

Appendix B-1:
Biological Resources Report



H. T. HARVEY & ASSOCIATES

Ecological Consultants



**TopGolf
Biological Resources Report**

Project # 3742-02

Prepared for:

Michael Lisenbee
David J. Powers & Associates
1871 The Alameda, Suite 200
San Jose, CA 95126

Prepared by:

H. T. Harvey & Associates

July 19, 2016

Executive Summary

The proposed TopGolf Project would remove existing parking lots and a golf facility and replace them with new parking areas, a new golf driving range, retail buildings, and a hotel. The proposed new parking lots, buildings, and facilities would result in permanent impacts on California annual grassland, golf courses/urban parks, urban-suburban, and coastal and valley freshwater marsh habitats. No ground-disturbing or equipment-based work would occur within diked brackish marsh or pond habitats, and no construction access would occur in these areas. Permanent impacts would occur on a small (0.01-acre) coastal and valley freshwater marsh habitat as a result of Project implementation, but none of the other aquatic or wetland features would be impacted. No direct temporary impacts from Project implementation would occur (i.e., outside of permanent impact areas).

The Project could result in potentially significant impacts on jurisdictional wetlands, water quality, Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), the burrowing owl (*Athene cunicularia*), and non-special-status birds. Potentially significant impacts resulting from tree removal, invasion by weeds, and increased noise may also occur. With implementation of mitigation measures identified herein, impacts on these biological resources will be reduced to less-than-significant levels.

Table of Contents

Section 1. Introduction	1
1.1 Project Location	1
1.2 Proposed Development.....	1
Section 2. Methods	4
Section 3. Existing Biological Conditions	7
3.1 General Habitat Conditions and Wildlife Use.....	7
3.1.1 Vegetation.....	8
3.1.2 Wildlife.....	10
3.2 Special-status Plant and Animal Species	12
3.2.1 Special-status Plants	12
3.2.2 Special-status Animals	16
3.3 Sensitive and Regulated Habitats	21
Section 4. Biotic Impacts and Mitigation	24
4.1 Overview.....	24
Santa Clara Valley Habitat Plan	24
4.2 Less-than-significant Impacts.....	28
4.2.1 Impacts on Non-sensitive Habitats and Associated Common Plant and Animal Communities.....	28
4.2.2 Encroachment into Riparian Corridor.....	28
4.2.3 Impacts on the Loggerhead Shrike and Northern Harrier	29
4.2.4 Impacts on the White-tailed Kite	30
4.2.5 Impacts on the San Francisco Common Yellowthroat and Alameda Song Sparrow	30
4.2.6 Impacts due to Increased Lighting.....	31
4.3 Impacts Found to be Less than Significant with Mitigation	32
4.3.1 Impacts on Waters of U.S./State/Water Quality.....	32
4.3.2 Impacts on Congdon’s Tarplant.....	34
4.3.3 Impacts from Tree Removal	35
4.3.4 Impacts from Invasive Weeds.....	36
4.3.5 Impacts on the Burrowing Owl.....	37
4.3.6 Impacts due to Increased Noise	38
4.3.7 Impacts on Non-Special-Status Birds	39
4.4 Cumulative Impacts	43
Section 5. Compliance with Additional Laws and Regulations Applicable to Biotic Resources of the Project site	45
5.1 Regulatory Overview for Nesting Birds	45
Section 6. Literature Cited	46

Figures

Figure 1. Vicinity Map.....	2
Figure 2. Land Cover and Impacts Map	5
Figure 3. California Natural Diversity Database Map of Special-status Plants.....	13
Figure 4. California Natural Diversity Database Map of Special-status Animals.....	14

Tables

Table 1. Habitat Acreages in the Project Site	7
Table 2. Proposed Project Impacts	28

List of Preparers

Stephen Rottenborn, Ph.D., Principal-In-Charge
Patrick Boursier, Ph.D., Principal Plant Ecologist
Ginger Bolen, Ph.D., Senior Wildlife Ecologist
Élan Alford, Ph.D., Plant Ecologist

Section 1. Introduction

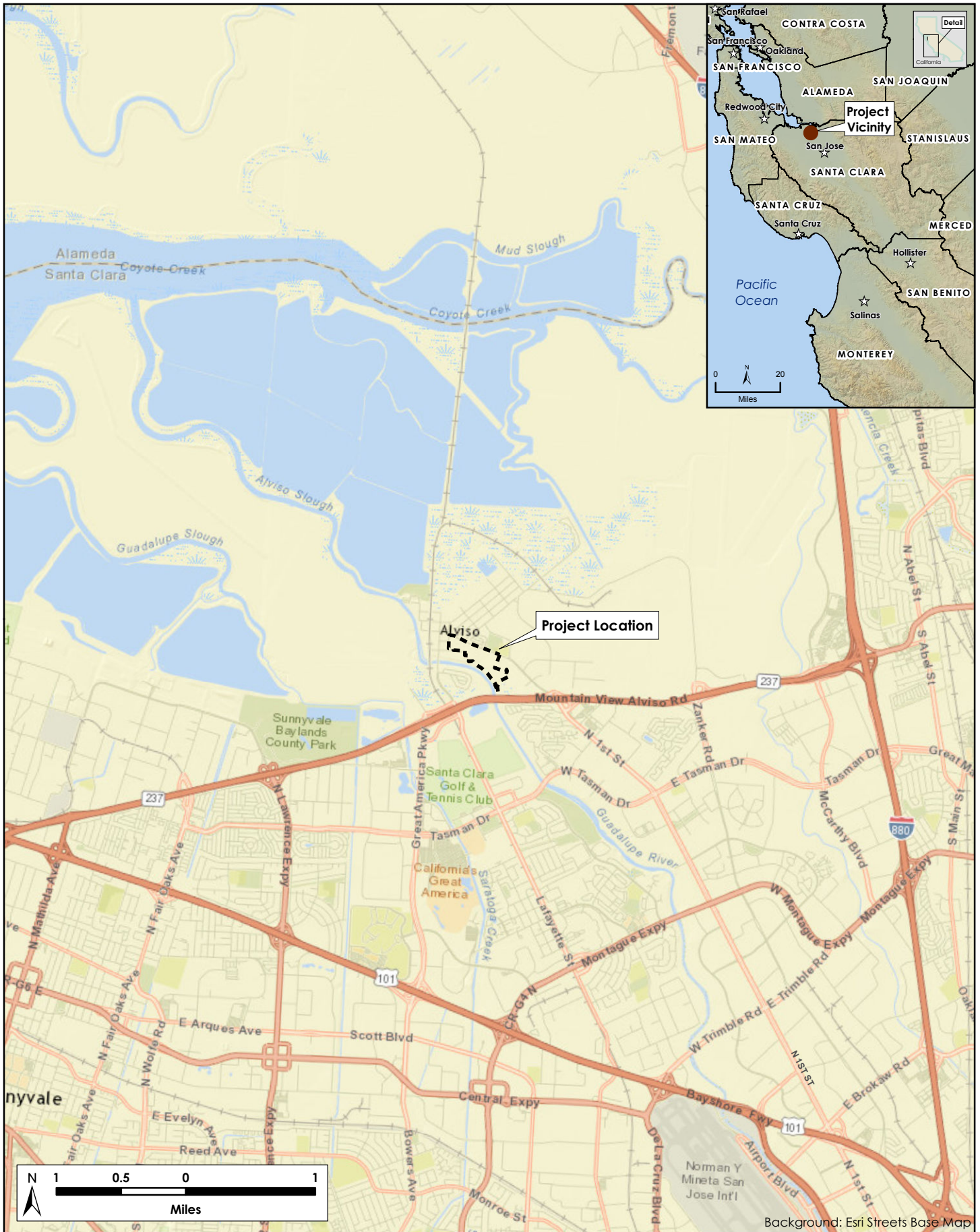
This report describes the biological resources present in the area of the proposed TopGolf Project, as well as the potential biological impacts of the proposed Project and measures necessary to reduce these impacts to less-than-significant levels under the California Environmental Quality Act (CEQA). This assessment is based upon the Project plans provided to H. T. Harvey & Associates by David J. Powers & Associates on November 30, 2015.

1.1 Project Location

The approximately 39-acre (ac) Project site is located on the south side of North First Street, between Highway 237 and Gold Street, in the Alviso area of San Jose, California (Figure 1). The central portion of the site is currently occupied by the Pin High Golf Center, which consists of a driving range, three golf holes, and additional golf instructional areas, along with associated infrastructure such as lights and netting. The Project site is located in the *Milpitas, California* 7.5-minute U.S. Geological Survey (USGS) quadrangle at an elevation of approximately 0 to 12 feet (ft) (Google Inc. 2015).

1.2 Proposed Development

The Project proposes to redevelop the site with a TopGolf entertainment complex, 200-room hotel, and 110,000 square feet (ft²) of retail space. The proposed TopGolf entertainment complex would occupy an approximately 13.4-ac area in the central portion of the site and would include a three-story structure containing roughly 120 hitting bays facing an outdoor outfield enclosed by netting. The structure would also include a full-service restaurant, bar, lounges, corporate/event meeting space, and a family entertainment area with games. A 460-space paved parking lot would be located adjacent to the structure. The outfield area of the proposed TopGolf facility, currently occupied by the driving range and golf holes, would be replaced with a synthetic turf placed over a paved surface and enclosed on three sides with netting strung between poles up to 170 feet (ft) tall. Drainage from the outfield area would flow to storm drain inlets in the paved surface. The flow would be directed through underground pipes to a retention basin located north of the TopGolf facility structure. The TopGolf facility would remain open as late as 2:00 AM and would include field lighting during operating hours. The Project proposes to install six sports lighting fixtures on the roof of the Topgolf building that would illuminate the back of golf balls as they come off the tee line, allowing the players to track their balls. The sports lighting fixtures would consist of 10-ft poles mounted on the roof. Each light fixture would have frosted bulbs and would be directed downward with an aluminum reflector, light hood, and visor to direct light onto the field and reduce the amount of spill light. No lighting fixtures would be located on the proposed net poles. The outfield would include target areas that are dimly lit from below in the evening for easier visibility, with colors denoting level of difficulty.



N:\Projects\37003742-01\02\Reports\Biological Resources Report\Fig 1 Vicinity Map.mxd.mchldis



H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 1. Vicinity Map

TopGolf Biological Resources Report (3742-02)

July 2016

The proposed 200-room hotel would be located in the western portion of the site and would be up to 65 ft in height. The retail component of the Project would be located in the northern portion of the site and would include 10 one- or two-story structures ranging in size from 7,000 ft² to 18,000 ft². A 5.8-ac area in the southeast corner of the Project site would remain undeveloped.

The majority of the Project site is located within the Santa Clara Valley Habitat Plan (VHP) permit area. However, approximately 3 ac of undeveloped land that is located directly east of Liberty Street is outside the

VHP permit area. The proposed Project is a “covered project” under the approved VHP (ICF International 2012). As a result, the proposed Project is required by the City of San Jose to pay VHP fees for land impacts in accordance with the types and acreage of habitat impacted, and to implement conservation measures specified by VHP conditions. This biological resources report, therefore, incorporates VHP avoidance, minimization, and compensatory mitigation measures as appropriate, in the context of measures that we believe to be appropriate to reduce impacts to less-than-significant levels under CEQA.

Section 2. Methods

H. T. Harvey & Associates senior wildlife ecologist Ginger Bolen, Ph.D., and plant ecologist Élan Alford, Ph.D., characterized the existing biotic conditions at the Project site, which included all areas expected to be directly impacted by the proposed Project (Figure 2). Prior to conducting field work, H. T. Harvey & Associates ecologists reviewed relevant background information, including information from the following sources:

- California Natural Diversity Database (CNDDDB) and its associated species accounts (CNDDDB 2015)
- Species list information for the Project vicinity from the U.S. Fish and Wildlife Service (USFWS) (<https://ecos.fws.gov/ipac/>)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2015)
- Jepson Manual Second Edition (Baldwin et al. 2012)
- Calflora (2015)
- Consortium of California Herbaria (2015)
- Relevant scientific literature, technical databases, and resource agency reports
- the Boccardo Property Biotic Constraints Analysis (H. T. Harvey & Associates 2004), which was performed in 2004 for a portion of the Project site
- the VHP (ICF International 2012)

The search of CNDDDB Rarefind published accounts (CNDDDB 2015) was conducted for special-status plant and wildlife species occurring in the *Milpitas, California* USGS 7.5-minute topographic quadrangle within which the site is located, as well as the eight surrounding quadrangles (*Niles, La Costa Valley, Mountain View, Cupertino, Newark, Calaveras Reservoir, San Jose West, and San Jose East*). In addition, for plants, we reviewed the Online Inventory of Rare Plants (CNPS 2015) for information regarding the distribution and habitats of vascular plants designated as California Rare Plant Rank (CRPR) 1A, 1B, 2A, 2B, or 3 that occur in any of the nine USGS quadrangles listed above. We also considered the CNPS plant list for Santa Clara County, as the CNPS does not maintain quadrangle-level records for CRPR 4 species.

Reconnaissance-level surveys of the Project site were conducted by Dr. Alford on December 4, 2015 and by Dr. Bolen on June 29 and December 9, 2015. The purpose of these surveys was to provide a Project-specific impact assessment for the development of the site as described above. Specifically, the survey was conducted to (1) assess existing biotic habitats and plant and animal communities on the Project site, (2) assess the site for its potential to support special-status species and their habitats, (3) identify and map potential nesting habitat

N:\Projects\3700\3742-01\02\Reports\Biological Resources Report\Fig 2 Habitat and Impacts Map_050516.mxd mchllds



for tricolored blackbirds (*Agelaius tricolor*) within areas mapped as potentially suitable habitat by the VHP, and (4) identify potential jurisdictional habitats (such as waters of the U.S./state), although a formal wetland delineation was not conducted. During the reconnaissance survey, Dr. Bolen also conducted a focused survey for evidence of previous raptor nesting activity (i.e., large stick nests) and bat roosting habitat. Dr. Alford conducted a focused survey for wetlands and other waters of the U.S./state.

Section 3. Existing Biological Conditions

Based on a review of historical aerial photos (National Environmental Title Research 2015, Google Inc. 2015), land use on much of the Project site was agricultural in 1948. Additionally, in 1948 a portion of the Guadalupe River existed on the Project site as a meandering channel with attendant marshlands. The site remained in this condition until some point in the 1960s when the Guadalupe River was channelized and the meandering channel configuration was abandoned in place but cut off from the new channel by the construction of elevated dikes and levees. Between 1993 and 1999, a golf driving range facility was constructed on the central portion of the site. Currently the southeast-most portion of the Project site is undeveloped and the western-most portion of the site is partially developed with a paved parking lot.

Much of the central and northern portions of the Project site are nearly level, while the southern area has a basin feature. The site elevation is approximately 0 ft on the northern end and approximately 12 ft on the southern end (Google Inc. 2015). Soils in the northern portion of the Project site, including the parking lots, are urban land complexes, either Urban Land-Xerorthents, anthropogenic fill complex or Urbanland-Clear Lake complex soils (Natural Resources Conservation Service [NRCS] 2015). The golf lawns and central portion of the Project site are drained Clear Lake silty clay and Campbell silt loam, and the southern portion of the site is mapped as water (NRCS 2015). The climate conditions for this area include a 30-year normal of 14.7 inches of annual precipitation and a 69.7 degrees Fahrenheit (°F) average maximum temperature and 50.0 °F average minimum temperature (PRISM 2015).

3.1 General Habitat Conditions and Wildlife Use

The field survey identified six general biotic habitat/land cover types on the Project site: California annual grassland, golf courses/urban parks, urban/suburban, pond, diked brackish marsh, and coastal and valley freshwater marsh. These habitat/land cover types were named in accordance with accepted VHP land cover classes, with one exception - the VHP does not include a land cover type equivalent to the diked brackish marsh habitat found on the Project site, and thus, this habitat/land cover type was added for the purposes of this analysis. These habitats, also termed “land cover” types in accordance with the VHP, are described in detail below. Table 1 provides a summary of the land cover acreages on the site, and their distribution is depicted in Figure 2; representative photos of each land cover type are also provided below. The majority of the Project site was previously mapped as part of the VHP program (ICF International 2012). For this report, the land cover classes present on the Project site, while based on the VHP mapping, have been refined and updated to reflect current conditions and a finer mapping scale.

