004, cited in Foothill Associates 2019). Since 1999, more than a dozen agencies comprising the Alameda Creek Fisheries Restoration Workgroup have been working to provide fish passage, improve stream flows, and restore stream and riparian habitat along Alameda Creek and its tributaries, including the ADV. Furthermore, Zone 7 Water Agency (Zone 7) is planning for multiple fish passage projects in Arroyo Mocho, ADV, and Arroyo de la Laguna as part of their Stream Management Master Plan for flood protection and stream restoration in Livermore and Pleasanton (Alameda Creek Alliance 2020).

Plans are actively underway to remediate fish passage barriers in lower Alameda Creek and National Marine Fisheries Service (NMFS) anticipates that threatened Central California Coast steelhead could return to the upper Alameda Creek watershed by 2021. Construction has been completed on one fish ladder and construction was initiated in 2019 on a second fish ladder in lower Alameda Creek. The Alameda County Water District will complete construction on the second fish ladder in 2021, at which time listed CCC steelhead may be present in the project area. NMFS noted that ESA Section 7 consultation will be required for this project once steelhead access to the upper watershed has been restored in 2021 (Alameda County Water District 2020).

Essential Fish Habitat (EFH) was designated as part of the 1996 revisions to the federal Magnuson-Stevens Act which refined the focus of fish management by emphasizing the need to protect fish habitat. EFH is defined as “...those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” Until recently, the project area was presumed to not contain suitable aquatic habitat for coho salmon (*Oncorhynchus kisutch*), steelhead or other important or sensitive fish species due to the historic and ongoing disturbance to aquatic features within the project reach and downstream movement barriers that prevent fish from accessing the area. As barriers to fish passage are removed by Zone 7 and others, the potential for steelhead to be present during project activities in the ADV may exist (Hanson et al. 2004, as cited in Foothill Associates 2019). For this reason, if determined to be necessary, the applicant will be required to consult with the NMFS (pursuant to Section 7 of the Endangered Species Act) and potentially obtain an incidental take statement for work associated with the Lake A diversion structure and realignment of the ADV.

#### **4.3.1.9 Listed and Special-Status Wildlife**

According to the records search, 53 special-status wildlife species (including invertebrates) have the potential to occur onsite or in the vicinity of the project site. Based on field observations and literature review, 33 species were determined to have the potential to occur at the project site.

Species that are known to be present or that are considered to have a high potential to occur at the project site include bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), hoary bat (*Lasiurus cinereus*), pallid bat (*Antrozous pallidus*), Yuma myotis (*Myotis yumanensis*), western pond turtle (*Emys marmorata*), American peregrine falcon (*Falco peregrinus anatum*), great blue heron (*Ardea herodias*), prairie falcon (*Falco mexicanus*), and white-tailed kite (*Elanus leucurus*) (described below).



Species that are considered to have a low potential to occur at the project site include Alameda whipsnake (striped racer) (*Masticophis lateralis euryxanthus*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), California red-legged frog (*Rana draytonii*), California tiger salamander (*Ambystoma californiense*), tricolored blackbird (*Agelaius tricolor*), coast horned lizard (*Phrynosoma blainvillii*), San Joaquin whipsnake (*Masticophis flagellum ruddocki*), western spadefoot (*Spea hammondi*), grasshopper sparrow (*Ammodramus savannarum*), western burrowing owl (*Athene cunicularia*), California horned lark (*Eremophila alpestris actia*), Cooper's hawk (*Accipiter cooperii*), ferruginous hawk (*Buteo regalis*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), American badger (*Taxidea taxus*), Bridge's coast range shoulderband (*Helminthoglypta nickliniana bridgesi*), crotch bumble bee (*Bombus crotchii*), curved-foot hygrotus diving beetle (*Hygrotus curvipes*), obscure bumble bee (*Bombus caliginosus*), and western bumble bee (*Bombus occidentalis*). See Table 4.3-4, "Special-Status Wildlife Species Potentially Occurring on the Project Site," below.

The species with high potential for occurrence are discussed below.

#### **Bald Eagle—State Endangered, Bald and Golden Eagle Protection Act**

Bald eagles winter throughout most of California near lakes, reservoirs, river systems, and some rangelands and coastal wetlands. The breeding range is mostly restricted to mountainous habitats near reservoirs, lakes, and rivers, primarily in the northern two-thirds of the State. Nests are large, typically between 5 to 6 feet in diameter and 2 to 4 feet tall. Nests are typically built in large, old-growth trees with open branch work, especially ponderosa pine (CDFW 2017). The bald eagle diet consists mainly of fish, but it will eat a wide variety of foods depending on what is available. They will eat waterfowl, reptiles, amphibians, invertebrates, small mammals, and sometimes carrion. The nearest CNDDDB occurrence of this species is located approximately 5.5 miles southeast of the project site near Lake Del Valle Reservoir (CDFW 2017). However, bald eagles are also known to occur in Anthony Chabot Regional Park, approximately 15 miles northeast of the project site (SFPUC 2020), and the San Francisco Public Utility Commission's watershed lands in the southern portion of the County, which includes the San Antonio Reservoir, approximately 4.4 miles south of the project site (EBRPD 2020). The project site contains quarry ponds and silt ponds that provide foraging habitat and large trees that could support a nesting pair within the willow riparian wetland, breached quarry pond and, native revegetation area. This species was not observed at the project site or in the vicinity during the field surveys. However, it was observed in 2016 foraging within Shadow Cliffs Lake immediately adjacent to the project site during previous site visits. Due to the suitable habitat found at the project site and the known occurrences of this species in the vicinity of the project site, the potential for bald eagles to occur at the project site is considered high.

#### **Golden Eagle—California Fully Protected, Bald and Golden Eagle Protection Act**

The golden eagle is found in grasslands, forested habitat and woodland. This species preys mostly on small reptiles, birds, and mammals up to the size of mule deer fawns and coyote pups. They build nests on cliffs or in large trees. The ruderal grassland provides marginal foraging habitat and large trees at the project site provide suitable nesting habitat.

The nearest CNDDDB occurrence is 3.5 miles south of the project site (CDFW 2017), and the species is known to nest in the region. This species was not observed at the project site or in the vicinity during the field surveys. However, due to the suitable habitat found at the project site and the known occurrences of this species in the vicinity, the potential for golden eagle to occur at the project site is considered high.

**TABLE 4.3-4  
SPECIAL-STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING ON THE PROJECT SITE**

Species	Status*	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence on Site
<b>INVERTEBRATES</b>				
<i>Desmocerus californicus</i> <i>Dimorphus</i> (Valley elderberry longhorn Beetle)	FT: --; --: --	Elderberry shrubs usually associated with riparian areas.	Adults emerge in spring until June. Exit holes visible year-round.	<b>Low;</b> elderberry shrubs are located at the project site along the margins of Quarry Pond A; and on the southern section of the Ruderal Grassland, however, no CNDDDB occurrences have been documented within a 5-mile radius of the project site nor were any exit holes observed within elderberry shrubs during the fall 2017 and April 2018 site visits.
<b>FISH</b>				
<i>Oncorhynchus mykiss irideus</i> (Central California coast steelhead)	FT; --; --; --	Dependent on estuaries at the mouths of rivers and streams, this species' distribution is located below natural and manmade barriers on stream from the Russian River in the north to Aptos Creek in the south.	Spawn in winter and spring.	<b>None;</b> (at the time of study); the project site currently lacks suitable habitat for this species. Downstream barriers prevent this species from occurring in the Study Area. However, as these barriers are removed the potential for this species to occur may exist.
<b>AMPHIBIANS/REPTILES</b>				
<i>Masticophis lateralis euryxanthus</i> (Alameda whipsnake /striped racer)	FT; CSC; --; --	Found in chaparral foothills, shrublands with scattered grassy patches, rock canyons and watercourses, and within adjacent habitats. When inactive they are under cover or underground. Known to occur from Alameda, Contra Costa, San Joaquin, and Santa Clara counties. The population in Stanislaus County is extirpated or possibly extirpated.	Breeding: Spring Eggs laid: May—July Eggs hatch: August—October	<b>Low;</b> the project site contains marginally suitable habitat for this species. Degree of historical and ongoing disturbance at the project site reduces the likelihood for this species to occur. The EACCS does not include the project site as containing suitable habitat for this species. Twenty-one known occurrences within five miles of the project site have been noted (CDFW 2017).
<i>Rana draytonii</i> (California red-legged frog)	FT; CSC; -- ; --	Requires a permanent water source and is typically found along quiet, slow-moving streams, ponds, or marsh communities with emergent vegetation. Breeding sites are in aquatic habitats including pools and backwaters within streams and creeks, ponds, marshes, springs, sag ponds, dune ponds and lagoons from 0 to 1,500 meters.	Breeding: November—March Non-breeding: June—August	<b>Low;</b> the project site contains marginal aquatic habitat within the willow riparian wetland and highly disturbed upland habitat within the ruderal grassland and native revegetation area. Thirty-two known occurrences within five miles of the project site have been noted (CDFW 2017).

Species	Status*	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence on Site
		Additionally, frequently breed in artificial impoundments such as stock ponds. Typically found in or within 300 feet of aquatic habitat, but may disperse up to two miles between suitable aquatic habitat. Elevational range extends from sea level to about 1,500 meters, but typically occur below 1,200 meters.		
<i>Ambystoma californiense</i> (California tiger salamander, Central Population)	FT; CT; -- ;--	Found in grassland, oak savannah, edges of mixed woodland, and lower elevation coniferous forest. Breeds in temporary ponds that form during winter and may dry out in summer. During the summer, adults spend time underground in small mammal burrows. Known range from Alameda, Butte, Contra Costa, Fresno, Glenn, Kern, Madera, Merced, Monterey, Fresno, San Benito, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Solano, Sonoma, Stanislaus, Tulare, and Yolo counties.	Drift fence studies during fall and winter for upland habitats.  Adults: November—February  Larvae: March 15—May 15	<b>Low</b> ; the project site contains marginal suitable aquatic habitat within the willow riparian wetland and highly disturbed upland habitat within the Ruderal grassland and native revegetation area. The disturbed nature of these communities and the artificial hydrology associated with the aquatic features reduce the likelihood of this species to occur. Sixty-five known occurrences within five miles of the project site have been noted (CDFW 2017).
<i>Phrynosoma blainvillii</i> (Coast horned lizard)	--; CSC; --; --	Inhabits open areas of sandy soils and low vegetation in valleys, foothills, and semiarid mountains. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose sandy soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills.	Year-round (excluding extended periods of low temperatures or extreme heat).	<b>Low</b> ; the project site contains some suitable habitat for this species within the Willow Riparian Wetland and ruderal grassland communities in and adjacent to the ADV.
<i>Masticophis flagellum ruddocki</i> (San Joaquin whipsnake)	--; CSC; --; --	Found in valley grassland and saltbush scrub in the San Joaquin Valley in open, dry habitats with little or no tree cover. Requires mammal burrows for refuge and breeding sites.	Year-round.	<b>Low</b> ; this species has a wide habitat range and has been observed six miles east of the project site. Ruderal grassland and the native revegetation area located at the project site provides marginal habitat for this species. The ongoing and historical level of disturbance reduces the potential for this species to occur.

Species	Status*	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence on Site
<i>Emys marmorata</i> (Western pond turtle)	--; CSC; --; --	Typically associated with permanent ponds, lakes, streams, irrigation ditches and canals, and marshes, or pools in intermittent drainages, usually lined with abundant vegetation and either rocky or muddy bottom substrates. Requires aquatic basking sites, such as logs, rocks, cattail mats or exposed banks. Turtles are active from February to November, in which breeding occurs from April to May. Overwintering occurs in upland terrestrial habitats close to water sources (approximately 300 feet), in which they will bury themselves under loose soil.	Active: February—November	<b>Present;</b> the species was observed in a pond the northeast section of the project site during the fall 2017 site visit as well as in 2013 by LSA Associates, Inc. (Alameda County Resource Conservation District 2015, LSA Associates, Inc. 2013). Additionally, the riparian woodland at the project site provides suitable aestivation habitat and the perennial drainage provides breeding habitat for this species. Four CNDDB occurrences are documented within five miles of the project site (CDFW 2017).
<i>Spea hammondi</i> (Western spadefoot)	--; CSC; --; --	Found in open grasslands and woodlands. Breeds in seasonal ponds and vernal pools.	Year-round.	<b>Low;</b> the margins of the willow riparian wetland, marsh, and gravel bar located at the project site provide marginal breeding habitat for this species. The ruderal grassland and native revegetation area provide marginal upland habitat. Level of disturbance reduces potential for this species to occur).
<b>BIRDS</b>				
<i>Haliaeetus leucocephalus</i> (Bald eagle)	FD; CE; --; --	Breeding habitat most commonly includes areas within 2.5 miles (4.0 kilometers) of coastal areas, bays, rivers, lakes, and reservoirs. Nests usually are in tall trees or on pinnacles or cliffs near water.	Year-round	<b>High;</b> the species has been observed foraging within project site (WRA 2016) and documented numerous times within Shadow Cliffs Lake immediately adjacent to the project site. Ruderal Grassland, Silt Ponds, Quarry Ponds, Willow Riparian Wetlands, Breached Quarry Ponds, Native Revegetation Area, Sycamore Woodland, Marsh, Northern Scrub, and Intermittent Stream provide foraging habitat for bald eagle at the project site. Additionally, large trees located in the Willow riparian wetland and Native revegetation area provide potential nesting habitat for the species
<i>Aquila chrysaetos</i> (Golden eagle)	--; CFP; --; -- (nesting and wintering)	Open and semi-open areas in the mountains up to 12,000 feet in elevation. They are also found in canyon lands, rimrock, terrain, and riverside cliffs and	Year-round	<b>High;</b> this species has been observed foraging numerous times in Shadow Cliffs Lake, which is located immediately adjacent to the project site (eBird 2017). Trees located throughout the project site provide

