County of San Mateo - Planning and Building Department

ATTACHMENT F

BIOLOGICAL SITE ASSESSMENT
FOR THE PROPOSED
ZMAY PROPERTY SUBDIVISION,
SAN MATEO COUNTY, CALIFORNIA

August 13, 2014
Revised March 10, 2015

Prepared for:

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SUMMARY

This report presents an update of a previously prepared assessment of existing and potentially occurring biological resources at the Zmay (formerly Beeson) Property, located in unincorporated San Mateo County. This report is intended to provide background and site-specific information pertaining to existing or potentially occurring biological resources receiving protection under federal, State, or local laws and policies. The report describes potential and existing biological constraints to future development of a portion of subject property site and identifies additional studies and impact avoidance and minimization measures that are expected to be necessary to satisfy regulatory requirements. The conclusions contained herein are based on background research, previous focused biological surveys and a follow-up reconnaissance-level survey.

The previous analysis addressed the entire 60-acre site. Since that time, the proposed project has been reduced to include only four single-family residences on four subdivided lots in the northeastern corner of the property, downslope of Parrott Drive. The reduced study area consists of the limits of the proposed four-lot subdivision, covering a total of approximately 2.9 acres (Lots 1-4). The remainder of the property, designated at Lot #5 and covering 57 acres, would be designated as open space protected by an open space easement; the proposed Lot #5 was not re-surveyed as part of this effort.

The subject property is situated on the east side of Crystal Springs Road, just across from the intersection with Polhemus Road, and west of Parrott Drive. The subject property is situated on mostly steep terrain with west to southwest-facing slopes. Within the study area, the predominant vegetation associations are coast live oak woodland, chamise chaparral, northern coastal scrub, and northern coyote brush scrub. Other plant associations present on site are Central Coast riparian scrub, northern coastal scrub, and non-native grassland. Of these, coast live oak woodland, northern coyote brush scrub, Central Coast riparian scrub, northern coastal scrub, native perennial bunchgrass grassland, and non-native grassland occur within the reduced study area.

Three intermittent stream channels cross the slopes of the subject property with two originating on Lots 2 and 4 within the reduced study area. Each is a tributary to San Mateo Creek. These channels are expected to fall under the jurisdiction of the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and the Regional Water Quality Control Board (RWQCB).

During floristic surveys of the subject property performed in 2007, a total of six special-status plant species were detected. No special-status plant species were found to occur within the boundaries of the proposed four new parcels. No additional surveys or mitigation measures are warranted.

Four federal and/or state-listed endangered, threatened or fully protected species are considered to have the potential to occur on the subject property although within the study

area only the mission blue butterfly and white-tailed kite are considered to have a potential for occurrence; the potential for occurrence of California red-legged frog and San Francisco garter snake and steelhead is considered to be low. Nonetheless, development of the fourn new parcels could indirectly affect these species through erosion and sedimentation.

The presence within the reduced study area of one special-status mammal, San Francisco dusky-footed woodrat, was confirmed during the 2014 follow-up reconnaissance survey. Another 14 special-status wildlife species are considered to have the potential to occur within the reduced study area, including ten birds and five bat species. Impacts to federally and State-listed species are regulated under the California and federal endangered species acts. Impacts to other special-status species would be considered significant under the guidelines of the California Environmental Quality Act (CEQA).

Development of the project site could result in direct (i.e., mortality of individuals, loss of host plants, nest failure, etc.) or indirect (i.e., loss of foraging habitat, noise disturbance, nest disturbance, etc.) impacts to these species.

Based on biological resources that are known or presumed to occur on site, the following regulatory constraints are expected:

1. Clean Water Act (§§401 and 404) compliance.
2. California Fish and Game Code (§1600) compliance.
3. State water quality certification from the RWQCB.
4. Endangered species consultation with the USFWS, NOAA Fisheries, and CDFW regarding California red-legged frog, San Francisco garter snake, Central California Coast Steelhead, and mission blue butterfly.
5. Town of Hillsborough General Plan compliance (if annexed).
6. Town of Hillsborough tree removal permit (if annexed).

Depending on final project design, authorization by federal, State and local agencies may be necessary. Impact avoidance and minimization measures are warranted and outlined in the report.

1.0 INTRODUCTION

This report presents an update of a previously prepared assessment of biological constraints to development of the Zmay (formerly Beeson) Property (Wood Biological Consulting 2007a). The subject property is located in unincorporated San Mateo County (Figures 1 and 2). The previous analysis addressed the entire 60-acre site. Since that time, the proposed project has been reduced to include only four single-family residences on four subdivided lots in the northeastern corner of the property, downslope of Parrott Drive. A reduced study area, confined to only the proposed four-lot subdivision and covering a total of approximately eight acres (Lots 1-4), was analyzed in August 2014. The proposed four-lot subdivision has since been further reduced in size to cover a total of 2.93 acres (Figure 3). This reduced four-lot subdivision is the focus of this analysis. The remainder of the property, designated at Lot #5 and covering 57 acres, would be designated as open space protected by an open space easement; the proposed Lot #5 was not re-surveyed as part of this effort.

This biological site assessment (BSA) report provides background and site-specific information pertaining to existing and potentially occurring biological resources receiving protection under federal, State, or local laws and policies. The report describes potential constraints to future development of the site and identifies additional studies and mitigation measures that are expected to be necessary to satisfy regulatory requirements. The conclusions contained herein are based on background research, focused floristic surveys, a formal wetland delineation and a single follow-up reconnaissance-level survey.

2.0 METHODS AND LIMITATIONS

The findings for this BSA are based on the following:

1) a database print-out for San Mateo County (CNDDB 2014);
2) a review of the previously prepared biological studies (Wood Biological Consulting 2007a, b, c); and
3) a reconnaissance-level survey of the reduced study area by a qualified biologist.

A reconnaissance-level site survey of the entire property was performed by biologists Michael Wood and Jerry Roe on December 7, 2006. A formal wetland delineation and preliminary jurisdictional determination of the entire subject property area was conducted by biologists Michael Wood and Heath Bartosh on March 5, 2007 (Wood Biological Consulting 2007b). Focused floristic surveys were also conducted by Mr. Wood and Mr. Bartosh in 2007 on March 5, March 22, March 29, May 10 and May 14, and by Mr. Bartosh, Ms. Erin McDermott and Mr. Brett Stevenson on July 19 (Wood Biological Consulting 2007c).

Source: Google Maps

Figure 1. Project Location

NOTES:

1) ALL DISTANCES SHOWN ARE GRID DISTANCES. TO OBTAIN GROUND DISTANCES MULTIPLY BY 1.00007500.

2) AREAS WITH DENSE VEGETATION HAVE CONTOURS DEPICTED BY A DASHED LINETYPE AND THESE AREAS MAY NOT MEET NATIONAL MAP ACCURACY STANDARDS.

3) DATE OF AERIAL PHOTOGRAPHY WAS NOVEMBER 1, 2006, CONTOUR INTERVAL = 2 FEET.

4) SITE AREA IS 60.26 ACRES±.

BASIS OF BEARINGS:

THE BEARINGS SHOWN ON THIS MAP ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) CCS83, EPOCH 2002.75, CALIFORNIA ZONE 3.

BENCHMARK:

SURVEY DISK ENCASED IN PVC PIPE WITH ACCESS COVER SET IN CONCRETE FLUSH WITH THE GROUND. LOCATED ON THE WEST SIDE OF SKYLINE BLVD. BETWEEN HIGHWAY 280 AND LOWER CRYSTAL SPRINGS RESERVOIR, ABOUT 284 FEET SOUTHEAST OF THE INTERSECTION OF GOLF COURSE DRIVE AND SKYLINE BLVD, 39.2 FEET NORTHWEST OF A 50-MILE PER HOUR SPEED LIMIT SIGN, 6.8 FEET NORTHEAST OF A 6 FOOT HIGH STRAND BARBED WIRE FENCE AND LEVEL WITH SKYLINE BLVD. THE DISK IS 0.2 FEET BELOW THE LID OF THE ACCESS COVER.

NGS PID = AB7675
ELEVATION = 634.4 FEET
DATUM: NAVD 88

OWNER AND SUBDIVIDER:

STEVE ZMAY AND NICK ZMAY
751 LAUREL STREET, # 409
SAN CARLOS, CA 94070
TEL: (650) 430-0075

CIVIL ENGINEER / LAND SURVEYOR:

DAN MacLEOD
MacLEOD & ASSOCIATES, INC.
965 CENTER STREET
SAN CARLOS, CA 94070
TEL: (650) 593-8580

ASSESSOR'S PARCEL NUMBER:

038-131-110

EXISTING AND PROPOSED ZONING:

RM

FLOOD ZONE:

ZONE X

UTILITIES:

WATER:	CAL WATER
SANITARY SEWER:	COUNTY OF SAN MATEO
GAS & ELECTRICAL:	PG & E
TELEPHONE:	AT&T COMMUNICATIONS
FIRE:	CAL FIRE

EASEMENTS

① 10' SANITARY SEWER EASEMENT
5626 O.R. 113
5626 O.R. 116

② 10' SANITARY SEWER EASEMENT
3958 O.R. 236

③ 15' STORM DRAIN EASEMENT
3293 O.R. 649

④ 15' PUBLIC UTILITY AND WATER LINE EASEMENT
2450 O.R. 48

FIGURE 2 - VESTING TENTATIVE PARCEL MAP

REV.	DESCRIPTION	BY:	DATE:

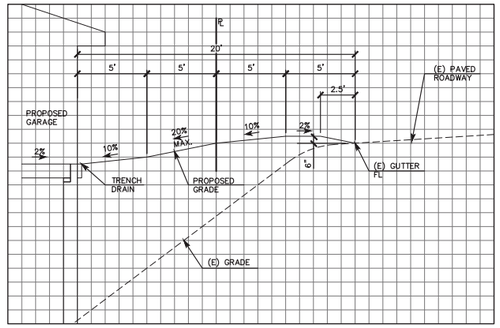
LICENSED LAND SURVEYOR DANIEL K. MacLEOD No. 5304 STATE OF CALIFORNIA

MacLEOD AND ASSOCIATES
CIVIL ENGINEERING • LAND SURVEYING
965 CENTER STREET • SAN CARLOS • CA 94070 • (650) 593-8580

PREPARED FOR:
STEVE & NICK ZMAY

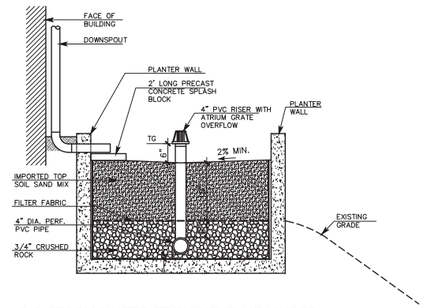
VESTING TENTATIVE PARCEL MAP
LANDS OF ZMAY
BEING A PORTION OF PARCEL "A", 53 PM 58
1551 CRYSTAL SPRINGS ROAD
SAN MATEO COUNTY
CALIFORNIA
UNINCORPORATED

DRAWN BY:	DJK
DESIGNED BY:	---
CHECKED BY:	DGM
SCALE:	1"=100'
DATE:	02-17-15
DRAWING NO.	3949-TM
SHEET	1 OF 2



A TYPICAL DRIVEWAY PROFILE

SCALE: 1"=4'



C-3 STORM WATER TREATMENT MEASURES
FLOW-THROUGH PLANTER BOX FILTRATION DETAIL (TO SERVICE 4% OF IMPERVIOUS AREAS)

B SCALE: NOT TO SCALE

LEGEND

———	PROPERTY LINE	SSMH	SANITARY SEWER MANHOLE
— — —	PROPOSED PROPERTY LINE	WM	WATER METER
ALS	ACTIVE LAND SLIDE PER GEOTECHNICAL REPORT	WVLT	WATER VAULT
℄	CENTER LINE	(P)	PROPOSED
COTG	CLEANOUT TO GRADE	⋈	WATER VALVE
DF	DEBRIS FLOW PER GEOTECHNICAL REPORT	●12" TREE	TREE W/ SIZE
DWY	DRIVEWAY	——E——	ELECTRIC LINE
GAR	GARAGE	——G——	GAS LINE
GSBL	GARAGE SET BACK LINE – 20' FROM CURB LINE	——OH——	OVERHEAD LINE
FL	FLOWLINE	——SS——	SANITARY SEWER LINE
INV.	INVERT	——W——	WATER LINE
JP	JOINT UTILITY POLE	——SS——	PROPOSED SANITARY SEWER LINE
PGEV	PG&E VAULT	——W——	PROPOSED WATER LINE
ℙ	PROPERTY LINE	COTG	PROPOSED CLEANOUT TO GRADE
SBL	SETBACK LINE	WM	PROPOSED WATER METER

FIGURE 3 - REDUCED LOT PLAN

PREPARED FOR:
STEVE & NICK ZMAY

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965 CENTER STREET • SAN CARLOS • CA 94070 • (650) 593-8580

LICENSED LAND SURVEYOR No. 5304 STATE OF CALIFORNIA

REV.	DESCRIPTION	BY:	DATE:

VESTING TENTATIVE PARCEL MAP
LANDS OF ZMAY
BEING A PORTION OF PARCEL "A", 53 PM 58
1551 CRYSTAL SPRINGS ROAD
SAN MATEO COUNTY
CALIFORNIA
UNINCORPORATED

DRAWN BY:	DJK
DESIGNED BY:	---
CHECKED BY:	DGM
SCALE:	1"=40'
DATE:	02-17-15
DRAWING NO.	3949-TM
SHEET	2 OF 2

In support of this revised BSA, a reconnaissance-level survey of the proposed four-lot subdivision was performed by Mr. Wood on June 26, 2014. All surveys were conducted on foot. All wildlife and plant species observed were recorded. The recent survey did not include a 100 percent visual inspection of the reduced study area due to the steepness of the slopes and the dense vegetation. However, all major habitat types were visited, allowing the preparation for an accurate site characterization.

Additional information regarding special-status plants, animals, and habitats was compiled through a review of published literature by the California Department of Fish and Wildlife[1] (CDFG 2011; CDFW 2014a,b,c), the California Native Plant Society (CNPS 2014), U.S. Fish and Wildlife Service (USFWS 2014), Corelli and Chandik (1995) and Thomas (1961). Nomenclature for common, widespread plants and animals conforms to Baldwin, et al. (20012) and CDFG (2005), respectively. Nomenclature for special-status plants and animals conforms to CDFW (CDFW 2014b and CDFG 2011, respectively). In this report, nomenclature for all common and special-status plant species has been updated following the Jepson Online Interchange.[2] Plant community names conform to CDFW (2010), Sawyer, et al. (2009), and Cowardin, et al. (1979). Tables of special-status target species were prepared using the CalBiota database, version 2.1.

3.0 EXISTING CONDITIONS

3.1 Setting

The subject property covers approximately 60 acres situated on the east side of Crystal Springs Road and west of Parrott Drive, in unincorporated San Mateo County. The site property is situated on mostly steep terrain with west to southwest-facing slopes. Elevations range from 112-512 feet above mean sea level (msl). Three intermittent stream channels cross the property, draining the slopes to San Mateo Creek. A suburban residential neighborhood borders the site to the east and southeast. Similar undeveloped canyon slopes are present on the opposite side of Crystal Springs Road with suburban residential neighborhoods beyond to the west. An aerial view of the entire property and the reduced study area is provided in Figure 4.

Soils over a majority of the subject property are mapped as Los Gatos Loam, 30 to 75 percent slopes, with small areas of Maymen gravelly loam, 30 to 50 percent slopes, and Orthents, cut and fill-Urban land complex, 5 to 75 percent slopes (USDA 1991). The underlying geology at the project site is Sheared Franciscan Rock, mélange, which consists predominantly of graywacke, siltstone and shale, and other Franciscan rock types (Brabb, et al. 1998).

[1] As of January 1, 2013, the California Department of Fish and Game (CDFG) changed its name to the California Department of Fish and Wildlife (CDFW). All publications released by this agency prior to that date are referred by its former name.

[2] Available on line at http://ucjeps.berkeley.edu/ interchange.html

Figure 4. Aerial View of the Subject Property with Biological Constraints

Wetland Delineation Legend

Wetland Data Points	Aquatic Resources
Data Points	Open Watercourse
	Culverted Watercourse
	Freshwater Seep
	Central Coast Riparian Scrub

Summary of Jurisdictional Habitats

Habitat Type	Federal and State Jurisdiction*		State Jurisdiction**
	lin. ft.	sq. ft.	sq. ft.
Waters of the U.S./State	4,473	8,185	0
Central Coast riparian scrub	0	9,160	9,031
freshwater seep	0	200	133
Total	4,473	17,545	9,164
acres		0.40	0.21

* Regulated by the USACE, RWQCB and CDFG
** Regulated only by the RWQCB and/or CDFG

Geologic Legend

fsr	Franciscan Sheared rock (melange)		Rock outcrop
Fill	Artificial Fill		Zones of soil creep
Qls	Quaternary Landslide		Directions of soil movements
df	Debris Flow		Springs and seeps

"Generalized Section" line from BAGG geologic and geotechnical report

Boring Legend

B–# Auger Boring

RWB–# Rotary Wash Boring

Tree Status Legend

Healthy Trees — Tree T# in Green

Dead or Unhealthy to be removed — Tree T# in Red

Special-Status Plant Species Legend

Special–Status Plants Observed (Points)

- Franciscan Onion CNPS 1B — Allium peninsulare var. franciscanum
- San Francisco Collinsia CNPS 1B — Collinsia multicolor
- Western Leatherwood CNPS 1B — Dirca occidentalis
- San Mateo Woolly Sunflower FE — Eriophyllum latilobum

Special–Status Plants Observed (Polygons)

- Franciscan Onion
- San Francisco Collinsia
- Western Leatherwood
- San Francisco Collinsia/Franciscan Onion

OPPORTUNITIES AND CONSTRAINTS MAP
LANDS OF ZMAY

HILLSBOROUGH SAN MATEO COUNTY CALIFORNIA

No.	Revisions	
1.	3/10/15	NEW LOT LAYOUT

Date: 08/19/14
Scale: 1"=100'
Design: DGM
Drawn: DJK
Approved:
Job No: 3949-14

Drawing Number:

1 OF 1

3.2 Plant Communities

Over the subject property, the predominant vegetation associations are coast live oak woodland, chamise chaparral, northern coyote brush scrub and northern coastal scrub. Other plant associations present on site are Central Coast riparian scrub, native perennial bunchgrass grassland, and non-native grassland. Of these, coast live oak woodland, northern coyote brush scrub, Central Coast riparian scrub, northern coastal scrub, native perennial bunchgrass grassland, and non-native grassland occur within the reduced study area. Each of these plant communities is described, below. A map of the plant communities on the subject property is presented in Figure 5.

Coast Live Oak Woodland

Coast live oak woodland is typically found on north-facing slopes and shaded ravines in the southern and inland portions of the state and on more exposed, mesic sites in the north. This community is dominated by coast live oak (*Quercus agrifolia*), which frequently occurs in pure, dense stands with a closed canopy. Coast live oak woodland is restricted primarily to the coast side of the state and is distributed from Sonoma County to Baja California. It occurs throughout the outer South Coast ranges and coastal slopes of the Transverse and Peninsular ranges, usually below 4,000 feet in elevation.

Coast live oak woodland covers approximately one-quarter of the site, occurring on the lower slopes and extending upslope along the drainages. This habitat is dominated by coast live oak. Other trees commonly found on site include California bay (*Umbellularia californica*), California buckeye (*Aesculus californica*), big-leaf maple (*Acer macrophyllum*), and madrone (*Arbutus menziesii*). Native shrub and vine species commonly found include toyon (*Heteromeles arbutifolia*), blue elderberry (*Sambucus nigra* ssp. *canadensis*), red flowering currant (*Ribes sanguineum* var. *glutinosum*), poison oak (*Toxicodendron diversilobum*), common snowberry (*Symphoricarpos albus* var. *laeviagtus*), creeping snowberry (*Symphoricarpos mollis*), California blackberry (*Rubus ursinus*), California honeysuckle (*Lonicera hispidula*), and wood rose (*Rosa gymnocarpa*), among others. Native herbaceous species present include wood fern (*Dryopteris arguta*), California polypody (*Polypodium californicum*), goldback fern (*Pentagramma triangularis*), California hedgenettle (*Stachys bullata*), western brackenfern (*Pteridium aquilinum* var. *pubescens*), California fescue (*Festuca californica*), giant wildrye (*Elymus condensatus*), blue wildrye (*Elymus glaucus*), sweet cicely (*Osmorhiza berteroi*), yerba buena (*Clinopodium douglasii*), coyote mint (*Monardella villosa*), bedstraw (*Galium aparine*), woodland strawberry (*Fragaria vesca*), California bedstraw (*Galium californicum* ssp. *californicum*), and Pacific sanicle (*Sanicula crassicaulis*), among others.

On site, this vegetation type conforms to the *Quercus agrifolia* Woodland Alliance as described by Sawyer, et al. (2009) and would be considered as an upland as classified in Cowardin, et al. (1979). Within the reduced study area, this plant association covers a majority of Lot 4, and a minor portion of Lots 2 and 3.

10/04/07

Floristic Analysis of the Beeson Property - Figure 4

Legend

Beeson Property Boundary

Vegetation Communities

- Chamise Chaparral
- Coast Live Oak Woodland
- Eucalyptus globulus
- Native Bunchgrass Grassland
- Non-native Annual Grassland
- Northern Coastal Scrub
- Northern Coyote Brush Scrub
- Pampass Grass
- Anthropogenic
- Freshwater Seep
- Central Coast Riparian Scrub

FIGURE 5

Plant Communities

Zmay Property

1:2,700

0 112.5 225

Feet

Aerial photography provided by the California Spatial Information Library. Road Data provided by ESRI. Vegetation mapped with Trimble's GeoXT during spring and summer of 2007. Projection: NAD 83 SP CA Zone III.

San Mateo County, California

Chamise Chaparral

Chamise chaparral is typically a dense shrub community overwhelmingly dominated by a single species (*Adenostoma fasciculatum*), with shrubs reaching up to ten feet high. Other species typically contribute little to canopy cover, and in very dense stands, herbaceous understory species may be completely lacking. Chamise chaparral occurs throughout California. It occupies very dry, shallow soils of steep, usually south-facing slopes, and is subject to a regime of periodic fire.

On the subject property, chamise chaparral occurs in patches on spur ridges extending to the upper portions of the west-facing slopes. At the down-slope edge, chamise chaparral intergrades with coast live oak woodland. The shrub canopy is dominated by chamise, with scattered individuals of blue blossom (*Ceanothus thyrsiflorus*), sticky monkeyflower (*Mimulus aurantiacus*), California sagebrush (*Artemisia californica*), hollyleaf cherry (*Prunus ilicifolia*), poison oak, red flowering currant, and California broom (*Acmispon glaber*). Herbaceous species present include yerba santa (*Eriodictyon californicum*), coffee fern (*Pellaea andromedifolia*), centaury (*Centaurium muehlenbergii*), common phacelia (*Phacelia distans*), and foothill needlegrass (*Stipa lepida*), among others.

On site, this plant community corresponds to the *Adenostoma fasciculatum* Shrubland Alliance as described in Sawyer, et al. (2009) and is an upland following Cowardin, et al. (1979). This plant association does not occur within the reduced study area.

Northern (Franciscan) Coastal Scrub

Northern coastal scrub consists of a dense cover of low shrubs up to six feet high with a well-developed herbaceous or low woody understory. It is frequently interspersed with coastal terrace prairie grassland. Northern coastal scrub is most extensive on windy, exposed sites with shallow, rocky soils. This vegetation community is distributed in a discontinuous strip from southern Oregon to Point Sur, Monterey County within the immediate coastal zone and at elevations up to 1,500 feet (Holland 1986; Holland and Keil 1990).

On site, northern coastal scrub is restricted to relatively small patches in openings in and at the edges of the coast live oak woodland canopy and intergrading with stands of northern coastal scrub and northern coyote brush scrub. The dominant characteristic plant species are California sagebrush and sticky monkeyflower. Other common constituents include bee plant (*Scrophularia californica*), goldback fern, toyon, poison oak, sticky cinquefoil (*Drymerocallis glandulosa*), yerba buena, and pitcher sage (*Lepechinia calycina*), among others.

On site, northern coastal scrub most closely corresponds to the *Artemisia californica* Shrubland Alliance as described in Sawyer, et al. (2009) and would be classified as an upland following Cowardin, et al. (1979). This plant association does not occur within the reduced study area.

Northern Coyote Brush Scrub

Northern coyote brush scrub is generally considered a sub-type of various coastal and inland scrub habitats. In general, coyote brush (*Baccharis pilularis*) can form dense stands following disturbance of somewhat mesic sites on heavy soils. This scrub community consists of shrubs to eight feet tall with a well-developed herbaceous or low woody understory. Vegetative cover is mostly dense with scattered grassy openings. An increase in soil depth and moisture availability seems to favor dominance by coyote brush. This vegetation community is found in patches on coastal bluffs, slopes, and terraces within the fog incursion zone from southern Oregon to the Central Coast and South Coast of California. Northern coyote brush scrub frequently intergrades with such plant assemblages as northern (Franciscan) coastal scrub, coast live oak woodland, coastal terrace prairie, perennial needlegrass grasslands, non-native annual grasslands, cismontane woodland, and coniferous forests near the coast, and can even occur in openings in chaparral.

Several extensive stands of northern coyote brush scrub are present on the subject property, occurring on the upper slopes, especially where surface moisture is present. On site, northern coyote brush scrub intergrades with northern coastal scrub and coast live oak woodland. The vegetation is dense and tall (to 8 feet) and mostly impenetrable. Stands are located on sites that appear to have been subjected to historic surface disturbances, possibly the result of slope failures or historic grading. Other dominant plant species present include Italian thistle (*Carduus pycnocephalus*), poison hemlock (*Conium maculatum*), ripgut brome, soft chess, bull thistle, Durango root (*Datisca glomerata*), poison oak, annual rabbitfoot grass (*Polypogon monspeliensis*), Mediteranean barley (*Hordeum marinum* ssp. *gussoneanum*), and pampas grass (*Cortaderia selloana*).

On site, this plant community conforms to the *Baccharis pilularis* Shrubland Alliance as described in Sawyer, et al. (2009) and would be classified as an upland following Cowardin, et al. (1979). Within the reduced study area, this plant association covers a majority of Lots 1, 2 and 3, and small portion of Lot 4.

Central Coast Riparian Scrub

Central Coast riparian scrub typically consists of scrubby streamside, open to impenetrable thickets composed of any of several species of willows. This plant community occurs close to river channels and near the coast on fine-grained sand and gravel bars with a high water table. It is distributed along and at the mouths of most perennial and many intermittent streams of the South Coast Ranges, from the Bay Area to near Point Conception (Holland 1986). Central Coast riparian scrub is generally regarded as early seral, meaning that it typically precedes the development of other riparian woodland or forest communities in the absence of severe flooding. However, outside of riparian situations, that is, near groundwater seeps on slopes, willow-dominated scrub represents a relatively stable plant community and is not considered seral.

On site, Central Coast riparian scrub exists in several dense stands on the upper slopes at the tops of draws, and is presumably supported by nuisance water (i.e., run off from irrigation or leaking storm/sewer lines). Characteristic native species occurring on site include arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), California blackberry, coyote brush, coast live oak, among others. Non-native species present include Himalayan blackberry (*Rubus armeniacus*), pampas grass, evergreen thornless blackberry (*Rubus ulmifolius* var. *inermis*) and poison oak, among others.

On site, this habitat most closely conforms to the *Salix lasiolepis* Shrubland Alliance as described in Sawyer, et al. (2009) and palustrine shrub-scrub wetland following Cowardin, et al. (1979). Within the reduced study area, stands of this plant association overlap the down-slope edges of Lots 2, 3 and 4.

Non-native Annual Grassland

Non-native annual grassland is generally found in open areas in valleys and foothills throughout coastal and interior California (Holland 1986). It typically occurs on soils consisting of fine-textured loams or clays that are somewhat poorly drained. This vegetation type is dominated by non-native annual grasses and weedy annual and perennial forbs, primarily of Mediterranean origin, that have replaced native perennial grasslands, scrub and woodland as a result of human disturbance. Scattered native wildflowers and grasses, representing remnants of the original vegetation may also be common.

On site, patches of non-native annual grassland are present at the upper reaches of slopes where brush has been cleared for fire control or slope repair. Non-native annual grassland intergrades with northern coyote brush scrub and coast live oak woodland.

