June 23, 2025

Rob White
Vice President Planned Communities
Lewis Management Corp.
9216 Kiefer Blvd.
Sacramento, CA 95826

Re: Wildlife Hazards Assessment for the Lago Vista Project

This memorandum describes the methods and results of the wildlife hazards assessment that was conducted for the Lago Vista project (Project), in Fairfield, California. The Project Site was previously approved in 2015 for development of residential uses. The current Project, Lago Vista, is comprised of 154.7 acres and planned for 151 single family units designated as Residential Low-Medium, 224 multifamily units designated as Residential High, and 42.2 acres of Public Facility and 75.2 acres of Open Space Conservation. The area of Public Facility and Open Space Conservation will remain in their existing state and no new wetland or aquatic features will be added to the project area.

The Project Site is currently vacant and comprises the land surrounding the McCoy Basin. The development will be located directly west of the McCoy Basin. The area is grassland with scattered seasonal wetlands and contains no trees or shrubs with aquatic habitat present in lowland areas and scattered depressions. The entire Project Site is currently grazed.

The primary goal of this assessment was to determine the existing level of wildlife and bird activity within the Project Site and evaluate the potential for wildlife hazards to affect routine operations at Travis Air Force Base (TAFB) as a result of Project construction. This assessment was conducted in order to demonstrate compliance with Travis Air Force Base Instruction 91-212, issued January 13, 2021, by the order of the Travis Air Force Base Commander.

The assessment concludes that development of the proposed Project will reduce the level of wildlife and bird activity and therefore reduce the potential for bird aircraft strike hazard.

Methods

The Project Site has been surveyed by WRA and other biologists extensively for many years as documented in the following reports that are attached hereto:

- Spring 2022 Results for Focused Rare Plant Survey at Lago Vista Village 2A, Portland Elbow and Adjacent Open Space Areas (Feb. 10, 2023);
- Protocol-level Burrowing Owl Surveys Letter Reports (WRA 2021, 2022, 2023, 2024); and
- Biological Constraints Assessment (WRA 2020).

The Hawthorne Mill EIR evaluated the prior development proposal on the Project Site and was certified in 2015. WRA prepared the EIR Addendum Biological Summary for the Lago Vista Project (Jan. 23, 2025) which outlines which species require mitigation as part of the proposed development.

Results

The 154.7-acre Project Site is dominated by non-native annual grassland with scattered seasonal wetlands and contains no trees or shrubs. Habitat within the Open Space is dominated by nonnative annual grassland with aquatic habitat present in lowland areas and scattered depressions. Aquatic habitat consists of large expanses of alkali wetland with seasonal wetlands, marsh, vernal pools, and drainages. Drainages are intermittent to perennial features that provide inflow or outflow to McCoy Basin located directly to the east of the Project Site. The current land use is primarily agricultural cattle pasture.

The Project Site is surrounded by urban residential development to the west and northwest and the County facilities is to the southwest. To the east, lies the McCoy Detention Basin, which is owned by the Bureau of Reclamation and managed by the Solano Irrigation District. TAFB is located 1.5 miles to the southeast of the Project Site.

Per the 2020 Biological Constraints Analysis, the Hawthorne Mill EIR and, consecutive protocol-level BUOW surveys within the Project Site, additional avian findings are summarized below:

Burrowing owl (BUOW; *Athene cunicularia*). CDFW Species of Special Concern. BUOW occurs as a year-round resident and winter visitor in much of California's lowlands, inhabiting open areas with sparse or non-existent tree or shrub canopies. Typical habitat is annual or perennial grassland, although human-modified areas such as agricultural lands and airports are also used. This species is dependent on burrowing mammals to provide the burrows that are characteristically used for shelter and nesting, and in northern California is typically found in close association with California ground squirrels (*Spermophilus beecheyi*). Per the Hawthorne Mill EIR, BUOW was observed in nearby lands but not within the Project Site in January 2010. Within the Project Site, protocol-level BUOW surveys were completed during 2021, 2022, 2023, 2024, and 2025. All surveys were appropriately timed throughout the nesting season and had negative observations and findings for BUOW. Because of the consistently limited ground squirrel burrows and lack of spring detections, it is unlikely owls nest in the project site and may only utilize habitats in the Project Site during migration. Owls may forage in annual grasslands, vegetated fill, and wetland habitats in the Project Site.

Per the 2020 Biological Constraints Analysis, additional avian findings are summarized below:

White-tailed kite (*Elanus leucurus*). CDFW Fully Protected Species. White-tailed kite is resident in open to semi-open habitats throughout the lower elevations of California, including grasslands, savannahs, woodlands, agricultural areas, and wetlands. This species preys upon a variety of small mammals, as well as other vertebrates and invertebrates. A white-tailed kite was observed on the Project Site during the 2020 site visit. Pastures in the Project Site provide foraging habitat for this species.

Implementation of the Project will reduce the land available for nesting or foraging, thus reducing the likelihood that bird species will be present on the Project Site.

Swainson's hawk (SWHA; *Buteo swainsoni*). State Threatened. Swainson's hawk is a summer resident and migrant in California's Central Valley and in scattered portions of the southern California interior. Areas typically used for nesting include the edge of narrow bands of riparian vegetation, isolated patches of oak woodland, lone trees, and both planted and natural trees associated with roads, farmyards, and sometimes adjacent residential areas. While breeding, adults feed primarily on rodents (and other vertebrates). Due to the presence of foraging habitat and the proximity to recent nest occurrences, this species may forage in the Project Site.

Implementation of the Project will reduce the land available for nesting or foraging, thus reducing the likelihood that bird species will be present on the Project Site.

Tricolored blackbird (*Agelaius tricolor*). State Threatened. The tricolored blackbird is a locally common resident in the Central Valley and along coastal California. This species breeds adjacent to fresh water, preferring emergent wetlands with tall, dense cattails or tules, thickets of willow or blackberry, and/or tall herbs. The Project Site is within the breeding range of the species; however, dense vegetation suitable for nesting by the species is not present. The portions of McCoy Basin that are near the Project Site also lack dense vegetation for this species.

Implementation of the Project will reduce the land available for nesting or foraging, thus reducing the likelihood that bird species will be present on the Project Site.

Grasshopper sparrow (*Ammodramus savannarum*). CDFW Species of Special Concern. The grasshopper sparrow is a summer resident in California, wintering in Mexico and Central America. This species occurs in open grassland and prairie-like habitats with short to medium height vegetation, and often scattered shrubs. The majority of the Project Site has been moderately and consistently grazed and does not provide sufficient vegetation for nesting.

Implementation of the Project will reduce the land available for nesting or foraging, thus reducing the likelihood that bird species will be present on the Project Site.

Northern harrier (*Circus cyaneus*). CDFW Species of Special Concern. Northern harrier occurs as a resident and winter visitor in open habitats throughout most of California, including freshwater and brackish marshes, grasslands and fields, agricultural areas, and deserts. The Project Site is within the current breeding range of the species and several northern harriers were observed foraging during the 2020 Biological Constraints site visit and during the 2024 BUOW surveys. The species may occasionally forage in non-native grasslands, vegetated fill, and wetlands in the area.

Implementation of the Project will reduce the land available for nesting or foraging, thus reducing the likelihood that bird species will be present on the Project Site.

Loggerhead shrike (*Lanius ludovicianus*). CDFW Species of Special Concern, USFWS Bird of Conservation Concern. Loggerhead shrike is a resident and winter visitor in lowlands and foothills throughout California. This species is associated with open country with short vegetation and scattered trees, shrubs, fences, utility lines and/or other perches. Loggerhead shrike may forage throughout the project site in annual grassland, vegetated fill or wetland areas. However,

suitable nest habitat is not available within the Project Site. Loggerhead shrike has not been recorded during any of the site visits.

Implementation of the Project will reduce the land available for nesting or foraging, thus reducing the likelihood that bird species will be present on the Project Site.

Conclusion

The Lago Vista project and residential buildings associated with the Project Site will not result in the attraction of birds or other wildlife to the property. Existing vegetation and open space will be removed and replaced with buildings, resulting in the reduction of existing habitat within the development site. Anticipated changes to the existing avian habitat associated with the proposed construction activities include grading, excavation, permanent development, storm water controls, lighting, irrigation, noise, and increased human presence.

The remaining 75.2 acres of Open Space will also likely experience no increase in wildlife activity due to the disturbances caused by the lighting, human presence, and noise associated with the new development site. The only man-made features that could attract wildlife to the property post-construction are the proposed stormwater retention basins. However, the stormwater retention basins are unlikely to result in significant additional wildlife attraction because the systems are designed for quick drainage, and because the basins will be surrounded by development. These basins are not expected to cause an increase in the current level of wildlife activity and construction of the residential project overall will reduce the level of wildlife and bird activity on site and therefore reduce the potential for bird aircraft strike hazard.

Therefore, the Project would not present a hazard to TAFB flight operations. It is predicted that the overall wildlife activity on the Project Site will remain at or below current levels, based on our understanding of the planned development and our best professional assessment of the existing habitat.

Sincerely,

Leslie Lazarotti
Principal, WRA

Attachments
A. Figures
    - Project Area
    - Development Plan
B. Site Photographs
C. Supporting Reports
    - EIR Addendum Biological Summary for the Lago Vista Project (WRA Jan. 23, 2025)
    - BUOW Protocol-level Survey Findings, Years 2021-2024
    - Biological Constraints Analysis (WRA 2020)

Attachment A. Figures

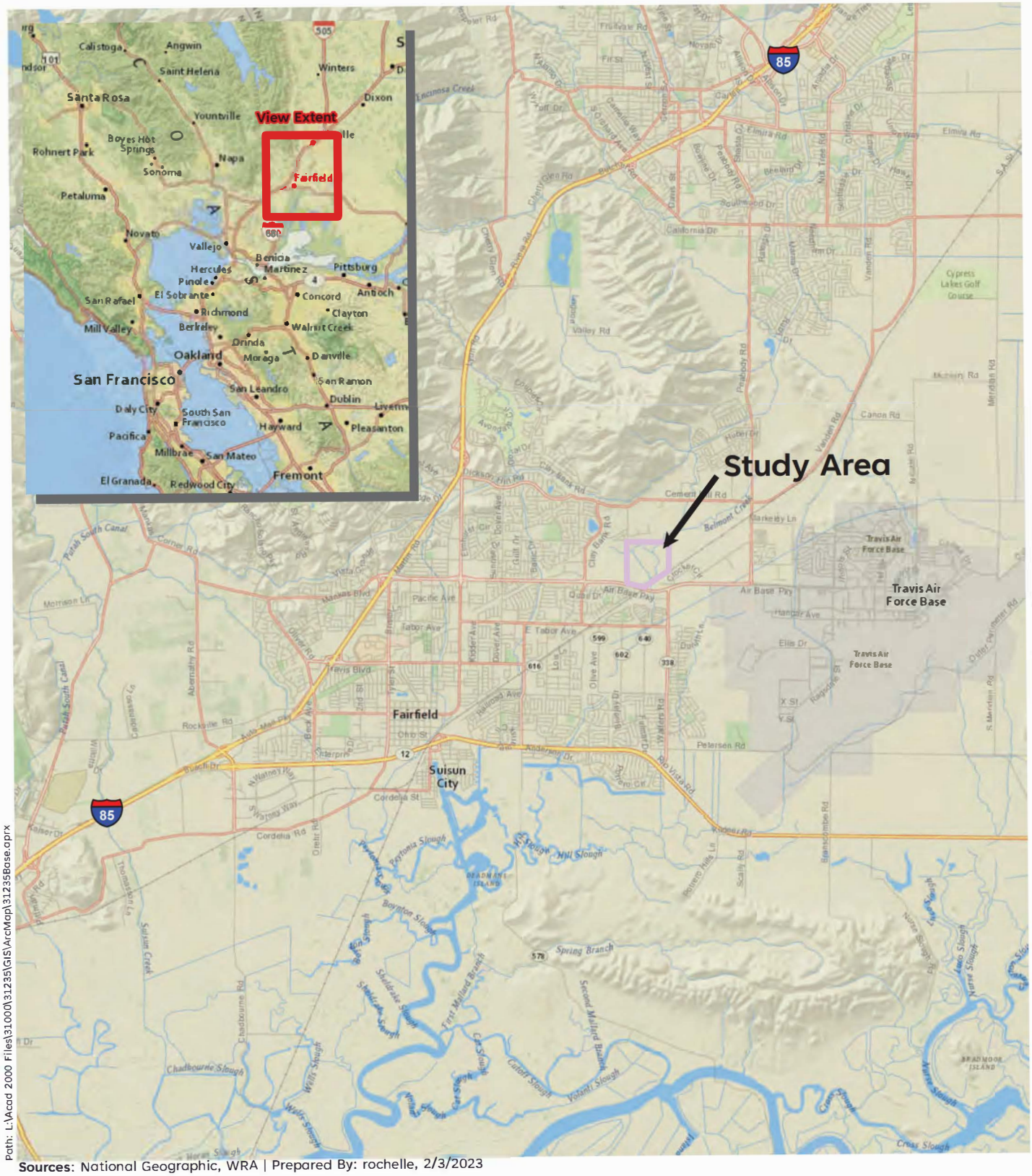


Figure 1. Study Area Overview

Lago Vista Village 2A:
Focused Special-Status Plant Survey
Fairfield, California

wra Environmental Consultants

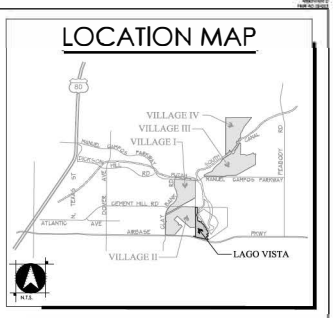
SITE PLAN

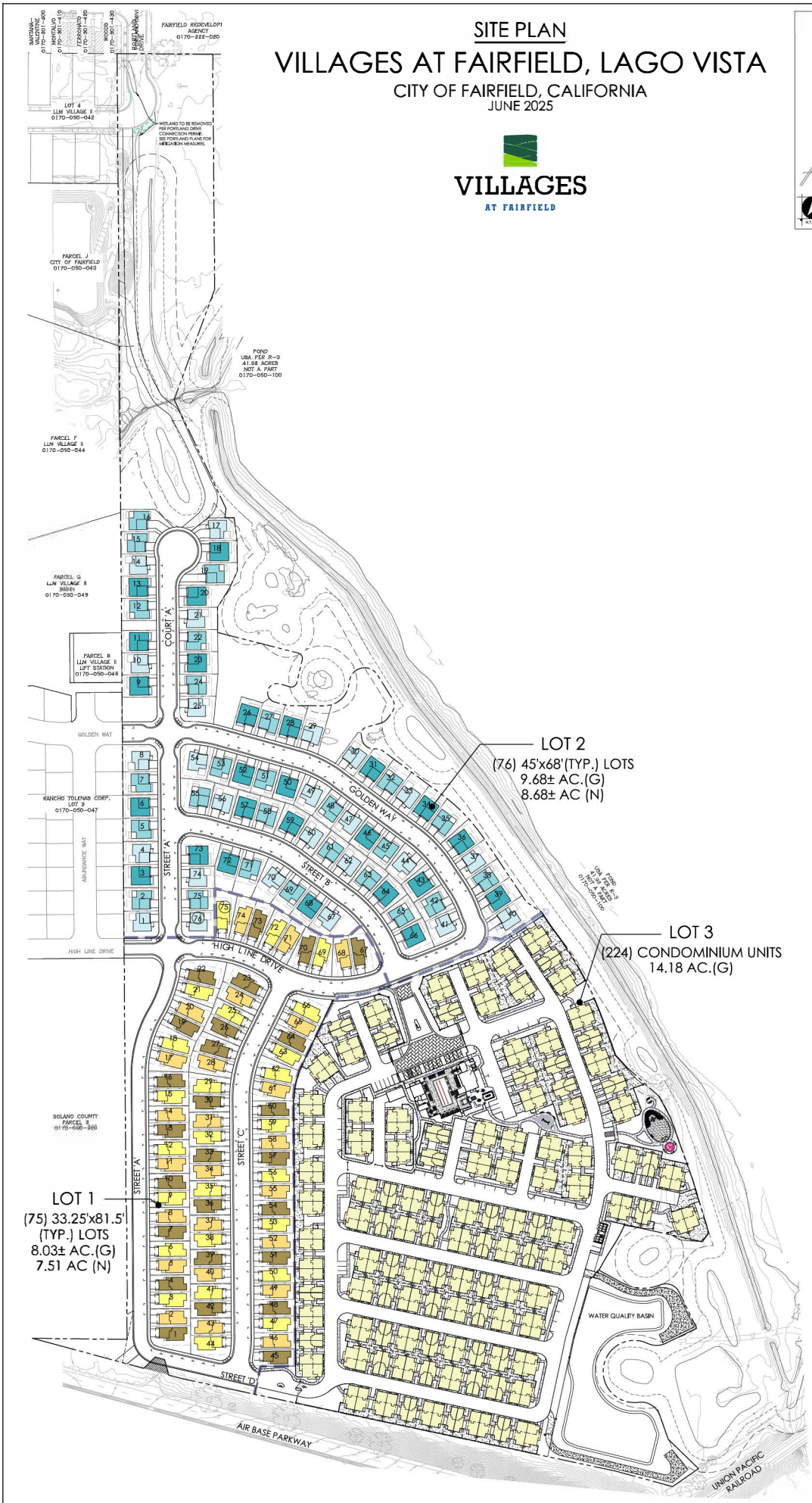
VILLAGES AT FAIRFIELD, LAGO VISTA

CITY OF FAIRFIELD, CALIFORNIA
JUNE 2025

VILLAGES
AT FAIRFIELD

LOCATION MAP





SCALE: 1" = 60'

Rancho Tolenas Corp.
A Member of the Lewis Group of Companies
9216 KIEFER BOULEVARD SACRAMENTO, CA 95826

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
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PLEASANTON, CA 94588 Fax 925.847.1557

Attachment B. Site Photographs (Wood Rogers 2025)

VILLAGES AT FAIRFIELD - LAGO VISTA

FAIRFIELD, CA

SITE PHOTOS

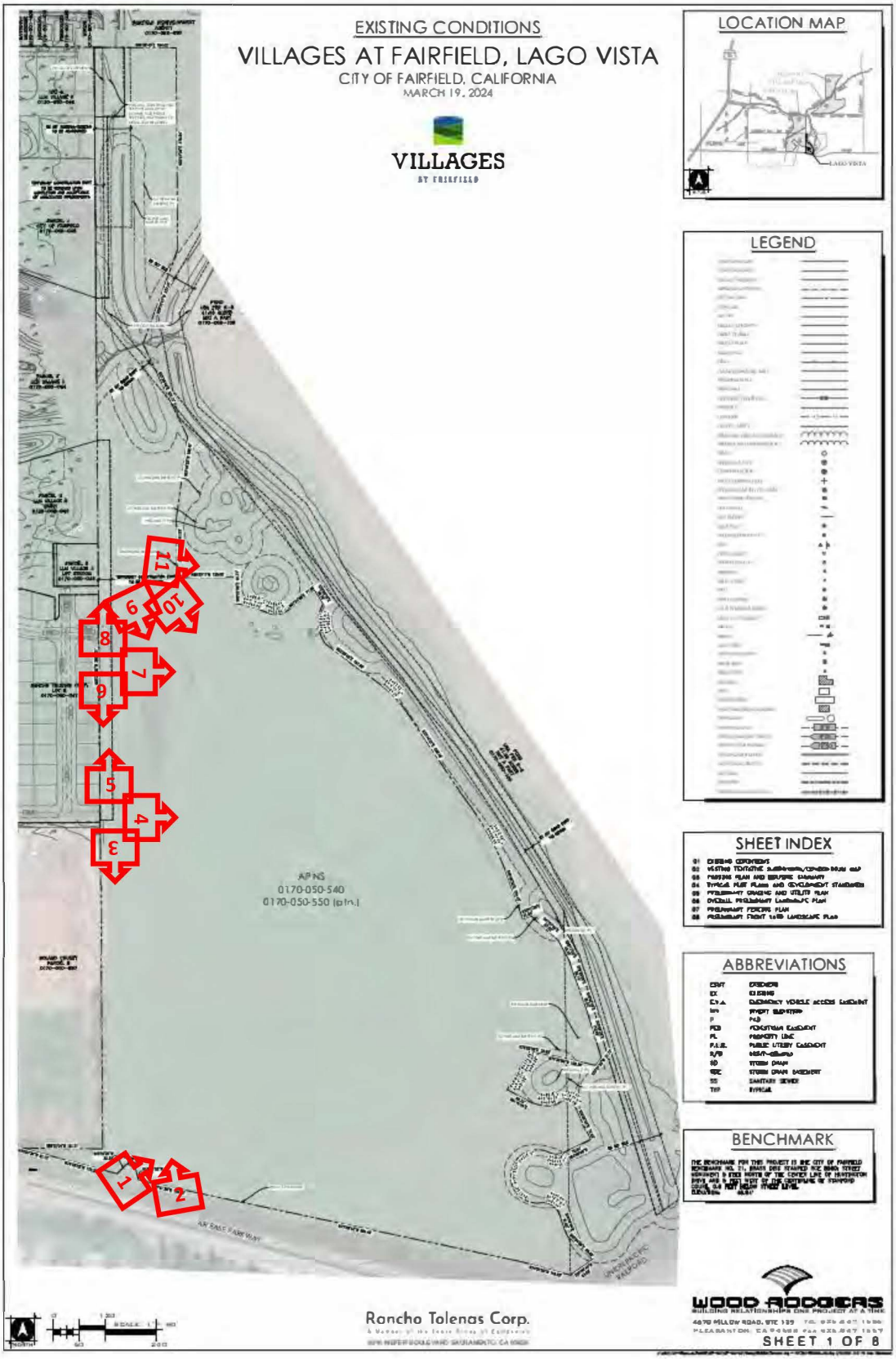

Photo 1: View northeast, from southeast corner on Air Base Parkway. McCoy Basin in background.

