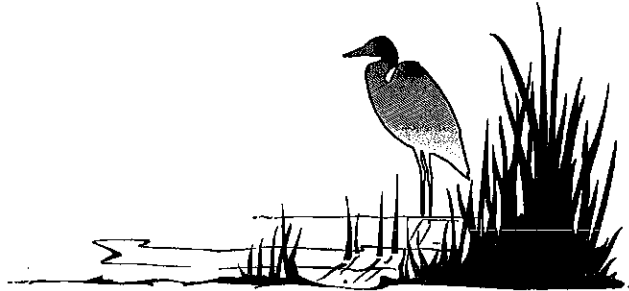




County of San Mateo - Planning and Building Department

ATTACHMENT A

**FLORISTIC ANALYSIS
FOR THE BEESON PROPERTY,
SAN MATEO COUNTY, CALIFORNIA**



September 30, 2007

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The information provided in this document is intended solely for the use and benefit of S.W. Syme Properties, Inc.

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, 65 Alta Hill Way, Walnut Creek, CA 94595.

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SUMMARY

This report presents the results of a focused floristic study of the 60-acre Beeson property, situated in unincorporated San Mateo County, California. The conclusions contained herein are based on a three-season floristic study of the entire property.

The study site is situated on the east side of Crystal Springs Road north and east of the junction with Polhemus Road and west of Parrott Drive, in unincorporated San Mateo County. The undeveloped subject property is situated on mostly steep terrain with west to southwest-facing slopes. 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.

Plant communities occurring within the study site include coast live oak woodland, chamise chaparral, northern coastal scrub, and northern coyote brush scrub. Also present to a lesser degree are Central Coast riparian scrub, northern coastal scrub, non-native grassland, native bunchgrass grassland, and a small freshwater seep.

Based on a multiple-season study, the subject property was found to support populations of a total of six special-status plant species. These include one federally and State-listed endangered plant species (San Mateo woolly sunflower [*Eriophyllum latilobum*]); four CNPS List 1B species (western leatherwood [*Dirca occidentalis*], Franciscan onion [*Allium peninsulare* var. *fransiscanum*], San Francisco collinsia [*Collinsia multicolor*], and arcuate bush mallow [*Malacothamnus arcuatus*]), and one CNPS List 4 species (California bottle-brush grass [*Elymus californicus*]).

Impacts to federally and State-listed species are regulated under the California and federal endangered species acts. Impacts to species that are federally or State listed as endangered, or that appear on the CNPS List 1B would be considered significant under the guidelines of the California Environmental Quality Act (CEQA). Impacts to CNPS List 4 species would not be considered significant under CEQA guidelines.

1.0 INTRODUCTION

This report presents the results of a focused, multiple-season floristic study of the Beeson property, a 60-acre site located in unincorporated San Mateo County (Figure 1). The study area is situated on the east side Crystal Springs Road, just across from the intersection with Polhemus Road (Figure 2). The objectives of this study were to document all vascular plant species occurring on the subject property and to determine the presence or absence of any special-status plant species.