Characteristic non-native annual grasses commonly found on site include wild oats, soft chess, ripgut brome, wild barley (*Hordeum* spp.), big quaking grass (*Briza maxima*), Italian ryegrass (*Festuca perennis*), and rattail fescue (*Festuca myuros*), among others. Common non-native forbs include yellow star thistle (*Centaurea solstitialis*), bristly ox-tongue (*Helminthotheca echioides*), and long-beaked storksbill (*Erodium botrys*), among others. Native species detected include hayfield tarweed (*Hemizonia congesta* ssp. *luzulifolia*), foothill needlegrass, soap plant (*Chloragalum pomeridianum*), tall willowherb (*Epilobium brachycarpum*), and California brome (*Bromus carinatus*), among others.

Non-native annual grassland conforms to the *Avena* Semi-Natural Herbaceous Stands as described in Sawyer, et al. (2009), and would be classified as an upland, following Cowardin, et al. (1979). This plant association does not occur within the reduced study area.

Native Perennial Bunchgrass Grassland

Native perennial bunchgrass grassland is a composite of several types of native grassland communities, typically dominated by perennial, tussock-forming grass species from several general. In California, the most widespread native grassland if valley needlegrass grassland, dominated by species in the genera *Stipa.* This plant assemblage is typically found on fine-textured, often clayey soils that remain moist or even water-logged after winter rains but are very dry during the summer. Frequently, stands will consist of 50 percent cover or more of non-native grasses and forbs. Native grassland communities originally covered about 13 percent of the land area of California. The most extensive areas of grasslands were located in the San Joaquin, Sacramento and Salinas valleys, the Los Angeles Basin, the Transverse and Peninsula ranges, to the Mojave Desert and Baja California in areas too hot and dry to support woodland vegetation. Valley needlegrass grassland represents a natural resource that has been greatly diminished since the introduction of grazing livestock and Eurasian grasses and forbs, cultivation and development. Introduced annual grasses and forbs are much more tolerant of intense grazing than the native perennial grasses. As a result, the extent of native grasslands has been greatly reduced while the non-native annual grasses have become naturalized and widespread.

Within the subject property, several relatively small patches of native bunchgrass grassland are present. These minor plant associations blend into non-native annual grassland, northern coyote brush scrub, and northern coastal scrub. Scattered individuals of native grasses are present throughout the non-native annual grassland. However, several areas distinctly dominated by native perennial bunchgrasses are present. One site, located near the top of the slope at the northern edge of the subject propety, is dominated by California oatgrass (*Danthonia californica*). The remaining locations support relatively intact stands of purple needlegrass (*Stipa pulchra*).

On site, grasslands dominated by California oatgrass conform to the *Danthonia californica* Herbaceous Alliance as described by Sawyer, et al. (2009). Grasslands dominated by purple needlegrass conform to the *Nassella pulchra*[3] Herbaceous Alliance as described by Sawyer, et al. (2009). Both grassland types would be classified as uplands following Cowardin, et al. (1979). Within the reduced study area, a substantial area of this plant association occurs in Lot 1, with a small area overlapping into Lot 2.

Seeps

A single small seep dominated by herbaceous marsh species is present on site, located on an exposed slope immediately below a stand pampas grass and in line with a seep that supports a stand of Central Coast riparian scrub further upslope. The seep is dominated by such wetland species as brown-headed rush, spreading rush, and dense sedge (*Carex*

[3] Subsequent to the publication of Sawyer, et al. (2009), the scientific name of purple needlegrass was changed to *Stipa pulchra.*

densa). This isolated seep was soggy at the surface during multiple visits. No areas of seeps are present within the reduced study area.

3.4 Wildlife Movement Corridors

Habitat loss, fragmentation, and degradation resulting from a change in land use or habitat conversion can alter the use and viability of wildlife movement corridors (i.e., linear habitats that naturally connect and provide passage between two or larger habitats or habitat fragments). In general, studies suggest that habitat corridors provide connectivity for and are used by wildlife, and as such are an important conservation tool (Beier and Noss 1998). According to Beier and Loe (1992), wildlife habitat corridors should fulfill several functions. They should maintain connectivity for daily movement, travel, mate-seeking, and migration; plant propagation; genetic interchange; population movement in response to environmental change or natural disaster; and recolonization of habitats subject to local extirpation.

The suitability of a habitat as a wildlife movement corridor is related to, among other factors, the habitat corridor's dimensions (length and width), topography, vegetation, exposure to human influence, and the species in question (Beier and Loe 1998). Species utilize movement corridors in several ways. "Passage species" are those species that use corridors as thru-ways between outlying habitats. The habitat requirements for passage species are generally less than those for corridor dwellers. Passage species use corridors for brief durations, such as for seasonal migrations or movement within a home range. As such, movement corridors do not necessarily have to meet all of the habitat requirements necessary for a passage species' everyday survival. Large herbivores (e.g., deer and elk) and medium-to-large carnivores (e.g., coyotes and mountain lions) are typically passage species. "Corridor dwellers" are those species that have limited dispersal capabilities, a category that includes most plants, insects, reptiles, amphibians, small mammals, and birds, and that use corridors for a greater length of time. As such, wildlife movement corridors must fulfill key habitat components specific to a species' life history requirements in order for them to survive (Beier and Loe 1998). In general, however, the suitability and/or utility of the landscape, specifically, of the landscape as corridor habitat, is best evaluated on a species-level (Beier and Noss 1998).

The San Mateo Creek riparian corridor adjacent to the project site provides for migratory movement, daily travel, and/or dispersal of a wide variety of common fish and wildlife species. Use of such corridor varies with respect to the species and time of year. Within the project site, no habitats or features function as wildlife movement corridors. The site is connected by San Mateo Creek to undeveloped lands within the Crystal Springs watershed. However, the remainder of the site is surrounded by suburban development.

4.0 SPECIAL-STATUS BIOLOGICAL RESOURCES

4.1 Special-status Natural Communities

Special-status natural communities are those that are considered rare in the region, support special-status plant or wildlife species, or receive regulatory protection (i.e., Section 404 of the Clean Water Act (CWA) and/or the California Fish and Game Code (CFGC; i.e., Section 1600, et seq.). The California Natural Diversity Data Base (CNDDB) has designated a number of communities as rare and these communities are given the highest inventory priority (CNDDB 2014, CDFG 2010).

Riparian habitats are considered by State and federal regulatory agencies to represent a sensitive and declining resource. Wetlands and riparian areas can serve significant biological functions by providing nesting, breeding, foraging, and spawning habitat for a wide variety of resident and migratory wildlife species. Impacts to stream channels with a defined bed and bank are addressed specifically by the CFGC (§1600 et seq.) and may be regulated under Section 404 of the CWA. The USACE regulates dredging and placement of fill into waters of the U.S., including wetlands, with oversight of permitting decisions by the U.S. Environmental Protection Agency (USEPA). The USFWS and the National Oceanic and Atmospheric Administration, Fisheries Service (NOAA Fisheries Service) has input on permitting decisions by the USACE when an activity could affect wetland-dependent federally listed species.

Special-status natural communities present on site are restricted to waters of the U.S. / waters of the State, consisting of three incised tributaries to San Mateo Creek that cross the slopes on site. In addition, scattered willows and coast live oak trees adjacent to these channels might be regarded as riparian habitat, potentially falling under CDFW jurisdiction. None of the remaining plant associations is regarded as having statewide special status (CDFG 2010).

The San Mateo County General Plan (see Section 5.0, below) defines sensitive habitats are those supporting rare or unique species, riparian corridors, wetlands, and important nesting, feeding, breeding or spawning areas.[4] Oak woodlands and riparian habitats are specifically addressed under the Town of Hillsborough General Plan (see Section 5.0, below).

A single special-status plant community occurs within the boundaries of the reduced lot plan. Small areas of Central Coast riparian scrub occur on the down-slope edges of Lots 2, 3 and 4 (Figure 5).

[4] Section 1.8

4.2 Special-Status Plant Species

Special-status plant species include those listed as endangered, threatened, rare, or as candidates for listing by the U.S. Fish and Wildlife Service (USFWS 2014), the CDFW (2014a,b), and the CNPS (2014). The CNPS *Inventory of Rare and Endangered Plants* (2014) focuses on native plants that are rare in California or that face the threat of extinction or extirpation in the state. The *Inventory* includes five "lists" based on the level of concern by state botanists regarding the continued existence of certain species. Regardless of whether or not a species is included on any State or federal lists, species included on the CNPS List 1 and 2 are considered to meet the criteria for listing as a rare species in California. Pursuant to CEQA guidelines, it is therefore mandatory that impacts to species on these lists be evaluated during preparation of CEQA documents. In addition, although not mandated, the CNPS strongly recommends that impacts to species on List 3 and List 4 also be evaluated in CEQA documents, although any requirements for mitigation measures for unavoidable impacts would be left to the discretion of the lead agency.

Based on a review of special-status plant species in San Mateo County (CNDDB 2014, CNPS 2014, a total of 109 special-status plant species have been recorded from the project region. A summary of the status, habitat affinities, blooming period, and potential for occurrence on the subject property and within the reduced study area for each of the target plant species is presented in Appendix A. An explanation of all rarity status codes is provided in Appendix C.

During floristic surveys of the subject property performed in 2007, a total of six special-status plant species were detected. The presence of one federally and State-listed endangered plant species (San Mateo woolly sunflower [*Eriophyllum latilobum*]) was confirmed. Also detected were populations of four CNPS List 1B species (western leatherwood, Franciscan onion, San Francisco collinsia, and arcuate bush-mallow), and one CNPS List 4 species (California bottle-brush grass). The remaining 103 target species are considered to be absent from the subject property. While no special-status plant species have been detected within the reduced study area, western leatherwood does occur in the vicinity of the proposed Lot #4 (see Figure 5). A discussion of these species is presented below.

<u>San Mateo Woolly Sunflower</u>

San Mateo woolly sunflower (*Eriophyllum latilobum*) is a bushy perennial in the sunflower family (Asteraceae). It forms a low, rounded shrub from one to two feet high with loosely woolly stems and leaves. Leaves are deeply divided and about two inches long. Flowers have bright yellow rays and disks, forming in loose heads of up to ten flowers on long peduncles. Flowering occurs from April through June.

San Mateo woolly sunflower occurs on grassy or rocky sparsely wooded slopes below 500 feet in elevation. It is a local endemic, restricted to the region around Crystal Springs Reservoir. Although usually considered to be restricted to ultramafic soils, it can also be

expected on greywacke sandstone, chert, siltstone, and shale derived from bedrock in the Franciscan Complex. San Mateo woolly sunflower is listed as endangered under the California Endangered Species Act (CESA) and the federal Endangered Species Act (FESA), and it is on the CNPS List 1B.1. Impacts to San Mateo woolly sunflower are restricted under FESA and CESA, and would be considered significant under CEQA guidelines.

San Mateo woolly sunflower has been recorded on rocky bank cuts on the west side of San Mateo Creek, directly opposite the subject property (H. Bartosh, pers. comm. 2006). San Mateo woolly sunflower was recorded in scattered locations primarily near the central western margin of the site (Wood Biological Consulting 2007c). Three individuals were also detected near the northwestern corner of the property. An estimated total of 56 individuals of San Mateo woolly sunflower were counted and mapped. No individuals of San Mateo wooly sunflower were mapped within the boundaries of the four proposed new parcels (Figure 5).

Western Leatherwood

Western leatherwood (*Dirca occidentalis*) is a deciduous shrub in the mezereum family (Thymelaeaceae). It occurs on moist sites in broadleafed upland forest, chaparral, cismontane woodland, closed-cone coniferous forest, closed-cone pine forest, foothill woodland, mixed evergreen forest, north coast coniferous forest, north coastal coniferous forest, riparian forest, and riparian woodland, at between 150 and 1,300 feet in elevation. It has been recorded from Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Sonoma counties. Western leatherwood flowers from January through April. Western leatherwood is listed as a special plant by the CDFW and is on the CNPS List 1B.2 as a species that is moderately endangered in California.

An estimated total of 660 individuals of western leatherwood were counted on the subject property, primarily in the central and northern central portions of the site (Wood Biological Consulting 2007c). However, no individuals of western leatherwood were mapped within the boundaries of the four proposed new parcels (Figure 5).

San Francisco Collinsia

San Francisco collinsia (*Collinsia multicolor;* formerly *C. franciscana*), also known as Franciscan blue-eyed Mary, is a member of the figwort family (Scrophulariaceae). It is an annual herb producing loosely branched stems ten to 20 inches tall. Leaves are narrowly triangular, about one inch long and form in pairs that clasp both sides of the stem. Flowers appear March through May, and are lavender to violet-blue with a whitish upper lip. They form a series of whorls, one stacked on top of the other, forming a very showy inflorescence as much as ten inches high. San Francisco collinsia, which is related to Chinese houses (*C. heterophylla*), inhabits moist, shady woods and is recorded from San Francisco, San Mateo, Santa Cruz and Monterey counties (Corelli and Chandik 1995). San Francisco collinsia is listed as a special plant by the CDFW (2014b) and is on the CNPS List 1B.2 as a species that is moderately endangered in California (CNPS 2014).

Scattered stands of San Francisco collinsia were detected on the north-facing side slopes of the steep ravines. An estimated total of 6,666 individuals of San Francisco collinsia were counted on the subject property (Wood Biological Consulting 2007c). No individuals of San Francisco collinsia were mapped within the boundaries of the four proposed new parcels (Figure 5).

Franciscan Onion

Franciscan onion (*Allium peninsulare* var. *franciscanum*) is a bulb-forming perennial belonging to the lily family (Liliaceae). The bulbs are ovoid to spheric with a herring-bone pattern on the bulb coat. Plants produce 2-3 curved and channeled leaves. The red-purple flowers develop on short pedicels 8-20 mm long, atop peduncles 12-45 cm long. Flowering occurs May through June. Franciscan onion occurs in cismontane woodland and valley/foothill grassland, on clay, volcanic or serpentinitic soils. It is extant in Mendocino, Sonoma, San Mateo and Santa Clara counties. Franciscan onion is listed as a special plant by the CDFW (2014b) and is on the CNPS List 1B.2 as a species that is moderately endangered in California (CNPS 2014).

An estimated total of 2,373 individuals were counted on the subject property (Wood Biological Consulting 2007c). No individuals of San Francisco onion were mapped within the boundaries of the four proposed new parcels (Figure 5).

Arcuate Bush Mallow

Arcuate bush mallow (*Malacothamnus arcuatus*) is an evergreen, perennial shrub in the mallow family (Malvaceae). Plants are erect, woody at the base, and range in height from three to 16 feet. Branches are generally long and flexuous, and loosely pubescent to densely white tomentose. Leaves are ovate, only shallowly lobed, with blades about three-quarters to two inches in length, and are greenish above and densely canescent-tomentose below. Flowers are showy, have five rose-pink petals, and are borne in spikes or open, panicle-like clusters (Munz 1968). The blooming period is from April to September. This species inhabits chaparral and cismontane woodland between 50 and 1,100 feet in elevation, and is restricted to Santa Clara, Santa Cruz, and San Mateo counties (CNPS 2014).

Arcuate bush mallow is listed as a special plant by the CDFW (2014b) and is on the CNPS List 1B.2, indicating it is fairly endangered in California (CNPS 2014). As such, it is eligible for State listing as endangered, rare or threatened[5] and impacts to it would be regarded as significant under CEQA guidelines. However, it is noteworthy that this taxon is not recognized in the Jepson Manual (Baldwin, et al. 2012), the current standard reference for botany in California. Instead, arcuate bush mallow is considered to be synonymous with the common and widespread chaparral bush mallow (*Malacothamnus fasciculatus*), which has no special status. Nevertheless, arcuate bush mallow is currently listed as a special plant by the CDFW (2014b) and is on the CNPS List 1B.2 as a species that is moderately endangered in California (CNPS 2014).

[5] pursuant to CEQA §15380

A total of three individuals of arcuate bush mallow were detected at a single location on the subject property (Wood Biological Consulting 2007c). No individuals of arcuate bush mallow were mapped within the boundaries of the four proposed new parcels (Figure 5).

California Bottle-Brush Grass

California bottle-brush grass (*Elymus californicus*) is a herbaceous species belonging to the grass family (Poaceae). This perennial grass produces flat leaf blades up to 2 cm wide. Flower spikes 1 to 2 meters high develop May through August. California bottle-brush grass is distinguished from other members of the genus by a lack of glumes below the florets, with straight lemma awns up to 2 cm long. California bottle-brush grass has been recorded from Marin, Santa Cruz, and San Mateo and Sonoma counties. It occurs in broadleafed upland forest, cismontane woodland, North Coast coniferous forest, and riparian woodland, between 15 and 470 meters in elevation.

California bottle-brush grass is on the CNPS List 4.3, indicating that it is a plant of limited distribution but not very endangered in California; this is considered a "watch" list and is included on the CDFW's list of special plant species (CDFW 2014b). Very few CNPS List 4 species meet the definitions of the Native Plant Protection Act[6] or the CESA[7] and few, if any, are eligible for State listing (NCPS 2001). California bottle-brush grass does not meet the criteria for listing as endangered, rare or threatened (CEQA §15380) and impacts to this species do not meet the criteria for being considered significant pursuant to CEQA guidelines.[8] Because this species lacks any formal status as a regulated species, populations of this species on site were neither mapped nor enumerated.

4.3 Special-Status Animal Species

Special-status animal species include those listed as Endangered, Threatened, Rare, or as Candidates for listing by the USFWS (2014) and/or CDFW (2014a). Other species regarded as having special-status include special animals, as listed by the CDFW (CDFG 2011). Additional animal species receive protection under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act[9]. The Fish & Game Code of California provides protection for "fully protected birds"[10], "fully protected mammals"[11], "fully protected reptiles and amphibians"[12] and "fully protected fish".[13] The California Code of Federal Regulations[14] prohibits the take of Protected amphibians[15], Protected reptiles[16] and

[6] §1901, chapter 10
[7] California Fish and Game Code, §2062 and §2067 (California Endangered Species Act).
[8] §15065
[9] 16 U.S.C. 703-711
[10] §3511
[11] §4700
[12] §5050
[13] §5515
[14] Title 14
[15] Chapter 5 §41
[16] Chapter 5 §42

Protected furbearers.[17] Additional definitions are given in the California Environmental Quality Act.[18]

Based on a review of the CNDDB (2014) for San Mateo County, a total of 64 special-status animal species have been recorded within the project region. Twelve of these are restricted to bay waters, salt marshes, and shoreline habitats not found on or near the project site; the presence of these species was ruled out entirely and is not discussed further.[19] The potential for occurrence of 22 taxa was ruled out based on the lack of suitable habitat, range restrictions, local extirpations, lack of connectivity between areas of suitable and occupied habitat, and/or incompatible land use or habitat degradation/alteration of on-site or adjacent lands, and although marginally suitable habitat for another 17 taxa is present on site, their occurrence is not expected.

The occurrence of one special-status animal species, San Francisco dusky-footed woodrat, was confirmed during site surveys. Based on our knowledge of the geographic range and habitat affinities of special-status animals recorded from the region, and evaluation of on-site habitats, a total of 24 special-status animal species have the potential to occur on site or in the immediate project vicinity. A brief discussion of these species is provided below. Migratory birds are not discussed specifically unless appearing on State or federal lists; migratory birds are addressed as a group in Section 5.0 and Section 5.3, below.

A summary of the formal status, habitat affinities, reported localities to the project vicinity, and potential for occurrence within the project area for each of the target special-status animal species is presented in Appendix B. An explanation of all sensitivity status codes is provided in Appendix C.

Federal/State-Listed, Proposed, Candidate or Fully Protected Fish and Wildlife Species

Of the 16 federally and State-listed endangered, threatened and fully protected species known to occur in the project vicinity, four were determined to have the potential to occur on site based on the presence of suitable habitat. Another species, steelhead, is present in San Mateo Creek and could be adversely affected by development of the subject property. These species are discussed in more detail below.

<u>California Red-Legged Frog</u>

The California red-legged frog (*Rana draytonii*) is federally-listed as threatened and is designated as a California species of special concern (CDFG 2011, USFWS 2014). It is one of two subspecies of red-legged frog (*Rana aurora*) endemic to the Pacific Coast.[20] The northern

[17] Chapter 5 §460

[18] Section 15380(d)

[19] Species whose presence was completely ruled out include western snowy plover, tidewater goby, CA black rail, Alameda song sparrow, hardhead, double-crested cormorant, CA clapper rail, salt-marsh harvest mouse, salt-marsh wandering shrew, longfin smelt, CA least tern, and CA brackishwater snail.

[20] Recent taxonomic analysis conducted by Hayes and Miyamoto (1984 in Jennings 2004) suggested that *Rana aurora aurora* and *R. a. draytonii* could be recognized as distinct species, *R. aurora* and *R. draytonii*.

red-legged frog (*Rana aurora aurora*) ranges from southern British Columbia, Canada south to northern Marin County. The California red-legged frog is distributed throughout 26 counties in California, but is most abundant in the San Francisco Bay Area. Populations have become isolated in the Sierra Nevada, northern Coast, northern and southern Transverse and Peninsular Ranges (Jennings and Hayes 1994, Stebbins 2003). Red-legged frogs occurring from southern Del Norte County to northern Marin County are known to hybridize, often exhibiting characteristics of both subspecies (Hayes and Krempels 1986).

California red-legged frogs predominately inhabit permanent water sources such as streams, lakes, marshes, natural and manmade ponds, and ephemeral drainages in valley bottoms and foothills up to 1,500 meters in elevation (Jennings and Hayes 1994, Bulger et al., 2003, Stebbins 2003). California red-legged frogs breed between November and April in standing or slow moving water at least 0.7 meters (2½ feet) in depth with emergent vegetation, such as cattails (*Typha* spp.), tules (*Scirpus* spp.) or overhanging willows (*Salix* spp.) (Hayes and Jennings 1988). Egg masses containing 2,000 to 5,000 eggs are attached to vegetation below the surface and hatch after 6 to 14 days (Storer 1925, Jennings and Hayes 1994). Larvae undergo metamorphosis 3½ to 7 months following hatching and reach sexual maturity 2 to 3 years of age (Jennings and Hayes 1984, 1994).

In a study of California red-legged frog terrestrial activity in the Santa Cruz Mountains, Bulger et al., (2003) categorized terrestrial use as migratory and non-migratory. The latter terrestrial activity occurred from one to several days and was associated with precipitation events. Migratory movements were characterized as the movement between aquatic sites and were most often associated with breeding activities. They reported that non-migrating frogs typically stayed within 60 meters (200 feet) of aquatic habitat 90% of the time and were most often associated with dense vegetative cover by species such as California blackberry, poison oak and coyote brush.

Critical habitat for the California red-legged frog was designated in April 2006[21] (USFWS 2006). The project site is not located within critical habitat, but is near critical habitat unit SNM-1A, the eastern boundary of which is delineated by Interstate 280 (USFWS 2006). The site is located within the Central Coast Recovery Unit and the South San Francisco Bay Core Area (USFWS 2002).

The reach of San Mateo Creek along the project site ranges from 4 to 12 feet in width and supports a well to moderately-developed canopy dominated by big leaf maple, willow, and Coast live oak. The creek is characterized by a series of riffle-run-pool complexes with a gravelly to silty substrate. In-stream escape cover (e.g., root wads, small woody debris, undercut banks, downed trees, etc.) are present along the upper reaches of the creek and became less common further downstream of the project site. Stream banks vary between open ground and dense, often overhanging vegetation. Adjacent upland habitat varies from moist, dense ground cover with occasional seeps and drainages. The nearest known

[21] 70 Fed. Reg. 19244 (Apr. 13, 2006)

breeding site is located on the upper surface of the Crystal Springs Dam. Adult and juvenile California red-legged frogs were observed in the scour pools near the base of the dam during a site assessment conducted by Monk & Associates in 1999. All life stages of bullfrogs were observed in these scour pools during the same surveys (Monk & Associates 1999). Biologist Jerry Roe visually surveyed approximately one-mile of San Mateo Creek from the base of Crystal Springs Dam downstream to Tartan Trail Road on June 21, 2006. Adult bullfrogs were observed along the entire reach of creek surveyed, but were encountered more frequently near the base of the Crystal Springs Dam. A single adult California red-legged frog was observed approximately 1,000 feet downstream of the dam. Several other frogs were flushed during the survey, some of which appeared to be California red-legged frogs, but identification was unconfirmed. Other species observed in the creek included steelhead, threespine stickleback, (*Gasterosteus aculeatus* ssp.), Sacramento sucker (*Catostomus occidentalis*), and signal crayfish (*Pacifasticus leniusculus towbridgii*).

Suitable breeding, dispersal, and year-round aquatic habitat are present within the reach of San Mateo Creek adjacent to the project site. Suitable upland habitat is present within 300 feet of San Mateo Creek. Based on conversations with the USFWS and CDFW, they will assume presence of California red-legged frogs along this reach of San Mateo Creek (R. Olah pers. comm. to J. Roe 2006, D. Johnston pers. comm. to J. Roe 2006).

No suitable breeding habitat is present within the proposed new four parcels and the occurrence of this species, even as a dispersing individual is considered highly unlikely.

San Francisco Garter Snake

The San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) is federally and State-listed as endangered and is a fully protected species under the CFGC[22] (CDFW 2014a). A highly aquatic subspecies of the common garter snake endemic to the San Francisco Bay Area, San Francisco garter snakes are distributed along the western San Francisco Peninsula from the southern San Francisco County border south to Waddell Lagoon south of Año Nuevo and as far west as Crystal Springs Reservoir. They occur sympatrically with their primary prey species, the California red-legged frog. However, they will opportunistically prey on a variety of species including frogs, tadpoles, egg masses, newts, small fish, salamanders, reptiles, small mammals, birds and their eggs and several small invertebrates (Stebbins 2003).

San Francisco garter snakes prefer densely vegetated habitats close to water where they can retreat when disturbed (Stebbins 2003). The species often occurs near ponds, marshes, streams and other wetlands associated with cattails (*Typha* spp.), bulrushes (*Amphiscirpus*, *Bolboschoenus*, *Isolepis*, *Schoenoplectus* and *Trichophorum* spp.) and rushes (*Juncus* and *Eleocharis* spp.). Mating occurs shortly after they leave their winter retreats in May and females give birth to live young between June and September. Species may hibernate near

[22] §5050

the coastal areas in fossorial mammal burrows and other refuges, or remain active year-round weather permitting. Critical habitat has not been designated for this species.

San Francisco garter snakes are known to occur within the vicinity of Crystal Springs Dam, but have not been documented below the base of Crystal Springs Dam or along San Mateo Creek. A three-month trapping study was conducted by Sam McGinnis in 1995-96 at the base of Crystal Springs Dam, which resulted in negative findings for the San Francisco garter snake (S. McGinnis pers. comm. to J. Roe 2006). California red-legged frogs breed on the upper surface of the Crystal Springs Dam and inhabit the scour ponds and marsh area at the base of the dam. No San Francisco garter snakes were observed during the visual survey of San Mateo Creek on June 21, 2006. The reach of San Mateo Creek adjacent to the project site is suitable aquatic habitat is present for the San Francisco garter snake. Based on a conversation with the USFWS and CDFW, they will assume presence of San Francisco garter snakes along this reach of San Mateo Creek (R. Olah pers. comm. to J. Roe 2006, D. Johnston pers. comm. to J. Roe 2006).

No suitable aquatic habitat is present within the proposed four new parcels and the occurrence of this species, even as a dispersing individual is considered highly unlikely.

Mission Blue Butterfly

The mission blue butterfly (*Plebejus icarioides missionensis [*formerly *Icaricia i.m.]*) is federally-listed as endangered (CDFW 2014a, USFWS 2014) and is designated as critically imperiled by the Xerces Society's Red List of Pollinator Insects of North America (Shepherd, et al. 2005). It is a small butterfly measuring 1 to 1½ inches. The larval host plants include three species of lupine (*Lupinus albifrons*, *L. formosus* and *L. veriicolor*). Secondary food plants include bluedicks (*Dichelostemma capitatum*), false goldenaster (*Heterotheca villosa*), and seaside buckwheat (*Eriogonum latifolium*) (Black and Vaughan 2005). The flight season occurs from March through July. Remaining populations are restricted to Twin Peaks in San Francisco, Fort Baker in Marin County, San Bruno Mountain, and Crystal Springs Watershed in San Mateo County.

