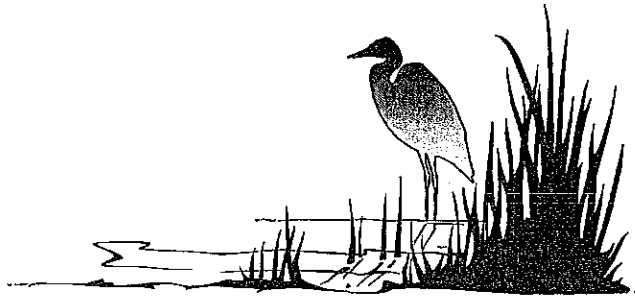




County of San Mateo - Planning and Building Department

ATTACHMENT F

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



August 13, 2014
Revised March 10, 2015

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The information provided in this document is intended solely for the use and benefit of Z Enterprise LP.

No other person or entity shall be entitled to rely on the services, opinions, recommendations, plans or specifications provided herein, without the express written consent of Wood Biological Consulting, Inc.

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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 four 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 as 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.

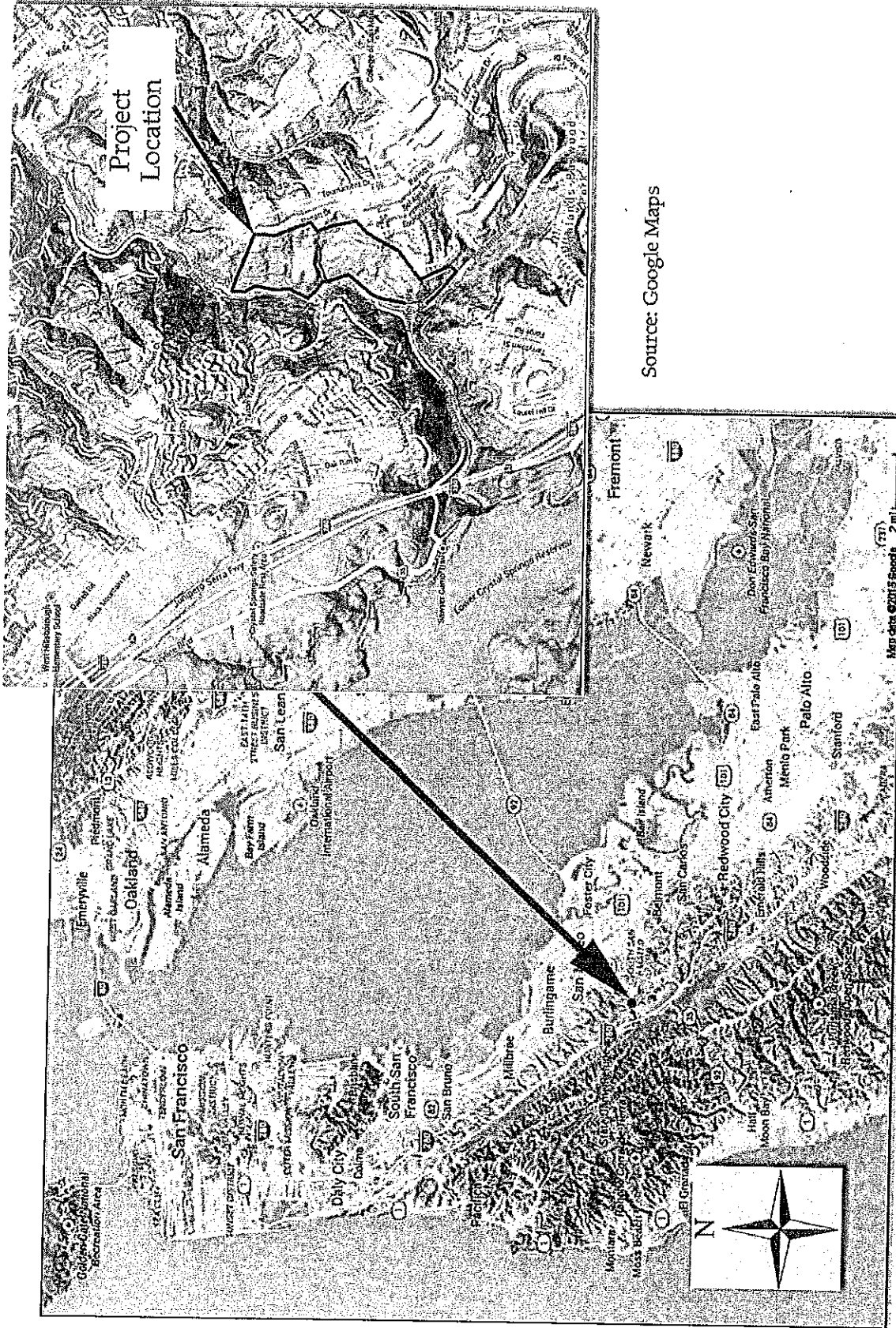
This biological site assessment (BSA) report provides background and site-specific information pertaining to existing and potentially occurring biological resources receiving protection under federal, State, or local laws and policies. The report describes potential constraints to future development 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:

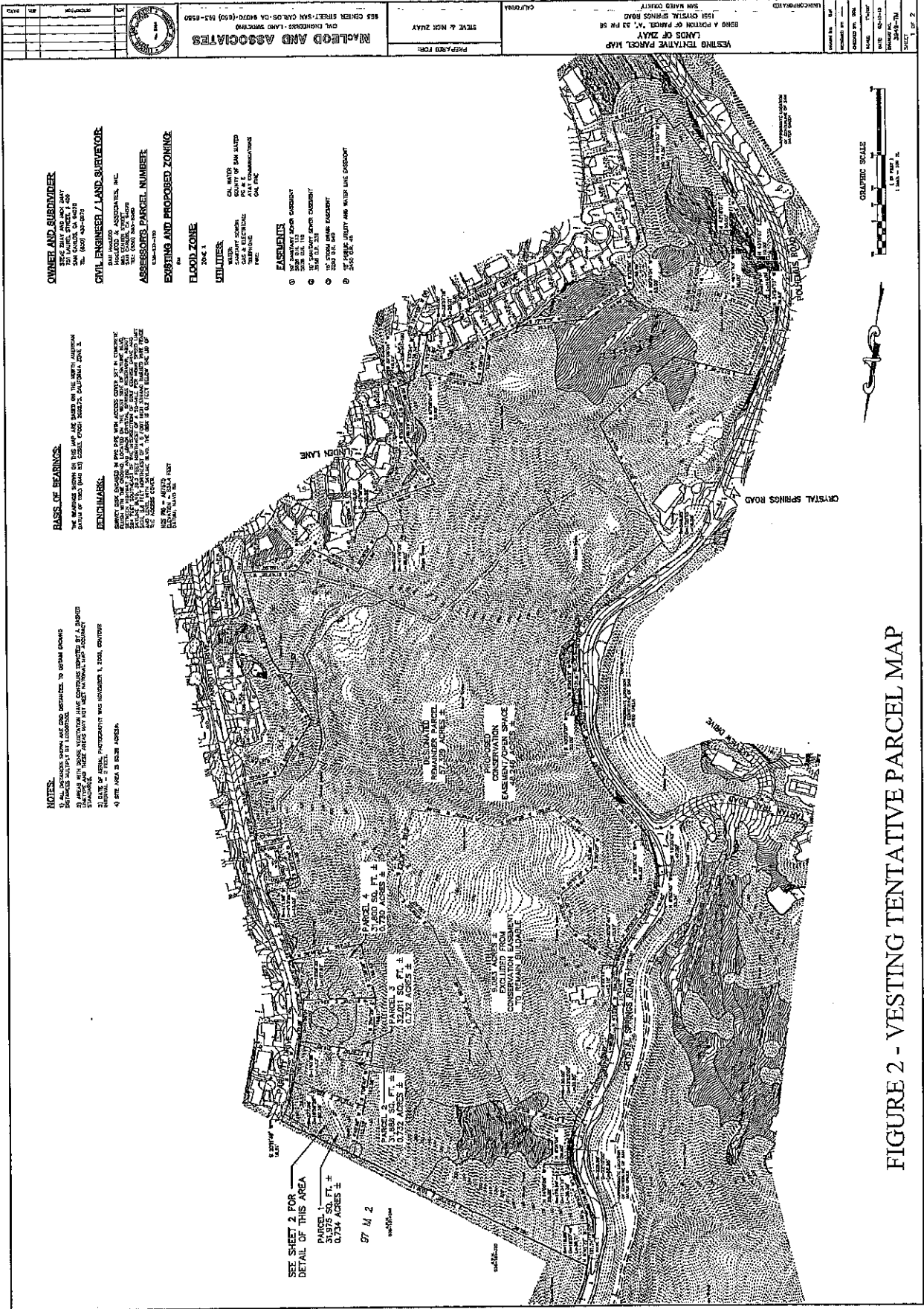
- 1) a database print-out for San Mateo County (CNDDDB 2014);
- 2) a review of the previously prepared biological studies (Wood Biological Consulting 2007a, b, c); and
- 3) a reconnaissance-level survey of the reduced study area by a qualified biologist.

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



MCLAUGHLIN AND ASSOCIATES
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PREPARED FOR:
 STEVE & MIKE ZILAY

CALIFORNIA
 VESTING TENTATIVE PARCEL MAP
 SHOWING A PORTION OF PARCEL N.S. 2375
 1981 CRISTAL SPRINGS ROAD
 SAN MATEO COUNTY

GRAPHIC SCALE
 1" = 100' H.
 1" = 200' H.

SEE SHEET 2 FOR
 DETAIL OF THIS AREA

PARCEL 1
 31,972 SQ. FT. ±
 0.734 ACRES ±

BY M 2

PARCEL 2
 11,200 SQ. FT. ±
 0.257 ACRES ±

PARCEL 3
 12,081 SQ. FT. ±
 0.275 ACRES ±

PARCEL 4
 11,200 SQ. FT. ±
 0.257 ACRES ±

DEVELOPED
 REMAINDER PARCEL
 12538 ACRES ±

PROPOSED
 CONSERVATION
 EASEMENT/ OPEN SPACE
 CONSERVATION EASEMENT
 TO REMAIN PERMANENT

FIGURE 2 - VESTING TENTATIVE PARCEL MAP

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 Wildlife¹ (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



OPPORTUNITIES AND CONSTRAINTS MAP
LANDS OF ZHAY

SAN RAFAEL COUNTY

CALIFORNIA

Scale	1" = 100'
North Arrow	
Legend	
Map Date	1/1/2000
Map Title	OPPORTUNITIES AND CONSTRAINTS MAP
Map No.	000001

3.2 Plant Communities

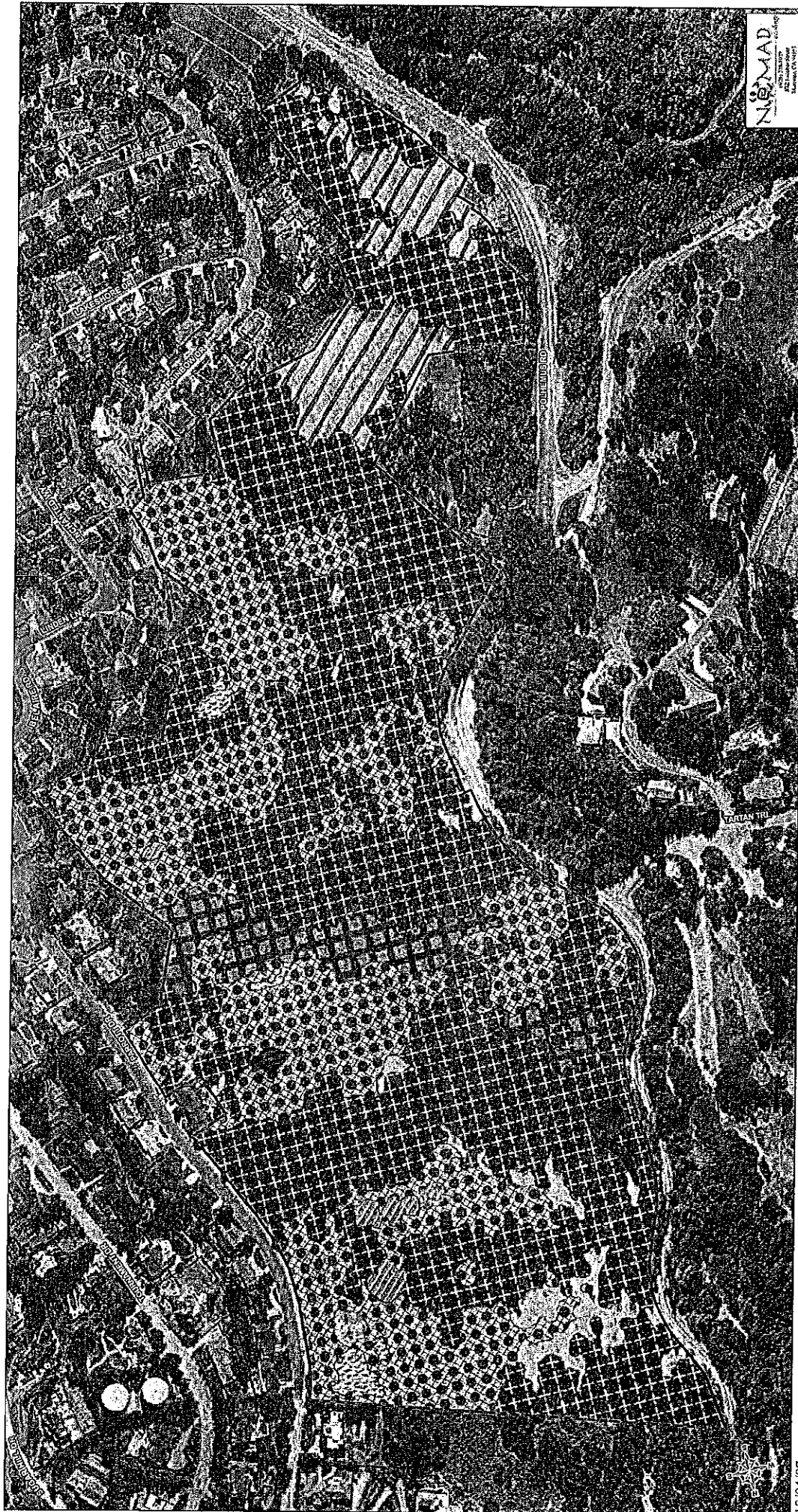
Over the subject property, the predominant vegetation associations are coast live oak woodland, chamise chaparral, northern coyote brush scrub and northern coastal scrub. Other plant associations present on site are Central Coast riparian scrub, native perennial bunchgrass grassland, and non-native grassland. 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. *laeviagrus*), 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 californicum*), 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.



Floristic Analysis of the Bescion Property - Figure 4

FIGURE 5
Plant Communities
 Zmay Property

10/04/07

Legend

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

Chamise Chaparral

Chamise chaparral is typically a dense shrub community overwhelmingly dominated by a single species (*Adenostoma fusciculatum*), 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 (*Centaureium muehlenbergii*), common phacelia (*Phacelia distans*), and foothill needlegrass (*Stipa lepida*), among others.

On site, this plant community corresponds to the *Adenostoma fusciculatum* 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*), Mediterranean 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 is 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 property, 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 (CNDDDB) has designated a number of communities as rare and these communities are given the highest inventory priority (CNDDDB 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 (CNDDDB 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.

San Mateo Woolly Sunflower

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 woolly 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 threatened⁵ 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 broadleaved 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 Act⁶ or the CESA⁷ 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 Act⁹. 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 Regulations¹⁴ prohibits the take of Protected amphibians¹⁵, Protected reptiles¹⁶ 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 CNDDDB (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.

California Red-Legged Frog

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 2006²¹ (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 CFGC²² (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. variicolor*). 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 1977²³ 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 (CNDDDB 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 albus*) 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 DPS²⁴

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 2005²⁵ 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 (CNDDDB 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 (CNDDDB 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 (CNDDDB 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 Analysis²⁷ 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 Act²⁸

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 Act³⁴

The Migratory Bird Treaty Act³⁵ (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 wrenit (*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 Act³⁶ (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 birds³⁹; 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 Code⁴⁴

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 rare⁴⁶ 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 amphibians⁵², protected reptiles⁵³, 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 1970⁵⁶

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/cgi-bin/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 habitats⁵⁷ 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 County⁵⁹

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/porta1/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 Property⁶⁵

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 Supervisors⁶⁸. 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 guidelines⁷¹, 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 albrifrons*, *L. formosus* and *L. verticolor*) 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.

7.0 LITERATURE CITED

- Baicich, P.J. and C.J.O. Harrison. 2005. *Nests, Eggs, and Nestlings of North American Birds*. Second Edition. Princeton University Press. Princeton, New Jersey. 347 pp.
- Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. *The Jepson Manual: Vascular Plants of California*. Second edition. Univ. Calif. Press, Berkeley. 1568 pp. Jepson eFlora available online at <http://ucjeps.berkeley.edu/IJM.html>.
- Beier, P. and S. Loe. 1992. *A Checklist for Evaluating Impacts to Wildlife Movement Corridors*. Wildlife Society Bulletin. 20: pp 434-440.
- Beier, P. and R.F. Noss. 1998. *Do Habitat Corridors Provide Connectivity?* Conservation Biology. 12(6): pp 1241-1252.
- Black, S.H., and D.M. Vaughan. 2005. *Species Profile: Icricia icarioides missionensis*. In Shepherd, M.D., D.M. Vaughan, and S.H. Black (Eds). *Red List of Pollinator Insects of North America*. CD-ROM Version 1 (May 2005). Portland, OR: The Xerces Society for Invertebrate Conservation.
- Bolster, B.C. 2005. *Western Red Bat (Lasiurus blossevillii)*. Species Account. Western Bat Working Group. http://wbwg.org/species_accounts.htm#LABL.
- Brabb, E.E., R.W. Graymer, and D.L. Jones. 1998. *Geology of the Onshore Part of San Mateo County, California: A digital database*. U.S. Geological Survey Open-File Report 98-137. U.S. Geological Survey, Menlo Park, CA.
- Bulger, J.B., N.J. Scott Jr. and R. Seymour. 2003. *Terrestrial Activity and Conservation of adult California red-legged frogs Rana aurora draytonii in coastal forests and grasslands*. Biological Conservation. Vol. 110: pp. 85-95
- CalBiota. *A California Species Compendium*. Version 2.1. Electronic database of the biota of California. Created by Michael Wood, Walnut Creek.
- California Department of Fish and Game (CDFG). 2000. *Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities*. The Resources Agency, Sacramento. Revised May 8. Available online at <http://www.dfg.ca.gov/whdab/pdfs/guidepl.pdf>.
- California Department of Fish and Game (CDFG). 2005. *California Wildlife Habitat Relationships*. California Interagency Wildlife Task Group. CWHR Version 8.1 for

- personal computer program. Sacramento, CA. Available online at <http://www.dfg.ca.gov/whdab/html/cwhr.html>.
- California Department of Fish and Game (CDFG). 2010. *Natural Communities List Arranged Alphabetically by Life Form*. Vegetation Classification and Mapping Program, Biogeographic Data Branch. September. Available online at <http://www.dfg.ca.gov/biogeodata/vegcamp/pdfs/natcomlist.pdf>.
- California Department of Fish and Game (CDFG). 2011. *Special Animals*. Biogeographic Data Branch, Natural Diversity Database. January. 60 pp. Available online at <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPAnimals.pdf>.
- California Department of Fish and Wildlife (CDFW). 2014a. *State and Federally Listed Endangered and Threatened Animals of California*. Biogeographic Data Branch, Natural Diversity Database. March. 14 pp. Available online at <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEAnimals.pdf>.
- California Department of Fish and Wildlife (CDFW). 2014b. *Special Vascular Plants, Bryophytes, and Lichens List*. Biogeographic Data Branch, Natural Diversity Database. Quarterly publication. April. 138 pp. Available online at <https://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPPlants.pdf>.
- California Department of Fish and Wildlife (CDFW). 2014c. *State and Federally Listed Endangered, Threatened, and Rare Plants of California*. Biogeographic Data Branch, Natural Diversity Database. Quarterly publication. 7 pp. April. Available online at <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEPlants.pdf>.
- California Native Plant Society (CNPS). 2001. *Botanical Survey Guidelines*. Revised June 2. Available on line at http://www.cnps.org/programs/Rare_Plant/inventory/guidelines.htm.
- California Native Plant Society (CNPS). 2014. *Inventory of Rare and Endangered Plants* (online edition, v8-02). California Native Plant Society, Sacramento, CA. Accessed June 23 at www.rareplants.cnps.org/.
- California Natural Diversity Data Base (CNDDB). 2014. *Data Base Print-out for San Mateo County*. RareFind 5.0. California Department of Fish and Wildlife, Biogeographic Data Branch. Sacramento, California. Information dated June 3.
- Corelli, T. and Z. Chandik. 1995. *The Rare and Endangered Plants of San Mateo and Santa Clara Counties*. Monocot Press, Half Moon Bay, California. 139 pp.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. 131 pp. Available online at <http://www.npwrc.usgs.gov/resource/wetlands/classwet/index.htm>.
- Dunk, J. R. 1995. *White-tailed Kite (Elanus leucurus)*. In *The Birds of North America*, No. 178 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, and The American Ornithologists' Union, Washington, D.C.