Photo 2: View north, from southeast corner on Air Base Parkway. Solano County facilities to the left.

Photo 3: View South, from High Line Drive. Solano County facilities on right.

Photo 4: View east, from High Line Drive. McCoy Basin in background.

Photo 5: View north, from High Line Drive. Village 2 Lot 3 development to the left.

Photo 6: View south, from Millenium Way. Village 2 Lot 4 basin to the right; McCoy Basin in the background.

Photo 7: View southeast, from Millenium Way. McCoy Basin in the background.

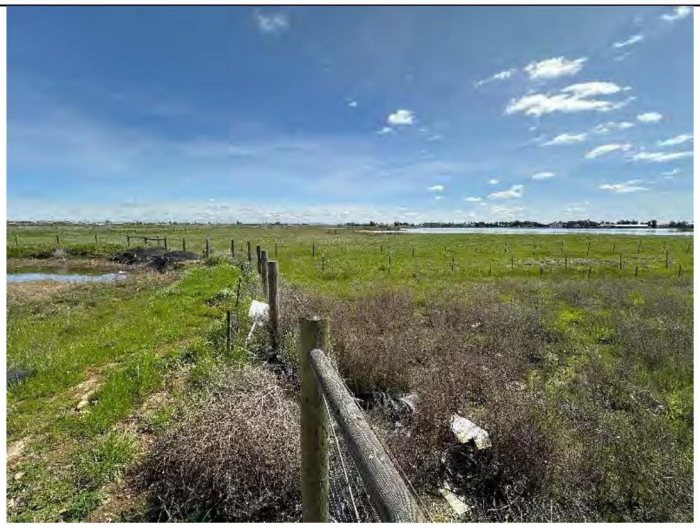

Photo 8: View east, from Millenium Way. McCoy Basin in the background (right) and future Portland Drive Extension to the left.

Photo 9: View south, from Portland Drive. Village 2 development in the far-left background; McCoy Basin to the left.

Photo 10: View southeast, from Portland Drive. McCoy Basin in the background, with industrial park in far-left background.

Photo 11: View southeast, from Portland Drive. McCoy Basin in the background, with industrial park in the far background.

Attachment C. Supporting Reports

EIR Addendum Biological Summary for the Lago Vista Project (WRA Jan. 23, 2025)

BUOW Protocol-level Survey Findings, Years 2021-2024

Biological Constraints Analysis (WRA 2020)

wra
Environmental
Consultants

December 11, 2024

Rob White
Vice President Planned Communities
Lewis Management Corp.
9216 Kiefer Blvd.
Sacramento, CA 95826

Re: EIR Addendum Biological Summary for the Lago Vista / Villages 2A Project

This letter was prepared to support the preparation of an Environmental Impact Report (EIR) addendum for the Lago Vista / Villages 2A Project (Project) located within two Assessor Parcel Numbers (APNs) 0170-050-090 and 0170-050-220 in Fairfield, California (Project Area). The purpose of this letter is to summarize additional biological considerations and regulatory changes that have occurred since the preparation of the Partially Recirculated Draft EIR (PDEIR; State Clearinghouse No. 2009032001) for the Hawthorne Mill Project in May 2014, under which the Project Area was initially evaluated. The report herein also includes a summary of biological surveys and mitigation that have been completed to date, as well as a discussion of additional requirements that will need to be completed prior to the initiation of Project construction.

1.0 PROJECT SUMMARY

The following sections address items that have been completed by the Project to date as well as outstanding items that will need to be completed prior to the initiation of any ground disturbance.

1.1 Biological Surveys and Mitigation Requirements

1.1.1 Burrowing Owl

Per MM-BIO 1f of the PRDEIR, protocol-level wintering ("non-breeding") and nesting ("breeding") season surveys for burrowing owl (*Athene cunicularia*; BUOW) shall be conducted prior to the initiation of construction, with a final pre-construction survey conducted no more than 30 days prior to the first ground-disturbing activity. Past survey efforts were completed by WRA in 2020, 2021 and 2022. In 2023, four protocol-level breeding surveys were conducted for the Project. No burrowing owl or evidence of burrowing owl was observed within the Project Area or immediate vicinity during any site visit.

Given that the PDEIR includes requirements for both breeding and non-breeding surveys, the City of Fairfield (City) may require the Project to repeat a full year of BUOW surveys prior to the initiation of the Project. This would include four breeding surveys between February 15 and August 31 as well as four non-breeding surveys September 1 and January 31. To allow for

potential Project initiation in 2025, BUOW protocol-level wintering surveys will begin in 2024 and protocol-level breeding surveys will occur in 2025.

Per MM-BIO-1f, mitigation for BUOW is only required if owls are found onsite or within 600 meters of the Project Area.

1.1.2 Swainson's Hawk and Other Raptors

MM-BIO-1d requires that habitat management lands be provided for each acre of Swainson's hawk (*Buteo swainsoni*; SWHA) foraging habitat developed or removed within 5 miles of a recently active nest, in accordance with the CDFW (1994) mitigation requirements.[1] Per the PDEIR, these lands shall be protected through fee title acquisition or conservation easement on agricultural lands, or other suitable lands that provide foraging habitat for SWHA.

At the time when the PDEIR was published in 2014, all lands within the Project Area occurred greater than 1 mile but less than 5 miles of a "recently active" SWHA nest (i.e., active in the last 5 years); therefore, foraging habitat mitigation was required at a 0.75:1 ratio. Currently, three recently active Swainson's hawk nests are documented within two miles of the Project Area. As such, foraging habitat mitigation is still currently required at a 0.75:1 ration to comply with MM-BIO-1d.

In addition to SWHA mitigation, MM-BIO-1h requires that the loss of suitable foraging habitat for general raptors within the Project Area be mitigated for at a 1:1 ratio through the purchase of credits at an approved off-site mitigation bank. This will need to be completed prior to the commencement of the Project.

Lastly, MM-BIO-1g requires that a pre-construction survey for nesting raptors be conducted within the Project Area and surrounding 500 feet no more than 14 days prior to the onset of Project activities during the raptor nesting season (January 1 and August 31). If Project activities are also initiated within the nesting season for SWHA (April 1 through September 31), the survey will need to include suitable SWHA nesting habitat within 5 miles of the Project Area.

1.1.3 Rare Plants

WRA conducted two focused rare plant surveys within the Project Area in April 2022. Table 1 below summarizes the special-status plant species identified and mapped during the site visits.

Table 1. Summary of Special-Status Plant Species Mapped within the Project Area in April 2022

Species	Scientific Name	Status	Population Acreage
Contra Costa goldfields	*Lasthenia conjugens*	Federally Endangered, CNPS Rank 1B.1	0.06 acres
Ferris' goldfields	*Lasthenia ferrisiae*	CNPS Rank 4.2	0 acres*
saline clover	*Trifolium hydrophilum*	CNPS Rank 1B.2	0 acres*

[1] Department of Fish and Game (CDFW). November 1994. Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo Swainsoni)* in the Central Valley of California.

bearded popcornflower	*Plagiobothrys hystriculus*	CNPS Rank 1B.1	0.01 acres (759 SF)
pappose tarplant	*Centromadia parryi* ssp. *parryi*	CNPS Rank 1B.2	0.43 acres

*These species were documented with the Open Space Area during the 2022 surveys. However, these species were not documented within the Project Area.

No additional rare plant surveys are required at this time.

Per MM-BIO-1b, preservation credits shall be purchased from an offsite mitigation bank at a 1:1 ratio to mitigate for impacts to occupied Contra Costa goldfield (*Lasthenia conjugens*) and pappose tarplant (*Centromadia parryi* ssp. *Parryi*) habitat. Proof of purchase of preservation credits shall be provided prior to issuance of grading permits for the Project.

The PDEIR does not include a species-specific mitigation measures for Ferris' goldfields, bearded popcornflower or saline clover, nor general mitigation measures for special-status species.

1.1.4 Wetlands

In November 2007, the Army Corps of Engineers (Corps) issued a Preliminary Jurisdictional Determination (PJD) which included the Project Area (Corps File No. 299100N). Distribution of the wetlands and non-wetland waters of the U.S. were preliminarily groundtruthed during a 2020 site visit in support of the *Hawthorne Mill and Cooper's Landing – Biological Constraints Assessment and Permitting Strategy* (WRA 2020). The presence of these aquatic features was determined based on field observations made during the January 2020 site visit. Field observations included the presence of identifiable wetland vegetation, wetland hydrology (such as inundation), and topography indicative of where water would collect, such as depressions. However, the type and extent of aquatic features should be considered preliminary, and a formal delineation of Waters of the U.S. and State should be conducted to confirm presence and extent of potentially jurisdictional features within the Project Area. An updated wetland delineation would also reflect any changes to feature jurisdiction based on the 2023 Conforming Rule, the Environmental Protection Agency (EPA)- and Corp-issued final rule amending the 2023 definition of "Waters of the US" to conform with the recent Supreme Court decision in *Sackett v. EPA*.

1.2 Additional Regulatory Considerations

The following section addresses any relevant regulatory changes that have occurred since the PDEIR was published and evaluates implications that should be considered in the EIR addendum for the current Project.

1.2.1 Special-status Wildlife

BALD EAGLE

Bald Eagle (BAEA; *Haliaeetus leucocephalus*) BAEA are known to occur in the vicinity of the Project area (CNDDB 2024), Based on a 2018 CNDDB documented occurrence, BAEA have been reported to roost in a large walnut tree that occurs along the west bank of McCoy Pond, near the eastern boundary of the Study Area (CDFW 2022). While no nest structures or indications of nesting have been observed to date, this tree has potential to provide nesting habitat for this species in the future. Depending on the timing of construction, Project activities including noise, vibration, odors, and movement of workers or equipment could affect nests and have the potential to result in nest abandonment.

As previously noted, MM-BIO-1g requires that a pre-construction survey for nesting raptors be conducted within the Project Area and surrounding 500 feet no more than 14 days prior to the onset of Project activities during the raptor nesting season (January 1 and August 31). In addition, if Project activities are also initiated within the nesting season for SWHA (April 1 through September 31), the survey will need to include suitable SWHA nesting habitat within 5 miles of the Project Area (MM-BIO-1d). It is WRA's opinion that these measures are sufficient to detect BAEA nests given the limited availability of nesting habitat within the Project site and immediate vicinity.

If an active BAEA nest is found, CDFW recommends implementation of a minimum ½-mile no-disturbance buffer until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. If nesting BAEA are detected and the ½-mile no-disturbance nest buffer is not feasible, consultation with CDFW is warranted to determine if the Project can avoid take.

WESTERN POND TURTLE

The PDEIR included the following measure (MM-BIO-1j) to address potential impacts to dispersing western pond turtles (WPT; *Actinemys marmorata*):

> *Prior to initiating construction activities within 25 feet of suitable aquatic habitat for Pacific (western) pond turtle, pre-construction surveys shall be conducted. If observed, WPT shall be relocated to a nearby, suitable location away from construction activities.*

At the time the PDEIR was published in 2014, WPT was listed as a CDFW Species of Special Concern and could be relocated without the need for additional permits or consultation. However, this species was proposed as Threatened under the federal Endangered Species Act (ESA) by the U.S. Fish and Wildlife Service (USFWS) on October 3, 2023 (88 FR 68370). Federal proposed species are entitled to procedural protections under the ESA but are not protected from "take" until they are listed. Take as defined under the ESA means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." It is anticipated that the final rule for WPT will be issued by the end of 2024. If WPT are listed at that time, any subsequent take (including the relocation described in MM-BIO-1j) would be in violation of the ESA without take authorization from the USFWS.

The PDEIR determined that the perennial aquatic habitats on and adjacent to the Project Area were unlikely to support breeding populations but may provide marginal habitat for dispersal and foraging. However, the evaluation in the PDEIR included numerous aquatic features that are no longer immediately adjacent or necessarily relevant to the current Project. For example, Strassberger Basin, which was deemed as the only location to contain suitable year-round habitat for WPT, is no longer directly adjacent to the Project Area. Given the reduced footprint of the current Project Area and considering the new regulatory context, WRA recommends that the EIR addendum re-evaluate potential impacts to WPT, focusing specifically on the suitability of McCoy Basin adjacent to the Project Area and upland habitat within the Project Area.

Based on WRA's analysis, McCoy Basin is unlikely to support WPT due to its high alkalinity, absence of vegetative cover, and lack of suitable habitat features (e.g., algal mats and basking sites). Additionally, upland habitat within the Project Area does not provide dry, friable soils suitable for nesting adjacent to McCoy Basin. WRA biologists have conducted numerous site visits along McCoy Basin and throughout the Project Area during year-round survey efforts for burrowing owl (*Athene cunicularia*) and have not detected any WPT individuals along the bank, in adjacent drainage features, or within upland habitat. Given that McCoy Basin is unlikely to support this species and upland habitat within the Project Area is unsuitable for nesting, it's unlikely that individuals would be present in the Project Area, even for dispersal. As such, no impacts to WPT are anticipated as a result of the proposed Project and the inclusion of MM-BIO-1j is not recommended.

CROTCH BUMBLE BEE

Crotch bumble bee (CBB; *Bombus crotchii*) was reinstated as a state candidate species on September 30, 2022, and is thus afforded protections under the California Endangered Species Act (CESA). As such, impacts to this species will need to be evaluated under CEQA. Impacts to CBB were not evaluated at the time the PDEIR was published in 2014.

Crotch bumble bee occurs in grassland and scrub habitats, and has also been documented in agricultural areas. Like other bumble bee species, CBB is a social species with an annual life cycle. Queens emerge from hibernation in the late winter/early spring to establish a new colony. The colony produces workers throughout the spring and summer, and reproductives (i.e. drones and queens) in the early fall. Nests are built in pre-existing cavities. They are commonly found underground, in abandoned rodent burrows, or aboveground in grass tufts, rock piles, abandoned bird nests, or tree cavities. CBB feeds on pollen and nectar during all life stages; preferred host species include (but are not limited to) milkweeds (*Asclepias* spp.), chaenactis (*Chaenactis* spp.), clarkias (*Clarkia* spp.), larkspurs (*Delphinium* spp.), buckwheats (*Eriogonum* spp.), lupines (*Lupinus* spp.), medicks (*Medicago* spp.), bladderpod (*Peritoma arborea*), phacelias (*Phacelia* spp.), poppies (*Eschscholzia* spp.), and sages (*Salvia* spp.). Queens overwinter in hibernacula; little is known about habitat requirements for hibernacula; bare ground, leaf litter and/or duff, and pre-existing cavities may provide overwintering habitat.

The Project Area is within the current known range of CBB and the nearest documented CNDDB occurrence is approximately 4 miles north of the Project Site. While pre-existing mammal burrows are present along the northeastern boundary of the Project Area, all burrows observed by WRA biologists exhibited fresh sign of ground squirrel occupancy (i.e., droppings, fruit pieces) during burrowing owl surveys in 2023. Additionally, grassland habitat within the Project Area is regularly grazed by cattle and lacks host plants that are known to provide pollen and nectar

sources for this species. As such, it in unlikely that the Project Area supports suitable habitat for CBB. No additional avoidance measures for CBB are recommended.

MOUNTAIN LION

Mountain Lion (*Puma concolor*) was listed as a state candidate species in April 2020, which granted protection under CESA to populations within a proposed evolutionarily significant unit (ESU) located in Southern California and the central coast of California. While impacts to mountain lions were not evaluated in the 2014 PDEIR, the Project Area is outside of the current designated ESU range. As such, no additional considerations for mountain lions are required at this time.

BURROWING OWL

On October 15, 2024, burrowing owl was listed as a state candidate species by the California Fish and Game Commission. During the listing review process, burrowing owl will be temporarily afforded the same protections as state-listed species throughout the entirety of California. As such, any projects with potential to result in "take" will need to obtain an Incidental Take Permit (ITP) from CDFW. Under CESA, the term "take" is defined as any effort or attempt to hunt, pursue, catch, capture, or kill an individual. It is assumed that passive relocation (i.e. burrow exclusion) efforts will no longer be allowed without an ITP and CDFW-approval.

Impacts to burrowing owl were evaluated at the time the PDEIR was published in 2014. The mitigation measure for burrowing owl (MM-BIO-1f) requires the following: protocol-level wintering and nesting season surveys to be conducted prior to construction; a pre-construction burrowing owl survey will be performed ahead of ground-disturbance within the Project Area; and, if owls are detected, appropriate measures from the 2012 Staff Report on Burrowing Owl Mitigation (CDFG 2012) will be implemented.

Given the new candidate listing, if any burrowing owls are detected during future survey efforts, the Project may be required to obtain an ITP from CDFW to avoid take liability.

1.2.2 Aquatic Resources

On August 29, 2023, the EPA and the Corps issued a final rule amending the 2023 definition of "Waters of the US" to conform with the recent Supreme Court decision in *Sackett v. EPA*. The Conforming Rule limits Federal jurisdiction of wetlands to only those that are adjacent to (touching) relatively permanent, standing or continuously flowing bodies of water. Wetlands isolated from these bodies of water do not meet the Federal definition of wetlands and do not require a Federal Corps permit to fill.

Previously identified Corps-jurisdictional wetlands and non-wetland waters within or immediately adjacent to the Project Area may still be considered Corps-jurisdictional if a hydrological surface connection is present to McCoy Basin or connected drainages. If no surface connection exists, then the aquatic features may still be jurisdictional per the Regional Water Quality Control Board (RWQCB).

The Project has been designed to avoid impacts to potentially jurisdictional features. Given that the most substantive wetland study was conducted in 2007 with subsequent ground truthing

confirmation as recent as 2020, a full wetland delineation may be recommended to ensure that no Project impacts to jurisdictional features occur.

1.3 Summary and Recommendations

In summary, additional surveys for BUOW, SWHA, and nesting birds will be required prior to the initiation of the Project. The Project will need to purchase credits at an approved off-site mitigation bank for impacts to general raptor foraging habitat, per MM-BIO-1h. In addition, SWHA mitigation is required prior to the start of the Project given that recently active nests are documented within 5 miles of the site.

Since the PDEIR was published, the regulatory status has changed for the following species: western pond turtle, Crotch bumblebee, burrowing owl, and mountain lion. No potentially significant impacts to CBB or mountain lion are anticipated as a result of the Project. Therefore, no additional measures for these species are deemed necessary. A measure for WPT was included in the original PDEIR but is not recommended in the EIR Addendum given that it may not be implementable in the future and is deemed unnecessary given the current location of the Project Area. Implementation of the mitigation measures for burrowing owl from the PDEIR will avoid potentially significant impacts. However, if burrow owls are observed onsite during future surveys, an ITP from CDFW may be required to avoid take lability.

Lastly, an updated full wetland delineation in the vicinity of the Project is recommended to confirm jurisdictional feature distribution and subsequent Project impact avoidance.

Please contact me with any questions.

Sincerely,

Leslie Lazarotti
WRA, Inc.
Lazarotti@wra-ca.com

Cc: **Tommy Dryer**
WRA, Inc.
Tommy.dryer@wra-ca.com

wra
ENVIRONMENTAL CONSULTANTS

June 22, 2020

Rob White
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Lewis Management Corp.
9216 Kiefer Blvd.
Sacramento, CA 95826

RE: Results of Burrowing Owl Surveys at the Cooper's Landing Project Area, Fairfield CA

Dear Mr. White,

This letter is to report the findings of the burrowing owl (*Athene cunicularia*) habitat assessment and survey, conducted within the Cooper's Landing Project site (Project Area). The Project Area is located predominantly within APN 0170050090, and partially within 0170050220, 0170050110, in Fairfield, Solano County, California (Figure 1). For the purposes of this survey, the Project Area plus a surrounding 500 feet was surveyed for its potential to support burrowing owl. Exceptions included when access not was possible due to private property access issues or when the area beyond the Project Area would not be impacted by Project activities (e.g. areas on the south side of Airbase Parkway were not surveyed). Burrowing owl is a California Department of Fish and Wildlife (CDFW) Species of Special Concern. These surveys were conducted to fulfill the requirements outlined in MM-BIO 1f of the Partially Recirculated Draft Environmental Impact Report for the Hawthorn Mill Project (PRDEIR; First Carbon Solutions 2014); the Cooper's Landing properties were assessed as part of this document. Per the PRDEIR mitigation measure, the surveys followed the protocols outlined in the CDFW Staff Report on Burrowing Owl Mitigation[1] (Staff Report). Project activities are anticipated to begin in Spring 2021.

Project Area Description

The Project Area is approximately 29.28 acres located immediately north of Airbase Parkway and south of Strassberger Drive. The surrounding land use is predominantly industrial and residential. The Project Area was grazed until recently, though no cattle were observed on the site during the 2020 site visits. Due to the lack of grazing, tires and other anthropogenic structures are overgrown with ruderal vegetation and grasses. As such, these structures would not support burrowing owl. A rip-rap area is located about 50 feet to the south, but outside the Project Area; while this area has some potential to support burrowing owl, the presence of adjacent trees reduce that potential since the owls generally avoid areas with trees. Culverts located in the southern portion of the site, that would otherwise be potentially suitable for burrowing owl, were inundated during the surveys.