Species	Status*	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence on Site
		bluffs. Nest are built on cliffs and steep escarpments in grassland, in trees, chaparral, shrubland, forests and man-made structures within vegetated areas..		potential nesting habitat. The nearest CNDDB occurrence is 3.5 miles south of the project site (CDFW 2017). The oak trees and sycamore woodland at the project site provide nesting habitat for this species.
<i>Agelaius tricolor</i> (nesting colonies) (tricolored blackbird)	--; CE; CSA; --	Breeding habitat is freshwater marshes that include cattails, tules, bulrushes and sedges. Nests are made in the dense vegetation of the marsh or thickets, and sometimes on the ground. In migration and winter, will inhabit open cultivated lands and pastures as well as marshes..	Year-round	<b>Low;</b> vegetation in and adjacent to the willow riparian wetland provides some suitable nesting habitat. The degree of historical and ongoing disturbance within the ruderal grassland reduces the suitability of foraging habitat which reduces the likelihood for this species to occur. Five known occurrences within five miles of the project site have been noted (CDFW 2017).
<i>Falco peregrinus anatum</i> (Peregrine falcon)	FSC; CFP; --; --	Found in a wide variety of habitats from open country, cliffs (mountains to coast), tundra, desert, and sometimes in cities. Is found often near water, especially along the coast, and migrants may fly far out to sea. Nests are typically situated on ledges of vertical rocky cliffs commonly with shelter overhang; however, locally, tundra mounds, open bogs, large stick nests of other species and man-made structures (ledges of city buildings) are also used.	Year-round (some migrate)	<b>Present;</b> this species was observed during the fall 2017 site visits foraging in the northeast section of the project site. The steep banks of the quarry ponds and the oak trees and sycamore woodlands provide suitable nesting habitat for this species.
<i>Ammodramus savannarum</i> (Grasshopper sparrow)	--; CSC; --; --	Breeding range occurs in portions of western California, including most coastal counties south to extreme northwest Baja California (where resident). Also, the western Sacramento Valley and along the western edge of the Sierra Nevada. Wintering range is extreme Southern California and Baja.	Breeding: Summer	<b>Low;</b> the project site provides potentially suitable foraging habitat for this species within the ruderal grassland and native revegetation area located at the project site. The level of ongoing and historic disturbance at the project site reduces the potential for this species to occur.
<i>Athene cunicularia</i> (burrowing owl)	--; CSC; --; -- (burrowing sites and some wintering sites)	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat. The burrows are found in dry, level, open terrain, including prairie, plains, desert, and grassland with low	Year-round	<b>Low;</b> suitable ground squirrel burrows were observed at the project site during the fall 2017 site visits, and the project site provides potentially suitable foraging habitat for this species. Level of ongoing disturbance at the project site reduces the potential for this species to occur. Fourteen occurrences are documented within

Species	Status*	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence on Site
		height vegetation for foraging and available perches, such as fences, utility poles, posts, or raised rodent mounds.		five miles of the project site (CDFW 2017).
<i>Eremophila alpestris actia</i> (California horned lark)	--; CSA; --; --	Found in open areas dominated by sparse vegetation or widely scattered low shrubs. Nests in hollow on ground often. Year-round.	Year-round	<b>Low</b> ; the ruderal grassland and native revegetation area located throughout the project site provides breeding, nesting, and foraging habitat. The level of historic and ongoing disturbance at the project site reduces potential for this species to occur.
<i>Accipiter cooperii</i> (Cooper's hawk)	--; CSA; --; --	Found in mature forests, open woodlands, woodland edges, and river groves. Nesting occurs in coniferous, deciduous and mixed woodlands that have tall trees with openings or edge habitat nearby. Can also be found in trees along rivers through open country, and in suburbs and cities. Overwintering usually occurs in fairly open country..	Year-round	<b>Low</b> ; various habitats located throughout and adjacent to the project site provide breeding, nesting, and foraging habitat for this species. Level of disturbance reduces potential for this species to occur.
<i>Buteo regalis</i> (Ferruginous hawk)	--; CSC; --; --	Frequents open habitats including grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys and fringes of pinyon-juniper habitats. Preys on rodents and other vertebrates. Winter.	Winter	<b>Low</b> ; ruderal grassland habitat located at the project site provide moderate foraging habitat. The level of historic and ongoing disturbance at the project site reduces potential for this species to occur. One occurrence is documented within five miles of the project site (CDFW 2017).
<i>Ardea herodias</i> (Great blue heron)	--; CSA; --; --	Inhabits both freshwater and saltwater habitats and forages in grassland and agricultural fields. Breeding colonies are located within two to four miles of feeding areas, often in isolated swamps or on islands, and near lakes and ponds bordered by forests..	Year-round	<b>Present</b> ; numerous observations were made at the project site during the 2017 site visit. A rookery site present immediately to the west of project site.
<i>Lanius ludovicianus</i> (Loggerhead shrike)	--; CSC; --; --	Found in grasslands, semi-open terrain, woodland clearing or desert with scattered shrubs. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting..	Year-round	<b>Low</b> ; dense vegetation along the ADV may provide suitable nesting habitat for this species. Level of disturbance reduces potential for his species to occur. One known occurrence within five miles of the project site has been noted (CDFW 2017).

Species	Status*	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence on Site
<i>Circus cyaneus</i> (Northern harrier)	--; CSA; --; --	Found in coastal scrub, Great Basin grassland, marshes and swamps, riparian scrub, valley and foothill grassland, wetlands. Nests and forages in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation usually at marsh edge; nests built of a large mound of sticks in wet areas..	Year-round	<b>Low</b> ; Ruderal Grassland habitat located at the project site provides moderately suitable foraging habitat. The willow riparian wetland habitat provides nesting habitat.
<i>Falco mexicanus</i> (Prairie falcon)	--; CSA; --; --	Inhabits dry, open terrain, including deserts and grasslands and well as open spaces past treeline.	Wintering	<b>High</b> ; upland habitat located throughout the project site provides foraging habitat for this species. Two occurrences are documented within five miles of the project site (CDFW 2017).
<i>Accipiter striatus</i> (Sharp-shinned hawk)	--; CSA; --; --	The smallest hawk in North America found in mature forests and woodland edges. Nesting occurs in conifers and hardwood trees under dense canopy cover.	Year-round	<b>Low</b> ; the project site lacks preferred habitats for this species, but there are some woodland edges that potentially would support nesting habitat for this species.
<i>Elanus leucurus</i> (White-tailed kite)	--; CFP; --; -- (nesting)	Inhabits savanna, open woodlands, marshes, desert grassland, partially cleared lands and cultivated fields. Nests in trees, often near a marsh in savanna, open woodland, partially cleared lands, and cultivated fields. Foraging occurs within ungrazed or lightly-grazed fields and pastures.	Year-round	<b>Present</b> ; this species was observed in the northern portion of the project site during the fall 2017 site visit.
<b>MAMMALS</b>				
<i>Taxidea taxus</i> (American badger)	--; CSC; --; --	Found in a variety of grasslands, shrublands, and open woodlands throughout California.	Year-round	<b>Low</b> ; Suitable grassland habitat for this species is located in portions of the project site. However, no signs of badger were observed during the fall 2017 site visits. Additionally, the project site is surrounded on all sides by mining operations, highways, and/or suburban development, rendering the site unlikely to be colonized. Two occurrences are documented within five miles of the project site. (CDFW 2017).

Species	Status*	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence on Site
<i>Lasiurus cinereus</i> (Hoary bat)	--; CSA; --; --	Found in broadleaf upland forest, woodland, lower montane coniferous forest, and north coast coniferous forest. Roosts in dense foliage of medium to large trees.	Year-round	<b>High;</b> trees within the riparian woodland and disturbed/developed areas at the project site provide suitable roosting habitat for this species. One occurrence is documented within five miles of the project site (CDFW 2017).
<i>Antrozous pallidus</i> (Pallid bat)	--; CSC; --; --	Found in arid and semi-arid locations in low elevation areas in California. Can be found in grasslands, shrublands, woodlands and mixed conifer forests near water. Although most common habitats occur in open, dry habitats with rocky areas for roosting. Three types of roosting habitats include (1) day roosts occur in warm, horizontal openings such as attics or rock cracks; (2) night roosts occur in the open, near foliage; and (3) hibernation roosts, which occur in buildings, cracks in rocks, or caves. This species is very sensitive to disturbance.	Year-round	<b>High;</b> trees within the riparian woodland and disturbed/developed areas at the project site provide suitable roosting habitat, this species is very sensitive to human disturbance. Three occurrences are documented within five miles of the project site (CDFW 2017).
<i>Myotis yumanensis</i> (Yuma myotis)	--; CSA; --; --	Found in a variety of habitats throughout the state, typically closely associated with open water. Roost in caves, attics, buildings, mines, and underneath bridges. Forage over open water or open land.	Spring – Fall	<b>High;</b> the project site provides adequate foraging habitat; however, roosting habitat is limited.

**Source:** Foothill Associates 2018

**Notes:** This table is based on Tables 1, 2, and 3 of the Biological Resources Assessment (Appendix D-1 of this SEIR). Species with no potential to occur on the project site were not included in Table 4.3-2, but they are listed in the summary above and in Tables 1, 2, and 3 of Appendix D-1.

**\*Status:**

1B = Plants rare, threatened, or endangered in California and elsewhere

FD = Federal delisted

FSC = Federal Species of Concern

FT = Federal threatened

CE = California state endangered

CFP = California Fully Protected

CSA = California Special Animals list

CSC = California Species of Special Concern

CT = California state threatened



***Special-Status Bat Species***

Three special-status bat species have the potential to occur at the project site: hoary bat, pallid bat, and Yuma myotis.

Hoary bats are found in many habitats suitable for bearing young, which include all woodlands and forests with medium to large-size trees and dense foliage. Preferred roost sites are hidden from above, with few branches below, and have ground cover with low reflectivity. The native revegetation area and sycamore woodland at the project site provide suitable roosting habitat for the hoary bat and the ruderal grassland provides suitable foraging habitat. One CNDDDB occurrence for this species is located within five miles of the project site (CDFW 2017).

Pallid bats roost in rock crevices and caves and occasionally hollow trees and buildings and forage over open ground. The native revegetation area, sycamore woodland, silt and quarry ponds, and ruderal grasslands at the project site may provide suitable roosting and foraging habitat. There are three known occurrences in the CNDDDB within five miles of the project site (CDFW 2017).

Yuma myotis roost in caves, tunnels, or buildings and may occasionally be found under bridges and they generally forage over open water. The silt and quarry ponds may provide suitable foraging habitat. There is one known occurrence in the CNDDDB within five miles of the project site (CDFW 2017). Therefore, there is a high potential for special-status bat species to occur at the project site.

***Western Pond Turtle—California Species of Special Concern***

Western pond turtles occur in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with suitable basking sites (Californiaherps 2017, cited in Foothill Associates 2019). Suitable aquatic habitat typically has a muddy or rocky bottom and has emergent aquatic vegetation for cover (Stebbins 2003). Western pond turtles nest and overwinter in areas of sparse vegetation comprised of grassland and forbs.

There are four CNDDDB records for this species within five miles of the project site (CDFW 2017). Three adult western pond turtles were observed in Silt Pond 1 (S-01) during the November 1 and 2, 2017 site visits. The silt ponds, quarry ponds, and perennial drainage all provide suitable aquatic habitat and the willow riparian wetland, freshwater marsh, gravel bars, and ruderal grassland provide suitable upland habitat for this species. This species is assumed to be present within suitable habitat at the project site.

***American Peregrine Falcon—California Fully Protected***

American peregrine falcon occurs in landscapes with cliffs or skyscrapers for nest sites. They can be found nesting at elevations up to about 12,000 feet, as well as along rivers and coastlines or in cities. In migration and winter, peregrine falcons are found in nearly any open habitat, but with a greater likelihood along barrier islands, mudflats, coastlines, lake edges, and mountain chains. Falcons nest in tall structures, cliffs, and forage for shore birds or waterfowl. Peregrine falcons typically nest on cliffs faces from 25 to 1,300 feet above MSL. Other nesting locations include quarries, silos, and tall man-made structures.

An American peregrine falcon was observed foraging along the dirt road between Quarry Pond H (QP-H) and Silt Pond 1 (S-01) during the November 2, 2017 site visit. The project site provides foraging and nesting habitat for this species. This species is assumed to be present at the project site.

### **White-Tailed Kite—California Fully Protected**

White-tailed kite is a year-long resident in coastal and valley lowlands in California. White-tailed kites breed from February to October, peaking from May to August (Zeiner et al. 1990, cited in Foothill Associates 2019). This species nests near the top of dense oaks, willows, or other large trees.

One white-tailed kite was observed foraging adjacent to Silt Pond 1 (S-01) at the project site on November 2, 2017. A photo of this species taken on site is located in Appendix C of the BRA (Appendix D-1 of this SEIR). Therefore, this species is assumed to be present at the project site.

### **Nesting Birds and Raptors**

The nests of raptors and most other birds are protected under the Migratory Bird Treaty Act. Raptors are also protected by Section 3503.5 of the California Fish and Game Code, which makes it illegal to destroy any active raptor nest. Additionally, the USFWS and CDFW identified a number of avian species of conservation concern that do not have specific statutory protection. Avian species forage and nest in a variety of habitats throughout Alameda County. The ruderal grassland, sycamore woodland, native revegetation area, willow riparian wetland, freshwater marsh, and northern coastal scrub on and surrounding the project site may provide nesting and foraging habitat for raptors and other protected birds, including: prairie falcon (*Falco mexicanus*) and great blue heron (*Ardea herodias*). Raptors and other protected migratory birds have a high potential to occur at the project site (Foothill Associates 2019).

## **4.3.2 Regulatory Setting**

The following sections discuss federal, State, and local regulations pertaining to biological resources that warrant consideration during the environmental review of the project.

### **4.3.2.1 Federal**

#### **Federal Endangered Species Act**

The FESA (16 USC 1531-1544) provides protection for federally listed endangered and threatened species and their habitats. An “endangered” species is a species in danger of extinction throughout all or a significant portion of its range. A “threatened” species is one that is likely to become endangered in the foreseeable future throughout all or a significant portion of its range. Other special-status species include proposed species and species of concern. Proposed species are those that have been officially proposed (in the *Federal Register*) for listing as threatened or endangered. Species of concern are species for which not enough scientific information has been gathered to support a listing proposal, but still may be appropriate for listing in the future after further study. A delisted species is one whose population has reached its recovery goal and is no longer in jeopardy. The USFWS administers the FESA. A project may obtain permission to take federally listed species in one of two ways: (1) a Section 10 Habitat Conservation Plan (HCP) issued to a private party; or (2) a Section 7 Biological Opinion (BO) from the USFWS or the National Oceanic and Atmospheric Administration (NOAA) issued to another federal agency that funds or permits an action (such as the USACE issuance of a permit under CWA Section 404). Under either section of the ESA, adverse impacts to federally listed species must be avoided, minimized, or mitigated to the satisfaction of the USFWS and/or NOAA.

#### **Bald and Golden Eagle Protection Act**

The Bald and Golden Eagle Protection Act (16 USC 668-668D, 54 Stat. 250) prohibits the take, possession, sale, or transport of bald eagles and golden eagles and their parts, eggs, or nests without a permit issued by the USFWS.

### **Migratory Bird Treaty Act**

Raptors (birds of prey), passerine birds, and other migratory avian species are protected by a number of state and federal laws. The Migratory Bird Treaty Act (16 USC 703-712) establishes special protection for migratory birds by regulating hunting or trade in migratory birds. Furthermore, this Act prohibits anyone to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Section 10.13, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR Part 21). The definition of “take” includes any disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young), and such activity is potentially punishable by fines and/or imprisonment.