Table 1. Habitat Acreages in the Project Site

Land Cover Type	Area (acres)	Percentage of Site
California annual grassland	6.03	16
Golf courses/urban parks	19.80	52

Land Cover Type	Area (acres)	Percentage of Site
Urban/Suburban	11.38	30
Pond	0.61	1
Diked brackish marsh	0.45	1
Coastal and valley freshwater marsh	0.01	<0.1
Total	38.28	100

3.1.1 Vegetation

Golf Courses/Urban Parks. The majority of the Project site is a maintained grass field for the existing golf facility. The grassland is a groomed lawn with sand traps and greens. Landscaped trees and other ornamentals are also present. Because of the manicured lawn and ornamentals, native plant species are largely absent from this habitat. Tall posts and netting are in place to separate the various driving range areas.



Photo 1. Golf courses/urban parks.

California Annual Grassland. On the Project site, this type of grassland is typically present in vegetated areas not maintained for golf lawns or landscaping (Photo 2). The grassland is ruderal, meaning that it is typically composed of a suite of non-native annual species that tolerate disturbance. Native vegetation is limited in ruderal grassland habitats. Wild oats (*Avena* sp.), ripgut brome (*Bromus diandrus*), red stem filaree (*Erodium cicutarium*), Smilo grass (*Stipa miliacea*), and black mustard (*Brassica nigra*) are the common plants in the California annual grassland. Fennel (*Foeniculum vulgare*), Italian thistle (*Carduus pycnocephalus*), and perennial pepperweed (*Lepidium latifolium*) are also present. Portions of this habitat type include the VHP land cover class “grain, rowcrop, hay and pasture, disked/short-term fallowed field” as mapped by ICF International (2012). For the purposes of this analysis, the VHP land cover type was replaced with California annual grassland to reflect the recent history of the site. Agricultural practices have not been in use recently and ruderal, non-native, herbaceous vegetation is currently present. On the northern side of the Project site along Liberty Street, the grassland has been recently disturbed as evidenced by the low vegetation cover and turned soils. At the southern side of the Project site in the basin feature, a suite of non-native species occurs on the side slopes of the bermed area between the existing golf lawn, basin bottom, and the Guadalupe River levee.



Photo 2. California annual grassland.

Urban/Suburban. These areas are generally described as developed and landscaped. The VHP used the urban/suburban land cover designation to map portions of the Project site and this habitat type has been retained for this report. The Project site has asphalt paved streets and parking lots, gravel lots and roads, and a few buildings (Photo 3). The eastern terminus of Moffat Street is included within the Project site. Ornamental trees such as Peruvian pepper tree (*Schinus molle*) are planted in the parking lot near the current golf facility. Otherwise, vegetation is largely absent. A few areas may support scattered non-native disturbance-loving herbaceous vegetation such as ripgut brome and wild oats in asphalt cracks or at the edges of gravel areas. Native plant species are generally considered absent from this habitat because of the level of disturbance and extent of ground cover materials, such as asphalt.



Photo 3. Urban/Suburban.

Pond. Standing water exists in a remnant river channel that has been disconnected from its flow regime (Photo 4). The VHP mapping shows this feature as pond (ICF International 2012). Based on historic aerial photos (National Environmental Title Research 2015), this feature was once part of the meandering slough that formed as the lower Guadalupe River flowed north to the San Francisco Bay prior to 1968. Between 1960 and 1968, the lower Guadalupe River was straightened and channelized. Now the pond is permanently disconnected from Guadalupe River surface flows. Since the 1960s to the present day, it has functioned as a pond as the levee along the Guadalupe River isolates the feature from the current active river channel. Currently the pond has standing water that is a murky greenish-brown color and does not support emergent vegetation. The presence of pickleweed (*Salicornia pacifica*) and saltgrass (*Distichlis spicata*) around the edge of the feature indicates that the water is likely brackish or saline. Salinity may be a result of various factors including the historic tidal influence from the San Francisco Bay via tidal action at the Guadalupe River mouth and from evaporative water loss that contributes to salt concentration.

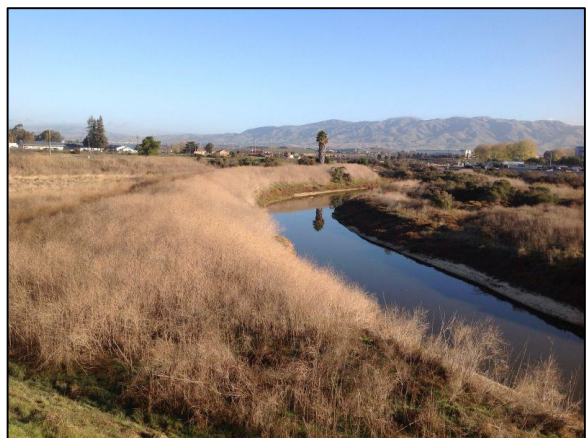


Photo 4. Pond.

Diked Brackish Marsh. Portions of the diked brackish marsh habitat type on the Project site are mapped by the VHP as coastal and valley freshwater marsh or golf courses/urban parks (ICF International 2012). Neither land cover type is accurate because the current vegetation is composed of salt-tolerant, water-loving plants, which indicates that this feature is a brackish wetland (Photo 5).

The level of salinity is a result of the Bay soil types and historic tidal influence in the area. Current conditions support halophytic (i.e. salt-loving) species such as pickleweed, salt grass, and alkali heath (*Frankenia salina*).

Plants that are freshwater dependent, such as cattail (*Typha* spp.) or bulrush (*Bolboschoenus* spp.) are not present. Therefore, this area was determined to be brackish, or possibly saline, rather than freshwater. Hydrophytic (water-loving) plants are present at the lowest elevations in a basin feature between the golf facility and the Guadalupe River Trail, which is off-site. Diked brackish marsh is also present around the pond feature (Figure 2). Presumably, this area was historically influenced by the stream course of the Guadalupe River, but the area has been diked off from the existing Guadalupe River channel. The low-lying area has wetland features in flat locations at the bottom of the basin. Currently, water is input from incident precipitation events and localized sheetflow. Groundwater may also be input to the area based on the site elevation and proximity to the Guadalupe River. No ponded water was observed at the time of the November 2015 survey.



Photo 5. Diked brackish marsh.

Coastal and Valley Freshwater Marsh. One small feature supporting cattails (*Typha* sp.) is located at the edge of California annual grassland and urban/suburban habitats in the central portion of the Project site (Figure 2; Photo 6). The area appears to be a low-lying drainage ditch or swale along a gravel road. At the time of the November 2015 survey, no ponded water was observed in the feature and the cattail was over 6 ft tall. Dominance by cattail indicates that this is a freshwater marsh. Prior Project site wetland and habitat mapping conducted in 2004 (H. T. Harvey & Associates 2004) did not identify this feature, which indicates that the feature is of recent origin. The feature is too small to have been documented in the VHP mapping by ICF International (2012), and is instead mapped as urban-suburban land cover. Given the landscape position, isolation from other aquatic or wetland features, and its likely recent origin, this feature may be supplied by artificial hydrology. In the absence of groundwater input, the naturally occurring local surface flow into this feature would be limited because of local topography. Therefore, the freshwater marsh may be a result of the golf facility's irrigation management practices.



Photo 6. Coastal and valley freshwater marsh.

3.1.2 Wildlife

Golf Courses/Urban Parks. At the Project site, this habitat provides relatively few nesting or foraging opportunities for wildlife. Some bird species, including the American robin (*Turdus migratorius*), Brewer's blackbird (*Euphagus cyanocephalus*), and house finch (*Haemorbous mexicanus*), are well adapted to developed landscapes and are likely to breed in the ornamental vegetation, and species such as the golden-crowned sparrow (*Zonotrichia atricapilla*), white-crowned sparrow (*Zonotrichia leucophrys*), and California towhee (*Pipilo crissalis*) will

forage on the golf course. In addition, several species of raptors may occasionally forage over the golf course, including the white-tailed kite (*Elanus leucurus*), northern harrier (*Circus cyaneus*), and Cooper's hawk (*Accipiter cooperi*). Although the ornamental trees on the site are too small to support nesting raptors, Mexican fan palms (*Washingtonia robusta*) scattered around the edges of this habitat may provide suitable nesting habitat for the barn owl (*Tyto alba*). California ground squirrels (*Spermophilus beecheyi*) and other small mammals, such as California voles (*Microtus californicus*), occur along the margins of this habitat.

California Annual Grassland. Wildlife use of the grassland habitat on the Project site is limited by the small extent of the habitat and the high levels of human disturbance that occur both on the Project site and in nearby areas. As a result, wildlife species associated with more extensive grassland habitats in the region, such as the grasshopper sparrow (*Ammodramus savannarum*), are absent from this habitat within the Project site, and many of the species that occur on the site are species that occur in adjacent urban areas and use the site for foraging. Such species include the American crow (*Corvus brachyrhynchos*), California towhee, mourning dove (*Zenaidura macroura*), and bushtit (*Psaltriparus minimus*). Likewise, a few species nesting on nearby bridges and overpasses, such as the cliff swallow (*Petrochelidon pyrrhonota*), barn swallow (*Hirundo rustica*), rock pigeon (*Columba livia*), black phoebe (*Sayornis nigricans*), and European starling (*Sturnus vulgaris*), also forage on or over the grassland habitat on the site. The ruderal grassland provides nesting habitat for only a few species, such as the western meadowlark (*Sturnella neglecta*), due to its limited extent. During winter and migration, common nonbreeding species such as the white-crowned sparrow, golden-crowned sparrow, Lincoln's sparrow (*Melospiza lincolni*), lesser goldfinch (*Carduelis psaltria*), and American goldfinch (*Carduelis tristis*) forage on the ground or in herbaceous vegetation, primarily for seeds.

Reptiles and amphibians occurring in the grasslands on the Project site include the western fence lizard (*Sceloporus occidentalis*) and gopher snake (*Pituophis melanoleucus*), and common garter snake (*Thamnophis sirtalis*). Small mammals present include the western harvest mouse (*Reithrodontomys megalotis*), house mouse (*Mus musculus*), Botta's pocket gopher (*Thomomys bottae*), and California ground squirrel. These species, in turn, attract raptors such as the American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), and Cooper's hawk. Larger mammals, such as the striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and black-tailed hare (*Lepus californicus*), are also likely to occur in this habitat.

Urban/Suburban. Asphalt and gravel areas do not provide high-quality wildlife habitat; however, snakes and lizards may bask on these surfaces, and a variety of wildlife cross or move along these areas en route to other habitats.

Pond. Because the water within the pond feature on the Project site is brackish, it is unlikely to support amphibians or turtles. However, several species of ducks and wading birds, including the American coot (*Fulica americana*), may occasionally forage here.

Diked Brackish Marsh. A variety of bird species is likely to use the vegetation in the diked brackish marsh. The Alameda song sparrow (*Melospiza melodia pusillula*), San Francisco common yellowthroat (*Geothlypis trichas*

sinuosa), and red-winged blackbird (*Agelaius phoeniceus*) nest in this habitat, and ducks and other waterfowl forage here year-round. The California vole is a common small mammal species found in marshes in the Project vicinity, and will breed in adjacent terrestrial habitats and forage in the brackish marsh; it in turn serves as prey for the great blue heron (*Ardea herodias*) and great egret (*Ardea alba*), as well as raptors.

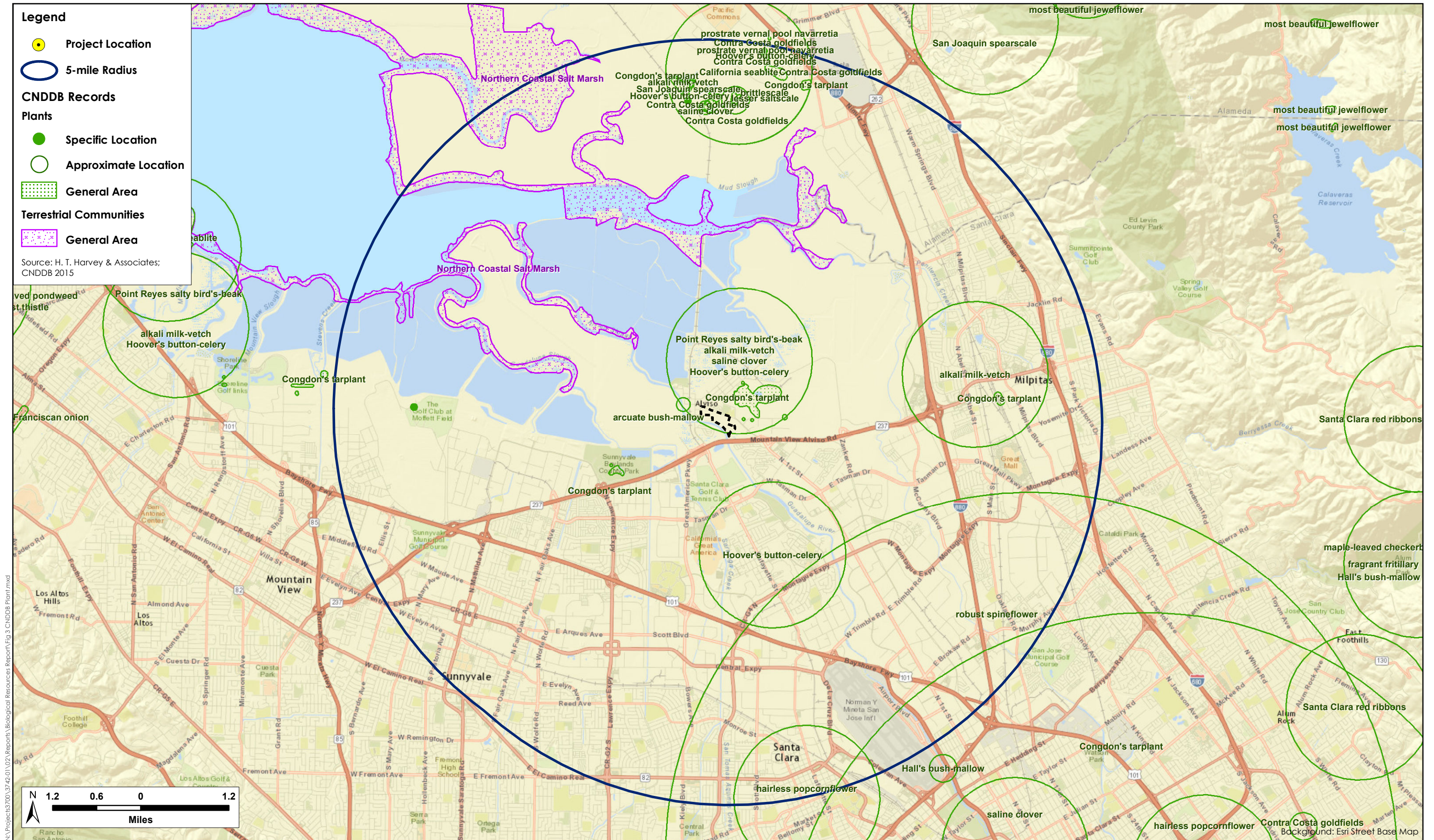
3.2 Special-status Plant and Animal Species

As described in *Methods* above, information concerning threatened, endangered, or other special-status species that could occur on the Project site was collected from several sources and reviewed by H. T. Harvey & Associates biologists. The specific habitat requirements and the locations of known occurrences of each special-status species were the principal criteria used for inclusion in the list of species potentially occurring on the site. Figures 3 and 4 are maps of the CNDDDB's special-status plant and animal species records in the general vicinity of the Project site, defined for the purposes of this report as the area within a 5-mile (mi) radius. These generalized maps are valuable on a historical basis, as they show areas where special-status species occur or have occurred previously, but they do not necessarily represent current conditions or indicate where species are absent.

