

## 4.4 BIOLOGICAL RESOURCES

This section describes existing biotic habitats and special-status species on the project site and identifies potential impacts on biological resources from implementation of the project. Information in this section is primarily drawn from the following sources:

- Biological Resources Report prepared by Mosaic Associates in April 2016 and revised in June 2016 (see **Appendix C**)
- Trees Survey and Report prepared by Joseph McNeil in December 2016 (see **Appendix D**)
- Wetland Delineation prepared by Mosaic Associates in April 2012 and revised June 2014 (see **Appendix E**)
- Preliminary Jurisdictional Determination prepared by the U.S. Army Corps of Engineers (USACOE) in December 2015 (see **Appendix E**)
- The *Contra Costa County General Plan 2005-2020* (General Plan)

These reports are available for review at the Contra Costa County (County), Department of Conservation and Development, Community Development Division, 30 Muir Road, Martinez, California.

Comments related to biological resources were received in response to the Notice of Preparation for this draft environmental impact report. The East Bay Regional Park District (EBRPD) and California Department of Fish and Wildlife (CDFW) submitted comment letters conveying concerns associated with tree removal on site and potential impacts to special-status species, nesting birds, migratory birds, and other wildlife in the area. This section addresses these comments.

### 4.4.1 EXISTING CONDITIONS

#### Habitat Types

Habitats and plant communities found at the project site include developed/orchard, eucalyptus woodland, intermittent drainage/seasonal wetland, and valley oak woodland/savanna (see **Figure 4.4-1**). The open space west of the project site supports blue oak woodland, patches of annual grassland, and scattered patches of chaparral. Habitat types present at the project site are summarized in **Table 4.4-1** and described below. **Figure 4.4-1** and **Table 4.4-1** include the areas of habitats in the EBRPD property on which the Parcel D trail would be constructed and

the potential wetland mitigation area in the open space west along Drainage 1 (see discussion of wetland mitigation in **Subsection 4.4.2**).

**Table 4.4-1 Habitats Present within the Project Site**

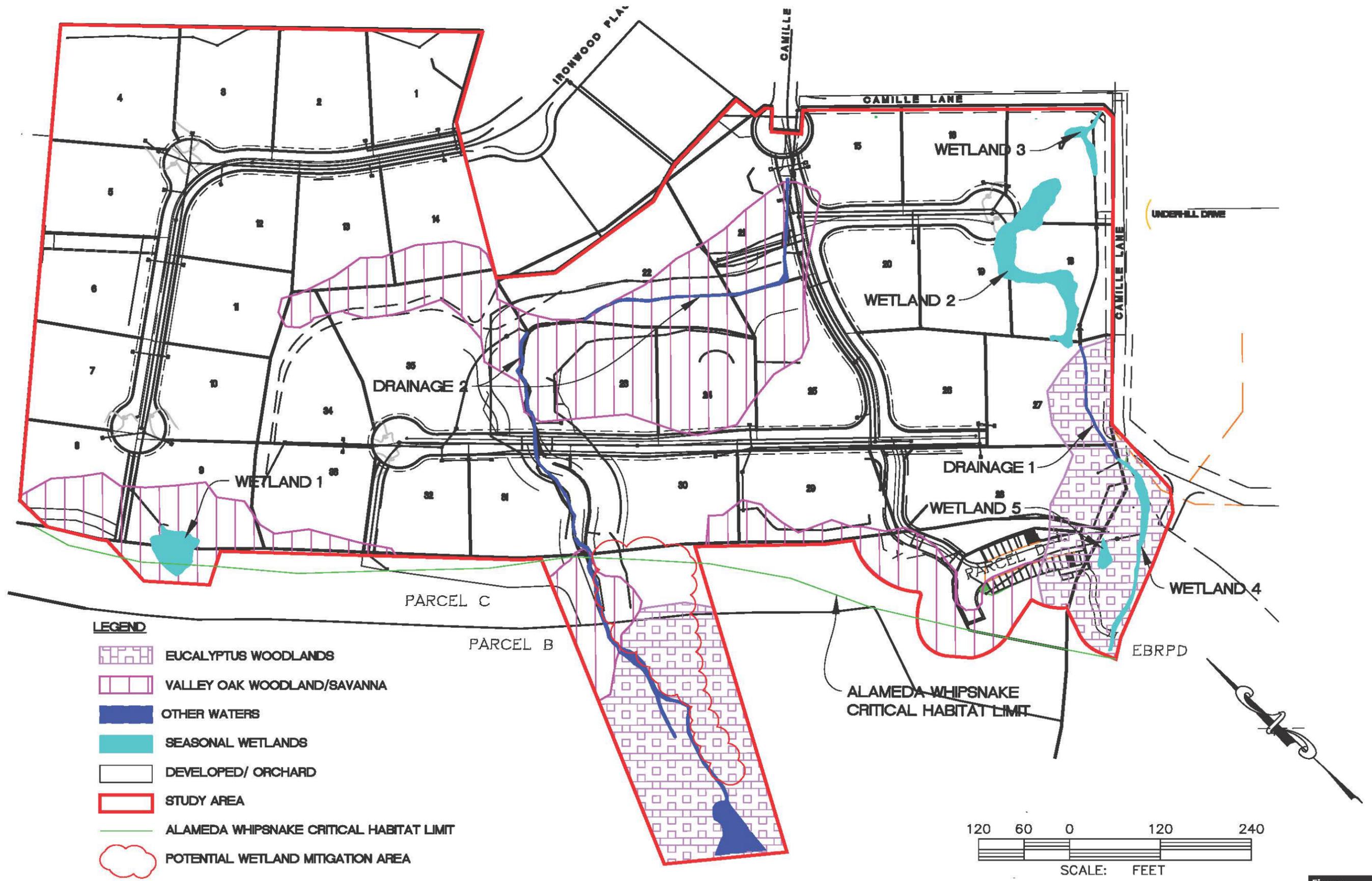
Habitat Type	Acres
Developed/orchard	16.81
Eucalyptus woodland	2.25
Freshwater seasonal wetland (potentially jurisdictional)	0.28
Intermittent drainage (other waters)	0.18
Valley oak woodland/savanna	4.11
<b>Total</b>	<b>23.63</b>

Source: Mosaic Associates, 2016.

Note: A preliminary jurisdictional determination on the extent and location of wetlands and waters of the U.S. was issued by the U.S. Army Corps of Engineers on 12/28/2015 (see **Appendix E**).

### Developed/Remnant Orchard

Due to past development, developed/remnant orchard habitat comprises approximately 71 percent of the project site. Developed portions of the project site include the residence, office, barn complex, horse paddocks, landscaping, and paved driveways. Large portions of the project site contain formerly cultivated lands that had been planted as a walnut orchard. Native coast live oaks (*Quercus agrifolia*) are located around the eastern perimeter of the project site, and other native trees are found in low numbers throughout this portion of the project site. Mature landscaping surrounds the single residence, located west of the entry drive, the barn complex in the center of the property, and the office building in the southeast corner of the project site. The landscaped areas surrounding the residence and the driveways receive regular maintenance, watering, and weeding. Vegetation in the former orchards is mowed or disced routinely. Dominant trees in the landscaped areas are London plane (*Platanus acerifolia*), coast redwood (*Sequoia sempervirens*), and valley oak (*Quercus lobata*). English walnut (*Juglans regia*) is present in the orchard on both sides of the entry drive. While ornamental species dominate the actively maintained landscape, non-native ruderal species tolerant of periodic mowing and discing including wild oats (*Avena fatua*), ripgut brome (*Bromus*



Existing Drainages, Wetlands, and Natural Features

Figure 4.4-1

Source: Alquist, 2017

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*diandrus*), Italian ryegrass (*Lolium multiflorum*), cutleaf geranium (*Geranium dissectum*), vetch (*Vicia sativa*), and mustard (*Hirschfeldia incana*) are present in the orchard. Himalaya blackberry (*Rubus armeniacus*), English ivy (*Hedera helix*), and photinia (*Photinia* sp.) are present along the fence lines on the northern and southern boundaries of the project site.

Landscaped areas and the remnant orchard provide habitat for a number of common wildlife species, including raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginiana*), and black-tailed deer (*Odocoileus hemionus columbianus*), as well as foraging and nesting habitat for numerous bird species, including scrub jay (*Aphelocoma californica*), lesser goldfinch (*Carduelis psaltria*), house finch (*Carpodacus mexicanus*), western bluebird (*Sialia mexicana*), and dark-eyed junco (*Junco hyemalis*). Avian diversity is higher within the project site than is commonly found in a developed, suburban landscape due to the structural diversity and extensive cover in the mature landscape, the mix of trees, and the location of the project site adjacent to extensive open space to the west.

The barn and outbuildings within the project site provide suitable roosting habitat for several common and rare species of bats, including Townsend's big-eared bat (*Corynorhinus townsendii*) and pallid bat (*Antrozous pallidus*).

### Eucalyptus Woodland

A grove of mature blue-gum eucalyptus trees (*Eucalyptus globulus*) is located along an intermittent drainage in the southwest portion of the project site, and additional eucalyptus trees are located east of the office building (see **Figure 4.4-1**).

Understory vegetation in the eucalyptus grove is sparse to non-existent. Scattered shrubs and vines of poison oak (*Toxicodendron diversilobum*) and small-stature California buckeye (*Aesculus californica*) are present, and the ground is heavily littered with large to small limbs, exfoliated bark, and leaves. The eucalyptus east of the office building are confined to a smaller area, and do not form a dense grove.

Birds expected to frequent the eucalyptus grove include red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk (*Accipiter cooperii*), yellow-rumped warbler (*Dendroica coronata*), rubycrowned kinglet (*Regulus calendula*), and chestnut backed chickadee (*Poecile rufescens*).

### Valley Oak Woodland/Savanna

Valley oak woodland is present on the hillslopes north of the residence, barn complex, and office building as well as the steep hillside west of the developed portion of the project site. In addition to valley oak, California bay laurel (*Umbellularia californica*), buckeye, coast live oak, and flowering plum (*Prunus* sp.) contribute to the overstory in this type. The understory contains the native species toyon (*Heteromeles arbutifolia*) and poison oak, non-native English ivy and

periwinkle (*Vinca major*), and an assortment of non-native grasses. Much of the tree canopy on the slopes surrounding the developed portions of the project site would conform most closely to the Valley Oak Woodland (*Quercus lobata* Woodland Alliance). Within the project site, this woodland is distinguished from the surrounding developed/orchard type due to the dominant cover of valley oaks and other native tree species.

Valley oak woodland provides foraging and nesting habitat for many species of birds, including acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), scrub jay, oak titmouse (*Baeolophus inornatus*), chestnut backed chickadee, spotted towhee (*Pipilo maculatus*), and white-breasted nuthatch (*Sitta carolinensis*). Cavities in the larger valley oaks provide roost habitat for several species of bats, including pallid bat and Townsend's big-eared bat. More densely vegetated portions of the wooded slope in the western portion of the project site also provide suitable foraging and denning habitat for San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), although no stick lodges were observed during the surveys conducted for this report. Woody debris, rocks, and damp leaf litter in less disturbed areas provide cover for the California slender salamander (*Batrachoseps attenuatus*).