### **Clean Water Act (Section 404/401 Jurisdiction)**

The USACE regulates discharge of dredged or fill material into waters of the United States under Section 404 of the federal CWA (33 USC 1251–1376). “Discharge of fill material” is defined as the addition of fill material into waters of the United States, including, but not limited to, the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines (33 CFR Section 323.2[f]). In addition, Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and state water quality standards.

Waters of the United States include a range of wet environments such as lakes, rivers, streams (including some intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. The USACE typically considers USGS 7.5-minute quadrangle map “blue line” drainages to be jurisdictional waters. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of water is present. Methods for delineating wetlands and nontidal waters are described below.

- Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR Section 328.3[b]). Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the “normal circumstances” for the site.
- The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (33 CFR Section 328.4[c][1]). The ordinary high water mark is defined by the USACE as “that line on shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (33 CFR Section 328.3[e]). The Clean Water Act regulations were just revised in June 2020, and may be revised again in the next 1-2 years.

#### **4.3.2.2 State**

##### **California Endangered Species Act**

Similar to the ESA, the CESA (California Fish and Game Code Sections 2050–2116), along with the Native Plant Protection Act (Fish and Game Code Sections 1900–1913), authorizes the California Fish and Game Commission to designate, protect, and regulate the taking of special-status species in California. CESA defines “endangered” as those species which are “in serious danger of becoming extinct throughout all, or a significant portion, of its range....” (Fish and Game Code Section 2062). Species State-listed as threatened are those not presently threatened with extinction, but which are “likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts....” (Fish and Game Code Section 2067).

Section 2080 of the Fish and Game Code prohibits the taking of State-listed plants and animals. Any projects that may adversely affect species that are State listed as threatened or endangered or candidate species must formally consult with CDFW. CDFW can issue incidental take permits under Section 2081 of CESA. The County’s approval of the project does not eliminate the applicant’s obligation to comply with Fish and Game Code Section 2080. In other words, compliance with CESA does not automatically occur based on the County’s approvals or the completion of CEQA. Before and during implementation of the project, consultation with CDFW is required to ensure that project implementation does not result in unauthorized “take” of a State-listed species.

##### **CDFW Species of Concern**

In addition to species formally listed under the ESA and CESA, species of special concern receive consideration by CDFW and local lead agencies during the CEQA process. Species that may be considered for review are included on a list of species of special concern, developed by CDFW. It tracks species in California whose breeding populations in California may be decreasing or face local extirpation. To avoid the future need to list these species as endangered or threatened, CDFW recommends consideration of these species, which do not as yet have any legal status, during analysis of the impacts of projects.

##### **Lake or Streambed Alteration**

Under Section 1602 of the California Fish and Game Code, a private party must notify CDFW if a project will “substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.” If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures to protect those resources. If these measures are agreeable to the party, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

##### **Executive Order W-59-93**

California Executive Order W-59-93 (Order), signed by Governor Pete Wilson in 1993, along with implementing regulations and a draft wetlands policy, prescribes an overall state goal of no net loss of wetlands. The Order states the following three objectives for the State of California’s comprehensive wetlands policy:

1. To ensure no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
2. To reduce procedural complexity in the administration of State and Federal wetlands conservation programs.
3. To encourage partnerships to make restoration, landowner incentive programs, and cooperative planning efforts the primary focus on wetlands conversation.

The Order directs that all agencies of the state shall conduct their activities consistent with their existing authorities, in accordance with these three objectives.

### **Porter-Cologne Water Quality Control Act**

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) [Section 13000 et seq.] was enacted to establish a regulatory program to protect water quality and beneficial uses of all waters of the State of California. It created the State Water Resources Control Board (SWRCB) and nine RWQCBs to plan, implement, manage, and enforce water quality protection and management. The RWQCBs are empowered by the Porter-Cologne Water Quality Control Act to require compliance with State and local water quality standards. The project site is located within the SFBRWQCB and is regulated by the SFBRWQCB. The National Pollutant Discharge Elimination System (NPDES) permitting program is administered by the SWRCB. To obtain a NPDES permit under the General Permit for stormwater, applicants must prepare and submit a notice of intent with the SWRCB and development of a stormwater pollution prevention plan (SWPPP) and monitoring program that incorporates applicable BMPs.

### **401 Water Quality Certification and Wetlands Program**

The 401 Water Quality Certification and Wetlands Program is responsible for regulating discharges of dredged or fill material to waters of the state. The SWRCB and the RWQCBs have the authority to regulate these discharges under section 401 of the CWA and the Porter-Cologne Water Quality Control Act (Porter-Cologne), described above.

### **State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State**

On April 2, 2019, the State Water Board adopted the State Wetland Definition and Procedures for the Discharge of Dredged or Fill Material to Waters of the State (Procedures). The Procedures consist of four major elements: 1) a wetland definition; 2) a framework for determining if a feature that meets the wetland definition is a water of the state; 3) wetland delineation procedures; and 4) procedures for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities. The Procedures became effective May 28, 2020. Applicants proposing to discharge dredged or fill material into waters of the state are required to comply with the Procedures unless an exclusion applies, or the discharge qualifies for coverage under a General Order.

On December 18, 2020, the Sacramento Superior Court issued a decision that prohibited the State Water Resources Control Board (“SWRCB”) from implementing California’s new wetlands and “waters of the state” protection program, and limited SWRCB’s application of the regulatory program to only waters already protected under the federal Clean Water Act..

## Waste Discharge Requirements Program

Waste discharges that can be exempted from the California Code of Regulations (CCR) requirements are issued waste discharge requirements (WDRs) by the Water Boards and are regulated by the State Water Board WDR Program. Typical discharge types include domestic or municipal wastewater, and industrial wastewater. State regulations addressing the treatment, storage, processing, or disposal of waste are contained in Title 27, CCR, section 20005 et seq. (hereafter Title 27). Discharges that qualify for exemption from Title 27 must be consistent with the exemptions provided in Title 27 section 20090.

## CEQA Guidelines

CEQA Guidelines Section 15065 requires a mandatory finding of significance for projects that have the potential to substantially degrade or reduce the habitat of a fish or wildlife species, and to fully disclose and mitigate impacts to special-status resources. Although threatened and endangered species are protected by specific federal and State statutes, described above, the CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria for the region or locality.

### 4.3.2.3 Local

#### Alameda County General Plan

The goals and policies in the *Alameda County General Plan* are intended to inform decision makers, the general public, public agencies, and those doing business in the County of the County's position on land use-related issues and to provide guidance for day-to-day decision-making. The following goal contained within the *Alameda County General Plan Conservation Element* pertains to biological resources for the proposed project:

##### **Vegetative and Wildlife Resources**

**Goal:** To protect and enhance wildlife habitats and natural vegetation areas in Alameda County.

#### Alameda County East County Area Plan

The goals and policies in the *East County Area Plan* (ECAP) are intended to inform decision makers, the general public, public agencies, and those doing business in the County of the County's position on land use-related issues and to provide guidance for day-to-day decision-making. The plan identifies the need for public facilities and services, and provides the basis for County zoning and subdivision approvals, as well as other regulatory actions. The plan also serves as an important source of detailed information regarding existing conditions and trends in the East County. The following goals and policies from the ECAP relating to biological resources are applicable to the proposed project.

**Goal:** To preserve a variety of plant communities and wildlife habitat.

**Policy 122:** The County shall encourage that wetland mitigation be consolidated in areas that are relatively large and adjacent to or otherwise connected to open space. To the extent possible areas should be included in, adjacent to, or linked through open space corridors with lands designated as "Resource Management" that are managed specifically for the preservation and enhancement of biological resources.

**Policy 123:** Where site-specific impacts on biological resources resulting from a proposed land use outside the Urban Growth Boundary are identified, the County shall encourage that mitigation is complementary to the goals and objectives of the ECAP. To that end, the County shall recommend that mitigation efforts occur

in areas designated as "Resource Management" or on lands adjacent to or otherwise contiguous with these lands in order to establish a continuous open space system in East County and to provide for long term protection of biological resources.

**Policy 125:** The County shall encourage preservation of areas known to support special status species.

**Policy 126:** The County shall encourage no net loss of riparian and seasonal wetlands.

**Policy 127:** The County shall encourage the preservation of East County's oak woodland plant communities.

**Policy 128:** The County shall ensure that, where quarries will be reclaimed as open space, reclamation plans are designed to restore biological value to sites through appropriate revegetation, contouring of lakes to simulate natural bodies of water, and protection or in-kind replacement of significant trees.

**Policy 129:** The County shall protect existing riparian woodland habitat present along the Arroyo Mocho, Arroyo Del Valle, Arroyo Las Positas, Arroyo de la Laguna; and Alamo, Tassajara, and Alameda Creeks. Exceptions to these requirements shall apply for those portions of the Arroyo del Valle to be excavated for water transfer Lakes A and B under the Specific Plan for the Livermore-Amador Valley Quarry Area Reclamation, which shall instead be subject to riparian habitat restoration as specified by Policies 128 and 164; and for any approved quarry operations in Regionally Significant Construction Aggregate Resource Sector C (Arroyo Mocho) or any other streambeds, which shall also be subject to habitat restoration under Policies 128 and 164, and according to applicable State Public Resources Code requirements, to the extent that proposed reclamation specifies riparian habitat as the end use.

**Goal:** To recognize the regional value of the County's construction aggregate resources and to ensure compatibility between quarry operations and surrounding land uses.

**Policy 164:** The County shall ensure that where quarry operations will be reclaimed as open space, reclamation plans are designed to restore biological value to sites through appropriate revegetation, contouring of lakes to simulate natural bodies of water, and protection or in-kind replacement of significant trees

### **Alameda County Specific Plan for the Livermore-Amador Valley Quarry Area Reclamation (1981)**

The *Alameda County Specific Plan for the Livermore-Amador Valley Quarry Area Reclamation* (LAVQAR Specific Plan) (Alameda County 1981) is intended to plan for reclamation, productive reuse, and rehabilitation of the Quarry Area, in which the proposed project area lies.

The following aspects of the LAVQAR Specific Plan relate to biological resources:

#### **III. General Objectives**

5. To provide a coordinated plan for arrangement of mining-produced land and water masses into a coherent, flexible form, reflecting interrelatedness of geology, hydrology, land use, and other factors throughout the Quarry Area.

### **Alameda County Surface Mining Ordinance**

The Alameda County Surface Mining Ordinance was enacted to ensure the continued availability of important mineral resources, while regulating surface mining operations as required by SMARA, Public Resources Code (PRC) Section 2207, and state regulations for surface mining and reclamation practice (California Code of Regulations [CCR], Title 14, Division 2, Chapter 8, Subchapter 1, Sections 3500 et seq.), to ensure prevention or mitigation of adverse effects on the environment, including damage to aquatic or wildlife habitat.

### **East Alameda County Conservation Strategy**

The East Alameda County Conservation Strategy (EACCS) was developed by a committee of several partners, including but not limited to County of Alameda, CDFW, Cities of Dublin, Livermore, and Pleasanton, and Zone 7. The purpose of the EACCS is to preserve endangered species by developing a shared vision for long term habitat protection. The EACCS assesses areas all across East Alameda County for their conservation value and establishes guiding biological principles for conducting conservation in the county. Part of that guidance includes working with willing landowners to implement long-term conservation stewardship that would offset impacts from local land use, transportation, or other infrastructure projects.

### **East Bay Regional Conservation Investment Strategy**

A state law passed in 2016, AB 2087, establishes a conservation planning tool called a Regional Conservation Investment Strategy (RCIS) to promote the conservation of species, habitats, and other natural resources. The draft East Bay RCIS, which addresses Alameda and Contra Costa Counties is one of six pilot RCISs currently being developed in California. The draft East Bay RCIS, not yet adopted, is a voluntary, non-binding assessment of conservation priorities and is being developed based on existing plans and other information, including the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP), the EACCS, and the Bay Area's Conservation Lands Network, among others.

The RCIS is intended to promote landscape-scale conservation through protection, restoration, and enhancement of high priority habitat, including actions to improve habitat connectivity for wildlife. It also identifies areas suitable for conservation and mitigation investments by local, state, and federal government entities as well as private entities and conservation organizations. Finally, the RCIS considers focal species and sensitive habitats and addresses working lands, proposed infrastructure, and development projects.

## **4.3.3 Significance Criteria and Analysis Methodology**

### **4.3.3.1 Significance Criteria**

Based on Appendix G of the CEQA Guidelines, the proposed project would have a significant impact to biological resources if it would:

- a) have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFG (now CDFW) or USFWS;
- b) have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG (now CDFW) or USFWS;



- c) have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- d) interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- e) conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- f) conflict with the provisions of any adopted habitat conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

No HCP, NCCP, or other such plan applies to the project area. Although the East Alameda County Conservation Strategy (EACCP) is a conservation strategy for the project area, it is not an adopted policy document, primarily serving as a guidance document to provide a baseline inventory of biological resources and conservation priorities for agencies to consider in planning and permitting efforts. Therefore, criteria f is hereby scoped out of the impact analysis provided below; additional discussion on this topic is provided in Appendix A-1, "Initial Study."

#### **4.3.3.2 Analysis Methodology**

The evaluation of potential impacts to biological resources is based on the resources present, or likely to be present, on the project site and the known disturbance and other activities associated with the project that could potentially alter habitat, reduce the quality of habitat, or otherwise have an adverse effect on biological resources. Due to the intended 36-year life span of the project and the alteration to the existing landscape that would occur as a result of the project, physical disturbance and activities associated with project activities are considered permanent for purposes of determining the significance of project impacts.

When impacts are deemed significant, mitigation measures are identified to avoid or minimize the impact. Some of the mitigation measures are based on specific agency guidelines and performance standards, and they may also be conditions of permits or other approvals that are ultimately required for the project. The project will be required to comply with a number of environmental laws and regulations including those administered by USACE, USFWS, NOAA (or NMFS), CDFW and the SFBRWQCB, as described in Section 4.3.2. Approvals issued by these agencies may include measures to offset potential impacts associated with the Project consistent with or in addition to those identified herein.

#### **4.3.4 Project Impacts and Mitigation Measures**

##### **4.3.4.1 LAVQAR EIR Impact Analysis**

Under the LAVQAR EIR, biological impacts were determined to be less than significant with mitigation or less than significant. The 1981 project included disturbing and reclaiming significantly more surface area than the proposed project, considering the proposed ADV realignment and reduced Lake A and B surface area, as described in the project description. The approved 1981 project includes the following mitigation measures for biological resources impacts (Alameda County 1980: 39-40):

- The best mitigation of loss of the natural Arroyo del Valle channel is to construct the new channel as close in appearance and function to the natural channel as is feasible. (An alternative to leaving the existing channel untouched is discussed in Section VI. Alternatives [of the LAVQAR EIR]).