- Hayes, M., and M. Jennings. 1988. *Habitat Correlates of Distribution of the California Red-legged Frog and the Foothill Yellow-legged Frog: Implications for Management*. In R. Sarzo, K. Severson, and d. Patton (technical coordinators). *Proceedings of the Symposium on the Management of Amphibians, Reptiles and Small Mammals in California*. U.S.D.A. Forest Service, Rocky Mountain Range and Experiment Station, Fort Collins, Colorado. General Technical Report (RM-166): 1-458.
- Hayes, M. P. and D. M. Krempels. 1986. *Vocal sac variation among frogs of the genus Rana from western North America*. *Copeia* 1986(4):927-936.
- Holland, R. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. California Department of Fish and Game, The Resources Agency. 156 pp.
- Holland, V.L. and D.J. Keil. 1990. *California Vegetation*. Calif. Polytechnic State University, San Luis Obispo. 4th edition. 318 pp.
- Jameson, E.W. Jr. and H.J. Peeters. 2004. *Mammals of California*. Revised Edition. University of California Press. Berkeley, California. 429 pp.
- Jennings, M.R. and M.P. Hayes 1984. *Pre-1900 overharvest of the California red-legged frog (Rana aurora draytonii): the inducement for bullfrog (Rana catesbeiana) introduction*. *Herpetologica* 41(1):94-103.
- Jennings, M.R. and M.P. Hayes. 1994. *Amphibian and Reptile Species of Special Concern in California*. Final Report to the California Department of Fish and Game.
- Kurta, A. and Teramino, J.A. 1992. *Bat Community Structure in an Urban Park*. *Ecography* 15:257-261.
- Leidy, R.A., G.S. Becker, B.N. Harvey. 2005. *Historical distribution and current status of steelhead/rainbow trout (Oncorhynchus mykiss) in streams of the San Francisco Estuary, California*. Center for Ecosystem Management and Restoration, Oakland, CA.
- Monk & Associates. 1999. *San Mateo Creek Erosion Repair Project, Crystal Springs Reservoir, San Mateo County*. August 30.
- Moyle, P.B. 2002. *Inland Fishes of California*. Revised and Expanded. University of California Press. Berkeley, California. 502 pp.
- National Oceanic and Atmospheric Administration (NOAA). 2005a. *Endangered and Threatened Species; Final Listing Determination for 16 ESUs of West Coast Salmon, and Final 4(d) Protective Regulations for Threatened Salmonid ESUs*. National Marine Fisheries Service. Federal Register 50 CFR Part 223 and 224 Vol. 70 (123): 37160-37204. June 28.
- National Oceanic and Atmospheric Administration (NOAA). 2005b. *Endangered and Threatened Species; Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California; Final Rule*. National Marine Fisheries Service. Federal Register 50 CFR Part 226 Vol. 70 (170): 52488-52627. September 2.
- RBF Consulting. 2001. *Nationwide Permit Application, Crystal Springs Dam Energy Dissipater*. February 12.

- San Mateo County. 1986. *General Plan*. Environmental Services Agency, Planning and Building Division. Available online at <http://planning.smcgov.org/sites/planning.smcgov.org/files/SMC-GP%201986.pdf>.
- Shepherd, M.D., D.M. Vaughan, and S.H. Black (Eds). 2005. *Red List of Pollinator Insects of North America*. CD-ROM Version 1 (May 2005). Portland, OR: The Xerces Society for Invertebrate Conservation.
- Sawyer, J.O., T. Keeler-Wolf, and J.M. Evans. 2009. *A Manual of California Vegetation* (2nd edition). California Native Plant Society, Sacramento. 1300 pp.
- Stebbins, R. C. 2003. *A Field Guide to Western Reptiles and Amphibians*. 3rd Edition. Houghton Mifflin Company. New York, New York. 533 pp.
- Storer, Tracy I. 1925. *A Synopsis of the Amphibia of California*. University of California Publications in Zoology. v27. The University of California Press. Berkeley, California: pp 1-43, 231-245, 330, 331, 336-339.
- Thomas, J.H. 1961. *Flora of the Santa Cruz Mountains of California*. Stanford University Press. 434 pp.
- Town of Hillsborough. 2005. *Hillsborough General Plan*. Prepared by Design, Community & Environment, Berkeley. March 14.
- United States Department of Agriculture (USDA). 1991. *Soil Survey of San Mateo County, Eastern part, and San Francisco County*. Soil Conservation Service.
- U.S. Fish and Wildlife Service (USFWS). 1977. *Endangered and Threatened Wildlife and Plants; Proposed Determination of Critical Habitat for Six Butterflies and Two Plants*. 50 CFR Part 17 Vol. 42 (26): 7972-7975. February 8.
- U.S. Fish and Wildlife Service (USFWS). 2000. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*. January. Available online at http://www.fws.gov/ventura/es/protocols/botanicalsurvey_protocol.pdf.
- U.S. Fish and Wildlife Service (USFWS). 2002. *Recovery Plan for the California Red-Legged Frog (Rana aurora draytonii)*. U.S. Fish and Wildlife Service, Portland, Oregon. viii 173 pp. May 28.
- U.S. Fish and Wildlife Service (USFWS). 2005. *Final List of Bird Species to Which the Migratory Bird Treaty Act Does Not Apply*. Notice of Availability. 50 CFR Part 17 Vol. 70 (49): 12710-12716. March 15.
- U.S. Fish and Wildlife Service (USFWS). 2006. *Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Red-legged Frog (Rana aurora draytonii), and Special Rule Exemption Associated With Final Listing for Existing Routine Ranching Activities; Final Rule*. 50 CFR Part 17 Vol. 71 (71): 19244-19346. April 13.
- United States Fish and Wildlife Service (USFWS). 2013. *List of Migratory Bird Species Protected by the Migratory Bird Treaty Act, as of December 2*. Available online at <http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/mbtandx.html#alpha1>

United States Fish and Wildlife Service (USFWS). 2014. *Species List for the Beeson Property, San Mateo County*. Threatened and Endangered Species System (TESS) database query for the Palo Alto, Woodside, San Francisco South, Montara Mountain, and San Mateo 7.5-minute USGS quadrangles. Database accessed June 23 at http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm.

Wood Biological Consulting (WBC). 2007a. *Biological Constraints Analysis for the Beeson Property, Town of Hillsborough, San Mateo County, California*. Unpublished technical report prepared for S.W. Syme Properties, Inc., San Mateo. January 15.

Wood Biological Consulting (WBC). 2007b. *Wetland Delineation and Preliminary Jurisdictional Determination for the Beeson Property, San Mateo County, California*. Unpublished technical report prepared for S.W. Syme Properties, Inc., San Mateo. June 18.

Wood Biological Consulting (WBC). 2007c. *Floristic Analysis for the Beeson Property, San Mateo County, California*. Unpublished technical report prepared for S.W. Syme Properties, Inc., San Mateo. September 30.

Personal Communications

Bartosh, Heath. 2006. Personal communication with Mike Wood. Nomad Ecological Consulting.

Johnston, Dave. 2006. Personal communication with Jerry Roe. California Department of Fish and Game. August 7.

McGinnis, Sam. 2006. Personal communication with Jerry Roe. August 9.

Olah, Ryan. 2006. Personal communication with Heath Bartosh. U.S. Fish and Wildlife Service. August 9.

Stern, Gary. 2006. Personal communication with Jerry Roe. National Marine Fisheries Service. August 2.

APPENDIX A

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

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



FAMILY

Scientific Name

Common Name

Habitat Affinities And
Reported Distribution

Status

Blooming Time
Life Form

Potential For
Occurrence On Site

Alliaceae - Onion Family

Allium peninsulare var. *franciscanum*

Franciscan onion

Occurs in cismontane woodland, valley and foothill grassland.
Substrate: clay, often serpentine.
Recorded from San Mateo, Santa Clara, Sonoma.

Federal: none

State: none

CNPS: 1B.2 G5T1/S1

Other: DFG: SP

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

Occurs in vernal pools
Moisture: vernal-flooded.
Recorded from Alameda, San Benito, San Luis Obispo, Santa
Clara.

Federal: none

State: none

CNPS: 1B.1 G5T1/S1

Other: DFG: SP

July
Annual/perennial
Herb

None:
no suitable habitat
present.
Would have been
detectable during 2007
surveys.

Perideridia gairdneri ssp. *gairdneri*

Gairdner's yampah

Occurs in broadleafed upland forest, chaparral, coastal prairie,
valley and foothill grassland, vernal pools
Moisture: vernal 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.

Federal: none

State: none

CNPS: 4.2 G5T3/S3.

Other: DFG: SP

Jun-Oct
Perennial Herb

None:
marginally suitable
habitat present.
Would have been
detectable during 2007
surveys.

Sanicula maritima

adobe sanicle

Occurs in chaparral, coastal prairie, meadows, seeps, valley
and foothill grassland
Substrate: clay, serpentine.
Recorded from Alameda, Monterey, San Francisco, San Luis
Obispo. Additional distribution: presumed extirpated in Alameda
and San Francisco counties.

Federal: none

State: SR

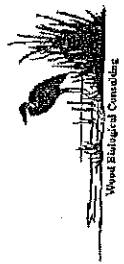
CNPS: 1B.1 G2/S2.2

Other: DFG: SP

Feb-May
Perennial Herb

None:
marginally suitable
habitat present.
Would have been
detectable during 2007
surveys.

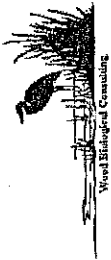
Potentially Occurring Special-status Plants Species Evaluated At The Beeson Property



FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Asteraceae - Sunflower Family				
<i>Centromadia parryi</i> ssp. <i>congdonii</i> 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.
<i>Centromadia parryi</i> ssp. <i>parryi</i> 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: vernal 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.
<i>Cirsium andrewsii</i> Franciscan thistle	Federal: none State: none CNPS: 1B.2 G23S3 Other: DFG: SP	Occurs in broadleaved upland forest, coastal bluff scrub, coastal prairie, coastal scrub Moisture: mesic; Substrate: sometimes serpentine, 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.
<i>Cirsium fontinale</i> var. <i>fontinale</i> 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: serpentine, Habitats Note: seeps. Recorded from San Mateo.	May-Oct Perennial Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
<i>Cirsium occidentale</i> var. <i>compactum</i> 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.

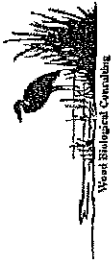
Potentially Occurring Special-status Plants Species Evaluated At The Beeson Property



FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
<i>Cirsium praeteriens</i> 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.
<i>Eriophyllum latilobum</i> 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.
<i>Grindelia hirsutula</i> var. <i>maritima</i> 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 serpentine. 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.
<i>Helianthella castanea</i> Diablo helianthella	Federal: none State: none CNPS: 1B.2 G2/S2 Other: DFG: SP	Occurs in broadleaved 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.
<i>Hemizonia congesia</i> ssp. <i>congesta</i> 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



FAMILY

Scientific Name

Common Name

**Habitat Affinities And
Reported Distribution**

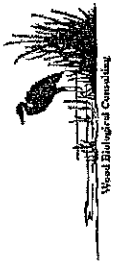
Status

**Blooming Time
Life Form**

**Potential For
Occurrence On Site**

<i>Hesperivex sparsiflora</i> var. <i>brevifolia</i>	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.
<i>Holocarpus macradenia</i> 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.
<i>Lasthenia californica</i> ssp. <i>macrantha</i> 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.
<i>Lasthenia conjugens</i> 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.
<i>Layia carnosa</i> 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



FAMILY

Scientific Name

Common Name

Scientific Name	Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
<i>Lessingia arachnoidea</i>		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: serpentine. Recorded from San Mateo, Sonoma.	Jul-Oct Annual Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.
<i>Lessingia germanorum</i>	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.
<i>Lessingia hololeuca</i>	woolly-headed lessingia	Federal: none State: none CNPS: 3 G3/S3 Other: DFG: SP	Occurs in broadleaved upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland. Substrate: serpentine, 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.
<i>Micropus amphibolus</i>	Mt. Diablo cottonweed	Federal: none State: none CNPS: 3.2 G3/S3.2? Other: DFG: SP	Occurs in broadleaved 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.
<i>Microseris paludosa</i>	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



FAMILY

Scientific Name

Common Name

Habitat Affinities And Reported Distribution

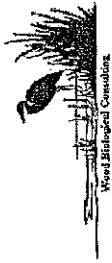
Status

Blooming Time Life Form

Potential For Occurrence On Site

<i>Monolopia gracifens</i>	<p>Federal: none State: none CNPS: 1B.2 G2G3/S2 Other:</p>	<p>Occurs in broadleaved 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.</p>	<p>Feb-Jul Annual Herb</p>	<p>None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.</p>
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	<p>Federal: FE State: SE CNPS: 1B.1 G1/S1 Other: DFG: SP</p>	<p>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.</p>	<p>Mar-May Annual Herb</p>	<p>None: no suitable habitat present. Would have been detectable during 2007 surveys.</p>
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	<p>Federal: none State: none CNPS: 1B.2 G2/S2.2 Other: DFG: SP</p>	<p>Occurs in broadleaved 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.</p>	<p>Apr-May Annual Herb</p>	<p>None: no suitable habitat present. Would have been detectable during 2007 surveys.</p>
Boraginaceae - Borage Family <i>Amsinckia lunaris</i> bent-flowered fiddleneck	<p>Federal: none State: none CNPS: 1B.2 G2?/S2? Other: DFG: SP</p>	<p>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.</p>	<p>Mar-Jun Annual Herb</p>	<p>None: marginally suitable habitat present. Would have been detectable during 2007 surveys.</p>
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris's popcorn-flower	<p>Federal: none State: none CNPS: 1B.2 G3T2Q/S Other: DFG: SP</p>	<p>Occurs in chaparral, coastal prairie, coastal scrub, northern coastal scrub Moisture: moist. Recorded from Alameda, San Francisco, San Mateo, Santa Cruz.</p>	<p>Mar-Jun Annual Herb</p>	<p>None: marginally suitable habitat present. Would have been detectable during 2007 surveys.</p>

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



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 broadleaved 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



FAMILY

Scientific Name

Common Name

Status

Habitat Affinities And
Reported Distribution

Blooming Time
Life Form

Potential For
Occurrence On Site

Tropidocarpum capparideum

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.

caper-fruited tropidocarpum

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: vernal/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

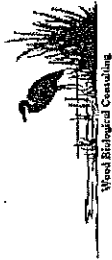
Federal: none
State: none
CNPS: 1B.2 G5T2/S2.
Other: DFG: SP

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



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 seablitte

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

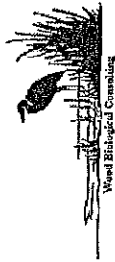
Occurs in freshwater marsh, marshes and swamps.
Recorded from Lake, Napa, San Francisco, San Mateo. Also recorded from Idaho, Oregon, Washington.

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

Mar 10, 2015



FAMILY

Scientific Name

Common Name

Habitat Affinities And
Reported Distribution

Status

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 broadleaved 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

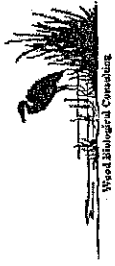
Montara manzanita

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



FAMILY

Scientific Name

Common Name

Scientific Name	Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
<i>Arctostaphylos pacifica</i>	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.
<i>Arctostaphylos regismontana</i>	Kings Mountain manzanita	Federal: none State: none CNPS: 1B.2 G2/S2 Other: DFG: SP	Occurs in broadleaved 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					
<i>Astragalus nuttallii</i> var. <i>nuttallii</i>	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.
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	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, streambanks. Recorded from Humboldt, Marin, Mendocino, San Mateo.	Apr-Oct Perennial Herb	None: no suitable habitat present. Would have been detectable during 2007 surveys.

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



FAMILY

Scientific Name

Common Name

Astragalus tener var. *tener*

alkali milk-vetch

**Habitat Affinities And
Reported Distribution**

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.

Status

Federal: none
State: none
CNPS: 1B.2 G2T2/S2
Other: DFG: SP

**Blooming Time
Life Form**

Mar-Jun
Annual Herb

**Potential For
Occurrence On Site**

None:
no suitable habitat present.
Would have been detectable during 2007 surveys.

Lupinus arboreus var. *eximius*

San Mateo tree lupine

Occurs in chaparral, coastal scrub.

Recorded from San Mateo, Sonoma (?).

Federal: none

State: none

CNPS: 3.2 G2Q/S2.

Other:

Apr-Jul

Evergreen Shrub

None:

suitable habitat present.
Would have been detectable during 2007 surveys.

Trifolium amoenum

showy Indian clover

Occurs in coastal bluff scrub, valley and foothill grassland

Substrate: sometimes serpentine.

Recorded from Marin, Napa, San Mateo, Santa Clara, Solano, Sonoma; presumed extirpated from Napa, Santa Clara and Solano counties.

Federal: FE

State: none

CNPS: 1B.1 G1/S1

Other: DFG: SP

Apr-Jun

Annual Herb

None:

marginally suitable habitat present.
Not included in 2007 target list; not recorded during 2007 surveys.

Trifolium hydrophilum

saline clover

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.

Federal: none

State: none

CNPS: 1B.2 G2/S2

Other: DFG: SP

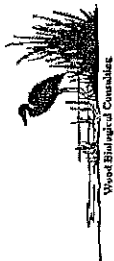
Apr-Jun

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



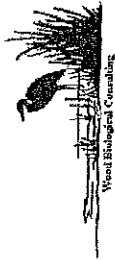
FAMILY

Scientific Name
Common Name

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Geraniaceae - Geranium Family				
<i>California macrophylla</i> 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				
<i>Iris longipetala</i> 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				
<i>Acanthomintha duttonii</i> San Mateo thorn-mint	Federal: FE State: SE CNPS: 1B.1 G1/S1 Other: DFG: SP	Occurs in valley and foothill grassland, chaparral. Substrate: serpentine. Recorded from San Mateo.	Apr-Jun Annual Herb	None: suitable habitat present. Would have been detectable during 2007 surveys.
<i>Monardella sinuata</i> ssp. <i>nibrescens</i> 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.

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

Mar 10, 2015



FAMILY

Scientific Name

Common Name

Liliaceae - Lily Family

Calochortus umbellatus

Oakland star-tulip

Federal: none
State: none
CNPS: 4.2 G3/S3.2
Other: DFG: SP

Habitat Affinities And Reported Distribution
Occurs in broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland
Substrate: often serpentine.
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

Habitat Affinities And Reported Distribution
Occurs in chaparral, cismontane woodland, foothill woodland, pinon and juniper woodland, valley and foothill grassland.
Substrate: clay, sometimes serpentine.
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

Habitat Affinities And Reported Distribution
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. *tristulvis*

Marin checker lily

Federal: none
State: none
CNPS: 1B.1 G5T2/S2
Other: DFG: SP

Habitat Affinities And Reported Distribution
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

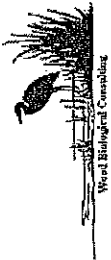
Federal: none
State: none
CNPS: 1B.2 G2/S2
Other: DFG: SP

Habitat Affinities And Reported Distribution
Occurs in cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland
Substrate: often serpentine.
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.

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



FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
<i>Lilium maritimum</i> 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				
<i>Limnanthes douglasii</i> ssp. <i>ornduffii</i> 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.
<i>Limnanthes douglasii</i> ssp. <i>sulphurea</i> 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				
<i>Hesperolinon congestum</i> Marin western flax	Federal: FT State: ST CNPS: 1B.1 G2/S2 Other: DFG: SP	Occurs in chaparral, valley and foothill grassland. Substrate: serpentine. Recorded from Marin, San Francisco, San Mateo.	Apr-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

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FAMILY

Scientific Name

Common Name

Habitat Affinities And
Reported Distribution

Status

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 foamy. Habitats Note: disturbed sites and
burns.

Mar-Jun

Annual Herb
None:
marginally 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



FAMILY

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
(serpentine).
Substrate: serpentine.
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

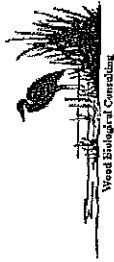
Occurs in broadleafed upland forest, lower montane coniferous
forest, North Coast coniferous forest, yellow pine forest.
Substrate: serpentine.
Recorded from Del Norte, Humboldt, Mendocino, San Mateo,
Santa Cruz, Siskiyou, Sonoma, Trinity. Also recorded from
Oregon, Washington.

May-Sep
Perennial Herb

None:
no suitable habitat
present.
Not included in 2007
target list; not recorded
during 2007 surveys.

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

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FAMILY

Scientific Name
Common Name

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Orobanchaceae - Broomrape Family				
<i>Castilleja ambigua</i> ssp. <i>ambigua</i> 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.
<i>Chloropyron maritimum</i> ssp. <i>palustre</i> 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.
<i>Pedicularis dudleyi</i> 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				
<i>Orthotrichum kellmanii</i> 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.

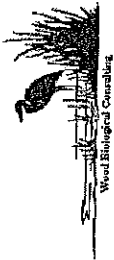
Potentially Occurring Special-status Plants Species Evaluated At The Beeson Property



FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Parmeliaceae				
<i>Usnea longissima</i> long-beard lichen	Federal: none State: none CNPS: 4.2 G4/S4 Other:	Occurs in north coastal coniferous forest, broadleaved 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				
<i>Pinus radiata</i> 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 Guadalupe (Baja).	n/a Tree (evergreen)	None: no suitable habitat present. Not included in 2007 target list; not recorded during 2007 surveys.
Plantaginaceae - Plantain Family				
<i>Collinsia corymbosa</i> 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.
<i>Collinsia multicolor</i> 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 serpentine. 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.