## Water Features

Based on a preliminary wetland delineation conducted in March 2012, and revised in 2014, there are five areas of seasonal freshwater wetland and two intermittent drainages within the project site (see **Appendix E**). The revised delineation was submitted to the United States Army Corps of Engineers (USACE) in June 2014, and the USACE issued a preliminary jurisdictional determination on the extent and location of wetlands and other waters of the U.S. that may be subject to the regulatory authority of the USACE on December 28, 2015. The areas shown in **Table 4.4-1** are consistent with the areas shown on the preliminary jurisdictional determination map by the USACE for the area subject to project development.

### *Intermittent Drainages*

Two intermittent drainages flow through the project site in an easterly direction, conveying runoff seasonally from open space land to the west to the offsite storm drain system, which ultimately drains to San Ramon Creek. Drainage 1 is the larger of the two drainages on site, and bisects the center of the project site. Portions of this feature were relocated in the past to skirt the entry drive and orchard. Much of it is lined with rock and is situated within the mature horticultural landscape south and east of the residence. The channel is shallow and lacks pools. Drainage 2 is located near the southern boundary of the project site. Drainage 2 is smaller and less distinct than Drainage 1; it disappears in the old orchard at the east side of the property, and is associated with seasonal Wetlands 2, 3, 4, and 5 (described below).

These intermittent drainages provide very limited habitat value, given their location in a developed setting. Surface flow in the drainages is too episodic to provide habitat for aquatic species. The same wildlife species using other habitats within the project site would also be expected to use these drainages.

### *Seasonal Freshwater Wetlands*

- There are five areas of seasonal freshwater wetland within the project site:
- Wetland 1 is located west of the residence, and appears to be isolated. The dominant plant in Wetland 1 is spreading rush (*Juncus patens*).
- Wetland 2 is located in the eastern portion of the project site, and is associated with runoff from the office building, parking lot and irrigated landscape as well as runoff from Drainage 2. Dominant plants in Wetland 2 include umbrella sedge (*Cyperus eragrostis*), spiny cocklebur (*Xanthium spinosum*), and Mediterranean barley (*Hordeum marinum*).
- Wetland 3 is located just east of Wetland 2, and is situated in a low-lying portion of the project site next to a culvert that conveys runoff from this area into stormwater system beneath Camille Lane. Wetland 3 is fed by runoff from Wetland 2 and Drainage 2. Dominant plants in Wetland 3 are Italian ryegrass (*Lolium multiflorum*) and Mediterranean barley (*Hordeum marinum*).
- Wetland 4 is located on EBRPD property, immediately upstream and in the same channel as Drainage 2. Italian ryegrass is the dominant species in this feature.
- Wetland 5 is located on EBRPD property in an opening surrounded by eucalyptus trees. Spreading rush is the dominant plant in Wetland 5.

Following an above-normal rainy season in 2011, the landowners excavated a shallow swale through the orchard in the western portion of the project site to convey sheet flow runoff away from the neighboring residences to the north. This excavated feature was examined during the preliminary wetland delineation and was determined to be an upland area that lacked wetland vegetation, hydrology, or soils.

The seasonal wetlands provide very limited habitat value, given their location in a developed setting. Surface flow into the wetlands is too episodic to provide habitat for aquatic species. The same wildlife species using other habitats within the project site would also be expected to use the seasonal wetlands drainages.

## **Special-Status Species and Natural Communities**

Several species of plants and animals within California have low populations, limited distributions, or both. Such species may be considered “rare” and are vulnerable to extirpation as the State’s human population grows and encroaches upon special-

status species habitat. Several special-status plants and animals have potential to occur on or in the vicinity of the project site. Lists of these species are found in **Appendix C**. Special-status species with habitat requirements not met on the project site or vicinity were eliminated from further consideration.

### Special-Status Plants

The biological resource report evaluated 71 special-status plant species with potential to occur within the project site vicinity due to known occurrences within the region. Thirty-three plant species were eliminated from further consideration due to lack of suitable habitat within the project site. Focused botanical surveys for the remaining target species were conducted on April 16, May 24, and September 28, 2012; May 10, 2013; and April 14 and July 28, 2015. The northern California black walnut (*Juglans californica* var. *hindsii*) was the only special-status plant species present on site; however, this plant grew from grafted rootstock associated with the old English walnut orchard. Northern California black walnut was widely used as the cultivated rootstock for English walnut, with which it readily hybridizes. Trees that germinated before the European introduction of English walnut in 1840 are considered native by the California Native Plant Society because they could not have hybridized with English walnut. Because the black walnut on site grew from grafted rootstock that was commercially produced long after 1840, the northern California black walnut on site is highly unlikely to be native and is most certainly not a remnant of an historic population. The black walnut present on site would therefore not be considered as a rare plant by the California Native Plant Society.

### Special-Status Plant Communities

Special-status natural communities are those that are considered rare in the region, support special-status plant, or wildlife species, or receive regulatory protection (i.e., Sections 404 and 401 of the Clean Water Act (CWA), CDFW Section 1600 et seq. of the California Fish and Game Code, and/or the Porter-Cologne Act). In addition, the CNDDDB has designated a number of communities as rare; these communities are given the highest inventory priority.

While three special-status natural communities occur within the nine-quad region surrounding the project site, including Northern Coastal Salt Marsh, Northern Maritime Chaparral and Serpentine Bunchgrass, none of these communities are present within the project site.

### Special-Status Animals

The Biological Resource Report evaluated 54 special-status wildlife species with potential to occur within the project site vicinity due to known occurrences within the region. Of these, 45 species were determined to have no or unlikely potential to occur due to the lack of suitable habitat within the project site. Nine special-status

wildlife species are considered to have at least a low potential to occur within the project site, including Alameda whipsnake (*Masticophis lateralis euryxanthus*, pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii townsendii*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), American badger (*Taxidea taxus*), great blue heron (*Ardea herodias*), sharp-shinned hawk (*Accipiter striatus*, nesting), Cooper's hawk (*Accipiter cooperii*), and the Bridges' Coast Range shoulderband (*Helminthoglypta nickliniana bridgesi*). Information on these species, including protected status and habitat requirements, is summarized in **Table 4.4-2** and described below and in **Appendix C**.

The grassland, shrubs, and trees on the project site also provide nesting habitat for a variety of birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. The large trees in the open space west of the project site as well as the mixed woodland and grassland in Las Trampas Regional Park to the west provide suitable nesting habitat for the golden eagle (*Aquila chrysaetos*) and the state-threatened Swainson's hawk (*Buteo swainsoni*), although neither species is likely to nest within the project site.

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**Table 4.4-2 Special-Status Wildlife Known to Occur in the Project Vicinity**

Species	Status (Federal/ State)	Habitat Requirements	Potential for Occurrence on Project Site
<b>Reptiles and Amphibians</b>			
Alameda whipsnake <i>Masticophis lateralis euryxanthus</i>	FT / ST/SSC	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna and woodland habitats. Mostly south-facing slopes and ravines, with rock outcrops, deep crevices, or abundant rodent burrows, where shrubs form a portion of the cover.	Low potential to occur. The project site is located adjacent to critical habitat and is composed of landscaped and urbanized habitats not utilized by this species.
Coast horned lizard <i>Phrynosoma coronatum</i>	SSC	Frequents a wide variety of habitats, but most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other native insects.	Not expected to occur due to the absence of suitable habitat; site is apparently outside the historic range of the species in Contra Costa County.
California red-legged frog <i>Rana draytonii</i>	FT / CDFW:SS	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to standing water every couple of days to hydrate and requires aestivation habitat in riparian zones not subject to flood events.	Not expected to occur on site. No suitable aquatic habitat in project site and it is physiologically impossible for frogs to reach the project site from the nearest known aquatic habitats off site.
California Tiger Salamander <i>Ambystoma californiense</i>	FT / ST	Needs underground refuges, especially pocket gopher and ground squirrel burrows for juveniles and adult; and vernal pools or other seasonal water sources for breeding.	Not expected to occur on site due to absence of suitable aquatic breeding habitat. Site is apparently outside the historical known range for the species in Contra Costa County.
<b>Invertebrates</b>			
Bridges' Coast Range shoulderband snail <i>Helminthoglypta nickliniana bridgesii</i>	CDFW SA G3T1, S1	Inhabits open hillsides of Alameda and Contra Costa Counties. Tends to colonize under tall grasses and weeds.	May be present: Suitable habitat is present in the grassy area in the far west corner of the project site.

Species	Status (Federal/ State)	Habitat Requirements	Potential for Occurrence on Project Site
<b>Birds</b>			
Cooper's hawk (nesting) <i>Accipiter cooperii</i>	State WL	Inhabits woodland, chiefly of open, interrupted, or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains; also, live oaks.	Moderate potential to occur on site. Suitable nesting and foraging habitat is present in and adjacent to project site.
Sharp-shinned hawk (nesting) <i>Accipiter striatus</i>	State WL	Ponderosa pine, black oak, riparian deciduous, mixed conifer and Jeffrey pine habitats. Prefers riparian areas. North-facing slopes with plucking perches are critical requirements. Nests usually within 275 feet of water.	Low. Potential foraging and atypical nesting habitat present.
Golden eagle (nesting and wintering) <i>Aquila chrysaetos</i>	USFWS: BAGEPA	Rolling foothills, mountain areas, sage juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Not expected to occur on site, but may occur adjacent to project site.
Bald eagle (nesting and wintering) <i>Haliaeetus leucocephalus</i>	USFWS: BAGEPA	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree w/open branches, especially Ponderosa pine. Roosts communally in winter.	Not expected to occur on site due to absence of large bodies of water on site or in the project vicinity. Site is greater than 1 mile from suitable aquatic foraging habitat.
Ferruginous hawk (wintering) <i>Buteo regalis</i>	G4, S3/S4	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon-juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	Unlikely: Limited prey and relatively dense vegetation limit suitability of site for winter use. No observations of ferruginous hawk in vicinity of project site were reported in eBird (accessed 1/12/16).
Swainson's hawk (nesting) <i>Buteo swainsoni</i>	CT/USFWS BCC	Ranges typically in Central Valley, including eastern Contra Costa County. Suitable habitat consists of suitable nest trees (typically riparian, or remnant thereof) and access to high-quality foraging habitat (open habitat in grasslands or agricultural fields). May nest in valley oak trees or eucalyptus.	Unlikely. Project site is outside of typical range of species. Potentially suitable nest trees in valley oaks and eucalyptus in vicinity of the project site. Potential foraging habitat in open grasslands in Las Trampas Regional Wilderness west of the project site.