[1] California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency, Department of Fish and Game

Methods

The California Natural Diversity Database (CNDDB)[2] and eBird.org[3] was reviewed prior to the site visit to review documented occurrences in the region. WRA, Inc. (WRA) conducted prior to the first survey of the Project Area on the morning of April 3, 2020. Brian Freiermuth, a biologist experienced with raptor nesting surveys and burrowing owl habitat assessment and survey methodology, conducted the survey. The Project Area and surrounding 500 feet were traversed on foot in accordance with the Staff Report to detect burrowing owls. Exceptions included when access was not possible due to private property access restrictions or when the area beyond the Project Area would not be impacted by Project activities (e.g. areas on the south side of Airbase Parkway were not surveyed). In cases where potentially suitable habitat was present beyond the parcels where access was granted, binoculars were used to survey areas with potential to support burrowing owl. Significant survey effort was placed in raised elevations and berms in open areas where burrows were likely to occur. Suitable burrows or burrow analogs were searched for systematically, and if observed, were inspected for evidence of owl occupancy (feathers, whitewash, pellets, prey remains). In accordance with MM-BIO 1f, surveys are to follow CDFW survey guidelines, which are summarized as follows: at least 3 site visits for burrowing owl should occur between April 15 and July 15, with at least one site visit after June 15. Visits are to be at least 15 days apart.

Survey Results

Several burrowing owl have been documented in the vicinity of the Project Area. The nearest documented occurrence in the CNDDB is a bit less than a ½ mile north of the Project Area, from 1989; the nearest eBird.org occurrence, from the spring of 2009, is non-specific but references McCoy Pond, which is located just east of the Project Area. There are no documented occurrences within one mile of the site that are less than 10 years old.

No burrowing owl or evidence of burrowing owl was observed within the Project Area or surrounding 500 feet. Site visits were conducted on the dates and under the conditions described in Table 1.

Date	Surveyor	Start Time	End Time	Weather
April 3, 2020	Brian Freiermuth	7:30 AM	9:30 AM	Overcast, mild temps, winds 0-4 MPH.
May 15, 2020	Brian Freiermuth	7:30 AM	9:40 AM	Clear, mild temps, winds 0-5 MPH.
June 2, 2020	Brian Freiermuth	6:30 AM	8:45 AM	Clear, mild temps, winds 0-10 MPH.
June 19, 2020	Brian Freiermuth	6:00 AM	8:00 AM	Clear, mild temps, 0-2 MPH.

[2] California Department of Fish and Wildlife. 2020. California Natural Diversity Database. Wildlife and Habitat Data Analysis Branch, Sacramento, CA.
[3] ebird.org. 2020. Accessed online May 12, 2020.

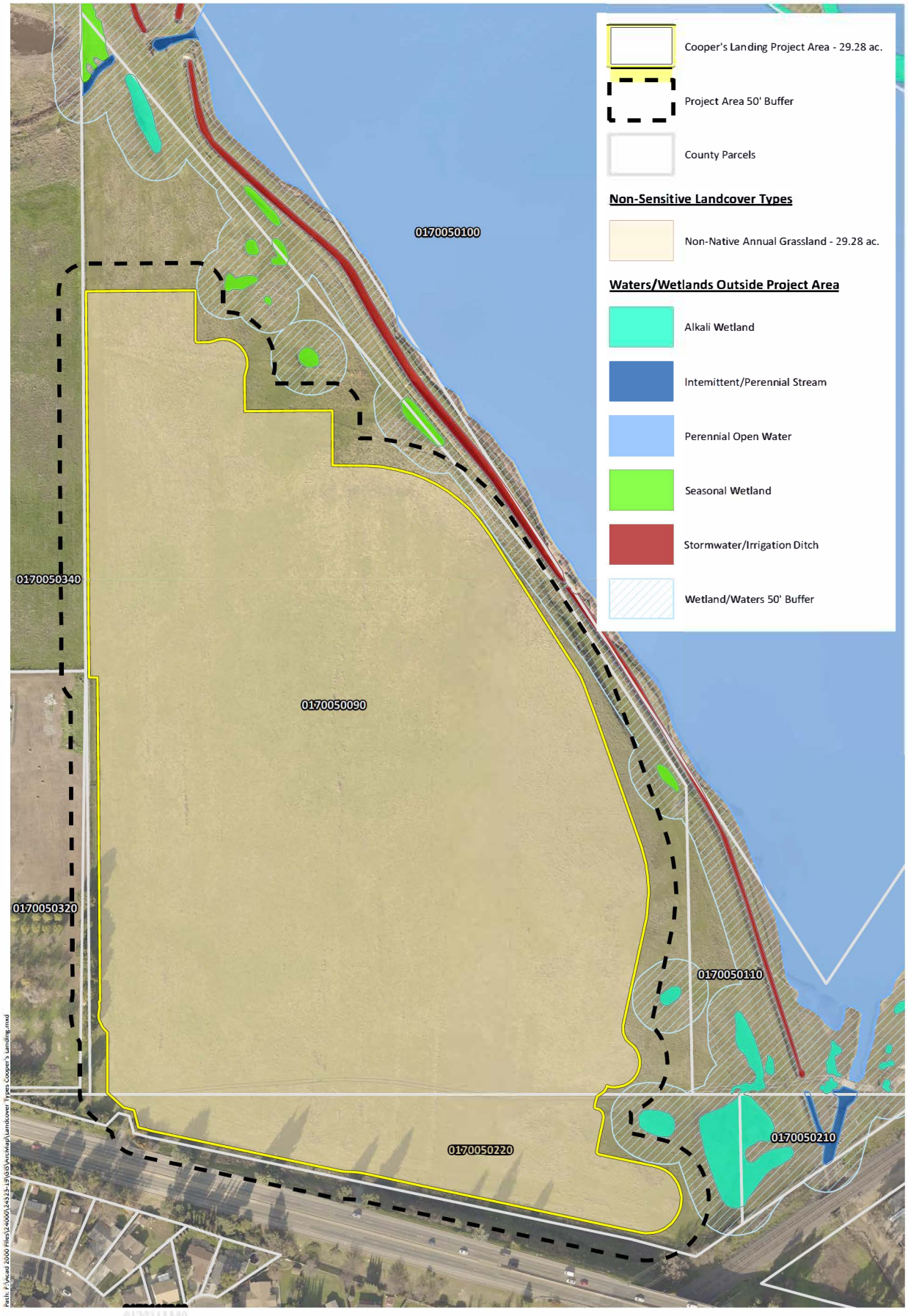
Conclusion

No burrowing owl or evidence of burrowing owl was observed within the Project Area or surrounding 500 feet. Although burrowing owl is documented within a mile of the Project Area, no evidence of burrowing owl occupation of the site was documented within the Project or surrounding areas during the 2020 surveys and CNDDB and eBird occurrences in the area are at least 10 years old.

Please do not hesitate to contact me if you have any questions.

Sincerely,

Brian Freiermuth
Associate Wildlife Biologist



Sources: 2017 Solano Aerial, WRA | Prepared By: mrochelle, 1/15/2020

Figure 1. Project Area and Landcover Types

Cooper's Landing Project Area
Fairfield, California

0 200 400 Feet

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February 19, 2021

Rob White
Vice President Planned Communities
Lewis Management Corp.
9216 Kiefer Blvd.
Sacramento, CA 95826

RE: Results of Non-breeding Burrowing Owl Surveys at the Cooper's Landing Project Area, Fairfield CA

Dear Mr. White,

This letter is to report the findings of the non-breeding burrowing owl (*Athene cunicularia*) habitat assessment and survey, conducted within the Cooper's Landing Project site (Project Area). The Project Area is located predominantly within APN 0170050090, and partially within 0170050220, 0170050110, in Fairfield, Solano County, California (Figure 1). For the purposes of this survey, the Project Area plus a surrounding 500 feet was surveyed for its potential to support burrowing owl. Exceptions included when access not was possible due to private property access issues or when the area beyond the Project Area would not be impacted by Project activities (e.g. areas on the south side of Airbase Parkway were not surveyed). Burrowing owl is a California Department of Fish and Wildlife (CDFW) Species of Special Concern. These surveys were conducted to fulfill the requirements outlined in MM-BIO 1f of the Partially Recirculated Draft Environmental Impact Report for the Hawthorn Mill Project (PRDEIR; First Carbon Solutions 2014); the Cooper's Landing properties were assessed as part of this document. Per the PRDEIR mitigation measure, the surveys followed the protocols outlined in the CDFW Staff Report on Burrowing Owl Mitigation[1] (Staff Report). Project activities are anticipated to begin in Spring 2021.

Project Area Description

The Project Area is approximately 32.7 acres located immediately north of Airbase Parkway and south of Strassberger Drive. The surrounding land use is predominantly industrial and residential. The Project Area was actively grazed during the period of the winter study. Tires and other anthropogenic structures that were overgrown with ruderal vegetation and grasses during the summer study, were more suitable for use by burrowing owl during the winter study. A rip-rap area, which contains some ground squirrel burrows, is located about 50 feet to the south, but outside the Project Area; while this area has some potential to support burrowing owl, the presence of adjacent trees reduce that potential since the owls generally avoid areas with trees. Culverts located in the southern portion of the site, that would otherwise be potentially suitable for burrowing owl, were inundated during the surveys.

[1] California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency, Department of Fish and Game

Methods

The California Natural Diversity Database (CNDDB)[2] and eBird.org[3] was reviewed prior to the site visit to review documented occurrences in the region. Brian Freiermuth, a biologist experienced with raptor nesting surveys and burrowing owl habitat assessment and survey methodology, conducted the survey. The Project Area and surrounding 500 feet were traversed on foot in accordance with the Staff Report to detect burrowing owls. Exceptions included when access was not possible due to private property access restrictions or when the area beyond the Project Area would not be impacted by Project activities (e.g. areas on the south side of Airbase Parkway were not surveyed). In cases where potentially suitable habitat was present beyond the parcels where access was granted, binoculars were used to survey areas with potential to support burrowing owl. Significant survey effort was placed in raised elevations and berms in open areas where burrows were likely to occur. Suitable burrows or burrow analogs were searched for systematically, and if observed, were inspected for evidence of owl occupancy (feathers, whitewash, pellets, prey remains). In accordance with MM-BIO 1f, surveys are to follow CDFW survey guidelines, which are summarized as follows for non-breeding surveys: four site visits for burrowing owl surveys should occur between September 15 and December 31, with at least one site visit after December 15. Visits are to be at least 15 days apart.

Survey Results

Several burrowing owl have been documented in the vicinity of the Project Area. The nearest documented occurrence in the CNDDB is a bit less than a ½ mile north of the Project Area, from 1989; the nearest eBird.org occurrence, from the spring of 2009, is non-specific but references McCoy Pond, which is located just east of the Project Area. There are no documented occurrences within one mile of the site that are less than 10 years old.

No burrowing owl or evidence of burrowing owl was observed within the Project Area or surrounding 500 feet. Site visits were conducted on the dates and under the conditions described in Table 1.

Date	Surveyor	Start Time	End Time	Weather
September 25, 2020	Brian Freiermuth	6:30 AM	9:50 AM	Smoke, mild temps, winds 0-4 MPH.
October 15, 2020	Brian Freiermuth	7:15 AM	9:40 AM	Overcast, mild temps, winds 0-12 MPH.
November 18, 2020	Brian Freiermuth	7:30 AM	9:45 AM	Clear, mild temps, winds 0-5 MPH.
December 24, 2020	Brian Freiermuth	7:15 AM	11:30 AM	Fog, Partly cloudy, cool temps, 0-7 MPH.

Conclusion

[2] California Department of Fish and Wildlife. 2020. California Natural Diversity Database. Wildlife and Habitat Data Analysis Branch, Sacramento, CA.
[3] ebird.org. 2020. Accessed online May 12, 2020.

No burrowing owl or evidence of burrowing owl was observed within the Project Area or surrounding 500 feet. Although burrowing owl is documented within a mile of the Project Area, no evidence of burrowing owl occupation of the site was documented within the Project or surrounding areas during the 2020 surveys and CNDDB and eBird occurrences in the area are at least 10 years old.

Please do not hesitate to contact me if you have any questions.

Sincerely,

Brian Freiermuth
Associate Wildlife Biologist

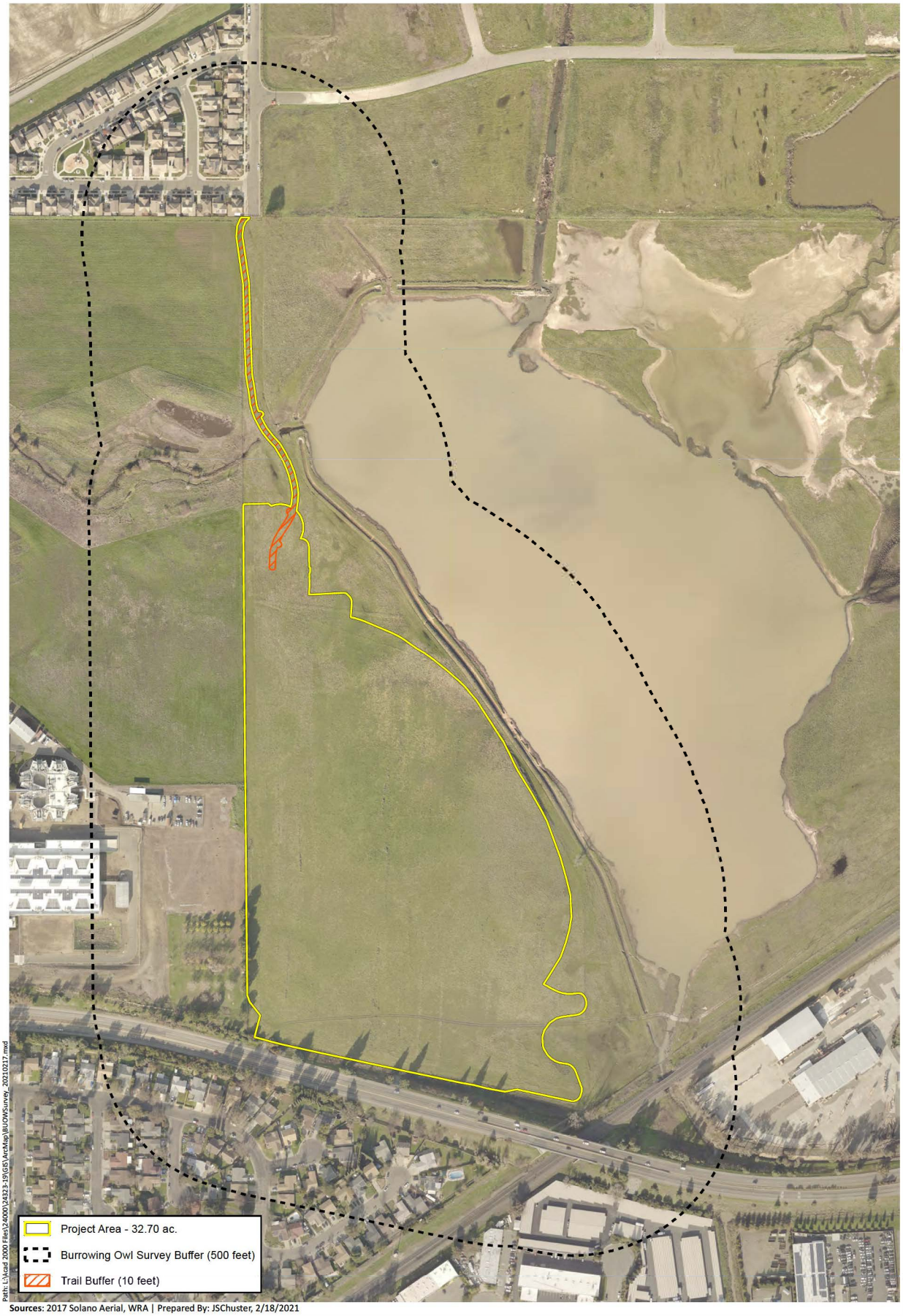

Figure X. Burrowing Owl Survey

Village 2A
Fairfield, California

0 200 400 Feet

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January 30, 2023

Rob White
Vice President Planned Communities
Lewis Management Corp.
9216 Kiefer Blvd.
Sacramento, CA 95826

RE: Results of Remaining Non-breeding Burrowing Owl Surveys at the Lago Vista Project Area, Fairfield CA

Dear Mr. White,

This letter is to report the findings of two non-breeding ("i.e., "wintering") surveys for burrowing owl (*Athene cunicularia*) conducted by WRA, Inc. (WRA) at the site of the Lago Vista project within the larger context of the Cooper's Landing development (Project Area). The Project Area is located in an area of non-native annual grassland immediately north of Airbase Parkway and south of developments associated with Portland Drive. The Project Area will undergo grading and construction as part of the continuation of residential development in the area during summer 2023. Burrowing owl has been determined to have the potential to occur within or in the vicinity of the Project Area. Per the requirements outlined in MM-BIO 1f of the Partially Recirculated Draft Environmental Impact Report for the Hawthorn Mill Project[1] (PRDEIR), protocol-level burrowing owl surveys are required prior to project implementation in all portions of the area covered by the PRDEIR. The measure reads as follows:

> "Protocol-level wintering and nesting season surveys for burrowing owl will be conducted prior to the initiation of construction. Additionally, no more than 30 days prior to the first ground-disturbing activity … pre-construction burrowing owl surveys shall be performed for the Project Area. If owls are found onsite in or within 600 meters of a development area, mitigation guidelines adopted in the 2012 Staff Report on Burrowing Owl Mitigation[2] shall be followed (Staff Report). Measures may include the implementation of appropriate nest buffer areas that shall be avoided during construction, as well as establishment of alternate burrows for any burrows directly impacted and conservation of foraging habitat in the Conservation Area, which shall be restored and conserved via conservation easement or fee title acquisition."

In addition to four wintering surveys, the Staff Report requires a habitat assessment be conducted to determine if burrowing owl habitat is present, and where it is located, to inform future survey efforts. A habitat assessment was conducted concurrently with the first of the wintering season surveys on October 20, 2022, and a second wintering season survey was conducted on November 10, 2022[3]. Two additional surveys were conducted in 2022 to fulfil the

[1] First Carbon Solutions. 2014. Partially Recirculated Draft Environmental Impact Report for the Hawthorn Mill Project (PRDEIR).
[2] Department of Fish and Game (CDFW). March 2012. Staff Report on Burrowing Owl Mitigation.
[3] WRA, Inc. Report dated November 22, 2022. "RE: Results of Burrowing Owl Habitat Assessment Survey at the Lago Vista Project Area, Fairfield CA"

wintering season survey requirements as detailed in the Staff Report. The results of these surveys are described below.

In summary, no burrowing owl or evidence of burrowing owl was discovered during any of the three wintering season surveys. Marginal habitat for burrowing owl is, however, present in localized portions of the Project Area. Further recommendations are discussed below.

Project Area Description

The Project Area is a ruderal grassland located adjacent to existing residential development and immediately to the east of the Stanton Correctional Facility. To the west of the northern portion of the Project Area, construction associated with new residential development is ongoing. Vegetation within the Project Area is limited to non-native annual grasses and some forbs, with coyote brush (*Baccharis pilularis*) and other shrubs present at the periphery. Some large oak (*Quercus* sp.) trees are present within the Project Area. Aquatic features within the Project Area are limited to eroded stormwater conveyances with natural bottoms that are, in some cases, culverted. A manmade retention basin is present to the northwest, and a large seasonal pond is present to the east.

Methods

WRA biologist Tommy Dryer (author), a biologist experienced in surveying for burrowing owl, conducted the two remaining wintering surveys. The third of the "wintering" site visits occurred on December 2, 2022 between 7:00am and 10:00am. Weather conditions were between 40 and 50˚F with light winds and mostly clear skies. The fourth and final wintering site visit was conducted on December 28, 2022 between approximately 7:00am and 10:00am. Weather conditions were similar to the prior survey. The Project Area and immediately surrounding area (as accessible) were traversed on foot in accordance with the Staff Report to assess the area for burrowing owl. Special attention was paid to any features that may provide potential suitable habitat, as identified during the habitat assessment on October 20, 2022. Suitable habitat typically consists of burrows of California ground squirrel (*Otospermophilus beecheyi*) or other small mammals, as well as man-made structures such as drainage culverts, stockpiled construction materials (e.g., pipes, concrete blocks, etc.), and more. In cases where potentially suitable habitat was present beyond the parcels where access was granted, binoculars were used to survey areas with potential to support burrowing owl. Suitable burrows or burrow analogues were searched for systematically, and if observed, were inspected for evidence of owl occupancy (feathers, whitewash, pellets, prey remains). In accordance with MM-BIO 1f, surveys are to follow CDFW survey guidelines, which are summarized as follows for non-breeding surveys: four site visits for burrowing owl surveys should occur between September 15 and December 31, with at least one site visit after December 15. Visits are to be at least 15 days apart.

Habitat Assessment and Survey Results

No burrowing owl or evidence of burrowing owl was observed within the Project Area or in the immediate vicinity during either site visit. Thus, all four non-breeding season surveys had negative results.

Burrowing owl habitat is present but relatively localized within the Project Area. Although it was not accessible to survey directly, ground squirrels appeared fairly active within the correctional

facility grounds directly to the west of the Project Area. There was evidence as well that these ground squirrels had burrowed under fences associated with the facility and had established a small number of burrows within the Project Area as well. All burrows observed within the Project Area appeared to be actively occupied by ground squirrels, as evidenced by remnants of fruit and fresh tailings. All burrows observed during the remaining surveys were within approximately 50 feet of the correctional facility fence line. This area additionally contains very few man-made structures that could serve as burrow analogues, with the exception of some metal drainage culverts within the northern portion Project Area that could provide shelter for dispersing or wintering owls (but would be unlikely to support breeding). In addition, a small line of boulders located at the southern end of the seasonal pond was investigated and did not exhibit any indications of occupancy.