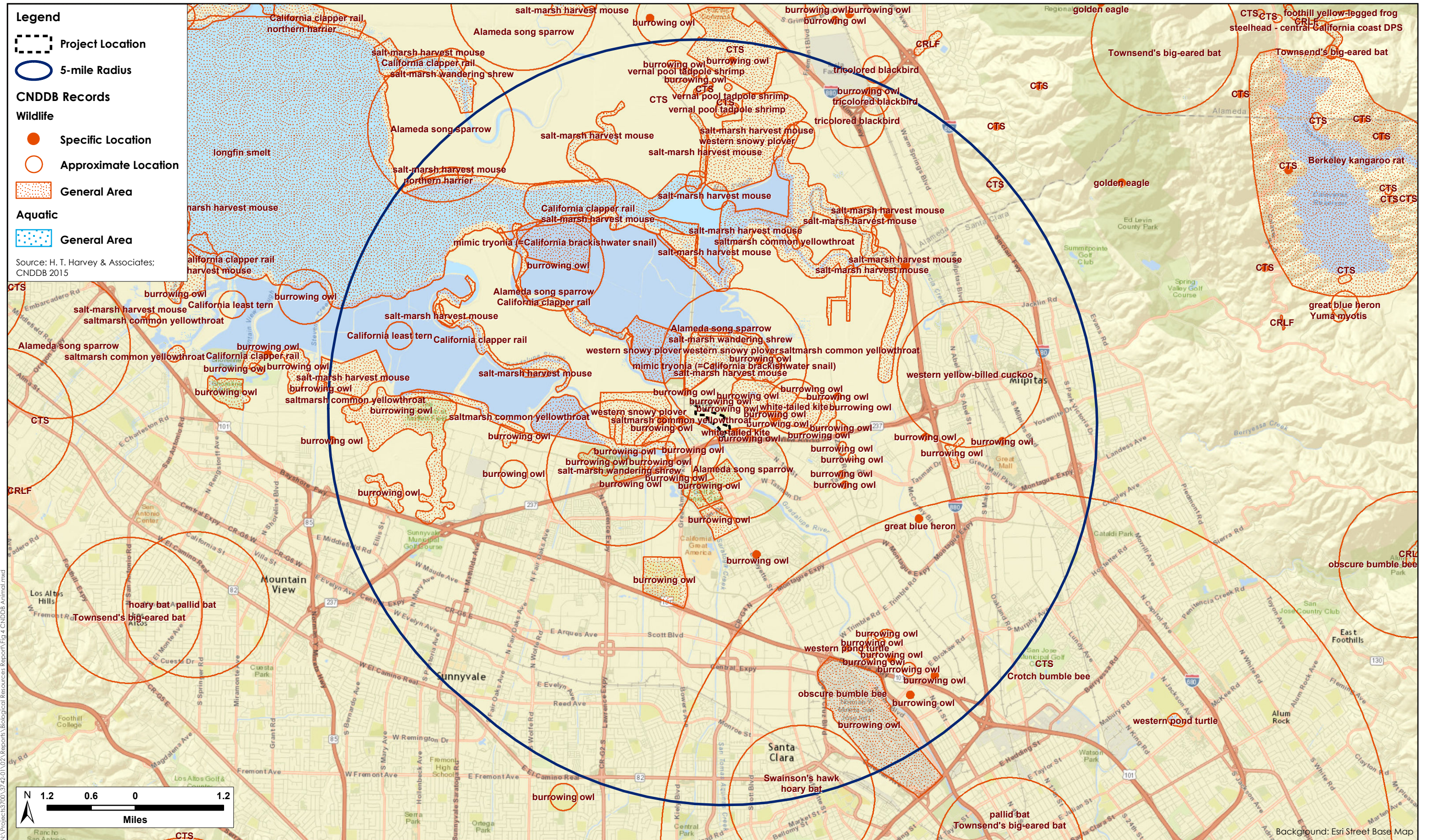
3.2.1 Special-status Plants

A list of 68 special-status plants with some potential for occurrence on the Project site was compiled using CNPS records (CNPS 2015) and reviewed. Analysis of the documented habitat requirements and occurrence records associated with all of the species considered allowed us to reject 54 of the 68 species as not having a reasonable potential to occur on the Project site. These 54 species were rejected based on one or more of the following reasons: (1) the species has a very limited range of endemism and has never been observed in the vicinity of the Project site; (2) species elevation ranges are outside the elevation limits of the Project site; (3) specific, edaphic soil characteristics, such as serpentine soils are absent from the Project site; (4) observed absence of perennial special-status species; or (5) the site is too disturbed.

Based upon species habitat occurrences, edaphic requirements, and ranges, 14 species were determined to have some potential to occur on the Project site. These species are: alkali milk-vetch (*Astragalus tener* var. *tener*), brittlescale (*Atriplex depressa*), lesser saltscale (*Atriplex minuscula*), Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), Point Reyes salty bird's-beak (*Chloropyron maritimum* ssp. *palustre*), Hoover's button-celery (*Eryngium aristulatum* var. *hooveri*), San Joaquin spearscale (*Extriplex joaquiniana*), Contra Costa goldfields (*Lasthenia conjugens*), prostrate vernal pool navarretia (*Navarretia prostrata*), Gairdner's yampah (*Perideridia gairdneri* ssp. *gairdneri*), hairless popcornflower (*Plagiobothrys glaber*), California alkali grass (*Puccinellia simplex*), California seablite (*Suaeda californica*), and saline clover (*Trifolium hydrophilum*). All 14 species were considered to have some potential to occur within habitats similar to those in the Project site based on their general habitat requirements and known distribution, and thus warranted further analysis.



NA:Project:370013742-01-02-Reports\Biological Resources Report\Fig 3 CNDDB Plant.mxd



M:\Projects\3742-02\Reports\Biological Resources Report\Fig 4 CNDDB Animal.mxd

Of the 14 species with potential to occur, seven species (alkali milk-vetch, Point Reyes salty bird's-beak, Hoover's button celery, San Joaquin sparscale, Contra Costa goldfields, hairless popcorn flower, and California seablite) are considered absent from the Project site because of the level of disturbance in the California annual grassland and diked brackish marsh habitats and the low habitat suitability. Further, CNPS considers these species extirpated from the County (CNPS 2015).

Based on further analysis of the remaining seven species (brittlescale, lesser saltscale, Congdon's tarplant, prostrate vernal pool navarretia, Gairdner's yampah, California alkali grass, and saline clover), all but Congdon's tarplant were determined to be absent from the Project site. Although suitable habitat for the other species is present, the condition of the habitat is too disturbed to support those species. The entire Project site is surrounded by existing urbanized areas in Alviso, areas under current development, or has been separated from the Guadalupe River corridor by dikes. The California annual grassland is dominated by non-native annual grasses and is largely fragmented from other surrounding natural vegetation as a result of urbanization. Therefore, this grassland is unsuitable for many species because of its low quality. The diked brackish marsh is also moderately degraded because it has been physically separated from the Guadalupe River corridor. Characteristic pool associated species for nearby populations of special-status plants were not observed in the diked brackish marsh. Invasive perennial pepperweed grows around the edges of the habitat, and thickets of pickleweed and saltgrass preclude other species from establishing in the interior. For these reasons, and in light of the complete absence of these species from surrounding areas, brittlescale, lesser saltscale, prostrate vernal pool navarretia, Gairdner's yampah, California alkali grass, and saline clover were determined to be absent. Only Congdon's tarplant was determined to potentially occur at the Project site. It is described in more detail below.

Congdon's Tarplant (*Centromadia parryi* ssp. *congdonii*). **Federal Listing Status: None; State Listing Status: None; CRPR: 1B.1.** Congdon's tarplant is an annual herb in the composite family (Asteraceae) that has a variable blooming period extending from June through November. It occurs in valley and foothill grasslands, particularly those with alkaline substrates, and in slumps or disturbed areas where water collects in lower elevation wetlands below approximately 760 ft. This subspecies tolerates disturbance and often occurs in disked fields with non-native, California annual grassland habitat with hood canary grass (*Phalaris paradoxa*) and alkali mallow (*Muhlenbergia leprosa*). This species is documented from 91 occurrences, including several from Alviso, and it is considered seriously threatened by development (CNPS 2015). The closest known CNDDB record of Congdon's tarplant (CNDDB occurrence #41) is located approximately 0.25 mi north of the Project site in disturbed grassland.

Based on the proximity of the Project site to known occurrences of the species and this species' ability to grow in disturbed habitats, it was determined that potentially suitable habitat for Congdon's tarplant exists within the Project site in the small area of California annual grassland habitat along Liberty Street and in the diked brackish marsh. Congdon's tarplant is most commonly found in seasonal alkaline wetland depressions that are periodically disturbed (often with mowing or disking). This species is also known to tolerate disturbance of the

type that has occurred on portions of the Project site, and it is known from several occurrences including Alviso and the Sunnyvale Baylands Park. Therefore, it may be present on the Project site.

3.2.2 Special-status Animals

Based on our review of current CNDDDB (2015) records (Figure 4) and other data sources, coupled with our review of habitat conditions on the Project site, several special-status animal species are known to occur in the Project region. However, the majority of these species were determined to be absent from the Project site due to a lack of suitable habitat or to evidence that the species does not occur in the Project vicinity. Species considered for occurrence but rejected, as well as the reasons for their rejection, include the following (among others):

- Populations of the California tiger salamander (*Ambystoma californiense*), federally and state listed as threatened, located on the Valley floor have been extirpated due to habitat loss, and the species is now considered absent from the majority of the Valley floor, including the Project site (H. T. Harvey & Associates 1999, 2012; Santa Clara Valley Water District 2011). No recent records of California tiger salamanders are located anywhere in the Project vicinity (CNDDDB 2015), and the Project site is not mapped as habitat for the California tiger salamander by the VHP. Thus, the species is determined to be absent from the Project site.
- The California red-legged frog (*Rana draytonii*), federally listed as threatened and a California species of special concern, has been extirpated from the majority of the Project region, including the entire urbanized Valley floor, due to development, the alteration of hydrology of its aquatic habitats, and the introduction of non-native predators such as non-native fishes and bullfrogs (*Lithobates catesbeianus*) (H. T. Harvey & Associates 1997; Santa Clara Valley Water District 2011). In addition, the Project site is not mapped as primary or refugial habitat for the California red-legged frog by the VHP. Although a small area of the southernmost portion of the Project site was modeled by the VHP as potential dispersal habitat, we do not expect this species to be present on the Project site for the previously mentioned reasons, and there are no records of California red-legged frogs from anywhere in the Project vicinity (CNDDDB 2015). Thus, California red-legged frogs are determined to be absent from the Project site.
- The California Ridgway's rail (*Rallus obsoletus obsoletus*), federally and state listed as endangered, is known to occur in Alviso Slough (CNDDDB 2015) where the tidal marsh is dominated by salt-marsh plant species. However, suitable habitat is not present within the Project site, or in the reach of the Guadalupe River adjacent to the Project site, which is dominated by freshwater vegetation, and no Ridgway's rails have ever been recorded along Alviso Slough upstream from Gold Street (which is located downstream from the site). Thus, the California Ridgway's rail is determined to be absent.
- The California black rail (*Laterallus jamaicensis*), state listed as threatened, is known to occur in Alviso Slough (<http://groups.yahoo.com/group/south-bay-birds>) in tidal salt marsh and brackish marsh upstream as far as Alviso Marina County Park. However, suitable habitat is not present within the Project site, or in the reach of the Guadalupe River adjacent to the Project site, which is dominated by freshwater vegetation,

and this species has not been recorded as far upstream as the vicinity of the Project site. Thus, the California black rail is determined to be absent.

- The yellow-breasted chat (*Icteria virens*), a California species of special concern, is a rare breeder, and only slightly more regular transient, in willow-dominated riparian habitats in the Project region. However, suitably large, dense stands of riparian habitat are not present on or adjacent to the Project site, and this species has not been recorded breeding as close to the Bay as the Project site. Thus, the yellow-breasted chat is determined to be absent.
- Although the VHP maps a portion of the Project site adjacent to the Guadalupe River as habitat for the tricolored blackbird, a state candidate for listing, tricolored blackbirds do not nest in the Project vicinity (CNDDDB 2015, Bousman 2007c, South Bay Birds list-serve [<http://groups.yahoo.com/group/south-bay-birds>]). Further, although potentially suitable nesting habitat was identified along the Guadalupe River, no tricolored blackbirds were observed within or immediately adjacent to the Project site during the site survey conducted during the breeding season, and the species is determined to be absent.
- The salt marsh harvest mouse (*Reithrodontomys raviventris*), federally and state listed as endangered, is known to occur in salt marsh habitats of the Bay to the northwest of the Project site (CNDDDB 2015); however, suitable salt marsh habitat is not present within the Project site, or in the reach of the Guadalupe River adjacent to the Project site. Furthermore, the small patches of pickleweed and saltgrass in the brackish marsh areas on the Project site are so isolated from areas of suitable habitat that there is no potential for this species to have dispersed to the site from areas of known occurrence. Thus, the salt marsh harvest mouse is determined to be absent.
- The Project site lacks suitable structures or trees with crevices and cavities that would provide habitat for large roosting or maternity colonies of bats, including the Townsend's big-eared bat (*Corynorhinus townsendii*), a state candidate for listing, and the pallid bat (*Antrozous pallidus*), a California species of special concern.
- A focused survey of the Project site detected no nests of the San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), a California species of special concern. Thus, this species is determined to be absent.
- Special-status fish, which may be present in the adjacent reach of the Guadalupe River but which are absent from the Project site and are separated from the site by the existing levee.

No federal or state listed species are expected to occur on the Project site. However, six California species of special concern, the western pond turtle (*Actinemys marmorata*), northern harrier (*Circus cyaneus*), burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), San Francisco common yellowthroat, and Alameda song sparrow, may be present on the Project site, as well as the white-tailed kite, a fully protected species. These species are discussed in detail below.

Western Pond Turtle (*Actinemys marmorata*). **Federal status: None; State status: Species of Special Concern** The western pond turtle occurs in ponds, streams, and other aquatic habitats in the Pacific Slope drainages of California and northern Baja California, Mexico. Ponds or slack-water pools with suitable basking

sites (such as logs) are an important habitat component. Nesting season typically occurs from April through July with the peak occurring in late May to early July. Females lay eggs in upland habitats, typically in clay or silty soils in unshaded (often south-facing) areas within a few hundred meters of aquatic habitat. Nesting sites typically consist of open habitat with full sun exposure and are typically located along stream or pond margins, but if no suitable habitat is available, adults have been documented making considerable overland journeys and nesting as far as 1300 ft from the water (Jennings and Hayes 1994, Bury and Germano 2008). Juveniles feed and grow in shallow aquatic habitats (often creeks) with emergent vegetation and ample invertebrate prey. Although degradation of aquatic habitats due to development, introduction of non-native predators, and water diversions all impact western pond turtles, destruction of non-aquatic habitat (e.g., basking areas and nesting habitats) is equally detrimental to their long-term persistence. The western pond turtle is a covered species under the VHP. As expressed in Conservation Goal 19, the VHP seeks to maintain and, where appropriate, increase the number of individuals and expand the distribution of the western pond turtle within the Reserve System to maintain viable populations and contribute to the regional recovery of the species.

Although breeding populations have been extirpated from most agricultural and urbanized areas in the Project region, individuals of this long-lived species still occur in urban streams and ponds in the Santa Clara Valley. No suitable aquatic habitat is present on the Project site. However, individuals have occasionally been recorded along the lower reaches of the Guadalupe River in the Project vicinity and could occasionally disperse into or nest in upland habitats within the Project site.

Northern Harrier (*Circus cyaneus*). Federal status: None; State status: Species of Special Concern (Nesting). The northern harrier nests in marshes and grasslands with tall vegetation and sufficient moisture to inhibit accessibility of nest sites to predators. This species forages primarily on small mammals and birds in a variety of open grassland, ruderal, and agricultural habitats. Northern harriers forage in a variety of open habitats, especially during the nonbreeding season. The species is fairly widespread as a forager in grasslands, extensive wetlands, and agricultural areas in the Project region during migration and winter. The California annual grassland and diked brackish marsh habitat on the Project site provides suitable nesting and foraging habitat for the northern harrier.