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



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 broadleaved 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 serpentine.
Recorded from Alameda, Contra Costa, Merced, San Benito,
San Joaquin, San Mateo, Santa Clara, Santa Cruz, Stanislaus.

Mar-Jun

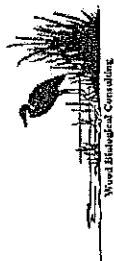
Annual Herb

None:

marginally suitable
habitat present.

Not included in 2007
target list; not recorded
during 2007 surveys.

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



FAMILY

Scientific Name

Common Name

Habitat Affinities And
Reported Distribution

Blooming Time
Life Form

Potential For
Occurrence On Site

Status

Leptosiphon croceus

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

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*

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

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*

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

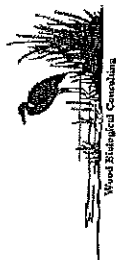
Annual Herb

None:
no suitable habitat present.
Would have been detectable during 2007 surveys.

San Francisco Bay spineflower

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

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FAMILY

Scientific Name

Common Name

Scientific Name	Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
<i>Chorizanthe robusta</i> var. <i>robusta</i>		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.
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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: serpentine, 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.
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Eriogonum nudum var. *decurrrens*

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.
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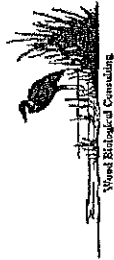
Pontederiaceae - Pickerel-weed Family

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



FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Potamogetonaceae - Pondweed Family				
<i>Stuckenia filiformis</i> 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				
<i>Triquetrella californica</i> 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				
<i>Androsace elongata</i> ssp. <i>acuta</i> 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				
<i>Ranunculus lobbii</i> 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.

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



FAMILY

Scientific Name

Common Name

Habitat Affinities And
Reported Distribution

Status

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 maritensis

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

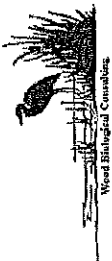
Federal: none
State: none
CNPS: 1B.2 G2/S2.2
Other: DFG: SP

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



FAMILY

Scientific Name

Common Name

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 broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland

Jan-Apr

Shrub (deciduous)

None:

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

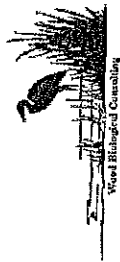
Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property



SORTED BY CLASS

Scientific Name
Common Name

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Gastropoda - Snails And Slugs			
<i>Tryonia imitator</i> 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			
<i>Calicina minor</i> 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.
<i>Microcina edgewoodensis</i> 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			
<i>Caecidotea tomalensis</i> 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

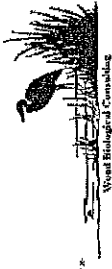
Mar 10, 2015

SORTED BY CLASS

Scientific Name
Common Name

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Insecta - Insects			
<i>Callophrys mossii bayensis</i> 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 <i>Secum spathulifolium</i> . Recorded from San Mateo, Marin counties. Additional distribution: primary populations are located in the vicinity of San Bruno Mountain.	None: no suitable habitat present.
<i>Cicindela hirticollis gravida</i> 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.
<i>Coelus globosus</i> 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.
<i>Danaus plexippus</i> 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

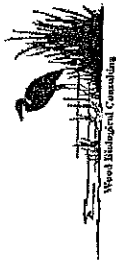


SORTED BY CLASS

Scientific Name
Common Name

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
<i>Dufourea stagei</i> Stage's dufourine bee	Federal none State none Other DFG: Special Animal Global/State Rank: G17/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.
<i>Euphydryas editha bayensis</i> 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 <i>Plantago erecta</i> . Secondary host plants include <i>Orthocarpus densiflorus</i> and <i>O. purpurascens</i> . 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.
<i>Hydrochara rickseckeri</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)
<i>Hydroporus leechi</i> Leech's skyline diving beetle	Federal none State none Other DFG: SA Global/State Rank: G17/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

Mar 10, 2015

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
<i>Ischnura gemina</i> 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.
<i>Lichnanthe ursina</i> 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.	Could occur on Lot #5 (open space) None: no suitable habitat present.
<i>Plebejus icaroides missionensis</i> mission blue butterfly	Federal FE State none Other DFG: SA Global/State Rank: G5T1/S1 Xerces: C	Inhabits grasslands. Three larval host plants: <i>Lupinus albus</i> , <i>L. varicolor</i> , and <i>L. formosus</i> , of which <i>L. albus</i> is favored. Primary nectar plants for adults are <i>Eriogonum latifolium</i> , <i>Chrysopsis villosa</i> , <i>Brodiaea pulchella</i> and <i>Brodiaea laxa</i> 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.
<i>Speyeria callippe callippe</i> callippe silverspot butterfly	Federal FE State none Other DFG: SA Global/State Rank: G5T1/S1 Xerces: C	Inhabits northern coastal scrub. Hostplant is <i>Viola pedunculata</i> . 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.

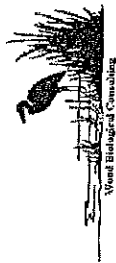
Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property



SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
<i>Speyeria zerene myrtleae</i> 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 <i>Viola adunca</i> . Recorded from Marin, San Mateo, Sonoma counties. Additional distribution: Point Reyes Peninsula. Extirpated from coastal San Mateo County.	None: no suitable habitat present.
<i>Trachusa gummifera</i> 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 <i>Oncorhynchus kisutch</i> 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, Marth, Mendocino, Santa Cruz, Sonoma counties.	None: no suitable habitat present.
<i>Oncorhynchus mykiss irideus</i> 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

Mar 10, 2015

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 boylei

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

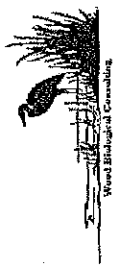
Inhabits lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat. Recorded from Alameda, Butte, Butte, Calaveras, Contra Costa, El Dorado, 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

Scientific Name	Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
Reptilia - Reptiles				
<i>Emys marmorata</i>	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.
<i>Thamnophis sirtalis tetrataenia</i>	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				
<i>Accipiter cooperii</i>	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.





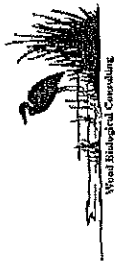
Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

Mar 10, 2015

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
<i>Accipiter striatus</i> 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)
<i>Ammodramus savannarum</i> 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.
<i>Aquila chrysaetos</i> 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.
<i>Ardea alba</i> 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

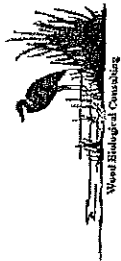


SORTED BY CLASS

Scientific Name

Common Name

Scientific Name	Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
<i>Ardea herodias</i>	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.
<i>Asio flammeus</i>	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.
<i>Asio otus</i>	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.



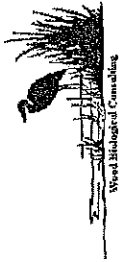
Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

Mar 10, 2015

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
<i>Athene cucularia</i> burrowing owl	Federal none State none Other BLM: S DFW: SSC FWS: BCC; MBTA Global/State Rank: G4/S2	Inhabits open, dry annual or perennial 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.
<i>Baeolophus inornatus</i> 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.
<i>Brachyramphus marmoratus</i> 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

Scientific Name	Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
<i>Chondestes grammacus</i>	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 grasses and small twigs. Breeding begins in early April to June; double-brooded. DFW listing covers nesting individuals only.	Not expected: marginally suitable habitat present.
<i>Circus cyaneus</i>	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.
<i>Cypseloides niger</i>	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.
<i>Elanus leucurus</i>	white-tailed kite	Federal none State none Other DFW: FP FWS: MNB, MBTA Global/State Rank: G5/S3	Inhabits rolling foothills and valley 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.





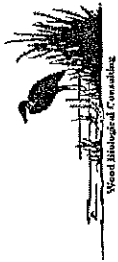
Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

Mar 10, 2015

SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
<i>Falco columbarius</i> 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.
<i>Falco mexicanus</i> 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.
<i>Falco peregrinus anatum</i> 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.
<i>Geothlypis trichas sinuosa</i> 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



SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
<i>Haliaeetus leucocephalus</i> 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.
<i>Lanius ludovicianus</i> 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.
<i>Picoides nuttallii</i> 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.



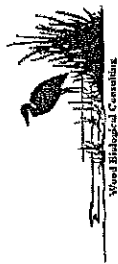
Potentially Occurring Special-status Animal Species Evaluated At The Beeson Property

Mar 10, 2015

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Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
<i>Progne subis</i> 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.
<i>Riparia riparia</i> 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.
<i>Selasphorus sasin</i> 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

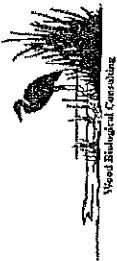


SORTED BY CLASS

Scientific Name
Common Name

Scientific Name	Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
<i>Setophaga petechia brewsteri</i>	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.
<i>Spinus lawrencei</i>	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				
<i>Antrozous pallidus</i>	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

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SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
<i>Corynorhinus townsendii townsendii</i> 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.
<i>Dipodomys venustus venustus</i> 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.
<i>Lasiurus blossevillii</i> 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.
<i>Lasiurus cinereus</i> 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 access 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



SORTED BY CLASS

Scientific Name
Common Name

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
<i>Myotis evotis</i> 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
<i>Myotis thysanodes</i> 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.
<i>Myotis volans</i> 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.
<i>Myotis yumanensis</i> 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

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SORTED BY CLASS

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Potential For Occurrence On Site
<i>Neotoma fuscipes annexens</i> 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.
<i>Nyctinomops macrotis</i> 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.
<i>Taxidea taxus</i> 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

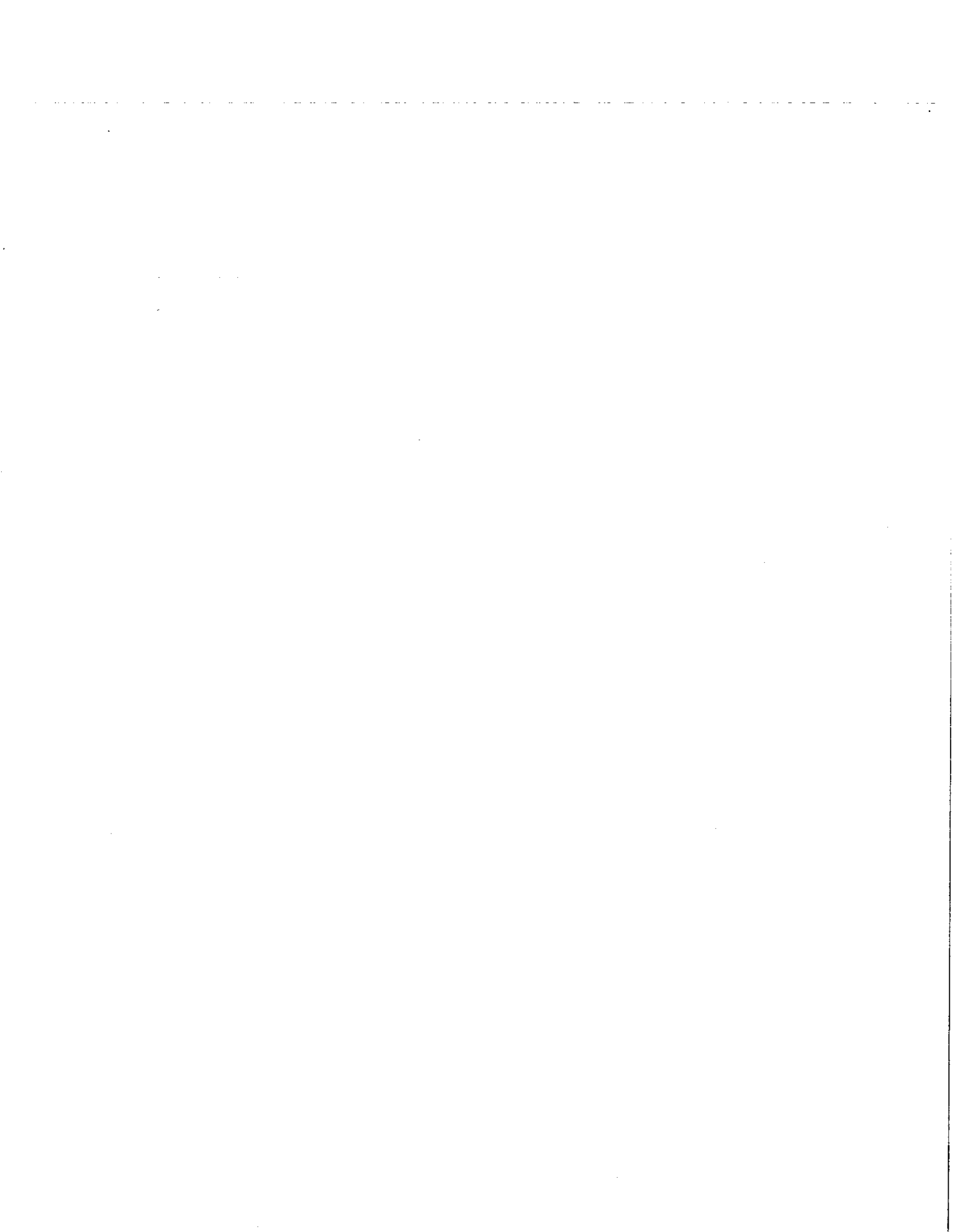
- List 1: Plants of highest priority.
List 1A: Plants presumed extinct in CA.
List 1B: Plants rare and endangered in CA and elsewhere.
List 2A: Plants presumed extirpated in CA but common elsewhere.
List 2B: Plants rare, threatened or endangered in CA but common elsewhere.
List 3: Plants for which additional 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

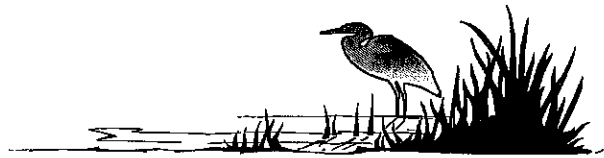
- ABC: WL - American Bird Conservancy Watch List of Birds of Conservation Concern.
AFS - American Fisheries Society categories of risk for marine, estuarine and diadromous fish stocks. Codes: E=endangered; T=threatened; V=vulnerable
AUD: WL - Audubon: Watch List 2007. Bird species facing population decline 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.
CDE: 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 G



WOOD BIOLOGICAL CONSULTING, Inc.

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www.wood-biological.com

March 11, 2015

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

RE: Revised Creek Setback Evaluation, Zmay Property Subdivision, San Mateo County

Dear Mr. Zmay:

This memorandum presents an evaluation of the upper reaches of two creek channels that originate 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, 2007). The delineation (Figure 2, Attachment A) was found to still be valid based on fieldwork performed on June 26, 2014 (Wood Biological Consulting Inc., 2015).

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 assist 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 as 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).

shrubs and vines intercept raindrops, lessening the force with which they strike the surface of the ground. Removal of forest canopy in riparian areas increases runoff rates and velocities, decreases infiltration and groundwater recharge, leads to erosion and sedimentation, and increases water turbidity, among other effects.

The riparian zone is at the interface between upland and wetland or aquatic systems. Biologically, healthy riparian zones are species diverse, highly productive environments, providing structural diversity, breeding and foraging opportunities for a wide host of organisms. In California, 25 percent of mammal, 80 percent of amphibian, and 40 percent of reptiles are limited to or dependent on riparian habitats, and over 135 species of California birds depend on or prefer riparian habitats. (Sorenson, 1989). Of the 3,011 plant and animal species in California that are considered rare, 728 (24.2 percent) occur in riparian, wetland or other aquatic habitats. It is estimated that as much as 89 percent of the extent of riparian areas in California have been lost or degraded since colonization (Noss and Peters, 1995).

Riparian vegetation is particularly critical for the support and maintenance of native fisheries. Tree canopies shade the surface of flowing streams, keeping water temperatures low. Riparian vegetation preserves water quality by restricting erosion and sedimentation. Tree roots stabilize channel banks and contribute to the formation of riffles and pools, which are essential for breeding, feeding, and over-summering. Riparian vegetation also slows the movement of water downstream and through the soil profile, resulting in its gradual release into stream channels, prolonging the availability of surface water into the dry summer season. Large woody debris creates hiding spaces for frye and adult fish, and leaf litter promotes invertebrate populations, an essential food source for fish species.

As outlined in the *Guidelines*, the Santa Clara Valley Water Resources Protection Collaborative (SCVWRPC, 2006) emphasizes the vital role of riparian vegetation in “maintaining stream stability, providing valuable wildlife habitat, and moderating downstream flooding”, as well as regulating water quality by filtering “pollutants from stormwater, such as oil and grease from roadways, fertilizer runoff from lawns, and excess sediments from upstream.”¹ Specifically, the streamside environment supports riparian vegetation and the functions riparian vegetation provides. Riparian vegetation benefits terrestrial species, as well as semi-aquatic amphibians and reptiles and fish. Such habitat functions include:

- Sediment stabilization: provided by riparian trees, shrubs, and grasses.
- Shading and water temperature moderation: provided by mature riparian shrubs and trees.
- Overhanging escape cover: provided by shrubs and grasses near the stream edge.
- Coarse particulate organic matter: organic material dropping into the stream in the form of leaves, insects, etc., that provide input for aquatic food webs.

¹ See page 4.3 of the *Guidelines*

The mapping of riparian vegetation on a given property can be a relatively simple task that can be achieved by identifying the riparian plant species associated with a particular watercourse and delimiting the canopy edge on an aerial photograph or topographic map. However, for projects regulated under the California Lake and Streambed Alteration Program (LSAP)⁴, the California Department of Fish and Wildlife (CDFW) routinely extends its jurisdiction to include upland species when growing adjacent to water courses. Species normally associated with upland habitats such as oaks (*Quercus* spp.), California buckeye (*Aesculus californica*), and California bay (*Umbellularia californica*), among others, may also be regarded as riparian if such trees exert an ecological influence on the aquatic environment of the stream course.

The limits of the riparian zone, as currently recommended by the CDFW, extend to the outer edge of the dripline of native trees whose canopies extend over the tops of bank of a regulated stream course. A tree need not be rooted within a creek channel to be considered part of the riparian zone. For example, in areas where there is a continuous canopy of native trees extending beyond the top of bank, the CDFW will assume that they contribute to the habitat values for fish and wildlife species that occupy, or could occupy the channel. Thusly defined, such riparian trees provide shade and deposit downed wood and leaf debris on the channel banks, provide refuge sites and contribute nutrients to the stream, greatly enhancing wildlife habitat values.

Typical riparian habitat (i.e., vegetation dependent on the presence of surface water or a perched water table) is present on the subject property (e.g., Central Coast riparian scrub). However, the dominant canopy over most Lot #4 and portions of Lots 2 and 3 consists of coast live oaks and bay trees, which are not considered typical riparian species. Based on the four categories of riparian vegetation listed in the *Guidelines* (see above), the coast live oak/bay woodland on site does not occur on wetted soils (item #2), is not structurally or floristically distinct (item #3), and is not dependent on the hydrology of the creek (item #4). As such, the woodland canopy overlapping the subject channel is not regarded as typically riparian.

3. DETERMINING APPROPRIATE RIPARIAN SETBACKS OR BUFFERS

Background

Pursuant to Section 1600, et seq. of the California Fish and Game Code (CFGCC), the CDFW requires issuance of a Streambed Alteration Agreement (SAA) for any modifications to a creek channel below the top of bank. When authorization for modifications to a stream channel from the CDFW is required, the agency's permit will typically include conditions intended to preserve the integrity of the creek and its associated riparian habitats. A standard condition of most CDFW permits is the designation of a setback or buffer between the top of bank or outer edge of riparian habitat, whichever is greater, and the closest edge of pavement, structures, or actively used yards or playfields. Even without the need for a SAA, the CDFW can be expected to

⁴ California Fish and Game Code, Section 1600, et. seq.

The oak/bay woodland overlapping the channel south of Lot #4 may be regarded as having an ecological influence on the channel by providing wildlife habitat and preserving water quality. However, construction within the proposed building envelope of this lot would not affect any trees that exert a direct ecological influence⁷ on the channel. As noted above, the building envelope is situated 120 feet from the channel center line.

Development within the proposed building envelopes of Lots 2 and 3 would also not affect any trees that exert a direct influence on the channel below these parcels. As noted above, the building envelopes are situated 170 feet away from the channel and approximately 95 feet from the nearest riparian canopy. However, the anticipated slide repair would require over-excavation of the slope adjacent to, or possibly encroaching within the dripline of Central Coast riparian scrub habitat. While the riparian vegetation at this location is not within a defined channel, it may have an adverse effect on the stand of willows here; such impacts may require authorization by federal and state agencies with jurisdiction over wetlands; mitigation measures for these impacts can be expected. Nonetheless, in terms of the creek setback issue, slide repair would be regarded as a temporary impact and would not be inconsistent with setback guidelines.

Irrespective of stream setback issues, the removal of trees will need to be evaluated pursuant to County Ordinances regulating Heritage Trees⁸ and Significant Trees.⁹

Based on the proposed reduced lot layout and building envelopes, the construction of four new residences is not likely to have any adverse effects on the stream environments. With the implementation of standard construction and post-construction Best Management Practices (BMPs), the protection of the channel and downstream water quality will be ensured. The distances between the proposed building envelopes as shown in Figure 3 (Attachment A) and channels and riparian habitat are expected to be consistent with County requirements and should be regarded as satisfactory by State regulators; the ultimate designation of any setback is at the discretion of the lead agency and/or State regulatory agencies.