Critical habitat for the mission blue butterfly was proposed in February 1977[23] and is comprised of two locations, the Twin Peaks Zone and the San Bruno Mountain Zone (USFWS 1977). The subject property is not located within proposed critical habitat.

Suitable habitat for the mission blue butterfly is present within open areas (i.e., grasslands and scrub communities) where lupine plants occur. Larval host plants (*Lupinus* spp.) were observed sporadically along the SFPUC right-of-way and grassy openings during the site reconnaissance. One occurrence has been reported within five miles of the project site near the southern end of San Andreas Lake (CNDDB 2014). This species is known to occur within the Crystal Springs watershed, and although the presence of larval host plants

[23] 70 Fed. Reg. 7972 (Feb. 8, 1977)

within the subject property is limited, the potential for this species to occur on site cannot be entirely ruled out.

Only a single host plant (*Lupinus albifrons*) was noted within the reduced study area (Lot 1) during the follow-up reconnaissance survey. Marginally suitable grassland habitat for the species is present only on Lot 1. The presence of winter roosting monarch butterflies within the proposed four new parcels is highly unlikely.

Steelhead, Central California Coast DPS[24]

The Central California Coast steelhead DPS (*Oncorhynchus mykiss irideus*) is federally-listed as threatened (CDFW 2014a, USFWS 2014). The Central California Coast DPS covers all naturally spawning anadromous populations of *O. mykiss* (steelhead) below natural and manmade impassable barriers in California streams and is inclusive of the drainages of San Francisco (NOAA Fisheries Service 2005a). Steelhead exhibit a flexible life history pattern (i.e., migratory and resident), entering freshwater streams to spawn and rear young (Moyle 2002). Steelhead and rainbow trout (i.e., resident fish that do not migrate out to sea) build redds (i.e., spawning areas or nests) at the head of riffles where water is well oxygenated with nearby pools and deeper water provide safe refuge. While in freshwater streams, steelhead feed on drifting aquatic organisms, terrestrial insects and bottom dwelling invertebrates (Moyle 2002). Migratory steelhead smolts (i.e., two year-old fish) emigrate to the ocean after spending 1-3 years in their natal freshwater streams. Adults remain in the ocean for 1-4 years prior to returning to their natal streams, or occasionally to neighboring streams, to spawn. Unlike salmon, steelhead often return to spawn more than once.

Critical habitat for the Central California Coast steelhead DPS was designated in September 2005[25] and includes all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Russian River in Sonoma County to Aptos Creek in Santa Cruz County (NOAA Fisheries Service 2005b). The San Mateo Hydrologic Unit includes the coastal streams in San Mateo County from San Pedro Creek near Pacifica to Butano Creek near Año Nuevo; the Santa Clara Hydrologic Unit includes South Bay creeks from San Francisquito Creek in Palo Alto eastward to Coyote Creek (NOAA Fisheries Service 2005b). The bayside streams north of San Francisquito Creek are excluded from the critical habitat designation (G. Stern pers. comm. to J. Roe 2006). The project site is not located within Central California Coast steelhead DPS critical habitat. In addition, steelhead are not managed by the Pacific Fisheries Management Council; therefore, essential fish habitat is not designated for this species.

Prior to the construction of Crystal Springs Dam in 1877, San Mateo Creek supported steelhead (Leidy 2005). A series of fish sampling conducted above Crystal Springs Dam in 1988 and downstream of the dam in 1981 (Leidy, in Leidy 2005), 1991(Smith, in Leidy 2005), and 1993 (Leidy, in Leidy 2005), all documented steelhead ranging in size from 50-280 mm.

[24] Distinct Population Segment
[25] 70 Fed. Reg. 52488 (Sep. 2, 2005)

In support of the Nationwide 404 permit application for the Crystal Springs Dam Energy Dissipater Project, the entire length of stream from the base of the dam to its confluence with San Francisco Bay south of Coyote Point Recreation Area was visually surveyed by fisheries biologists Dr. Kurt F. Kline and Mr. Wayne Swaney from EA Engineering, Science and Technology (RBF Consulting 2001). No critical barriers to fish passage were observed, although several debris piles were present in the streambed that could hinder movement depending on flow volume. San Mateo Creek is characterized as a mix of fair to good habitat for spawning, rearing and over-summering with some areas subject to bank erosion and channelization. Overall the creek was evaluated as being in relatively good condition (RBF Consulting 2001).

On June 21, 2006 biologist Jerry Roe visually surveyed approximately one-mile of the creek from the western project boundary upstream to the base of Crystal Springs Dam. Steelhead estimated between 30-200 mm have been observed throughout the entire stream reach surveyed. This reach of stream has a well-developed riparian corridor, frequent shallow to moderately deep pools, undercut banks, root wads, small woody debris, overhanging vegetation, and partially silted gravelly substrate for spawning. Other aquatic species observed included threespine stickleback, Sacramento sucker, signal crayfish, California red-legged frog, and bullfrog (*Rana catesbeiana*). Based on a conversation with representatives of NOAA Fisheries Service and CDFW regarding another project inclusive of the reach of San Mateo Creek adjacent to the project area, they are presently assuming that steelhead are present along the entire length of San Mateo Creek from the base of Crystal Springs Dam to its confluence with the South Bay (G. Stern pers. comm. to J. Roe 2006; D. Johnston pers. comm. to J. Roe 2006).

There is no suitable stream habitat for steelhead within the proposed four new parcels.

White-Tailed Kite

Nesting individuals of the white-tailed kite (*Elanus leucurus*) are fully protected under the CFGC.[26] This species receives additional protection under the Migratory Bird Treaty Act (MBTA) and Migratory Bird Treaty Reform Act (MBTRA) (USFWS 2005). White-tailed kites inhabit open grasslands and savannahs. They breed in a variety of habitats including grasslands, cultivated fields, oak woodlands and suburban areas where prey is abundant. Nests are typically built in trees near a water source, but may occur in suburban areas with adjacent open areas with abundant prey. Breeding occurs between February and July, and may be double-brooded in some years (Baicich and Harrison 2005). During the non-breeding season, white-tailed kites may hang out communally at roost sites (Dunk 1995). White-tailed kites occur throughout California west of the Sierra Nevada and are more commonly seen in the Central Valley and among the foothills (Dunk 1995). They prey on a variety of small mammals, reptiles, and occasionally birds. Critical habitat has not been designated, since this species is not federally listed.

[26] §3511

Suitable nesting habitat is present within the woodland communities and the open grasslands provide suitable foraging habitat. The nearest reported occurrence is located approximately eight miles to the east on Bair Island (CNDDB 2014); however, a pair was observed copulating near the Filoli Center approximately five miles to the south (J. Roe, pers. Obs.).

White-tailed kites may forage and nest within the grassland and oak woodland habitats within the proposed four new parcels.

Sensitive and Locally Rare Wildlife Species

Of the 49 special-status wildlife species not listed under CESA or FESA known to occur in the project vicinity, 19 were determined to have a potential to occur on the subject property; however, of these, only 16 are considered to have the potential to occur within the reduced study area. These species are discussed in more detail below.

Invertebrates

Three special-status invertebrate species were determined to have the potential to occur on the subject property. These include Tomales isopod (*Caecidotea tomalensis*), Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*), and San Francisco forktail damselfly (*Ischnura gemina*). Each of these is listed as a special animal by CDFW (CDFG 2011). Due to the presence of suitable habitat on site, or nearby, their occurrence cannot be entirely ruled out. Suitable habitat for the Tomales isopod, Ricksecker's water scavenger beetle, and San Francisco forktail damselfly includes slow-moving freshwater streams, side channel and backwater pools, and freshwater marshes, which occur within San Mateo Creek and side drainages present within or adjacent to the project site. Due to the steepness of the terrain, and the lack of water courses within the reduced study area, there is no potential for occurrence of these aquatic species is low.

Fourteen additional special-status invertebrate species were evaluated and subsequently ruled out based on the lack of suitable habitat or local range restrictions (Appendix B).

Special-status and Migratory Birds

Ten special-status bird species were determined to have the potential to nest or winter on the subject property including three raptor (bird of prey) species, Cooper's hawk (*Accipiter cooperii*, nesting; California Species of Special Concern), sharp-shinned hawk (*Accipiter striatus*, nesting; California Species of Special Concern), and merlin (*Falco columbarius*, wintering; California Species of Special Concern); and seven passerine special animal species, grasshopper sparrow (*Ammodramus savannarum*), oak titmouse (*Baeolophus inornatus*, nesting), Lawrence's goldfinch (*Spinus lawrencei*, nesting), yellow warbler (*Setophaga petechia brewsteri*, nesting; a California Species of Special Concern), loggerhead shrike (*Lanius ludovicianus*, nesting; a California Species of Special Concern), Nuttall's

woodpecker (*Picoides nuttallii*, nesting), and Allen's hummingbird (*Selasporus sasin*, nesting).

These species use a variety of habitats including coast live oak woodland, chamise chaparral, northern coastal scrub, northern coyote brush scrub, and non-native annual grassland communities, all of which are present on the subject property. None of these species was observed on site during the previous or present surveys; however, many have been observed within the Crystal Springs watershed and urban/suburban portions of the Peninsula (J. Roe pers. obs.). These species can be expected to forage, roost, winter and/or nest within portions of the reduced study area corresponding to their specific habitat needs, time of year, and tolerance to human disturbance.

In addition to the specific target species evaluated above, the subject property and reduced study area support suitable nesting habitat for migratory raptors (birds of prey) and passerines (perching birds). Migratory birds are protected under the MBTA and MBTRA. Under the MBTA it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Bird species covered under the MBTA are summarized by the USFWS (2013). Certain other migratory birds receive protection under the BGEPA and CFGC.

The proposed four new parcels support suitable nesting habitat for numerous species of migratory raptors and passerines. Based on the amount of vegetative cover on site, there is a high potential for the utilization of these habitat for breeding by such birds. Site clearing activities could result in a take of migratory birds protected under the MBTA and the CFGC. Disturbance during the nesting season could result in the potential nest abandonment and mortality of young, which would be a significant adverse effect pursuant to CEQA.

Mammals

The presence of one special-status mammal, San Francisco dusky-footed woodrat, was confirmed to occur on the subject property and in the reduced study area. Another six special-status mammals were determined to have the potential to nest or roost within the project site area. These are discussed below.

The San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*, a California Species of Special Concern) is one of eleven recognized woodrat subspecies. They inhabit oak and riparian woodlands with a well-developed understory in the San Francisco Bay Area. They exhibit high site fidelity, are highly arboreal and build stick nests that may last for tens of years. Woodrats are generalist herbivores and live in loosely-cooperative societies. Several woodrat nests were observed on the Lot 4, occurring in oak woodland habitat; the subspecies is common throughout the subject property and could easily inhabit Lots 1, 2 and 3 as well.

The pallid bat (*Antrozous pallidus*, a California Species of Special Concern) inhabits rocky terrain in the foothills and lowlands near water throughout California below 2,000 meters. It uses a variety of roosts including bridges, buildings, tree hollows, rock crevices, caves and mines as both day and night roosts. One occurrence (#66767) has been reported within the subject property area and was located in the general area of Millbrae in 1947 (CNDDB 2014). Although the species is considered to have a potential for occurring on the subject property, roosting opportunities for pallid bat within the proposed four new parcels are very limited.

The western red bat (*Lasiurus blossevillii*, local watchlists) is primarily a riparian obligate species that is ubiquitous throughout most of California except the northern Great Basin region. The species roosts individually in dense clumps of tree foliage in riparian areas (i.e., especially willows, cottonwoods and sycamores), orchards and suburban areas. Western red bats are primarily moth specialists, but will forage for a variety of other insects. Individuals have been observed foraging around street lamps and flood lights in suburban areas (Bolster 2005). Marginally suitable roosting habitat for this species is present within the proposed four new parcels (particularly Lot 4).

The hoary bat *Lasiurus cinereus*, local watchlists) is ubiquitous throughout California. It is a solitary foliage rooster that prefers evergreens, but will use deciduous trees particularly in edge habitat (Bolster 2005). The species may forage in small to large groups and primarily feed on moths; however, they will eat a variety of insects if available. Marginally suitable roosting habitat for this species is present within the reduced study area (particularly Lot 4) and throughout the subject property.

The long-eared myotis bat (*Myotis evotis*, local watchlists) inhabits coniferous forests throughout the west from British Columbia, Canada south to Baja California, Mexico. Nursery and daytime roosts typically occur in tree cavities, under exfoliating bark and dead trees; however, pregnant females may use rock crevices, tree stumps and fallen logs. They bear a single young in June and do not form nursery colonies (Jameson and Peeters 2004), and prey primarily on moths and feed mostly on the wing. Marginally suitable roosting habitat for this species is present within the reduced study area (particularly Lot 4).

The fringed myotis (*Myotis thysanodes*), is not currently protected under state or federal laws, but is considered sensitive by the Bureau of Land Management (BLM). It occurs throughout California except for the Central Valley. Fringed myotis feeds on beetles, moths and spiders over water open habitats and gleaning from foliage. Insectivorous bats require 20-25% of their daily water intake as drinking water (Kurta and Teramino 1992). This species roosts mostly in caves, mines buildings or crevices, hibernates, migratory to hibernacula, young born May through July. Although the species is considered to have a potential for occurring on the subject property, there are no roosting opportunities for fringed myotis within the proposed four new parcels.

The long-legged myotis bat (*Myotis volans*, local watchlists) inhabits brushy woodlands and coniferous forests up to 2,800 meters throughout California except the Central Valley and deserts. It roosts in a variety of habitats including exfoliating bark, tree hollows, caves, rotten stumps, snags, cliff crevices and bridges. They are foliage gleaners that require nearby water. Marginally suitable roosting habitat for this species is present within the reduced study area (particularly Lot 4).

The Yuma myotis bat Yuma myotis bat (*Myotis yumanensis*, special animal) occurs throughout the west coast from British Columbia, Canada south into Mexico, and is ubiquitous throughout California. Typical habitat includes riparian corridors and edge habitat in forested canyons. They are colonial roosters and are typically found in manmade structures such as bridges or building, but will also use caves, mines and old cliff swallow nests (Jameson and Peeters 2004). They also roost in a variety of habitats similar to the pallid bat and forage above the water in riparian corridors and along the forest edge. Although the species is considered to have a potential for occurring on the subject property, roosting opportunities for Yuma myotis within the proposed four new parcels are extremely limited.

No occurrences for the latter six bat species have been reported within the project vicinity (CNDDB 2014); however, comprehensive range and local habitat usage data is lacking in many areas and should not be interpreted to presume absence. Suitable roosting and foraging habitat for these species is present in the trees within the San Mateo Creek riparian corridor, woodlands, and grasslands within or adjacent to the study area.

5.0 PERMITTING IMPLICATIONS

In general, riparian areas, wetlands, waters of the United States / waters of the State, and special-status species and communities are considered sensitive biological resources and typically fall under the jurisdiction of one or more regulatory agencies. Projects that would impact these habitats might require federal, State, and/or local permits and must comply with a variety of federal, State, and local statutes or policies. The permits required vary depending upon the location of the project and the type and extent of impacts. However, prior to the performance of any activities that would directly or indirectly affect wetlands, waters of the U.S., waters of the State, or special-status species or communities, notification to and consultation with each of the following agencies is warranted:

- United States Army Corps of Engineers (San Francisco District)
- U.S. Fish and Wildlife Service (Sacramento Office)
- Regional Water Quality Control Board (Region 2, San Francisco Bay)
- California Department of Fish and Wildlife (Region 3, Central Coast)
- County of San Mateo
- Town of Hillsborough

An overview of the jurisdiction, application requirements and required permits for each of the above-listed agencies is provided below.

United States Army Corps of Engineers

Section 404 of the Clean Water Act of 1972

Section 404 of the federal CWA of 1972 regulates activities that result in the discharge of dredged or fill material into Waters of the U.S., including wetlands. Section 10 of the Rivers and Harbors Act (RHA) authorizes the USACE to regulate dredging, filling, and construction activities in navigable waters. The primary intent of the CWA is to authorize the United States Environmental Protection Agency (USEPA) to regulate water quality through the restriction of pollution discharges. The USACE has the principal authority to regulate discharges of dredged or fill material into Waters of the U.S. However, the USEPA has oversight authority over the USACE and retains veto power over the USACE's decision to issue permits.

Under Section 404, projects may be authorized under existing general permits (e.g., a Nationwide Permit [NWP]) or may require the issuance of an Individual Permit (IP). An NWP is a more streamlined permit process than an IP, although supporting compliance efforts, such as for the federal Endangered Species Act, are identical regardless of permit type. If the USACE determines that a project is not eligible for authorization under a NWP, then an IP would be required. The requirements of some NWPs allow for impacts to less than 0.2 ha (0.5 ac) of federally jurisdictional wetlands and/or 92 m (300 ft) of surface tributaries. Projects that would exceed these thresholds typically must be processed under an IP. As a part of the IP process, an Alternatives Analysis[27] and National Environmental Policy Act (NEPA) review would also be required. A critical condition of any CWA permit is compliance with State water quality standards (CWA Section 401); until the RWQCB has issued its permit, the federal permit will not be valid.

U.S. Fish and Wildlife Service

Endangered Species Act[28]

Section 9 of the FESA prohibits the "take" of federally listed endangered species of fish or wildlife and many plant species.[29] The FESA defines *take* to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or attempt to engage in any such conduct."[30] Section 7(a)(2) of the FESA requires that actions authorized, funded, or carried out by federal agencies (i.e., issuing a permit pursuant to the CWA) do not "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of lands determined by the USFWS to be 'critical habitat'" for such

[27] CWA §404(b)(1)
[28] 16 USC 1531 *et seq.*; 50 CFR Parts 17 and 222
[29] 16 USC 1538 (a)(1)(B)
[30] 16 USC 1532(19)

species.[31] If a federal agency determines that a proposed federal action (i.e., issuance of a CWA Section 404 permit for wetland fill) "may affect" a listed species and/or designated critical habitat, the agency must consult with the USFWS and/or the NOAA Fisheries Service in accordance with Section 7 of the FESA. If take of a federally listed species may occur, the applicant may be required to obtain an incidental take permit from the USFWS. This permit allows the taking of federally listed species if the take is "incidental to and not the purpose of, the carrying out of an otherwise lawful activity".[32] The USFWS issues an incidental take permit only if the applicant, to the maximum extent possible, has minimized and mitigated for the impacts of the taking and provided adequate funding for the mitigation plan and if the taking would not appreciably reduce the likelihood of the survival and recovery of the species in the wild.[33]

A permit for incidental take of the species may be obtained via a Section 7 consultation between the USACE and USFWS. Before and during the consultation, the applicant must provide sufficient information (usually a biological assessment and the results of any focused studies) to the USACE and USFWS (or NOAA Fisheries Service for potential impacts to listed anadromous fish), who make a determination regarding the potential effects of a project on the listed species. The applicant must demonstrate efforts to avoid or minimize impacts to listed species and/or their habitat. Frequently, the Section 7 consultation process requires the preparation of a biological assessment, extensive field surveys, literature reviews, consultation with the USFWS, mitigation planning, and a project plan evaluation.

The Section 7 consultation may have one of several outcomes. If a project is designed so that it largely avoids impacts to federally listed species, the USFWS may issue a letter determining that the project will either "not affect" or is "not likely to affect" federally listed species. Efforts to avoid or minimize impacts to federally listed species are critical if the applicant is interested in expediting project approval. However, when a project would result in more substantial impacts, the USFWS usually issues either a BO or a jeopardy opinion.

The BO discusses potential impacts to federally listed species and often presents conditions that are integrated into the USACE's permit conditions. In contrast, the jeopardy opinion indicates that the proposed project would jeopardize the continued existence of federally listed species. Upon receiving a jeopardy opinion, the USACE is prohibited from approving the project until modifications have been made to avoid jeopardizing the species and the USFWS has been consulted about the modified project. In essence, a jeopardy opinion means that the applicant must modify the proposed project and repeat the Section 7 consultation process.

[31] 16 USC 1536(a)(2) and 16 USC 1532(5)
[32] 16 USC 1539(a)(1)(B)
[33] 16 USC 1539(a)(2)(B)

In addition, under Section 7(a)(4) of the FESA, the USACE may conduct a formal or informal conference with the USFWS, when a project may affect a species proposed for federal listing or may result in adverse modification of an area proposed for designation as critical habitat. Although conferencing is not required under FESA, it may serve to protect the project applicant when a species or habitat becomes formally recognized in the future. If the species is formally listed or the habitat formally designated, the conferencing opinion issued during a formal USFWS conference may be adopted as a BO, eliminating the need for a formal Section 7 consultation. However, a conferencing report issued during an informal conference cannot be adopted as a BO. Therefore, projects that may affect species proposed for listing and/or proposed designated critical habitat should consider the likelihood of the formal listing or designation prior to electing a formal or informal conference. Whenever a proposed project may trigger the involvement of the USFWS, it is important to consider strategies for addressing the concerns of the USFWS and/or NOAA Fisheries Service. In some cases, it would be most expeditious and cost-effective to assume the presence of a listed species and to integrate appropriate mitigation measures and sensitive project design into the project plans. In other cases, when there is very little likelihood that the species may actually be present on a project site, field surveys to document species absence may be the preferred strategy.

Migratory Bird Treaty Act [34]

The Migratory Bird Treaty Act[35] (MBTA) makes it unlawful, unless expressly authorized by permit pursuant to federal regulations, to pursue, hunt, take, capture, kill, attempt to take, capture or kill, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export at any time, or in any manner, any migratory bird, or any part, nest, or egg of any such bird. Most bird species occurring within the project region fall under the protection of the MBTA except those species that belong to the families not listed in any of the four treaties, such as wrentit (*Chamaea fasciata*), European starling (*Sturnus vulgaris*), California quail (*Callipepla californica*), ring-necked Pheasant (*Phasianus colchicus*) and chukar (*Alectoris chukar*), among others less common in California. In addition, the Migratory Bird Treaty Reform Act[36] (MBTRA), excludes all migratory birds non-native or that have been human introduced to the U.S. or its territories. It defines a native migratory bird as a species present within the U.S. and its territories as a result of natural biological or ecological processes. This list excluded two additional species commonly observed in the U.S., the rock pigeon (*Columba livia*) and domestic goose (*Anser anser* '*domesticus*'). The CFGC defines take as any action to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.[37] It also prohibits the take, possession, or needless destruction of any nests, eggs or birds in the orders Falconiformes (new world vultures,

[34] 16 USC §703-711; 50 CFR Subchapter B
[35] 16 U.S.C. 703-712
[36] Division E, Title I, Section 143 of the Consolidated Appropriations Act, 2005, PL 108–447;
[37] §3503

hawks, eagles, ospreys and falcons, among others) or Strigiformes (owls)[38], prohibits the take or possession of fully protected birds[39]; and prohibits the take or possession of any migratory nongame bird or part thereof as designated in the MBTA.[40]

Regional Water Quality Control Board

Section 401 Certification

The RWQCB has authority over projects that could result in adverse effects on Waters of the State and wetlands, including isolated wetlands not falling under USACE jurisdiction. The RWQCB typically requires mitigation for permanent effects on all wetlands or waters of the State, based on area as well as linear measurements. A condition of the nationwide permit or individual permit is compliance with Section 401 of the CWA. Pursuant to Section 401 of the CWA and USEPA Section 404(b)(1) Guidelines, an applicant for a federal permit to conduct any activity that may result in a discharge into navigable waters must provide a certification from the RWQCB that such discharge will comply with the state water quality standards.[41] The RWQCB's policy of no net loss of wetlands typically requires mitigation for all impacts on wetlands before it will issue a water quality certification or waiver.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act (Porter-Cologne)[42], the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State's waters. "Waste" is broadly defined by the Porter-Cologne Act to include "sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation of whatever nature…."[43] Concentrated silt or sediment associated with human habitation and harmful to the aquatic environment is "waste" under this section. In addition, the California Attorney General has interpreted this definition to include extraction of sand, gravel or other minerals from a streambed, because it may cause an increase in turbidity and silt in the waters of the stream downstream from the operations. Therefore, even if a federal permit (i.e., a Nationwide Permit for the USACE) is not required, any activity that would result in a discharge of waste which could affect the quality of waters of the State, submittal of a Report of Waste Discharge (ROWD) must be filed with the RWQCB.

When reviewing applications, the RWQCB focuses on ensuring that projects do not adversely affect the "beneficial uses" associated with waters of the state. Generally, the

[38] §3503.5
[39] §3511
[40] §3513
[41] 23 CCR 3830 et seq.
[42] Cal. Water Code §§13000-14920
[43] Cal. Water Code §13050

RWQCB defines beneficial uses to include all of the resources, services and qualities of aquatic ecosystems and underground aquifers that benefit the state of California. Numerous beneficial uses have been identified, including agricultural supply, wildlife habitat, recreation, groundwater recharge, and municipal and domestic water supply. In most cases, the RWQCB seeks to protect these beneficial uses by requiring the integration water quality control measures into projects that will result in discharge into waters of the state. For most construction projects, RWQCB requires the use of construction and post-construction best management practices (BMPs). In the case of constructing new impervious surfaces, incorporation of BMPs such as detention ponds, grassy swales, sand filters, modified roof drains, and other features, will speed project approval from RWQCB. Development setbacks from creek are also favored by RWQCB as they often lead to less creek-related impacts in the future. Proper integration of these and other features into project design will greatly decrease the necessary negotiation with RWQCB and speed the project approval process.

California Department of Fish and Wildlife

Lake and Streambed Alteration Program – Section 1600 Series Permit

The CDFW administers the Lake and Streambed Alteration Program (LSAP), as outlined in Sections 1600-1607 of the California Fish and Game Code. These sections address any project that will "(1) divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake designated by the department [the CDFW] in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit, (2) use materials from the streambeds designated by the department, or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass in to any river, stream, or lake designated by the department."

The extent of CDFW jurisdiction is usually bounded by the tops-of-bank or the outermost edges of adjacent riparian vegetation. However, for projects that require processing under the LSAP, the CDFW can also be expected to comment on any CEQA document for projects that may result in potentially significant adverse effects on special-status species or habitats not covered under the LSAP.

California Endangered Species Act of 1984/California Fish and Game Code[44]

The California Endangered Species Act (CESA) includes provisions for the protection and management of species listed as endangered or threatened or designated as candidates for such listing. CESA includes a requirement for consultation "to ensure that any action authorized by a state lead agency is not likely to jeopardize the continued existence of any endangered or threatened species … or results in the destruction or adverse modification of habitat essential to the continued existence of the species".[45] The act covers plants of

[44] Sections 2050-2098

[45] Section 2090

California declared to be endangered, threatened, or rare[46] and animals of California declared to be endangered, threatened, or rare.[47] The administering agency for the above authority is the CDFW.

The CDFW enforces the CFGC, which provides protection for "fully protected birds"[48], "fully protected mammals"[49], "fully protected reptiles and amphibians"[50], and "fully protected fish."[51] Chapter 5, Title 14 of the California Code of Regulations prohibits the take of protected amphibians[52], protected reptiles[53], and protected furbearers.[54] The CESA, which prohibits take of state-listed endangered or threatened species, is also enforced by the CDFW. The CDFW has authority to comment on all projects that have a potential to result in any significant adverse environmental effect during its review of any relevant CEQA document. Generally, the CDFW defers to the USFWS for both state- and federally listed species, and they incorporate all mitigation measures into the Section 1600 permit.

Native Plant Protection Act

The CDFW administers Sections 1900-1913 of the CFGC. Sections 1900 through 1913 allow the state game commission to designate rare and endangered rare plant species and to notify land owners of the presence of such species. Section 1907 also allows the commission to regulate the "taking, possession, propagation, transportation, exportation, importation, or sale of any endangered or rare native plants." Section 1908 further directs that "… [n]o person shall import into this state, or take, possess, or sell within this state, except as incident to the possession or sale of the real property on which the plant is growing, any native plant, or any part or product thereof that the commission determines to be an endangered native plant or rare native plant."[55]

California Fish and Game Code Sections 1930-1933

These code sections provide for the Significant Natural Areas program and database. The administering agency for the above authority is the CDFW.

California Species Preservation Act of 1970[56]

The California Species Preservation Act includes provisions for the protection and enhancement of the birds, mammals, fish, amphibians, and reptiles of California. The administering agency for the above authority is the CDFW.