Species	Status (Federal/ State)	Habitat Requirements	Potential for Occurrence on Project Site
Great blue heron (nesting colonies) <i>Ardea herodias</i>	CDFS	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	The upper third of the nest tree that supported active nests in 2012 within the project site was removed in late 2012 due to hazardous conditions and proximity to public trail. Potential for future nesting is low.
<b>Mammals</b>			
Western mastiff bat <i>Eumops perotis californicus</i>	SSC	Many open, semiarid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral etc. Roosts in crevices in cliff faces, high buildings, trees, and tunnels. Distribution is likely geomorphically determined with the species present only where there are significant rock features offering suitable roosting habitat.	Not likely to occur on site due to absence of suitable habitat (i.e. significant rock features offering suitable roosting habitat).
Pallid bat <i>Antrozous pallidus</i>	SSC	Inhabits deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Low. Suitable habitat is present in project site, but this species is highly sensitive to disturbance. Frequency of ongoing disturbance makes it unlikely that this species would occur on site.
Townsend's western big-eared bat <i>Corynorhinus townsendii townsendii</i>	SSC	Roosts in a wide variety of sites; most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Extremely sensitive to disturbance.	Low. Suitable habitat is present in project site, but this species is highly sensitive to disturbance. Frequency of ongoing disturbance makes it unlikely that this species would occur on site.
San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i>	SSC	Inhabits forest habitats of moderate canopy and moderate to dense understory. May prefer chaparral and redwood habitats. Constructs nests of shredded grass, leaves, sticks and branches, and other material. May be limited by availability of nest-building materials.	Low potential to occur on site. Suitable habitat is present in the woodland in west side of the project site, and species is known to construct nests in close proximity to humans, but no nests were detected during reconnaissance-level surveys.
American badger <i>Taxidea taxus</i>	SSC	Inhabits open areas with grasslands and brush habitat where a high supply of rodent prey exists. Typically burrow for concealment.	Low potential to occur on site. Suitable habitat located adjacent to, and west of, the project site in open oak woodland.

Source: Mosaic Associates, 2016.

Notes: *FT: Federally Threatened*

*SSC: California Species of Special Concern*

*CDFW:SSC California Department of Fish and Game Species of Special Concern*

*ST: California State Threatened*

*State WL: Watch List*

*CDFW SA: California Department of Fish and Wildlife "Special Animal"*

*CDF S: California Department of Forestry "Sensitive" warranting special protection during timber operations*

*USFWS: BAGEPA: Unites States Fish and Wildlife Services: Bald and Golden Eagle Protection Act*

*G4 and S3/S4 are rankings used by NatureServe according to the following system: G = Global rank indicator, based on worldwide distribution at the species level; T = Global trinomial rank indicator, based on worldwide distribution at the infraspecific level; S = State rank indicator, based on distribution within the State at the lowest taxonomic level; 1 = Critically imperiled due to extreme rarity, imminent threats, and/or biological factors; 2 = Imperiled due to rarity and/or other demonstrable factors; 3 = Rare and local throughout its range, or with very restricted range, or otherwise vulnerable to extinction; 4 = Apparently secure, though frequently quite rare in parts of its range, especially at its periphery; 5 = Demonstrably secure, though frequently quite rare in parts of its range, especially at its periphery; R = Reported from the State, awaiting firm documentation ; U = Unrankable; present and possibly in peril, but not enough data yet to estimate rank; ? = Not yet ranked at the scale indicated (G, T, or S); B = Breeding status within the State; rank for breeding occurrences only; N = Non-breeding status within the State; rank for non-breeding occurrences only; OCC = species occurrence was determined from a source other than NatureServe.*

### *Alameda Whipsnake (AWS)*

The AWS is Federally and State-listed as a Threatened species. Based on a review of the most recent California Natural Diversity Database files information provided by California Natural Diversity Data Base (CNDDDB), there are 22 AWS occurrences located within a five-mile radius of the project site, including seven within two miles of the site. The closest AWS occurrences are in the adjacent Las Trampas Regional Wilderness. Critical Habitat for this species was designated by USFWS on October 2, 2006 on open space land west of the existing development (see **Figure 4.4-1**).

The AWS is Federally- and State-listed as a Threatened species. Like all species within the genus *Masticophis*, it is a timid, fast moving, diurnal snake with large eyes and a high metabolism. It measures from three to five feet in length, with a fairly wide head and a slender neck. Unlike the other nominal subspecies, which ranges from northern California, west of the Sierra-Nevada crest, to Central Baja California, this sub-species is restricted to Alameda and Contra Costa counties, with additional occurrence records in San Joaquin and Santa Clara counties. This regional restriction corresponds to the distribution of coastal scrub and chaparral within the area. This habitat restriction may reflect the subspecies preference for friable, well-drained soils.

Primary habitats for AWS include east, southeast, south and southwest facing slopes containing coastal scrub and chaparral, with rock outcrops within approximately 0.5 mile. Typical plant species within occupied habitats of scrub and chaparral communities include California sage (*Artemisia californica*), coyote brush (*Baccharis pilularis*), poison oak, and sticky monkey flower (*Mimulus aurantiacus*). Canopy cover within these habitats is typically open (less than 75 percent cover of total area) with little to no herbaceous understory. "Primary constituent elements" for this snake (i.e. those habitat components that are essential for its primary biological needs, as identified by the USFWS) consist of scrub communities (including mixed chaparral, chamise-redshank chaparral, and coastal scrub) and annual grasslands and oak woodlands that lie adjacent to scrub habitats. Primary constituent elements may also include grasslands and various oak woodlands that are linked to scrub habitats by substantial rock outcrops in riverine corridors.

The average home range size for male AWS is approximately 13.6 acres, with spatial overlapping. Female AWS home range size is approximately 8.4 acres. Female home ranges were spatially overlapped with males. Activity is typically concentrated within a core area, with much of the remaining area not actively used. Movement distances have been recorded between 0.5 and 1.0 mile.

Overnight retreats and hibernacula retreats include small mammal burrows created by deer mice (*Peromyscus maniculatus*) and California voles (*Microtus californicus*). California ground squirrel (*Spermophilus beecheyi*) burrows are rarely used. Other retreat areas include soil crevices, brush piles, woodpiles, and debris (i.e.,

corrugated metal roofing boards, metal boxes), although soil crevices and woodpiles were not used by telemetered snakes.

The main diet for this snake is composed of western fence lizards. Because of special physiological features, AWS are able to warm up faster than their prey, and thus are able to catch most lizards in the early morning before they have had a chance to fully warm up themselves. Other prey items eaten by striped racers include rodents, birds and other snakes. Subadult and adult AWS have been reported as emerging in mid-April, with the males emerging from their hibernacula first. Hatchlings emerge in the first part of August through November.

The oak-bay woodland habitats present west of the project site (and within the area of designated critical habitat) is considered suitable for AWS breeding, rearing, and hibernation, due to the presence of thickets of scrub vegetation and suitable rock outcrops within and adjacent to the woodland areas. There are also sufficient food resources present, especially western fence lizards.

The project site is considered unsuitable for AWS breeding, rearing, and hibernation due to the lack of coastal scrub, chaparral, or rock outcrop habitats typical of areas occupied by AWS. However, the project site contains suitable AWS foraging habitat and refuges due to the presence of food resources, mammal burrows, and woodpiles. Western fence lizard populations (food resources for the AWS) are low in the project site and surrounding developed areas (probably as a result of increased predation by domestic cats from the existing adjacent residential developments). Additionally, the surrounding urban development on three sides of the project site limits the ability of AWS to move through or utilize the area.

The only potential areas for AWS within the project site are two small woodpiles west of the residence that are actively used by the landowner. These woodpiles, located directly adjacent to the eastern edge of the oak woodland at the base of the hillside, could be used by AWS for foraging activities. Although there are scattered small mammal burrows within the project site, they are too far away from the potential feeding areas (i.e. the woodpiles) to likely be used by AWS for cover.

#### ***Pallid Bat and Townsend's Big-eared Bat***

Pallid bats inhabit rocky terrain in open areas in lowlands, foothills, and mountainous areas near water throughout California below 2,000 meters. They feed on crickets, beetles, scorpions and other large invertebrates, often on the ground. Pallid bats roost in caves, rock crevices, mines, hollow trees, buildings and bridges in arid regions in low numbers (<200). They are active from March through November.

Townsend's big-eared bats are moth specialists that inhabit caves and mines, but may also use bridges, buildings, rock crevices and tree hollows in coastal lowlands, cultivated valleys and nearby hills characterized by mixed vegetation throughout California below 3,300 meters. They exhibit high site fidelity and are highly sensitive

to disturbance. They often forage along edge habitats near water and may travel long distances when foraging.

The orchard, woodlands, and structures (barns and outbuildings) within the project site provide potentially suitable foraging and roosting habitat for pallid bat and Townsend's big-eared bat. The buildings present within the project site are in use however, and there is also frequent landscape maintenance across the site. Given the level of on-going disturbance within the project site, and the sensitivity of these bats to disturbance the potential for both bat species to occur is low.

### ***San Francisco Dusky-footed Woodrat***

The San Francisco dusky-footed woodrat, a California Species of Special Concern, is fairly common and widespread throughout the Coast Range and the northern interior of California. It is one of 11 subspecies of woodrat, and is restricted to the San Francisco Bay Area.

San Francisco dusky-footed woodrats are highly arboreal, often associated with evergreen or live oaks and other trees and shrubs as well as with chaparral and coastal scrub plant communities. They generally prefer a moderate canopy for protection from predators. They build stick lodges from branches of trees and shrubs at the base of, or in, a tree or shrub. Houses may measure up to 8 feet in diameter and height, and can be used generation after generation. This species is nocturnal, feeding on nuts and fruits, fungi, foliage and some forbs.

Although marginally suitable habitat is present in the woodland in the western portion of the project site, no woodrat lodges were observed on site.

### ***American Badger***

American badgers are heavy bodied, short-legged, grayish mammals that have a white medial stripe from nose over the top of the head and down the back. Badgers have a black nose, white cheeks, and black spot in front of each ear. Their feet are black with extremely long front claws. The belly and the short tail are yellowish.

This mammal is most commonly found in the drier open stages of most shrub, forest, and herbaceous habitats in areas with friable soils. They are usually absent from mature chaparral. Badgers are generally associated with treeless regions, prairies, park lands and cold desert areas. Badgers may avoid areas of human habitation. Badgers dig burrows in friable soils for cover.

American badgers are carnivorous and feed on fossorial rodents including ground squirrels (*Spermophilus beecheyi*), cottontail rabbits (*Sylvilagus* spp.), jackrabbits (*Lepus* spp.), small rodents and pocket gophers (*Thomomys* spp.).

Suitable habitat is located to the west of the project site in the open oak woodland and there are no barriers to prevent individuals from ranging into the project site. The extensive tree cover present on site, relatively heavy clay content of the soils and the presence of existing development on three sides of the project site

however, limit the suitability of the site for American badger. Therefore this species is considered to have a low potential to occur on site. No potential badger dens or evidence of badger occupancy were observed within the project site.

### *Great Blue Heron*

The great blue heron is a relatively common year-round resident in much of California, feeding on small fish, rodents, amphibians, snakes, lizards, crustaceans, and insects. Herons perch and roost in tall and often secluded trees and typically nest in colonies in tops of secluded large snags or live trees, usually among the tallest available.

The great blue heron is designated as a “Special Animal” by the CDFW. The California Department of Forestry classifies the great blue heron as a “sensitive species.” The Board of Forestry assigns this classification to species that warrant special protection during timber operations. The 2010 Forest Practice Rules (Sections 919.3, 939.3, 959.3[b][3] and 961.1[a][C]) specify that a buffer of 300 feet around a tree or trees containing five or more active nests shall be observed during timber harvest operations, leaving the nest tree(s) standing and unharmed. Permission to remove a live tree constituting a rookery during timber harvest operations must be granted by CDFW.