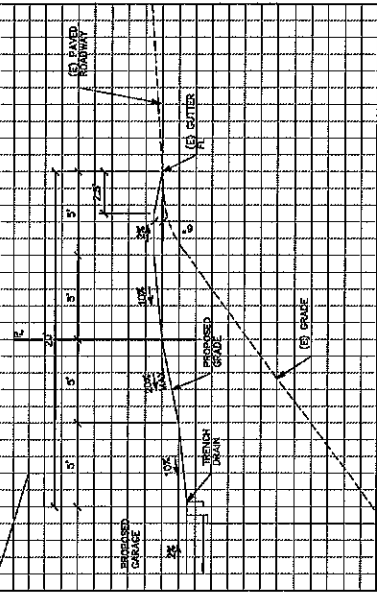
⁷ In this context, direct influence is regarded as shading, providing exposed root wads on the channel banks or contributing large woody debris or litter to the channel proper.

⁸ Ordinance 2427, Ch. 1, Sec. 11.000, et seq.

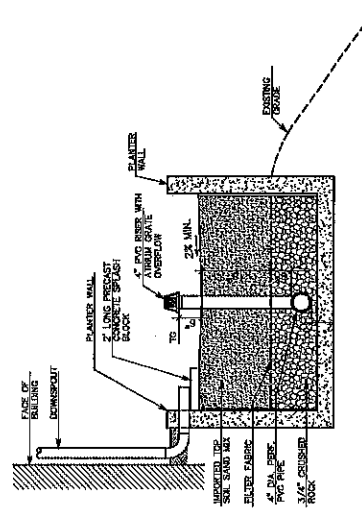
⁹ San Mateo County Ordinance Code Div. VIII, Part 3, Ch. 1, Section 12.000, et seq.

ATTACHMENT A

PROJECT FIGURES AND MAPS



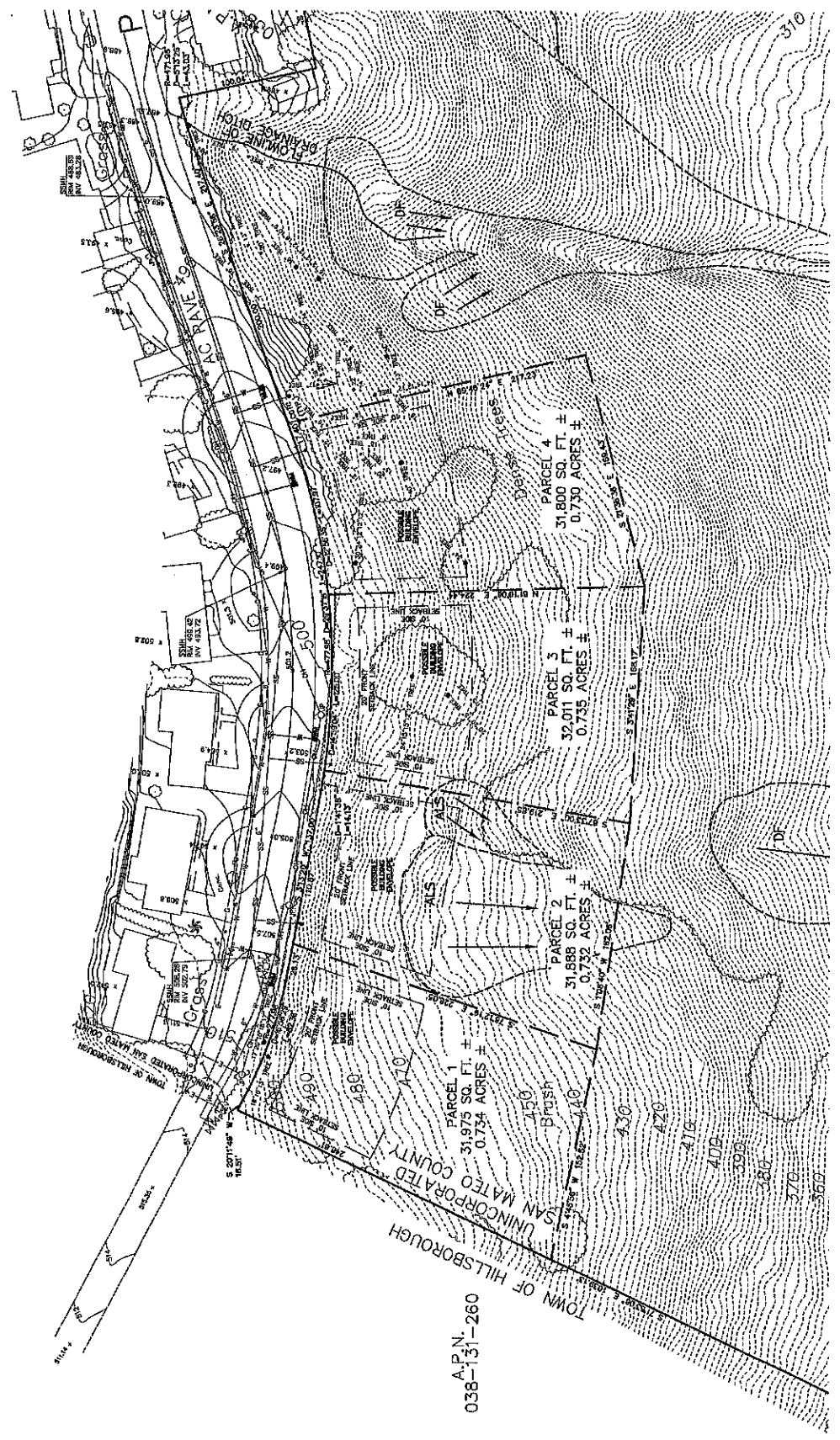
A TYPICAL DRIVEWAY PROFILE
SCALE: 1"=4'



B C-8 STORM WATER TREATMENT MEASURES
FLOW-THROUGH PLANTER BOX FILTRATION DETAIL (TO SERVICE 4% OF IMPERVIOUS AREAS)
SCALE: NOT TO SCALE

LEGEND

---	PROPERTY
---	PROPOSE
---	ACTIVE L
---	CENTER L
---	CLEANING
---	DRIVEWAY
---	DRIVEWAY
---	GARAGE
---	GARAGE
---	FLOWLINE
---	INVERT
---	JOINT UT
---	POLE VA
---	PROPERTY
---	SETBACK
---	ALS
---	C
---	CD/C
---	DF
---	DIRTY
---	DIRTY
---	GAR
---	GSEL
---	FL
---	INV.
---	JOINT UT
---	POLE VA
---	PROPERTY
---	SETBACK



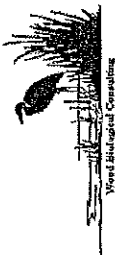
A.P.N. 038-131-260

ATTACHMENT B

**SPECIAL-STATUS PLANT SPECIES EVALUATED
FOR THE ZMAY PROPERTY**

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

Mar 11, 2015

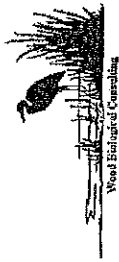


FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Alliaceae - Onion Family				
<i>Allium peninsulare</i> var. <i>franciscanum</i> 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 serpentine. 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				
<i>Eryngium aristulatum</i> var. <i>hooveri</i> Hoover's button-celery	Federal: none State: none CNPS: 1B.1 G5T1/S1 Other: DFG: SP	Occurs in vernal pools Moisture: vernaly-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.
<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i> 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.
<i>Sanicula maritima</i> 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, serpentine. 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 Zmay Property

Mar 11, 2015



FAMILY

Scientific Name

Common Name

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: very 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 broadleaved upland forest, coastal bluff scrub, coastal prairie, coastal scrub
Moisture: mesic, Substrate: sometimes serpentine,
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: serpentine, 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 Zmay Property



FAMILY

Scientific Name

Common Name

*Habitat Affinities And
Reported Distribution*

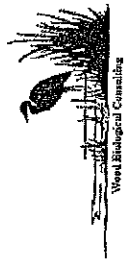
*Blooming Time
Life Form*

*Potential For
Occurrence On Site*

<i>Cirsium praeteritens</i> 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.
<i>Eriophyllum latilobum</i> 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.
<i>Grindelia hirsutula</i> var. <i>maritima</i> 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.
<i>Helianthella castanea</i> Diablo hellianthella	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.
<i>Hemizonia congesta</i> ssp. <i>congesta</i> 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 Zmay Property

Mar 11, 2015



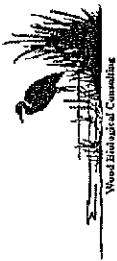
FAMILY

Scientific Name

Common Name

Scientific Name	Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
<i>Hespererax sparsiflora</i> var. <i>brevifolia</i>	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.
<i>Holocarpus macradenia</i>	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.
<i>Lasthenia californica</i> ssp. <i>macrantha</i>	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.
<i>Lasthenia conjugens</i>	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.
<i>Layia carnosus</i>	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 Zmay Property



FAMILY

Scientific Name

Common Name

Habitat Affinities And
Reported Distribution

Blooming Time
Life Form

Potential For
Occurrence On Site

Lessingia arachnoidea

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: serpentine.
Recorded from San Mateo, Sonoma.

Jul-Oct
Annual Herb

None:
no suitable habitat present.
Would have been detectable during 2007 surveys.

Crystal Springs lessingia

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: serpentine, 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

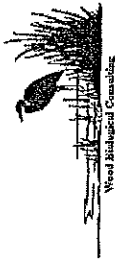
Occurs in closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland.
Recorded from Marin, Mendocino, Monterey, San Benito, San Francisco, San Luis Obispo, San Mateo, Santa Cruz, Sonoma; presumed extirpated in San Francisco and San Mateo counties.

Apr-Jul
Perennial Herb

None:
suitable habitat present.
Would have been detectable during 2007 surveys.

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

Mar 11, 2015



FAMILY

Scientific Name

Common Name

Habitat Affinities And
Reported Distribution

Blooming Time
Life Form

Potential For
Occurrence On Site

<i>Monolopia gracilens</i>	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: serpentine. 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.
<i>Pentachaeta bellidiflora</i>	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 serpentine. 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.
<i>Stebbinsoseris decipiens</i>	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: serpentine. 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					
<i>Amsinckia lunaris</i>	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.
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	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 Zmay Property



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 broadleaved 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 serpentine 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: serpentine. 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 Zmay Property

Mar 11, 2015



FAMILY

Scientific Name

Common Name

Scientific Name	Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
<i>Tropidocarpum capparideum</i>		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					
<i>Legenere limosa</i>	legenere	Federal: none State: none CNPS: 1B.1 G2/S2 Other: DFG: SP	Occurs in vernal pools Moisture: vernal-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					
<i>Arenaria patudicola</i>	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.
<i>Silene verecunda</i> ssp. <i>verecunda</i>	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.

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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.

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Ericaceae - Heath Family				
<i>Arctostaphylos andersonii</i> 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.
<i>Arctostaphylos franciscana</i> 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.
<i>Arctostaphylos imbricata</i> 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.
<i>Arctostaphylos montana</i> ssp. <i>ravenii</i> 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.
<i>Arctostaphylos montaraensis</i> 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.

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*Potential For
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<i>Arctostaphylos pacifica</i> 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.
<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	Federal: none State: none CNPS: 1B.2 G2/S2 Other: DFG: SP	Occurs in broadleaved 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 <i>Astragalus nuttallii</i> var. <i>nuttallii</i> 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.
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> 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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<i>Astragalus tener</i> var. <i>tener</i>		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:

Apr-Jul
Evergreen Shrub

None:
suitable habitat present.
Would have been detectable during 2007 surveys.

Trifolium amoerum

showy Indian clover

Federal: FE
State: none
CNPS: 1B.1 G1/S1
Other: DFG: SP

Apr-Jun
Annual Herb

Occurs in coastal bluff scrub, valley and foothill grassland
Substrate: sometimes serpentine.
Recorded from Marin, Napa, San Mateo, Santa Clara, Solano, Sonoma; presumed extirpated from Napa, Santa Clara and Solano counties.

None:
marginally suitable habitat present.
Not included in 2007 target list; not recorded during 2007 surveys.

Trifolium hydrophilum

saline clover

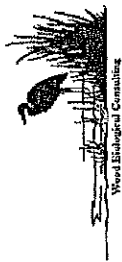
Federal: none
State: none
CNPS: 1B.2 G2/S2
Other: DFG: SP

Apr-Jun
Annual Herb

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.

None:
no suitable habitat present.
Would have been detectable during 2007 surveys.

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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: serpentine.
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:

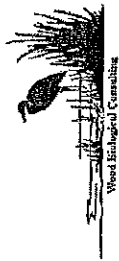
Occurs in chaparral, coastal dunes, coastal scrub, lower montane coniferous forest.
Recorded from Marin, Monterey, Santa Cruz. Additional distribution: presumed extirpated from San Francisco County.

Apr-Sep
Annual Herb

None:
marginally suitable habitat present.
Not included in 2007 target list; not recorded during 2007 surveys.

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Liliaceae - Lily Family

Calochortus umbellatus

Oakland star-tulip

Federal: none
State: none
CNPS: 4.2 G3/S3.2
Other: DFG: SP

Occurs in broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland
Substrate: often serpentine.
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 serpentine.
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. *tristulif*

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 serpentine.
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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Lilium maritimum

coast lily

Federal: none

State: none

CNPS: 1B.1 G2/S2

Other: DFG: SP

Occurs in broadleaved 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.

Limnathaceae - Meadowfoam Family

Limnathes 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.

Limnathes 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

Hesperolimon 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

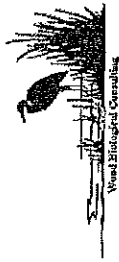
Annual Herb

None:
no suitable habitat present.

Would have been detectable during 2007 surveys.

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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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Onagraceae - Evening Primrose Family

Clarkia concinna ssp. *autornixa*
Santa Clara red ribbons

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.

Federal: none
State: none
CNPS: 4.3 G57T3/S
Other: DFG: SP

Clarkia franciscana
Presidio clarkia

Occurs in coastal scrub, valley and foothill grassland
(serpentine).
Substrate: serpentine.
Recorded from Alameda, San Francisco.

May-Jul
Annual Herb

None:
no suitable habitat
present.
Would have been
detectable during 2007
surveys.

Federal: FE
State: SE
CNPS: 1B.1 G1/S1
Other: DFG: SP

Orchidaceae - Orchid Family

Cyrtopodium fasciculatum
clustered lady's-slipper

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.

Federal: none
State: none
CNPS: 4.2 G4/S3.2
Other: DFG: SP

Piperita candida
white-flowered rein orchid

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.

Federal: none
State: none
CNPS: 1B.2 G37/S2
Other: DFG: SP

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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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Potential For
Occurrence On Site

Parmeliaceae

Usnea longissima
long-beard lichen

Occurs in north coastal coniferous forest, broadleaved 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.

Federal: none
State: none
CNPS: 4.2 G4/S4
Other:

None:
no suitable habitat present.
Not included in 2007 target list; not recorded during 2007 surveys.

Pinaceae - Pine Family

Pinus radiata
Monterey pine

Occurs in dismontane 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 Guadalupe (Baja).

Federal: none
State: none
CNPS: 1B.1 G1/S1
Other: DFG: SP

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

Occurs in coastal dunes.
Recorded from Humboldt, Marin, Mendocino, San Francisco, Sonoma.

Federal: none
State: none
CNPS: 1B.2 G1/S1
Other: DFG: SP

None:
no suitable habitat present.
Would have been detectable during 2007 surveys.

Collinsia multicolor

San Francisco collinsia

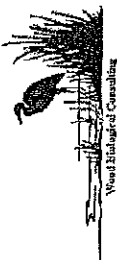
Occurs in closed-cone coniferous forest, coastal scrub
Substrate: sometimes serpentine.
Recorded from Marin, Monterey, San Francisco, San Mateo, Santa Clara, Santa Cruz.

Federal: none
State: none
CNPS: 1B.2 G2/S2
Other: DFG: SP

None:
suitable habitat present.
Detected on subject property but not within reduced study area; see report for details.

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

Mar 11, 2015



FAMILY

Scientific Name

Common Name

Status

Habitat Affinities And
Reported Distribution

Blooming Time
Life Form

Potential For
Occurrence On Site

Poaceae - Grass Family

Agrostis biadalei

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 broadleaved 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 serpentine.
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.

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



FAMILY

Scientific Name

Common Name

Habitat Affinities And
Reported Distribution

Blooming Time
Life Form

Potential For
Occurrence On Site

<i>Leptosiphon croceus</i> 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.
<i>Leptosiphon rosaceus</i> 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.
<i>Navarretia myersii</i> ssp. <i>myersii</i> 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.
<i>Polemonium carneum</i> 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 <i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> 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.

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

Mar 11, 2015



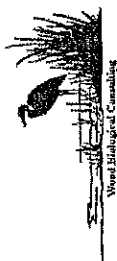
FAMILY

Scientific Name

Common Name

Scientific Name	Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
<i>Chorizanthe robusta</i> var. <i>robusta</i>		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.
<i>Chorizanthe valida</i>	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.
<i>Eriogonum luteolum</i> var. <i>caninum</i>	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.
<i>Eriogonum nudum</i> var. <i>decurrens</i>	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					
<i>Heteranthera dubia</i>	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.

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



FAMILY

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 G5T3T4

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.

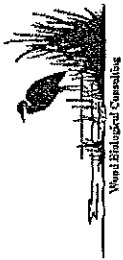
Feb-May

Annual Herb,
Aquatic

None:

no suitable habitat present.
Not included in 2007 target list; not recorded during 2007 surveys.

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



FAMILY

Scientific Name

Common Name

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.

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

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.

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

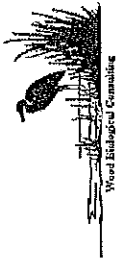
Other: DFG: SP

Occurs in coastal prairie, coastal scrub, valley and foothill grassland
Substrate: usually serpentine.
Recorded from Marin, San Francisco, San Mateo.

None:

no suitable habitat present.
Would have been detectable during 2007 surveys.

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



FAMILY

Scientific Name

Common Name

Habitat Affinities And
Reported Distribution

Status

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 broadleaved 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.

ATTACHMENT 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: MBFA - 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

ATTACHMENT D
DATABASE QUERY RESULTS



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: County is (San Mateo)

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks							Population Status		Presence	
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extrap.	Extrap.
<i>Acanthomintha duttonii</i> San Mateo thorn-mint	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1	170 600	5 S:5	0	1	0	1	1	2	3	2	4	0	1
<i>Agrostis blasdalei</i> Blasdale's bent grass	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	100 100	45 S:1	0	0	0	0	1	1	1	0	1	0	0
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	G5T1 S1	None None	Rare Plant Rank - 1B.2	20 5,800	14 S:9	0	0	1	0	0	8	8	1	9	0	0
<i>Ambystoma californiense</i> California tiger salamander	G2G3 S2S3	Threatened Threatened	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	50 400	1094 S:3	0	0	0	0	2	1	2	1	1	1	1
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	220 356	64 S:3	0	0	1	0	0	2	2	1	3	0	0
<i>Antrozous pallidus</i> pallid bat	G5 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBGW_H-High Priority	40 420	402 S:5	0	0	0	0	0	5	5	0	5	0	0
<i>Arctostaphylos andersonii</i> Anderson's manzanita	G2 S2?	None None	Rare Plant Rank - 1B.2	525 2,160	40 S:13	0	3	1	3	0	6	5	8	13	0	0
<i>Arctostaphylos imbricata</i> San Bruno Mountain manzanita	G1 S1	None Endangered	Rare Plant Rank - 1B.1	700 1,000	3 S:3	0	0	0	0	0	3	1	2	3	0	0
<i>Arctostaphylos montaraensis</i> Montara manzanita	G1 S1	None None	Rare Plant Rank - 1B.2	900 1,500	4 S:4	1	1	1	1	0	0	3	1	4	0	0
<i>Arctostaphylos pacifica</i> Pacific manzanita	G1 S1	None Endangered	Rare Plant Rank - 1B.2	1,045 1,045	1 S:1	0	0	1	0	0	0	0	1	1	0	0
<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	G2 S2	None None	Rare Plant Rank - 1B.2	380 2,300	15 S:13	2	0	3	1	0	7	10	3	13	0	0
<i>Ardea herodias</i> great blue heron	G5 S4	None None	CDF S-Sensitive IUCN_LC-Least Concern	1 5	132 S:2	1	0	0	0	0	1	1	1	2	0	0



Summary Table Report
California Department of Fish and Wildlife
California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks							Population Status		Presence	
						A	B	C	D	X	U	Historic > 20 yr	Recent ≤ 20 yr	Extant	Poss. Extrap.	Extirp.
<i>Asio flammeus</i> short-eared owl	G5 S3	None None	ABC_WLBCC-Watch List of Birds of Conservation Concern CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	9 S:1	0	0	0	0	0	0	0	0	1	0	0	0
<i>Asio otus</i> long-eared owl	G5 S3?	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	2,000 2,000	41 S:1	0	0	0	0	0	0	0	1	0	0	0
<i>Astragalinus pycnostachyus</i> var. <i>pycnostachyus</i> coastal marsh milk-vetch	G2T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	10 500	25 S:11	0	5	1	0	2	3	4	7	9	2	0
<i>Athene cucularia</i> burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	5 5	1857 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Banksia incredula</i> incredible harvestman	G1 S1	None None		1,110 1,110	1 S:1	0	0	0	0	0	0	0	1	0	0	0
<i>Caecidotea tomalensis</i> Tomales isopod	G2 S2	None None		2,100 2,100	6 S:1	0	0	1	0	0	0	1	0	1	0	0
<i>Calicina minor</i> Edgewood blind harvestman	G1 S1	None None		400 560	2 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>California macrophylla</i> round-leaved filaree	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive		155 S:1	0	0	0	0	0	0	1	0	1	0	0
<i>Callophrys mossii bayensis</i> San Bruno elfin butterfly	G4T1 S1	Endangered None	XERCES_C1-Critically Imperiled	450 1,320	10 S:7	2	0	0	0	0	5	4	3	7	0	0
<i>Carex comosa</i> bristly sedge	G5 S2	None None	Rare Plant Rank - 2B.1	0 0	29 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	G3T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	2 2	91 S:1	0	0	1	0	0	0	0	1	1	0	0