The most important measure is revegetation of the channel banks to natural riparian species. Also, ponds should be placed at certain points along the channel to encourage fish habitat. The channel should meander in a natural manner to maximize edge habitat and also for aesthetic reasons. In general, its artificiality should be minimized and softened. The proposed new channel should be completed, revegetation established, and should be functioning as a viable watercourse prior to commencement of mining in the existing channel. Continuous riparian habitat should be maintained at all times; in time it will become even more critical as wildlife habitat as urbanization continues. Modification of the Del Valle channel will require a stream alteration permit issued by the State Department of Fish and Game. The Department will impose conditions intended to mitigate adverse impacts of stream alteration on fish and wildlife. A program of revegetation and other mitigation measures should be worked out between Fish and Game and the operator involved (Alameda County 1980: 40).

### **Project Revisions**

The proposed project area has been disturbed by mining activities and the proposed project involves disturbance of soil beyond that already disturbed in the stream restoration portion of the project area. The proposed project includes activities similar to those analyzed under the 1981 project (grading and backfill, stream restoration, revegetation). However, because the proposed project will involve relocation and restoration of the ADV, the analysis provided below describes potential impacts of the stream restoration component of the proposed project. The required biological surveys have been completed, but the required permits must still be acquired per all regulatory requirements.

### **Changed Circumstances**

To accommodate mining, the ADV along the southern boundary of Lake A was relocated to the south in the mid-1990s with the authorization of a Section 1602 Lake and Streambed Alteration Agreement from the California Department of Fish and Game (under Notification 1600-2004-0214-3), now the California Department of Fish and Wildlife. After the ADV was relocated south of Lake A, that agreement expired on December 31, 2009. In addition, the site is now made up predominantly of the Lake A, B and J pits with the ADV channel relocated south of the existing active pits. Also, additional listing of special-status species may result in changed circumstances that could create a new or increased significant impact biological resources.

Finally, since the preparation of the LAVQAR EIR, the invasion of non-native species (e.g., *arundo donax*) has reduced the biological value of the ADV, constituting a changed circumstance. The proposed project reintroduces native species, as the LAVQAR Specific Plan envisions, but the baseline is much more degraded than at the time of the LAVQAR EIR.

### **New Information**

New information regarding the additional listing of special-status species since 1981 is available and could create a new or increased significant impact to biological resources.

### **Significance Determination**

Significance criteria (f), conflict with the provisions of any adopted habitat conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, has been scoped out of this SEIR (see the Initial Study in Appendix A-1).

#### 4.3.4.2 Subsequent Environmental Analysis

##### Impact 4.3-1a: The Project Could Result in Direct Effects or Loss of Habitat for Special-Status Species: Lake A Reclamation and Diversion Structure Construction

###### **Biological Communities**

Table 4.3-5, “Impacted Biological Communities in the Project Area,” notes which existing biological communities, as characterized in Section 4.3.1.4, would be impacted by the proposed actions in the Lake A, Lake B, Northern Reclamation, and ADV Realignment Areas (compare Figure 4.3-1 to Figure 4.3-2, “Proposed Southerly Progression of Lake B and ADV Realignment,” and Figure 2-3, “Reclamation Plan Overview,” in Chapter 2, “Project Description”). The ADV Realignment and Northern Reclamation Area habitat impacts are discussed in Impacts 4.3-1b-d, below.

**TABLE 4.3-5**  
**IMPACTED BIOLOGICAL COMMUNITIES IN THE PROJECT AREA**

Biological Community	Lake A	Lake B	Northern Reclamation Area	ADV Realignment
Developed	No	Yes	Yes	Yes
Native revegetation area	Yes	No	No	Yes
Breached quarry pond	No	No	No	Yes
Gravel bar	No	No	No	Yes
Giant reed willow riparian wetland	No	No	No	Yes
Depressional seasonal marsh	Yes	No	No	No
Riverine seasonal marsh	Yes	No	No	No
Willow riparian wetland	Yes	No	No	Yes
Ruderal grassland	Yes	Yes	No	Yes
Quarry Pond	Yes	Yes	Yes	Yes
Sycamore Woodland	Yes	No	No	No
Silt Pond	No	No	Yes	No

**Source:** Table assembled by Benchmark Resources in 2020.

**Note:** This table includes mining area. However, mining activities are a vested use and not subject to discretionary approval. Some reclamation activities in these areas (e.g., revegetating post-mining quarry side slopes) would be concurrent with mining, so these areas are included in this table.

###### **Habitat for Special-status Wildlife Species**

Known or potential biological habitat for threatened, endangered, proposed threatened, proposed endangered, candidate species, sensitive species, and species of concern in the project area include the following habitats:

###### **Potential Habitat**

- Potential habitat for special-status wildlife including valley elderberry longhorn beetle (low), Alameda whipsnake (low); San Joaquin whipsnake (low), California red-legged frog (low), Coast horned lizard (low), western spadefoot toad (low), and American badger (low);
- Potential foraging and nesting habitat for bald eagle (high), golden eagle (high), and northern harrier (low);
- Potential nesting habitat for tricolored blackbird (low), loggerhead shrike (low), and sharp-shinned hawk (low);

- Potential foraging habitat for grasshopper sparrow (low), burrowing owl (low), ferruginous hawk (low), and prairie falcon (high);
- Potential breeding, nesting, and foraging habitat for California horned lark (low) and Cooper's hawk (low);
- Potential roosting habitat for hoary bat (high) and pallid bat (high); and
- Potential foraging and roosting habitat for Yuma myotis (high).

#### **Known Habitat**

- Known habitat for western pond turtle;
- Known foraging and nesting habitat for peregrine falcon; and
- Known habitat for great blue heron;

Since the preparation of the LAVQAR EIR, the invasion of non-native species (e.g., *arundo donax*) has reduced the biological value of the ADV, constituting a changed circumstance. The proposed project reintroduces native species, as the LAVQAR Specific Plan envisions, but the baseline is much more degraded than at the time of the LAVQAR EIR.

#### **Lake A Reclamation Features**

There are several elements of reclamation in the Lake A area that are outlined below, followed by impact analysis.

##### **Diversion Structure**

A diversion structure from the ADV to Lake A capable of conveying up to 500 cubic feet per second (cfs) would be installed in the southeast corner of Lake A. The diversion from ADV to Lake A would consist of an intake (fitted with a screen to prevent fish capture or trapping), a low-head diversion dam to control water levels in the channel, a bypass structure for fish passage, a flow control structure, and a conduit into Lake A. The diversion would also feature an infiltration bed concept that includes a 100-foot-wide (extending in the horizontal direction perpendicular to the stream bank) by 200-foot-long gravel infiltration bed to be constructed along the north bank of ADV. The diversion structure would convey up to 500 cfs through an 84-inch-diameter pipe into Lake A. In addition, the diversion structure would require electrical power (to be supplied from a power pole or manhole near the east end of the property) to operate the slide gate, as well as the flow measurement and/or water level instruments. The diversion structure would be operated by Zone 7 in the future (see page 13 of Appendix B-1).

##### **Installation of Berms Between the ADV and Lake A**

Berms would be installed between Lake A and the ADV to reduce the potential for the ADV to overtop and for flood waters to flow into Lake A during reclamation operations and in future reclaimed conditions (see page 13 of Appendix B-1).

##### **Minor Excavations to Convert an In-situ Berm to an Island**

Two small drainage slots would be excavated to convert a small in-situ berm at the western end of the lake to a small island to promote water flow across the lake. The excavations would be conducted to a bottom elevation of 405 feet msl (about 12 feet below existing ground) with a bottom excavation width of approximately 80 feet. The island would also provide habitat value for wildlife (see page 13 of Appendix B-1).

**Installation of a Water Conveyance Pipeline from Lake A to Future Lake C**

As envisioned in the LAVQAR Specific Plan, future Lake C would be located off-site, west of Isabel Avenue and generally north of Lake B (see Figure 2-3) (mine site leased and operated by Vulcan Materials). Conduits would be constructed between Lake A and future Lake C and Lake B and future Lake C, consistent with the original SMP-23. In addition, CEMEX would provide a turnout from Lake A into Lake B as part of the Lake A to Lake C conveyance. The pipeline from Lake A to Lake C would be 84 in diameter to provide a conveyance capacity of 500 cfs. The conduit to Lake C would be stubbed and capped at CEMEX's property lines until such time that future Lake C is developed. The pipeline would be operated by Zone 7 in the future (see page 13 of Appendix B-1).

**Installation of an Overflow Outlet**

An overflow outlet would be created in the crest of the berm installed along the southwest end of Lake A to allow water to flow back into ADV when water levels are high to prevent flooding in the localized area. The outlet would consist of a 270-foot wide shallow rock-line spillway that slopes south toward ADV at 3H:1V (see page 14 of Appendix B-1).

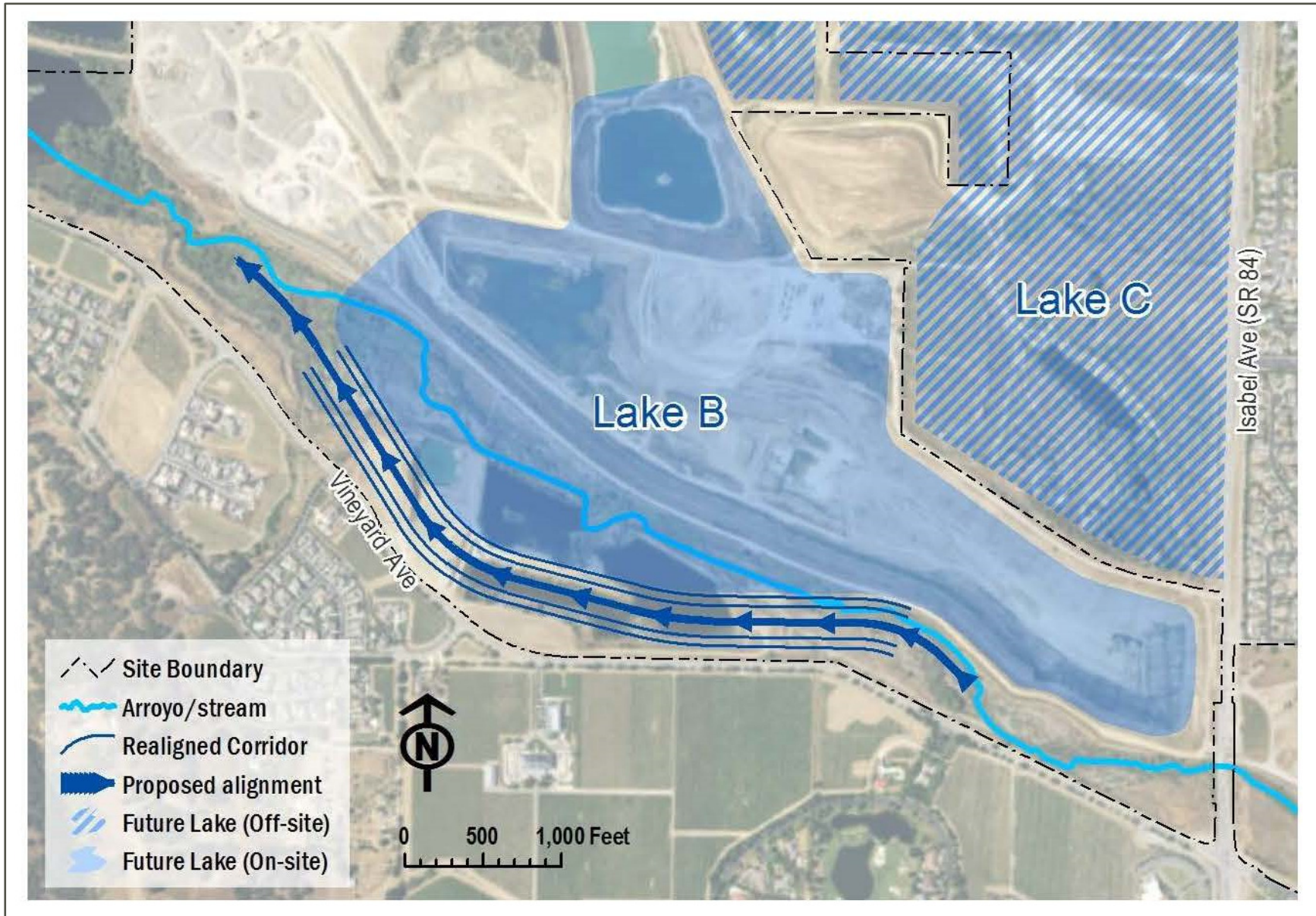
**Implementation of a Landscape Plan**

The proposed project also includes an updated landscape plan for Lake A that features California native drought tolerant tree, shrub, and grass species that are well-adapted to Alameda County. The species chosen for inclusion in the seed mixes are intended to be self-sustaining without dependence on irrigation, or ongoing applications of soil amendments or fertilizers, provided that planting takes place in the fall and subsequent rainfall is not abnormally low. As such, irrigation should not be needed. See Appendix B-2, "Lake A Landscape Plan," and B-3, "Lake A Landscape Plan Functions and Values Memo" for full list of species and their proposed locations as part of restoration. Table 4 in Appendix B-2 also provides a detailed list of the seed mix for revegetation. Some elderberry bushes (not occupied by valley elderberry longhorn beetle) are located in the Lake A area near the access road (see Figure 4.3-1), but these bushes would remain and are not located in an area that would be impacted by project activities. The Landscape Plan also includes planting and temporary irrigation of approximately 2,500 trees and shrubs and hydroseeding 53 acres of land in the Lake A area. The plan features a low maintenance, low water use design that is exempt from State of California Model Water Efficient Landscape Ordinance requirements and was designed specifically to ensure compatibility with the reclaimed end use of water management to be operated by Zone 7 (see page 14 of Appendix B-1) (Helix 2020a). Furthermore, the Lake A landscaping plan uses current revegetation methods and standards to update the approved reclamation plan with a low maintenance, low water use design (CEMEX 2019).

**Pedestrian and Bike Trail**

CEMEX has developed a pedestrian and bike trail roughly parallel to Vineyard Avenue on the south side of Lake A, which is within the project boundary and would remain as part of reclamation.

Table 4.3-5, above, notes which existing biological communities, as characterized in Section 4.3.1.4, would be impacted by Lake A reclamation activities (also compare Figure 4.3-1 to Figure 4.3-2, "Proposed Southerly Progression of Lake B and ADV Realignment," and Figure 2-3). Many of these impacted communities provide habitat for numerous wildlife species including various amphibians and reptiles and provide potential foraging habitat for raptors.



SOURCE: Brown & Caldwell 2019, Hydraulic Design Study Figure 5-8; modified by Benchmark Resources in 2020.

NOTE: Figure is not printed to scale.

**Proposed Southerly Progression of Lake B and ADV Realignment**

ELIOT QUARRY SMP-23 SEIR

**Figure 4.3-2**

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Vegetation within this community also provides potential nesting habitat for various bird species (Foothill Associates 2019). Therefore, Lake A reclamation activities would result in a loss of habitat for special status species which potentially reside in these communities.