A partially dead blue gum eucalyptus tree adjacent to the office parking lot along the southern boundary of the project site supported roosting and nesting habitat for the great blue heron through 2012. The presence of the heron rookery within the project site was noted in a study conducted by Audubon Canyon Ranch. Due to the tree’s hazardous condition as determined by the International Society of Arboriculture (ISA) certified arborist Joseph McNeil (personal communication) and its proximity to a public trail, the top third of the tree, including the dead limbs supporting the nests, was removed in late 2012, outside the nesting season and when the nest was not occupied.

Due to this species’ propensity to utilize the same nests year after year, removal of the portion of the eucalyptus that had supported nesting in the past has reduced the likelihood of future nesting by this species within the project site. While other eucalyptus trees that provide potential nest habitat for this species are present within and adjacent to the project site, these trees have not been utilized for nesting in the past. Accordingly, the potential for great blue heron to nest within the project site is considered to be low.

### *Cooper’s Hawk*

The Cooper’s hawk is a crow-sized woodland raptor that breeds throughout much of the United States, southern Canada, and northern Mexico. Despite being widely distributed, it is a secretive, inconspicuous species, particularly in the breeding season and even in areas where it is a common nester.

The Cooper's hawk breeds in extensive forests and smaller woodlots of deciduous, coniferous, and mixed pine-hardwoods, as well as in pine plantations, in both suburban and urban habitats. It captures a variety of prey, mainly medium-sized birds and mammals such as doves, jays, robins, and rodents. While the CDFW has placed the Cooper's hawk on its statewide Watch List, this species is relatively common in the San Francisco Bay Area, and is known to nest in urban neighborhoods in numerous East Bay cities.

Suitable nesting and foraging habitat is present in the eucalyptus woodland and the valley oak woodland/savanna habitats within the project site. The likelihood of Cooper's hawk to nest is moderate.

### ***Sharp-shinned Hawk***

The sharp-shinned hawk is a small, slender accipiter with short, rounded wings and a long, narrow tail that feeds almost entirely on small birds.

This raptor is widely dispersed in North America, breeding in large stands of deciduous, coniferous and mixed pine-hardwood forests. The secretive nature of this bird during nesting and the dense vegetation in nesting habitat has limited an understanding of nesting behavior.

While sharp-shinned hawks are frequently observed in wooded habitats in the County and elsewhere in the San Francisco Bay Area, most are migrants observed outside the nesting season. The Breeding Bird Atlas of Contra Costa County reports only five confirmed nests out of a combined 20 confirmed, probable and possible nest sightings.

Suitable nesting and foraging habitat is present in the woodland habitat within the project site. Given the rarity of documented nests in the County, the likelihood of nesting is low. Migrants may pass through and forage within the project site outside the nesting season.

### ***Bridges' Coast Range Shoulderband***

The Bridges' Coast Range Shoulderband is small native land snail generally described as an inhabitant of grasslands, rock piles, and woodland edges. It is most often found associated with tall grasses and weeds or in piles of rocks. It is distributed through portions of Alameda and Contra Costa counties. Small areas of grassland that contain logs or rocks may provide habitat for this species.

This snail has no specified protection under the State or Federal endangered species regulations. However, it is listed as a "Special Animal" by CDFW. There is insufficient information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. The nearest known occurrences are 8.6 miles northeast of the project site in Mount Diablo State Park, and 11.7 miles northwest in Berkeley.

There is a low potential for the presence of this species in the small open grassy area in the far west corner of the project site. Removal of occupied habitat, if present within the project site, would not result in a significant or adverse impact under the California Environmental Quality Act (CEQA). Even if present on site, the limited area of disturbance to suitable habitat for this snail would not constitute a significant impact due to the presence of abundant suitable habitat in the open space habitat to the west of the project site. No further discussion is warranted for this species.

## 4.4.2 REGULATORY SETTING

### Federal

#### U.S. Fish and Wildlife Service (USFWS)

The USFWS has jurisdiction over Federally listed Threatened and Endangered species under the Federal Endangered Species Act (ESA). Section 9 of the ESA protects listed species from harm or “take,” which is broadly defined as to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.”<sup>1</sup> An activity can be defined as a “take” even if it is accidental or unintentional.

An Endangered species is one which is considered in danger of becoming extinct throughout all or significant portions of its range. A Threatened species is one that is likely to become endangered within the foreseeable future. In addition to Endangered and Threatened species, the USFWS maintains lists of candidate species and Birds of Conservation Concern. Species on these lists are not afforded the legal protection of the ESA but are considered to be of special-status under CEQA. The USFWS regulations include the Bald and Golden Eagle Protection Act (BAGEPA), which prohibits the take of bald or golden eagles, or the parts, nests, or eggs of the birds without prior authorization.

#### *Project Consistency Analysis*

Grading and construction of the project has the potential to result in harm to the Alameda whipsnake if present in woodpiles or under other debris on the project site. Consultation with the USFWS and CDFW would be initiated regarding potential impacts of the project on Alameda whipsnake, and the appropriate take authorization (Section 7 Biological Opinion and/or 2081 permit or 2080.1 consistency determination) as specified by the USFWS and CDFW would be obtained prior to initiation of construction activities. Bald eagles and golden eagles are not expected to occur within the project site, although golden eagles may nest within appropriate habitat located approximately 0.5 mile of the project site. All terms of

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<sup>1</sup> 16 USC Section 1532(19).

the endangered species permits, including any mitigation requirements, would be followed.

## Migratory Bird Treaty Act (MBTA)

The MBTA of 1918 (16 USC Sections 703-712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989) makes it unlawful to “take” (kill, harm, harass, shoot, etc.) any migratory bird listed in Title 50 of the Code of Federal Regulations (CFR), Section 10.13, including their nests, eggs, or young. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, wading birds, seabirds, and passerine birds (such as warblers, flycatchers, swallows, etc.).

### *Project Consistency Analysis*

The trees, shrubs, and developed area/orchard within the project site provide suitable nesting habitat for a number of migratory bird species and birds of prey, including Cooper’s hawk, and the larger trees within the project site provide suitable nesting habitat for the great blue heron. To comply with the MBTA, all active nest sites would have to be avoided while such birds were nesting and protection buffers would have to be established and typically fenced with orange construction fencing. Upon completion of all nesting activities, the project could commence as otherwise planned. More specifics on the size of buffers are provided in the mitigation measures listed in **Section 4.4.3**.

## USACE Jurisdiction and General Permitting

### Section 404 of the Clean Water Act (CWA)

Pursuant to Section 404 of the CWA (33 USC Section 1344), USACE regulates the discharge of dredged or fill material into “waters of the United States” (33 CFR Parts 328 through 330). This requires project applicants to obtain authorization from USACE prior to discharging dredged or fill materials into any water of the United States. “Waters of the United States” are defined as, “...all interstate waters including interstate wetlands...intrastate lakes, rivers, streams (including intermittent streams), wetlands, [and] natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce...” (33 CFR Section 328.3).

Section 404 jurisdiction in “other waters” such as lakes, ponds, and streams, extends to the upward limit of the ordinary high water mark (OHWM) or the upward extent of any adjacent wetland. The OHWM on a non-tidal water is the “line on shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas” (33 CFR Section 328.3[e]). Wetlands are defined as “...those areas that are inundated or saturated by surface or ground water at a frequency

and duration to support a prevalence of vegetation adapted for life in saturated soil conditions” (33 CFR Section 328.8 [b]). Wetlands usually must possess hydrophytic vegetation (i.e., plants adapted to inundated or saturated conditions), wetland hydrology (e.g., topographic low areas, exposed water tables, stream channels), and hydric soils (i.e., soils that are periodically or permanently saturated, inundated or flooded) to be regulated by USACE pursuant to Section 404 of the CWA.

### Section 401 of the CWA

The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB) regulate activities in “waters of the State” (which includes wetlands) through Section 401 of the CWA. While USACE administers permitting programs that authorize impacts to waters of the U.S., including wetlands and other waters, any USACE permit authorized for a proposed project would be invalid unless it is a Nationwide Permit (NWP) that has been certified for use in California by the SWRCB, or if the RWQCB has issued a project specific certification or waiver of water quality. Certification of NWPs requires a finding by the SWRCB that the activities permitted by the NWP will not violate water quality standards individually or cumulatively over the term of the issued NWP (the term is typically for five years). Certification must be consistent with the requirements of the CWA, CEQA, the California Endangered Species Act (CESA), and the SWRCB’s mandate to protect beneficial uses of waters of the State. Any denied (i.e., not certified) NWPs, and all Individual USACE permits, would require a project specific RWQCB certification or waiver of water quality.

Additionally, if a proposed project would impact waters of the State, including wetlands, and the project proponent cannot demonstrate that the project is unable to avoid these adverse impacts, water quality certification will most likely be denied. Section 401 Certification may also be denied based on significant adverse impacts to waters of the U.S., including wetlands. The RWQCB has also adopted USACE policy that there shall be “no net loss” of wetlands. Thus, prior to certifying water quality, the RWQCB will impose avoidance mitigation requirements on project proponents that impact waters of the State.

#### *Project Consistency Analysis*

The project would entail filling of approximately ~~283~~ 223 linear feet of channel in Drainages 1 and 2, and creating/daylighting approximately 295 linear feet of channel in Drainages 1 and 2. Approximately 0.173 acre of seasonal wetland in the orchard area in the eastern portion of the project site would be filled to allow development in this area. A wetland mitigation area would be created along Drainage 1 in the open space west of the project site. If construction of this wetland on the project site is not feasible, payment would be made to a wetland mitigation bank or wetland mitigation would be accomplished at another location within the Walnut Creek watershed under USACE, RWQCB, and CDFW approval. Authorization for the discharge of fill into waters of the U.S. and State will be required under

Sections 401 (RWQCB) and 404 of the Clean Water Act (USACE), Section 1600 of the CDFW Code. The removal of riparian vegetation is also regulated by CDFW under Section 1600 of Fish and Wildlife Code. State and Federal agencies will require avoidance, minimization, and compensatory mitigation for the loss of wetland habitat, further described in **Subsection 4.4.3**.

## State

### Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, Water Code Section 13260, requires that “any person discharging waste, or proposing to discharge waste, that could affect the waters of the State to file a report of discharge” with the RWQCB through an application for waste discharge (Water Code Section 13260[a] [1]). The term “waters of the State” is defined as any surface water or groundwater, including saline waters, within the boundaries of the State (Water Code Section 13050[e]). It should be noted that pursuant to the Porter-Cologne Water Quality Control Act, the RWQCB also regulates “isolated wetlands,” or those wetlands considered to be outside of USACE jurisdiction.

RWQCB generally considers filling in waters of the State to constitute “pollution.” Pollution is defined as an alteration of the quality of the waters of the State by waste that unreasonably affects its beneficial uses (Water Code Section 13050[1]). The RWQCB litmus test for determining if a project should be regulated pursuant to the Porter-Cologne Water Quality Control Act is if the action could result in any “threat” to water quality.