Summary Table Report
 California Department of Fish and Wildlife
 California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks							Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent ≤ 20 yr	Extant	Poss. Extirp.	Extirp.	
<i>Centromadia parryi</i> ssp. <i>parryi</i> pappose tarplant	G3T1 S1	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	23 23	29 S:1	0	0	0	1	0	0	0	0	1	0	0	0
<i>Charadrius alexandrinus nivosus</i> western snowy plover	G3T3 S2	Threatened None	ABC, WLBC- Watch List of Birds of Conservation Concern CDFW, SSC-Species of Special Concern USFWS, BCC-Birds of Conservation Concern	0 10	121 S:8	0	1	0	0	2	5	6	2	1	1	1	1
<i>Chloropyron maritimum</i> ssp. <i>paiuste</i> Point Reyes salty bird's-beak	G4T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	1 5	61 S:4	0	0	0	0	4	0	4	0	0	4	0	0
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> San Francisco Bay spineflower	G2T1 S1	None None	Rare Plant Rank - 1B.2	15 500	20 S:5	0	0	1	0	0	4	5	0	5	0	0	0
<i>Chorizanthe robusta</i> var. <i>robusta</i> robust spineflower	G2T1 S1	Endangered None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	150 300	22 S:2	0	0	0	0	2	0	2	0	0	2	0	0
<i>Cicindela hirticollis gravida</i> sandy beach tiger beetle	G5T2 S1	None None		10 10	34 S:1	0	0	0	0	1	0	1	0	0	0	0	1
<i>Circus cyaneus</i> northern harrier	G5 S3	None None	CDFW, SSC-Species of Special Concern IUCN_LC-Least Concern	5 10	43 S:2	0	1	0	0	0	1	1	1	1	2	0	0
<i>Cirsium andrewsii</i> Franciscan thistle	G3 S3	None None	Rare Plant Rank - 1B.2	80 450	27 S:3	0	0	0	0	1	2	2	1	2	1	1	0
<i>Cirsium fontinale</i> var. <i>fontinale</i> Crystal Springs fountain thistle	G2T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1	150 600	5 S:5	0	1	3	0	1	0	1	4	4	1	1	0
<i>Cirsium praeteriens</i> lost thistle	GX SX	None None	Rare Plant Rank - 1A	50 50	1 S:1	0	0	0	0	1	0	1	0	0	1	1	0
<i>Clarkia concinna</i> ssp. <i>automixa</i> Santa Clara red ribbons	G8T3 S3.3	None None	Rare Plant Rank - 4.3	1,500 2,750	20 S:2	0	0	0	0	0	2	2	0	2	0	0	0
<i>Collinsia multiflor</i> San Francisco collinsia	G2 S2	None None	Rare Plant Rank - 1B.2	100 700	25 S:10	1	1	0	0	0	8	8	2	10	0	0	0



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						A	B	C	D	X	U	Historic > 20 yr.	Recent <= 20 yr.	Extant	Poss. Extirp.	Extirp.				
<i>Cypseloides niger</i> black swift	G4 S2	None None	ABC_WLBCC-Watch List of Birds of Conservation Concern CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	20 20	46 S:1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Danaus plexippus</i> monarch butterfly	G5 S3	None None		40 200	334 S:15	0	5	0	1	4	14	1	14	0	1	14	0	0	0	1
<i>Dipodomys venustus venustus</i> Santa Cruz kangaroo rat	G4T1 S1	None None		5 600	14 S:3	0	0	0	0	3	3	0	3	0	0	3	0	0	0	0
<i>Dirca occidentalis</i> western leatherwood	G2G3 S2S3	None None	Rare Plant Rank - 1B.2	150 1,800	52 S:17	1	3	0	0	10	7	10	17	0	0	17	0	0	0	0
<i>Dufourea stagei</i> Stage's dufourine bee	G1G2 S1?	None None		700 700	1 S:1	0	0	0	0	1	1	0	1	0	0	1	0	0	0	0
<i>Elanus leucurus</i> white-tailed kite	G5 S3	None None	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern	5 5	158 S:3	0	0	0	0	3	3	0	3	0	0	3	0	0	0	0
<i>Emys marmorata</i> western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	100 525	1136 S:13	1	9	1	0	2	1	12	13	0	0	13	0	0	0	0
<i>Eriogonum nudum</i> var. <i>decurrens</i> Ben Lomond buckwheat	G5T1 S1	None None	Rare Plant Rank - 1B.1	2,400 2,400	5 S:1	0	0	0	0	1	1	0	1	0	0	1	0	0	0	0
<i>Eriophyllum latifolium</i> San Mateo woolly sunflower	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1	150 2,000	4 S:4	1	0	1	0	1	1	2	3	1	0	3	1	0	0	0
<i>Eryngium aristulatum</i> var. <i>hooveri</i> Hoover's button-celery	G5T1 S1	None None	Rare Plant Rank - 1B.1	80 80	16 S:1	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0
<i>Erysimum ammophilum</i> sand-loving wallflower	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	100 100	22 S:1	0	0	0	0	1	1	0	1	0	0	1	0	0	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.				
<i>Eucyclogobius newberryi</i> tidewater goby	G3 S2S3	Endangered None	AFS_EN-Endangered CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	15 20	117 S:3	0	2	0	0	0	0	0	0	0	1	0	0	3	0	0
<i>Euphydryas editha bayensis</i> Bay checkerspot butterfly	G5T1 S1	Threatened None	XERCES_C1-Critically Impaired	100 1,000	24 S:7	0	1	0	0	6	0	0	0	0	0	5	2	1	2	4
<i>Falco columbarius</i> merlin	G5 S3	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	65 65	34 S:1	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0
<i>Falco peregrinus anatum</i> American peregrine falcon	G4T4 S3S4	Delisted Delisted	CDF_S-Sensitive CDFW_FP-Fully Protected USFWS_BCC-Birds of Conservation Concern	5 5	34 S:1	0	0	0	0	0	1	0	0	0	0	1	1	1	0	0
<i>Fritillaria agrestis</i> stinkbells	G3 S3.2	None None	Rare Plant Rank - 4.2	30 30	32 S:1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0
<i>Fritillaria biflora</i> var. <i>ineziana</i> Hillsborough chocolate lily	G1T1Q S1	None None	Rare Plant Rank - 1B.1	300 525	2 S:2	0	1	0	0	0	1	2	0	0	2	0	2	0	0	0
<i>Fritillaria filifera</i> fragrant fritillary	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	295 800	69 S:8	1	4	0	0	0	3	6	2	0	8	0	2	0	0	0
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	G5T2 S2	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	4 480	111 S:15	1	3	2	0	0	9	13	2	0	15	0	2	0	0	0
<i>Grindelia hirsutula</i> var. <i>maritima</i> San Francisco gumplant	G5T1Q S1	None None	Rare Plant Rank - 3.2	200 1,000	15 S:3	0	0	0	0	0	3	3	0	0	3	0	0	3	0	0
<i>Helianthella castanea</i> Diablo helianthella	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	700 700	96 S:1	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0
<i>Hemizonia congesta</i> ssp. <i>congesta</i> white seaside tarplant	G5T2T3 S2S3	None None	Rare Plant Rank - 1B.2		33 S:2	0	0	0	0	1	1	2	0	0	1	0	0	1	1	0
<i>Hesperovax sparsiflora</i> var. <i>brevifolia</i> short-leaved evax	G4T2T3 S2S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	400 400	36 S:1	0	0	0	0	0	1	1	0	0	1	0	1	0	0	0
<i>Hesperocyparis abramsiana</i> var. <i>butanoensis</i> Butano Ridge cypress	G1T1 S1	Endangered Endangered	Rare Plant Rank - 1B.2	1,400 1,400	1 S:1	0	0	0	0	0	1	0	1	0	1	0	1	1	0	0



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<i>Hesperolinon congestum</i> Marin western flax	G2 S2	Threatened Threatened	Rare Plant Rank - 1B.1	200 700	26 S:11	0	4	5	0	2	0	2	0	3	8	9	2	0	
<i>Heteranthera dubia</i> water star-grass	G5 S1	None None	Rare Plant Rank - 2B.2		9 S:1	0	0	0	0	0	1		1	0	1	0	0	0	
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	G4T2 S2?	None None	Rare Plant Rank - 1B.1 USFS_S-Sensitive	300 600	38 S:3	0	0	0	0	0	3		2	1	3	0	0	0	
<i>Horkelia marifrensis</i> Point Reyes horkelia	G2 S2	None None	Rare Plant Rank - 1B.2	300 300	26 S:1	0	0	0	0	0	1		1	0	1	0	0	0	
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	G1G2 S1S2	None None		35 280	13 S:2	0	0	0	0	0	2		2	0	2	0	0	0	
<i>Hydroporus leechi</i> Leech's skyline diving beetle	G1? S1?	None None		680 680	13 S:1	0	0	0	0	0	1		1	0	0	0	1	0	
<i>Ischnura gemina</i> San Francisco forktail damselfly	G2 S2	None None	IUCN_VU-Vulnerable	25 75	7 S:3	0	0	0	0	0	3		1	2	3	0	0	0	
<i>Lasturus cinereus</i> hoary bat	G5 S4?	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority		235 S:11	0	0	0	0	0	11		11	0	11	0	0	0	
<i>Lasthenia californica</i> ssp. <i>macrantha</i> perennial goldfields	G3T2 S2.2	None None	Rare Plant Rank - 1B.2	30 40	38 S:2	0	0	0	1	0	1		1	1	2	0	0	0	
<i>Lateralus jamaicensis coturniculus</i> California black rail	G4T1 S1	None Threatened	ABC_WLBCC-Watch List of Birds of Conservation Concern BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_NT-Near Threatened USFWS_BCC-Birds of Conservation Concern	5 5	241 S:2	0	1	0	0	0	1		1	1	2	0	0	0	
<i>Layia carmosa</i> beach laylia	G2 S2	Endangered Endangered	Rare Plant Rank - 1B.1	40 40	22 S:1	0	0	0	0	1	0		1	0	0	0	0	1	
<i>Legenere limosa</i> legenere	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	1,200 1,200	78 S:1	0	0	0	0	0	1		1	0	1	0	0	0	



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<i>Leptosiphon croceus</i> coast yellow leptosiphon	G1 S1	None None	Rare Plant Rank - 1B.1	500 500	4 S:3	0	0	1	0	2	0	0	2	0	1	1	2	0
<i>Leptosiphon rosaceus</i> rose leptosiphon	G1 S1	None None	Rare Plant Rank - 1B.1		25 S:6	0	0	0	0	5	1	5	1	1	1	5	0	
<i>Lessingia arachnoidea</i> Crystal Springs lessingia	G1 S1	None None	Rare Plant Rank - 1B.2	300 600	9 S:7	0	2	1	0	0	4	3	4	7	0	0	0	
<i>Lessingia germanorum</i> San Francisco lessingia	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1	500 500	5 S:1	0	0	1	0	0	0	0	1	1	1	0	0	
<i>Lichnanthe ursina</i> bumblebee scarab beetle	G2 S2	None None		15 15	8 S:1	0	0	0	0	0	1	1	0	1	0	0	0	
<i>Limnanthes douglasii ssp. ornduffii</i> Ornduff's meadowfoam	G4T1 S1	None None	Rare Plant Rank - 1B.1	30 50	2 S:2	0	0	0	0	1	1	0	2	1	1	1	0	
<i>Limnanthes douglasii ssp. sulphurea</i> Point Reyes meadowfoam	G4T2 S2	None Endangered	Rare Plant Rank - 1B.2	240 240	12 S:1	0	0	1	0	0	0	1	0	1	1	0	0	
<i>Malacothamnus aboriginum</i> Indian Valley bush-mallow	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive		40 S:1	0	0	0	0	0	1	1	0	1	0	0	0	
<i>Malacothamnus arcuatus</i> arcuate bush-mallow	G2Q S2.2	None None	Rare Plant Rank - 1B.2	10 700	21 S:8	0	0	1	1	1	5	6	2	7	0	0	1	
<i>Malacothamnus davidsonii</i> Davidson's bush-mallow	G2 S2	None None	Rare Plant Rank - 1B.2		40 S:3	0	0	0	0	0	3	3	0	3	0	0	0	
<i>Malacothamnus haliii</i> Hall's bush-mallow	G2Q S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive		37 S:2	0	0	0	0	0	2	2	0	2	0	0	0	
<i>Melospiza melodia pusillula</i> Alameda song sparrow	G5T2? S2?	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	4 70	38 S:12	0	6	0	0	0	6	6	6	12	0	0	0	
<i>Microcina edgewoodensis</i> Edgewood Park micro-blind harvestman	G1 S1	None None		600 600	1 S:1	0	0	0	0	0	1	1	0	1	0	0	0	
<i>Microseris paludosa</i> marsh microseris	G2 S2.2	None None	Rare Plant Rank - 1B.2	40 40	31 S:2	0	0	0	0	2	0	2	0	0	1	0	1	



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<i>Monolopia graciflora</i> woodland woollythreads	G2G3 S2S3	None None	Rare Plant Rank - 1B.2	1,500 1,500	45 S:5	0	0	0	0	0	5	3	2	5	0	0
<i>Monterey Pine Forest</i> Monterey Pine Forest	G1 S1.1	None None		400 400	11 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Myiopharodon conocephalus</i> hardhead	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	20 20	32 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Myotis thysanodes</i> fringed myotis	G4 S4	None None	BLM_S-Sensitive IUCN_LC-Least Concern WBWG_H-High Priority	500 500	82 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>N. Central Coast Calif. Roach/Stickback/Steelhead Stream</i> N. Central Coast Calif. Roach/Stickback/Steelhead Stream	GNR SNR	None None		130 200	2 S:2	0	2	0	0	0	0	2	0	2	0	0
<i>Neotoma fuscipes annexens</i> San Francisco dusky-footed woodrat	G5T2T3 S2S3	None None	CDFW_SSC-Species of Special Concern	262 500	11 S:4	0	2	1	0	0	1	0	4	4	0	0
<i>North Central Coast Steelhead/Sculpin Stream</i> North Central Coast Steelhead/Sculpin Stream	GNR SNR	None None		160 160	1 S:1	0	1	0	0	0	0	1	0	1	0	0
<i>Northern Coastal Salt Marsh</i> Northern Coastal Salt Marsh	G3 S3.2	None None		10 15	53 S:6	0	1	0	0	0	5	6	0	6	0	0
<i>Northern Interior Cypress Forest</i> Northern Interior Cypress Forest	G2 S2.2	None None		1,510 1,510	22 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Northern Maritime Chaparral</i> Northern Maritime Chaparral	G1 S1.2	None None		1,000 1,400	17 S:2	1	0	0	0	0	1	2	0	2	0	0
<i>Nyctinomops macrotis</i> big free-tailed bat	G6 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBWG_MH-Medium-High Priority	150 150	32 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Oncorhynchus mykiss irideus</i> steelhead - central California coast DPS	G5T2Q S2	Threatened None	AFS_TH-Threatened	100 1,200	38 S:9	0	3	0	0	0	6	5	4	9	0	0



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<i>Orthotrichum kellmanii</i> Kellman's bristle moss	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	2,133 2,133	3 S:1	0	0	0	0	0	0	0	0	1	0	0	0
<i>Pedicularis dudleyi</i> Dudley's housewort	G2 S2	None Rare	Rare Plant Rank - 1B.2 USFS_S-Sensitive	500 520	12 S:2	0	1	0	0	0	1	2	0	0	0	0	0
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1	500 520	14 S:4	1	0	0	0	2	1	3	1	1	1	1	1
<i>Phalacrocorax auritus</i> double-crested cormorant	G5 S3	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	1 30	37 S:2	1	0	0	0	0	1	1	1	1	0	0	0
<i>Pinus radiata</i> Monterey pine	G1 S1	None None	Rare Plant Rank - 1B.1	300 300	5 S:1	1	0	0	0	0	0	1	0	0	1	0	0
<i>Piperia candida</i> white-flowered rein orchid	G3? S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	500 500	87 S:2	0	0	0	0	0	2	1	1	1	2	0	0
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcornflower	G3T2Q S2.2	None None	Rare Plant Rank - 1B.2	40 1,250	12 S:6	1	1	0	0	0	4	4	2	6	0	0	0
<i>Plagiobothrys diffusus</i> San Francisco popcornflower	G1Q S1	None Endangered	Rare Plant Rank - 1B.1	160 160	12 S:1	0	0	1	0	0	0	1	0	1	0	0	0
<i>Plebejus icaroides missionensis</i> Mission blue butterfly	G5T1 S1	Endangered None	XERCES_CI-Critically Impaired	400 750	14 S:10	0	1	0	0	0	9	2	8	10	0	0	0
<i>Polemonium carneum</i> Oregon polemonium	G4 S1	None None	Rare Plant Rank - 2B.2	16 S:1	16 S:1	0	0	0	0	0	1	1	0	1	0	0	0
<i>Potentilla hickmanii</i> Hickman's cinquefoil	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1	25 300	5 S:2	0	1	0	0	1	0	1	1	1	0	0	1
<i>Railus longirostris obsoletus</i> California clapper rail	G5T1 S1	Endangered Endangered	ABC_WLBCC-Watch List of Birds of Conservation Concern CDFW_FP-Fully Protected	0 15	92 S:11	2	2	3	0	1	3	4	7	10	1	0	0
<i>Rana boylei</i> foothill yellow-legged frog	G3 S2S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	370 370	805 S:1	0	1	0	0	0	0	0	1	1	0	0	0



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<i>Rana draytonii</i> California red-legged frog	G2G3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	5 4,005	1335 S:97	22	26	19	1	0	29	0	0	0	0	9	88	97	0	0
<i>Reithrodontomys raviventris</i> sail-marsh harvest mouse	G1G2 S1S2	Endangered Endangered	CDFW_FP-Fully Protected IUCN_EN-Endangered	0 3	S:7	0	2	2	0	0	3	7	0	0	0	7	0	7	0	0
<i>Riparia riparia</i> bank swallow	G5 S2S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	30 30	S:2	0	0	0	0	0	2	2	0	0	2	0	0	2	0	0
<i>Sacramento-San Joaquin Coastal Lagoon</i> Sacramento-San Joaquin Coastal Lagoon	GNR SNR	None None		10 10	S:2	2	0	0	0	0	0	2	0	0	2	0	0	2	0	0
<i>Serpentine Bunchgrass</i> Serpentine Bunchgrass	G2 S2.2	None None		500 5,800	S:5	22	2	1	0	0	1	5	0	0	5	0	5	0	0	0
<i>Silene verecunda ssp. verecunda</i> San Francisco campion	G5T2 S2.2	None None	Rare Plant Rank - 1B.2	600 1,500	S:3	12	0	0	0	0	1	3	0	0	2	0	0	2	1	0
<i>Sorex vagrans halicoetes</i> salt-marsh wandering shrew	G5T1 S1	None None	CDFW_SSC-Species of Special Concern	2 2	S:2	12	0	0	0	0	2	2	0	0	2	0	0	2	0	0
<i>Speyeria callippe callippe</i> callippe silverspot butterfly	G5T1 S1	Endangered None	XERCES_CI-Critically Imperiled	400 900	S:5	7	0	1	0	0	4	2	3	0	2	3	5	0	0	0
<i>Speyeria zerene myrtilae</i> Myrtle's silverspot butterfly	G5T1 S1	Endangered None	XERCES_CI-Critically Imperiled	20 60	S:3	17	0	0	0	0	3	0	0	0	3	0	0	0	0	3
<i>Spirinchus thalichthys</i> longfin smelt	G5 S1	Candidate Threatened	CDFW_SSC-Species of Special Concern	0 20	S:2	45	0	0	0	0	2	1	1	0	2	1	2	0	0	0
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	G2 S2.2	None None	Rare Plant Rank - 1B.2	875 875	S:1	16	0	0	0	0	1	1	0	0	1	0	1	0	0	0
<i>Sternula antillarum browni</i> California least tern	G4T2T3Q S2S3	Endangered Endangered	ABC_WLBCC-Watch List of Birds of Conservation Concern CDFW_FP-Fully Protected	1 1	S:2	67	0	0	0	0	1	2	0	0	2	0	1	0	0	1
<i>Stuckenia filiformis ssp. alpina</i> slender-leaved pondweed	G5T5 S3	None None	Rare Plant Rank - 2B.2	50 50	S:2	21	0	0	0	0	2	2	0	0	2	0	2	0	0	0