[46] 14 CCR 670.2
[47] 14 CCR 670.5
[48] Section 3511
[49] Section 4700
[50] Section 5050
[51] Section 5515
[52] Section 41
[53] Section 42
[54] Section 460
[55] available on line at www.leginfo.ca.gov/cgibin/displaycode
[56] California Fish and Game Code Sections 900-903

California Fish and Game Code Sections 3511 and 5050

Sections 3511 and 5050 of the CFGC prohibit the taking or possessing of birds and reptiles listed as "fully protected." The administering agency for the above authority is the CDFW.

County of San Mateo

General Plan

The subject property is located within unincorporated San Mateo County. As such, any future development must comply with the San Mateo County General Plan. The General Plan (San Mateo County 1986) outlines the policies pertaining to vegetative, water, fish and wildlife resources in the County. The stated goals and objectives of the General Plan are the conservation, enhancement, protection, maintenance and management of these resources, as well as sensitive habitats[57] and rare or unique species.[58] Specific policies regulating development in the County include the following:

Policy 1.22a Regulate and uses and development activities to prevent, and if infeasible mitigate to the extent possible, significant adverse impacts on vegetative, water, fish and wildlife resources

Policy 1.22b Place a priority on the managed use and protection of vegetative, water, fish and wildlife resources in rural areas of the County.

Policy 1.23 Regulate the location, density and design of development to minimize significant adverse impacts and encourage enhancement of vegetative, water, fish and wildlife resources.

Policy 1.24 Ensure that development will: (1) minimize the removal of vegetative resources and/or; (2) protect vegetation which enhances microclimate, stabilizes slopes or reduces surface water runoff, erosion or sedimentation; and/or (3) protect historic and scenic trees.

Policy 1.26 Ensure that development will minimize the disruption of fish and wildlife and their habitats.

Policy 1.27 Regulate land uses and development activities within and adjacent to sensitive habitats in order to protect critical vegetative, water, fish and wildlife resources; protect rare, endangered, and unique plants and

[57] Policy 1.8 defines sensitive habitats as "any area where the vegetative, water, fish and wildlife resources provide especially valuable and rare plant and animal habitats that can be easily disturbed or degraded. These areas include but are not limited to: (1) habitats containing or supporting rare or unique species; (2) riparian corridors; (3) marine and estuarine habitats; (4) wetlands; (5) sand dunes; (6) wildlife refuges, reserves, and scientific study areas; and (7) important nesting, feeding, breeding or spawning areas."

[58] County Policy 1.9 defines rare or unique species as "any plant or animal that is determined to be rare, endangered, threatened unique to the County or adjacent areas or protected by Federal or State law and State and County EIR guidelines.

animals from reduction in their range or degradation of their environmental; and protect and maintain the biological productivity of important plant and animal habitats.

Policy 1.28 Establish necessary buffer zones adjacent to sensitive habitats which include areas that directly affect the natural conditions in the habitats.

Policy 1.31 Regulate the location, siting and design of development in sensitive habitats and buffer zones to minimize to the greatest extent possible adverse impacts, and enhance positive impacts.

Policy 1.32 Establish performance criteria and development standards for development permitted within sensitive habitats and buffer zones, to prevent and if infeasible mitigate to the extent possible significant negative impacts, and to enhance positive impacts.

Policy 1.38 Encourage and support the control of vegetation, fish and wildlife resources which are harmful to the surrounding environment or pose a threat to public health, safety and welfare.

Policy 1.40 Encourage all Federal, State, regional, County, and city agencies with jurisdiction in San Mateo County to cooperate and coordinate the management and protection of vegetative, water, fish and wildlife resources.

The Significant Tree Ordinance of San Mateo County[59]

The Significant Tree Ordinance declares that existing and future trees and tree communities located within the County of San Mateo are a valuable and distinctive natural resource, which enhance the living environment.[60] The Ordinance stipulates that a permit (except under certain circumstances) shall be required for the cutting down, removing, poisoning or otherwise killing or destroying or causing to be removed any significant tree or community of trees, whether indigenous or exotic, on any private property.[61] A "significant tree" is defined as any live woody plant arising above the ground with a single stem or trunk of a circumference of 38 inches or more at 4½ feet above the ground or immediately below the lowest branch, whichever is lower, and having the inherent capacity of naturally producing one main axis continuing to grow more vigorously than the lateral axis.[62] In the RH/DR districts (Residential Hillsdale District/Design Review District), a significant tree is defined as all trees in excess of 19" in circumference.[63] Any person desiring to cut down,

[59] Part Three of Division VIII of the San Mateo County Ordinance Code, available on line at http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/43/13/390508716significant%20tree%20ordinance.pdf

[60] Section 12,000

[61] Section 12,020

[62] Section 12,012

[63] Section 12,012.1

remove, destroy or cause to be removed any significant tree must apply to the San Mateo County Planning Division for a Tree Cutting Permit. Conditions of approval of a Tree Cutting Permit include replacement of trees removed with plantings acceptable to the Planning Director (outside the RH/DR districts), or following specific formulas based on the type of trees involved (within the RH/DR districts).[64]

Regulation of the Removal and Trimming of Heritage Trees on Public and Private Property[65]

The Heritage Tree Ordinance declares that its outstanding heritage tree population has been and continues to be an invaluable asset in contributing to the economic, environmental, and aesthetic stability of the County.[66] The Ordinance stipulates (except under certain circumstances) it is unlawful for any person to cut down, destroy, move or trim any heritage tree growing on any public or private property within the unincorporated area of San Mateo County without first obtaining a permit from the San Mateo County Planning Department.[67] Trees are designated as Heritage Trees based on the species and stem diameter, or as otherwise determined by the Board of Supervisors[68]. In addition, the existing ground surface within the dripline of a heritage tree shall not be cut, filled, compacted, or paved without having first obtained permission of the Planning Director.[69] The Planning Director may attach conditions to a Heritage Tree Removal/Trimming Permit such as, but not limited to, requiring replacement of trees removed with plantings acceptable to the Planning Director.[70]

Town of Hillsborough

Although the subject property is located in unincorporated San Mateo County, annexation to the Town of Hillsborough would make any future development subject to Town ordinances and policies; these are outlined, below.

General Plan

The Open Space and Conservation Element (Town of Hillsborough 2005) outlines the comprehensive and long-range preservation and management goals for open space land in and around Hillsborough. As stated in the General Plan, the Town monitors new development to ensure that it does not negatively impact sensitive species. In addition, the General Plan also specifically identifies creeks, riparian areas, oak woodland and existing trees as being important to the residents of the Town. Any proposed development of the

[64] Section 12,024

[65] Ordinance No. 2427-April 5, 1977, available on line at http://www.co.sanmateo.ca.us/vgn/_images/portal/cit_609/43/15/390508720heritage%20tree%20ordinance.pdf

[66] Section 11,000

[67] Section 11,051

[68] Section 11,050

[69] Section 11,054

[70] Section 11,052

subject property must be consistent with the General Plan. Numerous policies outlined in the General Plan apply directly to the subject property. These are summarized below.

Policy OSC-3.1: Continue to encourage the preservation of drainage water courses and riparian habitat in a natural state by not allowing culverting of existing creeks and requiring appropriate of setbacks and buffers from creek beds.

Policy OSC-3.2: Preserve and enhance valued riparian habitat and other important areas that provide important water quality benefits, such as watersheds.

Policy OSC-3.3: Continue to preserve and protect valuable native tree life, such as redwoods, oaks and bays, while recognizing the need to allow for the gradual replacement of trees to provide for on-going natural renewal.

Policy OSC-3.4: Enforce the Tree Removal Ordinance and require development proposals to provide adequate information to all Town staff to assess the project's impact on tree removal.

Policy OSC-3.5: Require property owners to replace removed native trees in a manner that maintains the visual character of the property and takes neighboring properties into consideration. The replacement trees may be located on other parts of the lot, as approved by the Town.

Policy OSC-3.7: Encourage the removal of non-native tree species, such as eucalyptus and acacia trees, that increase hazards for the community. Removed non-native trees should be replaced with native trees.

Policy OSC-3.11: Preserve and protect rare and endangered species, and their habitats.

Policy OSC-3.12: When appropriate, require proponents of projects to complete biological surveys necessary to ensure compliance with all local, regional, State and federal regulations in regards to biological resources. When negative impacts to biological resources are unavoidable, mitigation measures, such as conservation easements, will be required to reduce them.

Policy OSC-4.1: Control and monitor development and activities along the creeks to avoid negative impacts from urban uses on water quality and habitat preservation and enhancement, as well as to protect the public health and safety of public and private property.

Policy OSC-4.3: Protect drainage facilities, including ensuring creekbank stability, to avoid negative impacts to downstream hydrology.

Policy OSC-4.4: Require projects to reduce, to the extent feasible, potential sediment discharge, erosion, run-off flow and volume, and stormwater pollution, both during construction, as well as post-construction. Require projects to incorporate mitigation measures, such as Best Management Practices (BMPs), to address these water quality impacts, especially if proposing construction during the wet season.

Policy OSC-4.7: Require property owners to work with the natural topography and drainages to the extent feasible when designing development projects to reduce the amount of grading necessary and limit the disturbances to natural water bodies and drainage systems.

Tree Removal Guidelines

Pursuant to the Town's interim tree removal guidelines[71], a tree is defined as any woody plant with a trunk diameter of 12 inches or greater measure 4 ½ feet above natural graded. A removal permit issued by the Town is required for any tree related to property improvements. Each tree removal shall be first submitted with the proposed property improvement plans for design review and approval by the Town. Tree removals must be consistent with the General Plan (see above).

Tree Protection for Construction Sites

The protection of trees is a high priority in the Town of Hillsborough. Tree protection measures are required prior to issuance of a Grading Permit or a Demolition Permit. Steps for tree protection are outlined in the Town's tree protection handout.[72]

6.0 CONCLUSIONS AND RECOMMENDATIONS

The subject property is situated on steep canyon slopes adjacent to San Mateo Creek. A majority of the site supports either dense oak woodland or chaparral habitats, representing disturbed and intact examples of these otherwise common plant associations. These habitats support a high diversity of plant species and are presumed to have high values for a high diversity of common and infrequent wildlife species.

The proposed subdivision and development of the four proposed lots could result in impacts to some of these plant communities and would necessitate the removal of native trees. However, with careful site planning and incorporation of avoidance and mitigation measures, potential impacts from site development could be reduced to levels that are less than significant. A discussion of potentially significant impacts that might result from site development, along with appropriate avoidance/mitigation measures is presented below. Implementation of these measures is intended to address the biological constraints posed

[71] September 2002, available at http://www.hillsborough.net/depts/planning/informational_handouts.asp
[72] January 2006, available at http://www.hillsborough.net/depts/planning/informational_handouts.asp

by habitats and existing conditions of the site, and to satisfy statutory and regulatory restrictions. It is important to bear in mind that the regulatory environment changes and that these conclusions are based on current laws and policies.

6.1 Special-status Natural Communities

The subject property supports intermittent stream channels that are presumed to fall under the jurisdiction of the USACE, CDFW, and RWQCB pursuant to State and federal law. In addition, small stands of willows and coast live oak trees, representing riparian, creekside habitat, are also present on site, potentially falling under the jurisdiction of the CDFW and RWQCB. Examples of these features occur within the reduced study area.

Implications for Future Development

1. A formal wetland delineation/preliminary jurisdictional determination was prepared in early 2007 and verified by the USACE on September 26 of the same year. This verification was valid only for a period of five years, and expired November 6, 2012. If there has been a change in circumstances that affects the extent of USACE jurisdiction, a revision of the delineation may be warranted.
2. Depending on the extent of any proposed grading or drainage improvements, coordination with the USACE may or may not be warranted. The grading and drainage plans should be compared with the wetland delineation map and if there is the potential for impact.
3. The limits of grading on the four subdivided parcels should be designed to avoid or minimize, to the maximum extent feasible, the amount of grading and filling of stream channels and minimize impact to or the removal of any riparian vegetation.
4. Prior to the initiation of any grading or filling of wetland or riparian habitats on site, concurrence regarding jurisdiction and the need for regulatory permits should be obtained from each the USACE, RWQCB and CDFW.
5. In addition, conditions of permits issued by these agencies can be expected to include measures to address impacts to special-status species, as outlined in Sections 5.2 and 5.3, below.

6.2 Special-Status Plant Species

No special-status plant species were found to occur within the limits of the proposed four new parcels; this was confirmed during the 2014 follow-up reconnaissance survey. Unless the proposed parcel boundaries are altered, no further surveys or analysis are warranted.

6.3 Special-Status Animal Species

Four federal and/or state-listed endangered, threatened or fully protected species are considered to have the potential to occur on the subject property although within the study area only the mission blue butterfly and white-tailed kite are considered to have a potential

for occurrence; the potential for occurrence of California red-legged frog and San Francisco garter snake and steelhead is considered to be low. Nonetheless, development of Lots 1-4 could indirectly affect these species through erosion and sedimentation.

The presence within the reduced study area of one special-status mammal, San Francisco dusky-footed woodrat, was confirmed during the 2014 follow-up reconnaissance survey. Another 14 special-status wildlife species are considered to have the potential to occur within the reduced study area, including ten birds and five bat species.

Development of the project site could result in direct (i.e., mortality of individuals, loss of host plants, nest failure, etc.) or indirect (i.e., loss of foraging habitat, noise disturbance, nest disturbance, etc.) impacts to these species.

Implications for Future Development

1) Federally and State-Listed Species

Development of the site could result in direct or indirect impacts to federally or State-listed endangered, threatened or fully protected species. Avoidance of such species should be the primary objective; however, impacts to the mission blue butterfly, California red-legged frog, San Francisco garter snake, white-tailed kite, and Central California Coast steelhead DSP can be avoided or minimized by implementing the following measures:

Mission Blue Butterfly

- Prior to the start of construction, a biologist should delineate and conspicuously flag all larval host plants (e.g., *Lupinus albrfrons*, *L. formosus* and *L. veriicolor*) within construction work sites, staging areas, and access routes to prevent impacts to these resources. These areas should be avoided to the maximum extent possible.
- If the larval host plants cannot be avoided a qualified entomologist should conduct focused surveys to determine the presence or absence of mission blue butterflies during the flight season (March through June). A minimum of three site visits should be conducted during the flight season to inspect the larval host plants for adult butterflies, eggs, larvae, and evidence of larval feeding damage.
- If the presence of mission blue butterfly is confirmed, the information must be submitted to the USFWS and consultation could be required. If a federal nexus exists (i.e., if a Clean Water Act permit is required for impacts to waters of the U.S.), the USFWS would be required to issue a Biological Opinion (BO), which may include an incidental take permit prior to the onset of construction activities. The BO would outline specific mitigation measures that would need to be followed. Required measures might include performing preconstruction surveys for larvae, preserving suitable habitat lying within the ROW but not affected by Project implementation, establishing larval host plants elsewhere on the ROW, or restoring habitat specifically for mission blue butterfly elsewhere.

- All temporarily disturbed areas should be restored, at a minimum, to pre-project conditions. Restoration work should include replanting or reseeding native species typical of those located in adjacent habitats.

California Red-Legged Frog

- Impacts on streams and water courses should be avoided or minimized to the extent feasible.
- Incorporate construction and post-construction Best Management Practices (BMPs) to prevent the release of sediment and contaminants into waterways.
- The project sponsor must comply with the federal and State Endangered Species Acts. If a federal nexus exists (i.e., if a Clean Water Act permit is required for impacts to waters of the U.S.), a formal consultation with the USFWS under Section 7 of FESA would be required. The USFWS would issue a Biological Opinion, which includes an incidental take permit and an outline of mandatory minimization and/or mitigation measures. Compliance with Section 7 of the FESA can also facilitate compliance with the CESA. The CDFW must also be contacted regarding the issuance of a Section 2081 permit (i.e., State incidental take permit).
- Measures typically required to avoid or minimize effects include performing preconstruction surveys for adult frogs, tadpoles, or eggs, having a USFWS-approved biologist on site during work within suitable habitat, conducting environmental awareness training, conducting work between April 1 and November 1, implementing erosion control BMPs, refueling vehicles/equipment offsite, and restoring the habitat to pre-project conditions, among others.

Steelhead, Central California Coast DPS

Although the subject property does not overlap with San Mateo Creek, construction of storm drain outfalls, buried utilities, or crossings to provide access could result in direct impacts to the creek channel or its banks. In order to prevent causing indirect harm to steelhead, the following measures are warranted.

- Impacts on streams and water courses should be avoided or minimized to the extent feasible.
- Incorporate construction and post-construction Best Management Practices (BMPs) to prevent the release of sediment and contaminants into waterways.
- The Project sponsor must comply with the federal and State Endangered Species Acts. If a federal nexus exists (i.e., if a Clean Water Act permit is required for impacts to waters of the U.S.), a formal consultation with NOAA Fisheries under Section 7 of FESA would be required. NOAA Fisheries would issue a Biological Opinion, which would include an incidental take permit and an outline of mandatory minimization and/or mitigation measures. Compliance with Section 7 of the FESA can also facilitate compliance with the CESA. The CDFW must also be

contacted regarding the issuance of a Section 2081 permit (i.e., State incidental take permit).

- Measures typically required to avoid or minimize effects include conducting work during the low-flow season between May 1 and October 15, constructing coffer dams, capture and relocation of fish trapped during any dewatering of live channels, screen of dewatering pumps, monitoring during dewatering, implementing erosion control BMPs to maintain water quality and control sedimentation, and restoration of the bed and bank to pre-project conditions, among others.

San Francisco Garter Snake

- Impacts on streams and water courses should be avoided or minimized to the extent feasible.
- Incorporate construction and post-construction Best Management Practices (BMPs) to prevent the release of sediment and contaminants into waterways.
- The Project sponsor must comply with the federal and State Endangered Species Acts. If a federal nexus exists (i.e., if a Clean Water Act permit is required for impacts to waters of the U.S.), a formal consultation with the USFWS under Section 7 of FESA would be required. The USFWS would issue a Biological Opinion, which would include an incidental take permit and an outline of mandatory minimization and/or mitigation measures. Compliance with Section 7 of the FESA can also facilitate compliance with the CESA.
- Measures typically required to avoid or minimize effects include performing preconstruction surveys for snakes within the daily work area, having a USFWS-approved biologist on site during work within suitable habitat, conducting environmental awareness training, constructing exclusion fencing along the project perimeter within suitable habitat, implementing erosion control BMPs, refueling vehicles/equipment offsite, and restoring the habitat to pre-project conditions, among others.

White-Tailed Kite

- For measures to ensure the protection of white-tailed kite, see discussion under bats and migratory birds, below.

2) Bats and Migratory Birds

The woodland, scrub and grasslands communities on site provide suitable nesting, wintering, roosting, and foraging habitat for a variety of bird and bat species. Grading, tree removal, or pruning could result in direct or indirect impacts to these species by causing destruction or abandonment of occupied nests and roosts, or loss of foraging habitat. To ensure compliance to the MBTA, CFGC, and other laws and policies, the following measures are recommended:

- Preconstruction surveys for nesting migratory birds and roosting bats should be conducted no more than two weeks prior to the start of construction for work scheduled to occur during the breeding season (February 1 to August 31) or wintering period (September 1 to January 31).
- If active nests/roosts are identified within 300 feet of the project site, non-disturbance buffers should be established at a distance sufficient to minimize disturbance based on the nest/roost location, topography, cover and species' tolerance to disturbance. Buffer size should be determined in cooperation with the CDFW and the USFWS.
- If active nests/roosts are found within 300 feet of the project site and non-disturbance buffers cannot be maintained, a qualified biologist should be on site to monitor the nests/roosts for signs of nest disturbance. If it is determined that construction activity is resulting in nest/roost disturbance, work should cease immediately and the USFWS and CDFW should be contacted.

3) San Francisco Dusky-Footed Woodrat

Destruction of San Francisco dusky-footed woodrat nests, which were common in the woodland and scrub communities on site, could result in direct impacts to woodrats. To minimize impacts to this species, the following measures are recommended:

- A qualified biologist should perform a ground survey to locate and mark all woodrat nests in the proposed construction area. The survey should be performed no less than 30 days prior to the initiation of ground disturbances. The Contractor should also walk the site to assist in determining which nests would be affected. The nests to be avoided should be fenced off with orange construction fencing and their locations marked on construction plans as being off limits to all activities.
- Any woodrat nest that cannot be avoided should be manually disassembled by a qualified biologist pending authorization from CDFW to give any resident woodrats the opportunity to disperse to adjoining undisturbed habitat. Nest building materials should be immediately removed off-site and disposed of to prevent woodrats from reassembling nests on-site.
- To ensure woodrats do not rebuild nests within the construction area, a qualified biologist should inspect the construction corridor no less than once per week. If new nests appear, they should be disassembled and the building materials disposed of off-site. If there is a high degree of woodrat activity, more frequent monitoring should be performed, as warranted.

4) Special-Status Invertebrates

Upland grading and development could result in indirect impacts to suitable habitat of the Tomales isopod, Ricksecker's water scavenger beetle, and San Francisco forktail damselfly within San Mateo Creek and the tributaries on site. To minimize impacts to these species, the following measures are recommended:

- All appropriate erosion and sediment control BMPs should be implemented. Application of erosion control BMPs should utilize native weed-free fiber rolls, mats, straw mulch, hydroseed, etc. to the maximum extent possible.
- All temporarily disturbed aquatic habitat should be restored to pre-project conditions, which may include revegetation of denuded areas with native aquatic or emergent vegetation that complement the native vegetation of adjacent habitats.

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APPENDIX A

POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES EVALUATED AT THE ZMAY PROPERTY

Potentially Occurring Special-status Plants
Species Evaluated At The Beeson Property

Wood Biological Consulting

FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Alliaceae - Onion Family				
Allium peninsulare var. *franciscanum* Franciscan onion	Federal: none State: none CNPS: 1B.2 G5T1/S1 Other: DFG: SP	Occurs in cismontane woodland, valley and foothill grassland. Substrate: clay, often serpentinite. Recorded from San Mateo, Santa Clara, Sonoma.	May-Jun Perennial Herb (bulbiferous)	None: marginally suitable habitat present. Detected on subject property but not within reduced study area; see report for details.
Apiaceae - Carrot Family				
Eryngium aristulatum var. *hooveri* Hoover's button-celery	Federal: none State: none CNPS: 1B.1 G5T1/S1 Other: DFG: SP	Occurs in vernal pools Moisture: vernally-flooded. Recorded from Alameda, San Benito, San Luis Obispo, Santa Clara.	July Annual/perennial Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Perideridia gairdneri ssp. *gairdneri* Gairdner's yampah	Federal: none State: none CNPS: 4.2 G5T3/S3. Other: DFG: SP	Occurs in broadleafed upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools Moisture: vernally mesic. Recorded from Contra Costa, Kern, Los Angeles, Marin, Mendocino, Monterey, Napa, Orange, San Benito, San Diego, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma; presumed extirpated from Los Angeles, Orange, and San Diego counties.	Jun-Oct Perennial Herb	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.
Sanicula maritima adobe sanicle	Federal: none State: SR CNPS: 1B.1 G2/S2.2 Other: DFG: SP	Occurs in chaparral, coastal prairie, meadows, seeps, valley and foothill grassland Substrate: clay, serpentinite. Recorded from Alameda, Monterey, San Francisco, San Luis Obispo. Additional distribution: presumed extirpated in Alameda and San Francisco counties.	Feb-May Perennial Herb	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.

Potentially Occurring Special-status Plants
Species Evaluated At The Beeson Property

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Asteraceae - Sunflower Family				
Centromadia parryi ssp. *congdonii* Congdon's tarplant	Federal: none State: none CNPS: 1B.1 G3T2/S2 Other: DFG: SP	Occurs in valley and foothill grassland. Substrate: alkaline. Recorded from Alameda, Contra Costa, Monterey, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Solano. Additional distribution: presumed extirpated in Santa Cruz and Solano counties.	May-Nov Annual Herb	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.
Centromadia parryi ssp. *parryi* pappose tarplant	Federal: none State: none CNPS: 1B.2 G4?T2/S Other:	Occurs in coastal prairie, meadows, seeps, coastal salt marsh, valley and foothill grassland. Moisture: vernally mesic,Substrate: often alkaline, Recorded from Butte, Colusa, Glenn, Lake, Napa, San Mateo, Solano, Sonoma.	May-Nov Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Cirsium andrewsii Franciscan thistle	Federal: none State: none CNPS: 1B.2 G23S3 Other: DFG: SP	Occurs in broadleafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub Moisture: mesic,Substrate: sometimes serpentinite, Recorded from Contra Costa, Marin, San Francisco, San Mateo, Sonoma.	Mar-Jul Perennial Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Cirsium fontinale var. *fontinale* Crystal Springs fountain thistle	Federal: FE State: SE CNPS: 1B.1 G2T1/S1 Other: DFG: SP	Occurs in chaparral, valley and foothill grassland, cismontane woodland. Substrate: serpentinite, Habitats Note: seeps. Recorded from San Mateo.	May-Oct Perennial Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Cirsium occidentale var. *compactum* compact cobwebby thistle	Federal: none State: none CNPS: 1B.2 G3G4T1/ Other: DFG: SP	Occurs in chaparral, coastal dunes, coastal prairie, coastal sage scrub, coastal scrub, coastal strand, northern coastal scrub. Recorded from Monterey, San Francisco, San Luis Obispo.	Apr-Jun Perennial Herb	None: suitable habitat present. Would have been detectable during 2007 surveys.

Potentially Occurring Special-status Plants
Species Evaluated At The Beeson Property

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Cirsium praeteriens lost thistle	Federal: none State: none CNPS: 1A GX/SX Other: DFG: SP	Habitat affinities unknown. Recorded from Santa Clara.	Jun-Jul Perennial Herb	None: Would have been detectable during 2007 surveys.
Eriophyllum latilobum San Mateo woolly sunflower	Federal: FE State: SE CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in cismontane woodland. Substrate: often on serpentine, roadcuts. Recorded from San Mateo.	May-Jun Perennial Herb	None: suitable habitat present. Detected on subject property but not within reduced study area; see report for details.
Grindelia hirsutula var. *maritima* San Francisco gumplant	Federal: none State: none CNPS: 3.2 G5T1Q/S Other: DFG: SP	Occurs in coastal bluff scrub, coastal scrub, valley and foothill grassland Substrate: sandy or serpentinite. Recorded from Marin, Monterey, San Francisco, San Luis Obispo, San Mateo, Santa Cruz.	Jun-Sep Perennial Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Helianthella castanea Diablo helianthella	Federal: none State: none CNPS: 1B.2 G2/S2 Other: DFG: SP	Occurs in broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Recorded from Alameda, Contra Costa, Marin, San Mateo, San Francisco. Additional distribution: presumed extirpated in Marin and San Francisco counties.	Mar-Jun Perennial Herb	None: suitable habitat present. Would have been detectable during 2007 surveys.
Hemizonia congesta ssp. *congesta* white seaside tarplant	Federal: none State: none CNPS: 1B.2 G5T2T3/ Other:	Occurs in valley and foothill grassland. Habitats Note: sometimes roadsides. Recorded from Marin, Mendocino, San Francisco, San Mateo, Sonoma.	Apr-Nov Annual Herb	None: suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.

Potentially Occurring Special-status Plants
Species Evaluated At The Beeson Property

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Hesperevax sparsiflora var. *brevifolia* short-leaved evax	Federal: none State: none CNPS: 1B.2 G4T2T3/ Other: DFG: SP	Occurs in coastal bluff scrub, coastal dunes, coastal strand, northern coastal scrub. Recorded from Humboldt, Marin, Mendocino, San Francisco, Santa Cruz, Sonoma.Also recorded from Oregon.	Mar-Jun Annual Herb	None: suitable habitat present. Would have been detectable during 2007 surveys.
Holocarpha macradenia Santa Cruz tarplant	Federal: FT State: SE CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in coastal prairie, coastal scrub, valley and foothill grassland. Substrate: often clay, sandy. Recorded from Alameda, Contra Costa, Marin, Monterey, Santa Cruz, Solano. Additional distribution: presumed extirpated in Alameda, Contra Costa, and Marin counties.	Jun-Oct Annual Herb	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.
Lasthenia californica ssp. *macrantha* perennial goldfields	Federal: none State: none CNPS: 1B.2 G3T2/S2. Other: DFG: SP	Occurs in coastal bluff scrub, coastal dunes, coastal scrub. Recorded from Marin, Mendocino, San Luis Obispo, San Mateo, Sonoma.	Jan-Nov Perennial Herb	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Lasthenia conjugens Contra Costa goldfields	Federal: FE State: none CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools Moisture: mesic. Recorded from Alameda, Contra Costa, Marin, Mendocino, Monterey, Napa, Santa Barbara, Santa Clara, Solano, Sonoma. Additional distribution: presumed extirpated in Mendocino, Santa Barbara and Santa Clara counties.	Mar-Jun Annual Herb	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Layia carnosa beach layia	Federal: FE State: SE CNPS: 1B.1 G2/S2 Other: DFG: SP	Occurs in coastal dunes, coastal scrub. Substrate: sandy. Recorded from Humboldt, Marin, Monterey, San Francisco, Santa Barbara; presumed extirpated in Santa Barbara and San Francisco counties.	Mar-Jul Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.