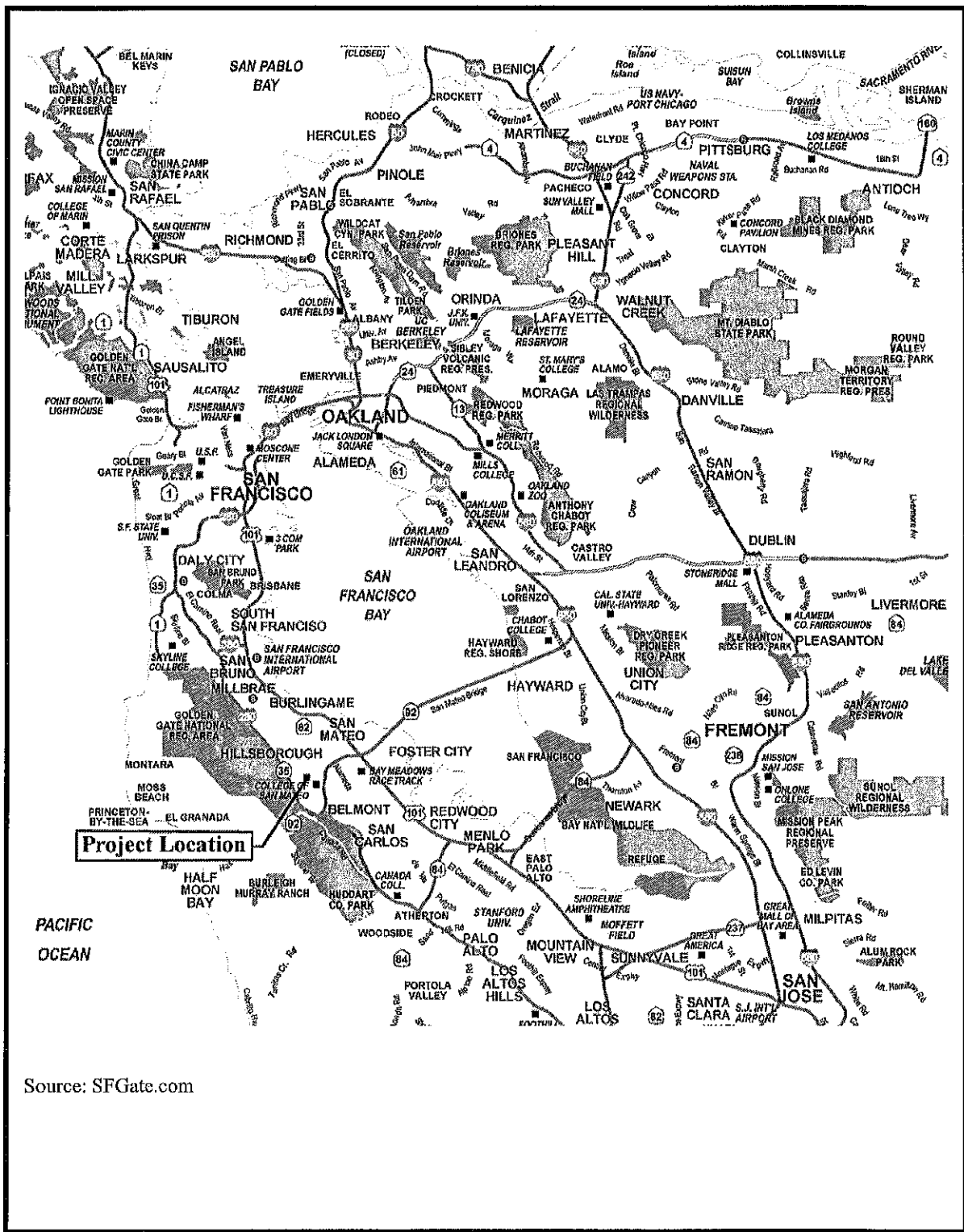
2.0 METHODS AND LIMITATIONS

A list of target special-status plant species was prepared by reviewing database printouts for the San Mateo, Woodside, Montara Mountain, Palo Alto, and South San Francisco 7.5-minute USGS quadrangles maintained by the California Natural Diversity Database (CNDDDB 2007) and the California Native Plant Society (CNPS 2007). An initial habitat assessment was performed and presented in a separate biological constraints analysis report (Wood Biological Consulting 2007a); the current report supersedes all conclusions regarding special-status plant species presented in that earlier document. However, all references to sensitive natural communities occurring within the Beeson Property, including their regulatory relevance, can be found in Wood Biological Consulting (2007a) with the exception of Native Bunchgrass Grassland which is described herein.

A reconnaissance-level site survey was performed by botanist Michael Wood on December 7, 2006. Focused floristic surveys were conducted by Mr. Wood and botanist Heath Bartosh on March 5, March 22, and March 29, and May 10 and 14, 2007, and by Mr. Bartosh, Erin McDermott, and Brett Stevenson on July 19, 2007. A wetland delineation was also conducted in conjunction with the site visit on March 5, 2007. The results of that study are presented in a separate report (Wood Biological Consulting 2007b).

All surveys were conducted on foot and the entire property was covered. All plant species observed were recorded; specimens that could not be positively identified in the field were collected and identified in the office. The locations of all populations of special-status plants were mapped in the field using a Trimble GeoXT Geographic Positioning System using the NAD 1983 State Plane Zone CA Zone III projection (see map pocket). The approximate size of each population was enumerated. California native species field survey forms were completed for each occurrence and submitted to the California Natural Diversity Database; copies are provided in Appendix D. The methodology followed in the course of this study conforms to published guidelines for the conduct of floristic surveys (USFWS 2000, CDFG 2000, CNPS 2001).

Additional information regarding special-status plants was compiled through a review of published literature by the California Department of Fish and Game (CDFG 2007a,b), U.S. Fish and Wildlife Service (USFWS 1996, 1999, 2007), and Corelli and Chandik (1995). Nomenclature for common, widespread plants conforms to Hickman (1993). Nomenclature for special-status plants conforms to CDFG (2007a). In this report, nomenclature for all