Burrowing Owl (*Athene cunicularia*). Federal Listing Status: None; State Listing Status: Species of Special Concern. Burrowing owls occur year-round in the Santa Clara Valley, using open, agricultural or grassland areas with active small mammal burrows, which they use for nesting and roosting. Typical burrowing owl habitat is treeless (because tall trees provide perches for raptors that can easily prey on burrowing owls), with minimal shrub cover and woody plant encroachment, and low density and foliage height diversity, which allows the owls to observe approaches to their nest or roost burrows. In the San Francisco Bay Area, burrowing owls are chiefly associated with burrows of California ground squirrels, which, in addition to providing nesting, roosting, and escape burrows, improve habitat for burrowing owls in other ways. For example, burrowing owls are known to favor areas with short, sparse vegetation (Coulombe 1971, Haug and Oliphant 1990, Plumpton and Lutz 1993), which provides visual protection from avian predators and foraging habitat, and ground squirrel

colonies maintain short vegetation height. In the absence of ground squirrel populations, habitats soon become unsuitable for occupancy by owls.

The burrowing owl nesting season as recognized by the California Department of Fish and Wildlife (CDFW) runs from February 1 through August 31. In Santa Clara County, burrowing owl families with non-flying young have been found as early as March 30, suggesting egg-laying dates in mid to late February, and fledged young still dependent on adults have been found into late August (Trulio 2007). After nesting is completed, adult owls may remain in their nesting burrows or in nearby burrows, or they may migrate and over-winter elsewhere (Gorman et al. 2003). Young birds disperse across the landscape from 0.1 mi to 35 mi from their natal burrows (Rosier et al. 2006). Philopatry (the tendency for individuals to breed at or near their place of birth), site tenacity (the tendency for individuals to breed at or near their prior nest location), and nest burrow reuse have been well documented for burrowing owls (Martin 1973, Gleason 1978, Rich 1984, Plumpton and Lutz 1993), and burrowing owls may return to a nesting site and attempt to nest even after the site has been developed. Further, past reproductive success may influence future site reoccupancy. Female burrowing owls with large broods tend to return to previously occupied nest sites, while females that fail to breed, or which produce small broods, may change nest territories in subsequent years (Lutz and Plumpton 1999).

The grasslands on the Project site provide suitable nesting, foraging, and roosting habitat for the burrowing owl, and the Project site is mapped as burrowing owl nesting habitat by the VHP (ICF International 2012). Although the species has not been recorded within the Project boundaries, several records are located within 1 mi of the site (CNDDB 2015).

Loggerhead Shrike (*Lanius ludovicianus*). Federal Listing Status: None; State Listing Status: Species of Special Concern (Nesting). The loggerhead shrike is a predatory songbird associated with open habitats interspersed with shrubs, trees, poles, fences, or other perches from which it can hunt (Yosef 1996). Nests are built in densely foliated shrubs or trees, often containing thorns, which offer protection from predators and upon which prey items are impaled. The breeding season for loggerhead shrikes may begin as early as mid-February and lasts through July (Yosef 1996). Nationwide, loggerhead shrike populations have declined significantly over the last 20 years. Loggerhead shrikes are still fairly common in parts of the San Francisco Bay area, but urbanization has reduced available habitat, and local populations are likely declining (Cade and Woods 1997, Humple 2008).

Loggerhead shrikes nest in a number of locations in the Project region where open grassland, ruderal, or agricultural habitat with scattered brush, chaparral, or trees that provide perches and nesting sites occurs (Bousman 2007a). This species occurs slightly more widely (i.e., in smaller patches of open areas providing foraging habitat) during the nonbreeding season. The ruderal grassland habitat on the Project site provides suitable nesting and foraging habitat for the loggerhead shrike. However, based on the extent of suitable habitat on the Project site and typical territory sizes of this species, no more than one pair of loggerhead shrikes is expected to nest on the Project site.

White-tailed Kite (*Elanus leucurus*). Federal Listing Status: None; State Listing Status: Fully Protected. In California, white-tailed kites can be found in the Central Valley and along the coast, in grasslands, agricultural fields, cismontane woodlands, and other open habitats (Zeiner et al. 1990, Dunk 1995, Erichsen et al. 1996). White-tailed kites are year-round residents of the state, establishing nesting territories that encompass open areas with healthy prey populations, and snags, shrubs, trees, or other nesting substrates (Dunk 1995). Nonbreeding birds typically remain in the same area over the winter, although some movements do occur (Polite 1990). The presence of white-tailed kites is closely tied to the presence of prey species, particularly voles, and prey base may be the most important factor in determining habitat quality for white-tailed kites (Dunk and Cooper 1994, Skonieczny and Dunk 1997). Although the species recovered after population declines during the early 20th century, its populations may be exhibiting new declines as a result of recent increases in habitat loss and disturbance (Dunk 1995, Erichsen et al. 1996).

In the Project vicinity, white-tailed kites are known to nest along the northern edge of Santa Clara County throughout the open areas edging the San Francisco Bay (Bousman 2007b). Suitable foraging habitat for the white-tailed kite is present on the Project site. Although suitably large trees for nesting are not present within the Project boundaries, suitable nesting sites are present in trees ~100 ft from the Project site.

San Francisco Common Yellowthroat (*Geothlypis trichas sinuosa*). Federal Listing Status: None; State Listing Status: Species of Special Concern. The San Francisco common yellowthroat inhabits emergent vegetation and nests in fresh and brackish marshes and moist floodplain vegetation around the San Francisco Bay. Common yellowthroats will use small and isolated patches of habitat as long as groundwater is close enough to the surface to encourage the establishment of dense stands of rushes (*Scirpus* and *Juncus* spp.), cattails, willows, and other emergent vegetation (Nur et al. 1997, Gardali and Evens 2008). Ideal habitat, however, is comprised of extensive, thick riparian, marsh, or herbaceous floodplain vegetation in perpetually moist areas, where populations of brown-headed cowbirds are low (Menges 1998). San Francisco common yellowthroats nest primarily in fresh and brackish marshes, although they nest in salt marsh habitats that support tall vegetation (Guzy and Ritchison 1999). This subspecies builds open-cup nests low in the vegetation, and nests from mid-March through late July (Guzy and Ritchison 1999, Gardali and Evens 2008).

In the South Bay, the San Francisco common yellowthroat is a fairly common breeder in fresh and brackish marshes. It is known to nest abundantly in the marshes along the lower Guadalupe River adjacent to the Project site and the diked brackish marsh on the site provides suitable nesting and foraging habitat for this species.

Alameda Song Sparrow (*Melospiza melodia pusillula*). Federal Listing Status: None; State Listing Status: Species of Special Concern. The Alameda song sparrow is one of three subspecies of song sparrows that nest only in salt marsh habitats in the San Francisco Bay area (Chan and Spautz 2008). Prime habitat for Alameda song sparrows consists of large areas of tidally influenced salt marsh dominated by cordgrass and gumplant and intersected by tidal sloughs, offering dense vegetative cover and singing perches. Although the special-status pusillula subspecies (the “species” of special concern) is occasionally found in brackish marshes dominated by bulrushes, it is apparently very sedentary and is not known to disperse upstream into freshwater

habitats (Basham and Mewaldt 1987). While the range of the Alameda song sparrow has remained relatively unchanged over time, populations have been reduced substantially and are continually threatened by the loss and fragmentation of salt marshes around the Bay (Nur et al. 1997, Chan and Spautz 2008).

Song sparrows nest as early as March, but peak nesting activity probably occurs in May and June. Song sparrows that nest in salt marshes in the Bay area (including *pusillula*) are known to nest about two weeks earlier than the more widespread *gouldii* subspecies, which nests farther inland in freshwater habitats (Johnston 1954; Johnston 1956). This early nesting by *pusillula* is apparently an adaptation to breeding in a tidal environment, as high tides in late spring and early summer may destroy large numbers of nests.

Song sparrows breed commonly in the marshes along the lower Guadalupe River adjacent to the Project site, and the diked brackish marsh on the site provides suitable nesting and foraging habitat. The primary habitat for the *pusillula* subspecies of song sparrow is fully tidal salt marsh. These song sparrows apparently nest along the lengths of tidal sloughs and the creeks that flow into them. Where suitable nesting habitat is continuous along such creeks, the species appears to nest continuously from tidal salt marshes, where the breeding subspecies is *pusillula*, upstream to freshwater marsh and woody riparian habitats, where the breeding subspecies is *gouldii*. The line of demarcation (or perhaps more accurately, the zone of intergradation) along these sloughs between these two subspecies is unknown (Rottenborn 2007); a recent study indicates that song sparrows nesting along the lower Guadalupe River may be intergrades between the *pusillula* subspecies and the *gouldii* subspecies (San Francisco Bay Bird Observatory 2012).

3.3 Sensitive and Regulated Habitats

CDFW Sensitive Habitats. The CDFW ranks certain rare or threatened plant communities, such as wetlands, meadows, and riparian forest and scrub, as ‘threatened’ or ‘very threatened’. These communities are tracked in the CNDDDB. Impacts on CDFW sensitive plant communities, or any such community identified in local or regional plans, policies, and regulations, must be considered and evaluated under the CEQA (California Code of Regulations: Title 14, Div. 6, Chap. 3, Appendix G). Furthermore, aquatic, wetland and riparian habitats are also afforded protection under applicable federal, state, or local regulations, and are generally subject to regulation, protection, or consideration by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), CDFW, and/or the USFWS.

A query of sensitive habitats in Rarefind (CNDDDB 2015) was performed for the *Milpitas, California* 7.5-minute USGS quadrangle and surrounding nine quadrangles. Based on this query, Northern Coastal Salt Marsh is the only sensitive community occurring in the Project vicinity; however, this habitat type is not present on the Project site. The closest mapped record of Northern Coastal Salt Marsh in the CNDDDB is located approximately 1.2 mi northwest of the Project site in Alviso Slough (Figure 3).

CDFW maintains a list of vegetation alliances and associations within the state of California (California Department of Fish and Game 2010). This list includes global (G) and state (S) rarity ranks for associations and

alliances. Alliances and associations currently ranked as S1-S3 are considered highly imperiled. Within the Project site, the diked brackish marsh may be described as pickleweed mats with a G4 and S3 ranking (Sawyer, Keeler-Wolf, and Evans 2009). Pickleweed mats have an S3 rank and are considered imperiled, and thus a community of special concern. The coastal and valley freshwater marsh habitat may be considered a cattail marsh with a G5 and S5 ranking (Sawyer, Keeler-Wolf, and Evans 2009) and are thus not considered highly imperiled. Golf courses/urban parks and California annual grassland habitats are highly disturbed and support a dominance of non-native species. Therefore, these habitats would be considered semi-natural herbaceous stands and have no associated state rarity ranking and are not considered imperiled. Urban-suburban habitat has exceptionally little vegetation and does not conform to a CDFW vegetation category nor does it have an associated rarity rank.

There is no CDFW riparian jurisdiction on the Project site. Riparian habitats along stream and drainage corridors are typically claimed by CDFW because they offer unique resources for wildlife. Section 1602 of the Fish and Game Code establishes jurisdiction over the bed, channel, or bank of any river, stream, or lake. In accordance with this guidance we determined that riparian habitat is absent from the Project site. The pond habitat on the Project site is remnant channel from the Guadalupe River but it no longer functions as a stream feature. Rather, it now holds standing water that does not have surface flows. Because the pond is no longer functioning as a stream, it does not have associated riparian banks. The extent of the CDFW riparian corridor around the Guadalupe River is to the inboard edge of the top of levee, which is entirely outside the Project site.

City of San Jose Riparian Policy. The City's riparian buffer policy is administered through use of a Riparian Corridor Policy Study (Policy Study) document that describes suggested buffer widths (City of San Jose 1999). The Policy Study states that riparian setbacks should be measured 100 ft from the outside edges of riparian habitat or the top of bank, whichever is greater. However, the Policy Study also states that setback distances for individual sites may vary if consultation with the City and a qualified biologist, or other appropriate means, indicates that a smaller or larger setback is more appropriate for consistency with riparian preservation objectives (City of San Jose 1999). For the purposes of this Project, the recommended riparian setback extends 100 ft landward from the top of bank of the Guadalupe River (demarcated using methodologies developed and approved by resource and regulatory agencies with jurisdiction within such channels (CDFW, USACE, and RWQCB), and includes a portion of the Project site nearest the Guadalupe River (Figure 2).

Waters of the U.S./State. No formal wetland delineation was conducted for this Project. However, three different types of potentially jurisdictional features were identified on the site. The pond, diked brackish marsh, and coastal and valley freshwater marsh are all features that are likely to be considered jurisdictional wetlands or waters of the U.S. The pond up to the ordinary high water mark is considered waters of the U.S. The diked brackish marsh surrounding the pond and the two other nearby brackish marsh features to the northwest are likely to be considered as wetlands/special aquatic sites.

In its current condition, the coastal and valley freshwater marsh is also likely to be considered a wetland/special aquatic site because it presently supports hydrophytic vegetation (cattails). This wetland is of low quality because

it is fragmented and surrounded by developed habitats, it is situated in an upland roadside ditch setting, and it is not connected to any adjacent wetlands or waters features. A prior regulated habitat mapping that was conducted at the site in 2004 (H. T. Harvey & Associates 2004) did not identify this feature on the site. Thus, based upon its setting and presumed absence in 2004, there is potential that the source hydrology may be artificial, potentially from irrigation management or leaking pipes. In its current condition the USACE may claim jurisdiction on the feature as an unmaintained ditch excavated in uplands that supports wetland vegetation. However, if the source of hydrology is artificial, and if that hydrology source were removed and the wetland vegetation died back, then USACE jurisdiction would no longer apply.

Other seasonal wetland features were included in the 2004 jurisdictional mapping effort along North First Street. However, these seasonal wetland features were determined to not likely be jurisdictional because they appeared to be excavated in uplands, and are maintained roadside ditches. At the time of this 2015 survey, the roadside seasonal wetland ditches were determined to be absent because they are now converted to gravel and are unvegetated. The Guadalupe River, up to the high tide line, is considered waters of the U.S. but it is entirely outside the Project site. No other features occur on the Project site that would be considered waters of the U.S.

State jurisdiction over wetlands and other waters covers a broader area than that of the federal jurisdiction because it includes associated uplands up to the top of bank. On the Project site, the pond is considered waters of the State up to the top of the surrounding levee banks. This includes the diked brackish marsh surrounding the pond. The other two diked brackish marsh features to the northwest of the pond are also considered waters of the State. The coastal and valley freshwater marsh is also currently considered waters of the State. However, as stated above, if artificial hydrology is the source and if it were removed and the wetland vegetation died back, then State jurisdiction would no longer apply. The Guadalupe River, up to the levee hinge point, is considered waters of the State but it is entirely outside the Project site. No other features occur on the Project site that would be considered waters of the State.

Section 4. Biotic Impacts and Mitigation

4.1 Overview

The CEQA and the State CEQA Guidelines provide guidance in evaluating impacts of projects on biological resources and determining which impacts will be significant. The Act defines “significant effect on the environment” as “a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” Under State CEQA Guidelines section 15065, a project's effects on biotic resources are deemed significant where the project would:

- A. “substantially reduce the habitat of a fish or wildlife species”
- B. “cause a fish or wildlife population to drop below self-sustaining levels”
- C. “threaten to eliminate a plant or animal community”
- D. “reduce the number or restrict the range of a rare or endangered plant or animal”

In addition to the section 15065 criteria that trigger mandatory findings of significance, Appendix G of State CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. The impacts listed in Appendix G may or may not be significant, depending on the level of the impact. For biological resources, these impacts include whether the project would:

- E. “have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service”
- F. “have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service”
- G. “have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act”
- H. “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”
- I. “conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance”
- J. “conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan”

Santa Clara Valley Habitat Plan

The proposed project is a “covered project” under the VHP (ICF International 2012). The Santa Clara Valley Habitat Agency (SCVHA) leads the implementation of the VHP. It is a regional partnership between six local

partners, including the County of Santa Clara, Santa Clara Valley Transit Authority, the Santa Clara Valley Water District, and the Cities of San Jose, Gilroy, and Morgan Hill; the CDFW; and the USFWS. In 2013, the VHP was adopted by all local participating agencies, and permits were issued from the USFWS and CDFW. It is both a habitat conservation plan and natural community conservation plan, or HCP/NCCP. The planning document helps private and public entities plan and conduct projects and activities in ways that lessen impacts on natural resources, including specific threatened and endangered species. The VHP identifies regional lands (called reserves) to be preserved or restored to benefit of at-risk species, and describes how reserves will be managed and monitored to ensure that they benefit those species. In providing a long-term, coordinated planning for habitat restoration and conservation, the VHP aims to enhance the viability of threatened and endangered species throughout the Santa Clara Valley.