The RWQCB requires complete pre- and post-development Best Management Practices (BMP) Plan of any portion of the project site that is developed. This means that a water quality treatment plan for the pre- and post-developed project site must be prepared and implemented. Preconstruction requirements must be consistent with the requirements of the National Pollutant Discharge Elimination System (NPDES), including preparation of a Stormwater Pollution Prevention Plan prior to site grading.<sup>2</sup> In addition, a post-construction BMP plan, or a Stormwater Management Plan, must be developed and incorporated into any site development plan.

#### *Project Consistency Analysis*

Development of the project could result in the degradation of water quality in the intermittent drainages and in downstream waters. Since any “threat” to water quality could conceivably be regulated pursuant to the Porter-Cologne Water Quality Control Act, adequate pre- and post-construction BMPs are incorporated into the project implementation plans. A Stormwater Pollution Prevention Plan

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<sup>2</sup> Refer to **Section 4.10, Hydrology and Water Quality**, for a summary of the NPDES.

would also be prepared and adhered to during project implementation (see **Section 4.10, Hydrology and Water Quality**).

### California Department of Fish and Wildlife (CDFW)

The CDFW has jurisdiction over State-listed Threatened and Endangered species under CESA. The basic policy of CESA is to conserve and enhance endangered species and their habitats. State agencies will not approve private or public projects under their jurisdiction that would jeopardize threatened or endangered species if reasonable and prudent alternatives are available. CESA requires that all State lead agencies (as defined under CEQA) conduct an endangered species consultation with CDFW if their actions could affect a State-listed species. The State lead agency and/or project proponents must provide information to CDFW on the project and its likely impacts. CDFW must then prepare written findings on whether the proposed action would jeopardize a listed species would result in the direct take of a listed species. Because CESA does not have a provision for “harm” (see discussion of ESA, above), CDFW considerations pursuant to CESA are limited to those actions that would result in the direct take of a listed species.

The State also maintains a list of wildlife identified as Species of Special Concern and Fully Protected. Species on this list are not afforded the legal protection of CESA but are considered to be of special-status under CEQA.

The CDFW also exerts jurisdiction over the beds and banks of watercourses.<sup>3</sup> The CDFW typically requires a Lake or Streambed Alteration Agreement (LSAA) for the fill or removal of any material from any natural drainage. The jurisdiction of the CDFW extends to the top of bank and includes the outer edge of riparian canopy cover.

Section 3503 of the California Fish and Game Code protects all breeding native bird species in California by prohibiting the take, possession, or needless destruction of nests and eggs of any bird, with the exception of non-native English sparrows, European starlings, and rock doves (pigeons; Section 3801). Birds of prey are protected under Section 3503.5 of the California Fish and Game Code, which states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”

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<sup>3</sup> Section 1601- 1603 of the California Fish and Game Code.

### *Project Consistency Analysis*

The project would result in the filling of drainages and seasonal wetlands onsite. Authorization for the discharge of fill into waters of the U.S. and State will be required under Sections 401 (RWQCB) and 404 of the Clean Water Act (USACE), Section 1600 of the CDFW. The removal of riparian vegetation is also regulated by CDFW under Section 1600 of Fish and Wildlife Code. Mitigation measures (described below) include mitigation for the loss of wetland habitat as well as obtaining authorization for the fill of waters of the U.S. and State.

The project includes the removal of structures, vegetation, wood piles, trees, and other habitat features which could result in a take of special-status animals or active nests of birds afforded protection under the MBTA or California Fish and Game Code. Mitigation measures described below in **Subsection 4.4.3** include preconstruction surveys for special-status species on site as well as measures to address the removal habitat features in terms of compliance with the CDFW and Sections 3503 and 3503.5 of the California Fish and Game Code.

### **California Native Plant Society (CNPS)**

The CNPS has developed and maintains the California Rare Plant Ranking System, lists of plant species that it considers to be rare, threatened, or endangered in California. Although CNPS is a private conservation group, the species with a California Rare Plant Rank (Rank) of 1B (plant species considered endangered in California and elsewhere) and a Rank of 2 (plant species considered rare, threatened, or endangered in California, but common elsewhere) warrant analysis in CEQA documents, as they meet the definition of threatened or endangered under the California Native Plant Protection Act (NPPA) and Sections 2062 and 2067 of the California Fish and Game Code. List 1A plants are considered extinct by CNPS because they have not been observed in the wild for many years despite focused searches. The CDFW does not consider the CNPS Rank 3 and Rank 4 plant species as requiring CEQA analysis, although CNPS does recommended that these species be considered in CEQA documents. Rank 3 plants are those about which more information is needed (a review list), and Rank 4 plants are those plants with limited distribution (a watch list).

### *Project Consistency Analysis*

Focused botanical surveys timed to coincide with the blooming period of target species were completed on the project site. The only special-status species detected was northern California black walnut, however this tree grew from grafted rootstock associated with the old orchard on site, and would therefore not be considered to be a rare plant by the CNPS.

## **Contra Costa County General Plan**

The General Plan has several goals and policies that pertain to the protection of biological resources. According to the General Plan, the most significant ecological

resource areas in the County are defined by three separate categories: (1) areas containing rare, threatened, and endangered species; (2) unique natural areas; and (3) wetlands and marshes. The following goals and policies were adopted to protect these resources:

### **Vegetation and Wildlife Goals**

- 8-D: To protect ecologically significant lands, wetlands, plant, and wildlife habitats.
- 8-E: To protect rare, threatened, and endangered species of fish, wildlife, and plants, significant plant communities, and other resources which stand out as unique because of their scarcity, scientific value, aesthetic quality, or cultural significance. Attempt to achieve a significant net increase in wetland values and functions within the County over the life of the General Plan. The definition of rare, threatened, and endangered includes those definitions provided by the Federal Endangered Species Act, the California Endangered Species Act, the California Native Plant Protection Act, and the California Environmental Quality Act.

### **Vegetation and Wildlife Policies**

- 8-6: Significant trees, natural vegetation, and wildlife populations generally shall be preserved.
- 8-7: Important wildlife habitats which would be disturbed by major development shall be preserved, and corridors for wildlife migration between undeveloped lands shall be retained.
- 8-8: Significant ecological resource areas in the County shall be identified and designated for compatible low-intensity land uses. Setback zones shall be established around the resource areas to assist in their protection.
- 8-9: Areas determined to contain significant ecological resources, particularly those containing endangered species, shall be maintained in their natural state, and carefully regulated to the maximum legal extent. Acquisition of the most ecologically sensitive properties within the County by appropriate public agencies shall be encouraged.
- 8-10: Any development located or proposed within significant ecological resource areas shall ensure that the resource is protected.
- 8-11: The County shall utilize performance criteria and standards which seek to regulate uses in and adjacent to significant ecological resource areas.
- 8-12: Natural woodlands shall be preserved to the maximum extent possible in the course of land development.
- 8-13: The critical ecological and scenic characteristics of rangelands, woodlands, and wildlands shall be recognized and protected.

- 8-14: Development on hillsides shall be limited to maintain valuable natural vegetation, especially forests and open grasslands, and to control erosion. Development on open hillsides and significant ridgelines throughout the County shall be restricted, and hillsides with a grade of 26 percent or greater shall be protected through implementing zoning measures and other appropriate actions.
- 8-15: Existing vegetation, both native and non-native, and wildlife habitat areas shall be retained in the major open space areas sufficient for the maintenance of a healthy balance of wildlife populations.
- 8-17: The ecological value of wetland areas, especially the salt marshes and tidelands of the bay and delta, shall be recognized. Existing wetlands in the County shall be identified and regulated. Restoration of degraded wetland areas shall be encouraged and supported whenever possible.
- 8-19: The County shall actively oppose any and all efforts to construct a peripheral canal or any other water diversion system that reduces Delta water flows unless and until it can be conclusively demonstrated that such a system would, in fact, protect, preserve, and enhance water quality and fisheries of the San Francisco Bay-Delta estuary system.
- 8-21: The planting of native trees and shrubs shall be encouraged in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native wildlife, and ensure that a maximum number and variety of well-adapted plants are sustained in urban areas.
- 8-22: Applications of toxic pesticides and herbicides shall be kept at a minimum and applied in accordance with the strictest standards designed to conserve all the living resources of the County. The use of biological and other non-toxic controls shall be encouraged.
- 8-23: Runoff of pollutants and siltation into marsh and wetland areas from outfalls serving nearby urban development shall be discouraged. Where permitted, development plans shall be designed in such a manner that no such pollutants and siltation will significantly adversely affect the value or function of wetlands. In addition, berms, gutters, or other structures should be required at the outer boundary of the buffer zones to divert runoff to sewer systems for transport out of the area.
- 8-24: The County shall strive to identify and conserve remaining upland habitat areas which are adjacent to wetlands and are critical to the survival and nesting of wetland species.
- 8-25: The County shall protect marshes, wetlands, and riparian corridors from the effects of potential industrial spills.
- 8-26: The environmental impacts of using poisons to control ground squirrel populations in grasslands shall be thoroughly evaluated by the County.

- 8-27: Seasonal wetlands in grassland areas of the County shall be identified and protected.
- 8-28: Efforts shall be made to identify and protect the County's mature native oak, bay, and buckeye trees.

### Development Review Process

- 8-F: Prepare a list of standard mitigation measures from which the County could select appropriate measures to mitigate the effect of projects in or adjacent to significant ecological resources.

### Wetland Areas

- 8-J: A setback from the edge of any wetland area may be required for any new structure. The breadth of any such setback shall be determined by the County after environmental review examining (a) the size and habitat value of the potentially affected wetland, and (b) potential impact on the wetland, and adjacent uplands, arising out of the development and operation of the new structure. Unless environmental review indicates that greater or lesser protection is necessary or adequate, setbacks generally will be between 50 and 100 feet in breadth. Expansions or other modifications of non-habitable agriculturally related structures existing as of 1990 shall be exempt from this setback requirement. Parcels which would be rendered un-buildable by application of this standard shall also be exempt.
- 8-I: The County shall require avoidance, minimization, and/or compensatory mitigation techniques to be employed with respect to specific developments projects having a potential to affect a wetland. In evaluating the level of compensation to be required with respect to any given project, (a) on-site mitigation shall be preferred to off-site and in-kind mitigation shall be preferred to out-of-kind, (b) functional replacement ratios may vary to the extent necessary to incorporate a margin of safety reflecting the expected degree of success associated with the mitigation plan, and (c) acreage replacement ratios may vary depending on the relative functions and values of those wetlands being lost and those being supplied. To the extent permitted by law, the County may require 3:1 compensatory mitigation of any project affecting a "Significant Wetland."

### Policies to Protect and Maintain Riparian Zones

- 8-78: Where feasible, existing natural waterways shall be protected and preserved in their natural state, and channels which already are modified shall be restored. A natural waterway is defined as a waterway which can support its own environment of vegetation, fowl, fish, and reptiles, and which appears natural.

- 8-79: Creeks and streams determined to be important and irreplaceable natural resources shall be retained in their natural state whenever possible to maintain water quality, wildlife diversity, aesthetic values, and recreation opportunities.
- 8-80: Wherever possible, remaining natural watercourses and their riparian zones shall be restored to improve their function as habitats.
- 8-82: Riparian habitat shall be protected by providing channel cross-sections adequate to carry 100-year flows, as per policies contained in the Public Facilities/Services Element. If it is not possible to provide a channel cross-section sufficient to carry the 100-year flow, then detention basins should be developed.