Although these elements would result in some habitat and surface disturbance, the disturbance or removal would overall enhance wildlife habitat by providing substantial new landscaping with native species to compensate for any existing habitat removal, the majority of which is comprised of non-native species. Furthermore, the diversion structure, including the intake (fitted with a screen to prevent fish capture or trapping), a low-head diversion dam to control water levels in the channel, a bypass structure for fish passage, a flow control structure, a conduit into Lake A, and the infiltration bed would be subject to Mitigation Measure 4.3-1a, "Obtain Regulatory Entitlements and Authorizations," which requires the Applicant to obtain regulatory entitlements and authorizations from the USACE, RWQCB, and CDFW. Finally, impacts on special status wildlife and plant species resulting from reclamation activities would be further reduced to a less than significant level with Mitigation Measures 4.3-1b through 4.3-1h, each of which provide more than one avoidance or minimization measure specific to the group of species or habitat in question. Therefore, this impact would be less than significant with mitigation incorporated.

**Level of Significance:** Potentially Significant

**Mitigation Measures:**

***Mitigation Measure 4.3-1a: Obtain Regulatory Entitlements and Authorizations***

*The Applicant shall obtain regulatory entitlements and authorizations from the US Army Corps of Engineers ("USACE"), U.S. Fish and Wildlife Service ("USFWS"), National Marine Fisheries Service ("NMFS"), California Regional Water Quality Control Board ("RWQCB"), and California Department of Fish and Wildlife ("CDFW") as needed for reclamation activity.*

***Mitigation Measure 4.3-1b: Special Status Amphibian and Reptile Species***

*To avoid and minimize impacts to special status amphibian and reptile species, including western pond turtle, Alameda whipsnake (striped racer), California red-legged frog, California tiger salamander, coast horned lizard, San Joaquin whipsnake, and western spadefoot, the following shall apply:*

- 1. No more than 48 hours prior to the commencement of reclamation-related ground disturbing activity (i.e. clearing, grubbing, or grading) associated with the construction of the Lake A diversion structure, realigned Arroyo del Valle, or other areas, a qualified biologist shall conduct a pre-construction survey of suitable habitat in the project reclamation area. The survey shall include aquatic habitat and adjacent uplands surrounding aquatic habitat within the project reclamation area. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.*
- 2. The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Planning Department prior to the commencement of ground disturbing activity.*
- 3. Construction personnel shall receive worker environmental awareness training prior to the commencement of ground disturbing activity. This training instructs workers how to recognize special status amphibian and reptiles species and their habitat.*



4. *If a special status amphibian or reptile species is encountered during construction, then all construction shall cease until the animal has moved out of the construction area on its own or has been relocated by a qualified biologist in coordination with the California Department of Fish and Wildlife (CDFW). If the animal is injured or trapped, a qualified biologist shall move the animal out of the construction area and into a suitable habitat area. CDFW shall be notified within 24-hours that a special status amphibian or reptile species was encountered.*
5. *Comply with the mitigation requirements and conditions of any Section 1600 Lake and Streambed Alteration Agreement (Agreement) with CDFW for project reclamation activities, as applicable to amphibian and reptile species. If there is a conflict between the terms of mitigation items 1 through 4 above and the Agreement, then the Applicant shall abide by the terms of the Agreement.*

**Mitigation Measure 4.3-1c: Nesting Raptors**

*To avoid and minimize impacts to nesting raptors, including bald eagle, golden eagle, American peregrine falcon, prairie falcon, white-tailed kite, Cooper's hawk, ferruginous hawk, and northern harrier, the following shall apply:*

1. *If reclamation-related ground disturbing activity (which includes clearing, grubbing, or grading) is to commence within 500 feet of suitable nesting habitat during the nesting season (e.g., March 1-Sept. 15), then a qualified biologist shall conduct a pre-construction survey for raptor nests. The survey shall cover all potential tree and ground nesting habitat on-site and off-site up to a distance of 500 feet from the construction activity. The survey shall occur within 30 days of the date that reclamation/construction would encroach within 500 feet of suitable habitat. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.*
2. *The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Planning Department prior to the commencement of ground disturbing activity. If no active nests are found during the survey, then no further mitigation would be required.*
3. *If any active nests are found, then the Planning Department and the California Department of Fish and Wildlife (CDFW) shall be contacted to determine appropriate avoidance and minimization measures. The avoidance and minimization measures shall be implemented prior to the commencement of construction within 500 feet of an identified nest.*
4. *Comply with the mitigation requirements and conditions of any Section 1600 Lake and Streambed Alteration Agreement (Agreement) with CDFW for project reclamation activities, as applicable to nesting raptors. If there is a conflict between the terms of mitigation items 1, 2, or 3 above and the Agreement, then the Applicant shall abide by the terms of the Agreement.*

**Mitigation Measure 4.3-1d: Nesting Birds**

*To avoid and minimize impacts to great blue heron and other migratory nesting birds, the following shall apply:*

1. *If reclamation-related ground disturbing activity (which includes clearing, grubbing, or grading) is to commence within 50 feet of nesting habitat between February 1 and August 31, then a qualified biologist shall conduct a pre-construction survey for active migratory*

*nests within 14 days prior to the commencement of ground disturbing activity. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.*

2. *The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Planning Department prior to the commencement of ground disturbing activity. If no active nests are found during the survey, then no further mitigation would be required.*
3. *If active nests are found in the survey area, then a non-disturbance buffer of a size determined by a qualified biologist shall be established and maintained around the nest to prevent nest failure. All construction activities shall be avoided within this buffer area until a qualified biologist determines that nestlings have fledged, or until September 1, unless otherwise approved by the Planning Department and CDFW.*

**Mitigation Measure 4.3-1e: Loggerhead Shrike**

*To avoid and minimize potential impacts to loggerhead shrike, the following shall apply:*

1. *If reclamation-related ground disturbing activity (which includes clearing, grubbing, or grading) is to commence within 200 feet of suitable nesting habitat during the nesting season (February 15-August 31), then a qualified biologist shall conduct a pre-construction survey for loggerhead shrike nests in all suitable shrubs and trees that are within 200 feet from the construction activities. The survey shall occur within 3 days prior to the commencement of ground disturbing activities. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.*
2. *The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Planning Department prior to the commencement of ground disturbing activity. If no active nests are found during the survey, then no further mitigation would be required.*
3. *If nesting individuals are found, then an exclusion zone shall be established within 200 feet of the active nest(s) until a qualified biologist determines that the young of the year are no longer reliant upon the nest.*
4. *Comply with the mitigation requirements and conditions of any Section 1600 Lake and Streambed Alteration Agreement (Agreement) with the California Department of Fish and Wildlife for project reclamation activities, as applicable to the loggerhead shrike. If there is a conflict between the terms of mitigation items 1, 2, or 3 above and the Agreement, then the Applicant shall abide by the terms of the Agreement.*

**Mitigation Measure 4.3-1f: Tricolored Blackbird**

*To avoid and minimize potential impacts to tricolored blackbird, the following shall apply:*

1. *If reclamation-related ground disturbing activity (which includes clearing, grubbing, or grading) is to commence within 300 feet of suitable nesting habitat during the nesting season (March 1-July 31), then a qualified biologist shall conduct a pre-construction survey for nesting tricolored blackbirds in suitable habitats that are within 300 feet from the project activities. The survey shall occur within 30 days prior to the commencement of ground disturbing activities. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.*

2. *The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Planning Department prior to the commencement of ground disturbing activity. If no tricolored blackbirds are found during the survey, then no further mitigation would be required.*
3. *If an active tricolored blackbird colony is found within 300 feet of reclamation activity, the applicant may avoid impacts to tricolored blackbird by establishing a 300-foot temporary setback, with fencing that prevents any project activity within 300 feet of the colony. A qualified biologist shall verify that setbacks and fencing are adequate and will determine when the colonies are no longer dependent on the nesting habitat (i.e. nestling have fledged and are no longer using habitat). The breeding season typically ends in July.*
4. *Comply with the mitigation requirements and conditions of any Section 1600 Lake and Streambed Alteration Agreement (Agreement) with CDFW for project reclamation activities, as applicable to tricolored blackbird. If there is a conflict between the terms of mitigation items 1, 2, or 3 above and the Agreement, then the Applicant shall abide by the terms of the Agreement.*

**Mitigation Measure 4.3-1g: Burrowing Owl**

*To avoid and minimize potential impacts to western burrowing owl, the following shall apply:*

1. *If reclamation-related ground disturbing activity (which includes clearing, grubbing, or grading) is to commence within 500 feet of suitable owl burrow habitat, then a qualified biologist shall conduct a pre-construction survey for burrowing owl. The survey shall occur within 30 days prior to the date that reclamation activities will encroach within 500 feet of suitable habitat. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. Surveys shall be conducted in accordance with the following:*
  - a. *A survey for burrows and owls shall be conducted by walking through suitable habitat over the entire reclamation construction site and in areas within 500 feet of the project disturbance area.*
  - b. *Pedestrian survey transects should be spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines should be no more than 30 meters, and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. Surveyors should maintain a minimum distance of 50 meters from any owls or occupied burrows.*
  - c. *If no occupied burrows or burrowing owls are found in the survey area, then the biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Planning Department and no further mitigation is necessary.*
  - d. *If occupied burrows or burrowing owls are found, then a complete burrowing owl survey is required. This consists of a minimum of four site visits conducted on four separate days, which must also be consistent with the Survey Method, Weather Conditions, and Time of Day sections of Appendix D of the California Department of Fish and Wildlife (CDFW) "Staff Report on Burrowing Owl Mitigation" (March 2012). The applicant shall then submit a survey report to the Planning Department which is consistent with the CDFW 2012 Report.*
  - e. *If occupied burrows or burrowing owls are found during the complete burrowing*

*owl survey, then the applicant shall contact the Planning Department and consult with CDFW prior to construction, and will be required to submit a Burrowing Owl Mitigation Plan (subject to the approval of the Planning Department and CDFW). This plan must document all proposed measures, including avoidance, minimization, exclusion, relocation, or other measures, and include a plan to monitor mitigation success. The CDFW “Staff Report on Burrowing Owl Mitigation” (March 2012) should be used in the development of the mitigation plan.*

- 2. Comply with the mitigation requirements and conditions of any Section 1600 Lake and Streambed Alteration Agreement (Agreement) with CDFW for project reclamation activities, as applicable to burrowing owl. If there is a conflict between the terms of mitigation item 1 above and the Agreement, then the Applicant shall abide by the terms of the Agreement.*

**Mitigation Measure 4.3-1h: Special Status Bats**

*To avoid and minimize potential impacts to special status bats, including hoary bat, pallid bat, and Yuma myotis, the following shall apply:*

- 1. If reclamation-related ground disturbing activity (which includes clearing, grubbing, or grading) is to commence within 300 feet of suitable bat habitat during the winter hibernaculum season (e.g., November 1 through March 31), then a qualified biologist shall conduct a pre-construction survey within 300 feet of the reclamation project footprint on the CEMEX property to determine if a potential winter hibernaculum is present, and to identify and map potential hibernaculum sites.*
- 2. The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Planning Department prior to the commencement of ground disturbing activity. If no winter hibernaculum sites are found during the survey, then no further mitigation would be required.*
- 3. If potential hibernaculum sites are found, then the applicant shall avoid all areas within a 300-foot buffer around the potential hibernaculum sites until bats have vacated the hibernaculum. Winter hibernaculum habitat shall be considered fully avoided if reclamation-related activities do not impinge on a 300-foot buffer established by the qualified biologist around an existing or potential winter hibernaculum site. The qualified biologist will determine if non-maternity and nonhibernaculum day and night roosts are present on the project site. If necessary, a qualified biologist will use safe eviction methods to remove bats if direct impacts to non-maternity and non-hibernaculum day and night roosts cannot be avoided. If a winter hibernaculum site is present, then reclamation activities shall not occur until the hibernaculum is vacated, or, if necessary, safely evicted using methods acceptable to CDFW.*

**Significance after Mitigation:** Less than significant.

**Impact 4.3-1b: The Project Could Result in Direct Effects or Loss of Habitat for Special-Status Species: ADV Realignment**

Construction activity and direct removal of existing vegetation and soil associated with the realignment of the ADV at Lake B and Lake A reclamation would result in a loss of existing habitat on the site. While the existing habitat in the project area, including the ADV, is highly disturbed due

to non-native species takeover, urban development, gravel extraction, and operations of Del Valle Dam, proposed project impacts would be potentially significant. Table 4.3-6, “Natural or Semi-Natural Wetland Communities in ADV Footprint,” provides a summary of the proposed project’s impacts to habitats located in the ADV.

**TABLE 4.3-6  
NATURAL OR SEMI-NATURAL WETLAND COMMUNITIES IN ADV FOOTPRINT**

Aquatic Vegetation Community	Impact Acreage	Mitigation Acreage at Mitigation Ratio of 2:1	Notes
Riverine Seasonal Marsh	0.08	0.16	None.
Willow Riparian Wetland	8.87	17.74	Community dominated by willow ( <i>Salix</i> sp.). Invasive species can be present in this community.
Giant Reed-Willow Riparian Wetland	13.46	26.92	Community dominated by invasive giant reed ( <i>Arundo donax</i> ) with willows as a secondary component
<b>TOTAL</b>	<b>22.41</b>	<b>44.82</b>	

In its coordination with resource agencies, the Applicant has developed proposed mitigation based on enhancement and restoration within and adjacent to the project boundary. Table 4.3-7, “Proposed Wetland Community Re-Establishment and Restoration Acreage” provides a tabular summary of the project mitigation.

**TABLE 4.3-7  
PROPOSED WETLAND COMMUNITY RE-ESTABLISHMENT AND RESTORATION ACREAGE**

Vegetation Community	Re-established Acreage within Project Boundary	Restored and Protected Offsite Acreage	Total Acreage Restored or Re-established	Notes
Backwater Wetland	3.11	0	3.11	To be established as part of stream re-alignment, with permanent protection
Riparian Wetland	1.47	12.47	13.94	Removal of invasive species and replanting with native riparian species, with permanent protection.
Riparian Scrub	10.85	0	10.85	Established as part of stream re-alignment with permanent protection.
Riparian Woodland	9.36	3.73	13.94	Both re-establishment and restoration of upstream and downstream woodland, with permanent protection.
Riverine Seasonal Marsh	0	0.91	13.09	Removal of invasive species and replanting with native marsh species, with permanent protection.
Giant Reed Willow Riparian Wetland	0	8.81	0.91	Removal of giant reed and replanting with native riparian species, with permanent protection.
<b>TOTAL</b>	<b>24.79</b>	<b>25.92</b>	<b>50.71</b>	

Implementation of the proposed mitigation specified in Table 4.3-7 is anticipated to reduce wetland impacts to a less than significant level. However, the Applicant would be required to also comply

with Mitigation Measure 4.3-1a. To the extent that regulatory permits require additional or different mitigation, those permits and associated conditions of approval would take precedence.