Potentially Occurring Special-status Plants
Species Evaluated At The Beeson Property

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Lessingia arachnoidea Crystal Springs lessingia	Federal: none State: none CNPS: 1B.2 G1/S1 Other: DFG: SP	Occurs in cismontane woodland, coastal scrub, foothill woodland, northern coastal scrub, valley and foothill grassland. Substrate: serpentinite. Recorded from San Mateo, Sonoma.	Jul-Oct Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Lessingia germanorum San Francisco lessingia	Federal: FE State: SE CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in coastal scrub. Habitats Note: on remnant dunes. Recorded from San Francisco, San Mateo.	Jun-Nov Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Lessingia hololeuca woolly-headed lessingia	Federal: none State: none CNPS: 3 G3/S3 Other: DFG: SP	Occurs in broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland Substrate: serpentinite, clay. Recorded from Alameda, Marin, Monterey, Napa, San Mateo, Santa Clara, Solano, Sonoma, Yolo.	Jun-Oct Annual Herb	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.
Micropus amphibolus Mt. Diablo cottonweed	Federal: none State: none CNPS: 3.2 G3/S3.2? Other: DFG: SP	Occurs in broadleafed upland forest, chaparral, cismontane woodland, valley and foothill grassland Substrate: rocky. Recorded from Alameda, Colusa, Contra Costa, Lake, Marin, Monterey, Napa, San Joaquin, San Luis Obispo, Santa Barbara, Santa Clara, Santa Cruz, Solano, Sonoma.	Mar-May Annual Herb	None: suitable habitat present. Would have been detectable during 2007 surveys.
Microseris paludosa marsh microseris	Federal: none State: none CNPS: 1B.2 G2/S2.2 Other: DFG: SP	Occurs in closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Recorded from Marin, Mendocino, Monterey, San Benito, San Francisco, San Luis Obispo, San Mateo, Santa Cruz, Sonoma; presumed extirpated in San Francisco and San Mateo counties.	Apr-Jul Perennial Herb	None: suitable habitat present. Would have been detectable during 2007 surveys.

Potentially Occurring Special-status Plants
Species Evaluated At The Beeson Property

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Monolopia gracilens woodland woollythreads	Federal: none State: none CNPS: 1B.2 G2G3/S2 Other:	Occurs in broadleafed upland forest (openings), chaparral (openings), cismontane woodland, North Coast coniferous forest (openings), valley and foothill grassland. Substrate: serpentinite. Recorded from Alameda, Contra Costa, Monterey, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz.	Feb-Jul Annual Herb	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Pentachaeta bellidiflora white-rayed pentachaeta	Federal: FE State: SE CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in valley and foothill grassland, cismontane woodland Substrate: often on serpentinite. Recorded from Marin, San Mateo, Santa Cruz. Additional distribution: known from fewer than 20 occurrences, presumed extirpated from Marin Co.	Mar-May Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Stebbinsoseris decipiens Santa Cruz microseris	Federal: none State: none CNPS: 1B.2 G2/S2.2 Other: DFG: SP	Occurs in broadleafed upland forest, chaparral, closed-cone coniferous forest, coastal prairie, coastal scrub, valley and foothill grassland Substrate: serpentinite. Recorded from Marin, Monterey, San Francisco, San Luis Obispo, San Mateo, Santa Cruz. Additional distribution: known from fewer than 20 occurrences.	Apr-May Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Boraginaceae - Borage Family				
Amsinckia lunaris bent-flowered fiddleneck	Federal: none State: none CNPS: 1B.2 G2?/S2? Other: DFG: SP	Occurs in coastal bluff scrub, cismontane woodland, valley and foothill grassland. Recorded from Alameda, Colusa, Contra Costa, Lake, Marin, Napa, San Benito, San Mateo, Santa Clara, Santa Cruz, Sonoma, Yolo.	Mar-Jun Annual Herb	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.
Plagiobothrys chorisianus var. *chorisianus* Choris's popcorn-flower	Federal: none State: none CNPS: 1B.2 G3T2Q/S Other: DFG: SP	Occurs in chaparral, coastal prairie, coastal scrub, northern coastal scrub Moisture: moist. Recorded from Alameda, San Francisco, San Mateo, Santa Cruz.	Mar-Jun Annual Herb	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.

Potentially Occurring Special-status Plants
Species Evaluated At The Beeson Property

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Plagiobothrys diffusus San Francisco popcorn-flower	Federal: none State: SE CNPS: 1B.1 G1Q/S1 Other: DFG: SP	Occurs in coastal prairie, valley and foothill grassland. Recorded from Alameda, San Francisco, San Mateo, Santa Cruz. Additional distribution: presumed extirpated in San Francisco County.	Mar-Jun Annual Herb	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.
Plagiobothrys glaber hairless popcorn-flower	Federal: none State: none CNPS: 1A GH/SH Other: DFG: SP	Occurs in meadows, seeps (alkaline), marshes and swamps (coastal salt). Substrate: alkaline. Recorded from Alameda, Marin, San Benito, Santa Clara. Additional distribution: presumed extinct.	Mar-May Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Brassicaceae - Mustard Family				
Arabis blepharophylla coast rock cress	Federal: none State: none CNPS: 4.3 G3/S3.3? Other: DFG: SP	Occurs in broadleafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub, mixed evergreen forest, northern coastal scrub. Recorded from Contra Costa, Marin, Monterey, San Francisco, San Mateo, Santa Cruz, Sonoma.	Feb-May Perennial Herb	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.
Erysimum franciscanum San Francisco wallflower	Federal: none State: none CNPS: 4.2 G3/S3.2 Other: DFG: SP	Occurs in chaparral, coastal dunes, coastal scrub, valley and foothill grassland Substrate: often serpentinitic or granitic, Habitats Note: sometimes roadsides. Recorded from Marin, San Francisco, San Mateo, Santa Clara, Santa Cruz, Sonoma.	Mar-Jun Perennial Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Streptanthus albidus ssp. *peramoenus* most beautiful jewel-flower	Federal: none State: none CNPS: 1B.2 G2T2/S2. Other: DFG: SP	Occurs in chaparral, cismontane woodland, valley and foothill grassland. Substrate: serpentinite. Recorded from Alameda, Contra Costa, Monterey, Santa Clara, San Luis Obispo.	Mar-Oct Annual Herb	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.

Potentially Occurring Special-status Plants
Species Evaluated At The Beeson Property

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Tropidocarpum capparideum caper-fruited tropidocarpum	Federal: none State: none CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in valley and foothill grassland (alkaline hills). Substrate: alkaline. Recorded from Alameda, Contra Costa, Glenn, Monterey, San Joaquin, San Luis Obispo, Santa Clara. Additional distribution: Rediscovered in 2000 on Ft. Hunter Liggett. Presumed extirpated in Alameda, Contra Costa, Glenn, Santa Clara and San Joaquin counties.	Mar-Apr Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Campanulaceae - Bellflower Family				
Legenere limosa legenere	Federal: none State: none CNPS: 1B.1 G2/S2 Other: DFG: SP	Occurs in vernal pools Moisture: vernally-flooded. Recorded from Lake, Napa, Placer, Sacramento, San Mateo, Shasta, Solano, Sonoma, Stanislaus, Tehama, Yuba.	Apr-Jun Annual Herb	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Caryophyllaceae - Pink Family				
Arenaria paludicola marsh sandwort	Federal: FE State: SE CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in bogs and fens, freshwater marsh, marshes and swamps. Recorded from Los Angeles, Mendocino, San Bernardino, San Francisco, San Luis Obispo, Santa Cruz.Also recorded from Washington.	May-Aug Perennial Herb (stoloniferous)	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Silene verecunda ssp. *verecunda* San Francisco campion	Federal: none State: none CNPS: 1B.2 G5T2/S2. Other: DFG: SP	Occurs in chaparral, coastal bluff scrub, coastal prairie, coastal scrub, northern coastal scrub, valley and foothill grassland. Recorded from San Francisco, San Mateo, Santa Cruz.	Mar-Aug Perennial Herb	None: suitable habitat present. Would have been detectable during 2007 surveys.

Potentially Occurring Special-status Plants
Species Evaluated At The Beeson Property

Wood Biological Consulting

FAMILY

Scientific Name / Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time / Life Form	Potential For Occurrence On Site
Chenopodiaceae - Goosefoot Family				
Suaeda californica California seablite	Federal: FE State: none CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in marshes and swamps (coastal salt). Recorded from Alameda, Contra Costa, San Francisco, San Luis Obispo, Santa Clara. Additional distribution: presumed extirpated in Alameda, Contra Costa and Santa Clara counties - reintroduced to San Francisco County.	Jul-Oct Shrub (evergreen)	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Cupressaceae - Cypress Family				
Hesperocyparis abramsiana var. *butanoensis* Butano Ridge cypress	Federal: FE State: SE CNPS: 1B.2 G1T1/S1 Other: DFG: SP	Occurs in closed-cone coniferous forest, chaparral, lower montane coniferous forest Substrate: sandstone. Recorded from San Mateo.	n/a Tree (evergreen)	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Cyperaceae - Sedge Family				
Carex comosa bristly sedge	Federal: none State: none CNPS: 2B.1 G5/S2 Other: DFG: SP	Occurs in coastal prairie, freshwater marsh, marshes and swamps, valley and foothill grassland. Recorded from Contra Costa, Lake, Mendocino, San Bernardino, San Francisco, San Joaquin, Santa Cruz, Shasta, Sonoma.Also recorded from Idaho, Oregon, Washington.	May-Sep Perennial Herb (rhizomatous)	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Equisetaceae - Horsetail Family				
Equisetum palustre marsh horsetail	Federal: none State: none CNPS: 3 G5/S1S2 Other: DFG: SP	Occurs in freshwater marsh, marshes and swamps. Recorded from Lake, Napa, San Francisco, San Mateo.Also recorded from Idaho, Oregon, Washington.	Unknown Perennial Herb (rhizomatous)	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.

Potentially Occurring Special-status Plants
Species Evaluated At The Beeson Property

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Ericaceae - Heath Family				
Arctostaphylos andersonii Anderson's manzanita	Federal: none State: none CNPS: 1B.2 G2/S2? Other: DFG: SP	Occurs in broadleafed upland forest, chaparral, mixed evergreen forest, North Coast coniferous forest, redwood forest. Recorded from San Mateo, Santa Clara, Santa Cruz.	Nov-Apr Shrub (evergreen)	None: suitable habitat present. Would have been detectable during 2007 surveys.
Arctostaphylos franciscana Franciscan manzanita	Federal: none State: none CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in coastal scrub, northern coastal scrub Substrate: serpentine. Recorded from San Francisco.	Feb-Apr Shrub (evergreen)	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Arctostaphylos imbricata San Bruno Mountain manzanita	Federal: none State: SE CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in chaparral, coastal scrub. Recorded from San Mateo.	Feb-May Shrub (evergreen)	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.
Arctostaphylos montana ssp. *ravenii* Presidio manzanita	Federal: FE State: SE CNPS: 1B.1 G3T1/S1 Other: DFG: SP	Occurs in chaparral, coastal prairie, coastal scrub, northern coastal scrub Substrate: serpentine. Recorded from San Francisco.	Feb-Mar Shrub (evergreen)	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Arctostaphylos montaraensis Montara manzanita	Federal: none State: none CNPS: 1B.2 G1/S1 Other: DFG: SP	Occurs in chaparral, coastal scrub, northern coastal scrub. Recorded from San Mateo.	Jan-Mar Shrub (evergreen)	None: suitable habitat present. Would have been detectable during 2007 surveys.

Potentially Occurring Special-status Plants
Species Evaluated At The Beeson Property

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Arctostaphylos pacifica Pacific manzanita	Federal: none State: SE CNPS: 1B.2 G1/S1 Other:	Occurs in chaparral, coastal scrub. Recorded from San Mateo.	Feb-Apr Evergreen Shrub	None: marginally suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Arctostaphylos regismontana Kings Mountain manzanita	Federal: none State: none CNPS: 1B.2 G2/S2 Other: DFG: SP	Occurs in broadleafed upland forest, chaparral, mixed evergreen forest, North Coast coniferous forest. Substrate: granitic sedimentary sandstone. Recorded from San Mateo, Santa Clara, Santa Cruz.	Jan-Apr Shrub (evergreen)	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Fabaceae - Legume Family				
Astragalus nuttallii var. *nuttallii* Nuttall's milk-vetch	Federal: none State: none CNPS: 4.2 G3T3/S3. Other: DFG: SP	Occurs in coastal bluff scrub, coastal dunes. Recorded from Alameda, Monterey, San Francisco, San Luis Obispo, San Mateo, Santa Barbara, Marin. Presumed extirpated in Alameda and San Francisco counties.	Jan-Nov Perennial Herb	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Astragalus pycnostachyus var. *pycnostachyus* coastal marsh milk-vetch	Federal: none State: none CNPS: 1B.2 G2T2/S2 Other: DFG: SP	Occurs in coastal dunes, marshes and swamps, coastal scrub Moisture: mesic, Habitats Note: coastal salt marshes, streamsides. Recorded from Humboldt, Marin, Mendocino, San Mateo.	Apr-Oct Perennial Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Astragalus tener var. *tener* alkali milk-vetch	Federal: none State: none CNPS: 1B.2 G2T2/S2 Other: DFG: SP	Occurs in playas, valley and foothill grassland (adobe clay), vernal pools Substrate: adobe clay, alkaline. Recorded from Alameda, Contra Costa, Merced, Monterey, Napa, San Benito, San Francisco, San Joaquin, Santa Clara, Solano, Sonoma, Stanislaus, Yolo. Additional distribution: presumed extirpated in Contra Costa, Monterey, San Benito, Santa Clara, San Francisco, San Joaquin, Sonoma, and Stanislaus counties.	Mar-Jun Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Lupinus arboreus var. *eximius* San Mateo tree lupine	Federal: none State: none CNPS: 3.2 G2Q/S2. Other:	Occurs in chaparral, coastal scrub. Recorded from San Mateo, Sonoma (?).	Apr-Jul Evergreen Shrub	None: suitable habitat present. Would have been detectable during 2007 surveys.
Trifolium amoenum showy Indian clover	Federal: FE State: none CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in coastal bluff scrub, valley and foothill grassland Substrate: sometimes serpentinite. Recorded from Marin, Napa, San Mateo, Santa Clara, Solano, Sonoma; presumed extirpated from Napa, Santa Clara and Solano counties.	Apr-Jun Annual Herb	None: marginally suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Trifolium hydrophilum saline clover	Federal: none State: none CNPS: 1B.2 G2/S2 Other: DFG: SP	Occurs in marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Recorded from Alameda, Colusa, Monterey, Napa, San Benito, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma. Additional distribution: questionable in Colusa County.	Apr-Jun Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Geraniaceae - Geranium Family				
California macrophylla round-leaved filaree	Federal: none State: none CNPS: 1B.1 G2/S2 Other: DFG: SP	Occurs in cismontane woodland, valley and foothill grassland Substrate: clay. Recorded from Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Kern, Kings, Lake, Lassen, Los Angeles, Merced, Monterey, Napa, Riverside, San Benito, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Solano, Sonoma, Stanislaus, Tehama, Ventura, Yolo.Santa Cruz Island.Also recorded from Baja California, Oregon, Utah.	Mar-May Annual Herb	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.
Iridaceae - Iris Family				
Iris longipetala coast iris	Federal: none State: none CNPS: 4.2 G3/S3.2 Other:	Occurs in coastal prairie, lower montane coniferous forest, meadows, seeps Moisture: mesic. Recorded from Alameda, Contra Costa, Humboldt, Marin, Mendocino, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Solano, Sonoma.	Mar-May Perennial Herb (rhizomatous)	None: suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Lamiaceae - Mint Family				
Acanthomintha duttonii San Mateo thorn-mint	Federal: FE State: SE CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in valley and foothill grassland, chaparral. Substrate: serpentinite. Recorded from San Mateo.	Apr-Jun Annual Herb	None: suitable habitat present. Would have been detectable during 2007 surveys.
Monardella sinuata ssp. *nibrescens* northern curly-leaved monardella	Federal: none State: none CNPS: 1B.2 G2/S2 Other:	Occurs in chaparral, coastal dunes, coastal scrub, lower montane coniferous forest. Recorded from Marin, Monterey, Santa Cruz. Additional distribution: presumed extirpated from San Francisco County.	Apr-Sep Annual Herb	None: marginally suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Liliaceae - Lily Family				
Calochortus umbellatus Oakland star-tulip	Federal: none State: none CNPS: 4.2 G3/S3.2 Other: DFG: SP	Occurs in broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland Substrate: often serpentinite. Recorded from Alameda, Contra Costa, Lake, Marin, San Mateo, Santa Clara, Santa Cruz, Stanislaus. Additional distribution: presumed extirpated in Santa Cruz County.	Mar-May Perennial Herb (bulbiferous)	None: marginally suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Fritillaria agrestis stinkbells	Federal: none State: none CNPS: 4.2 G3/S3.2 Other: DFG: SP	Occurs in chaparral, cismontane woodland, foothill woodland, pinyon and juniper woodland, valley and foothill grassland. Substrate: clay, sometimes serpentinite. Recorded from Alameda, Contra Costa, Fresno, Kern, Mariposa, Mendocino, Monterey, Placer, Sacramento, San Benito, San Luis Obispo, San Mateo, Santa Barbara, Santa Cruz, Stanislaus, Tuolumne, Ventura.	Mar-Jun Perennial Herb (bulbiferous)	None: suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Fritillaria biflora var. *ineziana* Hillsborough chocolate lily	Federal: none State: none CNPS: 1B.1 G1QT1Q/ Other: DFG: SP	Occurs in cismontane woodland, foothill woodland, valley and foothill grassland Substrate: serpentine. Recorded from San Mateo.	Mar-Apr Perennial Herb (bulbiferous)	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Fritillaria lanceolata var. *tristulis* Marin checker lily	Federal: none State: none CNPS: 1B.1 G5T2/S2 Other: DFG: SP	Occurs in coastal bluff scrub, coastal prairie, coastal scrub. Recorded from Marin, San Mateo.	Feb-May Perennial Herb (bulbiferous)	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Fritillaria liliacea fragrant fritillary	Federal: none State: none CNPS: 1B.2 G2/S2 Other: DFG: SP	Occurs in cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland Substrate: often serpentinite. Recorded from Alameda, Contra Costa, Marin, Monterey, San Benito, San Francisco, San Mateo, Santa Clara, Solano, Sonoma.	Feb-Apr Perennial Herb (bulbiferous)	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Lilium maritimum coast lily	Federal: none State: none CNPS: 1B.1 G2/S2 Other: DFG: SP	Occurs in broadleafed upland forest, closed-cone coniferous forest, closed-cone pine forest, coastal prairie, coastal scrub, marshes and swamps, mixed evergreen forest, North Coast coniferous forest, northern coastal scrub. Recorded from Marin, Mendocino, San Francisco, San Mateo, Sonoma.	May-Jul Perennial Herb (bulbiferous)	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.
Limnanthaceae - Meadowfoam Family				
Limnanthes douglasii ssp. *ornduffii* Ornduff's meadowfoam	Federal: none State: none CNPS: 1B.1 G4T1/S1 Other:	Occurs in seeps, meadows Moisture: moist. Recorded from San Mateo. Additional distribution: Restricted to a single agricultural field.	Nov-May Annual Herb	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Limnanthes douglasii ssp. *sulphurea* Point Reyes meadowfoam	Federal: none State: SE CNPS: 1B.2 G4T2/S2 Other: DFG: SP	Occurs in coastal prairie, marshes and swamps, meadows, seeps, vernal pools. Moisture: mesic. Recorded from Marin, San Mateo.	Mar-May Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Linaceae - Flax Family				
Hesperolinon congestum Marin western flax	Federal: FT State: ST CNPS: 1B.1 G2/S2 Other: DFG: SP	Occurs in chaparral, valley and foothill grassland. Substrate: serpentinite. Recorded from Marin, San Francisco, San Mateo.	Apr-Jul Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Malvaceae - Mallow Family				
Malacothamnus aboriginum Indian Valley bush-mallow	Federal: none State: none CNPS: 1B.2 G2/S2 Other: DFG: SP	Occurs in chaparral, cismontane woodland, foothill woodland Habitats Note: rocky. Recorded from Fresno, Monterey, San Benito, Kings, Santa Clara, San Mateo.	Apr-Oct Shrub (deciduous)	None: suitable habitat present. Would have been detectable during 2007 surveys.
Malacothamnus arcuatus arcuate bush-mallow	Federal: none State: none CNPS: 1B.2 G2Q/S2. Other: DFG: SP	Occurs in chaparral. Recorded from San Mateo, Santa Clara, Santa Cruz.	Apr-Sep Shrub (evergreen)	None: suitable habitat present. Detected on subject property but not within reduced study area; see report for details.
Malacothamnus davidsonii Davidson's bush-mallow	Federal: none State: none CNPS: 1B.2 G2/S2 Other: DFG: SP	Occurs in chaparral, cismontane woodland, coastal sage scrub, coastal scrub, northern coastal scrub, riparian woodland. Recorded from Los Angeles, Monterey, San Luis Obispo, San Mateo, Santa Clara.	Jun-Jan Shrub (deciduous)	None: suitable habitat present. Would have been detectable during 2007 surveys.
Malacothamnus hallii Hall's bush-mallow	Federal: none State: none CNPS: 1B.2 G2Q/S2 Other: DFG: SP	Occurs in chaparral, coastal scrub. Recorded from Contra Costa, Mendocino, Merced, San Mateo, Santa Clara, Stanislaus, Lake.	May-Oct Shrub (evergreen)	None: suitable habitat present. Would have been detectable during 2007 surveys.
Montiaceae - Montia Family				
Calandrinia breweri Brewer's calandrinia	Federal: none State: none CNPS: 4.2 G4/S3.2? Other: DFG: SP	Occurs in chaparral, coastal scrub Substrate: sandy or loamy, Habitats Note: disturbed sites and burns. Recorded from Contra Costa, Los Angeles, Marin, Mariposa, Mendocino, Monterey, Napa, San Bernardino, San Diego, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Sonoma, Ventura. Santa Cruz Island, Santa Rosa Island. Also recorded from Baja California.	Mar-Jun Annual Herb	None: marginally suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Onagraceae - Evening Primrose Family				
Clarkia concinna ssp. *automixa* Santa Clara red ribbons	Federal: none State: none CNPS: 4.3 G5?T3/S Other: DFG: SP	Occurs in chaparral, cismontane woodland. Recorded from Alameda, Santa Clara.	Apr-Jul Annual Herb	None: suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Clarkia franciscana Presidio clarkia	Federal: FE State: SE CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in coastal scrub, valley and foothill grassland (serpentinite). Substrate: serpentinite. Recorded from Alameda, San Francisco.	May-Jul Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Orchidaceae - Orchid Family				
Cypripedium fasciculatum clustered lady's-slipper	Federal: none State: none CNPS: 4.2 G4/S3.2 Other: DFG: SP	Occurs in Douglas-fir forest, lower montane coniferous forest, North Coast coniferous forest, redwood forest, yellow pine forest. Substrate: serpentine. Recorded from Butte, Del Norte, Humboldt, Nevada, Plumas, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Tehama, Trinity, Yuba.Also recorded from Idaho, Oregon, Utah, Washington, Wyoming.	Mar-Jul Perennial Herb (rhizomatous)	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Piperia candida white-flowered rein orchid	Federal: none State: none CNPS: 1B.2 G3?/S2 Other: DFG: SP	Occurs in broadleafed upland forest, lower montane coniferous forest, North Coast coniferous forest, yellow pine forest. Substrate: serpentine. Recorded from Del Norte, Humboldt, Mendocino, San Mateo, Santa Cruz, Siskiyou, Sonoma, Trinity.Also recorded from Oregon, Washington.	May-Sep Perennial Herb	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Orobanchaceae - Broomrape Family				
Castilleja ambigua ssp. *ambigua* Johnny-nip	Federal: none State: none CNPS: 4.2 G4T3T4/ Other:	Occurs in coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools. Recorded from Alameda, Contra Costa, Del Norte, Humboldt, Lake, Marin, Mendocino, Monterey, Napa, San Luis Obispo, San Mateo, Santa Cruz, Solano, Sonoma, Yolo.	Mar-Aug Annual Herb, Hemiparasitic	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Chloropyron maritimum ssp. *palustre* Point Reyes bird's-beak	Federal: none State: none CNPS: 1B.2 G4?T2/S Other: DFG: SP	Occurs in marshes and swamps Habitats Note: coastal salt marsh. Recorded from Alameda, Humboldt, Marin, San Francisco, San Mateo, Santa Clara, Sonoma. Additional distribution: presumed extirpated in Alameda, Santa Clara, and San Mateo counties.Also recorded from Oregon.	Jun-Oct Annual Herb, Hemiparasitic	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Pedicularis dudleyi Dudley's lousewort	Federal: none State: SR CNPS: 1B.2 G2/S2 Other: DFG: SP	Occurs in chaparral (maritime), cismontane woodland, North Coast coniferous forest, valley and foothill grassland. Recorded from Monterey, San Luis Obispo, San Mateo, Santa Cruz. Additional distribution: presumed extirpated in Santa Cruz Co.	Apr-Jun Perennial Herb	None: suitable habitat present. Would have been detectable during 2007 surveys.
Orthotrichaceae				
Orthotrichum kellmanii Kellman's bristle-moss	Federal: none State: none CNPS: 1B.2 G2/S2 Other:	Occurs in chaparral, cismontane woodland. Substrate: sandstone and carbonate. Recorded from Monterey, San Mateo, Santa Cruz.	n/a Moss	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Parmeliaceae				
Usnea longissima long-beard lichen	Federal: none State: none CNPS: 4.2 G4/S4 Other:	Occurs in north coastal coniferous forest, broadleafed upland forest. Recorded from Humboldt, San Mateo, Santa Cruz. Additional distribution: Grows in the "redwood zone" on a variety of trees including big leaf maple, Douglas fir, oaks, ash and bay.		None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Pinaceae - Pine Family				
Pinus radiata Monterey pine	Federal: none State: none CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in cismontane woodland, closed-cone coniferous forest, closed-cone pine forest. Recorded from Monterey, San Luis Obispo, San Mateo, Santa Cruz.Also recorded from Baja California, Isla Guadulupe (Baja).	n/a Tree (evergreen)	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Plantaginaceae - Plantain Family				
Collinsia corymbosa round-headed Chinese houses	Federal: none State: none CNPS: 1B.2 G1/S1 Other: DFG: SP	Occurs in coastal dunes. Recorded from Humboldt, Marin, Mendocino, San Francisco, Sonoma.	Apr-Jun Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Collinsia multicolor San Francisco collinsia	Federal: none State: none CNPS: 1B.2 G2/S2 Other: DFG: SP	Occurs in closed-cone coniferous forest, coastal scrub Substrate: sometimes serpentinite. Recorded from Marin, Monterey, San Francisco, San Mateo, Santa Clara, Santa Cruz.	Mar-May Annual Herb	None: suitable habitat present. Detected on subject property but not within reduced study area; see report for details.