### **Policies for New Development Along Natural Watercourses**

- 8-85: Natural watercourses shall be integrated into new development in such a way that they are accessible and provide a positive visual element.
- 8-86: Existing native riparian habitat shall be preserved and enhanced by new development unless public safety concerns require removal or habitat for flood control or other public purposes.
- 8-87: On-site water control shall be required of major new developments so that no increase in peak flows occurs relative to the site's pre-development condition, unless the Planning Agency determines that off-site measures can be employed which are equally effective in preventing adverse downstream impacts.
- 8-88: New development which modifies or destroys riparian habitat because of needed flood control shall be responsible for restoring and enhancing an equivalent amount of habitat within or near the project area.
- 8-89: Setback areas shall be provided along natural creeks and streams in areas planned for urbanization. The setback areas shall be of a width adequate to allow maintenance and to prevent damage to adjacent structures and the loss of private property.
- 8-90: Deeded development rights for lands within established setback areas along creeks or streams shall be sought to assure creek preservation and to protect adjacent structures and the loss of private property.
- 8-91: Grading, filling, and construction activity near watercourses shall be conducted in such a manner as to minimize impacts from increased runoff, erosion, sedimentation, biochemical degradation, or thermal pollution.
- 8-92: Revegetation of a watercourse shall employ native vegetation, providing the type of vegetation is compatible with the watercourse's maintenance program and does not adversely alter channel capacity.

### *Project Consistency Analysis*

Many of the policies presented in the General Plan are relevant to the project site and the project site's plant communities, wildlife habitats, and wetlands. Mitigation measures will be necessary to offset the project's impact to these County-protected (and agency-protected) resources, as well as to bring the project into compliance with policies defined in Chapter 8 of the General Plan. Mitigation measures will be necessary to offset the project's impact to these County-protected (and agency-protected) resources.

### **County Tree Protection and Preservation Ordinance 816-6**

Chapter 816-6 Tree Protection and Preservation of the Contra Costa County Code of Ordinances outlines a variety of measures for the protection of trees in the County. Relevant portions of County Code Chapter 816-6.6004 defining protected trees is as follows:

1. On all properties within the unincorporated area of the County:
  - a. Where the tree to be cut down, destroyed or trimmed by topping is adjacent to or part of a riparian, foothill woodland or oak savanna area, or part of a stand of four or more trees, measures twenty inches or larger in circumference (approximately 6.5 inches in diameter) as measured four and one-half feet from ground level, and is included in the list of indigenous trees, includes the following species found on the project site: Monterey pine (*Pinus radiata*), valley oak, coast redwood, coast live oak, and California black walnut (*Juglans hindsii*).
2. On any of the properties specified in subsection (3) of this section:
  - a. Any tree measuring twenty inches or larger in circumference (approximately six and one-half inches diameter), measured four and one-half feet from ground level including the oak trees listed above;
  - b. Any multistemmed tree with the sum of the circumferences measuring forty inches or larger, measured four and one-half feet from ground level;
  - c. And any significant grouping of trees, including groves of four or more trees.
3. Specified properties referred to in subsection (2) of this section includes:
  - a. Any developed property within any commercial, professional office or industrial district;
  - b. Any undeveloped property within any district;
  - c. Any area designated on the general plan for recreational purposes or open space;

- d. Any area designated in the county general plan open space element as visually significant riparian or ridge line vegetation and where the tree is adjacent to or part of a riparian, foothill woodland or oak savanna area

#### *Project Consistency Analysis*

Trees would be removed from the development, wetland, and staging area to construct the project. The trees within the project site would be classified as protected in accordance to most of the criteria discussed above. Under the County Tree Protection and Preservation Ordinance, submittal of a Tree Permit application is unnecessary when a project requires approval of another development application, such as a subdivision or development plan. Any discretionary approval(s) may include analysis of impacts and include conditions of approval normally incorporated into a stand-alone Tree Permit. **Mitigation Measure BIO-8** requires the submittal of a Tree Replacement Plan to ensure that adequate tree replacement and preservation will take place. The Tree Replacement Plan would be prepared by a qualified arborist and approved by the County prior to project construction.

### 4.4.3 IMPACTS AND MITIGATION MEASURES

#### Significance Criteria

Appendix G of the CEQA Guidelines identifies environmental issues a lead agency can consider when determining whether a project could have significant effects on the environment. The project would have a significant impact if it would:

- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to: marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, Regional, or State habitat conservation plan.

## Discussion of No Impacts

### **Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, Regional, or State habitat conservation plan?**

No local, regional, or statewide habitat conservation plans have been adopted for the area in which the project is located. Las Trampas Ridge Significant Ecological Resource Area designated by the General Plan is located west of the project site, but is outside of the project site boundaries. No off-site or indirect impacts would occur in that area. Therefore, no impact would occur and no mitigation would be required.

### **Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

The project would not interfere with the movement of native fish or wildlife, nor would it reduce the suitability of the riparian habitat along the creek or wetlands as movement corridors. While the project proposes development of a relatively open site with previously developed areas and low to moderate wildlife habitat value, the project site is surrounded on three sides by urban development and does not provide an established wildlife movement corridor from westerly hillsides to any other open space area. Therefore, no impact would occur.

## Discussion of Significant Impacts

### **Would the project have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

There is at least a low potential for nine special-status species to occur within the within the project site, including:

- Alameda whipsnake
- Pallid bat
- Townsend's big-eared bat
- San Francisco dusky-footed woodrat
- American badger
- Cooper's hawk

- Sharp-shinned hawk
- Great blue heron
- Bridges' coast range shoulderband snail

Removal of habitat occupied by the Bridges' coast range shoulderband snail, if present, would not result in a significant or adverse impact due to the small area of suitable habitat that would be disturbed and the presence of abundant suitable habitat in the open space west of the project site. This species is not addressed further.

Removal of existing structures, vegetation, wood piles and other habitat features and earthwork required for construction of the proposed project could result in a take of special-status animals or active nests of birds afforded protection under the MBTA, California Fish and Game Code, or BAGEPA, if present at the time of construction. A detailed description of potential impacts to each of the special-status species with potential to occur within the project site is presented below, followed by proposed mitigation measures.

**Impact BIO-1: Grading and construction of the project has the potential to result in harm or mortality to individual Alameda whipsnake, if present in woodpiles or under other debris along the western boundary of the project site (Less than Significant with Mitigation).**

Suitable breeding, foraging, and hibernation habitat for Alameda whipsnake is present in the designated open space and critical habitat west of the project site, including the potential wetland mitigation area. Marginal food resources for Alameda whipsnake are present in the two small woodpiles west of the existing residential estate onsite. Construction has the potential to adversely affect an individual Alameda whipsnake if an individual attempted to forage in or seek temporary cover in one of the woodpiles that are present along the western boundary of the project site. Annual mowing, weed whacking, grazing and disposal of woody debris to manage defensible space in the open space west of Lots 8, 9, 28-33, and the residences bordering Parcel A may adversely affect an individual AWS if a snake was seeking temporary cover in woody debris, or moving through herbaceous/graminoid or shrubby vegetation during vegetation management activities. With implementation of **Mitigation Measures BIO-1a** through **BIO-1h** and **HAZ-3**, this impact would be reduced to a less-than-significant level.

***Mitigation Measure BIO-1a:*** The project proponent shall consult with the USFWS and CDFW regarding potential impacts of the project on Alameda whipsnake, and shall obtain the appropriate take authorization (Section 7 Biological Opinion and/or 2081 permit or 2080.1 consistency determination) as specified by the USFWS and CDFW prior to initiation of construction activities. The project proponent shall comply with all terms of the endangered species permits including any mitigation requirements, and provide evidence of compliance to the County prior to issuance of a grading permit.

***Mitigation Measure BIO-1b:*** In order to allow any snakes and lizards that currently use the small woodpiles west of the residence to seek alternative cover, the woodpiles shall be removed gradually and under the supervision of an agency-approved biologist prior to the start of construction. Depending upon the size of the woodpiles, a quarter to a third of the piles should be manually removed every five days.

As discussed in **Chapter 3.0, Project Description**, project operation will include vegetation management to maintain 100 feet of defensible space to reduce the risk of wildfires. Vegetation management activities include annual weed whacking, grazing and disposal of woody debris to manage defensible space in the open space west of Lots 8, 9, Lots 28-33, and the residences bordering Parcel A may adversely affect an individual Alameda whipsnake if a snake was seeking temporary cover in woody debris, or moving through herbaceous/graminoid or shrubby vegetation during vegetation management activities.

Vegetation management to achieve defensible space in the open space west of the development shall be conducted manually. Grasses, weeds, and brush shall be cut manually or with the aid of hand-powered equipment such as weed-whackers or hand-operated mowers. Woody debris shall be retrieved manually. Grazing animals such as goats may be used for vegetation management. A Defensible Space Vegetation Management Plan that describes vegetation management objectives and practices protective of AWS shall be prepared by the project sponsor, approved of by the USFWS, and implemented by the homeowners and HOA.

In addition, an agency-approved biologist shall monitor removal of the eucalyptus trees and construction of the wetland mitigation area in the western portion of the project site, if wetland restoration or tree removal in this area is conducted (see **Mitigation Measure BIO-6b**).

***Mitigation Measure BIO-1c:*** A preconstruction survey for Alameda whipsnake shall be conducted by a 10(a)(1)(A) permitted biologist not more than 24 hours prior to the start of any site disturbance activities. All suitable habitat features that may be used by Alameda whipsnake shall be identified, marked, and mapped during the preconstruction survey. The removal or destruction of suitable habitat features and all initial ground disturbances (e.g. clearing and grubbing) shall be conducted under the direct supervision of the agency approved biologist prior to the onset of site grading. If Alameda whipsnake are detected within the project work area, site disturbance shall be halted until the snake has been relocated by a 10(a)(1)(A) permitted biologist as approved and directed by the USFWS and CDFW. Terms of the salvage shall be established in consultation with USFWS and CDFW prior to initiation of construction activities, and approved relocation may be in suitable habitat in the open space and critical habitat area west of the project site.

**Mitigation Measure BIO-1d:** Upon completion of the preconstruction survey, a snake exclusion fence not less than 4 feet in height with one-way exit funnels (to allow Alameda whipsnake to passively move out of the construction zone), and buried at least 4 inches in the ground shall be installed around the southern and western boundaries of the project development site. The fence shall be installed under the guidance of an agency approved biologist who is knowledgeable about Alameda whipsnake, and shall be maintained until all vegetation removal and earthwork for the project has been completed. The fence shall be inspected by the construction team on a daily basis (i.e., every workday), and repairs shall be made immediately if the integrity of the fence is compromised.

**Mitigation Measure BIO-1e:** All construction personnel shall attend an informational training session conducted by an agency approved biologist prior to the start of any site disturbance activities, including demolition. This session will cover identification of the species and procedures to be followed if an individual is found onsite, as well as biology and habitat needs of this species. Handouts will be provided and extra copies will be retained onsite. Construction workers shall sign a form stating that they attended the program and understand all protection measures for the Alameda whipsnake. Additional training sessions will be provided to construction new personnel during the course of construction.