The VHP defines measures to avoid, minimize, and mitigate impacts on covered species and their habitats while allowing for the implementation of certain “covered projects”. Chapter 6 of the VHP includes detailed and comprehensive conditions to avoid and minimize impacts on the 18 “covered species” (nine animal species and nine plant species) included in the plan area, which is comprised of 519,506 ac, or approximately 62 percent of Santa Clara County. These conditions are designed to achieve the following objectives:

- Provide avoidance of covered species during implementation of covered activities throughout the project site.
- Prevent take of individuals from covered activities as prohibited by law (e.g., take of fully protected species).
- Minimize impacts to natural communities and covered species where conservation actions will take place.
- Avoid and minimize impacts to wetlands and waters throughout the study area to facilitate project-by-project wetland permitting.

In conformance with the VHP, project proponents are required to pay impact fees in accordance with the types and acreage of habitat or “land cover” impacted, and to implement conservation measures specified by the VHP. Land cover impacts are used because it is the best predictor of potential species habitat, and is applicable to all of the covered species (with the exception of the burrowing owl). The SCVHA has mapped three fee zones in the VHP area: (A) rangeland and natural lands, (B), agricultural and valley floor lands, and (C) small vacant sites (SCVHA 2015). The following areas are exempt from land cover fees:

- All development that occurs on land mapped by the VHP as urban-suburban, landfill, reservoir (excluding dams), or agriculture developed land cover types
- Other exempt activities include urban development in fee zones A-C on parcels less than 0.5 ac
- Additions to structures within 50 ft of existing structure that result in less than 5000 ft² of impervious surface so long as there is no effect on wetland or serpentine land cover types

- Construction of recreational facilities within the reserve system.

Additional fees (i.e., specialty fees) in-lieu of providing compensatory mitigation are imposed for projects that impact serpentine habitat, wetlands, and burrowing owls, and for certain projects that result in atmospheric nitrogen emissions, although in some cases, project proponents may provide land to restore or create habitats types protected by the VHP in lieu of payment of fees. The majority of the project site overlaps the VHP permit area and Fee Zone A (Ranchlands and Natural Lands) (SCVHA 2015). There is no serpentine habitat on the Project site, and therefore, fees in lieu of mitigation for impacts to this habitat types would not be required. However, fees for impacts on burrowing owl habitat will apply and fees for impacts on wetlands may apply. Because the proposed Project entails new development, nitrogen deposition fees may apply.

This impact assessment summarizes the applicable fees and conservation measures that are required by the VHP. The impact analysis below provides the VHP conditions that apply to the proposed Project. Other conditions that are species-specific are described in the appropriate sections in this chapter based on the Project-specific assessment of potential impacts.

Condition 1- Avoid Direct Impacts on Legally Protected Plant and Wildlife Species

Several wildlife species that occur in the proposed Project vicinity are protected under state and federal laws. Some of these animal species are listed as fully protected under the California Fish and Game Code (e.g., American peregrine falcon [*Falco peregrinus anatum*] and white-tailed kite), and eagles are protected under the Bald and Golden Eagle Protection Act. Further, all native bird species and their nests are protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. Actions conducted under the VHP must comply with the provisions of the MBTA and California Fish and Game Code.

Condition 3. Maintain Hydrologic Conditions and Protect Water Quality

Condition 3 applies to all projects and identifies a set of programmatic best management practices (BMPs), performance standards, and control measures to minimize increases of peak discharge of storm water and to reduce runoff of pollutants to protect water quality, including during project construction. These requirements include pre-construction, construction site, and post-construction actions. Pre-construction conditions are site design planning approaches that protect water quality by preventing and reducing the adverse impacts of stormwater pollutants and increases in peak runoff rate and volume. They include hydrologic source control measures that focus on the protection of natural resources. Construction site conditions include source and treatment control measure to prevent pollutants from leaving the construction site and minimizing site erosion and local stream sedimentation during construction. Post-construction conditions include measures for stormwater treatment and flow control.

Condition 11 – Stream and Riparian Setbacks

Condition 11 applies to covered projects that may affect streams and associated riparian vegetation within the VHP plan area. This condition requires new covered projects to adhere to setbacks from creeks and streams

and associated riparian vegetation to minimize and avoid impacts on aquatic and riparian land cover types, covered species, and wildlife corridors. The required setback for the reach of the Guadalupe River (a Category 1 stream) adjacent to the Project site is 100 ft from the top of bank.

Condition 12 – Wetland and Pond Avoidance and Minimization

Condition 12 applies to covered projects that would directly or indirectly affect wetlands or ponds. The purpose of Condition 12 is to minimize impacts on wetlands and ponds and avoid impacts on high quality wetlands and ponds by prescribing vegetated stormwater filtration features, proper disposal of cleaning materials, and other requirements (see pages 6-55 to 6-68 of the VHP). Project proponents are required to pay a wetland fee for impacts on wetlands and ponds to cover the cost of restoration or creation of aquatic land cover types required by the VHP. Covered activities can avoid paying the wetland fee if they avoid impacts on wetlands.

Condition 15 – Western Burrowing Owl

Condition 15 requires the implementation of measures to avoid and minimize direct impacts on burrowing owls, including pre-construction surveys, establishment of 250-ft non-disturbance buffers around active nests during the breeding season (February 1 through August 31), establishment of 250-ft non-disturbance buffers around occupied burrows during the nonbreeding season, and construction monitoring. Pre-construction surveys for burrowing owls are required by the VHP in areas mapped as breeding habitat, which include the Project site. As mentioned above, additional fees in-lieu of providing compensatory mitigation are imposed for VHP covered projects that impact burrowing owls. Because the Project site includes habitat for burrowing owls as mapped by the VHP, a specialty fee for impacts on habitat for this species would apply.

Condition 17 – Tricolored Blackbird

Condition 17 calls for surveys of project areas within 250 ft of any riparian, coastal and valley freshwater marsh (perennial wetlands), or pond land cover types for potential tricolored blackbird nesting substrate. A qualified biologist is required to conduct a field investigation to identify and map potential nesting substrate. If potential nesting substrate is found, the project proponent may revise the project to avoid all areas within a 250-ft buffer around the potential nesting habitat. If the project proponent chooses not to avoid potential nesting habitat and the 250-ft buffer, additional nesting surveys are required. Avoidance and minimization measures are required for covered activities in tricolored blackbird nesting habitat that is currently occupied or has been used in the past 5 years. Although it is our opinion that tricolored blackbirds are absent from the Project site and all areas within 250 ft of the site, based on the species' known distribution, we expect that the Project applicant will still need to demonstrate compliance with this condition for VHP compliance purposes.

4.2 Less-than-significant Impacts

4.2.1 Impacts on Non-sensitive Habitats and Associated Common Plant and Animal Communities

Construction activities related to the development of the TopGolf site with parking lots, retail stores, a hotel, and a driving range would result in conversion of California annual grassland, golf courses/urban parks, and urban/suburban habitats (Figure 2, Table 2). Permanent impacts would result from the conversion of upland habitats to paved lots, buildings, or landscaped and maintained golf facilities, including artificial turf. Impacts on these habitats during construction would reduce the extent of vegetation on the Project site and would result in a reduction in abundance of some of the common plant and wildlife species that use the site. However, these habitat types are abundant and widespread regionally, and none of these habitats on the site represent particularly sensitive, valuable (from the perspective of providing important plant or wildlife habitat), or exemplary occurrences of these habitat types. The very small areas of California annual grassland impacted for parking lot and building construction are currently subject to urban pressure and routine disturbance such that they are not likely to support native vegetation to such an extent that a sensitive vegetation alliance or special-status plant would be considered to occur in this location (Figure 2). Similarly, although the current golf courses/urban parks habitat, which is composed of non-native grasses, would be removed and the area covered in artificial turf, the existing habitat does not support native vegetation or provide high-quality habitat for wildlife species. Therefore, impacts on these habitats are considered less than significant. Further, because the number of individuals of any common plant or animal species within these habitats, and the proportion of these species' regional populations that could be disturbed, is very small, the Project's impacts would not substantially reduce regional populations of these species. Thus, these impacts do not meet the CEQA standard of having a substantial adverse effect, and would not be considered significant under CEQA.

Table 2. Proposed Project Impacts

Habitat	Permanent Impact (ac)	Temporary Impact (ac)
California annual grassland	3.72	0.00
Golf courses/urban parks	16.24	0.00
Urban/Suburban	11.25	0.00
Pond	0.00	0.00
Diked brackish marsh	0.00	0.00
Coastal and valley freshwater marsh	0.01	0.00
Total	31.21	0.00

4.2.2 Encroachment into Riparian Corridor

As described above, the City of San Jose has a riparian buffer policy meant to limit development and protect sensitive riparian resources. The recommended riparian setback for the Guadalupe River extends 100 ft landward from the top of bank. The proposed Project has been designed to avoid impacts on the riparian buffer

(Figure 2) and no Project activities will occur within the 100-ft riparian setback. Therefore, this impact is considered less than significant.

Impacts on the Western Pond Turtle

Suitable habitat for the western pond turtle, a California species of special concern, consists of ponds or instream pools (i.e., slack water environments) with available basking sites, nearby upland areas with clay or silty soils for nesting, and shallow aquatic habitat with emergent vegetation and invertebrate prey for juveniles (Jennings and Hayes 1994). Although the Guadalupe River adjacent to the Project site provides suitable aquatic habitat for western pond turtles, populations along the lower reaches of this river are apparently very low due to the long duration of urban impacts in this part of the Santa Clara Valley. In addition, no suitable aquatic habitat is present on the Project site. Therefore, the Project would not result in the loss of aquatic foraging or dispersal habitat or upland nesting habitat. Although potentially suitable upland nesting and dispersal habitat is present on the Project site, it is unlikely that dispersing individuals or nests would be present within the Project impact area because a chain link fence located along the southern boundary of the Project site, between the Guadalupe River and the Project impact area, serves as an impediment to western pond turtle movement onto the site. As a result, we do not expect impacts to individuals or nests to occur as a result of the Project. Thus, Project impacts do not meet the CEQA standard of having a substantial adverse effect and would not be considered significant under CEQA.

4.2.3 Impacts on the Loggerhead Shrike and Northern Harrier

Implementation of the proposed Project would result in the loss of up to 3.72 ac of potential nesting and foraging habitat for the loggerhead shrike and northern harrier (both California species of special concern). These species are assessed together because the potential impacts of the proposed Project on these species would be alike.

Proposed construction activities could result in the destruction or abandonment of active nests of these species, should they nest on the site during Project implementation. However, no more than one pair each of these species is expected to nest on or immediately adjacent to the Project site, if these species are present as breeders at all, and thus the loss of individuals potentially resulting from Project activities would represent a very small fraction of the regional populations of these species.

Additionally, the Project would avoid direct impacts on the highest quality grasslands within the Project boundary (i.e., those located adjacent to the diked brackish marsh and pond). Only the small area of grassland located adjacent to the current parking lot and the recently disturbed grasslands at the eastern-most edge of the Project site, which provide low-quality foraging habitat, would be lost as a result of the proposed Project. Further, they represent a small proportion of the habitats that support these species regionally. Therefore, neither the potential loss of individuals of these species, nor the loss of potential nesting habitat for them would rise to the CEQA standard of having a substantial adverse effect, and these impacts would thus not constitute a significant impact on these species or their habitats under the CEQA. However, all native bird species are

protected from direct take by federal and state statutes (see Section 5.1, *Regulatory Overview for Nesting Birds*), and compliance with VHP Condition 1 necessitates the implementation of measures to ensure that no take of these species (e.g., disturbance of active nests) occurs.

4.2.4 Impacts on the White-tailed Kite

The white-tailed kite (a state fully protected species) is known to occur year-round in grassland habitats in and around the Project site. Although suitably large trees for nesting are not present within the Project boundaries, suitable nesting sites are present in trees ~100 ft from the Project site and the Project site provides suitable foraging habitat for this species. Thus, heavy ground disturbance, noise, and vibrations caused by proposed construction could potentially disturb foraging white-tailed kites and cause them to move away from work areas. Project grading could result in the disturbance of white-tailed kites nesting adjacent to the site, possibly to the point of abandonment of active nests with eggs or nestlings. However, based on our site observations, the areal extent of the Project site, and known breeding densities of this species, no more than one pair of white-tailed kites are expected to nest on or adjacent to the Project site, if these species are present at all. Therefore, the loss of individuals potentially resulting from Project activities would represent a very small fraction of the regional populations of this species.

Project activities would also result in the loss of foraging habitat for the white-tailed kite. Development of the Project site would permanently remove 3.72 ac of foraging habitat for this species. However, the loss of 3.72 ac of foraging habitat is not expected to result in a substantial effect on populations of this species given the local and regional abundance of suitable foraging habitat, and the very small proportion of suitable habitat that would be impacted.

Therefore, neither the potential loss of individual white-tailed kites nor the loss of potential foraging habitat for this species would rise to the CEQA standard of having a substantial adverse effect, and these impacts would thus not constitute a significant impact on the white-tailed kite or its habitats under the CEQA. However, all native bird species, including white-tailed kites, are protected from direct take by federal and state statutes (see Section 5.1, *Regulatory Overview for Nesting Birds*), and compliance with VHP Condition 1 necessitates the implementation of measures to ensure that no take of these species (e.g., disturbance of active nests) occurs.

4.2.5 Impacts on the San Francisco Common Yellowthroat and Alameda Song Sparrow

Suitable breeding habitat (i.e., diked tidal marsh) for the Alameda song sparrow and San Francisco common yellowthroat (both California species of special concern) is present on the Project site and along the adjacent Guadalupe River. These species are assessed together because the potential impacts of the proposed Project on these species would be similar.

Project activities would not result in the loss of any foraging or nesting habitat for Alameda song sparrows and San Francisco common yellowthroats. However, similar to the impacts described for the white-tailed kite above, ground disturbance, noise, and vibrations caused by proposed construction could potentially disturb foraging

or roosting individual Alameda song sparrows and San Francisco common yellowthroats and cause them to move away from work areas. In addition, if these species are present in the diked brackish marsh on the Project site or in the marsh habitat along the Guadalupe River, construction activities within the Project footprint could result in the disturbance of nesting Alameda song sparrow's and San Francisco common yellowthroats, possibly to the point of abandonment of active nests with eggs or nestlings.

Based on the extent of suitable habitat within and adjacent to the Project site and typical territory sizes of these species, no more than 2-4 pairs of each species are expected to nest close enough to the Project footprint to be disturbed by construction activities. Therefore, the loss of individuals potentially resulting from Project activities would represent a very small fraction of the regional populations of these species. Further, the Project would not result in the loss of any nesting or foraging habitat for the Alameda song sparrow or San Francisco common yellowthroat. Thus, Project impacts would not rise to the CEQA standard of having a substantial adverse effect, and these impacts would not constitute a significant impact on these species or their habitats under the CEQA. However, all native bird species, including Alameda song sparrows and San Francisco common yellowthroats, are protected from direct take by federal and state statutes (see Section 5.1, *Regulatory Overview for Nesting Birds*), and compliance with VHP Condition 1 necessitates the implementation of measures to ensure that no take of these species (e.g., disturbance of active nests) occurs.