Summary Table Report

California Department of Fish and Wildlife
California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks							Population Status		Presence	
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extrtp.	Extrtp.
<i>Taxidea taxus</i> American badger	G5 S4	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	70 1,500	476 S:3	0	0	0	0	0	0	3	0	0	0	0
<i>Thamnophis sirtalis tetrataenia</i> San Francisco garter snake	G5T2Q S2	Endangered Endangered	CDFW_FP-Fully Protected	10 1,750	40 S:39	8	13	11	0	0	7	16	23	39	0	0
<i>Trachusa gummifera</i> San Francisco Bay Area leaf-cutter bee	G1 S1	None None		200 200	2 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Trifolium amoenum</i> showy rancho clover	G1 S1	Endangered None	Rare Plant Rank - 1B.1		26 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Trifolium hydrophilum</i> saline clover	G2 S2	None None	Rare Plant Rank - 1B.2		49 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Triphysaria floribunda</i> San Francisco owl's-clover	G2 S2.2	None None	Rare Plant Rank - 1B.2	5 125	41 S:5	0	0	0	0	1	4	5	0	4	0	1
<i>Triquetrella californica</i> coastal triquetrella	G1 S1	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	1,180 1,180	11 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	G2G3 S2S3	None None	IUCN_DD-Data Deficient	3 40	39 S:2	0	1	0	0	0	1	1	1	2	0	0
<i>Usnea longissima</i> Methusalem's beard lichen	G4 S4	None None	Rare Plant Rank - 4.2 BLM_S-Sensitive	590 2,040	206 S:2	0	0	0	0	2	0	1	1	0	1	1
<i>Valley Needlegrass Grassland</i> Valley Needlegrass Grassland	G3 S3.1	None None		400 1,000	45 S:2	1	0	0	0	0	1	2	0	2	0	0
<i>Valley Oak Woodland</i> Valley Oak Woodland	G3 S2.1	None None		40 40	91 S:1	0	0	0	0	0	1	1	0	1	0	0

Plant List

82 matches found. [Click on scientific name for details](#)

Search Criteria
Found in 9 Quads around 37122E3

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Acanthomintha duttonii	San Mateo thorn-mint	Lamiaceae	annual herb	1B.1	S1	G1
Allium peninsulare var. franciscanum	Franciscan onion	Alliaceae	perennial bulbiferous herb	1B.2	S1	G5T1
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	1B.2	S2?	G2?
Androsace elongata ssp. acuta	California androsace	Primulaceae	annual herb	4.2	S3.2?	G5?T3T4
Arabis blepharophylla	coast rockcress	Brassicaceae	perennial herb	4.3	S3.3?	G3
Arctostaphylos andersonii	Anderson's manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2?	G2
Arctostaphylos franciscana	Franciscan manzanita	Ericaceae	perennial evergreen shrub	1B.1	S1	G1
Arctostaphylos imbricata	San Bruno Mountain manzanita	Ericaceae	perennial evergreen shrub	1B.1	S1	G1
Arctostaphylos montana ssp. ravenii	Presidio manzanita	Ericaceae	perennial evergreen shrub	1B.1	S1	G3T1
Arctostaphylos montaraensis	Montara manzanita	Ericaceae	perennial evergreen shrub	1B.2	S1	G1
Arctostaphylos pacifica	Pacific manzanita	Ericaceae	evergreen shrub	1B.2	S1	G1
Arctostaphylos regismontana	Kings Mountain manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2	G2
Astragalus nuttallii var. nuttallii	ocean bluff milk-vetch	Fabaceae	perennial herb	4.2	S3.2	G3T3
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	Fabaceae	perennial herb	1B.2	S2	G2T2
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	1B.2	S2	G2T2
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	4.2	S3.2?	G4
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	4.2	S3.2	G3
Castilleja ambigua var. ambigua	Johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	4.2	S3	G4T3T4
Centromadia parryi ssp. congdonii	Congdon's tarplant	Asteraceae	annual herb	1B.1	S2	G3T2
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	1B.2	S1	G3T1
Chloropyron maritimum ssp. palustre	Point Reyes bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2	G4?T2
Chorizanthe cuspidata var. cuspidata	San Francisco Bay spineflower	Polygonaceae	annual herb	1B.2	S1	G2T1
Chorizanthe robusta var. robusta	robust spineflower	Polygonaceae	annual herb	1B.1	S1	G2T1
Cirsium andrewsii	Franciscan thistle	Asteraceae	perennial herb	1B.2	S3	G3
Cirsium fontinale var. fontinale	Crystal Springs fountain thistle	Asteraceae	perennial herb	1B.1	S1	G2T1
Cirsium occidentale var. compactum	compact cobwebby thistle	Asteraceae	perennial herb	1B.2	S1	G3G4T1
Cirsium praeteriens	lost thistle	Asteraceae	perennial herb	1A	SX	GX
Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	1B.2	S2	G2
Cypripedium fasciculatum	clustered lady's-slipper	Orchidaceae	perennial rhizomatous herb	4.2	S3.2	G4
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	1B.2	S2S3	G2G3
Elymus californicus	California bottle-brush grass	Poaceae	perennial herb	4.3	S3.3	G3

<u>Equisetum palustre</u>	marsh horsetail	Equisetaceae	perennial rhizomatous herb	3	S1S2	G5
<u>Eriophyllum latilobum</u>	San Mateo woolly sunflower	Asteraceae	perennial herb	1B.1	S1	G1
<u>Eryngium aristulatum</u> var. <u>hooveri</u>	Hoover's button-celery	Apiaceae	annual / perennial herb	1B.1	S1	G5T1
<u>Erysimum franciscanum</u>	San Francisco wallflower	Brassicaceae	perennial herb	4.2	S3.2	G3
<u>Fritillaria biflora</u> var. <u>inezlana</u>	Hillsborough chocolate lily	Liliaceae	perennial bulbiferous herb	1B.1	S1	G1QT1Q
<u>Fritillaria lanceolata</u> var. <u>tristulis</u>	Marin checker lily	Liliaceae	perennial bulbiferous herb	1B.1	S2	G5T2
<u>Fritillaria liliacea</u>	fragrant fritillary	Liliaceae	perennial bulbiferous herb	1B.2	S2	G2
<u>Gilia capitata</u> ssp. <u>chamissonis</u>	blue coast gilia	Polemoniaceae	annual herb	1B.1	S2	G5T2
<u>Grindella hirsutula</u> var. <u>maritima</u>	San Francisco gumplant	Asteraceae	perennial herb	3.2	S1	G5T1Q
<u>Helianthella castanea</u>	Diablo helianthella	Asteraceae	perennial herb	1B.2	S2	G2
<u>Hemizonia congesta</u> ssp. <u>congesta</u>	white seaside tarplant	Asteraceae	annual herb	1B.2	S2S3	G5T2T3
<u>Hesperevax sparsiflora</u> var. <u>brevifolia</u>	short-leaved evax	Asteraceae	annual herb	1B.2	S2S3	G4T2T3
<u>Hesperolinon congestum</u>	Marin western flax	Linaceae	annual herb	1B.1	S2	G2
<u>Heteranthera dubia</u>	water star-grass	Pontederiaceae	perennial herb	2B.2	S1	G5
<u>Horkelia cuneata</u> var. <u>sericea</u>	Kellogg's horkelia	Rosaceae	perennial herb	1B.1	S2?	G4T2
<u>Horkelia marinensis</u>	Point Reyes horkelia	Rosaceae	perennial herb	1B.2	S2	G2
<u>Iris longipetala</u>	coast iris	Iridaceae	perennial rhizomatous herb	4.2	S3.2	G3
<u>Lasthenia coniugens</u>	Contra Costa goldfields	Asteraceae	annual herb	1B.1	S1	G1
<u>Leptosiphon ambiguus</u>	serpentine leptosiphon	Polemoniaceae	annual herb	4.2	S3.2	G3
<u>Leptosiphon croceus</u>	coast yellow leptosiphon	Polemoniaceae	annual herb	1B.1	S1	G1
<u>Leptosiphon rosaceus</u>	rose leptosiphon	Polemoniaceae	annual herb	1B.1	S1	G1
<u>Lessingia arachnoidea</u>	Crystal Springs lessingia	Asteraceae	annual herb	1B.2	S1	G1
<u>Lessingia germanorum</u>	San Francisco lessingia	Asteraceae	annual herb	1B.1	S1	G1
<u>Lessingia hololeuca</u>	woolly-headed lessingia	Asteraceae	annual herb	3	S3	G3
<u>Lilium maritimum</u>	coast lily	Liliaceae	perennial bulbiferous herb	1B.1	S2	G2
<u>Limnanthes douglasii</u> ssp. <u>ornduffii</u>	Ornduff's meadowfoam	Limnanthaceae	annual herb	1B.1	S1	G4T1
<u>Lupinus arboreus</u> var. <u>eximius</u>	San Mateo tree lupine	Fabaceae	perennial evergreen shrub	3.2	S2.2	G2Q
<u>Malacothamnus aboriginum</u>	Indian Valley bush-mallow	Malvaceae	perennial deciduous shrub	1B.2	S2	G2
<u>Malacothamnus arcuatus</u>	arcuate bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2.2	G2Q
<u>Malacothamnus davidsonii</u>	Davidson's bush-mallow	Malvaceae	perennial deciduous shrub	1B.2	S2	G2
<u>Malacothamnus hallii</u>	Hall's bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2	G2Q
<u>Micropus amphibolus</u>	Mt. Diablo cottonweed	Asteraceae	annual herb	3.2	S3.2?	G3
<u>Monardella sinuata</u> ssp. <u>niqrescens</u>	northern curly-leaved monardella	Lamiaceae	annual herb	1B.2	S2	G2
<u>Monolopia gracilens</u>	woodland woollythreads	Asteraceae	annual herb	1B.2	S2S3	G2G3
<u>Navarretia myersii</u> ssp. <u>myersii</u>	pincushion navarretia	Polemoniaceae	annual herb	1B.1	S1	G1T1
<u>Pedicularis dudleyi</u>	Dudley's lousewort	Orobanchaceae	perennial herb	1B.2	S2	G2
<u>Pentachaeta bellidiflora</u>	white-rayed pentachaeta	Asteraceae	annual herb	1B.1	S1	G1
<u>Plaglobothrys chorisianus</u> var. <u>chorisianus</u>	Choris' popcorn-flower	Boraginaceae	annual herb	1B.2	S2.2	G3T2Q
<u>Polemonium carneum</u>	Oregon polemonium	Polemoniaceae	perennial herb	2B.2	S1	G4
<u>Potentilla hickmanii</u>	Hickman's cinquefoil	Rosaceae	perennial herb	1B.1	S1	G1
<u>Ranunculus lobbii</u>	Lobb's aquatic buttercup	Ranunculaceae	annual herb	4.2	S3.2	G4
<u>Silene verecunda</u> ssp. <u>verecunda</u>	San Francisco campion	Caryophyllaceae	perennial herb	1B.2	S2.2	G5T2
<u>Streptanthus albidus</u> ssp. <u>peramoenus</u>	most beautiful jewel-flower	Brassicaceae	annual herb	1B.2	S2.2	G2T2

<u>Stuckenia filiformis ssp. alpina</u>	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb	2B.2	S3	G5T5
<u>Suaeda californica</u>	California seablite	Chenopodiaceae	perennial evergreen shrub	1B.1	S1	G1
<u>Trifolium amoenum</u>	two-fork clover	Fabaceae	annual herb	1B.1	S1	G1
<u>Trifolium hydrophilum</u>	saline clover	Fabaceae	annual herb	1B.2	S2	G2
<u>Triphysaria floribunda</u>	San Francisco owl's-clover	Orobanchaceae	annual herb	1B.2	S2.2	G2
<u>Tricouetrella californica</u>	coastal triquetrella	Pottiaceae	moss	1B.2	S1	G1
<u>Tropidocarpum capparideum</u>	caper-fruited tropidocarpum	Brassicaceae	annual herb	1B.1	S1	G1
<u>Usnea longissima</u>	Methuselah's beard lichen	Parmeliaceae	fruticose lichen (epiphytic)	4.2	S4	G4

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United States Department of the Interior



FISH AND WILDLIFE SERVICE



Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

June 23, 2014

Document Number: 140623025652

Mr. Michael Wood
Wood Biological Consulting Inc.
65 Alta Hill Way
Walnut Creek, CA 94595

Subject: Species List for Beeson Property San Mateo County

Dear: Mr. Wood

We are sending this official species list in response to your June 23, 2014 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be September 21, 2014.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found http://www.fws.gov/sacramento/es/Branch-Contacts/es_branch-contacts.htm.

Endangered Species Division

TAKE PRIDE
IN AMERICA 

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

**Federal Endangered and Threatened Species that Occur in
or may be Affected by Projects in the Counties and/or
U.S.G.S. 7 1/2 Minute Quads you requested**

Document Number: 140623025652

Current as of: June 23, 2014

Quad Lists

Listed Species

Invertebrates

- Euphydryas editha bayensis*
bay checkerspot butterfly (T)
Critical habitat, bay checkerspot butterfly (X)
- Haliotes cracherodii*
black abalone (E) (NMFS)
- Haliotes sorenseni*
white abalone (E) (NMFS)
- Icaricia icarioides missilonensis*
mission blue butterfly (E)
- Speyeria callippe callippe*
callippe silverspot butterfly (E)
- Speyeria zerene myrtleae*
Myrtle's silverspot butterfly (E)

Fish

- Acipenser medirostris*
green sturgeon (T) (NMFS)
- Eucyclogobius newberryi*
tidewater goby (E)
- Hypomesus transpacificus*
delta smelt (T)
- Oncorhynchus kisutch*
coho salmon - central CA coast (E) (NMFS)
- Oncorhynchus mykiss*
Central California Coastal steelhead (T) (NMFS)
Central Valley steelhead (T) (NMFS)
Critical habitat, Central California coastal steelhead (X) (NMFS)
- Oncorhynchus tshawytscha*
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

- Ambystoma californiense*
California tiger salamander, central population (T)
- Rana draytonii*
California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Reptiles

- Caretta caretta*
loggerhead turtle (T) (NMFS)
- Chelonia mydas (incl. agassizi)*
green turtle (T) (NMFS)
- Dermodochelys coriacea*
leatherback turtle (E) (NMFS)
- Lepidochelys olivacea*
olive (=Pacific) ridley sea turtle (T) (NMFS)
- Thamnophis sirtalis tetrataenia*
San Francisco garter snake (E)

Birds

- Brachyramphus marmoratus*

Critical habitat, marbled murrelet (X)
marbled murrelet (T)

Charadrius alexandrinus nivosus
western snowy plover (T)

Diomedea albatrus
short-tailed albatross (E)

Pelecanus occidentalis californicus
California brown pelican (E)

Rallus longirostris obsoletus
California clapper rail (E)

Sternula antillarum (=Sterna, =albifrons) browni
California least tern (E)

Mammals

Arctocephalus townsendi
Guadalupe fur seal (T) (NMFS)

Balaenoptera borealis
sei whale (E) (NMFS)

Balaenoptera musculus
blue whale (E) (NMFS)

Balaenoptera physalus
finback (=fin) whale (E) (NMFS)

Enhydra lutris nereis
southern sea otter (T)

Eubalaena (=Balaena) *glacialis*
right whale (E) (NMFS)

Eumetopias jubatus
Steller (=northern) sea-lion (T) (NMFS)

Physeter catodon (=macrocephalus)
sperm whale (E) (NMFS)

Reithrodontomys raviventris
salt marsh harvest mouse (E)

Plants

Acanthomintha duttonii
San Mateo thornmint (E)

Arctostaphylos hookeri ssp. *ravenii*
Presidio (=Raven's) manzanita (E)

Chorizanthe robusta var. *robusta*
robust spineflower (E)

Cirsium fontinale var. *fontinale*
fountain thistle (E)

Eriophyllum latilobum
San Mateo woolly sunflower (E)

Hesperolinon congestum
Marin dwarf-flax (=western flax) (T)

Layia carnosa
beach layia (E)

Lessingia germanorum
San Francisco lessingia (E)

Pentachaeta bellidiflora
white-rayed pentachaeta (E)

Potentilla hickmanii
Hickman's potentilla (=cinquefoil) (E)

Trifolium amoenum
showy Indian clover (E)

Proposed Species

Plants

Arctostaphylos Franciscana
Critical Habitat, Franciscan Manzanita (X)

Quads Containing Listed, Proposed or Candidate Species:

PALO ALTO (428B)
WOODSIDE (429A)

County Lists

San Mateo County

Listed Species

Invertebrates

- Branchinecta lynchi*
vernal pool fairy shrimp (T)
- Euphydryas editha bayensis*
bay checkerspot butterfly (T)
Critical habitat, bay checkerspot butterfly (X)
- Haliotes cracherodii*
black abalone (E) (NMFS)
- Haliotes sorenseni*
white abalone (E) (NMFS)
- Icaricia icarioides missionensis*
mission blue butterfly (E)
- Leptodurus packardii*
vernal pool tadpole shrimp (E)
- Speyeria callippe callippe*
callippe silverspot butterfly (E)
- Speyeria zerene myrtleae*
Myrtle's silverspot butterfly (E)

Fish

- Acipenser medirostris*
green sturgeon (T) (NMFS)
- Eucyclogobius newberryi*
critical habitat, tidewater goby (X)
tidewater goby (E)
- Hypomesus transpacificus*
delta smelt (T)
- Oncorhynchus kisutch*
coho salmon - central CA coast (E) (NMFS)
Critical habitat, coho salmon - central CA coast (X) (NMFS)
- Oncorhynchus mykiss*
Central California Coastal steelhead (T) (NMFS)
Central Valley steelhead (T) (NMFS)
Critical habitat, Central California coastal steelhead (X) (NMFS)
- Oncorhynchus tshawytscha*
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

- Ambystoma californiense*
California tiger salamander, central population (T)

Rana draytonii

California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Reptiles

Caretta caretta

loggerhead turtle (T) (NMFS)

Chelonia mydas (incl. *agassizi*)

green turtle (T) (NMFS)

Dermochelys coriacea

leatherback turtle (E) (NMFS)

Lepidochelys olivacea

olive (=Pacific) ridley sea turtle (T) (NMFS)

Masticophis lateralis euryxanthus

Alameda whipsnake [=striped racer] (T)
Critical habitat, Alameda whipsnake (X)

Thamnophis sirtalis tetrataenia

San Francisco garter snake (E)

Birds

Brachyramphus marmoratus

Critical habitat, marbled murrelet (X)
marbled murrelet (T)

Charadrius alexandrinus nivosus

Critical habitat, western snowy plover (X)
western snowy plover (T)

Diomedea albatrus

short-tailed albatross (E)

Pelecanus occidentalis californicus

California brown pelican (E)

Rallus longirostris obsoletus

California clapper rail (E)

Sternula antillarum (= *Sterna*, = *albifrons*) *browni*

California least tern (E)

Mammals

Arctocephalus townsendi

Guadalupe fur seal (T) (NMFS)

Balaenoptera borealis

sei whale (E) (NMFS)

Balaenoptera musculus

blue whale (E) (NMFS)

Balaenoptera physalus

finback (=fin) whale (E) (NMFS)

Enhydra lutris nereis

southern sea otter (T)

Eubalaena (=Balaena) glacialis
right whale (E) (NMFS)

Eumetopias jubatus
Steller (=northern) sea-lion (T) (NMFS)

Physeter catodon (=macrocephalus)
sperm whale (E) (NMFS)

Reithrodontomys raviventris
salt marsh harvest mouse (E)

Plants

Acanthomintha duttonii
San Mateo thornmint (E)

Arctostaphylos hookeri ssp. ravenii
Presidio (=Raven's) manzanita (E)

Chorizanthe robusta var. robusta
robust spineflower (E)

Cirsium fontinale var. fontinale
fountain thistle (E)

Cupressus abramsiana
Santa Cruz cypress (E)

Eriophyllum latilobum
San Mateo woolly sunflower (E)

Hesperollinon congestum
Marin dwarf-flax (=western flax) (T)

Lasthenia conjugens
Contra Costa goldfields (E)

Layia carnosae
beach layia (E)

Lessingia germanorum
San Francisco lessingia (E)

Pentachaeta bellidiflora
white-rayed pentachaeta (E)

Potentilla hickmanii
Hickman's potentilla (=cinquefoil) (E)

Suaeda californica
California sea blite (E)

Trifolium amoenum
showy Indian clover (E)

Proposed Species

Plants

Key:

- (E) *Endangered* - Listed as being in danger of extinction.
- (T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
- (P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat* - Area essential to the conservation of a species.
- (PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
- (C) *Candidate* - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online [Inventory of Rare and Endangered Plants](#).

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our [Protocol](#) and [Recovery Permits](#) pages.

For plant surveys, we recommend using the [Guidelines for Conducting and Reporting Botanical Inventories](#). The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal [consultation](#) with the Service.