**Mitigation Measure BIO-1f:** Trenches or pits greater than 1 foot deep that are created during earthwork for the project shall be covered with plywood or an earthen ramp will be made each night after work so no organisms are trapped. Trenches and pits shall be inspected by a designated member of the construction team who has been trained by the agency-approved biologist prior to the start of earthwork each day. Any vertebrate organisms observed in such areas shall be allowed to escape to the safety of adjacent cover.

**Mitigation Measure BIO-1g:** Best Management Practices shall be implemented to minimize the potential mortality, injury, or other impacts to Alameda whipsnake. Erosion control materials shall not include small-mesh plastic netting, which could result in entanglement and death. All food trash items shall be removed from the project site daily to reduce the potential for attracting predators of Alameda whipsnake which could scavenge uncovered snakes.

**Mitigation Measure BIO-1h:** An agency approved biological monitor knowledgeable about Alameda whipsnake will be the point of contact for the construction team. The USFWS will be notified immediately if Alameda whipsnakes are detected within the project site. The CDFW will also be notified after contacting the USFWS.

**Significance after Mitigation: Mitigation Measures BIO-1a through BIO-1h** would ensure implementation of Alameda whipsnake protection procedures during project construction, resulting in a less-than-significant impact.

**Impact BIO-2: Construction of the project during nesting season has the potential to result in a take of protected birds or create disturbance that could result in nest abandonment (Less than Significant with Mitigation).**

The trees, shrubs, and developed area/orchard within the project site provide suitable nesting habitat for a number of migratory bird species and birds of prey, including Cooper's hawk, and the larger trees within the project site provide suitable nesting habitat for the great blue heron. Although not on the project site, appropriate nesting habitat for the golden eagle occurs within 0.5 mile of the project site, and suitable nesting habitat for Swainson's hawk is present on and within 1,000 feet of the project site. The 0.5-mile radius nest buffer zone for golden eagle and 1,000-foot buffer for Swainson's hawk are employed by the East Contra Costa County Habitat Conservation Plan (ECCHCP).

Construction activities occurring during the nesting season have the potential to result in a take of tree- or ground-nesting migratory birds and/or birds of prey or create disturbance that could result in nest abandonment. This represents a potentially significant impact; implementation of **Mitigation Measure BIO-2** would reduce this impact to less-than-significant level.

**Mitigation Measure BIO-2:** If construction-related site disturbance commences between February 1 and August 31, a qualified biologist shall conduct a pre-construction bird nesting survey. If nests of either migratory birds or birds of prey are detected on or adjacent to the site, a no-disturbance buffer (generally 50 feet for passerines, 0.5 mile for golden eagle, 1,000 feet for Swainson's hawk, and 300 feet for other raptors) in which no new site disturbance is permitted shall be observed up to August 31, or until the qualified biologist determines that the young are foraging independently. The size of the no-disturbance buffer shall be determined by a qualified biologist, and shall take into account local site features and existing sources of potential disturbance. If more than 15 days elapse between the survey and the start of construction, the survey shall be repeated. If vegetation removal, building demolition, or earthwork stages are phased over multiple years, the pre-construction survey and nest-avoidance measures described above would need to be repeated.

**Significance after Mitigation: Mitigation Measure BIO-2** would ensure that impacts to nesting birds project construction would be reduced to a less-than-significant level.

**Impact BIO-3: Building demolition and tree removal could result in a take of roosting bats, including a maternity colony, if present (Less than Significant with Mitigation).**

Structures and trees within the project site may provide suitable roosting habitat for the Pallid bat and Townsend's big-eared bat. Building demolition and tree removal could result in a take of roosting bats, including a maternity colony, if present. Take of a maternity colony or roosting special-status bats would be considered a significant impact. Implementation of **Mitigation Measures BIO-3a** through **BIO-3c** would reduce this impact to a less-than-significant level.

***Mitigation Measure BIO-3a:*** A qualified biologist knowledgeable about local bat species and experienced with bat survey methods shall inspect all structures and trees that could support bats at the project site prior to the start of site disturbance (e.g., demolition, vegetation removal, and earthwork). Surveys should be conducted during appropriate weather to detect bats (i.e., not in high winds or during heavy rain events). One daytime and up to two nighttime surveys (starting at least 1 hour prior to dusk) should be conducted to determine if bats are present. If bats are detected, additional surveys utilizing acoustic monitoring or other methods may be necessary depending on the recommendations of the bat biologist.

***Mitigation Measure BIO-3b:*** Preconstruction surveys for bats should be conducted within two weeks prior to the removal of any trees or structures that are deemed to have potential bat roosting habitat. If bats are detected on site and would be impacted by the project, then appropriate mitigation measures would be developed with approval from CDFW. Mitigation measures would include one or more of the following methods: using one-way doors to exclude non-breeding bats, opening up roof areas of structures to allow airflow that would deter bats from roosting, and taking individual trees down in sections to encourage bats to relocate to another roost site. Typically this work is conducted in the evening when bats are more active, and this work should be conducted under the guidance of an experienced bat biologist.

***Mitigation Measure BIO-3c:*** Mitigation for impacts to a maternity bat roost, if detected, would be determined through consultation with CDFW and may include construction of structures that provide suitable bat roosting habitat (i.e., bat houses, bat condos) for the particular species impacted.

**Significance after Mitigation: Mitigation Measures BIO 3a-3c** would ensure that special-status bats roosting onsite are identified and protected during construction. This impact would be less than significant with mitigation.

**Impact BIO-4: Project construction activities (i.e., ground disturbance, vegetation removal, and earthwork) could result in the take of an active San Francisco dusky-footed wood rat lodge (Less than Significant with Mitigation).**

The eucalyptus and valley oak woodland habitats within the project site provide suitable denning habitat for the San Francisco dusky-footed woodrat, although no woodrat lodges were observed on site during biological surveys. If woodrat lodges become established within the area subject to disturbance, vegetation removal and

earthwork for the project could result in the take of an active woodrat lodge. This represents a potentially significant impact; implementation of **Mitigation Measure BIO-4** would reduce this impact to a less-than-significant level.

***Mitigation Measure BIO-4:*** Not more than 30 days before initial ground disturbance, a qualified biologist shall conduct a survey of the project site to determine whether San Francisco dusky-footed woodrat lodges have been constructed within the work area. If no woodrat lodges are present within the work area, no further mitigation is required. If San Francisco dusky-footed woodrat lodges are observed within the area subject to ground disturbance, a woodrat mitigation plan describing habitat enhancement and relocation of the lodge(s) to an area not subject to site disturbance within the project site or the remainder parcel shall be prepared and submitted to CDFW for approval prior to the start of ground disturbance.

**Significance after Mitigation: Mitigation Measure BIO-4** would ensure that any dusky-footed woodrat that are potentially lodging onsite are identified and protected during construction, resulting in a less-than-significant impact.

**Impact BIO-5: If American badger establishes dens within the project site, construction activities could result in the take of an active den (Less than Significant with Mitigation).**

Through there is no current evidence of the American badger on the project site, suitable habitat exists west of the project site. Because there are no barriers to prevent individual badgers from entering the project site, construction activities have the potential to injure American badger or destroy an active den. This represents a potentially significant impact; implementation of **Mitigation Measure BIO-5** would reduce this impact to a less-than-significant level.

***Mitigation Measure BIO-5:*** A qualified biologist shall conduct a preconstruction survey for the American badger within 14 days prior to the start of construction. If no potential dens are found, no additional measures are required. If an active badger den is found, consultation with CDFW would be required. Construction would be halted within 100 feet of the den during the breeding season (summer through early fall), and hand excavation of dens during the non-breeding period would be required subject to CDFW approval.

**Significance after Mitigation: Mitigation Measure BIO-5** would ensure that American badger dens are identified and protected during construction, resulting in a less-than-significant impact.

**Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

and

**Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to: marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

**Impact BIO-6: The project would require the filling and daylighting of drainages and seasonal wetlands onsite (Less than Significant with Mitigation).**

Authorization for the discharge of fill into waters of the U.S. and State will be required under Sections 401 and 404 of the CWA and Section 1600 of the California Fish and Game Code. The removal of riparian vegetation is also regulated by CDFW under Section 1600 of Fish and Game Code. State and Federal agencies will require avoidance, minimization, and compensatory mitigation for the loss of wetland habitat.

The two intermittent stream channels (Drainage 1 and Drainage 2) on the project site currently support an interrupted canopy of native and non-native trees that provide riparian cover. The project would require the relocation, fill and restoration of sections of existing creek channel. Approximately 223 linear feet of seasonal creek would be filled in order to create buildable lots, while 295 linear feet of creek channel would be created where the creeks would be relocated and restored through the removal of existing culverts. In addition, a bridge spanning Drainage 2 would not require filling the drainage channel, but shading from the bridge could reduce vegetative cover on the banks and in the bed of the channel beneath the bridge. The Parcel D staging area also proposes a 10-foot long pedestrian bridge constructed across Drainage 1 that may shade wetland vegetation and the channel beneath the bridge. Approximately 32 riparian trees lining these drainages would be removed to reduce safety hazards and facilitate development. In addition, temporary disturbance to portions of Drainage 1 may occur during construction of the on-site wetland mitigation to compensate for impacts to wetlands.

Five areas of seasonal freshwater wetlands are also present within or adjacent to the project site. Approximately 0.173 acre of seasonal wetland in the orchard area in the eastern portion of the project site would be filled to allow development in this area.

The discharge of fill material into seasonal wetlands, drainage channel realignment, and removal of riparian trees are considered significant impacts. With implementation of **Mitigation Measures BIO-6a** and **BIO-6b** described below, this impact would be reduced to a less-than-significant level.

***Mitigation Measure BIO-6a:*** The removal of riparian trees and shrubs will be avoided and minimized to the extent feasible. Hazard reduction associated with structurally unsound trees, and the risks of failure given proximity to improvements proposed in the project shall be considered and addressed through tree removals and pruning specified by a certified arborist. Mitigation to compensate for the removal of riparian trees shall be accomplished through replacement plantings of locally native trees at not less than a 3:1 replacement to loss ratio within the project site or an alternative location approved by CDFW. With regards to riparian trees, this mitigation measure shall supersede other mitigation included in this draft environmental impact report that prescribe tree replacement ratios to reduce other impacts.

A riparian restoration plan detailing the following elements shall be prepared:

- The number, species, and location of riparian mitigation plantings that will be planted in the restoration area;
- Performance standards requiring a minimum 75 percent survival rate; average of good vigor and positive height growth of riparian mitigation trees after ten years; seasonal planting timing; and method of supplemental watering during the establishment period;
- The monitoring period, which shall be not less than 10 years for riparian restoration;
- Adaptive management procedures that may be employed as needed to ensure the success of the restoration project. These include, but are not limited to, exotic and invasive plant species control, the use of browse barriers to protect riparian plants from wildlife damage, replacement plantings and management of the supplemental watering system to support the attainment of the foregoing performance standards;
- Management and maintenance activities, including weeding, supplemental irrigation, site protection; and
- Responsibility for maintaining, monitoring and ensuring the preservation of the mitigation site in perpetuity.