The southern and western portions of the project area immediately adjacent to and within the ADV were previously impacted by early mining activity, but the existing vegetation in these areas have since had time to re-establish and broadly consists of more perennial, riparian plant species (Helix 2020).

Temporary displacement of species along the ADV realignment footprint would be a potentially significant impact relating to loss of habitat. However, Mitigation Measures 4.3-1a through 4.3-1h, provided above, would reduce the impacts to a less than significant level. In addition, based on the project design and requirement to implement resource agency requirements during the implementation of the ADV realignment, the habitat of the ADV after the project would be a beneficial impact when comparing the proposed projects to the existing conditions of the ADV.

### ***Biological Communities***

Table 4.3-5, above, notes which existing biological communities, as characterized in Section 4.3.1.4, would be impacted by the ADV realignment (also compare Figure 4.3-1 to Figure 4.3-2 and Figure 2-3). The ADV realignment includes revegetation and planting of more native, diverse, and water-efficient species (Helix 2020a)

The following existing biological communities would be removed by the southerly progression of Lake B (compare Figure 4.3-1 to Figure 4.3-2); however, loss and removal of this habitat is associated with approved and vested mining activity, not reclamation (the proposed project):

- Giant reed-willow riparian wetland
- Giant reed
- Gravel bar
- Willow riparian wetland
- Quarry pond
- Ruderal grassland

Despite the loss of habitat associated with the realignment of the ADV, the proposed project's revegetation and landscaping plans would result in more diverse and native habitat than existing conditions. The existing degraded stream and artificial impoundments would be replaced by a complex mosaic of riparian wetlands within a floodplain. Furthermore, the ADV realignment would create a new perennial stream channel containing a low-flow channel, backwater wetlands, riparian wetlands, riparian scrub, riparian woodland, as well as upland habitats. In effect, the ADV realignment project would be a long-term beneficial impact in that it would restore these portions of the ADV to a more natural state with a significant uplift in ecological functions and values. Once restored and mining is complete in Lake B, the realigned ADV is anticipated to be placed under a conservation easement for the permanent protection of restored habitats. Realignment of the ADV would also increase the size of Lake B by about 43 acres (as compared to existing conditions), and this expanded portion of Lake B would likely be considered a jurisdictional water of the U.S. and/or State in the future following reclamation. This acreage provides an additional offset to potential project impacts.

As discussed in Impact 4.3-1a, the Lake A landscape planting design restores native species to the area and encourages native regrowth by optimizing the number of proposed plants on site and spacing plant material to allow for natural infill. Table 4.3-8 “Geomorphic Diversity and Habitat Design Features” and Figure 4.3-3, “Proposed Realigned Channel and Floodplain with Habitat and Diversity Features,” below describes the proposed habitat features and their function and/or benefit.

Finally, the ADV realignment and Lake A 500 cfs diversion structure design would support steelhead trout recovery and passage that would not occur if the project is not implemented (Brown and Caldwell 2020).

The LAVQAR EIR states that “the most significant adverse impact of the Plan on biota would result from replacing the existing ADV channel with an artificial channel,” which would also apply to the proposed project (Alameda County 1980). However, the existing ADV is already an artificial, realigned channel pursuant to the prior 1602 permit and the proposed realigned ADV would include construction of a channel as close to the original appearance and function as possible, including habitat, except where non-native species have taken over. Planting design would be more water efficient and conducive to more native riparian growth. However, as stated in Impact 4.3-1a, above, reclamation activities that would remove habitat could also have adverse temporary impacts to nesting raptors and birds, including direct removal of habitat and noise disturbance.

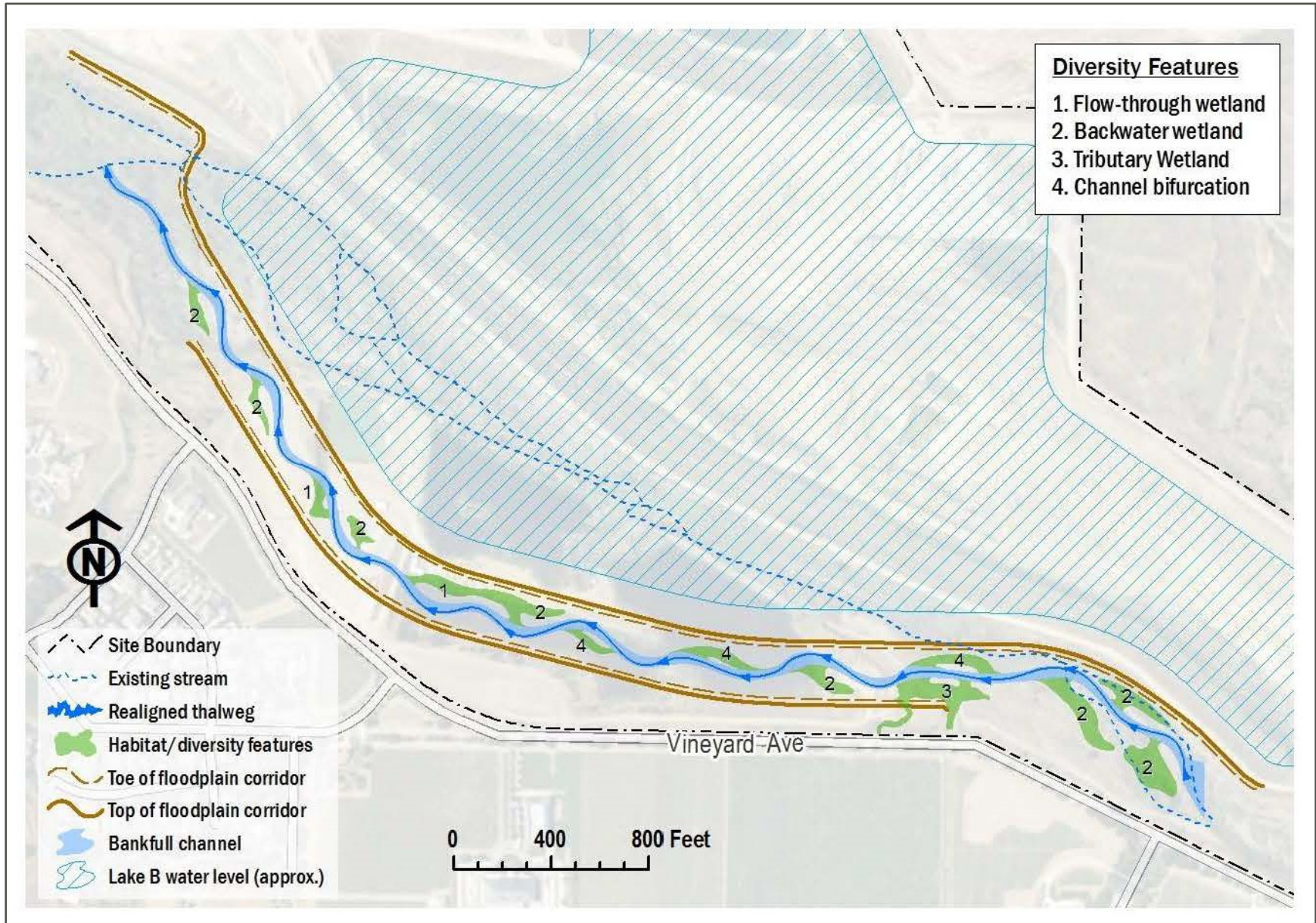
Implementation of the project would only involve reclamation activities and movement of the ADV does not include ongoing mining activities. Existing sensitive habitat areas that would be removed would largely be a result of approved and vested mining activity, not reclamation. As previously stated, sensitive habitat in the Lake A and Lake B areas that would be impacted by the proposed project, not by vested mining activity, currently have reduced biological value resulting from non-native growth and previous disturbance.

The ADV realignment would be subject to Mitigation Measure 4.3-1a, “Obtain Regulatory Entitlements and Authorizations,” which requires the Applicant to obtain regulatory entitlements and authorizations from the USACE, USFWS, NMFS, RWQCB, and CDFW. To the extent that regulatory permits require additional or different mitigation, those permits and associated conditions of approval would take precedence. Finally, impacts resulting from disturbing reclamation activities on special status wildlife and plant species would be further reduced to a less than significant level with Mitigation Measures 4.3-1b through 4.3-1h, each of which provide more than one avoidance or minimization measure specific to the group of species in question. Therefore, this impact would be less than significant with mitigation incorporated.

**Level of Significance before Mitigation:** Significant

**Mitigation Measure:** Implement Mitigation Measures 4.3-1a, 4.3-1b, 4.3-1c, 4.3-1d, 4.3-1e, 4.3-1f, 4.3-1g, and 4.3-1h (see Impact 4.3-1a).

**Significance after Mitigation:** Less than significant.



SOURCE: Brown & Caldwell 2019, Hydraulic Design Study Figure 5-20; modified by Benchmark Resources in 2020.

NOTE: Figure is not printed to scale.

**Proposed Realigned Channel and Floodplain with Habitat and Diversity Features**

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**Figure 4.3-3**



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**TABLE 4.3-8  
GEOMORPHIC DIVERSITY AND HABITAT DESIGN FEATURES—ADV REALIGNMENT**

Feature Number	Description	Objective	Function/Benefit	Design Criteria
1	Flow-through wetland	Create off-channel willow riparian habitat that allows surface water to flow through and inundate areas for a prolonged period (at least 14 days) during the growing season.	Supports willow riparian wetland habitat and provides area for wetland mitigation.	<ul style="list-style-type: none"> <li>Wetland will be inundated by overflow from stream channel a minimum of 14 days per year in an average year, based on historical post-dam stream flow frequency.</li> <li>Wetland should not have enclosed depressions greater than approximately 12 inches; however, microtopography will be created (field fit) with roughly 6–12 inches of variation to slow flow.</li> <li>Entry and exit angles should be relaxed to avoid acute bends and sharp changes in flow direction.</li> </ul>
2	Backwater wetland	Create off-channel willow riparian wetland that is inundated by intermediate flows through a backwater channel, occurring about once a year on average.	Supports willow riparian wetland habitat and provides area for wetland mitigation.	<ul style="list-style-type: none"> <li>Wetland will be inundated by overflow from stream channel a minimum of 14 days per year in an average year, based on historical post-dam stream flow frequency.</li> <li>Wetland should not have enclosed depressions greater than approximately 12 inches; however, microtopography will be created (field fit) with roughly 6–12 inches of variation to slow flow.</li> </ul>
3	Tributary wetland	Create willow riparian wetland areas near tributary confluences utilizing tributary flows where possible.	Supports willow riparian wetland habitat and provides area for wetland mitigation.	<ul style="list-style-type: none"> <li>Wetland will be inundated by overflow from stream channel a minimum of 14 days per year in an average year, based on historical post-dam stream flow frequency.</li> <li>Wetland should not have enclosed depressions greater than approximately 12 inches; however, microtopography will be created (field fit) with roughly 6–12 inches of variation to slow flow.</li> <li>Entry and exit angles should be relaxed to avoid acute bends and sharp changes in flow direction.</li> </ul>
4	Channel bifurcation	Increase stream channel complexity by creating a bifurcated section where a secondary channel can be activated by a wide range of flows.	Allows for a more dynamic and active fluvial system while still maintaining a controlled and relatively stable condition.	<ul style="list-style-type: none"> <li>Secondary channel should have similar geometry to bankfull channel such that it could become the preferred flow path at a future time.</li> <li>Low-flow channel will be directed preferentially into the main channel by design.</li> </ul>

Source: Brown and Caldwell 2020, Table 5-5

Notes: See Figure 4.3-3.

**Impact 4.3-1c: The Project Could Result in Direct Effects or Loss of Habitat for Special-Status Species: Berms and Outflow Between ADV and Lake B**

Berms would be installed between Lake B and the ADV to reduce the potential for ADV to overtop and for flood waters to flow into Lake B during reclamation operations and in future reclaimed conditions. The grade along the existing berm alignments would be raised where necessary to prevent overtopping of the ADV into the lake during the 100-year flood.

In addition, an overflow outlet would be created in the crest of the berm installed along the west end of Lake B to allow water to flow back into ADV through a controlled and stable pathway. The outlet would consist of an armored trapezoidal weir and chute, with an armored outlet apron. The outlet crest would be 60 feet wide perpendicular to the flow with 4H:1V side slopes, and the trapezoid would be at least 5 feet deep, thus resulting in a top width of 60 feet for the trapezoidal section. The outlet crest is 120 feet wide in the direction of the flow. The outlet flow path would be lined with riprap to mitigate the potential for erosion to occur (see Figure 2-3 and Appendix B-2).

Impacts to habitat for special status species resulting from berms and Lake B overflow outlet along the ADV would be similar to those discussed in 4.3-1b, above. The construction of berms and the Lake B would be subject to Mitigation Measure 4.3-1a, above, which requires the Applicant to obtain regulatory entitlements and authorizations from the USACE, USFWS, NMFS, RWQCB, and CDFW.

Table 4.3-5, above, notes which existing biological communities, as characterized in Section 4.3.1.4, would be impacted by the ADV realignment and reclamation activity at Lake B (also compare Figure 4.3-1 to Figure 4.3-2 and Figure 2-3), which includes the construction of berms and Lake B overflow outlet structure. Despite the loss of habitat associated with the realignment of the ADV, the proposed project's revegetation and landscaping plans would result in more diverse and native habitat than existing conditions.

The Lake B overflow outlet and berms along the ADV would be subject to Mitigation Measure 4.3-1a, "Obtain Regulatory Entitlements and Authorizations," which requires the Applicant to obtain regulatory entitlements and authorizations from the USACE, USFWS, NMFS, RWQCB, and CDFW. Finally, impacts resulting from disturbing reclamation activities on special status wildlife and plant species would be further reduced to a less than significant level with Mitigation Measures 4.3-1b through 4.3-1h, each of which provide more than one avoidance or minimization measure specific to the group of species in question. Therefore, this impact would be less than significant with mitigation incorporated.

**Level of Significance before Mitigation:** Significant

**Mitigation Measure:** Implement Mitigation Measures 4.3-1a, 4.3-1b, 4.3-1c, 4.3-1d, 4.3-1e, 4.3-1f, 4.3-1g, and 4.3-1h (see Impact 4.3-1a).