Recommendations

The full "wintering" season survey requirements, as detailed in the above cited mitigation measure, have been fulfilled at this time. Given that burrowing owl habitat is localized to particular portions of the Project Area and is unlikely to expand largely due to unsuitably tall vegetation and the presence of the large aquatic feature to the east, WRA has previously recommended that "take avoidance" pre-construction surveys be implemented. As described in the Staff Report, this survey effort would include two (2) surveys total: one to be conducted within fourteen days of construction start, and one to be conducted within 24 hours of construction start. It is WRA's opinion that these surveys should provide sufficient information to determine the presence or absence of burrowing owl within the Project Area at the time work will begin. However, until such time as any deviation from the mitigation measure has been approved by the CEQA lead agency, WRA recommends proceeding with protocol-level surveys, as currently prescribed, to avoid any construction delays or non-compliance. After February 1, the breeding season protocol as outlined in the Staff Report should commence. This survey effort should consist of four total site visits as follows: 1) at least one site visit between 15 February and 15 April, and 2) a minimum of three survey visits, at least three weeks apart, between 15 April and 15 July, with at least one visit after 15 June.

If you have any questions or concerns, please do not hesitate to reach out to WRA.

Sincerely,

Tommy Dryer
Wildlife Biologist
tommy.dryer@wra-ca.com

Attachments
Figure 1. Project Area Location

Figure 1. Study Area

Village 2A
Fairfield, California

0 200 400 Feet

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wra Environmental Consultants

wra
Environmental
Consultants

June 23, 2023

Rob White
Vice President Planned Communities
Lewis Management Corp.
9216 Kiefer Blvd.
Sacramento, CA 95826

RE: Results of 2023 Breeding Burrowing Owl Surveys at the Lago Vista Project Area, Fairfield CA

Dear Mr. White,

This letter is to report the findings of four (4) breeding surveys for burrowing owl (*Athene cunicularia*) conducted by WRA, Inc. (WRA) at the site of the Lago Vista project (Project) within the larger context of the Cooper's Landing development (Project Area). The Project Area is located in an area of non-native annual grassland immediately north of Airbase Parkway and south of developments associated with Portland Drive. The Project Area will undergo grading and construction as part of the continuation of residential development in the area as early as summer 2023. Burrowing owl has been determined to have the potential to occur within or in the vicinity of the Project Area. Per the requirements outlined in MM-BIO 1f of the Partially Recirculated Draft Environmental Impact Report for the Hawthorn Mill Project[1] (PRDEIR), protocol-level burrowing owl surveys are required prior to Project implementation in all portions of the area covered by the PRDEIR. The measure reads as follows:

> "Protocol-level wintering and nesting season surveys for burrowing owl will be conducted prior to the initiation of construction. Additionally, no more than 30 days prior to the first ground-disturbing activity … pre-construction burrowing owl surveys shall be performed for the Project Area. If owls are found onsite in or within 600 meters of a development area, mitigation guidelines adopted in the 2012 Staff Report on Burrowing Owl Mitigation[2] shall be followed (Staff Report). Measures may include the implementation of appropriate nest buffer areas that shall be avoided during construction, as well as establishment of alternate burrows for any burrows directly impacted and conservation of foraging habitat in the Conservation Area, which shall be restored and conserved via conservation easement or fee title acquisition."

In 2022, WRA conducted a burrowing owl habitat assessment and four (4) wintering ("non-breeding") surveys as detailed in the Staff Report. Marginal habitat for burrowing owl was identified in localized portions of the Project Area, but no burrowing owls were detected. In accordance with MM-BIO 1f, four (4) additional surveys were conducted in 2023 to fulfil breeding season survey requirements. In summary, no burrowing owl or evidence of burrowing owl was discovered during any of the four breeding surveys. The results of these surveys are discussed in greater detail below.

[1] First Carbon Solutions. 2014. Partially Recirculated Draft Environmental Impact Report for the Hawthorn Mill Project (PRDEIR).
[2] Department of Fish and Game (CDFW). March 2012. Staff Report on Burrowing Owl Mitigation.

Project Area Description

The Project Area is a ruderal grassland located adjacent to existing residential development and immediately to the east of the Stanton Correctional Facility. To the west of the northern portion of the Project Area, construction associated with new residential development is ongoing. Vegetation within the Project Area is limited to non-native annual grasses and some forbs, with coyote brush (*Baccharis pilularis*) and other shrubs present at the periphery. Some large oak (*Quercus* sp.) trees are present within the Project Area. Aquatic features within the Project Area are limited to eroded stormwater conveyances with natural bottoms that are, in some cases, culverted. A manmade retention basin is present to the northwest, and a large seasonal pond is present to the east.

Methods

WRA biologist Tommy Dryer (author), a biologist experienced in surveying for burrowing owl, conducted the four breeding surveys. Survey dates, timing, and weather are summarized in Table 1 below. During each survey, the Project Area and surrounding 600 feet (as accessible) were traversed on foot in accordance with the Staff Report to assess the area for burrowing owl. Special attention was paid to any features that may provide potential suitable habitat, as identified during the habitat assessment on October 20, 2022. Suitable habitat typically consists of burrows of California ground squirrel (*Otospermophilus beecheyi*) or other small mammals, as well as man-made structures such as drainage culverts, stockpiled construction materials (e.g., pipes, concrete blocks, etc.), and more. In cases where potentially suitable habitat was present beyond the parcels where access was granted, binoculars were used to survey areas with potential to support burrowing owl. Suitable burrows or burrow analogues were searched for systematically, and if observed, were inspected for evidence of owl occupancy (feathers, whitewash, pellets, prey remains). In accordance with MM-BIO 1f, surveys are to follow CDFW survey guidelines, which are summarized as follows for breeding surveys: 1) at least one site visit between February 15 and April 15, and 2) a minimum of three survey visits, at least three weeks apart, between April 15 and July 15, with at least one visit after June 15.

Table 1. Burrowing owl survey dates at Lago Vista Project Area, 2023

Survey #	Date	Time on site	Time off site	Weather
1	February 17, 2023	7:30AM	10:30AM	44 to 52˚f, clear and sunny, wind 5-10 mph
2	April 19, 2023	7:15 AM	10:00AM	42 to 53˚f, clear and sunny, wind 0-5 mph
3	May 10, 2023	7:15AM	10:00AM	50 to 58˚f, mostly sunny, wind 5-12 mph
4	June 20, 2023	8:00AM	10:30AM	60 to 65˚f, sunny, wind 0-5 mph

Survey Results

No burrowing owl or evidence of burrowing owl was observed within the Project Area or in the immediate vicinity during any site visit. Thus, all four breeding season surveys had negative results.

Burrowing owl habitat is present but relatively localized within the Project Area. Although it was not accessible to survey directly, ground squirrels appeared fairly active within the correctional facility grounds directly to the west of the Project Area. There was evidence as well that these ground squirrels had burrowed under fences associated with the facility and had established a small number of burrows within the Project Area, within approximately 50 feet of the fence line. All burrows observed within the Project Area appeared to be actively occupied by ground squirrels, as evidenced by remnants of fruit and fresh tailings. In addition, a small line of boulders located at the southern end of the seasonal pond was investigated and did not exhibit any indications of owl occupancy.

Recommendations

Protocol-level breeding season surveys for burrowing owl, as detailed in the Staff Report, have been completed at this time. However, to comply with all survey requirements included in MM-BIO 1f, an additional pre-construction survey for burrowing owl should be conducted no more than 30 days prior to the first ground-disturbing activity. Additional avian preconstruction survey requirements are summarized below and could be conducted concurrently, if timed appropriately.

- **(MM-BIO-1e)** Conduct a pre-construction nesting bird survey for Swainson's hawk within 0.5 miles. *Prior to onset of activities, during Swainson's hawk nesting season (April 1 - September 31).*
- **(MM-BIO-1h)** If work occurs during the raptor breeding season, a qualified biologist must conduct a pre-construction nesting raptor survey within 500 feet of Project Area. Within *14 days of the onset of activities.*
- **(MM-BIO-1h)** If work occurs during the nesting bird season (generally defined as February 1 - August 31), a qualified biologist must conduct a pre-construction nesting bird survey within 250 feet of the Project Area. *Within 14 days of the onset of construction activities.*

If you have any questions or concerns, please do not hesitate to reach out to WRA.

Sincerely,

Tommy Dryer
Wildlife Biologist
tommy.dryer@wra-ca.com

Attachments
Figure 1. Project Area Location

Figure 1. Study Area

Village 2A
Fairfield, California

0 200 400 Feet

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wra Environmental Consultants

wra Environmental Consultants

July 22, 2024

Rob White
Vice President Planned Communities
Lewis Management Corp.
9216 Kiefer Blvd.
Sacramento, CA 95826

RE: Results of 2024 Breeding Burrowing Owl Surveys at the Lago Vista Project Area, Fairfield CA

Dear Mr. White,

This letter is to report the findings of a protocol-level breeding survey effort for burrowing owl (BUOW; *Athene cunicularia*) conducted by WRA, Inc. (WRA) at the site of the Lago Vista project (Project) within the larger context of the Cooper's Landing development (Project Area). The Project Area is located in an area of non-native annual grassland immediately north of Airbase Parkway and south of developments associated with Portland Drive. The Project Area will undergo grading and construction as part of the continuation of residential development in the area as early as summer 2024. Burrowing owl has been determined to have the potential to occur within or in the vicinity of the Project Area. Per the requirements outlined in MM-BIO 1f of the Partially Recirculated Draft Environmental Impact Report for the Hawthorn Mill Project[1] (PRDEIR), protocol-level BUOW surveys are required prior to Project implementation in all portions of the area covered by the PRDEIR. The measure reads as follows:

> "Protocol-level wintering and nesting season surveys for burrowing owl will be conducted prior to the initiation of construction. Additionally, no more than 30 days prior to the first ground-disturbing activity … pre-construction burrowing owl surveys shall be performed for the Project Area. If owls are found onsite in or within 600 meters of a development area, mitigation guidelines adopted in the 2012 Staff Report on Burrowing Owl Mitigation[2] shall be followed (Staff Report). Measures may include the implementation of appropriate nest buffer areas that shall be avoided during construction, as well as establishment of alternate burrows for any burrows directly impacted and conservation of foraging habitat in the Conservation Area, which shall be restored and conserved via conservation easement or fee title acquisition."

WRA has conducted BUOW surveys within the Project Area annually since 2020[3]. In 2023, WRA conducted a BUOW habitat assessment and four (4) breeding surveys as detailed in the Staff Report. Consistent with findings from previous years, marginal burrow habitat was identified in localized portions of the Project Area, but no owls or evidence of occupancy was detected. In accordance with MM-BIO 1f, WRA conducted additional surveys in 2024 to fulfil breeding season

[1] First Carbon Solutions. 2014. Partially Recirculated Draft Environmental Impact Report for the Hawthorn Mill Project (PRDEIR).
[2] Department of Fish and Game (CDFW). March 2012. Staff Report on Burrowing Owl Mitigation.
[3] Surveys occurred during the breeding and/or non-breeding season based on the anticipated start date of project activities the current year.

survey requirements. In summary, no BUOW individuals or sign of occupancy was discovered during any of the surveys. The individual field components are discussed in greater detail below.

Project Area Description

The Project Area is a ruderal grassland located adjacent to existing residential development and immediately to the east of the Stanton Correctional Facility. To the west of the northern portion of the Project Area, construction associated with new residential development is ongoing. Vegetation within the Project Area is limited to non-native annual grasses and some forbs, with coyote brush (*Baccharis pilularis*) and other shrubs present at the periphery. One large walnut tree (*Juglans sp.*) is present within the Project Area. Aquatic features within the Project Area are limited to eroded stormwater conveyances with natural bottoms that are, in some cases, culverted. A manmade retention basin is present to the northwest, and a large seasonal pond (McCoy Basin) is present to the east.

Methods

WRA biologist Tommy Dryer (author), a biologist experienced in surveying for burrowing owl, conducted the five (5) breeding surveys. In accordance with MM-BIO 1f, surveys followed Staff Report guidelines, which are summarized as follows for breeding surveys: 1) at least one site visit between February 15 and April 15, and 2) a minimum of three survey visits, at least three weeks apart, between April 15 and July 15, with at least one visit after June 15. Two site visits were conducted in April to confirm the absence of owls immediately prior to the replacement of silt fencing around a soil stockpile onsite and associated disturbance. To ensure that the survey effort adequately covered the breeding period for BUOW and fulfilled the protocol timing requirements, a fifth survey was conducted in late June. Survey dates, timing, and weather are summarized in Table 1 below.

Table 1. Burrowing owl survey dates at Lago Vista Project Area, 2024

Survey #	Date	Time on site	Time off site	Weather
1	March 5, 2024	7:00AM	10:00AM	42 to 52˚F, partly cloudy wind 5-7 mph
2	April 9, 2024	6:30AM	9:30AM	45 to 56˚F, clear and sunny, wind 0-3 mph
3	April 30, 2024	6:45AM	9:45AM	48 to 64˚F, mostly sunny, wind 2-7 mph
4	May 21, 2024	7:30AM	10:00AM	60 to 73˚F, clear and sunny, wind 0-3 mph
5	June 26, 2024	7:00AM	9:30AM	58 to 68 ˚F, partly cloudy, wind 5-7 mph

During each survey, the Project Area and surrounding 600 feet (as accessible) were investigated in accordance with the Staff Report to assess the area for BUOW. Special attention was paid to any features that may provide potential suitable habitat, as identified during previous habitat assessments. Suitable habitat typically consists of burrows of California ground squirrel

(*Otospermophilus beecheyi*) or other small mammals, as well as man-made structures such as drainage culverts and stockpiled construction materials (e.g., pipes, boulders, tire, concrete blocks, etc.). Suitable burrows or burrow analogues were searched for systematically, and if observed, were inspected for evidence of owl occupancy (feathers, whitewash, pellets, prey remains). In cases where potentially suitable habitat was present beyond the parcels where access was granted, binoculars were used to survey areas with potential to support BUOW.

Survey Results

No burrowing owl or evidence of burrowing owl was observed within the Project Area or in the immediate vicinity during any site visit. Thus, all five breeding season surveys had negative results.

Burrowing owl habitat is present but relatively localized within the Project Area. Although it was not accessible to survey directly, ground squirrels appeared fairly active within the correctional facility grounds directly to the west of the Project Area. There was evidence as well that these ground squirrels had burrowed under fences associated with the facility and had established a small number of burrows within the Project Area, immediately adjacent to the fence line. Ground squirrel burrows were open and accessible during the March site visit and appeared to be actively occupied by ground squirrels, as evidenced by remnants of fruit and fresh tailings. However, burrows were largely overgrown and obscured by ruderal (weedy) vegetation during subsequent site visits, which likely reduced accessibility for owls. Furthermore, grasses throughout the site exceeded 6 inches in height during April and May site visits due to the absence of cattle grazing. Vegetation heights exceeding 6 inches are generally considered unsuitable for BUOW because it greatly reduces visibility and foraging ability. Prey species, as well as predators, are more difficult for owls to detect in taller vegetation.

In addition to ground squirrel burrows, two small relatively small rock piles that are present may provide suitable refugia for owls. The first rock pile is located immediately offsite, at the southernmost end of McCoy Basin, and another occurs in the western portion of the site, adjacent to the existing soil stockpile. No evidence of BUOW occupancy was observed at either location. Minimal whitewash was present at the westernmost rock pile; however, the absence of pellets suggests that it originated from other raptor species, which presumably use the rockpile as a hunting perch. Several raptors including red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus hudsonius)*, red-shouldered hawk (*Buteo lineatus*), and American kestrel (*falco sparverius*) were observed hunting within the Project Area during numerous surveys. In addition, coyote (*Canis latrans*) scat and (non-BUOW) feather piles were observed onsite. The presence of raptors and other predators may further suppress BUOW activity to some extent (CDFW 2012).

Recommendations

In accordance with MM-BIO 1f, protocol-level breeding season surveys for burrowing owl have been completed at this time. However, to comply with all survey requirements included in MM-BIO 1f, an additional pre-construction survey for burrowing owl should be conducted no more than 30 days prior to the first ground-disturbing activity. Additional preconstruction survey requirements for birds are summarized below and could be conducted concurrently, if timed appropriately.

- **(MM-BIO-1e)** Conduct a pre-construction nesting bird survey for Swainson's hawk within 0.5 miles. *Prior to onset of activities, during Swainson's hawk nesting season (April 1 - September 31).*

- **(MM-BIO-1h)** If work occurs during the raptor breeding season, a qualified biologist must conduct a pre-construction nesting raptor survey within 500 feet of Project Area. Within *14 days of the onset of activities.*
- **(MM-BIO-1h)** If work occurs during the nesting bird season (generally defined as February 1 - August 31), a qualified biologist must conduct a pre-construction nesting bird survey within 250 feet of the Project Area. *Within 14 days of the onset of construction activities.*

If you have any questions or concerns, please do not hesitate to reach out to WRA.

Sincerely,

Tommy Dryer
Wildlife Biologist
tommy.dryer@wra-ca.com

Attachments
Figure 1. Project Area Location

ENVIRONMENTAL CONSULTANTS

Memorandum

To: Douglas Mull
VP Regional Manager
Lewis Management Corp.
doug.mull@lewismc.com

From: Leslie Lazarotti,
lazarotti@wra-ca.com

Subject: Hawthorne Mill and Cooper's Landing—Biological Constraints Assessment and Permitting Strategy

Date: January 21, 2020

This memorandum evaluates potential biological constraints and provides permitting guidance for the Hawthorne Mill and Cooper's Landing properties in Fairfield, California. Hawthorne Mill encompasses approximately 133 acres, and Cooper's Landing includes approximately 30 acres; collectively, these properties refer to the Project Area (Project Area; Attachment A– Figures). On January 2, 2020, WRA biologists traversed the Project Area on foot to evaluate the potential presence of sensitive land cover types and evaluate on-site habitat to determine the potential for occurrence of special-status plant and wildlife species. Observed plant communities, aquatic features, and plant and wildlife species were noted. Site conditions were noted as they relate to habitat requirements of special-status plant and wildlife species known to occur in the vicinity as determined by the background literature research.

Previous biological assessments have been conducted for the Project Area as part of the Recirculated Hawthorne Mill Project Environmental Impact Report (Recirculated EIR; FirstCarbon Solutions 2014). A summary of biological mitigation measures required within the Recirculated EIR is provided in Attachment B (Hawthorne Mill) and Attachment C (Cooper's Landing). A summary of previous surveys and studies for plants, wildlife, and wetlands conducted in the Project Area is provided in Attachment D. Based on existing site conditions, past reports and surveys, and presence of habitat for special-status plant and wildlife species, WRA recommends updates to surveys and resource assessments as discussed in greater detail below.

Existing Conditions: General

The Project Area consists of two sites: Hawthorne Mill and Cooper's Landing. Hawthorne Mill is an approximately 133-acre area located within assessor parcel numbers (APNs) 0170-020-120, 0170-250-010, and 0170-250-020 in the northeast portion of the City of Fairfield (City). The site is located south of Cement Hill Road, west of Peabody Road, and north of McCoy Creek. Land uses surrounding Hawthorne Mill include commercial and industrial facilities to the north; industrial facilities and agricultural land to the east; agricultural and commercial lands to the south; and

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housing and an industrial facility to the west. Hawthorne Mill is currently an undeveloped, mosaic of grazed non-native grassland, vegetated fill, potential vernal pools, seasonal wetland, alkali wetland, and intermittent/perennial stream. McCoy Creek is a perennial drainage in Hawthorne Mill characterized by down-cutting and erosion in the creek bed. Vegetation in Hawthorne Mill is predominately herbaceous, with no trees and few scattered coyote brush (*Baccharis pilularis*) shrubs in the northeast corner.

Cooper's Landing encompasses approximately 30 acres and is located within APNs 0170-050-090 and 0170-050-220, approximately 0.55 mile southwest of Hawthorne Mill. Cooper's Landing is bounded by undeveloped and residential land to the north; McCoy Basin to the east; Airbase Parkway and the Union Pacific Railroad right-of-way to the south; and penal and future residential and commercial uses to the west. Cooper's landing is an undeveloped mosaic of grazed non-native grassland. Vegetation is solely herbaceous, with no trees or shrubs.

Historic land use activities within the Project Area have resulted in significant disturbance to aquatic habitats. Overall, Project Area disturbance is a result of historic hay production, which included disking, deep-ripping, and drainage ditch construction, and current year-round moderate to heavy grazing. Below is a discussion of existing land cover types.

Existing Conditions: Land Cover Types

In addition to the January 2, 2020, site visit, existing reports, surveys, and assessments were reviewed to determine existing land cover types within the Project Area. Table 1 below provides a summary of existing biological resource assessments and jurisdictional delineations conducted within the Project Area. Land cover types were classified as sensitive or non-sensitive as defined by CEQA, other applicable laws and regulations, and by physical, hydrologic, and vegetative characteristics. Furthermore, sensitive and non-sensitive land cover types were generally categorized based on the presence of jurisdictional aquatic features, previous studies, and the results of the site visit. Non-sensitive land cover types in the Project Area include non-native grassland and vegetated fill. Sensitive land cover types include seasonal wetland, potential vernal pool, alkali wetland, and intermittent/perennial stream.