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FAMILY *Scientific Name* Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Poaceae - Grass Family				
Agrostis blasdalei Blasdale's bentgrass	Federal: none State: none CNPS: 1B.2 G2/S2 Other: DFG: SP	Occurs in coastal bluff scrub, coastal dunes, coastal prairie, coastal strand, northern coastal scrub. Recorded from Marin, Mendocino, Santa Cruz, Sonoma.	May-Jul Perennial Herb (rhizomatous)	None: marginally suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Elymus californicus California bottle-brush grass	Federal: none State: none CNPS: 4.3 G3/S3.3 Other: DFG: SP	Occurs in broadleafed upland forest, cismontane woodland, North Coast coniferous forest, riparian woodland. Recorded from Marin, San Mateo, Santa Cruz, Sonoma.	May-Nov Perennial Herb	None: suitable habitat present. Detected on subject property but not within reduced study area; see report for details.
Polemoniaceae - Phlox Family				
Gilia capitata ssp. *chamissonis* blue coast gilia	Federal: none State: none CNPS: 1B.1 G5T2/S2 Other: DFG: SP	Occurs in coastal dunes, coastal scrub. Recorded from Marin, San Francisco, Sonoma.	Apr-Jul Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Gilia millefoliata dark-eyed gilia	Federal: none State: none CNPS: 1B.2 G2/S2 Other: DFG: SP	Occurs in coastal dunes. Recorded from Del Norte, Humboldt, Marin, Mendocino, San Francisco, Sonoma.Also recorded from Oregon.	Apr-Jul Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Leptosiphon ambiguus serpentine linanthus	Federal: none State: none CNPS: 4.2 G3/S3.2 Other: DFG: SP	Occurs in cismontane woodland, coastal scrub, foothill woodland, northern coastal scrub, valley and foothill grassland. Substrate: usually serpentinite. Recorded from Alameda, Contra Costa, Merced, San Benito, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Stanislaus.	Mar-Jun Annual Herb	None: marginally suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Leptosiphon croceus coast yellow linanthus	Federal: none State: none CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in coastal bluff scrub, coastal prairie. Recorded from Marin, Monterey, San Mateo. Additional distribution: presumed extirpated in Marin County.	Apr-May Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Leptosiphon rosaceus rose leptosiphon	Federal: none State: none CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in coastal bluff scrub. Recorded from Marin, San Francisco, San Mateo, Sonoma. Additional distribution: presumed extirpated from San Francisco and Sonoma.	Apr-Jul Annual Herb	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.
Navarretia myersii ssp. *myersii* pincushion navarretia	Federal: none State: none CNPS: 1B.1 G1T1/S1 Other: DFG: SP	Occurs in vernal pools. Substrate: often acidic. Recorded from Amador, Calaveras, Merced, Sacramento, Placer.	Apr-May Annual Herb	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Polemonium carneum Oregon polemonium	Federal: none State: none CNPS: 2B.2 G4/S1 Other:	Occurs in coastal prairie, coastal scrub, lower montane coniferous forest. Recorded from Alameda, Del Norte, Humboldt, Marin, San Francisco, San Mateo, Siskiyou, Sonoma.	Apr-Sep Perennial Herb	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Polygonaceae - Buckwheat Family				
Chorizanthe cuspidata var. *cuspidata* San Francisco Bay spineflower	Federal: none State: none CNPS: 1B.2 G2T1/S1 Other: DFG: SP	Occurs in coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub Substrate: sandy. Recorded from Alameda, Marin, San Francisco, San Mateo, Sonoma.	Apr-Aug Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Chorizanthe robusta var. *robusta* robust spineflower	Federal: FE State: none CNPS: 1B.1 G2T1/S1 Other: DFG: SP	Occurs in chaparral (maritime), cismontane woodland (openings), coastal dunes, coastal scrub Substrate: sandy, gravelly. Recorded from Alameda, Marin, Monterey, San Francisco, San Mateo, Santa Clara, Santa Cruz. Additional distribution: presumed extirpated in Alameda, Santa Clara and San Mateo counties; questionable in Marin..	Apr-Sep Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Chorizanthe valida Sonoma spineflower	Federal: FE State: SE CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in coastal prairie Habitats Note: sandy. Recorded from Marin, Sonoma.	Jun-Aug Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Eriogonum luteolum var. *caninum* Tiburon buckwheat	Federal: none State: none CNPS: 1B.2 G5T2/S2 Other: DFG: SP	Occurs in chaparral, coastal prairie, valley and foothill grassland, cismontane woodland Substrate: serpentinite, sandy to gravelly. Recorded from Alameda, Contra Costa, Marin, Sonoma. Additional distribution: presumed extirpated from Sonoma County.	May-Sep Annual Herb	None: suitable habitat present. Would have been detectable during 2007 surveys.
Eriogonum nudum var. *decurrens* Ben Lomond buckwheat	Federal: none State: none CNPS: 1B.1 G5T1/S1 Other: DFG: SP	Occurs in chaparral, cismontane woodland, foothill woodland, lower montane coniferous forest, yellow pine forest Habitats Note: sandy. Recorded from Alameda, Santa Cruz.	Jun-Oct Perennial Herb	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Pontederiaceae - Pickerel-weed Family				
Heteranthera dubia water star-grass	Federal: none State: none CNPS: 2B.2 G5/S1 Other:	Occurs in marshes and swamps; (alkaline, still or slow-moving water). Recorded from Butte, Colusa, Del Norte, Glenn, Humboldt, Lassen, Mendocino, Modoc, Placer, Plumas, Sacramento, Shasta, Siskiyou, Solano, Sonoma, Sutter, Tehama, Yolo, Yuba.	Jul-Oct Perennial Herb	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Potamogetonaceae - Pondweed Family				
Stuckenia filiformis slender-leaved pondweed	Federal: none State: none CNPS: 2B.2 G5T5/S3 Other: DFG: SP	Occurs in marshes and swamps. Moisture: shallow, freshwater. Recorded from Alameda, Butte, Contra Costa, El Dorado, Lassen, Mariposa, Merced, Modoc, Mono, Placer, San Mateo, Santa Clara, Shasta, Sierra, Solano, Sonoma. Additional distribution: presumed extirpated from Santa Clara County.Also recorded from Arizona, Nevada, Oregon, Washington.	May-Jul Perennial Herb (rhizomatous), Aquatic	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Pottiaceae				
Triquetrella californica coastal triquetrella	Federal: none State: none CNPS: 1B.2 G1/S1 Other: DFG: SP	Occurs in coastal bluff scrub, coastal scrub. Substrate: soil. Recorded from Contra Costa, Del Norte, Marin, Mendocino, San Diego, San Francisco, San Mateo, Sonoma.Also recorded from Oregon.	n/a Moss	None: no suitable habitat present. Would have been detectable during 2007 surveys.
Primulaceae - Primrose Family				
Androsace elongata ssp. *acuta* California androsace	Federal: none State: none CNPS: 4.2 G5?T3T4 Other: DFG: SP	Occurs in chaparral, cismontane woodland, coastal scrub, meadows, seeps, pinyon and juniper woodland, valley and foothill grassland Moisture: dry. Recorded from Alameda, Colusa, Contra Costa, Fresno, Glenn, Kern, Los Angeles, Merced, Riverside, San Benito, San Bernardino, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Clara, Siskiyou, Stanislaus, Tehama.Also recorded from Oregon, Baja California.	Mar-Jun Annual Herb	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Ranunculaceae - Buttercup Family				
Ranunculus lobbii Lobb's aquatic buttercup	Federal: none State: none CNPS: 4.2 G4/S3.2 Other: DFG: SP	Occurs in cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools Moisture: mesic. Recorded from Alameda, Contra Costa, Marin, Mendocino, Napa, Solano, Sonoma, Santa Cruz, San Mateo.Also recorded from Oregon.	Feb-May Annual Herb, Aquatic	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.

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FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Rosaceae - Rose Family				
Horkelia cuneata ssp. *sericea* Kellogg's horkelia	Federal: none State: none CNPS: 1B.1 G4T2/S2 Other: DFG: SP	Occurs in chaparral (maritime), closed-cone coniferous forest, coastal dunes, coastal scrub. Substrate: sandy or gravelly, Habitats Note: openings. Recorded from Alameda, Marin, Monterey, San Francisco, San Luis Obispo, San Mateo, Santa Barbara, Santa Cruz. Additional distribution: presumed extirpated in Alameda, Marin, and San Francisco counties.	Apr-Sep Perennial Herb	None: suitable habitat present. Would have been detectable during 2007 surveys.
Horkelia marinensis Point Reyes horkelia	Federal: none State: none CNPS: 1B.2 G2/S2 Other: DFG: SP	Occurs in coastal dunes, coastal prairie, coastal scrub, coastal strand, northern coastal scrub. Recorded from Marin, Mendocino, San Mateo, Santa Cruz.	May-Sep Perennial Herb	None: suitable habitat present. Would have been detectable during 2007 surveys.
Potentilla hickmanii Hickman's cinquefoil	Federal: FE State: SE CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in seeps, meadows, closed-cone coniferous forest, coastal bluff scrub, marshes and swamps. Recorded from Monterey, San Mateo, Sonoma.	Apr-Aug Perennial Herb	None: marginally suitable habitat present. Would have been detectable during 2007 surveys.
Scrophulariaceae - Figwort Family				
Triphysaria floribunda San Francisco owl's-clover	Federal: none State: none CNPS: 1B.2 G2/S2.2 Other: DFG: SP	Occurs in coastal prairie, coastal scrub, valley and foothill grassland Substrate: usually serpentinite. Recorded from Marin, San Francisco, San Mateo.	Apr-Jun Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.

Potentially Occurring Special-status Plants
Species Evaluated At The Beeson Property

Wood Biological Consulting

FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Thymelaeaceae - Mezereum Family				
Dirca occidentalis western leatherwood	Federal: none State: none CNPS: 1B.2 G2G3/S2 Other: DFG: SP	Occurs in broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland Moisture: mesic. Recorded from Alameda, Contra Costa, Marin, San Mateo, Santa Clara, Sonoma.	Jan-Apr Shrub (deciduous)	None: suitable habitat present. Detected on subject property but not within reduced study area; see report for details.

APPENDIX B

POTENTIALLY OCCURRING SPECIAL-STATUS ANIMAL SPECIES EVALUATED AT THE ZMAY PROPERTY

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Gastropoda - Snails And Slugs			
Tryonia imitator mimic tryonia	Federal none State none Other DFG: SA Global/State Rank: G2G3/S2S3	Inhabits coastal lagoons, estuaries and salt marshes. Found only in permanently submerged areas in a variety of sediment types. Tolerant of a wide range of salinities. Recorded from Alameda, Los Angeles, Monterey, Orange, San Diego, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Sonoma, Ventura counties. Additional distribution: occurs from Sonoma County south to San Diego County.	None: no suitable habitat present.
Arachnida - Arachnids			
Calicina minor Edgewood blind harvestman	Federal none State none Other DFG: SA Global/State Rank: G1/S1	Found on the underside of moist serpentine rocks near permanent springs. Recorded from San Mateo, Santa Clara counties.	None: no suitable habitat present.
Microcina edgewoodensis Edgewood Park micro-blind harvestman	Federal none State none Other DFG: SA Global/State Rank: G1/S1	Occurs in xeric grasslands. Restricted to serpentine soil found beneath medium to large rocks in contact with the soil. Recorded from San Mateo County. Additional distribution: Known from two populations at Edgewood Park, Redwood City, and a single population west of I-280 on SFPUC land known as the "Triangle".	None: no suitable habitat present.
Malacostraca			
Caecidotea tomalensis Tomales isopod	Federal none State none Other DFG: SA Global/State Rank: G2/S2	Inhabits localized fresh-water ponds or streams with still or near-still water in several Bay Area counties. Recorded from Marin, San Francisco, San Mateo, Sonoma counties.	None: suitable habitat present on subject property; but not in reduced study area. Could occur on Lot #5 (open space)

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Insecta - Insects			
Callophrys mossii bayensis San Bruno elfin butterfly	Federal FE State none Other DFG: SA Global/State Rank: G4T1/S1 Xerces: C	Inhabits coastal, mountainous areas with grassy ground cover. Colonies are located on steep, north-facing slopes within the fog belt. Larval host plant is Sedum spathulifolium. Recorded from San Mateo, Marin counties. Additional distribution: primary populations are located in the vicinity of San Bruno Mountain.	None: no suitable habitat present.
Cicindela hirticollis gravida sandy beach tiger beetle	Federal none State none Other DFG: SA Global/State Rank: G5T2/S1	Inhabits clean, dry, light-colored sand in the upper tidal zone. Subterranean larvae prefer moist sand not affected by wave action. Occurs in areas adjacent to non-brackish water. Recorded from Los Angeles, San Diego, Santa Barbara, Ventura counties. Additional distribution: occurs along the coast of California from San Francisco Bay to northern Mexico.	None: no suitable habitat present.
Coelus globosus globose dune beetle	Federal none State none Other DFG: Special Animal Global/State Rank: G1/S1	Inhabits coastal sand dune habitat, foredunes and sand hummocks. Burrows beneath the sand surface and is most common beneath dune vegetation. Recorded from Los Angeles, Monterey, San Diego, Santa Barbara, Santa Cruz, Sonoma, Ventura counties.	None: no suitable habitat present.
Danaus plexippus monarch butterfly	Federal none State none Other DFW: SA Global/State Rank: G5/S3	Listing refers to wintering sites only. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, Monterey cypress), with nectar and water sources nearby. DFW listing covers winter roosts. Recorded from Alameda, Contra Costa, Inyo, Kern, Los Angeles, Marin, Mendocino, Monterey, Orange, San Diego, San Francisco, San Luis Obispo, San Mateo, Santa Barbara, Santa Cruz, Solano, Sonoma, Ventura counties. Additional distribution: winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.	Not expected: marginally suitable habitat present on subject property, but not in study area.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Dufourea stagei Stage's dufourine bee	Federal none State none Other DFG: Special Animal Global/State Rank: G1?/S1?	Ground nesting bee known from a single collection made in 1962. Recorded from San Mateo County. Additional distribution: Recorded from San Bruno Mt..	Not expected: marginally suitable habitat present.
Euphydryas editha bayensis bay checkerspot butterfly	Federal FT State none Other DFW: SA Global/State Rank: G5T1/S1 Xerces: C	Inhabits native grasslands on outcrops of serpentine soil. The primary host plant is Plantago erecta. Secondary host plants include Orthocarpus densiflorus and O. purpurscens. Recorded from Alameda, San Francisco, San Mateo, Santa Clara counties. Additional distribution: occurs in the vicinity of the San Francisco Bay.	None: no suitable habitat present.
*Hydrochara ricksecker*i Ricksecker's water scavenger beetle	Federal none State none Other DFG: SA Global/State Rank: G1G2/S1/S2	Inhabits slow moving freshwater ponds, streams, marshes and lakes. Recorded from Alameda, Contra Costa, Marin, San Mateo, Solano, Sonoma counties. Additional distribution: known from the San Francisco Bay area.	None: suitable habitat present on subject property; but not in reduced study area. Could occur on Lot #5 (open space)
Hydroporus leechi Leech's skyline diving beetle	Federal none State none Other DFG: SA Global/State Rank: G1?/S1?	Little information is available about the species' life history, habitat requirements and distribution. Initially known from a single location near Pacifica, San Mateo County; recent study has found species to be more widespread. Inhabits freshwater ponds. Recorded from San Mateo County.	None: no suitable habitat present.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Ischnura gemina San Francisco forktail damselfly	Federal none State none Other DFG: SA Global/State Rank: G2/S2	Inhabits marshes, ponds and ditches with emergent and/or floating vegetation. Recorded from Marin, San Francisco, San Mateo counties.	None: suitable habitat present on subject property; but not in reduced study area. Could occur on Lot #5 (open space)
Lichnanthe ursina bumblebee scarab beetle	Federal none State none Other DFG: SA Global/State Rank: G2/S2	Inhabits coastal sand dunes. Usually flies close to sand surface near the crest of the dunes. Recorded from Marin, San Francisco, San Mateo, Sonoma counties.	None: no suitable habitat present.
Plebejus icarioides missionensis mission blue butterfly	Federal FE State none Other DFG: SA Global/State Rank: G5T1/S1 Xerces: C	Inhabits grasslands. Three larval host plants: Lupinus albifrons, L. variicolor, and L. formosus, of which L. albifrons is favored. Primary nectar plants for adults are Eriogonum latifolium, Chrysopsis villosa, Brodiaea pulchella and Brodiaea laxa Recorded from Marin, San Francisco, San Mateo counties. Additional distribution: restricted to the San Francisco Peninsula and Marin headlands.	Possible: suitable habitat present in reduced study area and on subject property.
Speyeria callippe callippe callippe silverspot butterfly	Federal FE State none Other DFG: SA Global/State Rank: G5T1/S1 Xerces: C	Inhabits northern coastal scrub. Hostplant is Viola pedunculata. Most adults found on east-facing slopes. Males congregate on hilltops in search of females. Recorded from Alameda, San Mateo, Solano, Sonoma counties.	None: no suitable habitat present.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Speyeria zerene myrtleae Myrtle's silverspot	Federal FE State none Other DFG: SA Global/State Rank: G5T1/S1 Xerces: C	Restricted to the foggy, coastal dunes and hills Larval foodplant thought to be Viola adunca. Recorded from Marin, San Mateo, Sonoma counties. Additional distribution: Point Reyes Peninsula. Extirpated from coastal San Mateo County.	None: no suitable habitat present.
Trachusa gummifera San Francisco Bay Area leaf-cutter bee	Federal none State none Other DFG: SA Global/State Rank: G1/S1	Known from two collections made in 1957 and 1962. No specific habitat information is available. Leafcutting bees use cut leaves to construct nests in cavities (mostly in rotting wood). They create multiple cells in the nest, each with a single larva and pollen stored for the larvae to eat. Leafcutting bees are important pollinators of wildflowers, fruits, vegetables and other crops. Recorded from Marin, San Francisco, San Mateo counties.	Not expected: marginally suitable habitat present.
Actinopterygii - Ray-finned Fishes			
Oncorhynchus kisutch coho salmon - Central Cal. coast ESU	Federal FE State SE Other AFS: E DFW: SA Global/State Rank: G4/S2?	Anadromous. Inhabits Bay Area and coastal rivers and streams with fish access from/to ocean, cover and acceptable water quality. Requires beds of loose, silt-free, coarse gravel for spawning. Also requires cover, cool water and sufficient dissolved oxygen. Federal Listing covers populations between Punta Gorda and San Lorenzo River. State listing covers populations south of San Francisco Bay only. Recorded from Humboldt, Marin, Mendocino, Santa Cruz, Sonoma counties.	None: no suitable habitat present.
Oncorhynchus mykiss irideus steelhead - central Calif. coast DPS	Federal FT State none Other AFS: T DFW: SA Global/State Rank: G5T2Q/S2	The Distinct Population Segment includes steelhead inhabiting streams and tributaries from the Russian River south to Soquel Creek and to, but not including the Pajarro River. Also occurs in the San Francisco and San Pablo basins. Recorded from Alameda, Marin, Napa, San Mateo, Santa Cruz, Sonoma counties.	None: no suitable habitat present.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Amphibia - Amphibians			
Ambystoma californiense California tiger salamander - Central Calif. DPS	Federal FT State ST Other DFW: SSC Global/State Rank: G2G3/S2S3	Needs underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding. Recorded from Alameda, Amador, Butte, Calaveras, Contra Costa, Fresno, Kern, Kings, Madera, Mariposa, Merced, Monterey, Riverside, Sacramento, San Benito, San Joaquin, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Tulare, Yolo counties.	None: no suitable habitat present.
Rana boylii foothill yellow-legged frog	Federal none State none Other BLM: S DFW: SSC FS: S Global/State Rank: G3/S2S3	Inhabits partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Requires at least 15 weeks to complete metamorphosis. Recorded from Butte, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Lake, Madera, Marin, Mariposa, Mendocino, Merced, Monterey, Napa, Nevada, Placer, Plumas, San Benito, San Joaquin, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Tehama, Trinity, Tulare, Tuolumne, Yolo counties.	Not expected: no suitable habitat present in study area.
Rana draytonii California red-legged frog	Federal FT State none Other DFW: SSC Global/State Rank: G3/S2S3	Inhabits lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat. Recorded from Alameda, Butte, Butte, Calaveras, Contra Costa, El Dorado, Fresno, Glenn, Lake, Los Angeles, Marin, Mariposa, Mendocino, Merced, Monterey, Napa, Nevada, Placer, Plumas, Riverside, San Benito, San Bernardino, San Diego, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Solano, Sonoma, Stanislaus, Tehama, Tuolumne, Ventura, Yuba counties.	None: no suitable breeding habitat present on subject property. Species could disperse onto site from San Mateo Creek, but its occurrence within the reduced study area itself is highly unlikely.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Reptilia - Reptiles			
Emys marmorata Pacific pond turtle	Federal none State none Other BLM: S DFW: SSC FS: S Global/State Rank: G3G4/S3	A thoroughly aquatic turtle inhabiting ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Needs basking sites and sandy banks or grassy open fields in upland areas for egg-laying. Recorded from Alameda, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kern, Kings, Lake, Lassen, Los Angeles, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Orange, Placer, Plumas, Riverside, Sacramento, San Benito, San Bernardino, San Diego, San Francisco, San Joaquin, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano, Sonoma, Stanislaus, Tehama, Trinity, Tulare, Tuolumne, Ventura, Yolo, Yuba counties.	Not expected: no suitable habitat present in study area.
Thamnophis sirtalis tetrataenia San Francisco garter snake	Federal FE State SE Other DFW: FP Global/State Rank: G5T2/S2	Occurs in the vicinity of freshwater marshes, ponds and slow moving streams. Prefers dense cover and water depths of at least one foot. Upland areas near water are also very important. Recorded from San Mateo, Santa Cruz counties.	None: no suitable habitat present in reduced study area. Species could disperse onto site from San Mateo Creek, but its occurrence within the reduced study area itself is highly unlikely.
Aves - Birds			
Accipiter cooperii Cooper's hawk	Federal none State none Other DFW: WL FWS: MBTA Global/State Rank: G5/S3	Inhabits primarily open, interrupted or marginal woodlands. Nests mainly in riparian groves of deciduous trees in canyon bottoms on river flood-plains. Also nests in coast live oak. DFW listing covers nesting individuals only.	Possible: suitable habitat present.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Accipiter striatus sharp-shinned hawk	Federal none State none Other DFW: WL FWS: MBTA Global/State Rank: G5/S3	Nests in ponderosa pine, black oak, riparian deciduous, mixed conifer and Jeffrey pine habitats. Prefers riparian areas. Nests on north-facing slopes, usually within 275 ft of water. Plucking perches are critical requirements. DFW listing covers nesting birds only.	Not expected: marginally suitable habitat present. Could occur on Lot #5 (open space)
Ammodramus savannarum grasshopper sparrow	Federal none State none Other DFW: SSC FWS: MBTA Global/State Rank: G5/S2	Inhabits moderately open grasslands and prairies with patchy bare ground, cultivated fields and forest clearings with short to moderately tall grasses and scattered shrubs. Areas with native bunchgrasses are important features in southern California. Breeds from min-March through August; double or treble-brooded. DFW listing covers nesting birds only.	Possible: suitable habitat present.
Aquila chrysaetos golden eagle	Federal none State none Other CDF: S DFW: FP, WL FWS: BCC, BEPA, MBTA Global/State Rank: G5/S3	Nests and winters in rolling foothills and mountain areas in sage-juniper flats and deserts. Nests on cliff-walled canyons and large trees in open areas. DFW listing covers nesting and wintering birds only.	Not expected: marginally suitable habitat present.
Ardea alba great egret	Federal none State none Other CDF: S DFG: SA FWS: MBTA Global/State Rank: G5/S4	Nests colonially in large trees. Rookery sites are typically located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes. DFG listing covers rookery sites only. Recorded from Butte, Del Norte, Humboldt, Imperial, Kern, Marin, Merced, Riverside, Sacramento, Solano, Tehama, Yolo counties.	None: no suitable habitat present.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Ardea herodias great blue heron	Federal none State none Other CDF: S DFG: SA FWS: MBTA Global/State Rank: G5/S4	Nests colonially in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites are usually in close proximity to foraging areas such as marshes, lake margins, tide-flats, rivers and streams, wet meadows. DFG listing covers nesting colonies only. Recorded from Alameda, Butte, Del Norte, Humboldt, Imperial, Lake, Lassen, Marin, Merced, Monterey, Placer, Riverside, Sacramento, San Joaquin, San Mateo, Santa Clara, Shasta, Siskiyou, Solano, Sonoma, Stanislaus, Tehama, Tulare, Yolo counties.	None: no suitable habitat present.
Asio flammeus short-eared owl	Federal none State none Other ABC: WL Aud: WL DFW: SSC FWS: MBTA Global/State Rank: G5/S3	Inhabits both freshwater and salt water swamp lands, lowland meadows, and irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depressions concealed in vegetation. DFW listing covers nesting birds only. Recorded from Contra Costa, Imperial, Los Angeles, Modoc, Monterey, San Mateo, Solano counties.	Not expected: marginally suitable habitat present.
Asio otus long-eared owl	Federal none State none Other DFW: SSC FWS: MBTA Global/State Rank: G5/S3	Inhabits riparian bottomlands grown to tall willows and cottonwoods. Also occurs in belts of live oak paralleling stream courses. Requires adjacent open land with abundant mice. Utilizes old nests of crows, hawks, or magpies for breeding. DFW listing covers nesting birds only. Recorded from Inyo, Kern, Lassen, Modoc, Mono, Nevada, Orange, Riverside, San Bernardino, Santa Clara counties.	Not expected: marginally suitable habitat present. Not recorded in project vicinity.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Athene cunicularia burrowing owl	Federal none State none Other BLM: S DFW: SSC FWS: BCC; MBTA Global/State Rank: G4/S2	Inhabits open, dry annual or perenial grasslands, deserts and scrublands characterized by low-growing vegetation. Nests underground in mammal burrows, especially those of California ground squirrel. DFW listing covers burrow sites and some wintering sites only.	None: no suitable habitat present.
Baeolophus inornatus oak titmouse	Federal none State none Other ABC: WL DFW: SA FWS: MBTA Global/State Rank: G5/S3?	The oak titmouse is a common resident in a variety of habitats, but is primarily associated with oaks. Occurs in montane hardwood-conifer, montane hardwood, blue, valley, and coastal oak woodlands, and montane and valley foothill riparian habitats. Range encircles San Joaquin Valley, extending east from the coast through Kern Co. onto the western slope of the Sierra Nevada north to Shasta Co. DFW listing covers nesting individuals only.	Possible: suitable habitat present.
Brachyramphus marmoratus marbled murrelet	Federal FT State SE Other ABC: WL CDF: S DFW: SA FWS: MBTA Global/State Rank: G3G4/S1	Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas fir trees. Forages near-shore. Nests inland along the northern California coast. Listings cover nesting sites.	None: no suitable habitat present.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Chondestes grammacus lark sparrow	Federal none State none Other DFW: SA FWS: MBTA Global/State Rank: G5 SNR	A year-round resident throughout much of California. Inhabits open grasslands, cultivated fields (especially those left fallow), pastures, and shrub-steppe and Pinyon-juniper edges. Nests on ground; nests made of grassess and small twigs. Breeding begins in early April to June; double-brooded. DFW listing covers nesting individuals only.	Not expected: marginally suitable habitat present.
Circus cyaneus northern harrier	Federal none State none Other DFW: SSC FWS: MBTA Global/State Rank: G5/S3	Inhabits both freshwater and saltwater marshes and adjacent upland grasslands. Nests on the ground in tall grasses in grasslands and meadows. Breeding begins in March; single-brooded. DFW listing covers nesting individuals only.	Not expected: marginally suitable habitat present.
Cypseloides niger black swift	Federal none State none Other ABC: WL AUD: WL-Y DFW: SSC FWS: BCC; MBTA Global/State Rank: G4/S2	Inhabits the coastal belt of the Central Coast, central and southern Sierra Nevada, and San Bernardino and San Jacinto mountains. Breeds in small colonies on cliffs behind or adj to waterfalls in deep canyons and sea-bluffs above surf. Forages widely. DFG listing covers nesting individuals only.	None: no suitable habitat present.
Elanus leucurus white-tailed kite	Federal none State none Other DFW: FP FWS: MNB, MBTA Global/State Rank: G5/S3	Inhabits rolling foothills andvalley margins with scattered oaks and river bottomlands or marshes next to deciduous woodlands. Utilizes open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching. DFW listing covers nesting individuals only.	Possible: suitable habitat present.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Falco columbarius merlin	Federal none State none Other DFG: WL FWS: MBTA Global/State Rank: G5/S3	Winters on the seacoast, in tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms and ranches. Clumps of trees or windbreaks are required for roosting in open country. DFG listing covers wintering birds only.	Not expected: suitable habitat present. Could forage on site.
Falco mexicanus prairie falcon	Federal none State none Other DFW: WL FWS: BCC; MBTA Global/State Rank: G5/S3	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, including marshlands and ocean shores. DFW listing covers nesting birds only.	Not expected: marginally suitable habitat present.
Falco peregrinus anatum American peregrine falcon	Federal Delisted State Delisted Other CDF: S DFW: FP FWS: BCC, MBTA Global/State Rank: G4T3/S2	Nests near wetlands, lakes, rivers, or other water bodies, on cliffs, banks, dunes, mounds, and human-made structures. Nests consist of a scrape on a depression or ledge in an open site. DFW listing covers nesting individuals only.	None: no suitable habitat present.
Geothlypis trichas sinuosa saltmarsh common yellowthroat	Federal none State none Other DFW: SSC FWS: BCC, MBTA Global/State Rank: G5T2/S2	Inhabits freshwater and salt marshes. Requires thick, continuous cover down to water surface for foraging. Nests in tall grasses, tule patches and willows. Resident of the San Francisco Bay region. Recorded from Alameda, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma counties.	Not expected: marginally suitable habitat present.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Haliaeetus leucocephalus bald eagle	Federal Delisted State SE Other CDF: S DFG: FP FWS: MBTA Global/State Rank: G5/S2	Found on ocean shores, lake margins, and rivers. Mostly nests within 1 mile of water. Nests in large, old-growth, or dominant live trees with open branches, especially ponderosa pine. Roosts communally in winter. Occasional visitor to San Francisco Bay habitats, primarily in migration and winter. Delisted in 2007 and no longer covered under FESA. DFG listing covers nesting and wintering birds only. Recorded from Alameda, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Inyo, Lake, Lassen, Los Angeles, Madera, Mendocino, Modoc, Mono, Monterey, Napa, Nevada, Plumas, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, Shasta, Sierra, Siskiyou, Tehama, Trinity, Tuolumne, Yuba counties.	None: no suitable habitat present.
Lanius ludovicianus loggerhead shrike	Federal none State none Other DFW: SCC FWS: BCC; MBTA Global/State Rank: G4/S4	Year-round resident in California. Inhabits shrublands and open woodlands associated with grasslands with areas bare ground and impaling sites such as thorny vegetation, multi-stemmed plants or barbed wire. Breeds from early Feb. - July; double- to triple-brooded DFW listing covers nesting individuals only.	Possible: suitable habitat present.
Picoides nuttallii Nuttall's woodpecker	Federal none State none Other ABC: WL DFW: SA FWS: BCC, MBTA Global/State Rank: G5 SNR	Inhabits oak woodland and mixed riparian woodlands. Forage along bark of trees for insects; also feeds on acorns. Cavity nester. Breeding begins in March; single-brooded. DFW listing covers nesting individuals only.	Possible: suitable habitat present.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Progne subis purple martin	Federal none State none Other DFW: SSC Global/State Rank: G5/S3	Nests in tall, old trees near a body of water in open forests, woodlands, & riparian habitats. Forages in valley foothills, meadows, grasslands, montane hardwood, riparian habitats, closed-cone pine-cypress, ponderosa pine, Douglas fir, & redwood forests. Breeds from May to mid-August; primarily single-brooded. DFW listing covers nesting individuals only.	Not expected: marginally suitable habitat present.
Riparia riparia bank swallow	Federal none State ST Other DFW: SA FWS: MBTA Global/State Rank: G5 S2S	Nests colonially, primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole. DFW listing covers nesting colonies only. Recorded from Alameda, Butte, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Inyo, Lassen, Modoc, Mono, Monterey, Plumas, Sacramento, San Benito, San Diego, San Francisco, San Luis Obispo, San Mateo, Santa Barbara, Shasta, Siskiyou, Sonoma, Sutter, Tehama, Ventura, Yolo counties.	None: no suitable habitat present.
Selasphorus sasin Allen's hummingbird	Federal none State none Other ABC: WL DFW: SA FWS: BCC, MBTA Global/State Rank: G5/SNR	Inhabits a variety of woodland and scrub habitats. Breeds in a variety of habitats including moist coastal areas, scrub, chaparral and woodlands. Breeding begins in February; double-brooded. DFW listing covers nesting individuals only.	Possible: suitable habitat present.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Setophaga petechia brewsteri yellow warbler	Federal none State none Other DFW: SSC FWS: BCC, MBTA Global/State Rank: G5T3?/S2	Inhabits riparian plant associations. Prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging. Also nests in montane shrubbery in open conifer forests. DFW listing covers nesting individuals only.	Possible: suitable habitat present.
Spinus lawrencei Lawrence's goldfinch	Federal none State none Other ABC: WL DFW: SA FWS: BCC; MBTA Global/State Rank: G3G4/S3	Inhabits arid oak/pine woodlands, foothills and chaparral from northern California west of the Sierra Nevada south to Baja California, Mexico. Breeding begins in March; double-brooded . DFW listing covers nesting individuals only.	Possible: suitable habitat present.
Mammalia - Mammals			
Antrozous pallidus pallid bat	Federal none State none Other BLM: S DFW: SSC FS: S Global/State Rank: G5/S3 WBWG: H	Inhabits deserts, grasslands, shrublands, woodlands and forests. Most commonly found in open, dry habitats with rocky areas for roosting. Roosts must provide protection from high temperatures. Species is very sensitive to disturbances to roosting sites. Recorded from Calaveras, Imperial, Inyo, Kern, Lake, Marin, Mariposa, Mono, Napa, Orange, Riverside, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Siskiyou, Sonoma, Tuolumne counties. Also from Arizona, Nevada, New Mexico, Oregon, Washington.	Possible: suitable habitat present. No suitable roosting habitat present within reduced study area.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Corynorhinus townsendii townsendii Townsend's big-eared bat	Federal none State none Other BLM: S DFW: SSC FS: S Global/State Rank: G3G4/S2/S3 WBWG: H	Inhabits humid coastal regions of northern and central California. Roosts in limestone caves, lava tubes, mines, buildings etc. Will only roost in the open, hanging from walls and ceilings. Roosting sites are limiting. Extremely sensitive to disturbance. BLM, DFW and FS listings cover full species. Recorded from Alameda, Colusa, Humboldt, Lake, Marin, Mendocino, Napa, San Joaquin, Santa Cruz, Yolo counties.	Not expected: marginally suitable habitat present.
Dipodomys venustus venustus Santa Cruz kangaroo rat	Federal none State none Other DFW: SA Global/State Rank: G4T1/S1	Inhabits silverleaf manzanita mixed chaparral in the Zayante Hills ecosystem of the Santa Cruz mountains. Needs soft, well-drained sand. Recorded from San Mateo, Santa Clara, Santa Cruz counties.	Not expected: marginally suitable habitat present.
Lasiurus blossevillii western red bat	Federal none State none Other DFG: SSC FS: S Global/State Rank: G5/S3? WBWG: H	Roosts primarily in trees, 2-40 feet above the ground. Prefers habitat edges and mosaics with trees that are protected from above and open below, with open areas for foraging. Found from sea level to higher elevations with mixed conifer forests.	Possible: suitable habitat present.
Lasiurus cinereus hoary bat	Federal none State none Other DFW: SA Global/State Rank: G5/S4? WBWG: M	The hoary bat is the most widespread North American bat. May be found at any location in California. Prefers open habitats or mosaics with acess to trees for cover and open areas or edges for foraging. Roosts in dense foliage of medium to large trees.	Possible: suitable habitat present.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