In replacing riparian trees, the arborist shall review the final project grading plans to ensure that adequate tree preservation methods, guidelines, and conditions are in place. The arborist shall conduct pre-demolition site meetings with the contractor to determine clearance pruning, stump removal techniques, fencing placement and timing, and tree protection. The arborist shall have site meetings after demolition to review and confirm tree protection fencing position for the grading and construction portion of the subdivision. The arborist shall be guided by the standard protocols set forth in the *American National Standards Institute (ANSI) A300 Standard, Part 5 (2005)* and the International

*Society of Arboriculture's publication Best Management Practices: Managing Trees During Construction (2008).*

**Mitigation Measure BIO-6b:** The fill of jurisdictional wetlands and unvegetated other waters will be avoided and minimized to the extent feasible.

Authorization for the fill of waters of the U.S. and State shall be obtained by the project proponent prior to the start of construction. Mitigation for the fill of wetlands and other waters shall be accomplished through the creation of seasonal freshwater wetlands and unvegetated other waters at a minimum 1:1 replacement ratio within the project site, at an approved wetland mitigation bank, or at another location within the Walnut Creek watershed approved of by the USACE, RWQCB, and CDFW. The mitigation goal shall be to create and enhance aquatic habitats with habitat functions and values greater than or equal to those that will be impacted by the proposed project.

Wetland mitigation within the project site or at another location within the Walnut Creek watershed would be described in a wetland mitigation plan that would:

- Be prepared consistent with the *Final Regional Compensatory Mitigation and Monitoring Guidelines* (USACE 2015) and the *Compensatory Mitigation for Losses of Aquatic Resources: Final Rule* (USACE 2008);
- Define the location of all restoration and creation activities;
- Describe measures that would ensure that adjacent land uses would not adversely affect the ecological functions and values of the wetland mitigation area, so as to ensure consistency with the foregoing federal guidelines and rules. Such measures may include the use of appropriately-sized buffers between the wetland mitigation area and any adjacent development, the use of fencing or walls to prevent unauthorized access, lighting in adjacent development designed to avoid light spillage into the wetland mitigation area, landscape-based Best Management Practices for adjacent development prior to discharge into the wetland mitigation area, and signage describing the sensitive nature of the wetland mitigation area.
- Provide evidence of a suitable water budget to support restored and created wetland habitats;
- Identify the species, quantity, and location of plants to be installed in the wetland habitats;
- Identify the time of year for planting and method for supplemental watering during the establishment period;
- Identify the monitoring so as to ensure consistency with the foregoing federal guidelines and rules, which shall be not less than five years for wetland restoration;

- Define success criteria that will be required for restoration efforts to be deemed a success;
- Identify adaptive management procedures that may be employed as needed to ensure the success of the mitigation project and its consistency with the foregoing federal guidelines and rules. These include, but are not limited to, remedial measures to address exotic invasive species, insufficient hydrology to support the attainment of performance standards, and wildlife harm;
- Define management and maintenance activities, including weeding, supplemental irrigation, and site protection; and
- Define responsibility for maintaining, monitoring and ensuring the preservation of the mitigation site in perpetuity.

The project applicant shall comply with all terms of the permits issued by these agencies, including mitigation requirements, and shall provide proof of compliance to the County prior to issuance of a grading permit.

**Significance after Mitigation:** With implementation of **Mitigation Measures BIO-6a** and **BIO-6b**, this impact would be less than significant.

**Impact BIO-7: The project could result in the degradation of water quality in the intermittent drainages and downstream waters (Less than Significant with Mitigation).**

Site development would require the construction of roads, driveways, building pads, and associated facilities. Construction will require grading that leaves the soil in construction zones barren of vegetation and vulnerable to sheet or gully erosion. Eroded soil can be carried as sediment in surface runoff to be deposited in creeks. In addition to construction-related impacts, urban runoff may be polluted with grease, oil, residues of pesticides and herbicides, and heavy metals. These pollutants may be carried to sensitive habitats in downstream locations. The deposition of pollutants and sediments in sensitive habitats is considered a potentially significant impact.

**Mitigation Measure BIO-7:** Adverse impacts to water quality shall be avoided and minimized by implementing the following measures:

- Prior to the start of site disturbance activities, construction barrier fencing and silt fencing shall be installed around the perimeters of wetlands and drainages that are to be protected during construction of the project to prevent movement of sediments into these features. Any debris that is inadvertently deposited into these features during construction shall be removed in a manner that minimizes disturbance.
- All construction within jurisdictional features shall be conducted consistent with permits issued by USACE, RWQCB, and CDFW. Construction activities

within these features shall be completed promptly to minimize their duration and resultant impacts.

- Contractors shall be required to implement a Stormwater Pollution Prevention Plan that describes BMPs including the conduct of all work according to site-specific construction plans that minimize the potential for sediment input to the aquatic system, avoiding impacts to areas outside the staked and fenced limits of construction, covering bare areas prior to storm events, and protecting disturbed areas with approved erosion control materials.
- Bioretention planters, vegetated swales, and other landscape-based BMPs to catch and filter runoff from impervious surfaces shall be implemented throughout the project site to protect water quality in receiving waters.

**Significance after Mitigation:** With implementation of **Mitigation Measure BIO-7**, this impact would be less than significant.

### **Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

**Impact BIO-8: Several protected trees would be removed to allow for project construction (Less than Significant with Mitigation).**

The project site contains trees that are protected per the County's Tree Protection and Preservation Ordinance. Of the approximately 3,489 native and non-native trees on the project site, approximately 469 trees are proposed for removal, including approximately 32 riparian trees and approximately 25 trees in the Parcel D staging area. Approximately 36 percent of these trees would be cleared to construct the project, while the remaining approximately 64 percent are proposed for removal because of unsuitability factors such as poor health, mechanical failure, crowding or interfering with the development of a healthier tree, a maladapted species, or of a species generally unsuited to the Alamo climate. In addition, the project also proposes to slightly impact approximately 205 trees through pruning, hydrologic modification, or other disturbances that would not entail tree removal.

The County does not maintain a fixed tree replacement ratio to mitigate for the removal of protected trees. For this project, the replacement ratio for non-riparian trees would be either 2:1 or 1:1, depending if they are drought or non-drought tolerant. As previously discussed in **Mitigation Measure BIO-6a**, the planting ratio will be 3:1 for trees that are removed from riparian areas. Considering that the total number of trees to be removed is 469, the project sponsor will have to replant additional trees to satisfy the tree ratio requirement.

Due to size limitations, the lower portions of the project site proposed for residential development may not be reasonably capable of supporting mitigation trees for approximately 469 tree removals. Installation of all mitigation trees on the

lower portions of the project site could result in overcrowding and prohibit safe development of the house sites. Utilizing a combination of box sizes (where in one 24-inch boxed tree equals two 15 gallon trees, or one 36-inch boxed tree may be equivalent to two 24-inch boxed trees) could meet the same mitigation requirements with fewer trees without irresponsibly overstocking the landscapes. Such size substitution strategies are often used by public agencies to balance agency requirements with the best use of the site. If the project site cannot sustainably support the required number of replacement trees, the County would coordinate with the project sponsor and a county-approved biologist to determine offsite replacement ratios and locations.

To comply with the County's Tree Protection and Preservation Ordinance, **Mitigation Measure BIO-8** outlines the project's replanting requirements.

***Mitigation Measure BIO-8:*** A Tree Replacement Plan shall be submitted to and approved by the County prior to the removal of trees and/or prior to the issuance of a grading permit. The replacement ratio shall be 3:1 for trees that are removed within riparian corridors, 2:1 for drought tolerant trees, and 1:1 for non-drought tolerant trees. The Tree Replacement Plan shall identify the total number of trees to be replanted in accordance to the above discussed ratio.

The Tree Replacement Plan shall designate the approximate location, number, and sizes of trees to be planted on each lot. In addition, prior to submittal of a building permit for each home, a licensed landscape architect shall submit a landscape plan designating the final location and species of trees in general conformance with the Tree Planting Plan. Trees shall be planted prior to final of building permit.

Replacement plantings shall consist of locally appropriate native species and non-invasive species. Tree species identified as a pest species by the California Invasive Plant Council shall not be used as replacement plantings.

In designing the Tree Replacement Plan, the arborist shall review the final project grading plans to ensure that adequate tree preservation methods, guidelines, and conditions are in place. The project arborist shall host pre-demolition meetings with the general contractor and demolition contractor to determine clearance pruning, stump removal techniques, fencing placement and timing, and tree protection. The arborist shall conduct post-demolition meetings to review and confirm tree protection fencing for grading and construction. The arborist shall incorporate standard protocols set forth in the American National Standards Institute (ANSI) A300 Standard, Part 5 (2005) and the International Society of Arboriculture's *Best Management Practices: Managing Trees During Construction* (2008).

The County will determine the number of replacement trees to be planted offsite if the project site cannot sustainably support the required number of replacement trees.

**Significance after Mitigation:** With implementation of **Mitigation Measure BIO-8**, the project would comply with the County's Tree Protection and Preservation Ordinance. This impact would be less than significant.

#### 4.4.4 CUMULATIVE IMPACTS

The cumulative setting for biological resources comprises the project and the three proposed developments within a 1-mile radius of the project site (see **Chapter 4.0, Setting, Impacts, and Mitigation Measures**):

- 902 Danville Boulevard, a church addition project, is located within an urbanized area and does not include modifications to habitat or sensitive natural communities.
- 512 Hemme Avenue, three-lot subdivision, has low likelihood to impact to special-status species due to the urbanized, paved project site, but construction improvements would encroach on a drainage channel within adjacent oak woodland habitat. Pre-construction surveying would identify and protect nesting birds nearby trees, and work in the drainage would be subject to a CDFW Streambed Alteration Agreement.
- 805/813 La Gonda Way, Danville, a five-lot subdivision, located adjacent to Interstate 680, harbors habitat for multiple special-status species, including 16 bird species. Preconstruction surveys would identify and protect special-status plant and wildlife species. This project also entails the removal of protected trees (mitigated through the planting of replacement trees) and potential work in the San Ramon Creek (mitigated through compliance with CDFW, USFWS, and RWQCB permitting requirements).

These developments considered for cumulative impacts are infill developments and occur within the County's ULL. Two of these cumulative projects (902 Danville Boulevard and 512 Hemme Avenue) have relatively low potential for sensitive plant or animal species impacts due to their developed condition.

The third project (805/813 La Gonda Way) could result in potential impacts to special-status species, protected trees, and riparian habitat, which would be reduced through the application of mitigation measures. Similarly, the project would implement **Mitigation Measures BIO-1** through **BIO-8** to minimize potential impacts to biologic resources. Given this, no cumulative impact would occur.

### 4.4.5 REFERENCES

Joseph McNeil, 2016. *Tree Survey and Report for Ball Estates.*

Mosaic Associates LLC, 2013, Revised June 2016. *Biological Resources Report Ball Family Property.*

Sequoia Ecological Consulting, Inc., 2015. *Peer Review of Biological Resource Report and Appendices Prepared for CEQA Review of the 65-acre Ball Estates Property in Alamo, Contra Costa County.*