Six wetland delineation studies were conducted within the Project Area between 2000 and 2015. The wetland studies are listed below in Table 1 and discussed in greater detail in Attachment D. Wetland boundaries in Hawthorne Mill[1] were delineated by Jones and Stokes in 2005 and verified by the U.S. Army Corps of Engineers (Corps) in 2006. Results of the 2005 delineation documented approximately 37.1 acres of jurisdictional waters in Hawthorne Mill. Upon further investigation by WRA (2015), it was determined that the delineation map by Jones and Stokes from 2006 was produced during a year of extreme rainfall that includes the largest recorded monthly rainfall in the 64-year period of record at Fairfield (Station # 2934). Based on field investigations conducted by WRA during 2014 and 2015, the extent of Hawthorne Mill wetlands was reduced to 14.82 acres. These wetlands were verified by the Corps under an Approved Jurisdictional Determination (AJD) on May 31, 2016. This determination is valid through May 31, 2021. Wetland habitats identified in the AJD and other studies are described in the following sections and depicted in Attachment A – Figures.

[1] The Hawthorne Mill boundary was smaller for the 2005 and 2015 delineations than the current Hawthorne Mill boundary in Project Area.

Table 1. Summary of Existing Biological Resource Assessments and Delineations.

Report Title	Author	Report Date	HM	CL	Resource
Wetland Delineation Report for the Strassberger Industrial Park, Cross Industrial Park, and McCoy Basin Properties, Fairfield, Solano County, California	Vollmar Consulting	August 30, 2000		X	Wetland and non-wetland waters
Delineation of Waters of the United States: Jepson Parkway Project	Jones and Stokes	October 2005 Corps PJD February 18, 2009	X*		Wetland and non-wetland waters
Preliminary Delineation of Waters of the United States, Including Wetlands, for the Edenbridge McCoy Transit Village and Mitigation Site	Jones and Stokes	February 2006 Corps PJD November 8, 2007	X	X	Wetland and non-wetland waters
Hawthorne Mill Residential Development Project Jurisdictional Delineation	Olberding	August 2007	X*		Wetland and non-wetland waters
Wetland Delineation Report for the Strassberger Industrial Park, Cross Industrial Park, and McCoy Basin	LSA	April 2009		X	Wetland and non-wetland waters
Draft Biological Resource Analysis for the Hawthorne Mill and Strassberger/City Properties Solano County, California	Olberding	May 2009	X	X	Special-status plants Special-status wildlife Land cover types
Biological Resources Assessment Hawthorne Mill East Development Area, Fairfield, Solano County, California	WRA	April 2014	X		Special-status plants Special-status wildlife Land cover types
Biological Resources Assessment Hawthorne Mill West Development Area, Fairfield, Solano County, California	WRA	April 2014		X	Special-status plants Special-status wildlife Land cover types
Preliminary Delineation of Waters of the U.S. Hawthorne Mill Development Area, Fairfield, Solano County, California	WRA	May 2015 Corps AJD May 31, 2016	X		Wetland and non-wetland waters

* Denotes study only covers a subset of Hawthorne Mill or Cooper's Landing

Non-sensitive Land Cover Types

- Non-Native Annual Grassland. Non-native annual grassland occurs in Hawthorne Mill and Cooper's Landing. The majority of the Project Area is comprised of non-native annual grassland communities which intergrade with each other as well as other land cover types. The boundaries between non-native annual grassland communities frequently follow distinct soil boundaries and/or hydrologic regimes. Dominant grass species include soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), wild oats (*Avena barbata*), Mediterranean barley (*Hordeum marinum*), and Medusa head (*Elymus caput-medusae*).

Grasslands were not mapped to the alliance level as they may shift seasonally and/or annually, however, variation throughout the Project Area is evident. Dominant forbs were shortpod mustard (*Hirschfeldia incana*), purple star thistle (*Centaurea calcitrapa*), longbeak filaree (*Erodium botrys*), and redstem filaree (*Erodium cicutarium*).

- Vegetated Fill. Vegetated fill is restricted to a small area in the northeastern portion of Hawthorne Mill and was mapped where a large mound of fill has been placed over the existing habitat. These areas are dominated by invasive weeds such as Italian thistle (*Carduus pycnocephalus*) and black mustard (*Brassica nigra*).

Sensitive Land Cover Types

- Vernal Pool. Potential vernal pool is restricted to Hawthorne Mill. Vernal pools are differentiated from seasonal wetlands based on their hydro-period, which is largely controlled by soil properties and results in a unique micro-flora dominated by species loosely to strictly associated with vernal pools (WRA 2014b). This classification was developed during previous mapping efforts (WRA 2014b) to highlight differentiation of seasonal wetlands from vernal pools and to help focus on the functions that these resources provide and to highlight the relative abundance of vernal pools and functional value of all wetlands (WRA 2014b, WRA 2014c). The current mapping efforts are based on 2014 methodology. Depressions with characteristic vernal pool vegetation and that exhibited ponding for 3 weeks or more were mapped as vernal pools. Vegetation was not identifiable during the site visit; however, based on previous surveys and reports, characteristic species found within potential vernal pools in Hawthorne Mill include spikerush (*Eleocharis macrostachya*), coyote thistle (*Eryngium* spp.), popcornflower (*Plagiobothrys* spp.), smooth goldfields (*Lasthenia glaberrima*), and hair grass (*Deschampsia danthonioides*), as well as substantial cover of non-native grasses include Italian rye grass (*Festuca perennis*) and Mediterranean barley (WRA 2014b).

- Seasonal Wetland. Seasonal wetland occurs within Hawthorne Mill. Seasonal wetland plant communities occur on flats and in swales and depressions that are saturated or temporarily (less than 3 weeks; see above) ponded during the rainy season for sufficient duration to support vegetation adapted to wetland conditions. Dominant species include salt grass (*Distichlis spicata*), Mediterranean barley, and Italian rye grass. Areas of seasonal wetlands comprise individual features as well as interconnected networks of swales and broader, amorphously shaped features.

- Alkali Wetland. Alkali wetlands occur within Hawthorne Mill and Cooper's Landing. Alkali wetlands typically occur on fine-textured, moist alkaline soils and consist of a dense to open fairly open growth of perennial grasses, sedges, and forbs on valley bottoms and on lower alluvial slopes. Dominant vegetation includes native perennial salt grass (*Distichlis spicata*) and/or alkali heath (*Frankenia salina*) with sparse patches of non-native annual Mediterranean barley and Italian rye grass.

- Intermittent/Perennial Stream. McCoy Creek is a perennial stream characterized by steep banks within Hawthorne Mill. Two intermittent streams are present in Cooper's Landing parcel; one provides inflow to McCoy Basin in the northern part and the other is an outlet of McCoy Basin in the southern part. Both intermittent streams lack herbaceous vegetation in the channel.

The presence of these aquatic features was determined based on previous reports (Table 1) and field observations made during the site visit. Field observations included the presence of identifiable wetland vegetation, wetland hydrology (such as inundation), and topography indicative of where water would collect, such as depressions. However, outside of the portion of Hawthorne Mill that was verified by the Corps in 2016, the type and extent of aquatic features should be considered preliminary, and a formal delineation of Waters of the U.S. and State should be conducted to confirm presence and extent of potentially jurisdictional features within the Project Area. The distribution of land cover types in the Project Area is depicted in Attachment A (Figure 2. Hawthorne Mill, Figure 3. Cooper's Landing and Table 2. Figures 2 and 3 provide a comprehensive overview of adjacent and regional aquatic features; however, reported acreage only covers features within Hawthorne Mill and Cooper's Landing Project Area.

Table 2. Distribution of Land Cover Types Throughout the Project Area in Acres

Land Cover Types	Hawthorne Mill (acre)	Cooper's Landing (acre)	Total (acre)
Non-Sensitive			
Non-Native Annual Grassland	116.13	29.28	145.41
Vegetated Fill	0.60	--	0.60
Sensitive			
Vernal Pool	0.48	--	0.48
Seasonal Wetland	15.11	--	15.11
Alkali Wetland	0.36	--	0.36
Intermittent/Perennial Stream	0.13	--	0.13
Total	**132.81**	**29.28**	**162.09**

Special-Status Plant Species

WRA assessed the potential for habitat within the Project Area to support the occurrence of special status plants. In addition, a review of previous special-status plant species surveys was reviewed and is provided in Attachment D. Based on preliminary assessment, 32 special-status plant species have a high to moderate potential to occur in the Project Area. These species are listed below.

High Potential

- alkali milk-vetch (*Astragalus tener* var. *tener*, Rank 1B.2, blooms March-June);
- crownscale (*Atriplex coronata* var. *coronata*, Rank 1B.2, blooms April-October);
- brittlescale (*Atriplex depressa*, Rank 4.2, blooms March-October);
- pappose tarplant (*Centromadia parryi* ssp. *parryi*, Rank 1B.2, blooms May-November);
- dwarf downingia (*Downingia pusilla*, Rank 2B.2, blooms March-May);
- San Joaquin spearscale (*Extriplex joaquinana*, Rank 1B.2, blooms April-October);
- Contra Costa goldfields (*Lasthenia conjugens*, Federally Endangered, Rank 1B.1, blooms March-June);
- Ferris' goldfields (*Lasthenia ferrisiae*, Rank 4.2, blooms February-May);
- Gairdner's yampah (*Perideridia gairdneri ssp. gairdneri*, Rank 4.2, blooms June-October);
- saline clover (*Trifolium hydrophilum*, Rank 1B.2, blooms April-June);

Moderate Potential

- heartscale (*Atriplex cordulata* var. *cordulata*, Rank 1B.2, blooms March-June);
- vernal pool smallscale (*Atriplex persistens*, Rank 1B.2, blooms June-October);
- Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*, Rank 1B.1, blooms May-November);
- Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*, Rank 4.2, blooms May-October);
- hispid bird's-beak (*Chloropyron molle* ssp. *hispidum*, Rank 1B.1, blooms June-September);
- Jepson's coyote-thistle (*Eryngium jepsonii*, Rank 1B.2, blooms April-August);
- fragrant fritillary (*Fritillaria liliacea*, Rank 1B.2, blooms February April);
- Boggs Lake hedge-hyssop (*Gratiola heterosepala*, State Endangered, Rank 1B.2, blooms April-August);
- Carquinez goldenbush (*Isocoma arguta*, Rank 1B.1, blooms August-December);
- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*, Rank 1B.1, blooms February-June);
- Legenere (*Legenere limosa*, Rank 1B.1, blooms April - June);
- Heckard's pepper-grass (*Lepidium latipes* var. *heckardii*, Rank 1B.2, blooms March-May);
- little mousetail (*Myosurus minimus* ssp. *apus*, Rank 3.1, blooms March-June);
- Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*, Rank 1B.1, blooms April-June);
- Colusa grass (*Neostapfia colusana*, Federally Threatened, State Endangered, Rank 1B.1, blooms May-August);
- San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*, Federally Threatened, State Endangered, Rank 1B.1, blooms April-September);
- bearded popcornflower (*Plagiobothrys hystriculus*, Rank 1B.1, blooms April-May);
- California alkali grass (*Puccinellia simplex*, Rank 1B.2, blooms March-May);
- Lobb's aquatic buttercup (*Ranunculus lobbii*, Rank 4.2, blooms February-May);
- long-styled sand-spurrey (*Spergularia macrotheca* var. *longistyla*, Rank 1B.2, blooms February-June);
- two-fork clover (*Trifolium amoenum*, Federally Endangered, Rank 1B.1, blooms April-June);
- Crampton's tuctoria or Solano grass (*Tuctoria mucronata*, Federally Endangered, State Endangered, Rank 1B.1, blooms April-August)

Pre-construction protocol-level plant surveys are recommended for these 32 species during their blooming period. At least two rare plant survey periods targeting spring and summer blooming species are recommended to occur preceding construction. An early spring or late spring survey is recommended for spring blooming species. A mid- to late summer survey is recommended for summer blooming species. Three special-status plant species have been documented within Hawthorne Mill: Contra Costa goldfields, pappose tarplant, and brittlescale. One special-status plant species has been documented within Cooper's Landing: pappose tarplant.

Special-Status Wildlife Species

WRA reviewed previous assessments and assessed the potential for the Project Area to support special status wildlife species. Due to the various land cover types present in and immediately around the Project Area, potential for habitat use by special-status wildlife is not homogenous. Details with respect to potential occurrences are provided in the text, whereas the general potential determinations are applied to the Project Area, whether the species has potential to occur in a small portion of the site or the entire site. Special-status wildlife species determined to be present or have moderate to high potential to occur in the Project Area are discussed below and outlined in Table 3.

Table 3. Special-status Wildlife Species with a High or Moderate Potential to Occur in Project Area

SCIENTIFIC NAME	COMMON NAME	CONSERVATION STATUS	POTENTIAL
Formally Listed Species (FESA, CESA, CFP)			
Agelaius tricolor	tricolored blackbird	ST	**High Potential***
Elanus leucurus	white-tailed kite	CFP	**High Potential**
Buteo swainsoni	Swainson's hawk	ST	**Moderate Potential**
Other Special-status Wildlife (CEQA, other)			
Ammodramus savannarum	grasshopper sparrow	SSC	**Moderate Potential**
Athene cunicularia	burrowing owl	SSC	**Moderate Potential**
Branchinecta lynchi	Vernal pool fairy shrimp	FT	**Moderate Potential**
Circus cyaneus	northern harrier	SSC	**Moderate Potential**
Lanius ludovicianus	loggerhead shrike	SSC	**Moderate Potential**
Actinemys marmorata	Pacific pond turtle	SCC	**Moderate Potential**
N/A	Nesting Birds	Various	**High Potential**

Key to status codes:
FE Federal Endangered
FT Federal Threatened
BCC USFWS Birds of Conservation Concern
SE State Endangered
ST State Threatened
SSC CDFW Species of Special Concern
CFP CDFW Fully Protected Animal

* Tricolored blackbirds have potential to forage in the Project Area and nest adjacent to it. It is unlikely that any measures specific to tricolored blackbird will be needed unless the Project Area is sited within 500 feet of potential nesting habitat, which is not anticipated.

High Potential

MBTA and California Fish and Game Code protected Nesting Birds. Native nesting birds are protected by the Migratory Bird Treaty Act (MBTA) and California State Fish and Game Codes Section 3503, 3503.5. A variety of native birds may use the Project Area for nesting.

Avoidance measures associated with non-special status nesting birds generally requires preconstruction surveys by a qualified biologist if work occurs during the nesting season (February 1 to August 30). If active nests are located, a no disturbance buffer is placed around the nest and work within the buffer resumes once the nest is no longer active.

White-tailed kite (*Elanus leucurus*). CDFW Fully Protected Species. White-tailed kite is resident in open to semi-open habitats throughout the lower elevations of California, including grasslands, savannahs, woodlands, agricultural areas, and wetlands. Vegetative structure and prey availability seem to be more important habitat elements than associations with plant species or specific vegetative communities (Dunk 1995). Nests are constructed mostly of twigs and placed in trees, often at habitat edges; nests trees are highly variable in size, structure, and immediate surroundings (Dunk 1995). This species preys upon a variety of small mammals, as well as other vertebrates and invertebrates.

A white-tailed kite was observed in the Project Area during the 2020 site visit. Pastures in the Project Area provide foraging habitat for this species. Suitable nesting trees are present in the vicinity of the Project Area, but are rare within it. There is a high potential for white-tailed kite to nest within 0.25 miles (a typical buffer assigned by CDFW) of the Project Area.

Moderate Potential

Burrowing owl (*Athene cunicularia*). CDFW Species of Special Concern. The burrowing owl occurs as a year-round resident and winter visitor in much of California's lowlands, inhabiting open areas with sparse or non-existent tree or shrub canopies. Typical habitat is annual or perennial grassland, although human-modified areas such as agricultural lands and airports are also used. This species is dependent on burrowing mammals to provide the burrows that are characteristically used for shelter and nesting, and in northern California is typically found in close association with California ground squirrels (*Spermophilus beecheyi*). Manmade substrates such as pipes or debris piles may also be occupied in place of burrows. Prey consists of insects and small vertebrates. Breeding typically takes place from March to July.

Burrowing owl was not observed in Cooper's Landing during spring 2010 visits which corresponded with the nesting period; however, burrowing owl was observed in Hawthorne Mill in a burrow adjacent to McCoy Creek in January 2010. Lack of detection during surveys conducted within Hawthorne Mill in the spring of 2010 suggests that nesting may occur irregularly, or not at all within the Hawthorne Mill. No protocol-level surveys for this species have been conducted. Based on the 2020 site visit, burrows suitable to support burrowing owl were not detected in the collective Project Area. If no suitable burrows are present in the Project Area at the time when commencement of future Project activities occur, burrowing owl has no potential to be affected. If burrows are present, the species has a moderate potential to be affected.

Swainson's hawk (SWHA; *Buteo swainsoni*). State Threatened. Swainson's hawk is a summer resident and migrant in California's Central Valley and in scattered portions of the southern California interior. Nests are constructed of sticks and are placed in trees located in otherwise largely open areas. Areas typically used for nesting include the edge of narrow bands of riparian vegetation, isolated patches of oak woodland, lone trees, and both planted and natural trees associated with roads, farmyards, and sometimes adjacent residential areas. Foraging occurs in open habitats, including grasslands, open woodlands, and agricultural areas. While breeding, adults feed primarily on rodents (and other vertebrates). For the remainder of the year, large insects (e.g., grasshoppers, dragonflies) comprise most of this species' diet. In many areas, SWHA have adapted to foraging primarily in and around agricultural plots (particularly alfalfa, wheat, and row crops), as prey are both numerous and conspicuous at harvest and/or during flooding or burning (Bechard et al. 2010).

The Project Area provides foraging habitat for Swainson's hawk. Suitable nesting trees are rare within the Project Area (the walnut tree in the Cooper's Landing section could support nesting); however, suitable nesting trees are present adjacent to Hawthorne Mill and Cooper's Landing. Although this species has not been documented during field surveys over the last 10 years, there are multiple recently documented nest occurrences within 5 miles of the Project Area (CDFW 2020). The closest documented occurrences to Hawthorne Mill are 150 feet and 0.8 mile north and east, respectively (CDFW 2020). The closest documented occurrences to Cooper's Landing are 1.5 and 2.2 miles to the northeast and east, respectively (CDFW 2020).

Due to the presence of foraging habitat and the proximity to recent nest occurrences, this species may forage in the Project Area. It has moderate potential to nest in the Cooper's Landing portion of the Project area due to the presence of one suitable tree and the Hawthorn Mill portion has no

potential to support Swainson's hawk. However, due to the proximity of potentially suitable nesting habitat near the Project Area, nesting Swainson's hawk could represent a constraint to future Project Activities. Additionally, loss of Swainson's hawk foraging habitat may require mitigation through the CEQA process.

Tricolored blackbird (*Agelaius tricolor*). State Threatened. The tricolored blackbird is a locally common resident in the Central Valley and along coastal California. Most tricolored blackbirds reside in the Central Valley March through August, then moving into the Sacramento-San Joaquin Delta and east to Merced County and coastal locations during winter (Meese et al. 2014). This species breeds adjacent to fresh water, preferring emergent wetlands with tall, dense cattails or tules, thickets of willow or blackberry, and/or tall herbs. Flooded agricultural fields with dense vegetation are also used (Shuford and Gardali 2008). This species is highly colonial; nesting habitat must be large enough to support a minimum of 30 pairs, and colonies are commonly substantially larger (up to thousands of pairs). The tricolored blackbird often intermingles with other blackbird species during the non-breeding season. Individuals typically forage up to 5.6 miles (9 kilometers) from their colonies although in most cases only a small part of the area within this range provides suitable foraging habitat (Hamilton and Meese 2006).

The Project Area is within the breeding range of the species; however, dense vegetation suitable for nesting by the species is not present. The portions of McCoy Basin that are near the Project Area also lack dense vegetation for this species. This species was documented in 2008, nesting in a dense stand of blackberry (*Rubus* sp.) along Cement Hill Road, north of Hawthorne Mill (Olberding 2009). Although nesting habitat is not present in the Project Area, the proximity to these occurrences combined with presence of suitable foraging habitat suggests that tricolored blackbird has a high potential to forage in the Project Area. With respect to constraints to potential site development, if it is determined that the Project would have an adverse effect on tricolored blackbirds nesting habitat, some mitigation may be required, though this is currently unlikely given the distance of suitable habitat from the Project Area. Mitigation for foraging habitat for state-listed bird species may also be required during the CEQA process, though we are unaware of this being required for tricolored blackbird as of yet.

Vernal pool fairy shrimp (VPFS; *Branchinecta lynchi*). Federally Threatened. Vernal pool fairy shrimp (VPFS) occurs mostly in vernal pools; however, this species is also found in a variety of both natural and artificial wetland habitats such as alkali pools, tire ruts, vernal swales, and rock outcrop pools (Helm 1998). Occupied wetlands are typically small (ranging from 0.1 acre to 0.05 acre in size), and pond for a relatively short duration (three to seven weeks on average), though they can occur in large pools also (Eriksen and Belk 1999). This fairy shrimp typically occurs in pools with 48 to 481 parts per million (ppm) salinity and pH from 6.3 to 8.5 (Eriksen and Belk 1999). VPFS may hatch as soon as pool temperature reaches 10 degrees Celsius (50 degrees Fahrenheit); however, maturity and reproduction occurs between 18 to 41 days depending on water temperature (USFWS 2007). VPFS develop faster in warmer spring pools than colder winter pools; die off typically occurs as pools reach 24 degrees Celsius or higher (Helm 1998). Flooding and wildlife movement within vernal pool complexes are known dispersal mechanisms for VPFS (USFWS 2007). Pools that are hydrologically connected during flood events are considered part of the same vernal pool complex. Despite its widespread distribution, VPFS is not abundant in any of its known locations and most individual pools within occupied vernal pool complexes are uninhabited (Helm 1998; Eriksen and Belk 1999; USFWS 2007).