Wood Biological Consulting

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Myotis evotis long-eared myotis	Federal none State none Other BLM: S DFW: SA Global/State Rank: G5/S4? WBWG: M	Inhabits all brush, woodland and forest habitats from sea level to about 9000 ft. in elevation. Prefers coniferous woodlands and forests. Forms nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts. General distribution:occurs statewide.	Possible: suitable habitat present.
Myotis thysanodes fringed myotis	Federal none State none Other BLM: S DFW: SA Global/State Rank: G4G5/S4 WBWG: H	Exhibits a strong roosting preference for large trees and snags, but will use buildings, caves, rock crevices, etc. Inhabits a variety of woodland, scrub and grassland habitats up to 2,850 m throughout CA except for Central Valley and So. deserts. Forages great distances and is active during winter months. Highly sensitive to human disturbance. General distribution:occurs throughout California.	Not expected: no suitable habitat present.
Myotis volans long-legged myotis	Federal none State none Other DFG: SA Global/State Rank: G5/S4? WBWG: H	Most common in woodland and forest habitats above 4000 ft. in elevation. Trees are important day roosts. Caves and mines serve as night roosts. Forms nursery colonies under bark or in hollow trees, and occasionally in crevices or buildings. General distribution:occurs throughout California.	Possible: suitable habitat present.
Myotis yumanensis Yuma myotis	Federal none State none Other BLM: S DFW: SA Global/State Rank: G5/S4? WBWG: LM	Inhabits open forests and woodlands with sources of water over which to feed. Species is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices. General distribution:occurs throughout California.	Possible: suitable habitat present.

Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	Federal none State none Other DFW: SSC Global/State Rank: G5T2T3/S2S3	One of eleven recognized subspecies. Inhabits oak and riparian woodlands with a well-developed understory in the SF Bay Area. They exhibit high site fidelity and may live in the same nest community for generations. Nest structures are key indicator of their presence and are easily identified by their conical appearance. Recorded from Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara counties.	Detected: stick nests observed on subject property; species likely to occur in study area. See report for details.
Nyctinomops macrotis big free-tailed bat	Federal none State none Other DFG: SSC Global/State Rank: G5/S2 WBWG: MH	Prefers rugged, rocky terrain. Found to 2500 m (8000 ft). Feeds principally on large moths but also takes a variety of other flying insects. Roosts in buildings, caves, and occasionally in holes in trees. Also roosts in crevices in high cliffs or rock outcrops. Recorded from Alameda, Contra Costa, San Diego counties. Additional distribution: rare in California, as fall and winter vagrants. Probably does not breed in California. Alameda and Contra Costa records are suspect. Also from Arizona, New Mexico, Texas.	Not expected: marginally suitable habitat present.
Taxidea taxus American badger	Federal none State none Other DFW: SSC Global/State Rank: G5/S4	Most abundant in dry, open stages of most shrub, forest, and herbaceous habitats. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Excavates its own burrows. General distribution: recorded from every California county except Del Norte.	Not expected: marginally suitable habitat present.

APPENDIX C

EXPLANATION OF RARITY STATUS CODES

EXPLANATION OF RARITY STATUS CODES

ENDANGERED SPECIES ACT (ESA) LISTING CODES

FE = federally listed as Endangered
FT = federally listed as Threatened
FPE = federally proposed for listing as Endangered
FPT = federally proposed for listing as Threatened
FPD = federally proposed for delisting
FC = federal candidate; former Category 1 candidates
SC = species of concern; established by NMFS, effective April 15, 2004.

CALIFORNIA ENDANGERED SPECIES ACT (CESA) LISTING CODES

SE = State-listed as Endangered
ST = State-listed as Threatened
SR = State-listed as Rare
SCE = State candidate for listing as Endangered
SCT = State candidate for listing as Threatened
SCD = State candidate for delisting

GLOBAL AND STATE RANKINGS

G1/S1 = Critically imperiled: at high risk of extinction, extremely rare.
G2/S2 = Imperiled: at high risk of extinction, restricted range, very few populations.
G3/S3 = Vulnerable: moderate risk of extinction, restricted range, few populations.
G4/S4 = Apparently secure: uncommon, not rare, possible long-term declines.
G5/S5 = Secure: common, widespread, abundant.

CALIFORNIA NATIVE PLANT SOCIETY DESIGNATIONS

List 1: Plants of highest priority.
List 1A: Plants presumed extinct in CA.
List 1B: Plants rare and endangered in CA and elsewhere.
List 2A: Plants presumed extirpated in CA but common elsewhere.
List 2B: Plants rare, threatened or endangered in CA but common elsewhere.
List 3: Plants for which additional data are needed – Review List.
List 4: Plants of limited distribution – Watch List.

CNPS Threat Code Extensions

.1 - Seriously endangered in CA
.2 – Fairly endangered in CA
.3 – Not very endangered in CA

OTHER CODES

ABC: WL - American Bird Conservancy Watch List of Birds of Conservation Concern.

AFS - American Fisheries Society categories of risk for marine, estuarine and diadromous fish stocks. Codes: **E**=endangered; **T**=threatened; **V**=vulnerable

AUD: WL - Audubon: Watch List 2007. Bird species facing population decline and/or threats such as loss of breeding and wintering grounds, or species with limited geographic ranges. **R** – Red List, global conservation concern; **Y** – Yellow List, national conservation concern.

BLM: S - Bureau of Land Mgt: Sensitive. Includes species under review by USFWS or NMFS, species whose numbers are declining so rapidly that federal listing may become necessary, species with small and widely dispersed populations, or species inhabiting refugia or other unique habitats.

CDF: S – CA Dept. of Forestry and Fire Protection: Sensitive. Includes species that warrant special protection during timber operations.

DFW: FP - CA Dept. of Fish and Wildlife: Fully Protected. Species protected under §§3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code.

DFW: SA - CA. Dept. of Fish and Wildlife: Special Animal. Species included on the CDFG's lists of special animals.

DFW: SP - CA Dept. of Fish and Wildlife: Special Plant. Species included on the CDFG's lists of special plants.

DFW: SSC - CA Dept. of Fish and Wildlife: California Species of Special Concern.

DFW: WL - CA Dept. of Fish and Wildlife: (Watch List): taxa that don't meet SSC criteria but about which there is concern and additional information is needed to clarify status.

FS: S - USDA Forest Service: Sensitive. Species whose population viability is a concern, as evidenced by significant current or predicted downward trends in numbers or density, or in habitat capability that would reduce a species' existing distribution.

FWS: BCC - U.S. Fish and Wildlife Service: Birds of Conservation Concern. Migratory and non-migratory bird species that represent the USFWS's highest conservation priorities.

FWS: BEPA - U.S. Fish and Wildlife Service: Bald Eagle Protection Act.

FWS: MBTA U.S. Fish and Wildlife Service: International Migratory Bird Treaty Act.

FWS: MNB - U.S. Fish and Wildlife Service: Migratory Nongame Birds of Management Concern. Species of concern in the U.S. due to documented or apparent population declines, small or restricted populations, or dependence on restricted or vulnerable habitats.

NMFS: SC - National Marine Fisheries Service: Species of Concern.

WBWG - Western Bat Working Group. Priority for funding, planning or conservation actions. Codes: **H**=high; **MH**=medium-high; **M**=medium; **LM**=low-medium

Xerces - Xerces Society Red List.

Codes: **C**=critically imperiled; **I**=imperiled; **V**=vulnerable; **D**=data deficient

County of San Mateo - Planning and Building Department

ATTACHMENT H

WOOD BIOLOGICAL CONSULTING, INC.
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Walnut Creek, CA 94595
Tel: (925) 899-1282
Fax: (925) 939-4026
e-mail: mike@wood-biological.com
www.wood-biological.com

March 11, 2015

Mr. Nick Zmay
Z Enterprise LP
P.O. Box #409
San Carlos, CA 94070

RE: Revised Wetlands Evaluation, Zmay Property Subdivision, San Mateo County

Dear Mr. Zmay:

This memorandum presents an evaluation of the channels and wetland habitats present in the vicinity of the proposed four-lot residential subdivision on your property in unincorporated San Mateo County. This evaluation is based on a wetland delineation and jurisdictional determination prepared by me for the Zmay (formerly Beeson) property in 2007 (Wood Biological Consulting, 2007b). The purpose of this analysis is to review of the wetland delineation report. The objective of this effort is to determine whether or not on-the-ground conditions have changed substantially and if the conclusions contained in our previous report are still valid.

Because seven years have passed since the completion of that wetland survey, a re-evaluation of these resources is warranted to permit the County of San Mateo to conduct an adequate analysis of environmental effects pursuant to the California Environmental Quality Act (CEQA). This memo is intended to assistance the County in that regard.

The previous analysis addressed the entire 60-acre site. Since that time, the proposed project was reduced to include only four single-family residences on four subdivided lots in the northeastern corner of the property, downslope of Parrott Drive. A reduced study area, confined to only the proposed four-lot subdivision and covering a total of approximately eight acres (Lots 1-4), was analyzed in August 2014. The proposed four-lot subdivision has since been further reduced in size to cover a total of 2.93 acres. This reduced four-lot subdivision is the focus of this analysis. The remainder of the property, designated at Lot #5 and covering 57 acres, would be designated as open space protected by an open space easement; the proposed Lot #5 was not re-surveyed as part of this effort. The location of the proposed four residential lots is also shown in Figures 1 and 2 (Attachment A).

PROJECT BACKGROUND

In early 2007, S.W. Syme Properties, Inc. contracted with Wood Biological Consulting to prepare a biological constraints analysis (Wood Biological Consulting, 2007a) of the 60-acre Beeson property (Figures 1 and 2, Attachment A). At the time, the owners were contemplating a 20-lot subdivision and wished to understand how the site could be developed while avoiding or minimizing impacts on regulated biological resources.

One of the recommendations contained in that report was the preparation of a formal wetland delineation and its submittal to the U.S. Army Corps of Engineers (USACE) for verification. Based on that recommendation, a wetland delineation of the entire 60-acre property was performed by biologists Michael Wood and Heath Bartosh on March 5, 2007. The survey was performed in accordance with the procedures outlined by the USACE (2006 a, b). The results of that survey were presented in a separate technical report (Wood Biological Consulting, 2007b). The USACE conducted a field inspection of the subject property on September 26, 2007. Based on that inspection, minor revisions to the jurisdictional map were recommended. The revised map, as verified, is presented in Attachment B. A copy of the verification letter from the USACE[1] is provided in Attachment C.

The verified jurisdictional determination expired five years after the date of the USACE verification letter (i.e., on November 6, 2012). In order to permit the County of San Mateo to conduct an adequate analysis of environmental effects pursuant to the California Environmental Quality Act (CEQA), a re-evaluation of wetland features resources is warranted. This memo is intended to assistance the County in that regard.

Subsequent to the completion of the 2007 biological studies, the owners put forth a revised project consisting of a five-lot subdivision, with four lots, approximately two acres in size each, to accommodate four new single-family residences. The fifth lot, covering the reminder of the property, would be designated as open space protected by an open space easement. The location of the proposed four residential lots is shown in Figure 3 (Attachment A).

METHODS

A reconnaissance-level survey of eight acres comprising the proposed four residential lots was performed by Mr. Wood on June 26, 2014. The objective of this survey was to determine whether or not on-the-ground conditions had substantially changed since the performance of the 2007 survey. A formal wetland delineation survey was not repeated as part of this effort and is not considered necessary to enable an appropriate analysis of impacts. The remainder of the property, that which is to be designated as open space, was not surveyed.

[1] USACE File Number 400705S

During the site reconnaissance survey, a broad swath covering eight acres encompassing the proposed four new lots was traversed on foot. Areas mapped as supporting wetlands and stream channels in 2007 were revisited and the extent and dimensions were confirmed visually.

RESULTS

In 2007, the total area of aquatic features falling under both federal and State jurisdiction was 0.42 acre and included 4624 linear feet of stream channels. The property was found to support another 0.21 acre of non-wetland riparian habitat falling under State jurisdiction only.

During the 2014 reconnaissance survey of the reduced study area, it was found that site conditions had not changed notably since verified in 2007. Regulated aquatic features are present on lots 2, 3, and 4; no such features are present on Lot 1 (Figure 3, Attachment A).

CONCLUSIONS

A wetland delineation and preliminary jurisdictional determination was prepared and verified by the USACE in 2007. During the 2014 site reconnaissance, conditions in the reduced study area were not found to have appreciably changed since 2007; a re-delineation of wetlands or channels is not warranted.

The procedures followed during the performance of the 2007 delineation conformed to the guidelines (USACE, 2006) that were current at that time. Similarly, the wetland indicator status for plant species (Reed, 1988) was also current at that time. Subsequently, the "interim guidelines" for delineation were finalized (USACE, 2008) and a revision of the wetland indicator status plant list was also released (Lichvar, et al. 2014). Despite these changes in procedures, the extent of federally jurisdictional habitat within the reduced study area would not change.

No jurisdictional stream channels occur within the boundaries of the four proposed lots (Figure 3, Attachment A). However, canopies of Central Coast riparian scrub, a habitat type found to meet the federal definition of a wetland, overlaps the down-slope boundaries of Lots 2, 3, and 4. This habitat falls under both federal and state jurisdiction. However, the riparian canopy is no less than 80 feet from the nearest building envelopes. Construction within these building envelopes would not impact riparian habitat.

If future development of the lots is likely to impact any jurisdictional features as shown on Figure 4, the verified jurisdictional map should be submitted to the USACE for re-verification. Pending verification, the aquatic features illustrated in Figure 3 (Attachment A) may be used for the purposes of assessment significant environmental impacts in the course of completion of the CEQA review process.

If you have any questions, don't hesitate to contact me.

Sincerely,

Michael Wood

Enclosures: Literature Cited
Attachment A – Project Figures and Maps
Attachment B – Verified Jurisdictional Map
Attachment C – USACE Verification Letter

LITERATURE CITED

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ATTACHMENT A

PROJECT MAPS AND FIGURES

NOTES:

1) ALL DISTANCES SHOWN ARE GRID DISTANCES. TO OBTAIN GROUND DISTANCES MULTIPLY BY 1.00007500.

2) AREAS WITH DENSE VEGETATION HAVE CONTOURS DEPICTED BY A DASHED LINETYPE AND THESE AREAS MAY NOT MEET NATIONAL MAP ACCURACY STANDARDS.

3) DATE OF AERIAL PHOTOGRAPHY WAS NOVEMBER 1, 2006, CONTOUR INTERVAL = 2 FEET.

4) SITE AREA IS 60.26 ACRES±.

BASIS OF BEARINGS:

THE BEARINGS SHOWN ON THIS MAP ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) CCS83, EPOCH 2002.75, CALIFORNIA ZONE 3.

BENCHMARK:

SURVEY DISK ENCASED IN PVC PIPE WITH ACCESS COVER SET IN CONCRETE FLUSH WITH THE GROUND. LOCATED ON THE WEST SIDE OF SKYLINE BLVD, BETWEEN HIGHWAY 280 AND LOWER CRYSTAL SPRINGS RESERVOIR, ABOUT 284 FEET SOUTHEAST OF THE INTERSECTION OF GOLF COURSE DRIVE AND SKYLINE BLVD, 39.2 FEET NORTHWEST OF A 50–MILE PER HOUR SPEED LIMIT SIGN, 6.8 FEET NORTHEAST OF A 6 FOOT HIGH STRAND BARBED WIRE FENCE AND LEVEL WITH SKYLINE BLVD. THE DISK IS 0.2 FEET BELOW THE LID OF THE ACCESS COVER.

NGS PID = AB7675
ELEVATION = 634.4 FEET
DATUM: NAVD 88

OWNER AND SUBDIVIDER:

STEVE ZMAY AND NICK ZMAY
751 LAUREL STREET, # 409
SAN CARLOS, CA 94070
TEL: (650) 430–0075

CIVIL ENGINEER / LAND SURVEYOR:

DAN MacLEOD
MacLEOD & ASSOCIATES, INC.
965 CENTER STREET
SAN CARLOS, CA 94070
TEL: (650) 593–8580

ASSESSOR'S PARCEL NUMBER:

038–131–110

EXISTING AND PROPOSED ZONING:

RM

FLOOD ZONE:

ZONE X

UTILITIES:

WATER:	CAL WATER
SANITARY SEWER:	COUNTY OF SAN MATEO
GAS & ELECTRICAL:	PG & E
TELEPHONE:	AT&T COMMUNICATIONS
FIRE:	CAL FIRE

EASEMENTS

① 10' SANITARY SEWER EASEMENT
5626 O.R. 113
5626 O.R. 116

② 10' SANITARY SEWER EASEMENT
3958 O.R. 236

③ 15' STORM DRAIN EASEMENT
3293 O.R. 649

④ 15' PUBLIC UTILITY AND WATER LINE EASEMENT
2450 O.R. 48

FIGURE 1 - VESTING TENTATIVE PARCEL MAP

REV. | DESCRIPTION | BY: | DATE:

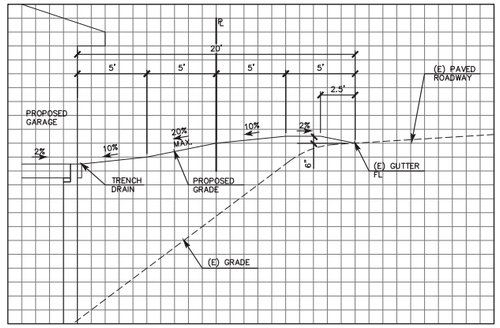
LICENSED LAND SURVEYOR
DANIEL G. MacLEOD
No. 5304
STATE OF CALIFORNIA

MacLEOD AND ASSOCIATES
CIVIL ENGINEERING • LAND SURVEYING
965 CENTER STREET•SAN CARLOS•CA 94070•(650) 593–8580

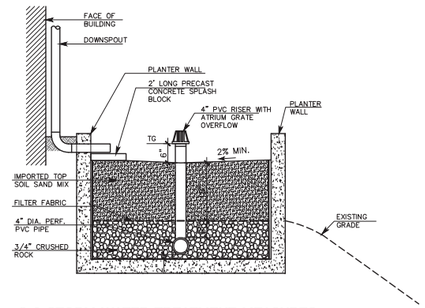
PREPARED FOR:
STEVE & NICK ZMAY

VESTING TENTATIVE PARCEL MAP
LANDS OF ZMAY
BEING A PORTION OF PARCEL "A", 53 PM 58
1551 CRYSTAL SPRINGS ROAD
SAN MATEO COUNTY
UNINCORPORATED
CALIFORNIA

DRAWN BY:	DJK
DESIGNED BY:	– – –
CHECKED BY:	DGM
SCALE:	1"=100'
DATE:	02–17–15
DRAWING NO.	3949–TM
SHEET	1 OF 2



A **TYPICAL DRIVEWAY PROFILE**
SCALE: 1"=4'



B **C-3 STORM WATER TREATMENT MEASURES**
FLOW-THROUGH PLANTER BOX FILTRATION DETAIL (TO SERVICE 4% OF IMPERVIOUS AREAS)
SCALE: NOT TO SCALE

LEGEND

———	PROPERTY LINE
— — —	PROPOSED PROPERTY LINE
ALS	ACTIVE LAND SLIDE PER GEOTECHNICAL REPORT
℄	CENTER LINE
COTG	CLEANOUT TO GRADE
DF	DEBRIS FLOW PER GEOTECHNICAL REPORT
DWY	DRIVEWAY
GAR	GARAGE
GSBL	GARAGE SET BACK LINE – 20' FROM CURB LINE
FL	FLOWLINE
INV.	INVERT
JP	JOINT UTILITY POLE
PGEV	PG&E VAULT
ℙ	PROPERTY LINE
SBL	SETBACK LINE
SSMH	SANITARY SEWER MANHOLE
WM	WATER METER
WVLT	WATER VAULT
(P)	PROPOSED
⋈	WATER VALVE
●12" TREE	TREE W/ SIZE
——E——	ELECTRIC LINE
——G——	GAS LINE
——OH——	OVERHEAD LINE
——SS——	SANITARY SEWER LINE
——W——	WATER LINE
——SS——	PROPOSED SANITARY SEWER LINE
——W——	PROPOSED WATER LINE
COTG	PROPOSED CLEANOUT TO GRADE
WM ■	PROPOSED WATER METER

FIGURE 2 - REDUCED LOT PLAN

REV.	DESCRIPTION	BY:	DATE:

LICENSED LAND SURVEYOR No. 5304 STATE OF CALIFORNIA

McLEOD AND ASSOCIATES
CIVIL ENGINEERING • LAND SURVEYING
965 CENTER STREET • SAN CARLOS • CA 94070 • (650) 593-8580

PREPARED FOR:
STEVE & NICK ZMAY

VESTING TENTATIVE PARCEL MAP
LANDS OF ZMAY
BEING A PORTION OF PARCEL "A", 53 PM 58
1551 CRYSTAL SPRINGS ROAD
SAN MATEO COUNTY
CALIFORNIA
UNINCORPORATED

DRAWN BY:	DJK
DESIGNED BY:	---
CHECKED BY:	DGM
SCALE:	1"=40'
DATE:	02-17-15
DRAWING NO.	3949-TM
SHEET	2 OF 2

Figure 3. Aerial View of the Subject Property with Biological Constraints

Wetland Delineation Legend

Wetland Data Points	Aquatic Resources
Data Points	Open Watercourse
	Culverted Watercourse
	Freshwater Seep
	Central Coast Riparian Scrub