4.2.6 Impacts due to Increased Lighting

Many animals are extremely sensitive to light cues, which influence their physiology and shape their behaviors, particularly during the breeding season (Ringer 1972, de Molenaar et al. 2006). Artificial light has been used as a means of manipulating breeding behavior and productivity in captive birds for decades (de Molenaar et al. 2006), and has been shown to influence the territorial singing behavior of wild birds (Longcore and Rich 2004, Miller 2006, de Molenaar et al. 2006). While it is difficult to extrapolate results of experiments on captive birds to wild populations, it is known that photoperiod (the relative amount of light and dark in a 24-hour period) is an essential cue triggering physiological processes as diverse as growth, metabolism, development, breeding behavior, and molting (de Molenaar et al. 2006). This holds true for birds, mammals (Beier 2006), and other taxa as well, suggesting that increases in ambient light may interfere with these processes across a wide range of species, resulting in impacts on wildlife populations.

Artificial lighting may indirectly impact mammals and birds by increasing the nocturnal activity of predators like owls, hawks, and mammalian predators (Negro et al 2000, Longcore and Rich 2004, DeCandido and Allen 2006, Beier 2006). The presence of artificial light may also influence habitat use by rodents (Beier 2006) and by breeding birds (Rogers et al. 2006, de Molenaar et al. 2006), by causing avoidance of well-lit areas, resulting in a net loss of habitat availability and quality.

Lighting from the proposed Project would be the result of light fixtures illuminating the outfield, building architectural lighting, and parking lot and pedestrian lighting. Areas to the north, west, and east of the Project site are primarily developed urban and ruderal habitats that do not support sensitive species that might be significantly impacted by illuminance from the proposed Project. However, the diked brackish marsh habitat

within the southern portion of the Project site, as well as the marsh habitat along the Guadalupe River adjacent to the southwestern Project boundary, provide suitable habitat for a variety of wildlife, including sensitive species such as the Alameda song sparrow and San Francisco common yellowthroat. These species and others using the river or marsh habitat may be subject to increased predation, decreased habitat availability (for species that show aversions to increased lighting), and alterations of physiological processes if the proposed Project produces appreciably greater illuminance than the existing conditions, a potentially significant impact. However, light fixtures on the roof of the Topgolf building would have frosted bulbs and would be directed downward with an aluminum reflector, light hood, and visor to direct light onto the field and reduce the amount of spill light. No lighting fixtures would be located on the proposed net poles. Further, a photometric plan has been provided to show the level of illumination that is generated from the light sources. The photometric plan shows that no light will travel beyond the property line (shown as 0.0). Thus, impacts from increased lighting would be less than significant.

4.3 Impacts Found to be Less than Significant with Mitigation

4.3.1 Impacts on Waters of U.S./State/Water Quality

Aquatic habitats and wetlands control overall water quality, watershed functions, and provide habitat for plants and animals. Contamination of these habitats with pollutants and sediment can adversely affect ecosystem health and reduce habitat quality for plant and animal species. No technical wetland delineation was conducted at the Project site during the 2015 survey. However, similar to the results of the reconnaissance survey conducted in 2015, prior site surveys in 2004 (H. T. Harvey & Associates 2004) identified aquatic and seasonal wetland habitats under similar site conditions. Areas within the aquatic and seasonal wetland habitats are likely considered jurisdictional habitats by various state and federal resource/regulatory agencies, and project implementation could result in potentially significant impacts on them.

Approximately 1.07 ac of regulated habitats occur within the Project site in the form of coastal and valley freshwater marsh wetlands (0.01 ac), diked brackish marsh wetlands (0.45 ac), and pond (0.61 ac). Aquatic habitat, such as the pond, and wetlands, facilitate groundwater recharge, and control water quality and watershed functions. The proposed Project would have no direct impacts on the pond and diked brackish marsh features. However, both may be indirectly affected due to increased hardscape in upland habitats that can lead to an increase in runoff, a decrease in infiltration and groundwater recharge, and possible introduction of anthropogenic contaminants such as petrochemicals, herbicides, and fertilizers into regulated habitats. Project activities such as grading, tree and plant removal, and other soil disturbances can increase the potential for soil erosion on site. These construction activities could increase the amount of soils and sediments entering waterways, thereby negatively influencing aquatic habitats and water quality. Because the pond and diked brackish marsh are remnants of the Guadalupe River corridor prior to its channelization and may retain connection to the river via groundwater, contamination of these aquatic features has the potential to migrate into the river. As a result, indirect Project impacts on the pond and diked brackish marsh would constitute substantial adverse effects on water quality.

These potentially regulated habitats are considered sensitive natural communities under CEQA and waters of the U.S./State. Impacts on the pond and diked brackish marsh are considered significant per Items F and G, Appendix G of State CEQA Guidelines. Implementation of Mitigation Measures 1A and 1B will mitigate such impacts to a less-than-significant level. The direct impacts to the coastal and valley freshwater marsh are considered less than significant. Any work within waters of the U.S. (i.e., wetlands and other waters) may require a Section 404 fill discharge permit from the USACE and Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB).

Project related activities would result in permanent impacts on the 0.01 ac coastal and valley freshwater marsh feature due to construction of parking lots and retail buildings (Figure 2). The coastal and valley freshwater marsh is likely jurisdictional under current conditions. However, if the feature is supported by artificial source hydrology, then jurisdiction may no longer apply if the source hydrology is removed and the wetland vegetation dies back. This coastal and valley freshwater marsh is very small (0.01 ac) and it is situated in close proximity to the large tidal salt marsh wetland complex that lines the San Francisco Bay. The marsh provides low-quality habitat as a result of being in a fragmented landscape setting surrounded by urban development, it is likely excavated in uplands, and is likely supported by artificial hydrology. Therefore, the loss of this wetland would not constitute a substantial adverse impact on local wetlands in the Project vicinity. Although the impact on coastal and valley freshwater marsh does not meet the significance threshold, it should be noted that any work within jurisdictional waters of the U.S. (i.e., wetlands and other waters) may require a Section 404 fill discharge permit from the USACE and Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB).

Impacts on waters of the U.S./State and water quality will be reduced to a less-than-significant level through implementation of the following mitigation measures.

Mitigation Measure 1A. Compliance with VHP Conditions 3 and 12. Implementation of Conditions 3 and 12 (Chapter 6 of the Final VHP) will reduce impacts on waters of the U.S./State to a less-than-significant level. VHP Condition 3 requires implementation of design phase, construction phase, and post-construction phase measures, including programmatic BMPs, performance standards, and control measures, to minimize increases of peak discharge of storm water and to reduce runoff of pollutants to protect water quality, including during project construction. VHP Condition 12 requires the implementation of design phase and construction phase measures to avoid and minimize impacts on wetlands and ponds, including erosion control measures, fencing of avoided wetlands during construction, establishment of buffers between wetlands and refueling areas, and measures to minimize the spread of invasive species.

Mitigation Measure 1B. Obtain Regulatory Permits. Prior to any construction activities, a formal wetland delineation will be completed for the site and submitted to the USACE for verification. If determined necessary, the Project will obtain a Section 404 fill discharge permit from the USACE, and Section 401 Water Quality Certification from the RWQCB.

4.3.2 Impacts on Congdon's Tarplant

Five Congdon's tarplant occurrences are known in Santa Clara County, with three of those from the *Milpitas, California* USGS 7.5-minute quadrangle (CNDDDB 2015). Directly outside the Project site, to the north, CNDDDB occurrence #41 occurs between Disk Drive and Wilson Way. Congdon's tarplant is known to tolerate disturbance and even persists in disked fields. It also occurs in non-native grasslands. Therefore, the presence of Congdon's tarplant is possible in the California annual grassland and diked brackish marsh on the Project site. If Congdon's tarplant is present within the Project impact area, construction activities, such as vegetation clearing and building construction, could affect the plants through direct or indirect disturbance of populations and disturbance, modification, or destruction of suitable habitat. Damage to this species may occur as a result of crushing by equipment; trampling; and compaction of soil, which could result in damage to plant roots. These activities could result in death, altered growth, or reduced seed set through physically breaking, crushing, wilting, or uprooting plants. Additionally, placement of asphalt or other paving material would eliminate the vegetation in the affected area.

The nearby occurrence of the species in disturbed grassland habitat indicates that there is potential for the species to occur in the California annual grassland at the Project site. The habitat quality of the California annual grassland is relatively low due to anthropogenic disturbance, disking, and vegetation control, although such types of habitats are known to support this species. The proposed Project would not result in any disturbance of the diked brackish marsh habitat present on the site, so any Congdon's tarplant individuals or suitable habitat in this location would remain intact. Further, potential impacts on Congdon's tarplant resulting from Project disturbance of California annual grasslands are limited because of the small extent of this habitat that would be impacted at the site, and the low quality of the habitat to be impacted. Nevertheless, loss of individuals of this species from the Project impact area would be significant because this species' populations are limited locally as well as regionally. Specifically, in the Alviso area, habitat loss is a known threat for this species. With the implementation of the following mitigation measures, the significance of the impact would be less than significant.

Mitigation Measure 2a. Conduct Focused Pre-construction Surveys. Prior to construction, a focused survey for Congdon's tarplant will be conducted in the California annual grassland habitat within the Project's permanent impact area. The survey will be conducted during the species' blooming period (May-November).

Mitigation Measure 2b. Mitigate for Congdon's tarplant. If a population of Congdon's tarplant is identified in the Project impact area, mitigation for loss of individuals will be conducted. Mitigation will be achieved by establishing a new population of Congdon's tarplant in the diked brackish marsh and California annual grassland habitats that occur in the basins at the south portion of the site. This area will not be developed by the Project and contains suitable habitat types for establishing a new population. Mitigation will be achieved by 1:1 ratio (impact:mitigation) of plant establishment on an acreage basis. Annual monitoring will include quantitative sampling of the Congdon's population to determine the number of plants that have germinated and set seed. This monitoring will continue

annually or until success criteria have been met; once annual monitoring has documented that a self-sustaining population of this annual species has been successfully established on site, this mitigation measure will be determined to have been met and the Project applicant released from further responsibility.

Establishment of the plant population will be subject to a Habitat Mitigation and Monitoring Plan (HMMP). To ensure the success of mitigation sites required for compensation of permanent impacts on Congdon's tarplant, the Project proponent will retain a qualified biologist to prepare an HMMP. The HMMP will be submitted to the City of San Jose prior to the start of construction. The HMMP will include, at a minimum, the following information:

- A summary of habitat and species impacts and the proposed mitigation for each element
- A description of the location and boundaries of the mitigation site(s) and description of existing site conditions
- A description of any measures to be undertaken to enhance (e.g., through focused management) the mitigation site for special-status species
- Identification of an adequate funding mechanism for long-term management
- A description of management and maintenance measures intended to maintain and enhance habitat for the target species (e.g., weed control, fencing maintenance)
- A description of habitat and species monitoring measures on the mitigation site, including specific, objective performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, etc.—monitoring will document compliance with each element requiring habitat compensation or management. At a minimum, performance criteria will include a minimum 1:1 mitigation ratio for the number of plants in the impacted population (at least one plant preserved for each plant impacted).
- A contingency plan for mitigation elements that do not meet performance or final success criteria within described periods; the plan will include specific triggers for remediation if performance criteria are not met and a description of the process by which remediation of problems with the mitigation site (e.g., presence of noxious weeds) will occur
- A requirement that the Project proponent will be responsible for monitoring, as specified in the HMMP, for at least three years post-construction; during this period, regular reporting will be provided to the City

4.3.3 Impacts from Tree Removal

The City of San Jose recognizes the substantial economic, environmental, and aesthetic importance of the trees and plantings within the community. The City provides tree protection under the Municipal Code Section 13.28 (street trees), 13.32 (private property trees), and 13.44.220 (park trees). The Municipal Code details permit requirements for tree related work, including removal, pruning, and planting.

Removal of street trees within the road right-of-way and trees on private property are both subject to tree removal permitting by the City of San Jose. Street trees include trees in back-up and frontage landscaping along the roads and the property owner is responsible for street trees adjacent to private property. Removal of all street trees is illegal without a permit issued by the City. Replacement trees planting with a 15-gallon size tree or larger is typically included as a requirement of the street tree removal permit. Live or dead trees on private property require a permit for removal if the tree has a 56-inch circumference (equivalent to approximately 17.8 inch diameter) at 2.0 ft above natural grade. Replacement tree planting or payment of an in lieu fee may be required for live or dead private tree removal.

Project implementation would remove numerous trees that occur throughout the property. Existing trees on site are a mixture of mainly non-native or not naturally-occurring, planted, ornamental species and include Mexican fan palm (*Washingtonia robusta*), Canary Island date palm (*Phoenix canariensis*), Peruvian pepper tree (*Schinus molle*), redwood (*Sequoia sempervirens*), pine (*Pinus brutia*), and evergreen ash (*Fraxinus uhdei*). Some of the trees to be removed are adjacent to City streets and thus may be considered street trees. A permit is required for any street tree removal, regardless of size or species. Other trees to be removed are considered private trees and require a permit for removal if a tree of any species is 56-inches diameter at 2.0 ft above grade. The removal of trees would not have a significant impact on wildlife, because the trees are mostly landscaped and non-native species that are not regionally limited. However, because tree removal conflicts with the City of San Jose Municipal Code, it would be considered a significant impact under CEQA. With the implementation of the following mitigation measures, the significance of the impact would be reduced to a less than significant level.

Mitigation Measure 3: Tree Removal Permit and Tree Replacement. The Project proponent will comply with the City of San Jose Municipal Code and submit permit applications for removal or damage of all trees covered by the ordinance. Any street trees or ordinance sized private trees to be removed may require replacement according to the discretion of the City Director of Planning. The replacement trees will be planted on site and the Project proponent will comply with all other tree removal requirements imposed by the City.

4.3.4 Impacts from Invasive Weeds

The Project could potentially have a substantial adverse effect due to the spread of noxious and invasive weeds. The introduction or spread of noxious and invasive species is a special concern for native plant and animals. Noxious and invasive weeds pose a threat to the natural processes of plant community succession, fire frequency, biological diversity, and species composition. Noxious and invasive weeds can affect the persistence of some populations of special-status species by replacing the foraging base, altering habitat structure, or excluding a species by vegetative growth. Invasive weeds occur in all habitat types and can be difficult to eradicate. Many non-native, invasive plant species produce seeds that germinate readily following disturbance. Further, disturbed areas are highly susceptible to colonization by non-native, invasive species that occur locally, or whose propagules are brought in by personnel, vehicles, and other equipment.

Local propagule sources of two weed species with “high” impact ratings (Cal-IPC 2015) were observed in the Project site at the time of the surveys (fennel and perennial pepperweed). These species could potentially invade and/or spread onto additional areas of the Project site. Introduction or spread of invasive weeds would be a significant impact. Implementation of the following mitigation measures will reduce this impact to a less-than-significant level.

Mitigation Measure 4. Implement Invasive Weed BMPs. Avoiding the spread of noxious weeds will be avoided by the use of the following invasive weed BMPs:

- During construction of the proposed Project, all seeds and straw materials used on site will be weed-free rice (or similar material acceptable to the City) straw, and all gravel and fill material will be certified weed free to the satisfaction of the City and any deviation from this will be approved by the City.
- During construction of the proposed Project, vehicles and all equipment will be washed (including wheels, undercarriages, and bumpers) before and after entering the proposed Project footprint. Vehicles will be cleaned at existing construction yards or legally operating car washes.
- Following construction of the proposed Project, a standard erosion control seed mix (acceptable to the City) from a local source will be planted within the temporary impact zones on any disturbed ground that will not be under hardscape, landscaped, or maintained. This will minimize the potential for the germination of the majority of seeds from non-native, invasive plant species.

4.3.5 Impacts on the Burrowing Owl

Grasslands on the Project site, including the impact area, contain ground squirrel burrows that provide potential nesting, wintering, and foraging habitat for burrowing owls. If active burrowing owl nests are present on the Project site at the time of construction, construction-related disturbance could result in injury or mortality of an owl. In addition, construction-related disturbance could lead to the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Even if burrowing owls are not breeding on the site, construction could result in injury or mortality of an owl in the event that an occupied burrow is filled or compacted during construction. The Project would also result in the permanent loss of up to 3.72 ac of potential nesting, wintering, and foraging habitat, including habitat mapped as burrowing owl nesting habitat by the VHP.