Protocol-level wet-season surveys for VPFS were conducted in 2006-2007 by Jones and Stokes in both seasonal wetlands and vernal pools in Hawthorne Mill (Olberding 2009). Additional dry season soil surveys were conducted by Helm in 2007 and visual surveys by WRA in 2010 within

Hawthorne Mill (Helm 2008, WRA 2010a, WRA 2010b). All surveys between 2006 to 2010 resulted in negative findings of VPFS. Only the few potential vernal pool features found within the Hawthorne Mill have a hydroperiod sufficient to allow for establishment of the species. Features in Coopers Landing are even less likely to support them due to presumed very short inundation periods, but their presence could not be ruled out during the cursory site visit, which included visual surveys in 2020. Surveys conducted by Jones and Stokes in 2007 and WRA in 2010 observed VPFS approximately 0.20 miles south of Hawthorne Mill by the Union Pacific Railroad tracks. The next nearest documented occurrence of this species is 1.10 miles east of Hawthorne Mill, and 0.87 miles southwest of Cooper's Landing (CDFW 2020). This species has moderate potential to occur in vernal pool habitat in Hawthorne Mill. However, it is unlikely to occur in the remaining Project Area due to negative findings of previous protocol and non-protocol surveys, lack of habitat components required for the species, and/or the majority of habitat on and adjacent to the Project Area is unsuitable or of low quality.

Grasshopper sparrow (*Ammodramus savannarum*). CDFW Species of Special Concern. The grasshopper sparrow is a summer resident in California, wintering in Mexico and Central America. This species occurs in open grassland and prairie-like habitats with short to medium height vegetation, and often scattered shrubs (Unitt 2008). Both perennial and annual (nonnative) grasslands are used. Nests are placed on the ground and well concealed, often adjacent to grass clumps (Unitt 2008). Grasshopper sparrows are secretive and generally detected by voice. Insects comprise most of the diet. It has been noted in the literature that grasshopper sparrow populations fluctuate and may shift to take advantage of habitat suitability caused by changes in grazing pressure and rainfall (Shuford and Gardali 2008).

The Project Area is within the current breeding range of the species (Shuford and Gardali 2008). The majority of the Project Area has been moderately and consistently grazed (over past five years), and does not provide sufficient vegetation for nesting. It has been noted in the literature that grasshopper sparrow populations fluctuate and may shift to take advantage of habitat suitability caused by changes in grazing pressure and rainfall (Shuford and Gardali 2008). Although it is possible that grasshopper sparrow could nest in portions of the Project Area, under the current management conditions it remains unlikely. However, due to the presence of some suitable habitat, the species has a moderate potential to nest in the Project Area.

Northern harrier (*Circus cyaneus*). CDFW Species of Special Concern. Northern harrier occurs as a resident and winter visitor in open habitats throughout most of California, including freshwater and brackish marshes, grasslands and fields, agricultural areas, and deserts. Harriers typically nest in treeless areas within patches of dense, relatively tall, vegetation, the composition of which is highly variable; nests are placed on the ground and often located near water or within wetlands (Davis and Niemala 2008). Harriers are predatory and subsist on a variety of small mammals and other vertebrates.

The Project Area is within the current breeding range of the species (Shuford and Gardali 2008) and several northern harriers were observed foraging during the 2020 site visit. However, the Project Area is characterized by moderately grazed grasslands and does not provide suitable nesting habitat for the species. The species may occasionally forage in non-native grasslands, vegetated fill, and wetlands in the area. This species has a moderate potential to occur in the Project Area while foraging; however, due to grazing, this species is unlikely to nest on site. As such, northern harrier is unlikely to represent a significant constraint with respect to site development.

Loggerhead shrike (*Lanius ludovicianus*). CDFW Species of Special Concern, USFWS Bird of Conservation Concern. Loggerhead shrike is a resident and winter visitor in lowlands and foothills throughout California. This species is associated with open country with short vegetation and scattered trees, shrubs, fences, utility lines and/or other perches. Although they are songbirds, shrikes are predatory and forage on a variety of invertebrates and small vertebrates. Captured prey items are often impaled for storage purposes on suitable substrates, including thorns or spikes on vegetation, and barbed wire fences. Nests in trees and large shrubs; nests are usually placed three to ten feet off the ground (Shuford and Gardali 2008).

Loggerhead shrike may forage throughout the Project Area and has a moderate potential to nest in only a few areas within or adjacent to the Project Area where tall shrubs or trees are present.

Pacific pond turtle (*Actinemys marmorata*), CDFW Species of Special Concern. The Pacific pond turtle is the only native freshwater turtle in California. This turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and Transverse Ranges. Pacific pond turtles inhabit perennial aquatic habitats, such as lakes, ponds, rivers, streams, and canals that provide submerged cover and suitable basking structures, such as rocks and logs. Pacific pond turtles prefer to nest on unshaded upland slopes close to their aquatic habitat, and hatchlings require shallow water with relatively dense emergent and submergent vegetation for foraging for aquatic invertebrates.

Pacific pond turtle may utilize permanent and intermittent aquatic features in and adjacent to the Project Area. This species is expected to be present in low numbers if at all due to the marginal nature and extent of habitat near the Project Area. Habitat within the Project Area would not support a population of this species. Pacific pond turtle has a moderate potential to occur in the Project Area, though outside of inundated areas (if present) it is not expected to be found further than 25 feet from water during most of the year.

The following species were determined to be unlikely to occur in the Project Area, but are discussed further due to being listed species that occur in the region.

California tiger salamander (*Ambystoma californiense*), Federal Threatened, State Threatened. CTS is restricted to grasslands and low-elevation foothill regions in California (generally under 1,500 feet) where it uses seasonal aquatic habitats for breeding. CTS breed in natural ephemeral pools, or ponds that mimic ephemeral pools (stock ponds that go dry), and occupy substantial areas surrounding the breeding pool as adults. CTS spend most of their time in the grasslands surrounding breeding pools. They survive hot, dry summers by living underground in burrows (such as those created by ground squirrels and other mammals and deep cracks or holes in the ground) where the soil atmosphere remains near the water saturation point. During wet periods, CTS may emerge from refugia and feed in the surrounding grasslands.

The Project Area is within what is considered to be inside the known range of the central California Distinct Population Segment (DPS) of the California tiger salamander (USFWS 2017). However, the range map provided in the Recovery Plan (USFWS 2017; Plan) to establish the known distribution of the species is based on a habitat model and documented occurrences rather than establishing the known range based only on documented occurrences. The resulting range map, is likely to overestimate the distribution of the species. For example, the Cement Hills (located due north of the Project Area) are included in the Plan's range map even though no documented occurrences exist for this area or areas immediately to the north and west (CDFW 2020). Similarly, the Project Area is located west of the documented occurrences in the area, though the Plan's range map shows the Project Area as being located within the range of the species.

Though the Project Area is located within the accepted range of CTS, as described by the Plan, there is no evidence to support the idea that CTS occurred there at any point in history or are present now. There are documented occurrences of CTS breeding within 1.3 miles of the Hawthorn Mill property, though the exact location of the nearest pond is not currently shown in the CNDDB. Due to its proximity to Hawthorne Mill and the presence of gopher burrows on that property, the CDFW and USFWS may require protocol level surveys to establish the area does not contain CTS, even though breeding habitat is absent and numerous barriers to dispersal exist. The Cooper's Landing portion of the Project Area does not contain suitable burrows to support upland occupation, is further than 1.3 miles from the nearest aquatic breeding habitat and is further out of the documented range of occurrence and therefore represents a lower risk of being considered occupied. CTS are not discussed further in this assessment.

Permitting Constraints and Mitigation

A summary of potential permitting constraints and mitigation measures is provided in the sections below. Mitigation measures are outlined as required per the Recirculated EIR; however, if impacts are avoided to specific sensitive resources, then associated measures may no longer be applicable. If requirements differ between Hawthorne Mill and Cooper's Landing, they will be noted. An abbreviated summary of the Recirculated EIR biological mitigation measure reporting requirements is provided in Table 4. A more detailed summary of Recirculated EIR biological mitigation measures broken down by Project Area is provided in Attachment B (Hawthorne Mill) and Attachment C (Cooper's Landing).

Sensitive Land Cover Types: Wetlands and Waters of the U.S.

If a proposed Project impacts any aquatic features within the Hawthorne Mill or Cooper's Landing, authorization would be necessary from the Corps and Regional Water Quality Control Board (RWQCB) pursuant to Sections 404 and 401 of the Clean Water Act. Additionally, authorization from California Division of Fish and Wildlife (CDFW) would likely be required for impacts to intermittent or perennial drainages, like McCoy Creek. The Corps would consult with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) regarding potential impacts to any federal-listed species pursuant to Section 7 of the Endangered Species Act. The Corps would also conduct Section 106 consultation as required by the National Historic Preservation Act. The RWQCB would review proposed construction and post-construction measures to avoid and minimize potential impacts to water quality.

Special-status Plants

Based on the January 2020 site visit, review of previous surveys and assessments, and review of the California Natural Diversity Database (CNDDB; CDFW 2020), 32 species have a moderate to high potential to occur within the Project Area. Based on previous protocol-level surveys, three species have been documented within Hawthorne Mill; Contra Costa goldfields, pappose tarplant, and brittlescale. One special-status plant has been documented within Cooper's Landing, pappose tarplant. Potential impacts to special-status species must be mitigated through preservation of suitable habitat on-site or through the purchase of mitigation credits at an approved off-site mitigation bank.

Table 4. Abbreviated Summary of Recirculated EIR Biological Mitigation Measures[2]

Conditions #	Resource	Project Area	Recirculated EIR Mitigation Measure
MM-BIO-1a	Special-status plants	Hawthorne Mill	To offset impacts to special-status plants, preserve impacted habitat at a 1:1 ratio. Preserve 256 acres. Manage for benefit of special-status plants for perpetuity.
MM-BIO-1b	CCG habitat	Cooper's Landing	Purchase 0.66 acre of CCG preservation credits and 1.21 acres of pappose tarplant preservation credits from an approved, off-site mitigation bank.
MM-BIO-1c	Hydrology	Hawthorne Mill and Cooper's Landing	Submit the Mitigation Plan prepared by WRA (2014) to appropriate resource agencies for review and approval as part of environmental permitting.
MM-BIO-1d	Swainson's hawk	Hawthorne Mill	Provide land for foraging habitat of Swainson's hawk developed upon or removed.
			Provide 108.45 acres of suitable foraging habitat mitigation for loss of suitable foraging habitat in the Conservation Area. Protect in easement for perpetuity.
			Conduct pre-construction nesting bird survey.
MM-BIO-1e	Swainson's hawk	Cooper's Landing	Provide habitat management land for foraging habitat of Swainson's hawk developed upon or removed.
			Purchase 24.35 acres of suitable Swanson's hawk foraging habitat at an approved off-site mitigation bank for loss of suitable foraging habitat.
			Conduct pre-construction nesting bird survey for Swainson's hawk for work within 0.5 miles of suitable habitat.
MM-BIO-1f	BUOW	Hawthorne Mill and Cooper's Landing	Conduct protocol-level wintering and nesting season surveys for burrowing owl.
			Conduct pre-construction burrowing owl survey within Project Area.
MM-BIO-1g	Raptors	Hawthorne Mill	When feasible, conduct work outside of raptor breeding season (January 1 - August 31).
			If work occurs during raptor breeding season, conduct a pre-construction nesting raptor survey.
			Provide 108.45 acres of suitable foraging habitat mitigation in the Conservation Area.
MM-BIO-1h	Raptors	Cooper's Landing	When feasible, conduct work outside of raptor breeding season (January 1 - August 31).
			If work occurs during raptor breeding season, conduct pre-construction nesting raptor survey.
			Purchase 32.46 acres of suitable foraging habitat at an approved off-site mitigation bank.

[2] Mitigation measures are outlined as reported in the Recirculated EIR. Measures may no longer be applicable or differ from what is listed in Table 4 if impacts are avoided to specific sensitive resources.

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Conditions #	Resource	Project Area	Recirculated EIR Mitigation Measure
MM-BIO-1i	Nesting birds	Hawthorne Mill and Cooper's Landing	When feasible, conduct work outside of bird breeding season (January 1 - August 15). If work occurs during breeding season, conduct pre-construction nesting bird survey for grasshopper sparrow, loggerhead shrike, and other migratory birds.
MM-BIO-1j	Pacific pond turtle	Hawthorne Mill and Cooper's Landing	Conduct pre-construction survey for Pacific pond turtle. If observed, relocate turtle to suitable location away from construction activities
MM-BIO-1k	SWPPP	Hawthorne Mill and Cooper's Landing	Prepare a Storm Water Pollution Prevention Plan (SWPPP) for the mitigation wetland construction. Temporary erosion control measures shall be left in place, monitored, and maintained until 70 percent cover of vegetation is achieved.
MM-BIO-3a	Wetlands	Hawthorne Mill	Provide compensatory mitigation through a combination of wetland restoration, enhancement, and preservation per the Conceptual Mitigation Plan prepared by WRA (2014).
MM-BIO-3b	Wetlands	Cooper's Landing	Applicant to purchase minimum 0.30 acre of seasonal wetland credits from a USACE-approved mitigation bank.
MM-BIO-3c	Wetlands	Hawthorne Mill	Applicant to submit a USACE-approved mitigation plan.
MM-BIO-3d	Permits	Hawthorne Mill and Cooper's Landing	Applicant to obtain all necessary permits to implement the Project, including Section 404, Section 401, and a 1603 LSA. Submit copies to City of Fairfield.
MM-BIO-3e	SWPPP	Hawthorne Mill and Cooper's Landing	Prepare a Storm Water Pollution Prevention Plan (SWPPP) for the mitigation wetland construction.

Special-status Wildlife

Listed below in Table 5 are special-status wildlife species that may be directly or indirectly impacted by potential, future projects. No other special-status wildlife species were determined to have a moderate or high potential to occur and therefore impacts to special-status wildlife are limited to those included below.

Table 5. Potential Special-status Wildlife

SCIENTIFIC NAME	COMMON NAME
Formally Listed Species (FESA, CESA, CFP)	
Agelaius tricolor	tricolored blackbird
Elanus leucurus	white-tailed kite
Buteo swainsoni	Swainson's hawk
Other Special-status Wildlife (CEQA, other)	
Ammodramus savannarum	grasshopper sparrow
Athene cunicularia	burrowing owl
Branchinecta lynchi	Vernal pool fairy shrimp
Circus cyaneus	northern harrier
Lanius ludovicianus	loggerhead shrike
Actinemys marmorata	Pacific Pond Turtle
N/A	Nesting Birds

Loggerhead Shrike, Tricolored Blackbird, Grasshopper sparrow, and Non-status Nesting Birds

Future projects may affect special-status birds including loggerhead shrike, tricolored blackbird, and grasshopper sparrow. In addition to special-status species, non-special-status native birds that are protected by the MBTA and CFGC may also be affected. Potential impacts to these species and their habitats could occur during the removal of vegetation or during ground-disturbing activities.

Impacts to these species can be fully avoided by if work occurs outside of the breeding bird breeding season (January 1 – August 15). If work must be conducted during the breeding season (January 1 through August 15), then a pre-construction survey for nesting birds with potential to occur in the Project Area should be performed by a qualified biologist within 14 days of the onset of activities in and within 500 feet of the Project Area. If an active nest is found, an appropriate buffer shall be identified by a qualified biologist based on proximity and nature of the activity to the nest, and placed around the active nest until all young have fledged, or the nest has been naturally predated or abandoned.

White-tailed Kite, Northern Harrier, and other Raptors

Limited nesting habitat for white-tailed kite is present in a single tree in Cooper's Landing. No suitable nesting habitat for northern harrier is present within the Project Area (though this species may nest in surrounding areas and forage within the Project Area). Destruction or disturbance to a raptor nest during the nesting season (January 1 to August 15) is a potential impact.

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Non-native grassland and non-perennial wetland habitats throughout the Project Area provide suitable foraging habitat for raptors including white-tailed kite, northern harrier, and other raptors. Permanent removal of foraging habitat for special-status raptors may be considered significant in the CEQA process.

When feasible, construction activities and vegetation removal should be done outside of the raptor breeding season (January 1 through August 1). If work must be conducted during the breeding season, then a pre-construction survey for nesting raptors with potential to occur in the Project Area should be performed by a qualified biologist within 14 days of the onset of activities in and within 0.25 miles of the Project Area. If an active nest is found, an appropriate buffer shall be identified by a qualified biologist based on proximity and nature of the activity to the nest, and placed around the active nest until all young have fledged, or the nest has been naturally predated or abandoned.

Burrowing Owl

No burrowing owls, suitable burrows, or burrow analogues were detected during the 2020 site visit. However, one burrowing owl was detected within Hawthorne Mill in association with a suitable burrow during a previous survey. Removal of or disturbance to occupied nests or occupied overwintering burrows would be a potential impact if it was to occur. Likewise, removal of adjacent foraging habitat could also be considered a potential impact; burrowing owl may forage in open grassland habitats up to 600 meters (2,000 feet) from its burrow.

Protocol-level wintering and nesting season surveys are recommended prior to the initiation of construction. Additionally, no more than 30 days prior to the first ground disturbing activity, preconstruction burrowing owl surveys should be performed. If owls are found on-site in or within 600 meters of the Project Area, mitigation guidelines adopted in the 2012 Staff Report on Burrowing Owl Mitigation should be followed (CDFG 2012). Measures may include the implementation of appropriate nest buffer areas that will be avoided during construction.

Vernal Pool Fairy Shrimp

Vernal pool fairy shrimp have been observed approximately 1,500 feet south of Hawthorne Mill within two isolated pools. There are also documented off-site occurrences north of the Project Area; however, these occurrences are isolated hydrologically from upslope areas by a drainage ditch and an earthen berm. Incision within McCoy Creek into the shallow claypan has also created a shallow groundwater discontinuity between Hawthorne Mill and the two isolated pools approximately 1,500 feet south.

If impacts to all aquatic features are avoided by at least 250 feet, then no further surveys or mitigation for potential impacts to VPFS would be necessary. However, if aquatic features would be potentially impacted then protocol level surveys for VPFS are recommended. Surveys occur on a bi-weekly basis beginning 14 days after ponding begins, and continue until ponding is complete, or until the permitted biologist has sufficient evidence to confirm/deny the presence of the species. If the species is present, then consultation with the USFWS would be required and impacts to wetlands inhabited by the species would likely require mitigation credits to offset impacts. Credits are typically procured in two ways, either by conserving on- or off-site habitat, or through the purchase of mitigation credits at an approved bank. In either case, an estimated mitigation ratio would be 3:1 and credit costs typically range from approximately $150,000 to $350,000 per acre.

Swainson's Hawk

There is a documented and presumed extant Swainson's hawk nesting site located 150 feet and north of Hawthorne Mill and 1.5 miles northeast of Cooper's Landing (CDFW 2020). Non-native grassland throughout the Project Area and vegetated fill restricted to Hawthorne Mill provide suitable foraging habitat for Swainson's hawk. Removal of suitable foraging habitat within 10 miles of a documented extant nest site is a potentially significant impact and would be addressed through the CEQA process.

Mitigation measures required per the Recirculated EIR for Swainson's hawk include:

- For projects within 1 mile of an active Swainson's hawk nest tree, 1.0 acre of habitat management land shall be provided for each acre developed or removed (1:1 ratio). Lands protected under this requirement may be protected through fee title acquisition or conservation easement on agricultural lands, or other suitable habitats which provide foraging habitat for Swainson's hawk.

- To mitigate for the loss of suitable foraging habitat within the Project Area, provide suitable foraging habitat protected via conservation easement in perpetuity, resulting in a 1:1 ratio of mitigated to impacted foraging habitat for Swainson's hawk.

- In addition, prior to the onset of activities, pre-construction surveys are recommended to be performed in suitable habitats located within 0.5 mile of the Project Area during the nesting season (April 1 through September 31). If Swainson's hawks are found nesting within this limit, activities should be postponed until young have fledged or a reduced no-disturbance setback is approved through consultation with CDFW.

Pacific Pond Turtle

Pacific pond turtle (PPT) has not been documented in the Project Area. Aquatic habitats on and adjacent to the Project Area provide potential dispersal and foraging habitat for PPT. These include the adjacent detention pond, McCoy Creek, perennial marsh habitat located south of Hawthorne Mill, and an intermittent drainage located southeast of McCoy Basin. Drainage ditches and other aquatic features may provide habitat for PPT when inundated. Activities within or adjacent to these perennial aquatic habitats may result in direct mortality to PPT if present. Per the Recirculated EIR, a pre-construction survey is recommended for any activities (development or restoration) occurring within 25 feet of suitable aquatic habitat for PPT. Measures derived from the CEQA process may require a greater terrestrial buffer if a PPT population is detected onsite because PPT will often nest more than 25 feet from aquatic features. If observed, PPT should be relocated to a nearby, suitable location away from construction activities.