**Significance after Mitigation:** Less than significant.

**Impact 4.3-1d: The Project Could Result in Direct Effects or Loss of Habitat for Special-Status Species: Northern Reclamation Area**

Reclamation of the Northern Reclamation Area includes reclaiming the Lake J excavation (not part of the Chain of Lakes), processing plant sites, process water ponds, and Ponds C and D, which includes grading, revegetation, and a return to open space and/or agriculture. Reclamation treatment for

other disturbed areas, including the Lake J excavation (not part of the Chain of Lakes), processing plant sites, and process water ponds will generally involve backfills and/or grading for a return to open space and/or agriculture. The final bottom mining elevation of Lake J will be 130 feet msl. However, upon the completion of mining, Lake J is planned to be repurposed as a silt pond and will ultimately be backfilled to approximate elevations ranging from 360 to 380 feet msl. Ponds C and D in the North Reclamation Area may also be repurposed as silt ponds. For these ponds, silts may be deposited up to elevation 330 feet msl. Ultimately, these ponds will either be reclaimed as independent open water bodies with a projected water surface elevation of 370 feet msl; or merged with the larger future Lakes C and D to be developed by Vulcan.<sup>1</sup>

The vegetation within the actively mined portions of the project boundary is predominantly limited to locations around mining infrastructure, between and alongside roads utilized to access the active quarry, relatively undisturbed piles of sand and gravel, and other areas that have remained undisturbed for sufficient periods of time to allow colonization by primarily annual non-native plant species. Reclamation activity would not impact the existing willow riparian area in the western portion of the Northern Reclamation Area because mining would not occur in this area, resulting in no need for grading and fill associated with reclamation (compare Figure 4.3-1 to Figure 4.3-4, “North Area Reclamation Plan”).

Following reclamation, the North Reclamation Area would continue to be owned and maintained by CEMEX, with the exception of Pond A that will be dedicated to Zone 7 as it will be encompassed within the ultimate footprint of Lake B after the design drainage notch is installed and water surface elevations rise in Lake B to the projected water surface elevation of 369 feet msl. Ponds C and D will also be dedicated to Zone 7. As this area is highly disturbed, reclamation activities in the Northern Reclamation Area will have less than significant impacts associated with the loss of habitat for special-status species.

**Level of Significance:** Less than Significant

**Mitigation Measure:** None required.

**Impact 4.3-2a: The Project Could Result in Loss of Riparian Habitat or Sensitive Natural Community: Lake A Reclamation and Diversion Structure Construction**

There are several elements of Lake A reclamation that are outlined below.

- Diversion Structure;
- Installation of Berms Between the ADV and Lake A;
- Minor Excavations to Convert an In-situ Berm to an Island;
- Installation of a Water Conveyance Pipeline from Lake A to Future Lake C;
- Installation of an Overflow Outlet;
- Implementation of a Landscape Plan; and
- Pedestrian and Bike Trail

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<sup>1</sup> The Pond D water surface will remain lower than the northern berm elevation 347 feet msl while Vulcan is mining and dewatering future Lake D.

Impact 4.3-1a, above, provides a detailed description of these elements. As stated in Impact 4.3-1a, these elements would enhance wildlife habitat and be beneficial impacts of the proposed project. The diversion structure, including the intake (fitted with a screen to prevent fish capture or trapping), a low-head diversion dam to control water levels in the channel, a bypass structure for fish passage, a flow control structure, a conduit into Lake A, and the infiltration bed would be subject to Mitigation Measure 4.3-1, which requires the Applicant to obtain regulatory entitlements and authorizations from the USACE, RWQCB, and CDFW.

### **Riparian Habitat**

As previously discussed in Impact 4.3-1, some loss of riparian habitat would occur with installation of the berm and diversion structure at Lake A. However, any existing riparian habitat lost in the Lake A area as a result of the proposed project, discussed in Impact 4.3-1, would be replaced and improved as a result of the proposed project's revegetation and landscaping plans, resulting in more diverse and native habitat than existing invasive-choked conditions. Although some of the riparian habitat features discussed above are federally protected, impacts to federally protected wetlands are discussed separately under Impact 4.3-3, below.

See Table 4.3-6 above for a summary of impact acreage to natural or semi-natural wetland communities. Table 4.3-7 above provides a summary of the proposed mitigation based on restoration and enhancement occurring within the project boundary, as well as, upstream and downstream of the project boundary. Communities within the "Restored and Protected Offsite Acreage" category would involve removal of invasive species, long-term monitoring and management of these areas according to an agency-approved wetland mitigation plan with measurable success criteria for the restoration areas, and placement of a conservation easement over the restoration area.

Table 4.3-7 also shows that a total of 50.71 acres of wetland habitats would be re-established or restored. This is at a ratio of 2.26:1 as compared to the proposed projects impacts to existing riparian habitats resulting from re-alignment of the Arroyo. In addition, post-reclamation Lake B would increase waters by an additional 43-acres. Finally, Table 4.3-8 and Figure 4.3-3 describe or show the proposed habitat features and their function and/or benefit.

### **Special-Status Plant Species**

No special-status plant species were documented within the project site during field surveys conducted in 2017, 2018, and 2019 (Foothill Associates 2019; Helix 2020b ). In addition, based on the absence of suitable habitat noted during field surveys and documented occurrences in the region, no special-status plant species are considered to have a high potential to occur within the project site. However, the following three plant species are considered to have a low potential to occur within the Project site:

- *Centromadia parryi* (Greene) Greene ssp. *congdonii* (Rob. & Greenm.) B.G. Baldwin (Congdon's tarplant)
- *Eriogonum truncatum* (Mt. Diablo buckwheat)
- *Calochortus pulchellus* (Mt. Diablo fairy-lantern)



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While the likelihood of any of these special status plant species occurring on the site is low, Mitigation Measures 4.3-1a (above), 4.3-2a, “Special Status Plants,” and 4.3-2b, “Riparian Habitat,” (below) would reduce impacts to a less than significant level in the event that one or more of these species exist on site by enforcing avoidance and minimization of impacts on special status plants and riparian habitat. To the extent that regulatory permits require additional or different mitigation, those permits and associated conditions of approval would take precedence.

**Level of Significance before Mitigation:** Significant

**Mitigation Measures:**

**Mitigation Measure:** *Implement Mitigation Measure 4.3-1a, “Obtain Regulatory Entitlements and Authorizations.”*

**Mitigation Measure 4.3-2a:** *Special Status Plants*

*To avoid and minimize potential impacts to special status plants, including Congdon’s tarplant, Mt. Diablo buckwheat, and Mt. Diablo fairy-lantern, the following shall apply:*

- 1. Prior to the commencement of reclamation-related ground disturbing activity (which includes clearing, grubbing, or grading) in areas identified as having potential special status plant species in the project biological resources assessment report, a qualified botanist or biologist shall conduct a pre-construction survey for special status rare plant occurrences. The survey shall occur within 30 days prior to commencement of ground-disturbing activity.*
- 2. If rare plant occurrences that are listed under the ESA or CESA are found and avoidance is not feasible, then the applicant shall notify the California Department of Fish and Wildlife (CDFW) and/or (as applicable) the U.S. Fish and Wildlife Service (USFWS) for any federally-listed species and comply with any permit or mitigation requirements stipulated by those agencies.*
- 3. Comply with the mitigation requirements and conditions of any Section 1600 Lake and Streambed Alteration Agreement (Agreement) with CDFW for project reclamation activities, as applicable to rare plant occurrences. If there is a conflict between the terms of mitigation items 1 and 2 above and the Agreement, then the Applicant shall abide by the terms of the Agreement.*

**Mitigation Measure 4.3-2b:** *Riparian Habitat*

*Within one year of the commencement of reclamation-related ground disturbing activity (which includes clearing, grubbing, or grading) associated with the construction of the Lake A diversion structure, realigned Arroyo del Valle, or other areas identified as riparian habitat in the project biological resources assessment report, the applicant shall mitigate for any permanent riparian impacts at a minimum 1:1 ratio. The implementation of mitigation for the loss of riparian habitat may be addressed separately for each phase of reclamation (e.g., Lake A diversion structure or realigned Arroyo del Valle). Exact acreage per phase shall be determined in consultation with CDFW. Mitigation shall be accomplished by complying with the following:*

- 1. Enter into and comply with the mitigation requirements and conditions of a Section 1600 Lake and Streambed Alteration Agreement (Agreement) with CDFW.*
- 2. If the Agreement results in less than a 1:1 mitigation ratio for loss of riparian habitat, then*



*the applicant shall demonstrate that the riparian habitat which went unmitigated/uncompensated as a result of permitting has been mitigated through other means. Acceptable methods include purchase of credits from a mitigation bank or creation/preservation of on-site or off-site riparian habitats through the establishment of a permanent conservation easement, subject to the approval of the Planning Department.*

**Significance after Mitigation:** Less than significant.

**Impact 4.3-2b: The Project Could Result in Loss of Riparian Habitat or Sensitive Natural Community: ADV Realignment**

As stated in Impact 4.3-2a, above, no special-status plant species were documented or considered to have a high potential to occur within the project site. However, three plant species (Congdon's tarplant, Mt. Diablo buckwheat, and Mt. Diablo fairy-lantern) are considered to have a low potential to occur within the project site, as noted above.

***Riparian Habitat***

As previously discussed in Impact 4.3-1, some loss of riparian habitat would occur with the southerly progression of Lake B into the existing ADV alignment. However, any existing riparian habitat lost as a result of the proposed project, discussed in Impact 4.3-1, would be replaced and improved as a result of the proposed project's revegetation and landscaping plans resulting in more diverse and native habitat than existing invasive-choked conditions.

See Table 4.3-6 above for a summary of impact acreage to natural or semi-natural wetland communities. Table 4.3-7 above provides a summary of the proposed mitigation based on restoration and enhancement occurring within the project boundary, as well as upstream and downstream of the project boundary. Communities within the "Restored and Protected Offsite Acreage" category would involve removal of invasive species, long-term monitoring and management of these areas according to an agency-approved habitat mitigation plan with measurable success criteria for the restoration areas, and placement of a conservation easement over the restoration area.

Table 4.3-7 also shows that a total of 50.71 acres of wetland habitats would be re-established or restored. This is at a ratio of 2.26:1 as compared to the proposed projects impacts to existing riparian habitats resulting from re-alignment of the Arroyo. Finally, Table 4.3-8 and Figure 4.3-3 describe or show the proposed habitat features and their function and/or benefit.

In addition, realignment of the ADV would increase the size of Lake B by about 43 acres (as compared to existing conditions), and this expanded portion of Lake B would likely be considered a jurisdictional water of the U.S. and/or State in the future, and provide additional habitat value, following reclamation. This acreage provides an additional offset to potential project impacts.

***Sensitive Natural Community***

As noted in Impact 4.3-2a, above, no special-status plant species were documented or considered to have high potential to occur within the project site. However, the three plant species (listed above) are considered to have a low potential to occur.

Despite the loss of habitat associated with the realignment of the ADV, the proposed project's revegetation and landscaping plans would result in more diverse and native habitat than existing conditions, as discussed above (CEMEX 2019). Furthermore, modification of the ADV requires 404/401 and streambed alteration permits issued by the USACE, USFWS, NMFS, RWQCB, and

CDFW. The Applicant has and will continue to consult with these agencies relating to the realignment of the ADV to ensure that adverse impacts of stream alteration on fish and wildlife would be less than significant. Mitigation Measures 4.3-1a, “Obtain Regulatory Entitlements and Authorizations,” 4.3-2a, “Special Status Plants,” and 4.3-2b, “Riparian Habitat” are recommended to reduce any potentially significant impacts to a less than significant level. With mitigation requiring compliance with permits and relevant conditions of approval and implementing avoidance and minimization of impacts on special status plants and riparian, impacts to riparian habitat and other sensitive natural communities resulting from the proposed project would be less than significant.

**Level of Significance:** Potentially Significant

**Mitigation Measures:** Implement Mitigation Measures 4.3-1a, 4.3-1a, 4.3-1b, 4.3-1c, 4.3-1d, 4.3-1e, 4.3-1f, 4.3-1g, 4.3-1h, 4.3-2a, and 4.3-2b.

**Significance after Mitigation:** Less than significant.

**Impact 4.3-2c: The Project Could Result in Loss of Riparian Habitat or Sensitive Natural Community: Berms and Overflow Outlet Between ADV and Lake B**

As noted in Impact 4.3-2a, above, no special-status plant species were documented or considered to have high potential to occur within the project site. However, the three plant species (listed above) are considered to have a low potential to occur.

Despite the loss of habitat associated with the realignment of the ADV, the proposed project’s revegetation and landscaping plans would result in more diverse and native habitat than existing conditions, as discussed above (CEMEX 2019). Furthermore, construction of berms and the Lake B overflow outlet along the ADV requires 404/401 and streambed alteration permits issued by the USACOE, RWQCB, and CDFW. The Applicant has and will continue to consult with these agencies relating to the realignment of the ADV to ensure that adverse impacts of stream alteration on fish and wildlife would be less than significant. Mitigation Measures 4.3-1a, “Obtain Regulatory Entitlements and Authorizations,” 4.3-2a, “Special Status Plants,” and 4.3-2b, “Riparian Habitat” are recommended to reduce any potentially significant impacts to a less than significant level. With mitigation requiring compliance with permits and relevant conditions of approval and implementing avoidance and minimization of impacts on special status plants and riparian, impacts to riparian habitat and other sensitive natural communities resulting from the proposed project would be less than significant.

**Level of Significance before Mitigation:** Significant

**Mitigation Measures:** Implement Mitigation Measures 4.3-1a, 4.3-1a, 4.3-1b, 4.3-1c, 4.3-1d, 4.3-1e, 4.3-1f, 4.3-1g, 4.3-1h, 4.3-2a, and 4.3-2b.

**Significance after Mitigation:** Less than Significant

**Impact 4.3-2d: The Project Could Result in Loss of Riparian Habitat or Sensitive Natural Community: North Reclamation Area**

Reclamation of the Northern Reclamation Area is described in Impact 4.3-1d above. As shown in Figure 4.3-1, some riparian habitat and sensitive natural community is located in the southwest

corner of area A1, located in the Northern Reclamation Area. This area would remain and not be a part of areas to be filled, graded, or otherwise disturbed, as shown in Figure 4.3-4.

The vegetation within the actively mined portions of the project boundary is predominantly limited to locations around mining infrastructure, between and alongside roads utilized to access the active quarry, relatively undisturbed piles of sand and gravel, and other areas that have remained undisturbed for sufficient periods of time to allow colonization by primarily annual non-native plant species.

As this area is highly disturbed and the only area featuring riparian habitat or sensitive natural community will not be disturbed, reclamation activities in the Northern Reclamation Area will have less than significant impacts associated with the loss of riparian habitat or other sensitive natural communities.