Given the regional rarity of burrowing owls, and recent population declines in the Bay Area, any loss of burrowing owls, any activities resulting in the destruction of occupied burrowing owl burrows, or the loss of occupied burrowing owl habitat would substantially impact the species, a significant impact under CEQA. Implementation of the following mitigation measures will reduce impacts on the burrowing owl to a less-than-significant level.

- **Mitigation Measure 5. Compliance with VHP Condition 15.** Implementation of Condition 15 (Chapter 6 of the Final VHP), along with payment of burrowing owl impact fees, which will contribute to the conservation strategy included in Chapter 5 of the Final VHP (ICF International 2012), will

reduce impacts on individual burrowing owls and their habitat to a less-than-significant level. VHP Condition 15 requires the implementation of measures to avoid and minimize direct impacts on burrowing owls, including pre-construction surveys, establishment of 250-ft non-disturbance buffers around active nests during the breeding season (February 1 through August 31), establishment of 250-ft non-disturbance buffers around occupied burrows during the nonbreeding season, and construction monitoring.

Because the Project site is mapped as burrowing owl habitat by the VHP, the Project proponent will be required to pay a burrowing owl specialty fee. The fee will help fund the VHP conservation program. The VHP has established requirements for both preservation and management of 5300 ac of occupied or potential burrowing owl nesting habitat to guide the use of impact fees paid to the Santa Clara Valley Habitat Agency. The VHP includes an aggressive suite of measures aimed at reversing the declining trend of the burrowing owl population in Santa Clara County. This will occur on a large-scale, regional basis, which will have far greater ecological value than “traditional” mitigation that relies on isolated, piecemeal, mitigation sites. This holistic strategy is strongly endorsed by the CDFW and the USFWS, which are the state and federal trustee agencies, respectively, that have stewardship over these resources. Both of these agencies are partners in, and strong proponents of, the VHP as they see its value as a tool for the mitigation of impacts and the long-term protection and recovery of the important resources.

4.3.6 Impacts due to Increased Noise

Similar to the impact of increased lighting described above, operation of the proposed Project has the potential to generate noise that may adversely affect wildlife inhabiting the diked brackish marsh habitat within the southern portion of the Project site, as well as the marsh habitat along the Guadalupe River adjacent to the southwestern Project boundary. The diked brackish marsh habitat within the southern portion of the Project site, as well as the marsh habitat along the Guadalupe River adjacent to the southwestern Project boundary, provide suitable habitat for a variety of wildlife, including sensitive species such as the Alameda song sparrow and San Francisco common yellowthroat. These species and others using the river or marsh habitat may be subject to decreased habitat availability (for species that show aversions to increased noise) and alterations of physiological processes if the proposed Project produces substantially greater noise than the existing conditions, a potentially significant impact.

The Project is subject to the noise standards established in the City's General Plan (City of San Jose 2012). The City considers significant noise impacts to occur if a project would:

- Cause the day/night average sound level (DNL) at noise sensitive receptors to increase by five A-weighted decibels (dBA) DNL or more where the noise levels would remain “Normally Acceptable”; or
- Cause the DNL at noise sensitive receptors to increase by three dBA DNL or more where noise levels would equal or exceed the “Normally Acceptable” level.

In accordance with Goal EC 1.3 of the General Plan, because the Project site is adjacent to a property used or zoned for noise sensitive residential and public/quasi-public land uses (i.e., the Guadalupe Trail and Guadalupe River Open Space), the Project will be required to mitigate noise generation to 55 dBA DNL at the property line.

Implementation of the following mitigation measures will reduce this impact to a less-than-significant level.

Mitigation Measure 6. Minimize Noise Impacts. The Project proponent will comply with the City of San Jose General Plan and implement the use of noise attenuation measures such as acoustical enclosures and sound barriers, where feasible, to reduce noise impacts to a less-than-significant level as defined above.

4.3.7 Impacts on Non-Special-Status Birds

Impacts to Nesting and Foraging Birds. The undeveloped habitats within the Project footprint provide suitable nesting habitat for relatively few bird species due to the lack of structural complexity of the vegetation. Some birds may nest in more heavily vegetated areas outside the Project footprint and areas adjacent to the Project site, and thus, implementation of the Project has the potential to result in the direct loss or indirect disturbance of nests, including eggs and young, of common birds. Such impacts may occur because of vegetation removal or the disturbance of individuals nesting within or immediately adjacent to the Project footprint. However, the habitats at the Project site represent a very small proportion of the habitats that support these species regionally. In addition, many birds are expected to continue to nest and forage on the Project site after Project construction is completed as they are habituated to disturbance from the existing golf facility, recreational use of the adjacent Guadalupe River trail, and nearby development. Although fewer pairs of birds are expected to nest and forage on the site following Project construction, the decline in bird abundance resulting from habitat loss is expected to be very low, as the incorporation of trees, shrubs, and forbs into the landscape design will provide some food and structural resources for the common, urban-adapted birds of the Project area, as well as for migrants that may use the area during spring and fall migration and winter residents. Therefore, Project impacts on nesting and foraging birds that use the site, due to habitat impacts or disturbance of nesting birds, would not rise to the CEQA standard of having a *substantial* adverse effect, and these impacts would not constitute a significant impact on these species or their habitats under CEQA. However, all native bird species are protected from direct take by federal and state statutes (see Section 5.1, Regulatory Overview for Nesting Birds).

Impacts from Building and Powerline Collisions. Once the proposed buildings (i.e., TopGolf facility, hotel, and retail shops) are constructed, they will increase the risk of avian mortality due to collisions. Glass building facades can result in injury or mortality of birds due to birds' collisions with these surfaces. Because birds do not perceive glass as an obstruction the way humans do, they may collide with glass when the sky or vegetation is reflected in glass (e.g., they see the glass as sky or vegetated areas); when transparent windows allow birds to perceive an unobstructed flight route through the glass (such as at corners); and when the combination of transparent glass and interior vegetation (such as in planted atria) results in attempts by birds to fly through

glass to reach that vegetation. The majority of avian collisions with buildings occur within the first 60 ft of the ground (City of San Francisco 2011), where birds spend the majority of their time engaged in foraging, territorial defense, nesting, and roosting activities, and where vegetation is most likely to be reflected in glazed surfaces.

By necessity, the proposed buildings are within the “Bird Collision Zone”, within the first 60 ft above the ground. However, the Project would not include any vegetated atria wherein vegetation is present behind glass. Nevertheless, the design of the three-story TopGolf facility and four-story hotel includes extensive glass facades. By virtue of the extent of glass, there is potential for bird collisions with this glass to occur. Although design plans specify that 91 percent of the glazing on the TopGolf facility would be tinted gray, this is expected to reduce the risk of collisions only slightly in the absence of other glazing treatments (Sheppard 2011).

The species that would be affected include the common, urban-adapted species that currently use the site, as these are the species that would spend the most time in the vicinity of the new buildings. However, a wide variety of migrant birds may also be affected. A number of songbirds migrate through the South San Francisco Bay area. Many of these migrate at night, and at dawn, they descend to find suitable habitat for foraging and rebuilding energy reserves. Migrant landbirds that occur over the South Bay at dawn and are descending from their nocturnal migration may seek out vegetation in the Alviso area (because of the lack of suitable vegetation in baylands areas) and may thus be moving near the Project site.

Landscaping is also relevant to bird safe design. First, the provision of plant species that provide particular resources to birds, such as food (seeds, fruits, nectar, or foliage that supports insect prey), nesting sites, roosting sites, and cover from predators can enhance the ecological value of the development to birds, thus helping to increase populations of the species that tolerate urban areas. Second, the location of vegetation planting that attracts birds relative to hazards such as glass surfaces and powerlines is important to reduce the potential for collisions. The Project will provide vegetation that will be of some use to native birds common to the vicinity. It will incorporate trees, shrubs, grasses, and forbs into the landscaping that will provide some food and structural resources for common, urban-adapted birds of the project area, as well as for migrants that may use the area during spring and fall migration and for winter residents. A high powerline currently crosses the western portion of the Project area, just east of Grand Boulevard. However, no trees capable of growing to heights approaching the height of these powerline will be planted in the immediate vicinity of the powerline. As a result, the potential for bird collisions with the powerline will not increase as a result of the Project.

Wetlands and open water can attract large numbers of birds, including large birds that may collide with powerlines and smaller birds that could potentially collide with both powerlines and glass facades. As a result, providing new waterbodies close to collision hazards could increase the potential for such collisions. However, the Project does not incorporate any wetlands or water features providing suitable habitat for waterbirds.

In summary, the proposed Project incorporates landscaping in a manner that may be of some use to birds while not attracting birds to potential hazards such as glass surfaces and powerlines. In addition, the Project does not incorporate the use of wetlands or open water features that are expected to attract birds to potential hazards.

However, because large portions of the façades of the TopGolf facility and hotel that would be composed of transparent or reflective glass, and because the Project's landscape position (close to the edge of the baylands) is in an area where fairly large numbers of migratory birds occur, the Project may result in a significant impact on birds as a result of bird strikes.

The following mitigation measure will be implemented to reduce the impact involving bird collisions with glass surfaces to a less-than-significant level.

Mitigation Measure 7. Bird Safe Design. The following features will be incorporated into the hotel and TopGolf facility to reduce the risk of avian collisions:

- **Façade Treatments.** No more than 10 percent of the surface area of façades between the ground and 60 ft above ground shall have untreated glazing. Examples of bird-friendly glazing treatments include the use of opaque glass, the covering of clear glass surface with patterns, the use of paned glass with fenestration patterns, and the use of external screens over non-reflective glass.
- **Funneling of flight paths.** The design of the buildings shall avoid the funneling of flight paths along buildings or trees towards a building façade.
- **Skyways, walkways, or glass walls.** Glass skyways or walkways and freestanding glass walls will not be incorporated into the buildings' design.

Impacts from Netting Collisions. In addition, the proposed Project would enclose the outfield perimeter on all three sides with netting strung between poles up to 170 ft tall, 80 ft taller than the existing netting on the site. Given the project's landscape position relative to bird habitat such as the Guadalupe River and Don Edwards San Francisco Bay National Wildlife Refuge, and the presence of fairly large numbers of migrants moving through the general area, it is possible that the flight paths of birds could result in collisions with the netting, resulting in injury or entanglement. A review of the scientific literature as well as available CEQA documents revealed little information concerning the potential for birds to become entangled in, or be injured by collisions with, golf barrier netting. Thus, the potential for such an impact was analyzed based on a comparison of the physical characteristics of the proposed golf barrier netting compared to the typical characteristics of nests used to capture birds (i.e., mist nets).



Photo 1. Mist net

Mist nets are generally large panels of either nylon, polyester, or monofilament mesh. Horizontal shelf strings of thicker, stronger thread are woven through the mesh at the top and bottom of the net and at equal distances in between. The net is strung between poles, which hold it upright. The shelf strings form pockets of netting. Birds fly into the net and usually drop into the pockets and become entangled (Photo 1). Mesh size is measured by stretching the net diagonally and measuring the diagonal distance of a square. Different meshes have different catching efficiencies for different species. Based on information provided in the *North American Banding Council Banders' Study Guide* (North American Banding Council 2001), a 1-inch stretched mesh is appropriate to catch hummingbirds, 1.25-inch stretched mesh is appropriate to catch small to moderate-sized birds, 1.5-inch stretched mesh is appropriate for larger songbirds, and 2.5-4-inch stretched mesh is appropriate for larger hawks. Small birds can become unduly tangled in large-mesh nets, whereas large birds often bounce out of small-mesh nets.

In addition to mesh size, another factor that affects the likelihood of birds becoming caught in netting is the denier (weight) of the component thread. The bulkier the strand, the lower the likelihood of entanglement. Material with a high denier count tends to be thick, sturdy, and durable, whereas material with a low denier count tends to be sheer, soft, and silky. In general, 75 denier strands are recommended for most mist nets (North American Banding Council 2001).

The proposed golf barrier netting would be composed of Redden #930 polyester golf range netting, 250 denier, with 2.6-inch stretched mesh (1-inch square mesh), manufactured with ultraviolet treated yarn and coated with a black resin dye. All sections of the netting would be connected to a 3/8-inch black perimeter rope, and all net panels would be erected in a manner that would result in taut panels upon completion.

The mesh size of the proposed golf barrier netting is much larger than that typically used to catch birds other than large hawks and large waterfowl. In addition, it is substantially bulkier (250 denier versus 75 denier) than the material typically used for mist nests, making it much more likely that birds would see the netting in time to avoid it and less likely that birds, even larger birds like hawks, would become entangled should they fly into it. Finally, golf barrier netting, once installed, is taut (Photo 2), whereas, mist nests are set loosely to prevent birds from bouncing out (Photo 1). Thus, the mesh size, denier, and tautness of the proposed golf ball safety netting reduce the likelihood that the net would result in bird strikes.

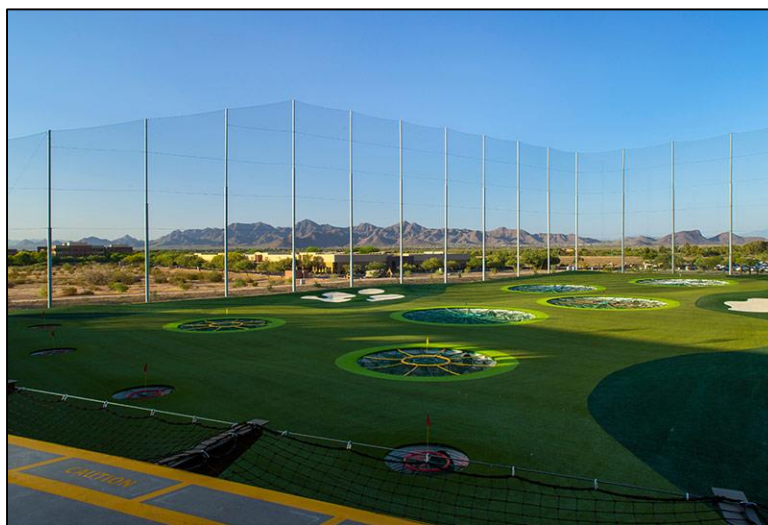


Photo 2. Golf barrier netting at existing TopGolf facility.

However, the color black is the least visible of colors used in mist netting construction, and given the location of the proposed netting, it is possible that birds descending toward the river from the north or east could be moving at speeds at which the net could not be detected in time to avoid a collision. Such impacts could result in a substantial increase in the number of bird injuries and/or mortalities over the baseline level, as the proposed netting would be 80 ft higher than the current netting on the site, and it would thus extend farther into potential flight paths of birds moving through the area.

As described above, we are aware of no research that has been conducted on the potential impacts of golf barrier netting on birds or methods to avoid such impacts. However, information is available regarding methods to reduce bird impacts with power lines. Jenkins et al. (2010 as cited in Avian Power Line Interaction Committee 2012) concluded that any sufficiently large line marking device that thickens the appearance of a power line for at least 7.8 inches in length and is placed with at least 16.4 to 32.8 ft spacing is likely to lower collision rates by 50 to 80 percent. Therefore, the following mitigation measure will be implemented to reduce the impact of bird collisions with the golf barrier netting to a less-than-significant level.

Mitigation Measure 8. Install Bird Flight Diverters. Net marking devices, such as FireFlies (<http://www.slatercom.com/datasheets/PR-Firefly.pdf>) or BirdMark BM-AG (After Glow) (<http://www.slatercom.com/datasheets/PR-BirdMark.pdf>) that glow in the dark will be placed along all sections of the netting perimeter rope and rib lines, to form vertical rows of flight diverters in the center of each area of netting between support poles. The maximum distance between such marking devices, and/or between such marking devices and support poles, will be 15 ft.

4.4 Cumulative Impacts

Cumulative impacts arise due to the linking of impacts from past, current, and reasonably foreseeable future projects in the region. The proposed Project, in combination with other projects in the area and other activities that impact the species and habitats that are affected by this Project, could contribute to cumulative effects on special-status species and sensitive habitats. Other projects in the area include both development and maintenance projects that could adversely affect these species and habitats as well as restoration projects that will benefit these species.