During formal consultation, the Federal agency, the applicant and the Service work together to

avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our [Map Room](#) page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

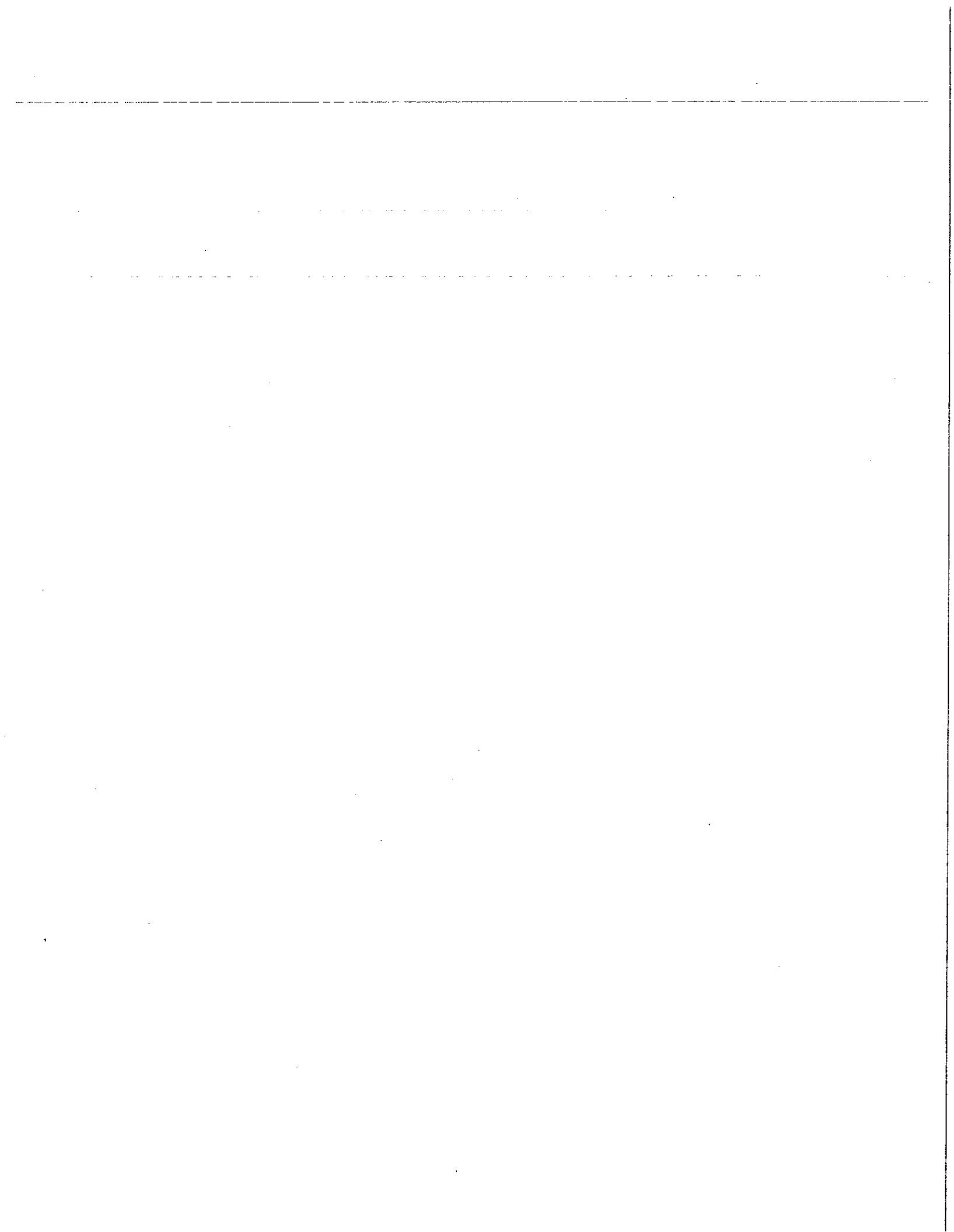
The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. [More info](#)

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

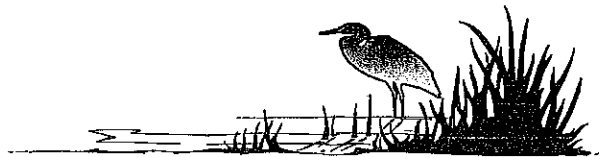
Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be September 21, 2014.





County of San Mateo - Planning and Building Department

ATTACHMENT H



WOOD BIOLOGICAL CONSULTING, Inc.

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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 Creek Setback Evaluation, Zmay Property Subdivision, San Mateo County

Dear Mr. Zmay:

This memorandum presents an evaluation of the upper reaches of two creek channels that originate 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, 2007). The delineation (Figure 2, Attachment A) was found to still be valid based on fieldwork performed on June 26, 2014 (Wood Biological Consulting Inc., 2015).

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 assist 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 as 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).

The objective of this evaluation is to assess the adequacy of a horizontal setback between the flow-line of two jurisdictional waters of the U.S. and the proposed building envelopes in four residential lots. This evaluation is based on a review of the County of San Mateo's General Plan and zoning ordinances in relation to setbacks from creeks, wetlands, and sensitive habitats. Although not a signatory agency to the Santa Clara Valley Water Resources Protection Collaborative's *Guidelines & Standards for Land Use Near Streams* (SCVWRPC, 2006; hereafter referred to as *Guidelines*), this document serves as a suitable baseline for evaluating the current project.

SITE CHARACTERIZATION

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 property is situated on steep terrain with west to southwest-facing slopes.

As shown in Figure 3 (Attachment A), two stream channels are present in the vicinity of the proposed four lots; neither feature occurs within the proposed lot boundaries. Both channels are tributaries to San Mateo Creek, which empties into San Francisco Bay.

One channel is situated south of the proposed Lot #4 (Figure 3, Attachment A). It flows down a very steep slope. The incised channel has a scoured width ranging from 2-3 feet. The channel flows only intermittently and is fed by a storm drain outlet from Parrot Drive at the top of the slope. No typical wetland or riparian vegetation is present; the dominant oak woodland canopy is neither restricted to the channel nor dependent on it as a water source. Due to the severity of the slope, the channel lacks the typical bed-and-bank configuration of stream courses on less severe gradients; a top-of-bank is not discernible. Nonetheless, taking even a conservative approach to defining the top of bank, it is safe to consider that the proposed building alignment of Lot #4 is beyond the top of bank of this channel. At its nearest point, the center line of the channel is 75 feet south of the lot boundary and 120 feet south of the likely building envelope.

A second intermittent channel originates approximately 45 feet below the down-slope borders of Lots 2 and 3 (Figure 3, Attachment A). No portion of these lots overlaps the channel or its top of bank and the proposed building envelopes are situated 170 feet away. Although a stand of Central Coast riparian scrub associated with the upper reaches of this channel does overlap the down-slope borders of Lots 2 and 3, its canopy is situated approximately 95 feet away from the proposed building envelopes. An isolated (i.e., not associated with a stream channel) stand of Central Coast scrub also overlaps the down-slope border of Lot #4; this stand is 80 feet from the building envelope (Figure 3, Attachment A).

1. ENVIRONMENTAL AND BIOLOGICAL SIGNIFICANCE OF THE RIPARIAN ZONE

Riparian vegetation plays a crucial role in stabilizing the cross-section geometry in alluvial rivers and streams (Mount, 1995). Intertwined roots of woody plants physically hold the soil together, resisting lateral forces of surface flows that would erode the channel banks. The canopy of trees,

shrubs and vines intercept raindrops, lessening the force with which they strike the surface of the ground. Removal of forest canopy in riparian areas increases runoff rates and velocities, decreases infiltration and groundwater recharge, leads to erosion and sedimentation, and increases water turbidity, among other effects.

The riparian zone is at the interface between upland and wetland or aquatic systems. Biologically, healthy riparian zones are species diverse, highly productive environments, providing structural diversity, breeding and foraging opportunities for a wide host of organisms. In California, 25 percent of mammal, 80 percent of amphibian, and 40 percent of reptiles are limited to or dependent on riparian habitats, and over 135 species of California birds depend on or prefer riparian habitats. (Sorenson, 1989). Of the 3,011 plant and animal species in California that are considered rare, 728 (24.2 percent) occur in riparian, wetland or other aquatic habitats. It is estimated that as much as 89 percent of the extent of riparian areas in California have been lost or degraded since colonization (Noss and Peters, 1995).

Riparian vegetation is particularly critical for the support and maintenance of native fisheries. Tree canopies shade the surface of flowing streams, keeping water temperatures low. Riparian vegetation preserves water quality by restricting erosion and sedimentation. Tree roots stabilize channel banks and contribute to the formation of riffles and pools, which are essential for breeding, feeding, and over-summering. Riparian vegetation also slows the movement of water downstream and through the soil profile, resulting in its gradual release into stream channels, prolonging the availability of surface water into the dry summer season. Large woody debris creates hiding spaces for frye and adult fish, and leaf litter promotes invertebrate populations, an essential food source for fish species.

As outlined in the *Guidelines*, the Santa Clara Valley Water Resources Protection Collaborative (SCVWRPC, 2006) emphasizes the vital role of riparian vegetation in “maintaining stream stability, providing valuable wildlife habitat, and moderating downstream flooding”, as well as regulating water quality by filtering “pollutants from stormwater, such as oil and grease from roadways, fertilizer runoff from lawns, and excess sediments from upstream.”¹ Specifically, the streamside environment supports riparian vegetation and the functions riparian vegetation provides. Riparian vegetation benefits terrestrial species, as well as semi-aquatic amphibians and reptiles and fish. Such habitat functions include:

- Sediment stabilization: provided by riparian trees, shrubs, and grasses.
- Shading and water temperature moderation: provided by mature riparian shrubs and trees.
- Overhanging escape cover: provided by shrubs and grasses near the stream edge.
- Coarse particulate organic matter: organic material dropping into the stream in the form of leaves, insects, etc., that provide input for aquatic food webs.

¹ See page 4.3 of the *Guidelines*

- Bird breeding and foraging habitat: provided by mature native riparian species, such as cottonwoods and willows, oaks, other trees, shrubs, forbs, grasses, and the streambank itself.
- Foraging, refugia, aestivation, and breeding habitat for semi-aquatic amphibian and reptile species: provided by low vegetation, rocks, downed materials, and the streambanks itself.
- Foraging, breeding, hibernacula, and dispersal habitat for mammals: provided by the riparian vegetation and the streambanks substrate.

2. DEFINING THE LIMITS OF THE RIPARIAN ZONE

As defined in the *Guidelines*, the term riparian² generally means:

- 1) *On, or pertaining to, the banks of a stream.*
- 2) *Pertaining to the banks and other adjacent, terrestrial (as opposed to aquatic) environs of freshwater bodies, watercourses, and surface-emergent aquifers (e.g., springs, seeps, oases), whose imported waters provide soil moisture significantly in excess of that otherwise available through local precipitation -- soil moisture to potentially support a mesic vegetation distinguishable from that of the adjacent more xeric upland.*

The *Guidelines* define riparian vegetation³ as:

- 1) *Vegetation which occurs in and/or adjacent to a watercourse. For the purpose of administering Fish and Game Code Section 1600, et seq., this should be expanded to include vegetation adjacent to lakes as well.*
- 2) *Vegetation growing on or near the banks of a stream or other body of water on soils that exhibit some wetness characteristics during some portion of the growing season.*
- 3) *Vegetation that occurs along watercourse, and is structurally or floristically distinct from nearby, non-streamside vegetation.*
- 4) *Riparian vegetation is terrestrial vegetation that grows beside rivers, streams, and other freshwater bodies and that depends on these water sources for soil moisture greater than would otherwise be available from local precipitation.*

Trees and shrubs native to the San Mateo and Santa Clara counties, and eastern foothills of the Santa Cruz Mountains characteristic of riparian habitats in the strictest sense (i.e., aquatic or water-dependent) include alder (*Alnus* spp.), willows (*Salix* spp.), cottonwood (*Populus* spp.), dogwood (*Cornus* spp.), box elder (*Acer negunda* var. *californica*), California sycamore (*Platanus racemosa*), and Oregon ash (*Fraxinus latifolia*), among others.

² See page 11.4 of the *Guidelines*

³ See page 11.5 of the *Guidelines*

The mapping of riparian vegetation on a given property can be a relatively simple task that can be achieved by identifying the riparian plant species associated with a particular watercourse and delimiting the canopy edge on an aerial photograph or topographic map. However, for projects regulated under the California Lake and Streambed Alteration Program (LSAP)⁴, the California Department of Fish and Wildlife (CDFW) routinely extends its jurisdiction to include upland species when growing adjacent to water courses. Species normally associated with upland habitats such as oaks (*Quercus* spp.), California buckeye (*Aesculus californica*), and California bay (*Umbellularia californica*), among others, may also be regarded as riparian if such trees exert an ecological influence on the aquatic environment of the stream course.

The limits of the riparian zone, as currently recommended by the CDFW, extend to the outer edge of the dripline of native trees whose canopies extend over the tops of bank of a regulated stream course. A tree need not be rooted within a creek channel to be considered part of the riparian zone. For example, in areas where there is a continuous canopy of native trees extending beyond the top of bank, the CDFW will assume that they contribute to the habitat values for fish and wildlife species that occupy, or could occupy the channel. Thusly defined, such riparian trees provide shade and deposit downed wood and leaf debris on the channel banks, provide refuge sites and contribute nutrients to the stream, greatly enhancing wildlife habitat values.

Typical riparian habitat (i.e., vegetation dependent on the presence of surface water or a perched water table) is present on the subject property (e.g., Central Coast riparian scrub). However, the dominant canopy over most Lot #4 and portions of Lots 2 and 3 consists of coast live oaks and bay trees, which are not considered typical riparian species. Based on the four categories of riparian vegetation listed in the *Guidelines* (see above), the coast live oak/bay woodland on site does not occur on wetted soils (item #2), is not structurally or floristically distinct (item #3), and is not dependent on the hydrology of the creek (item #4). As such, the woodland canopy overlapping the subject channel is not regarded as typically riparian.

3. DETERMINING APPROPRIATE RIPARIAN SETBACKS OR BUFFERS

Background

Pursuant to Section 1600, et seq. of the California Fish and Game Code (CFGCC), the CDFW requires issuance of a Streambed Alteration Agreement (SAA) for any modifications to a creek channel below the top of bank. When authorization for modifications to a stream channel from the CDFW is required, the agency's permit will typically include conditions intended to preserve the integrity of the creek and its associated riparian habitats. A standard condition of most CDFW permits is the designation of a setback or buffer between the top of bank or outer edge of riparian habitat, whichever is greater, and the closest edge of pavement, structures, or actively used yards or playfields. Even without the need for a SAA, the CDFW can be expected to

⁴ California Fish and Game Code, Section 1600, et. seq.

comment on the California Environmental Quality Act (CEQA) document and to make similar recommendations to the lead agency.

The standard riparian setback, as routinely specified by the CDFW, is 100 feet from the top of bank or outward edge of riparian vegetation. However, a reduced setback may be justifiable based on site context and local conditions. The appropriate setback width will therefore usually be based on habitat values, size of watershed, connectivity to open space lands upstream and/or downstream, wildlife usage (as a corridor), and presence of federally or State-listed endangered, threatened, rare or candidate species. For intensively developed streamside lands in urban or suburban settings where there is limited function as a wildlife corridor, riparian setbacks of as little as 10-25 feet may be considered adequate from the perspective of the resource agencies.

As defined in the *Guidelines*, a riparian buffer is⁵:

Land next to a stream or river that is vegetated, usually with trees and shrubs, that serves as a protective filter for streams. A buffer helps to stabilize stream banks from washing away and to reduce the impact of upland sources of pollution by trapping, filtering, and converting sediments, nutrients, and other chemicals. In addition, a buffer helps supply food, cover, and thermal protection to fish and other wildlife. Riparian buffers can be 300 feet wide or 20 feet wide; it depends on the stream and the land around the stream.

For projects that do not require compliance with the LSAP, i.e., would not result in any impacts below the top of bank of a waters of the State, the appropriate creek setback is subject to the requirements of the lead agency.

In addition to the critical role buffer zones play in protecting the biological values of riparian vegetation and stream habitats, they are also important in providing long-term protection of property and structures from flooding and erosion. According to the *Guidelines*, setbacks for purposes of slope stability are typically measured from the top of bank and vary depending on geomorphic and hydrologic conditions of the stream, streambank characteristics such as composition and height, potential for instability or erosion, structure loading, and other environmental considerations.⁶ The *Guidelines* recommend minimum "slope stability protection areas", measured from top of bank, ranging from as wide as 25 feet for unarmored streams to as little as 10 feet for ephemeral streams.

Assessment of Study Area

As stated above, the location and extent of stream channels and wetlands/riparian habitat was found to be unchanged since performance of the 2007 study (Wood Biological Consulting Inc., 2015). The study area supports two small stands of typical riparian (e.g., Central Coast riparian scrub) vegetation (Figure 3, Attachment A). These stands are no less than 80 feet away from the nearest building envelope.

⁵ See page 11.4 of the *Guidelines*

⁶ See page 3.5 of the *Guidelines*

The oak/bay woodland overlapping the channel south of Lot #4 may be regarded as having an ecological influence on the channel by providing wildlife habitat and preserving water quality. However, construction within the proposed building envelope of this lot would not affect any trees that exert a direct ecological influence⁷ on the channel. As noted above, the building envelope is situated 120 feet from the channel center line.

Development within the proposed building envelopes of Lots 2 and 3 would also not affect any trees that exert a direct influence on the channel below these parcels. As noted above, the building envelopes are situated 170 feet away from the channel and approximately 95 feet from the nearest riparian canopy. However, the anticipated slide repair would require over-excavation of the slope adjacent to, or possibly encroaching within the dripline of Central Coast riparian scrub habitat. While the riparian vegetation at this location is not within a defined channel, it may have an adverse effect on the stand of willows here; such impacts may require authorization by federal and state agencies with jurisdiction over wetlands; mitigation measures for these impacts can be expected. Nonetheless, in terms of the creek setback issue, slide repair would be regarded as a temporary impact and would not be inconsistent with setback guidelines.

Irrespective of stream setback issues, the removal of trees will need to be evaluated pursuant to County Ordinances regulating Heritage Trees⁸ and Significant Trees.⁹

Based on the proposed reduced lot layout and building envelopes, the construction of four new residences is not likely to have any adverse effects on the stream environments. With the implementation of standard construction and post-construction Best Management Practices (BMPs), the protection of the channel and downstream water quality will be ensured. The distances between the proposed building envelopes as shown in Figure 3 (Attachment A) and channels and riparian habitat are expected to be consistent with County requirements and should be regarded as satisfactory by State regulators; the ultimate designation of any setback is at the discretion of the lead agency and/or State regulatory agencies.

⁷ In this context, direct influence is regarded as shading, providing exposed root wads on the channel banks or contributing large woody debris or litter to the channel proper.

⁸ Ordinance 2427, Ch. 1, Sec. 11.000, et seq.

⁹ San Mateo County Ordinance Code Div. VIII, Part 3, Ch. 1, Section 12.000, et seq.

I hope this assists you and the County in evaluating this project and making a determination regarding the appropriate creek setbacks. If I can be of further assistance, please don't hesitate to contact me.

Sincerely,



Michael Wood

Attachments:

- Literature Cited
- Attachment A – Project Figures and Maps

LITERATURE CITED

- Mount, J.F. 1995. *California Rivers and Streams: the Confluence between Fluvial Process and Land Use*. Univ. of Calif. Press, Berkeley, California. 359 pp.
- Noss, R. F., and R. L. Peters. 1995. *Endangered Ecosystems: A Status Report on America's Vanishing Habitat and Wildlife*. Defenders of Wildlife. Washington, DC.
- Santa Clara Valley Water Resources Protection Collaborative (SCVWRPC). 2006. *Guidelines and Standards for Land Use Near Streams*. Revised July. Available online at http://www.valleywater.org/media/pdf/Creekwise/Guidelines_chapters/Title%20page%20and%20acknowledgements.pdf.
- Sorenson, J. 1989. *Managing Wildlife Associations within Riparian Systems*. In: *Proceedings of the California Riparian Systems Conference; Protection, Management, and Restoration for the 1990s*; 1988 September 22-24; Davis, CA. Gen. Tech. Rep. PSW-110. Berkeley, CA; Pacific Southwest Forest and Range Experiment Station, Forest Service, U.S. Dept. of Agriculture. 544 pp.
- Wood Biological Consulting. 2007. *Wetland Delineation and Preliminary Jurisdictional Determination for the Beeson Property, San Mateo County, California*. Unpublished technical report prepared for S.W. Syme Properties, Inc., San Mateo. June 18.
- Wood Biological Consulting, Inc. 2015. *Revised Wetlands Evaluation, Zmay Property Subdivision, San Mateo County*. Unpublished technical report prepared for Z Enterprise LP, San Carlos. March 11..

ATTACHMENT A

PROJECT FIGURES AND MAPS

NOTES:

- 1) ALL DISTANCES SHOWN ARE GRID DISTANCES. TO OBTAIN GROUND DISTANCES MULTIPLY BY 1.00007360.
- 2) AREAS WITH DENSE VEGETATION HAVE CONTOURS DEPICTED BY A DASHED LINE TYPE 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 90.26 ACRES.

BASIS OF BEARINGS:

THE BEARINGS SHOWN ON THIS MAP ARE BASED DATUM OF 1983 (NAU 83) CSRS3, EPOCH 2002.