**Level of Significance:** Less than Significant

**Mitigation Measure:** None required.

**Impact 4.3-3a: The Project Would Have a Substantial Adverse Effect on State or Federally Protected Wetlands: Lake A Reclamation and Diversion Structure Construction**

Wetlands delineated within the project area include depressional seasonal marsh, riverine seasonal marsh, willow riparian wetland, and seasonal excavated basin. Other aquatic resources mapped within the project area include intermittent streams, perennial stream, ephemeral drainage, breached quarry pond, quarry ponds, silt ponds, percolation ponds, and excavated basin. The U.S. Fish and Wildlife Wetland Inventory Mapper has mapped five (5) wetland communities within the project area, including Freshwater Forested/Shrub Wetland, Riverine habitat, Lake, Freshwater Pond, and Freshwater Emergent Wetland (USFWS 2019, as cited in Helix 2020a). A total of 318.98 acres of aquatic resources were mapped within the project area (Helix 2020a). Table 4.3-2, above, characterizes aquatic resources in the project area.

Of the 318.98 acres of aquatic resources delineated in the project area, 0.06, 0.09, and 2.69 acres are potentially jurisdictional depressional seasonal marsh, riverine seasonal marsh, and willow riparian wetland, respectively. All three of these protected wetland areas are located at the southern end of Lake A, in the vicinity of the proposed diversion structure (Helix 2020a). Therefore, construction of the diversion structure at Lake A would constitute a potentially significant impact to state and federally protected wetlands.

Implementation of Mitigation Measure 4.3-3 would reduce these potential impacts to a less than significant level by replacing directly and indirectly impacted wetlands at a 1:1 ratio. With mitigation, impacts to state or federally protected wetlands would be less than significant.

**Level of Significance before Mitigation:** Significant

**Mitigation Measure 4.3-3:** 1:1 Wetland Compensation Ratio

*Prior to the commencement of reclamation-related ground disturbing activity (which includes clearing, grubbing, or grading) associated with the construction of the Lake A diversion structure, realigned Arroyo del Valle, or in other areas identified as containing wetlands in the project aquatic resource delineation report, the applicant shall mitigate for direct and indirect wetland impacts at a 1:1 ratio. The implementation of mitigation for the loss of wetlands may be addressed separately for each phase of*

*reclamation (e.g., Lake A diversion structure or realigned Arroyo del Valle). Exact acreage per phase shall be determined prior to initiating that phase based on the verification of the preliminary jurisdictional determination by the USACE. Mitigation shall be accomplished by complying with the following:*

- a) Obtain and comply with the mitigation requirements and conditions of a Section 404 Permit(s) and Section 401 Water Quality Certification(s) for reclamation activities, as applicable.*
- b) If regulatory permitting processes result in less than a 1:1 compensation ratio for loss of wetlands, then the applicant shall demonstrate that the wetlands which went unmitigated/uncompensated as a result of permitting have been mitigated through other means. Acceptable methods include purchase of credits from a mitigation bank or creation/preservation of on-site or off-site wetlands through the establishment of a permanent conservation easement, subject to the approval of the Planning Department.*

**Significance after Mitigation:** Less than Significant

**Impacts 4.3-3b: The Project Would Have a Substantial Adverse Effect on State or Federally Protected Wetlands: ADV Realignment and the Construction of Berms and Overflow Outlet Between ADV and Lake B**

As noted above in Impact 4.3-3a, of the 318.98 acres of aquatic resources delineated in the project area, 0.06, 0.09, and 2.69 acres are potentially jurisdictional depressional seasonal marsh, riverine seasonal marsh, and willow riparian wetland, respectively. All three of these wetland areas are located at the southern end of Lake A, in the vicinity of the proposed diversion structure (Helix 2020a). Therefore, impacts to state or federally protected wetlands as a result of the proposed project would be less than significant for activities associated with the ADV realignment, construction of berms along the ADV and Lake B overflow outlet, or reclamation in the Northern Reclamation Area.

**Level of Significance:** Less than Significant

**Mitigation Measure:** None required.

**Impact 4.3-3c: The Project Would Have a Substantial Adverse Effect on State or Federally Protected Wetlands: Northern Reclamation Area**

Reclamation of the Northern Reclamation Area is described in Impact 4.3-1d above. Appendix D-3, "Aquatic Resources Delineation," indicates no state or federally protected wetlands are located in the Northern Reclamation Area. Therefore, impacts to state or federally protected wetlands as a result of the proposed project would be less than significant for activities associated with reclamation in the Northern Reclamation Area.

**Level of Significance:** Less than Significant

**Mitigation Measure:** None required.

**Impact 4.3-4: The Project Could Interfere Substantially With The Movement Of Any Native Resident Or Migratory Fish Or Wildlife Species Or With Established Native Resident Or Migratory Wildlife Corridors, Or Impede The Use Of Native Wildlife Nursery Sites**

While impacts analyses associated with protected species and their habitats, riparian habitat or other sensitive natural communities, and protected wetlands were broken down in Impacts 4.3-1, 4.3-2, and 4.3-3 to look at each element of the proposed project, this impact statement evaluates the project as a

whole regarding whether the project could substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

### ***Fish, Amphibian, and Reptile Passage***

The ADV is a wildlife movement corridor that would be considered significant on a regional basis. It is a tributary stream to Alameda Creek, which has historically been a spawning area for fish species, including central California coastal rainbow trout/steelhead (*Oncorhynchus mykiss*) and coho salmon (*Oncorhynchus kisutch*) (SFEI 2013, as cited in Brown and Caldwell 2020). Fish barriers currently exist on ADV downstream of the project site; however, in recent years numerous fish passage projects were constructed on Alameda Creek and its tributaries to remove barriers to, and encourage anadromous fish migration into, the upper creek system (Brown and Caldwell 2020). As part of its 404 permit process, the permittee would also undergo consultation with the NMFS (thru the USACE) relating to potential listed fisheries.

The proposed project's diversion system was designed to meet CDFW requirements for anadromous fish passage and screening. These criteria include:

- **Fish passage:** Cross-channel structures should include a passable flow bypass structure, and off channel flow diversions should include return flow channels to avoid trapping.
- **Bypass flows:** Zone 7 requested that the ADV diversion allow for controlled diversion bypass flows of up to 40 cfs in winter/spring and 15 cfs in summer/fall (email from Colleen Winey, geologist at Zone 7 to Nathan Foged, engineer at BC dated August 16, 2013).
- **Fish screening:** CDFW criteria require fish screens to be sized such that the approach velocity entering the screen does not exceed 0.33 foot per second (ft/s) for all self-cleaning screens located in on-stream installations. For screens without automatic cleaning, the approach velocity is limited to one-fourth of the self-cleaning screens. Fish screens are typically sized by dividing the desired diversion flow (e.g., 500 cfs) and the limiting approach velocity (e.g., 0.33 ft/s), which results in the minimum area of fish screen required. For example, a 500 cfs diversion limited to 0.33 ft/s approach velocity would require at least 1,515 square feet (ft<sup>2</sup>) of fish screen. The U.S. Bureau of Reclamation (USBR) recommends the use of a 10 percent safety factor, which would increase the required area in this example to 1,667 ft<sup>2</sup> (USBR 2006, as cited in Brown and Caldwell 2020).

The ADV diversion system would consist of the following interrelated components, which are also shown in Figure 4.3-5, "Schematic Representation of Diversion System"):

1. Intake and fish exclusion: This component diverts water away from the ADV channel through an intake structure that incorporates a device (e.g., screen) to prevent fish capture or trapping.
2. Hydraulic grade control: This component raises upstream water levels to create the hydraulic head required for lateral diversions, and to limit bypass flows in the ADV.
3. Fish passage and/or bypass: This component allows fish to move upstream past any physical barriers created by the hydraulic grade control structure, and includes structures that will measure and control bypass flows that continue downstream in the ADV.
4. Diverted flow control structure: This structure controls flow through the intake, and will include a device to adjust release rates, and a device to measure the diverted discharge.

5. Conduit into Lake A: This component consists of a pipe to convey diverted water into Lake A.
6. Conduit from Lake A to Lake C: This component consists of a pipeline to convey water from Lake A to Lake C, and allows for an optional turnout to Lake B (Brown and Caldwell 2020).

The proposed project would allow for fish passage that would otherwise not occur. However, the proposed project involves some interference with the possibility for fish to pass. Many of the impacted communities noted in Table 4.3-5, above, provide habitat for numerous wildlife species, including various amphibians and reptiles. Therefore, mitigation measures 4.3-1a, which requires the Applicant to obtain agency permits and comply with any conditions of approval required by those permits, and 4.3-1b, which protects amphibian and reptile movement, must be implemented to reduce any potential impacts on the movement of migratory or resident wildlife and fish to less than significant levels.

### ***Nesting Birds***

Table 4.3-5, above, notes which existing biological communities, as characterized in Section 4.3.1.4, would be impacted by the proposed project (also compare Figure 4.3-1 to Figure 4.3-2 and Figure 2-3). Many of these impacted communities include wetland vegetation provides potential nesting habitat for various bird species (Foothill Associates 2019). Therefore, the proposed project would result in a loss of habitat for special status species residing in these communities. However, with the implementation of Mitigation Measures 4.3-1c and 4.3-1d potential project impacts would be less than significant.

### ***Diversion Structure***

Under LAVQAR and the approved reclamation plan, the permittee is required to divert the first 500 cfs from the ADV into Lake A. Absent the ability to keep a low flow channel that ensures that a minimum amount of water is retained in the ADV, there could be adverse impacts to habitat by reducing or eliminating flows downstream for the Diversion Structure. However, the project description requires that a minimum flow be retained in the ADV so the first 500 cfs of diversion would only occur if the minimum flow is retained. In addition, Mitigation Measure 4.3-1a requires the applicant to obtain agency permits. Resource agencies would require conditions of approval that would ensure that any impacts to wildlife and fisheries be reduced to a less than significant level.

**Level of Significance before Mitigation:** Potentially Significant

**Mitigation Measures:** Implement Mitigation Measures 4.3-1a, "Obtain Regulatory Entitlements and Authorization, 4.3-1b, "Special Status Amphibian and Reptile Species," 4.3-1c, "Nesting Raptors," and 4.3-1d, "Nesting Birds."

**Significance after Mitigation:** Less Than Significant

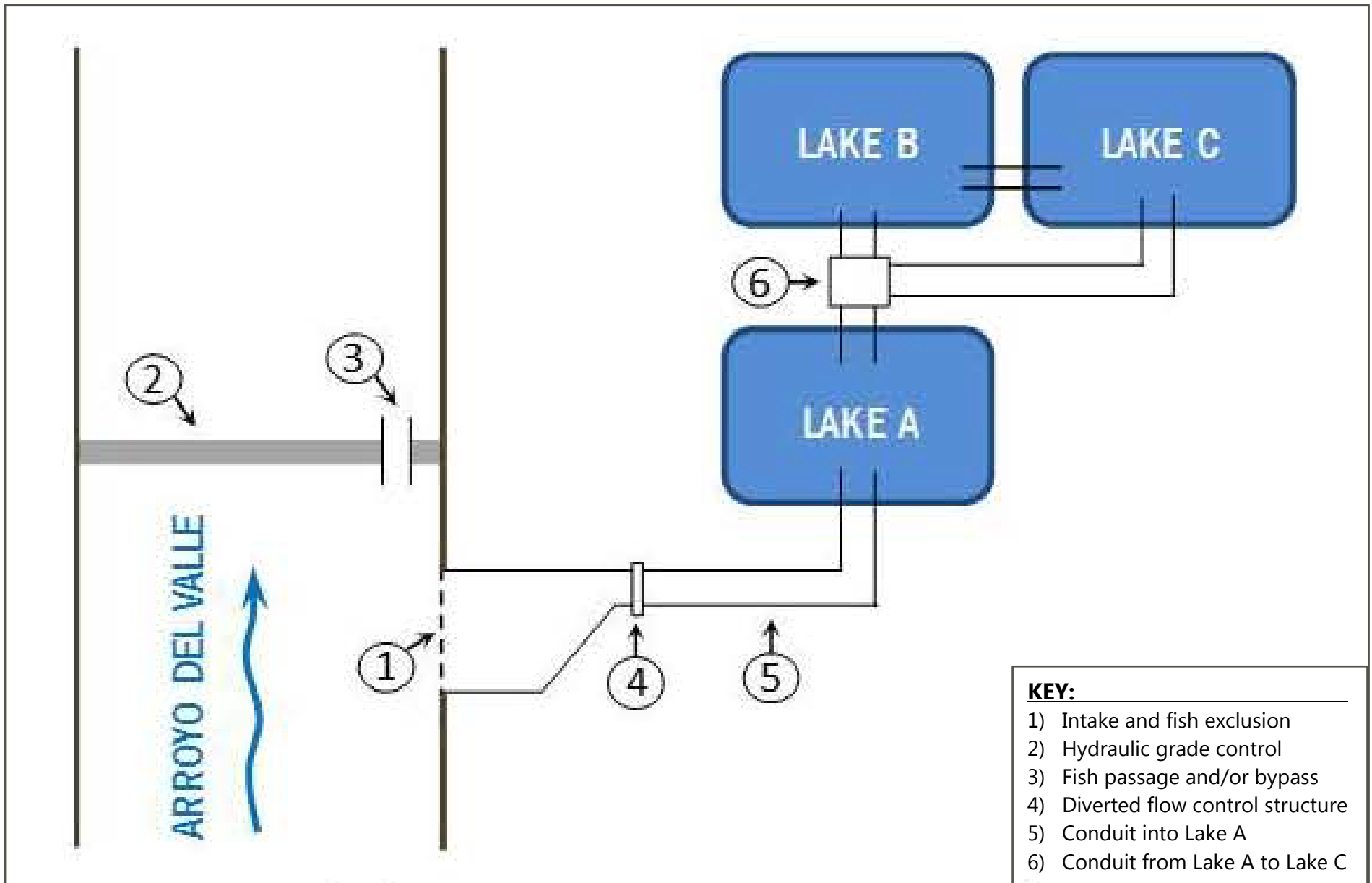
### **Impact 4.3-5: The Project Could Conflict with Local Policies or Ordinances Protecting Biological Resources**

The proposed project's consistency with local policies or ordinances protecting biological resources are addressed in detail in Table 4.7-1, "Project Consistency With Local Planning Documents," in Section 4.7, Land Use and Planning. Of particular note among these policies is Policy 129 of the EACP, which is quoted in Section 4.3.2.3, above. Policy 129 requires protection of existing riparian woodland habitat present along the ADV, except where Policies 128 and 164 apply. Policies 128 and

164 apply to the proposed project, which is a reclamation plan for a quarry to include an end use of open space, appropriate biological restoration, contouring of lakes to simulate natural bodies of water, and protection or in-kind replacement of significant trees. Therefore, the proposed project is consistent with these policies, in addition to those outlined in Table 4.7-1, resulting in a less than significant impact regarding conflicts with local regulations to protect biological resources.

**Level of Significance:** Less than Significant

**Mitigation Measure:** None required.



SOURCE: Brown & Caldwell 2019, Hydraulic Design Study Figure 5-2; modified by Benchmark Resources in 2020.

NOTE: Figure is not printed to scale.

**Schematic Representation of Diversion System**  
 ELIOT QUARRY SMP-23 SEIR  
**Figure 4.3-5**



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