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Attachment A – Figures

- Figure 1. Location Overview
- Figure 2. Hawthorne Mill Land Cover Types
- Figure 3. Cooper's Landing Land Cover Types

Attachment B – Hawthorne Mill Mitigation Measures

Attachment C – Cooper's Landing Mitigation Measures

Attachment D - Summary of Biological Surveys and Assessments conducted within Hawthorne Mill and Cooper's Landing

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Attachment A – Figures

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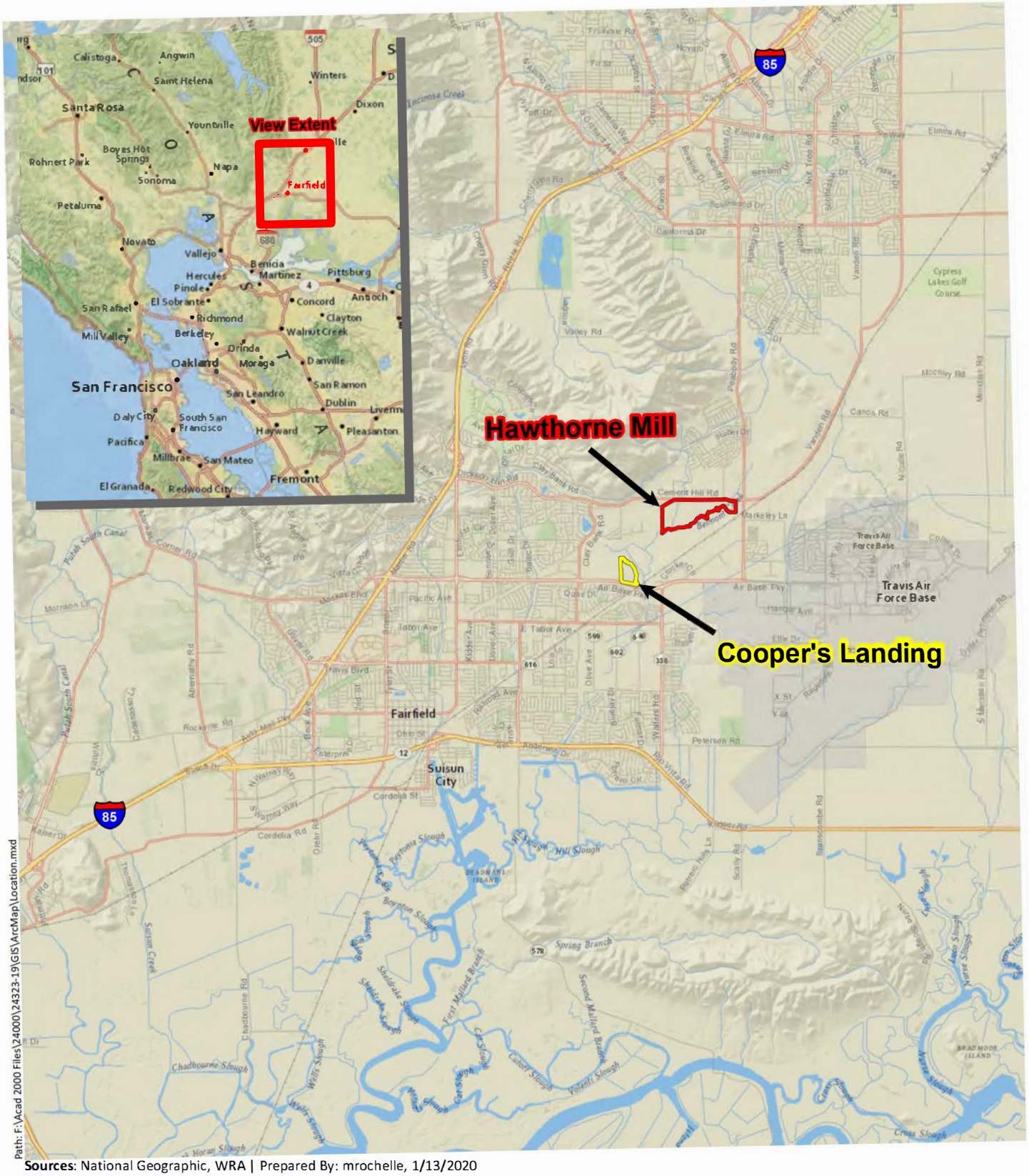

Sources: National Geographic, WRA | Prepared By: mrochelle, 1/13/2020

Figure 1. Project Area Regional Location Map

Hawthorne Mill and Cooper's
Landing Project Areas
Fairfield, California

0 1 2 Miles

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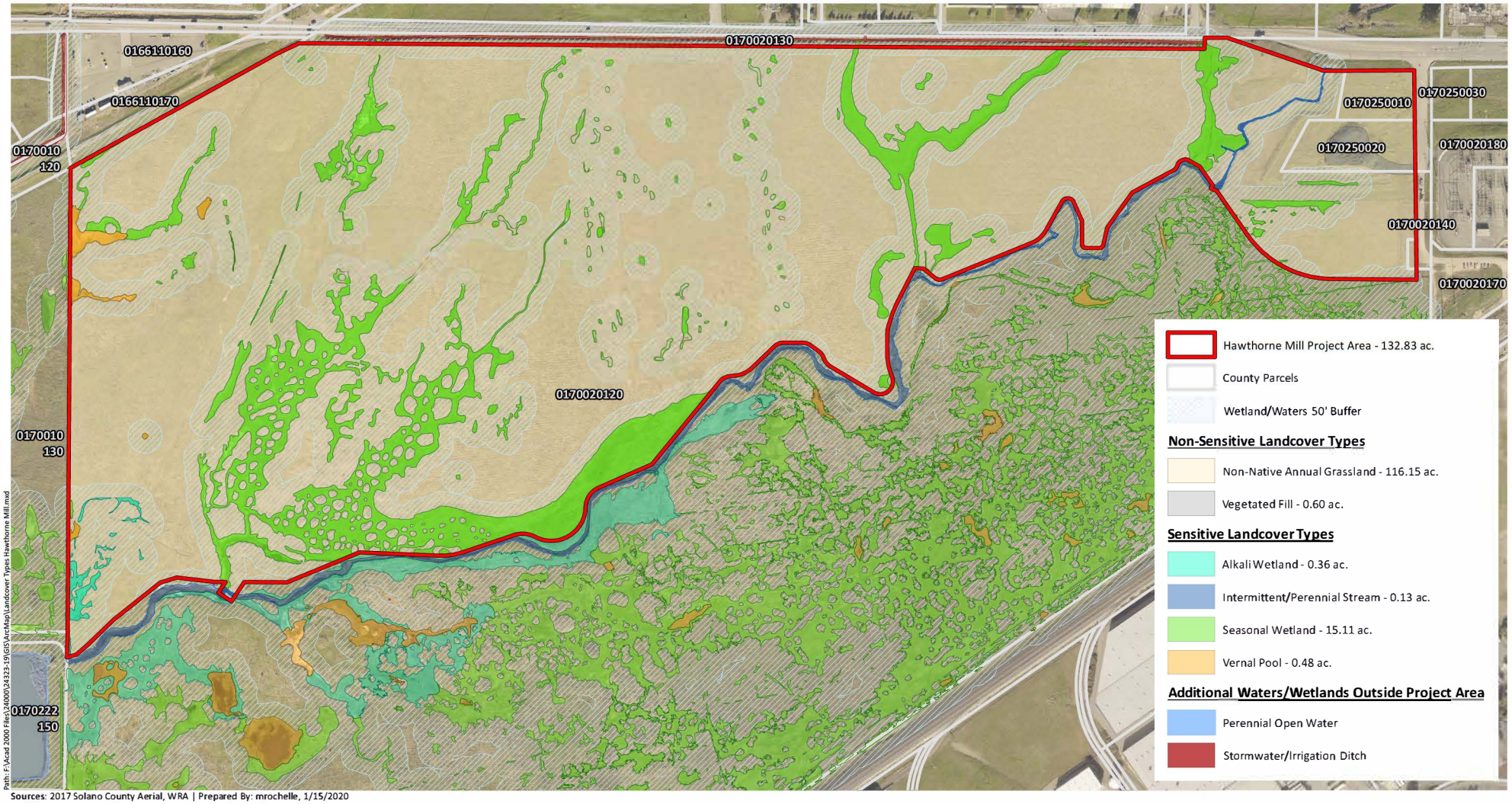

Figure 2. Landcover Types Hawthorne Mill

Hawthorne Mill Project Area
Fairfield, California

0 200 400 Feet N

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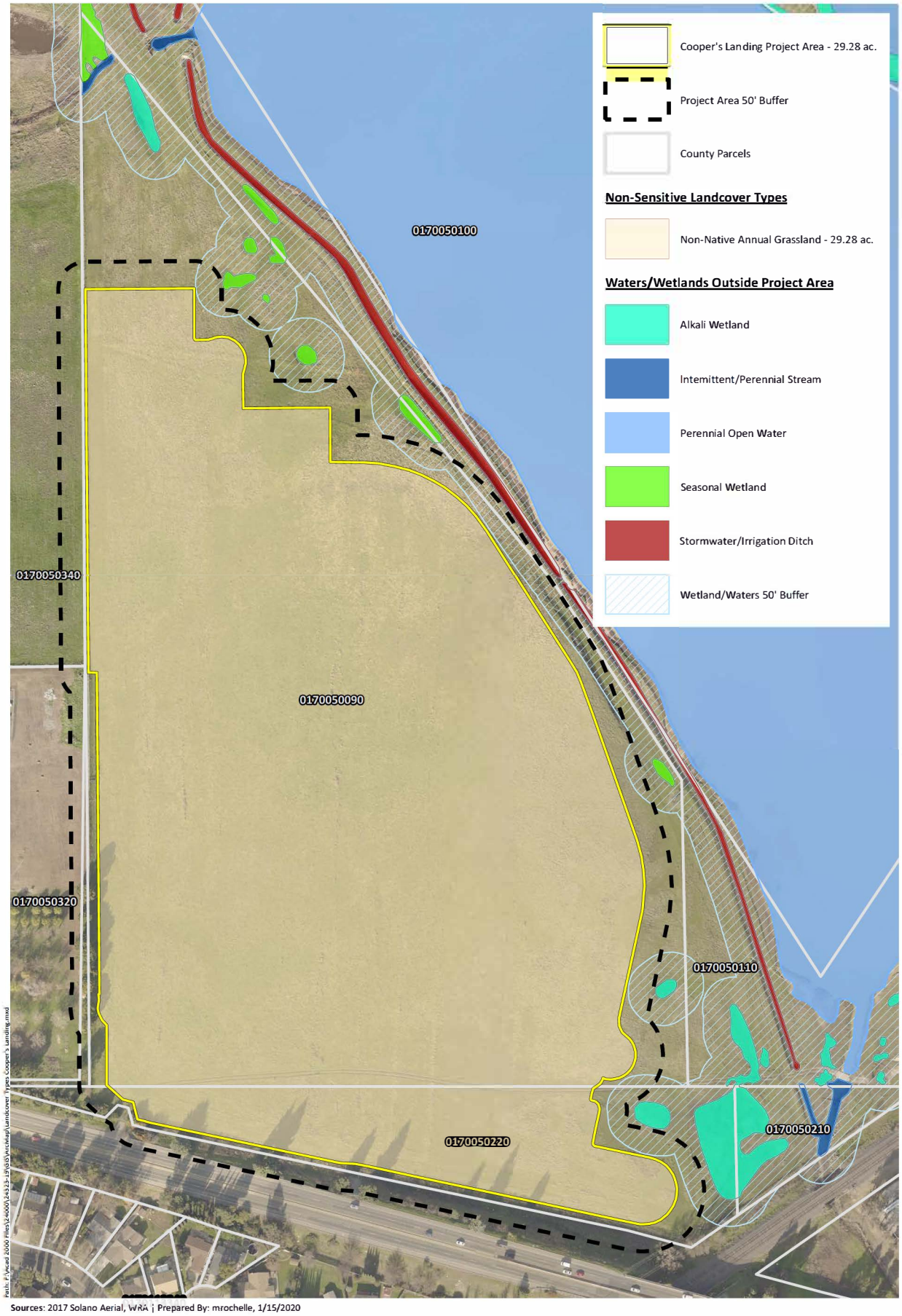

Sources: 2017 Solano Aerial, WRA | Prepared By: mrochelle, 1/15/2020

Figure 3. Landcover Types

Cooper's Landing Project Area
Fairfield, California

0 200 400 Feet

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Attachment B – Hawthorne Mill Mitigation Measures

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Attachment B. Hawthorne Mill Biological Mitigiation Measures from Partially Recirculatred Draft EIR

Sensitive Resource	Condition #	Applicable Area	Activity Requiring Measure	Mitigation Measure	Timing	Timing Details	Completion Date
Special-status plants	MM-BIO-1a	Hawthorne Mill	To offset impacts to special-status plants species associated with project activities within the Hawtorne Mill.	Preserve 256 acres within the Conservation Area and Off-Site Mitigation Area. In addition, seasonal and alkali wetlands, vernal pools, and freshwater marsh shall be restored to provide suitable habitat for pappose tarplant and brittlescale. Mitigation to be provided a a minimum of 1:1 ratio of impacts/restoration. The Conservation Area shall be managed in perpetuity for the benefit of special-status plants and other sensitive habitats.	None	Conservation Area to be protected in conservation easement in perpetuity.	
Hydrology	MM-BIO-1c	Hawthorne Mill and Cooper's Landing	To ensure that development of the project does not result in a change in the hydrology of the Conservation Area and does not adversely affect listed and special-status species.	Submit the Conceptual Mitigation Plan prepared by WRA (2014a) to appropriate resource agencies for review and approval as part of environtmental permitting. The conceptual plan shall ensure that there will be no alteration in hydrology and in particular no decrease in the duration of ponding during dry years in the occupied VPFS pools and CCG wetlands within the proposed Conservation Area. permitting.	Pre-construction	Prior to issuance of grading permits for Hawthorne Mill.	
Swainson's hawk	MM-BIO-1d	Hawthorne Mill	Presence of active Swainson's hawk nest All lands occur within 2 miles of recently active (i.e., active in last 5 years) Swainson's hawk nest. For work within 0.5 miles of suitable habiat during nesting season (April 1 - Sept. 31)	Provide the following acreage of habitat management land in the following ratio for foraging habitat developed or removed (provided:removed) if active Swainson's hawk nest detected: - within 1 mile of Hawthorne Mill - 1:1 - within 5 miles but greater than 1 mile - 0.75:1 Provide 108.45 acres of suitable foraging habitat mitigation in the Conservation Area. Conduct pre-construction nesting bird survey.	None None Pre-construction	None Conservation Area to be protected in conservation easement in perpetuity. Prior to onset of activities, during nesting season (April 1 - September 31)	
BUOW	MM-BIO-1f	Hawthorne Mill and Cooper's Landing		Conduct protocol-level wintering and nesting season surveys for burrowing owl. Conduct pre-construction burrowing owl survey within Project Area. If owls are found onsite or within 600 meters of a development area, follow mitigation guidelines adopted in the 2012 Staff Report.	Pre-construction Pre-construction	Prior to initiation of construction No more than 30 days prior to first ground disturbing activity	
Raptors	MM-BIO-1g	Hawthorne Mill	Construction activities and vegetation removal.	When feasible, conduct work outside of raptor breeding season (January 1 - August 31). If work occurs during raptor breeding season, a qualified biologist must conduct a pre-construction nesting raptor survey. If active nest found, place 500-ft buffer around nest until all young have fledged. Provide 108.45 acres of suitable foraging habitat mitigation in the Conservation Area.	Pre- and during construction Pre- and during construction None	None Within 14 days of the onset of activities in and within 500 feet of Project Area. Conservation Area to be protected in conservation easement in perpetuity.	
Nesting birds	MM-BIO-1i	Hawthorne Mill and Cooper's Landing	Construction activities and vegetation removal.	When feasible, conduct work outside of bird breeding season (January 1 - August 15). If work occurs during breeding season, a qualified biologist must conduct a pre-construction nesting bird survey for grasshopper sparow, loggerhead shrike, and other migratory birds. If active nest found, place 250-ft buffer around nest until all young have fledged. Maintaine until all young have fledged, or the nest has been naturally predated or abandoned.	Pre- and during construction Pre- and during construction	None Within 14 days of the onsite of construction activities in and within 250 feet of Project Area.	
Pacific pond turtle	MM-BIO-1j	Hawthorne Mill and Cooper's Landing	Construction activities near suitable aquatic habitat	Conduct pre-construction survey for Pacific pond turtle. If observed, relocate turtle to suitable location away from construction activities	Pre- and during construction	None	
SWPPP	MM-BIO-1k	Hawthorne Mill and Cooper's Landing	To protect existing wetlands and special-status species habitat outside of restoration areas from adverse water quality impacts including sedimentation.	Prepare a Storm Water Pollution Prevention Plan (SWPPP) for the mitigation wetland construction. Temporary erosion control measures shall be left in place, monitored, and maintained until 70 percent cover of vegetation is achieved.	Pre-construction	Implemented pre-, during, and post-construction.	

Attachment B. Hawthorne Mill Biological Mitigiation Measures from Partially Recirculatred Draft EIR

Sensitive Resource	Condition #	Applicable Area	Activity Requiring Measure	Mitigation Measure	Timing	Timing Details	Completion Date
Wetlands	MM-BIO-3a	Hawthorne Mill	To mitigate direct impacts to wetlands.	Provide compensatory mitigation through a combination of wetland restoration, enhancement, and preservation per the Conceptual Mitigation Plan prepared by WRA (2014). Portions of mitigation to be provided by Conservation Area. Mitigation to account for: - Onsite mitigation for CCG, VPFS, and other vernal pools species; - Restore seasonal wetland; - Re-establish McCoy Creek as a broad vegetated swale; and - Restore flood terrace wetland areas adjacent and south of McCoy Creek	None	Conservation Area to be protected in USACE-approved conservation easement in perpetuity.	
Wetlands	MM-BIO-3c	Hawthorne Mill	Finalize mitigation plan	Applicant to submit a USACE-approved mitigation plan. Applicant to finalize compensation measures outlined in Conceptual Mitigation Plan (WRA 2014a) with the USACE and San Francisco RWQCB. The plan will describe how the mitigation project will address watershed needs. The final plan will include a description of the mitigation site selection process, including a comparison of the impact and mitigation site(s) ecological characteristics and of historic and existing plant communities and hydrology. The rationale for the proposed location, type, and amount of compensation is provided in the final plan which will include performance standards and monitoring guidelines based on the 12505-SPD Performance Guidelines (USACE 2012); long-term maintenance; monitoring and adaptive management, financial assurances, and conservation mechanisms.	Pre-construction	Prior to issuance of a grading permit.	
Permits	MM-BIO-3d	Hawthorne Mill and Cooper's Landing		Applicant to obtain all necessary permits to implement the Project, including Section 404, Section 401, and a 1602 Lake and Streambed Alteration Agreement from CDFW. Submit copies to City of Fairfield. Applicant to obtain all necessary permits to implement the Project, including Section 404 and Section 401. Submit copies to City of Fairfield.	Pre-construction Pre-construction	Prior to issuance of a grading permit Prior to issuance of a grading permit.	
SWPPP	MM-BIO-3e	Hawthorne Mill and Cooper's Landing	To protect existing wetlands and special-status species habitat outside of restoration areas from adverse water quality impacts including sedimentation.	Prepare a Storm Water Pollution Prevention Plan (SWPPP) for the mitigation wetland construction. Temporary erosion control measures shall be left in place, monitored, and maintained until 70 percent cover of vegetation is achieved.	Pre-construction	Implemented pre-, during, and post-construction.	