BENCHMARK:

SURVEY DISK ENCASED IN PVC PIPE WITH ACCESS FLUSH WITH THE GROUND, LOCATED ON THE WEST SIDE OF THE ROAD, APPROXIMATELY 100 FEET WEST OF THE INTERSECTION OF SOUTHWEST BLVD. 38.2 FEET NORTHWEST OF A 50-FOOT WIDE ASPHALT DRIVEWAY AND 100 FEET WEST OF THE ACCESS DRIVE. THE DISK IS 0.2

NGS PRD # A37875
ELEVATION = 634.4 FEET
DATUM: NAD 83

SEE SHEET 2 FOR
DETAIL OF THIS AREA

PARCEL 1
31,975 SQ. FT. ±
0.734 ACRES ±

97 M 2

cad-101-300

PARCEL 2
31,888 SQ. FT. ±
0.732 ACRES ±

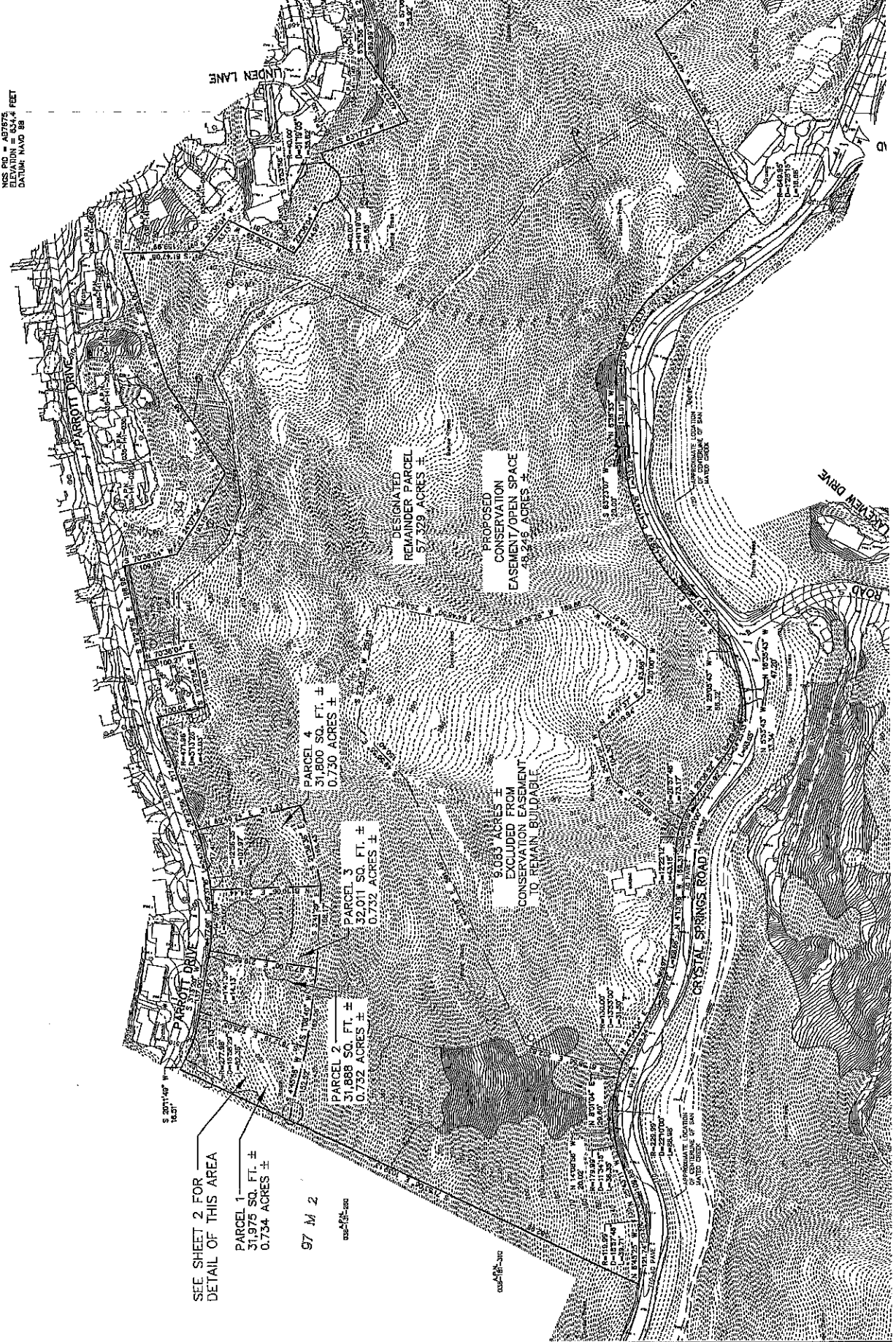
PARCEL 3
32,011 SQ. FT. ±
0.732 ACRES ±

PARCEL 4
31,800 SQ. FT. ±
0.730 ACRES ±

DESIGNATED
REMAINDER PARCEL
57,329 ACRES ±

PROPOSED
CONSERVATION
EASEMENT/OPEN SPACE
48,248 ACRES ±

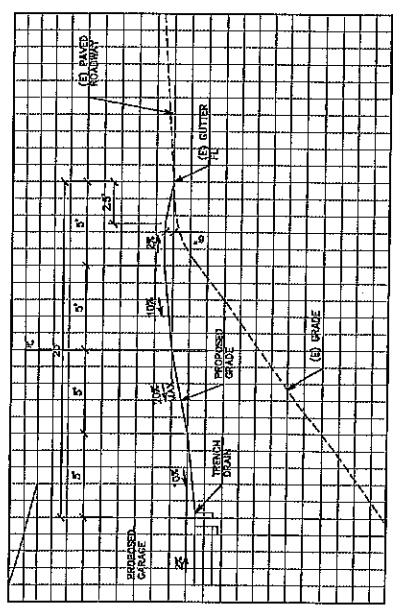
8,063 ACRES ±
EXCLUDED FROM
CONSERVATION EASEMENT
TO REMAIN BUILDABLE



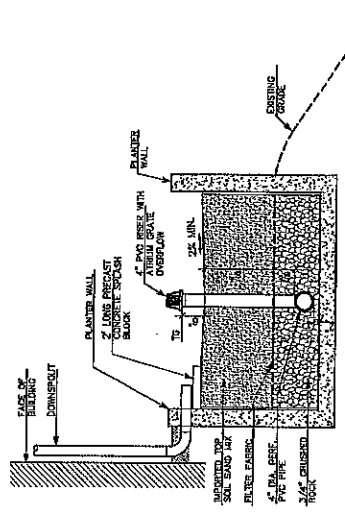
PROPE
PROPO
ACTIVE
CENTRE
CLEAN
DEERS
DRIVEN
GARAG
FLOWL
INVERT
JOINT
POME
PROPE
SETBACK

LEGEND

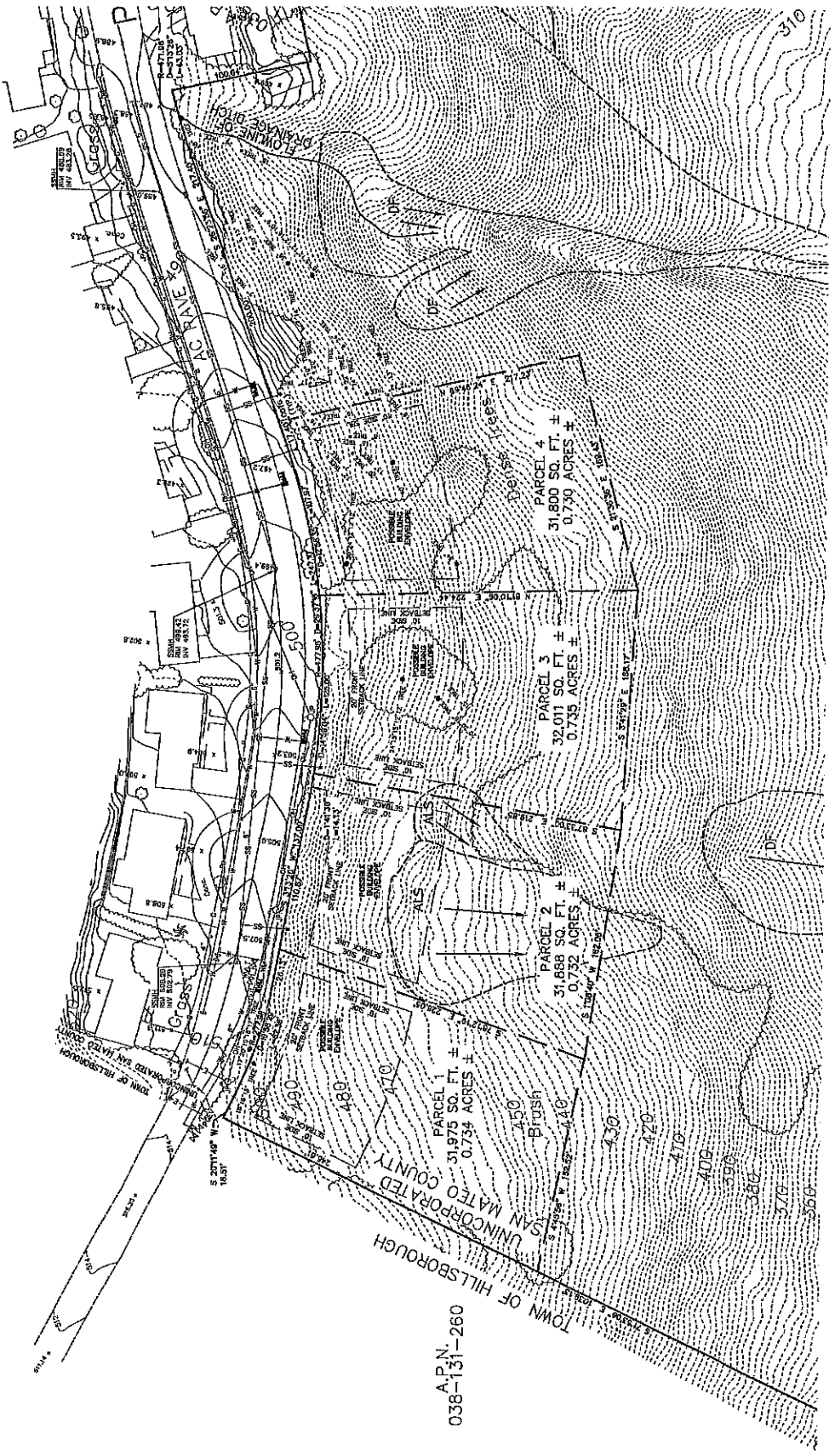
ALS
COTG
DFWY
GAR
USBL
FL
INV
JOINT
POME
PROPE
SETBACK



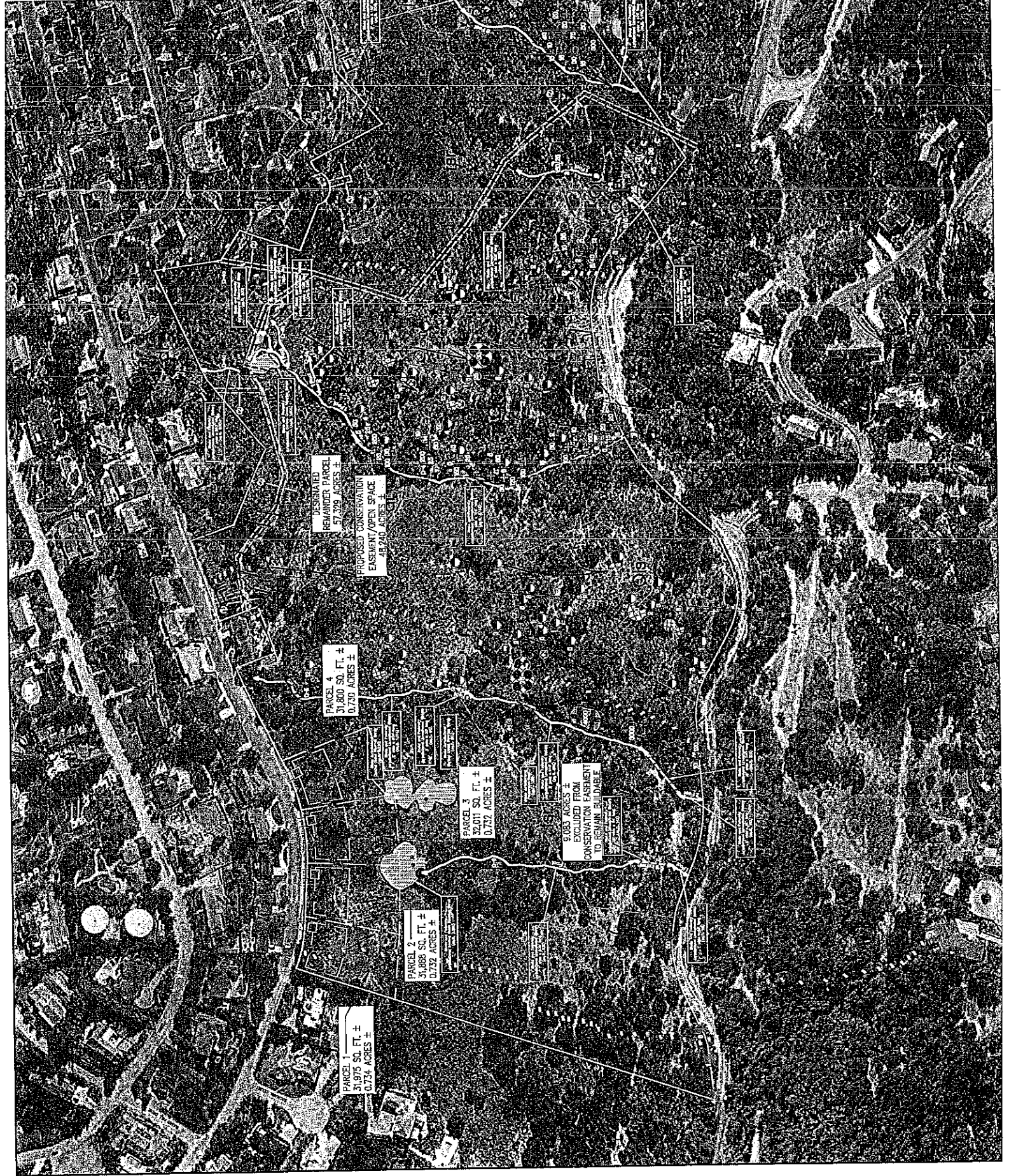
A TYPICAL DRIVEWAY PROFILE
SCALE: 1"=4'



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



A.P.N. 038-131-260





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.

Parrot/8/7/16

(2)

Survey:

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

Parrot/8/7/16

(3)

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

Parrot/8/7/16

(5)

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.

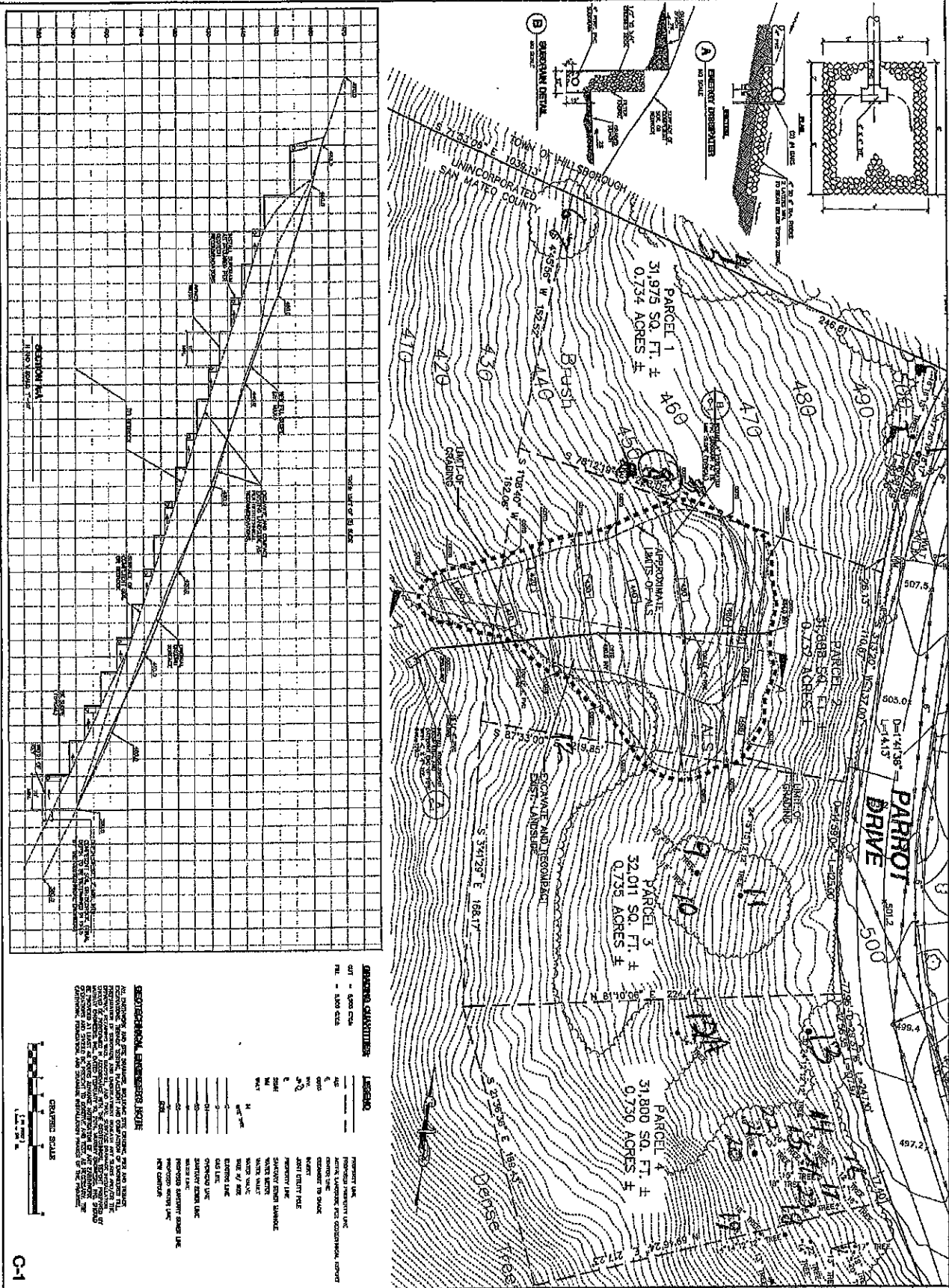
The information included in this report is believed to be true and based on sound arboricultural principles and practices.

Sincerely,



Kevin R. Kielty
Certified Arborist WE#0476A





GRADING & DRAINAGE PLAN FOR GLADE REPAIR

1551 CRYSTAL SPRINGS ROAD
SAN MATEO COUNTY

PREPARED FOR:
STEVE & NICK ZAJAY

CALIFORNIA

MACLEOD AND ASSOCIATES
Civil, Engineering • Land Surveying
943 CENTER STREET • SAN CARLOS, CA 94070 • (415) 652-6500

DATE	NO. OF SHEETS	TOTAL SHEETS
11/10/00	14	14
11/10/00	14	14
11/10/00	14	14
11/10/00	14	14

DRAINAGE CHARACTERISTICS:
 GUT = 5.00% SLOPE
 FILL = 1.00% SLOPE

LEGEND:

PROPOSED PROPERTY LINE	---
EXISTING PROPERTY LINE	---
PROPOSED DRAINAGE DETAIL	---
EXISTING DRAINAGE DETAIL	---
PROPOSED DRAINAGE DETAIL	---
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PROPOSED DRAINAGE DETAIL	---
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EXISTING DRAINAGE DETAIL	---
PROPOSED DRAINAGE DETAIL	---
EXISTING DRAINAGE DETAIL	---

GEOTECHNICAL ENGINEERING NOTES:

1. THE PROPOSED DRAINAGE SYSTEM IS BASED ON THE ASSUMPTION THAT THE GROUNDWATER TABLE IS AT THE FINISHED GRADE SURFACE.

2. THE PROPOSED DRAINAGE SYSTEM IS BASED ON THE ASSUMPTION THAT THE GROUNDWATER TABLE IS AT THE FINISHED GRADE SURFACE.

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9. THE PROPOSED DRAINAGE SYSTEM IS BASED ON THE ASSUMPTION THAT THE GROUNDWATER TABLE IS AT THE FINISHED GRADE SURFACE.

10. THE PROPOSED DRAINAGE SYSTEM IS BASED ON THE ASSUMPTION THAT THE GROUNDWATER TABLE IS AT THE FINISHED GRADE SURFACE.



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			✓	
1.2	Residential Energy Efficiency Financing			✓	
1.3	Low-Income Weatherization		✓		
1.4	Tree Planting	✓			
1.5	Propane Switch		✓		
2.1	Commercial and Industrial Efficiency			✓	
2.2	Commercial Financing			✓	
2.3	Institutional Energy Efficiency			✓	
3.1	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

APPENDIX F

Measure	Description & Performance Criteria	Compliance			
		Complies	Does Not Comply	N/A	See Discussion
4.7	Incentivize Wind Energy			✓	
4.9	Emissions Offset Programs		✓		
5.1	General Plan and Zoning Updates			✓	
5.3	Pedestrian Design			✓	
6.1	Neighborhood Retail			✓	
6.2	Traffic Calming In New Construction			✓	
6.4	Expand Transit			✓	
7.1	Parking Ordinance			✓	
7.3	Unbundled Parking			✓	

APPENDIX F: EECAP DEVELOPMENT CHECKLIST

Measure	Description & Performance Criteria	Compliance			See Discussion
		Complies	Does Not Comply	N/A	
8.1	Employee Commute			✓	
8.2	Workplace Parking			✓	
8.3	Employer Transit Subsidies			✓	
8.4	Work Shuttles			✓	
10.1	Low Carbon Fuel Infrastructure			✓	
13.1	Use of Recycled Materials	✓			
13.2	Zero Waste	✓			
14.1	Smart Water Meters	✓			
14.2	Water Reuse		✓		
15.1	Construction Idling	✓			
15.2	Electrification in New Homes	✓			