Summary of Jurisdictional Habitats

Habitat Type	Federal and State Jurisdiction*		State Jurisdiction**
	lin. ft.	sq. ft.	sq. ft.
Waters of the U.S./State	4,473	8,185	0
Central Coast riparian scrub	0	9,160	9,031
freshwater seep	0	200	133
Total	4,473	17,545	9,164
acres		0.40	0.21

* Regulated by the USACE, RWQCB and CDFG
** Regulated only by the RWQCB and/or CDFG

Geologic Legend

fsr	Franciscan Sheared rock (melange)		Rock outcrop
Fill	Artificial Fill		Zones of soil creep
Qls	Quaternary Landslide		Directions of soil movements
df	Debris Flow		Springs and seeps

"Generalized Section" line from BAGG geologic and geotechnical report

Boring Legend

B–# Auger Boring

RWB–# Rotary Wash Boring

Tree Status Legend

Healthy Trees — Tree T# in Green

Dead or Unhealthy to be removed — Tree T# in Red

Special-Status Plant Species Legend

Special–Status Plants Observed (Points)

- Franciscan Onion CNPS 1B — Allium peninsulare var. franciscanum
- San Francisco Collinsia CNPS 1B — Collinsia multicolor
- Western Leatherwood CNPS 1B — Dirca occidentalis
- San Mateo Woolly Sunflower FE — Eriophyllum latilobum

Special–Status Plants Observed (Polygons)

- Franciscan Onion
- San Francisco Collinsia
- Western Leatherwood
- San Francisco Collinsia/Franciscan Onion

OPPORTUNITIES AND CONSTRAINTS MAP
LANDS OF ZMAY

HILLSBOROUGH SAN MATEO COUNTY CALIFORNIA

No.	Revisions	
1.	3/10/15	NEW LOT LAYOUT

Date: 08/19/14
Scale: 1"=100'
Design: DGM
Drawn: DJK
Approved:
Job No: 3949-14

Drawing Number:

1 OF 1

ATTACHMENT B

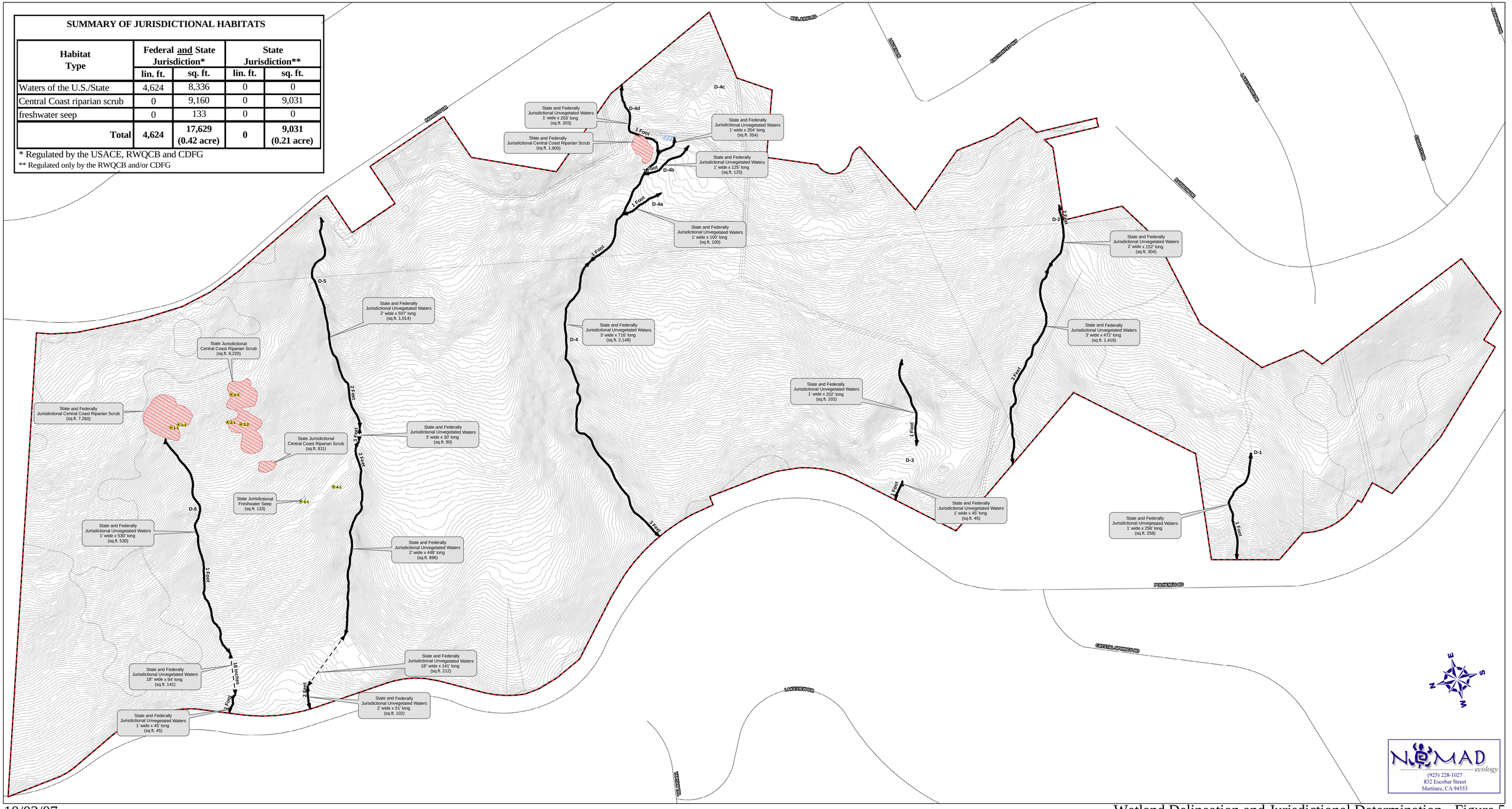
VERIFIED JURISDICTIONAL MAP

SUMMARY OF JURISDICTIONAL HABITATS

Habitat Type	Federal and State Jurisdiction*		State Jurisdiction**	
	lin. ft.	sq. ft.	lin. ft.	sq. ft.
Waters of the U.S./State	4,624	8,336	0	0
Central Coast riparian scrub	0	9,160	0	9,031
freshwater seep	0	133	0	0
Total	**4,624**	**17,629 (0.42 acre)**	**0**	**9,031 (0.21 acre)**

* Regulated by the USACE, RWQCB and CDFG

** Regulated only by the RWQCB and/or CDFG



10/02/07

Wetland Delineation and Jurisdictional Determination - Figure 5

Beeson Property Boundary

Wetland Data Points

Wetland Data Points

Aquatic Resources

Freshwater Seep

Central Coast Riparian Scrub

Open Watercourse

Culverted Watercourse

1:1,200

0 50 100 200 Feet

Wetland Delineation Map of the Beeson Property

NOMAD ecology
(925) 228-1027
832 Escobar Street
Martinez, CA 94553

Aerial photography, topographic isolines and property boundary provided by BkF Engineering. Road data provided by ESRI. Aquatic features mapped with Trimble's GeoXT in March 2007 Projection: NAD 1983 State Plane Zone CA Zone III.

San Mateo County, California

ATTACHMENT C

VERIFICATION LETTER FROM THE U.S. ARMY CORPS OF ENGINEERS

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1398

NOV 7 2007

Regulatory Branch

SUBJECT: File Number 400705S

S.W. Syme Properties, Inc.
Attn: Scott Syme
400 South El Camino Real, Suite 640
San Mateo, California 94402

Dear Mr. Syme:

This letter is written in response to your submittal of June 18, 2007 requesting confirmation of the extent of Corps of Engineers' jurisdiction at the 'Besson Property' situated on the east side of Crystal Springs Road, west of Parrot Drive, in unincorporated San Mateo County, California (APN: 038-131-110).

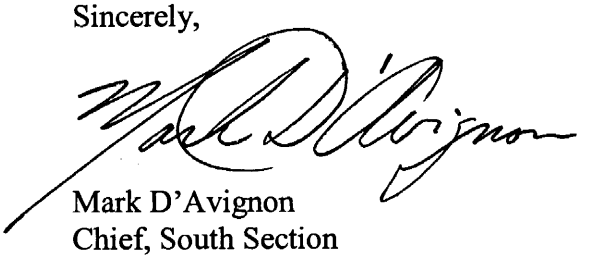
Enclosed is a map showing the extent and location of Corps of Engineers' jurisdiction. We have based this jurisdictional delineation on the current conditions on the site as verified during a site visit performed by our staff on September 26, 2007. A change in conditions may also change the extent of our jurisdiction. This jurisdictional delineation will expire in five years from the date of this letter. If there has been a change in circumstances that affects the extent of Corps' jurisdiction, however, a revision may be completed before that date.

All proposed discharges of dredged or fill material into waters of the United States must be authorized by the Corps of Engineers pursuant to Section 404 of the Clean Water Act (CWA) (33 U.S.C. Section 1344). Waters of the United States generally include tidal waters, lakes, ponds, rivers, streams (including intermittent streams), and wetlands. Your proposed activity is within our jurisdiction and a permit will be required for your project. Application for Corps authorization should be made to this office using the application form available at our website (http://www.spn.usace.army.mil/regulatory/index.html). To avoid delays it is essential that you enter the file number at the top of this letter into Item No. 1 of the application. The application must include plans showing the location, extent and character of the proposed activity, prepared in accordance with the requirements. You should note, in planning your project, that upon receipt of a properly completed application and plans, it may be necessary to advertise the proposed work by issuing a Public Notice for a period of 30 days.

You are advised that the Corps has established an Administrative Appeal Process, as described in 33 C.F.R. Part 331 (65 Fed. Reg. 16,486; March 28, 2000), and outlined in the enclosed flowchart and "Notification of Administrative Appeal Options, Process, and Request for Appeal" form (NAO-RFA). If you do not intend to accept the approved jurisdictional determination, you may elect to provide new information to the District Engineer for reconsideration or submit a completed NAO-RFA form to the Division Engineer to initiate the appeal process. You will relinquish all rights to appeal, unless the Corps receives new information or a completed NAO-RFA form within sixty (60) days of the date of the NAO-RFA.

Should you have any questions regarding this matter, please call Paula C. Gill of our Regulatory Branch at (415) 503-6776. Please address all correspondence to the Regulatory Branch and refer to the File Number at the head of this letter. If you would like to provide comments on our permit review process, please complete the Customer Survey Form available through the Forms and Contacts Block on our website: http://per2.nwp.usace.army.mil/survey.html.

Sincerely,



Mark D'Avignon
Chief, South Section
Regulatory Branch

Enclosures

Copies Furnished (w/o Enclosures):

Wood Biological Consulting, Attn: Mike Wood, 65 Alta Hill Way, Walnut Creek, CA 94595
CA RWQCB, Oakland, CA
CA SWRCB, Sacramento, CA

County of San Mateo - Planning and Building Department

ATTACHMENT I

Kielty Arborist Services LLC

Certified Arborist WE#0476A
P.O. Box 6187
San Mateo, CA 94403
650- 515- 9783

September 6, 2016

Mr. Nick Zmay
751 Laurel Street
San Carlos, CA 94070

Site: Lots 1-4 Parrot Drive San Mateo County, CA

Dear Mr. Zmay,

As requested on Friday, September 2, 2016, I visited the above site for the purpose of inspecting and commenting on the trees. Four new homes and landscapes are planned for this site and your concern as to the future health and safety of the trees has prompted this visit.

Additionally, the purpose of the plan is to provide tree protecting means and methods that will best increase the chance of tree retention during and after construction.

Method:
All inspections were made from the ground; the trees were not climbed for this inspection. The trees in question were located on a map provided by you. The trees were then measured (where possible) for diameter at 54 inches above ground level (DBH or diameter at breast height). The tree was given a condition rating for form and vitality. The trees' condition rating is based on 50 percent vitality and 50 percent form, using the following scale.

1	-	29	Very Poor
30	-	49	Poor
50	-	69	Fair
70	-	89	Good
90	-	100	Excellent

The height of the tree was measured using a Nikon Forestry 550 Hypsometer. The spread was paced off. Comments and recommendations for future maintenance are provided.

Survey:

Tree#	Species	DBH	CON	HT/SP	Comments
1	Blue gum *(Eucalyptus globulus)*	17,20,10,18,17	35	20/30	Fair vigor, poor form, poor location, topped repeatedly for line utility line Clearance.
2	Blue gum *(Eucalyptus globulus)*	18,16,13	45	40/40	Fair vigor, poor form, multi leader at base, portions topped for utilities.
3	Coast live oak *(Quercus agrifolia)*	8,6	55	20/15	Good vigor, poor form, codominant at base.
4*	Coast live oak *(Quercus agrifolia)*	30est	55	35/40	Good vigor, poor form, on property line.
5	Coast live oak *(Quercus agrifolia)*	12,10,10	50	30/25	Good vigor, poor form, multi leader at base.
6	Coast live oak *(Quercus agrifolia)*	12est	55	20/15	Good vigor, poor form, shares root zone with #7.
7	Coast live oak *(Quercus agrifolia)*	12est	55	30/30	Good vigor, poor form, shares root zone zone with #6.
8	Coast live oak *(Quercus agrifolia)*	8,8	50	20/20	Good vigor, poor-fair form, codominant at base.
9	Coast live oak *(Quercus agrifolia)*	20,20,18	55	35/35	Good vigor, poor-fair form, multi leader at base.
10	Coast live oak *(Quercus agrifolia)*	15	60	30/25	Good vigor, fair form, suppressed.
11	Coast live oak *(Quercus agrifolia)*	24,15,12,12	55	40/35	Good vigor, poor-fair form, multi leader.
12	Coast live oak *(Quercus agrifolia)*	10,10	55	30/30	Good vigor, fair form, foliage to ground.
12A	Coast live oak *(Quercus agrifolia)*	34	60	40/35	Good vigor, fair form, near slide area.
13	Coast live oak *(Quercus agrifolia)*	30,24,12,12	50	25/35	Fair vigor, poor form, decay at base.

Tree#	Species	DBH	CON	HT/SP	Comments
14	Coast live oak *(Quercus agrifolia)*	12	55	20/15	Good vigor, fair form.
15	Coast live oak *(Quercus agrifolia)*	7	55	15/10	Good vigor, fair form.
16	Coast live oak *(Quercus agrifolia)*	12	60	25/15	Good vigor, fair form, below road.
17	Coast live oak *(Quercus agrifolia)*	16	55	20/15	Good vigor, fair form, near property line.
18	Coast live oak *(Quercus agrifolia)*	16	55	25/15	Good vigor, fair form, near property line.
19*	Coast live oak *(Quercus agrifolia)*	18	60	35/25	Good vigor, fair form, neighbor's tree.
20	Coast live oak *(Quercus agrifolia)*	40	60	40/35	Good vigor, fair form, spreading form.
21	Coast live oak *(Quercus agrifolia)*	13	55	25/20	Good vigor, fair form, center of grove.
22	Coast live oak *(Quercus agrifolia)*	20	55	30/25	Good vigor, poor form, center of grove.
23	Coast live oak *(Quercus agrifolia)*	16	60	30/25	Good vigor, fair form, center of grove.
24	Coast live oak *(Quercus agrifolia)*	15	55	35/35	Good vigor, poor form, center of grove.

*indicates neighbor's tree

Summary:

The trees on site are a mix of native oaks and two imported trees. The imported trees are blue gum eucalyptus. Both the blue gums have poor form. The trees are poorly located and have been repeatedly topped for utility line clearance. The constant topping has resulted in multi leader trees and large amounts of debris collecting in the crotch formations. The debris and the low branching form are a fire hazards. The trees should be removed.

The oaks on site are scattered throughout the four lots. The site will be developed in a manner that will retain as many of the oaks as possible. Several of the oaks will be removed to develop the property. Removed trees will be replaced at the time of landscaping.

Tree Protection Plan:

Tree Protection Fencing:

Tree protection zones should be established and maintained throughout the entire length of the project. Fencing for the protection zones should be 4 foot tall orange plastic supported by metal poles or stakes pounded into the ground. The support poles should be spaced no more than 10 feet apart on center. The location for the protection fencing should be as close to the dripline as possible still allowing room for construction to safely continue. Signs should be placed on fencing signifying "Tree Protection Zone - Keep Out". No materials or equipment should be stored or cleaned inside the tree protection zones. Areas outside the fencing but still beneath the dripline of protected trees, where foot traffic is expected to be heavy, should be mulched with 4 to 6 inches of chipper chips. Tree protection for the trees on the perimeter where construction will not affect the trees can be of orange plastic fencing supported by metal stakes.

Trenching

Trenching for irrigation, electrical, drainage or any other reason should be hand dug when beneath the driplines of protected trees. Hand digging and carefully laying pipes below or beside protected roots will dramatically reduce root loss of desired trees thus reducing trauma to the entire tree. Trenches should be backfilled as soon as possible with native material and compacted to near its original level. Trenches that must be left exposed for a period of time should also be covered with layers of burlap or straw wattle and kept moist. Plywood over the top of the trench will also help protect exposed roots below.

Root Buffer

A root buffer consisting of 6 inches of wood chips shall be spread within the trees driplines where foot traffic is expected to be heavy. The wood chips will help to relieve compaction and retain moisture during watering periods.

Root Cutting

All roots to be severed should be cut clean with a saw or a loppers. Large roots (over 2" diameter) or large masses of roots will be inspected by the site arborist. Root cutting will be mitigated by irrigation or fertilization.

Tree Trimming

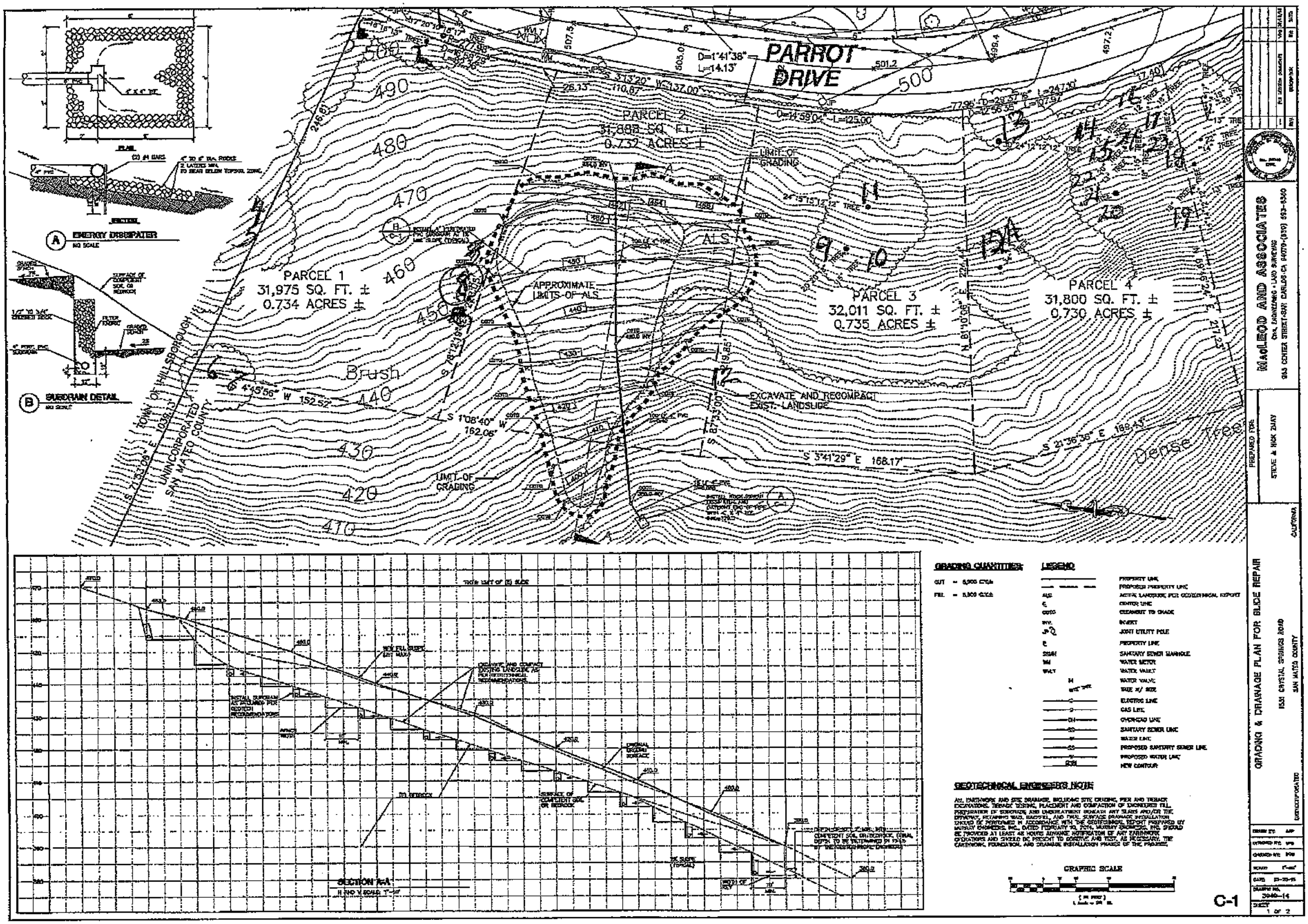
Trimming of the trees to be retained will be minor with no significant impacts expected. All trimming will be carried out by a licensed tree care provider and inspected by the site arborist. Root crowns of the oaks should be exposed and inspected for crown rot. The oaks should be treated for sudden oak death annually during the month of November.

Irrigation
Normal irrigation should be maintained throughout the entire length of the project. The imported trees (if retained) on this site will require irrigation during the warm season months. Some irrigation may be required during the winter months depending on the seasonal rainfall. During the summer months the trees on this site should receive heavy flood type irrigation 2 times a month. During the fall and winter 1 time a month should suffice. The native trees will require warm season irrigation if there root zones are traumatized. Mulching the root zone of protected trees will help the soil retain moisture, thus reducing water consumption.

The information included in this report is believed to be true and based on sound arboricultural principles and practices.

Sincerely,

Kevin R. Kielty
Certified Arborist WE#0476A



PARROT DRIVE
PARCEL 1
31,975 SQ. FT. ±
0.734 ACRES ±
PARCEL 2
31,888 SQ. FT. ±
0.732 ACRES ±
PARCEL 3
32,011 SQ. FT. ±
0.735 ACRES ±
PARCEL 4
31,800 SQ. FT. ±
0.730 ACRES ±
TOWN OF HILLSBOROUGH
UNINCORPORATED
SAN MATEO COUNTY
APPROXIMATE LIMITS OF ALS
LIMIT OF GRADING
EXCAVATE AND RECOMPACT EXIST. LANDSLIDE
Brush
Dense Tree
ENERGY DISSIPATER
SUBDRAIN DETAIL
SECTION A-A
GRADING QUANTITIES:
LEGEND
GEOTECHNICAL ENGINEER'S NOTE
GRAPHIC SCALE
MacLEOD AND ASSOCIATES
PREPARED FOR:
STEVE & NICK ZUAY
GRADING & DRAINAGE PLAN FOR SLIDE REPAIR
1531 CRYSTAL SPRINGS ROAD
SAN MATEO COUNTY
UNINCORPORATED
CALIFORNIA
C-1

County of San Mateo - Planning and Building Department

ATTACHMENT J

EECAP DEVELOPMENT CHECKLIST

	Measure	Description & Performance Criteria	Compliance			
			Complies	Does Not Comply	N/A	See Discussion
1.1	Energy Upgrade California	Participate in an energy retrofit rebate program, to achieve a minimum of 30% energy savings.			✓	
1.2	Residential Energy Efficiency Financing	Participate in a residential energy efficiency financing program, to achieve 30% energy savings.			✓	
1.3	Low-Income Weatherization	Complete weatherization, to achieve average energy savings of 25%.		✓		
1.4	Tree Planting	Tree plantings to shade new or existing homes.	✓			
1.5	Propane Switch	Switch from propane heater to more energy-efficient options, such as Energy Star furnaces or electric air-source pumps.		✓		
2.1	Commercial and Industrial Efficiency	Complete energy efficiency upgrades through third-party programs.			✓	
2.2	Commercial Financing	Participate in commercial energy efficiency financing programs, to achieve a minimum of 30% energy savings.			✓	
2.3	Institutional Energy Efficiency	Complete energy efficiency retrofits at large institutional facilities.			✓	
3.1	Green Building Ordinance	Comply with the Green Building Ordinance and achieve CALGreen Tier 1 energy efficiency standards, for all construction projects subject to the Green Building Ordinance.	✓			

APPENDIX F: EECAP DEVELOPMENT CHECKLIST

Measure		Description & Performance Criteria	Compliance			
			Complies	Does Not Comply	N/A	See Discussion
3.2	Green Building Incentives	Comply with the Green Building Ordinance and achieve CALGreen Tier 1 energy efficiency standards, regardless of applicability of the Green Building Ordinance.	✓			
3.3	Urban Heat Island	Install shading, "cool" surfaces design, and/or open-grid paving to reduce hardscape through strategies such as interlocking concrete pavement, stones, or blocks.	✓			
3.6	Regional Energy Efficiency Efforts	Procure and install energy-efficient equipment, through programs such as bulk-purchasing, to achieve a minimum of 8% energy savings.	✓			
4.1	Solar PV Incentives	Install a solar photovoltaic system, using private resources and/or local or state incentives, including County incentives, and state rebates through the California Solar Initiative.				Possibly
4.2	Solar Water Heater Incentives	Install solar water heaters, using private resources and/or local or state incentives, including County incentives and state rebates through the California Solar Initiative.		✓		
4.3	Pre-Wired Solar Homes	Pre-wire and pre-plumb for solar thermal or PV systems.				Possibly
4.4	Pilot Solar Program	Install a solar photovoltaic system through a development project program.				Possibly
4.5	Renewable Financing	Install a solar photovoltaic system or solar water heater using financing programs such as power purchase agreements or Property Assessed Clean Energy.		✓		

APPENDIX F: EECAP DEVELOPMENT CHECKLIST

Measure		Description & Performance Criteria	Compliance			
			Complies	Does Not Comply	N/A	See Discussion
4.7	Incentivize Wind Energy	Install small distributed generation wind power systems on existing development.			✓	
4.9	Emissions Offset Programs	Participate in an energy offset program to purchase electricity generated from renewable sources off site.		✓		
5.1	General Plan and Zoning Updates	Provide transit-oriented, mixed-use developments.			✓	
5.3	Pedestrian Design	Incorporate pedestrian design elements to enhance walkability and connectivity, while balancing impacts on vehicle congestion.			✓	
6.1	Neighborhood Retail	Provide neighborhood retail, daily service and commercial amenities in residential communities.			✓	
6.2	Traffic Calming in New Construction	Incorporate appropriate traffic-calming features, such as marked crosswalks, countdown signal timers, planter strips with street trees, and curb extensions.			✓	
6.4	Expand Transit	Enhance bus and safety shelter amenities to support public transit ridership.			✓	
7.1	Parking Ordinance	Provide staggered parking demand, reduced parking, or parking based on demand levels that is lower than required in the code, if supported by parking study findings or proximity to mixed-use and public transit services.			✓	
7.3	Unbundled Parking	Price parking separately from rentals or leases, using strategies such as metered parking or parking permits.			✓	

APPENDIX F: EECAP DEVELOPMENT CHECKLIST

Measure		Description & Performance Criteria	Compliance			
			Complies	Does Not Comply	N/A	See Discussion
8.1	Employee Commute	Provide a Commute Trip Reduction program to discourage single-occupancy vehicle trips and encourage other modes of alternative transportation.			✓	
8.2	Workplace Parking	Implement workplace parking pricing programs.			✓	
8.3	Employer Transit Subsidies	Provide transit subsidies or transit passes to employees.			✓	
8.4	Work Shuttles	Expand worker shuttle programs.			✓	
10.1	Low Carbon Fuel Infrastructure	Install electric vehicle charging stations or provide neighborhood electric vehicle networks.			✓	
13.1	Use of Recycled Materials	Incorporate a minimum of 15% recycled materials into construction.	✓			
13.2	Zero Waste	Provide trash, recycling, and composting collection enclosures.	✓			
14.1	Smart Water Meters	Install smart water meters.	✓			
14.2	Water Reuse	Use grey, rain, and recycled water for landscaping or agricultural purposes.		✓		
15.1	Construction Idling	Construction equipment for new development to comply with best management practices from Bay Area Air Quality Management District guidance.	✓			
15.2	Electrification in New Homes	Provide outdoor electrical outlets for charging outdoor household equipment.	✓			