Locally, within Alviso Slough (which represents the lower tidal portions of the Guadalupe River system), the recently constructed boat launch in the Alviso Marina County Park impacted 1050 ft³ (0.02 ac) of brackish marsh and mudflat (USFWS 2009). The loss of brackish water marsh vegetation was mitigated through the removal of 18,000 square feet of existing marina floats and discontinuation of use of the existing boat ramp.

The SCVWD's Stream Maintenance Program (SMP) involves maintenance activities in SCVWD flood control channels, creeks, and canals within jurisdictional waters of the U.S. The maintenance activities include, bank stabilization, sediment removal, minor in-channel maintenance activities, and mitigation projects. Implementation of BMPs will avoid or minimize impacts on special-status species associates with these habitats,

and mitigation for impacts was provided via tidal restoration at the “Island Ponds” (i.e., Ponds A19, A20, A21) on the north side of Coyote Creek.

Most of the other foreseeable projects in the San Francisco Bay area that will affect marsh habitat are tidal restoration projects such as the South Bay Salt Ponds Restoration Project and the Suisun Marsh Restoration Project. These projects are expected to result in the restoration of thousands of acres of much higher-quality marsh habitat than will be impacted by the Project.

Other projects in the region will impact suitable habitat for the burrowing owl and Congdon’s tarplant; however, the VHP will require the implementation of conservation measures for the burrowing owl and the VHP land conservation plan. The VHP will help to ensure the conservation of the burrowing owl and its habitat throughout the Project region. Many projects in the region that impact resources similar to those impacted by the proposed Project will be covered activities under the VHP and will mitigate impacts on sensitive habitats and many special-status species through that program, which will require payment of fees for habitat restoration and conservation. Although Congdon’s tarplant is not covered specifically in the VHP, through its land conservation plan, suitable habitat for the species may be preserved. The VHP calls for protection of 13,300 ac of California annual grassland and 15 ac of wetlands (perennial or seasonal), potentially suitable habitat for the Congdon’s tarplant.

Further, the Project would implement a number of BMPs and mitigation measures to reduce impacts on sensitive habitats and to both common and special-status species, as described above. Thus, provided that this Project successfully incorporates the mitigation measures described in this biological resources report, the Project will not make a cumulatively considerable contribution to substantial cumulative effects on biological resources.

Section 5. Compliance with Additional Laws and Regulations Applicable to Biotic Resources of the Project site

5.1 Regulatory Overview for Nesting Birds

Construction disturbance during the nesting season (February 1 through August 31, for most species) could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests. This type of impact would not be significant under CEQA for the species that could potentially nest in the Project site due to the local and regional abundances of these species and/or the low magnitude of the potential impact of the Project on these species (i.e., the Project is only expected to impact one or two individual pairs of these species, which is not a significant impact to their regional populations). However, VHP Condition 1 requires all actions conducted under the VHP to comply with the provisions of the MBTA and California Fish and Game Code. Thus, the Project will implement the following measures to ensure that Project activities comply with the MBTA and California Fish and Game Code:

Measure 1a. Avoidance. To the extent feasible, construction activities should be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts to nesting birds protected under the MBTA and California Fish and Game Code will be avoided. The nesting season for most birds in Santa Clara County extends from February 1 through August 31.

Measure 1b. Pre-construction/Pre-disturbance Surveys. If it is not possible to schedule construction activities between September 1 and January 31, then pre-construction surveys for nesting birds should be conducted by a qualified ornithologist to ensure that no nests will be disturbed during Project implementation. We recommend that these surveys be conducted no more than seven days prior to the initiation of construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., shrubs, ruderal grasslands, and buildings) in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a construction-free buffer zone to be established around the nest (typically 300 ft for raptors and 100 ft for other species), to ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed during Project implementation.

Measure 1c. Inhibition of Nesting. If construction activities will not be initiated until after the start of the nesting season, we recommend that all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the Project be removed prior to the start of the nesting season (e.g., prior to February 1). This will preclude the initiation of nests in this vegetation, and prevent the potential delay of the Project due to the presence of active nests in these substrates.

Section 6. Literature Cited

- Avian Power Line Interaction Committee. 2012. Reducing Avian Collisions with Power Lines: The State of the Art in 2012. Edison Electric Institute and APLIC. Washington, D.C.
- Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken (eds.) 2012. The Jepson Manual: Vascular Plants of California. 2nd Edition. University of California Press, Berkeley.
- Basham, M. P. and L. R. Mewaldt. 1987. Salt water tolerance and the distribution of South San Francisco Bay song sparrows. *Condor* 89:697-709.
- Beier, P. 2006. Effects of artificial night lighting on mammals in Rich, C. and T. Longcore, eds. *Ecological Consequences of Artificial Night Lighting*. Covelo, CA: Island Press. Pp 19-42.
- Bousman, W. G. 2007a. Loggerhead shrike *Lanius ludovicianus*. Pages 288-289 in W. G. Bousman, editor. *Breeding bird atlas of Santa Clara County*. Santa Clara Valley Audubon Society, Cupertino, California.
- Bousman, W. G. 2007b. White-tailed Kite *Elanus leucurus*. Pp 172-173 in Bousman, W. G., editor. *Breeding Bird Atlas of Santa Clara County*. Santa Clara Valley Audubon Society, Cupertino, California.
- Bousman, W. G. 2007c. Tricolored blackbird *Agelaius tricolor*. Pages 426-427 in W. G. Bousman, editor. *Breeding Bird Atlas of Santa Clara County*. Santa Clara Valley Audubon Society, Cupertino, California.
- Bury, R. B. and D. J. Germano. 2008. *Actinemys marmorata* (Baird and Girard 1852) - western pond turtle, Pacific pond turtle in G. J. Rhodin, C. H. Pritchard, P. P. van Dijk, R. A. Saumure, K. A. Buhlmann, and J. B. Iverson, editors. *Conservation Biology of Freshwater Turtles and Tortoises: A Compilation Project of the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group*. Chelonian Research Monographs.
- Cade, T. J. and C. P. Woods. 1997. Changes in distribution and abundance of the loggerhead shrike. *Conservation Biology* 11:21-31.
- Calflora. 2015. Website: Accessed December 2015. <http://www.calflora.org/index.html>.
- [CDFG] California Department of Fish and Game. 2010. List of Vegetation Alliances and Associations. Vegetation Classification and Mapping Program, California Department of Fish and Game. Sacramento, CA. September 2010.
- [Cal-IPC] California Invasive Plant Council. 2015. California Invasive Plant Inventory Database. Accessed December 2015. <http://www.cal-ipc.org/paf/>

- [CNDDB] California Natural Diversity Data Base. 2015. Rarefind. California Department of Fish and Wildlife.
- [CNPS] California Native Plant Society. 2015. Inventory of Rare and Endangered Plants of California (7th edition). Rare Plant Scientific Advisory Committee.
- Chan, Y. and H. Spautz. 2008. Alameda song sparrow (*Melospiza melodia pusillula*) in W. D. Shuford and T. Gardali, editors. California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Western Field Ornithologists and California Department of Fish and Game, Camarillo, California.
- City of San Francisco. 2011. Standards for Bird-Safe Buildings. San Francisco Planning Department. Adopted 14 July 2011.
- City of San José. 1999. Riparian Corridor Policy Study. Prepared with The Habitat Restoration Group and Jones and Stokes Associates, Inc. Approved by the City Council.
- City of San Jose. 2012. Envision San Jose 2040 General Plan.
- Consortium of California Herbaria. 2015. Data provided by the participants of the Consortium of California Herbaria (ucjeps.berkeley.edu/consortium/); December 2015.
- Coulombe, H. N. 1971. Behavior and population ecology of the burrowing owl, *Speotyto cunicularia*, in the Imperial Valley of California. Condor 73:162-176.
- de Molenaar, J.G., M.E. Sanders, and D.A. Jonkers. 2006. Road lighting and grassland birds: local influence of road lighting on a black-tailed godwit population in Rich, C. and T. Longcore, eds. Ecological Consequences of Artificial Night Lighting. Covelo, CA: Island Press. Pp 114-136.
- DeCandido R. and D. Allen. 2006. Nocturnal hunting by peregrine falcons at the Empire State Building, New York City. Wilson J. Ornithol. 118(1): 53-58.
- Dunk, J. R. 1995. White-tailed Kite (*Elanus leucurus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/178>.
- Dunk, J. R. and R. J. Cooper. 1994. Territory-size regulation in black-shouldered kites. Auk 111:588-595.
- Erichsen, E. L., K. S. Smallwood, A. M. Commandatore, B. W. Wilson, and M. D. Fry. 1996. White-tailed kite movement and nesting patterns in an agricultural landscape in D. Bird, D. Varland, and J. Negro, editors. Raptors in Human Landscapes. Academic Press, San Diego, California.

- Gardali, T. and J.G. Evens. 2008. San Francisco common yellowthroat (*Geothlypis trichas sinuosa*) in W.D. Shuford and T. Gardali, editors. California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Western Field Ornithologists and California Department of Fish and Game, Camarillo and Sacramento, California.
- Gleason, R. L. and T. H. Craig. 1979. Food habits of burrowing owls in southeastern Idaho. Great Basin Naturalist 39:274-276.
- Google Inc. 2015. Google Earth Pro (Version 7.1.5.1557) [Software]. Available from www.google.com/earth.
- Gorman, L. R., D. K. Rosenberg, N.A. Ronan, K.L. Haley, J. A. Gervais, and V. Franke. 2003. Estimation of reproductive rates of burrowing owls. Journal of Wildlife Management 67:493-500.
- Guzy, M. J. and G. Ritchison. 1999. Common yellowthroat (*Geothlypis trichas*) in A. Poole and F. Gill, editors. The Birds of North America. The Birds of North America, Inc., Philadelphia.
- H. T. Harvey & Associates. 1997. Santa Clara Valley Water District California Red-legged Frog Distribution and status – 1997. June.
- H. T. Harvey & Associates. 1999. Santa Clara Valley Water District California Tiger Salamander Distribution and Status – 1999. Prepared for the Santa Clara Valley Water District.
- H. T. Harvey & Associates. 2004. Boccardo Property Biotic Constraints Analysis. March 22. San Jose, California. Prepared for David J. Powers and Associates, San Jose, California. HTH #1857-02.
- H. T. Harvey & Associates 2012. Santa Clara Valley Water District California Tiger Salamander Surveys and Site Assessments at Selected Santa Clara County Locations. Prepared for the Santa Clara Valley Water District. August 2012.
- Haug, E. A. and L. W. Oliphant. 1990. Movements, activity patterns, and habitat use of burrowing owls in Saskatchewan. Journal of Wildlife Management 54:27-35.
- Humple, D. 2008. Loggerhead shrike (*Lanius ludovicianus*) (mainland populations) in W. D. Shuford and T. Gardali, editors. California bird species of special concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Western Field Ornithologists and California Department of Fish and Game, Camarillo and Sacramento, California
- ICF International. 2012. Final Santa Clara Valley Habitat Plan, Santa Clara County, California. Prepared for the County of Santa Clara, City of San José, City of Morgan Hill, City of Gilroy, Santa Clara Valley Water District, and Santa Clara Valley Transportation Authority.

- Jenkins, A. R., J. J. Smallie, and M. Diamond. 2010. Avian collisions with power lines: a global review of causes and mitigation with a South African perspective. *Bird Conserv. Int.* 20:263–278.
- Jennings, M. R. and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California. iii+255 p.
- Johnston, R. F. 1954. Variation in breeding season and clutch size in song sparrows of the Pacific Coast. *Condor* 56:268-273.
- Johnston, R. F. 1956. Population structure in salt marsh song sparrows. Part I. Environment and annual cycle. *Condor* 56:268-273.
- Longcore, T. and C. Rich. 2004. Ecological light pollution. *Front. Ecol. Environ.* 2(4): 191-198.
- Lutz, R. S. and D. L. Plumpton. 1999. Philopatry and nest site reuse by burrowing owls: Implications for productivity. *J. Raptor Research* 33:149-153.
- Martin, D. J. 1973. Selected aspects of burrowing owl ecology and behavior. *Condor* 75:446-456.
- Menges, T. 1998. Common yellowthroat (*Geothlypis trichas*) in The Riparian Bird Conservation Plan: A Strategy for Reversing the Decline of Riparian-associated Birds in California. California Partners in Flight.
- Miller, M. W. 2006. Apparent effects of light pollution on singing behavior of American robins. *Condor* 108(1): 130-139.
- Nationwide Environmental Title Research. 2015. Historic Aerials Website. Available from <http://www.historicaerials.com/>.
- [NRCS] Natural Resources Conservation Service. 2015. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/>. Accessed December 2015.
- Negro, J. J., J. Bustamante, C. Melguizo, J. L. Ruiz, and J. M. Grande. 2000. Nocturnal activity of lesser kestrels under artificial lighting conditions in Seville, Spain. *J. Raptor Res.* 34(4): 327-329.
- North American Banding Council. 2001. The North American Banders' Study Guide. February 2001.

- Nur, N., S. Zack, J. Evans, and T. Gardali. 1997. Tidal Marsh Birds of the San Francisco Bay Region: Status Distribution, and Conservation of Five Category 2 Taxa. PRBO Conservation Science final draft report to the United States Geological Survey.
- Plumpton, D. L. and R. S. Lutz. 1993. Nesting habitat use by burrowing owls in Colorado. *Journal of Raptor Research* 27:175-179.
- Polite, C. 1990. Black-shouldered Kite *Elanus caeruleus*. In *California's Wildlife, Vol II: Birds*. D. C. Zeiner, W. F. Laudenslayer Jr., K. E. Mayer, and M. White, Eds. California Department of Fish and Game, California Statewide Wildlife Habitat Relationships System. Pp 120-121.
- PRISM Climate Group. 2015. Online PRISM Data Explorer. Oregon State University, Corvallis, OR. Accessed December 2015 from <http://www.prism.oregonstate.edu/normals/>.
- Rich, T. 1984. Monitoring burrowing owl populations: implications of burrow re-use. *Wildlife Society Bulletin* 12:178-180.
- Ringer, R. K. 1972. Effect of light and behavior on nutrition. *J. Anim. Sci.* 35: 642-647.
- Rogers, D. I., T. Piersma, and C. J. Hassell. 2006. Roost availability may constrain shorebird distribution: Exploring the energetic costs of roosting and disturbance around a tropical bay. *Biol. Conserv.* 33(4): 225-235.
- Rosier, J. R., N. A. Ronan, and D. K. Rosenberg. 2006. Post-breeding dispersal of burrowing owls in an extensive California grassland. *American Midland Naturalist* 155:162-167.
- Rottenborn, S. C. 2007. Song sparrow *Melospiza melodia*. Pages 244-245 in W. G. Bousman, editor. *Breeding Bird Atlas of Santa Clara County, California*. Santa Clara Valley Audubon Society.
- San Francisco Bay Bird Observatory. 2012. Determining the Breeding Extent of the San Francisco Common Yellowthroat and the Alameda Song Sparrow in Santa Clara County, California. Final Report. 17 December 2012.
- [SCVHA] Santa Clara Valley Habitat Agency. 2015. Geobrowser. Accessed December 2015 at <http://www.hcpmaps.com/habitat/>.
- Santa Clara Valley Water District. 2011. Stream Maintenance Program Update 2011-2022. Final Subsequent Environmental Impact Report.
- Sawyer, J. O., T. Keeler-Wolf, and J. M. Evans. 2009. *A Manual of California Vegetation* Second Edition. California Native Plant Society Press Sacramento, CA.

- Sheppard, C. 2011. Bird-Friendly Building Design. American Bird Conservancy, The Plains, VA. 58 pp.
- Skonieczny, M. F., and J. R. Dunk. 1997. Hunting synchrony in white-tailed kites. *Journal of Raptor Research*.
- Trulio, L. A. 2007. Burrowing owl *Athene cunicularia*. Pages 236-237 in W. G. Bousman, editor. *Breeding Bird*
- Yosef, R. 1996. Loggerhead shrike in A. Poole and F. Gill, editors. *The Birds of North America*. The Birds of North America, Inc., Philadelphia.
- Zeiner, D. C., W. F. Laudenslayer Jr., K. E. Mayer, and M. White, editors. 1990. *California's Wildlife*. Volume II: Birds. California Department of Fish and Game, Sacramento, California.