Attachment C – Cooper's Landing Mitigation Measures

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Attachment C. Cooper's Landing Biological Mitigiation Measures from Partially Recirculatred Draft EIR

Sensitive Resource	Condition #	Applicable Area	Activity Requiring Measure	Mitigation Measure	Timing	Timing Details	Completion Date
CCG habitat	MM-BIO-1b	Cooper's Landing	To mitigate 1) indirect effects to 0.66 acre of occupied CCG habitat and 2) direct and indirect impacts to pappose tarplant (0.33 acre and 0.88 acre, respectively).	Purchase 0.66 acre of CCG preservation credits and 1.21 acres of pappose tarplant preservation credits from an approved, off-site mitigation bank. Proof of purchase of preservation credits shall be provided prior to issuance of grading permits for HMW.	Pre-construction	Prior to issuance of grading permits for Cooper's Landing, provide proof of purchase.	
Hydrology	MM-BIO-1c	Hawthorne Mill and Cooper's Landing	To ensure that development of the project does not result in a change in the hydrology of the Conservation Area and does not adversely affect listed and special-status species.	Submit the Conceptual Mitigation Plan prepared by WRA (2014a) to appropriate resource agencies for review and approval as part of environtmental permitting. The conceptual plan shall ensure that there will be no alteration in hydrology and in particular no decrease in the duration of ponding during dry years in the occupied VPFS pools and CCG wetlands within the proposed Conservation Area. permitting.	Pre-construction	Prior to issuance of grading permits for Hawthorne Mill.	
Swainson's hawk	MM-BIO-1e	Cooper's Landing	Presence of active Swainson's hawk nest All lands occur greater than 1 mile and less than 2.5 miles of recently active (i.e., active in last 5 years) Swainson's hawk nest.	Provide the following acreage of habitat management land in the following ratio for foraging habitat developed or removed (provided:removed) if active Swainson's hawk nest detected: - within 1 mile of Hawthorne Mill - 1:1 - within 5 miles but greater than 1 mile - 0.75:1 To mitigate for loss of 32.46 acres suitable foraging habitat, purchase 24.35 acres of suitable Swanson's hawk foraging habitat at an approved off-site mitigation bank, resulting in a 0.75:1 ratio. Conduct pre-construction nesting bird survey for Swainson's hawk for work within 0.5 miles of suitable habitat.	None None Pre-construction	None None Prior to onset of activities, during nesting season (April 1 - September 31)	
BUOW	MM-BIO-1f	Hawthorne Mill and Cooper's Landing		Conduct protocol-level wintering and nesting season surveys for burrowing owl. Conduct pre-construction burrowing owl survey within Project Area. If owls are found onsite or within 600 meters of a development area, follow mitigation guidelines adopted in the 2012 Staff Report.	Pre-construction Pre-construction	Prior to initiation of construction No more than 30 days prior to first ground disturbing activity	
Raptors	MM-BIO-1h	Cooper's Landing	Construction activities and vegetation removal.	When feasible, conduct work outside of raptor breeding season (January 1 - August 31). If work occurs during raptor breeding season, a qualified biologist must conduct a pre-construction nesting raptor survey. If active nest found, place 500-ft buffer around nest until all young have fledged. To mitigate for loss of 32.46 acres suitable foraging habitat, purchase 32.46 acres of suitable foraging habitat at an approved off-site mitigation bank, resulting in a 1:1 ratio.	Pre- and during construction Pre- and during construction None	None Within 14 days of the onset of activities in and within 500 feet of Project Area. None	
Nesting birds	MM-BIO-1i	Hawthorne Mill and Cooper's Landing	Construction activities and vegetation removal.	When feasible, conduct work outside of bird breeding season (January 1 - August 15). If work occurs during breeding season, a qualified biologist must conduct a pre-construction nesting bird survey for grasshopper sparow, loggerhead shrike, and other migratory birds. If active nest found, place 250-ft buffer around nest until all young have fledged. Maintaine until all young have fledged, or the nest has been naturally predated or abandoned.	Pre- and during construction Pre- and during construction	None Within 14 days of the onsite of construction activities in and within 250 feet of Project Area.	
Pacific pond turtle	MM-BIO-1j	Hawthorne Mill and Cooper's Landing	Construction activities near suitable aquatic habitat	Conduct pre-construction survey for Pacific pond turtle. If observed, relocate turtle to suitable location away from construction activities.	Pre- and during construction	None	
SWPPP	MM-BIO-1k	Hawthorne Mill and Cooper's Landing	To protect existing wetlands and special-status species habitat outside of restoration areas from adverse water quality impacts including sedimentation.	Prepare a Storm Water Pollution Prevention Plan (SWPPP) for the mitigation wetland construction. Temporary erosion control measures shall be left in place, monitored, and maintained until 70 percent cover of vegetation is achieved.	Pre-construction	Implemented pre-, during, and post-construction.	
Wetlands	MM-BIO-3b	Cooper's Landing	To mitigate impacts to wetlands and non-wetland waters.	Applicant to purchase minimum 0.30 acre of seasonal wetland credits from a USACE-approved mitigation bank.	Pre-construction	Prior to issuance of grading permit, submit proof of purchase	

Attachment C. Cooper's Landing Biological Mitigiation Measures from Partially Recirculatred Draft EIR

Sensitive Resource	Condition #	Applicable Area	Activity Requiring Measure	Mitigation Measure	Timing	Timing Details	Completion Date
Permits	MM-BIO-3d	Hawthorne Mill and Cooper's Landing		Applicant to obtain all necessary permits to implement the Project, including Section 404, Section 401, and a 1602 LSA. Submit copies to City of Fairfield. Applicant to obtain all necessary permits to implement the Project, including Section 404 and Section 401. Submit copies to City of Fairfield.	Pre-construction Pre-construction	Prior to issuance of a grading permit Prior to issuance of a grading permit.	
SWPPP	MM-BIO-3e	Hawthorne Mill and Cooper's Landing	To protect existing wetlands and special-status species habitat outside of restoration areas from adverse water quality impacts including sedimentation.	Prepare a Storm Water Pollution Prevention Plan (SWPPP) for the mitigation wetland construction. Temporary erosion control measures shall be left in place, monitored, and maintained until 70 percent cover of vegetation is achieved.	Pre-construction	Implemented pre-, during, and post-construction.	

Attachment D
Summary of Biological Surveys and Assessments conducted within Hawthorne Mill and Cooper's Landing

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Attachment D. Summary of Biological Surveys and Assessments conducted within Hawthorne Mill and Cooper's Landing

Report Title	Author	Report Date	Project Area*		Resource	Findings	> 5 years old	Notes
			HM	CL				
Special Status Species Surveysand Assessments								
Special Status Species Report for the Strassberger Industrial Park, CrossIndustrial Park,and McCoy DetentionBasin Properties, Fairfield, Solano County, California	Vollmar Consulting	7/29/2000		X	Special-status plant species Special-status large branchiopod, California tiger salamander (CTS), western spadefoot toad, delta green ground beetle (DGGB), and otherwildlife (nesting birds, mammals, reptiles) species.	Protocol-level plant survey. Protocol-level wet-season branchipodsurvey. Focused surveysforall otherwildlife species. Presence of Contra Costa goldfields (CCG) in association with VP and vernally mesic depressions. Observed large branchiopods in 25 seasonalwetlands. No otherspecial-statuswildlife speciesobserved.	Yes	
Spring Plant Survey Summary (memo)	Jonesand Stokes	6/8/2005	X*		Special-status plants	Protocol-level plant survey. One specialstatus plant positively ID, CCG. Approx. 190,000 individual plants. Two other potential SS plants: Gairdner's yampah and brittlescale.	Yes	Missingfullmapin report.
Summer plantsurvey summary for the Cement Hill Road/Peabody Road Study Area	Jones and Stokes	8/4/2005	X*		Special-status plants	Protocol-levelplant survey. Three SSS plant species found; Parry's tarweed, Gairdner's yampah, and brittlescale. Each stand included 10 or more plants.	Yes	
Colusa Grassand Solano Grass Focused Survey	Garciaand Associates	8/23/2006	X*	X	Colusa grassand Solano grass	Focused survey for Colusaand Solano grass. No evidence of Colusa or Solano grassfound.	Yes	
Habitat Assessmentand Surveysfor the California Red-Legged Frog (*Rona draytonii*) onthe Hawthorne Mill Project, Fairfield, Solano County, California	Rana Resources	10/1/2006	X	X	California red-leggedfrog (CRLF)	Protocol-level CRLF surveys conducted. The negative resultsof protocol surveysandthe significantnumbers of bullfrogs ofall life stages onthesite and encirclement by urbanization (barriers) indicated thatthe proposedproject willhaveno adverse effectsonthe remaining CRLF populations inthe hills west of Fairfield.	Yes	Also conducted Californiatiger salamander (CTS) surveys. Seebelow.
Special- Status Plant Survey Summary for Edenbridge Study Area A	Jonesand Stokes	7/25/2006		X	Special-status plants	Protocol-level plant survey. Three special-status plantspeciesobserved: CCG, Ferris's goldfields, pappose tarplant. Only pappose tarplant observedwithin Cooper's Landing.	Yes	
Steelhead Habitat Assessment forthe Hawthorne Mill Property	Jonesand Stokes	2/27/2007	X	X	Steelhead	Focusedsteelhead surveysconducted. Concluded that McCoy Basindoesnot providesuitablehabitatfor steelhead andthatno evidencewas found indicating that steelheadusethe projectarea toaccesspotentialspawningor rearing habitatoutsidethe projectarea.	Yes	
Habitat Evaluations and Presence-Absence Surveys forthe Threatened DeltaGreenGround Beetle andGround NestingBee Pollinators ofthe Endangered Contra CostaGoldfieldsat the Hawthorne Mill Project Area in Fairfield (Solano County), CA	Arnoldetal.	5/31/2007	X	X	DGGB Ground nesting bees	Protocol-level DGGB survey andgroundnesting beespresence-absencesurveys. Based on a habitat assessment and presence-absence surveys, the DGGB does not occurat the site due to thegeneralabsence of suitable habitat. Ground nesting bees were not observed inthe areasproposedfor development.	Yes	
Contra Costa Goldfield 2008 Survey forthe Hawthorne Mill Property, Fairfield, California	Olberding	6/16/2008	X	X	CCG	Protocol-level CCG plantsurvey. Survey of numbers, density, and distribution of CCG within project footprint. 1,222 plants counted: 548 counted west of McCoy Basin and 674 counted north of McCoy Basin. (13 distinct populations). Plants ID'dnear SW and NWcorners and rim of basinnot previously identified.	Yes	
Habitat Assessmentand Larval Surveys forthe California Tiger Salamander(*Ambystomo californiense*) on the Hawthorne Mill Project, Fairfield, Solano County, California	Rana Resources	10/2/2008	X	X	CTS	Protocol-level CTSsurveysconducted. All the present vernal pools and deeper water habitats were found to contain no CTS larvae. The report found that the negative results of larval CTS surveys and mitigating factors such as the encirclement by urbanization, presence offish, and lack of ponding for sufficient duration indicates that the proposed Hawthorne Mill (or Cooper's Landing) project will have no adverse effects ont he remaining CTS populations inhabiting the nearbyhills of Fairfield. Jenningsreported of the 11 vernalpoolsin the projectsite, 7 dried afteronlya few weeks in an above normal rainfall year.	Yes	Updatedsurveysconducted in 2014 by Mark Jennings at Rana Resources. Surveys conducted in 2006during Rana Resources 2006 CRLF surveys.
Soil Examinationsfor the Presence of Federally-Listed Large Branchiopodsat the Hawthorne Mill Project	Helm	5/00/2008	X	X	Largebrachiopods	Soil analysisfor largebrachiopods. Sampling in 2006. No evidenceof federally-listedlarge brachiopod (largebrachiopodcystsor carapacesofthe genus *Lepidurus*) wasobservedincollectedsoils.	Yes	
Revisedhabitat assessment forthe Californiatiger salamander (*Ambystomo californiense*) On the Hawthorne Mill project site, Fairfield, Solano County, California	Rana Resources	2014	X	X	CTS	Winterhabitat assessment. CTSareunlikelyto occur in theseareasdue to existing unsuitable habitatconditionsand documentedabsenceduring protocol-level surveysconductedin 2000 by Vollmar and in 2006by Rana Resources. The absence of suitable breeding habitat on-site as well as tot he immediate north, west, or south of the Project Area also eliminate the potential for CTS to use the site as a dispersal corridor.	Yes	

Attachment D. Summary of Biological Surveys and Assessments conducted within Hawthorne Mill and Cooper's Landing

Report Title	Author	Report Date	Project Area*		Resource	Findings	> 5 years old	Notes
			HM	CL				
Site Reports & Studies								
Draft Biological Resource Analysis for the Hawthorne Mill and Strassberger/City Properties Solano County, California	Olberding	5/00/ 2009	X	X	special-status plants special-status wildlife biological communities	Conducted focused plant surveys and floristic inventory. Conducted general wildlife habitat surveys, reconnaissance-level raptor survey, reconnaissance-level BUOW survey, and protocol-level brachiopod survey. Report describes potential for plant and wildlife occurrences to occur in 579 acre Project Area and summarizes past focused plant and wildlife surveys, wetlands (based on Vollmar 2000 and Jones and Stokes 2007 AID), and upland biological communities. Plant: Special-status Plants: Five documented SSS plants in Project Area; brittlescale, pappose tarpalnt, dwarf downingia, CCG, and Gairdner's Yampah. Wildlife: Invertebrates: Based on Helm 2008; J&S 2007a; Vollmer 2000, Conservancy FS considered absent from the Hawthorne Mill and Strassberger sites. VPFS were found in a pool on the HM property (J&S 2007), although Helm (2008) did not find any evidence of cysts during their dry season soil analysis. MidValley Shrimp, Delta Green Ground Beetle, and Ricksecker's Water Scavenger Beetle considered absent. An updated VPTS survey (Strass/ City 2008) is recommended to ensure that this species is not present. California *Linderiella* present on both properties (Vollmar2008, J&S 2007). Fish: Steelhead, no habiat, presumed absent. Amphibians and Reptiles: No CTS habitat, presumed absent. Conduct CRLF habitat assessment and possibly presence/absence CRLF surveys. Western and northern western pond turtle presence unlikely, however, the Service may require directed surveys. Birds: BUOW unlikely due to lack of recent occurrences, absence of breeding habitat, and developed nature of property. Pre-construction surveys for nesting raptors required. Wetlands: 36.66 acre of vernal pools, 34.92 acres of seasonal wetlands, 26.46 acres of alkali meadow, 3.72 acres of emergent wetland drainage, and 0.12 acre of seasonal swale for a total of ~~101.88 acres of seas~~onal wetlands. There are 1.14 acres of perennial drainage (McCoy Creek) and 46.63 acres of open water for a total of 47.80 acres of "other waters of the U.S." Total waters of the U.S. (WOTUS) 149.68 acres. Notes wetland acreage reflects a larger area of aquatic habitats than would be observed during average rainfall condition year.	Yes	In report, Hawthorne Mill Property groups Hawthorne Mill, Cooper's Landing, and Conservation Area. Strassberger Property groups McCoy Basin, Strassberger Property, Southern Cross Indistrial Park, various City properties, and Northern Cross Property (offsite mitigation).
Biological Resources Assessment Hawthorne Mill West Development Area, Fairfield, Solano County, California	WRA	4/30/2014		X	special-status plants special-status wildlife biological communities	Conducted protocol-level rare plant survey (2010, 2011), protocol-level wet season vernal pool curstacean and focused vernal pool crustacean visual observation surveys at Cross Property (2010), and general wildlife and wildlife habitat reconnaissance surveys. Report summarizes results of all known studies conducted in the Project Area from 2000 to April 2014. WRA performed an initial site reconnaissance visit on January 25, 2010, with subsequent visits conducted during the winter, spring, and summer of 2010 through 2013. Plant Special-status Plants: One documented SSS plant in Project Area, pappose tarplant (Jones and Stokes 2006a). Documented occurrences of CCG in vicinity of Project Area. Direct impacts to pappose tarplant and indirect impacts to CCG anticipated. Wildlife: No SS wildlife species observed within the Project Area. Invertebrates: VPTS, Conservancy FS unlikely to occur in Project Area. Fish: Steelhead, no habitat, presumed absent. Amphibians and Reptiles: CTS and CRLF unlikeley to occur in Project Area. Birds: Recommends pre-construction surveys for Swainson's hawk, SSS raptor species, migratory birds; and protocol-level wintering and nesting season surveys for BUOW. Wetlands: 0.04 acres of intermittent stream, 0.18 acres of stormwater/irrigation ditch, 0.07 acre of alkali wetland, combined total of 0.29 acres of Jurisdictional Waters	Yes	
Biological Resources Assessment Hawthorne Mill East Development Area, Fairfield, Solano County, California	WRA	4/30/2014	X		special-status plants special-status wildlife biological communities	Conducted protocol-level rare plant survey (2010, 2011), protocol-level wet season vernal pool curstacean and focused vernal pool crustacean visual observation surveys at Cross Property (2010), and general wildlife and wildlife habitat reconnaissance surveys. Report summarizes results of all known studies conducted in the Project Area from 2000 to April 2014. WRA performed an initial site reconnaissance visit on January 25, 2010, with subsequent visits conducted during 2010 through 2013. Plant Special-status Plants: Protocol-level surveys documanted four SS plants observed in 2020 Hawthorne Mill boundary; brittlescale, pappose tarplant, CCG, and saline clover. However, no CCG seen in Hmill 2020 since 2005. Dot-density map of CCG in report. No saline clover observed during any protocol-level surveys. One additional SS plants documented in Conservation Area; dwarf downingia. Wildlife: No SS wildlife species documented in Hmill 2020. One SS wildlife species documented in Conservation Area, VPFS. Invertebrates: VPFS occur in Conservation Area, however, outside Hmill 2020. Fish: Steelhead unlikeley to occur in Project Area. Amphibians and Reptiles: Project Area unlikely to support Pacific pont turtle. CTS and CRLF unlikeley to occur in Project Area. Birds: Swainson's hawk foraging habitat in Hmill 2020, recommends pre-construction surveys for Swainson's hawk. Wintering BUOW present in Northern Cross Property and observed near Mc Coy Creek; recommend protocol-level BUOW wintering and nesting seasons surveys. Recommend pre-construction nesting bird surveys for other nesting raptors and migratory birds. Wetlands: 4.36 acre of open water, 2.33 acre of perennial stream, 0.6 acre of perennial ditch, 1.01 acre of stormwater/irrigation ditch, 1.97 acre of perennial freshwater marsh, 15.57 acre of alkali wetland, 68.13 acre of seasonal wetland, 6.78 acre of vernal pool, combined total of 100.75 acre of jurisdictional wetlands.	Yes	HME Project Area includes Hmill2020, Conservation Area, and Northern Cross Property.
Delineation Reports								
Wetland Delineation Report for the Strassberger Industrial Park, Cross Industrial Park, and Mc Coy Basin Properties, Fairfield, Solano County, California	Vollmar Consulting	8/30/2000		X	Wetland and non-wetland waters	Study Area larger than Hawthrone Mill and Cooper's Landing Project Area. Results summarized by the following: Parcel A - Strassburger Industrial Park, Parcel B - Northern Cross Property and other unnamed parcel(s), Parcel C - Cooper's Landing, McCoy Basin, components of Conservations Area, and City-owned parcel Delineation results for parcels A and B were summarized together as follows: 13.59 acres of seasonal wetlands, 1.26 acres of perennial freshwater marsh, and 7.46 acres of "other waters." Delineation results for parcel C: 16.99 acres of seasonal wetland, 2.57 acres of perennial freshwater marsh, and 42.10 acres of "other waters."		
Delineation of Waters of the United States: Jepson Parkway Project	Jones and Stokes	10/00/ 2005	X*		Wetland and non-wetland waters	Habitats delineated as Corps-jurisdictional features in Jepson Parkway Project Study Area. Per report executive summary, 46.16 acres of wetland and "Other waters of the U.S." mapped within Study Area. Between 2006 to 2008, wetland acreage within Study Area increased. A total of 132.59 acres of jurisdictional features covered by the Corps under a Preliminary Jurisdictional Determination (PJD) on February 18, 2009 (Corps File No. 248540).	Yes	

Attachment D. Summary of Biological Surveys and Assessments conducted within Hawthorne Mill and Cooper's Landing

Report Title	Author	Report Date	Project Area*		Resource	Findings	> 5 years old	Notes
			HM	CL				
Preliminary Delineation of Waters of the United States, Including Wetlands, for the Edenbridge McCoy Transit Village and Mitigation Site	Jones and Stokes	2/8/2006, Corps certified 11/8/2007	X	X	Wetland and non-wetland waters	Initial results of the preliminary wetland delineation identified a total of 96.38 acres of Waters of the U.S. Upon a verification and site visit from the Corps, extent of wetlands expanded to the following: 36.66 acres of vernal pools, 34.92 acres of seasonal wetlands, 26.46 acres of alkali meadow, 2.64 acres of emergent wetland drainage, and 0.12 acre of jurisdictional seasonal wetlands; 2.22 acres of perennial drainage (McCoy Creek) and 46.66 acres of open waters, for a total of 48.88 acres of "other waters of the US." A total of 149.68 acres of jurisdictional features verified by the Corps via Approved Jurisdictional Determination (AJD) on November 8, 2007 (Corps File No. 299100N).	Yes	Updated AJD of verified wetlands completed by WRA in 2015. AJD documents wetlands on Hawthorne Mill.
Wetland Delineation Report for the Strassberger Industrial Park, Cross Industrial Park, and McCoy Basin	LSA	4/7/2009		X	Wetland and non-wetland waters	Memo from LSA describing digitization of Vollmar (2000) wetland maps for the Cross, Strassberger, and McCoy Basin parcels. Maps incorporate 2008 delineation LSA prepared as part of annual monitoring for Manual Campos Mitigation project located in southeast portion of Cross Parcel. Acreage is as follows: Cross (B minus Manuel Campos) - 3.96 acres Strassberger (A) - 22.53 acres Manuel Campos Mitigation - 1.91 acres McCoy Basin (C) - 67.65 acres	Yes	
Preliminary Delineation of Waters of the U.S. Hawthorne Mill Development Area, Fairfield, Solano County, California	WRA	05/00/2015	X		Wetland and non-wetland waters	Jurisdictional delineation of potential Waters of the U.S. during drought conditions. Delineation uses JAS2005 delineation, Corps verified in 2006, as basis for mapping. 2015 delineation has a reduction in jurisdiction wetland acreage as the 2006 Corps verified delineation was conducted during an extreme rainfall period that includes the largest recorded monthly rainfall in the 64-year period of record at Fairfield (Station #2934). As such, the 2006 delineation concluded to not represent the extent of wetlands under normal conditions as required by the Corps guidance. Hmill 2020 contains 17.72 acres of seasonal wetlands and 0.13 acres of non-wetland waters (perennial drainage).	No	
Hawthorne Mill Wetland Delineation Verification Request - Corps File #299100N	WRA	5/27/2015	X		Wetland and non-wetland waters	Request for AJD from Corps on approximately 110-acre Hawthorne Mill Project Area for Waters of the U.S. Corps approved AJD May 31, 2016. Only 14.82 acres of WOTUS in Hawthorne Mill. Less wetlands than 2015 delineation.		

* Denotes study only covers a subset of Hawthorne Mill or Cooper's Landing
HM - Hawthorne Mill, CL - Cooper's Landing