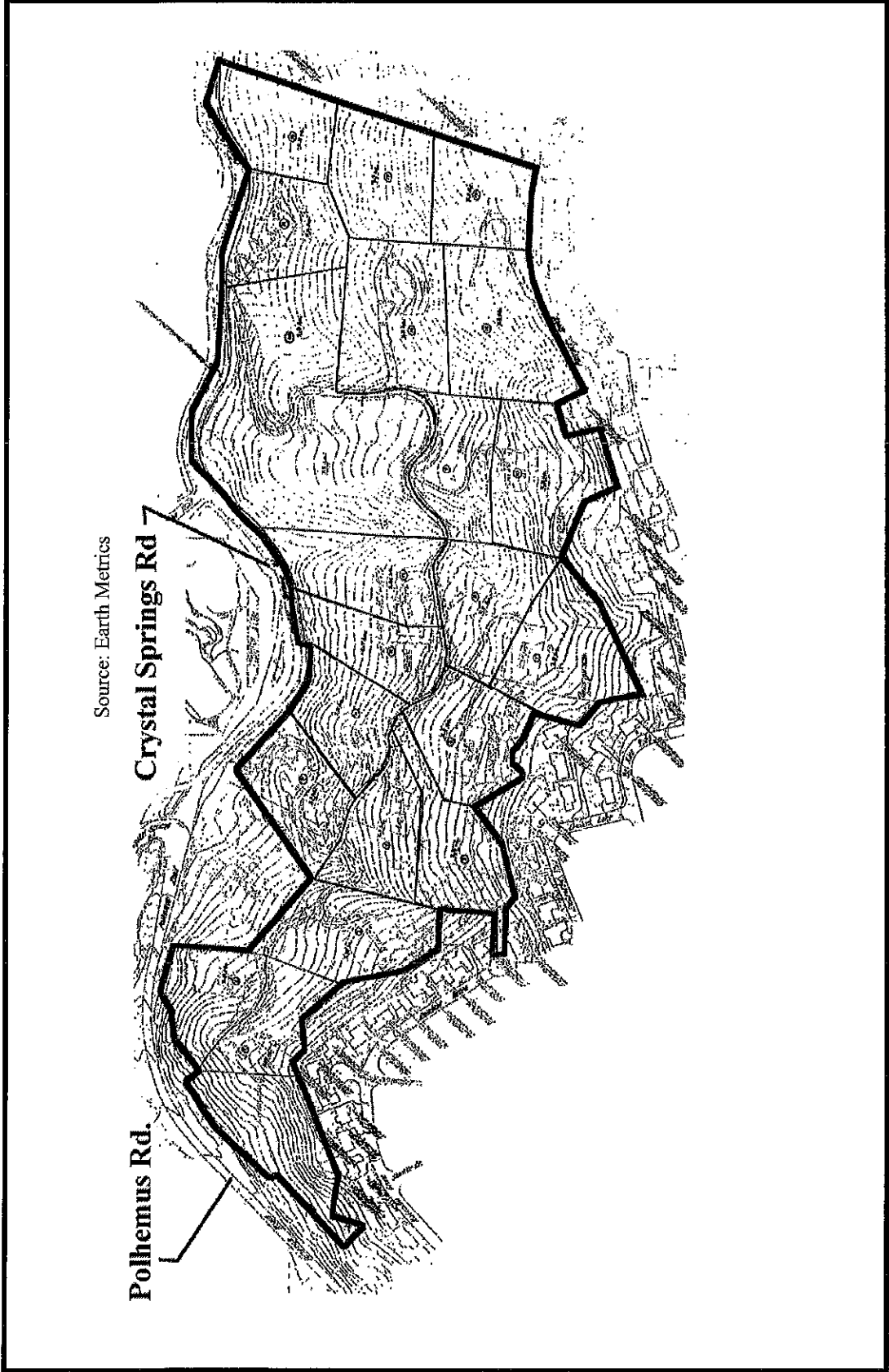
Source: SFGate.com

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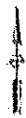
Figure 1. Project Location

NORTH

Scale: 1" = 5 miles



NORTH



Scale: 1" = 400'

Figure 2. Project Vicinity

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common plant species has been updated following the Jepson Online Interchange¹. Plant community names conform to CDFG (2003), Sawyer and Keeler-Wolf (1995), and Cowardin, *et al.* (1979). A table of special-status target species and species inventory were prepared using the CalBiota database, version 2.1.

3.0 EXISTING CONDITIONS

3.1 Setting

The study site covers approximately 60 acres situated on the east side of Crystal Springs Road north and east of the junction with Polhemus Road and west of Parrott Drive, in unincorporated San Mateo County. The subject property is situated on mostly steep terrain with west to southwest-facing slopes. Elevations range from 112-512 feet above mean sea level (msl). Six ephemeral stream channels cross the study area, draining the slopes to San Mateo Creek, which lies just to the west but does not intersect with the property. One single-family residence is present on the site. 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 study area is provided in Figure 3.

Soils over a majority of the study area belong to the Los Gatos series, with a small portion of the site at its northern end consisting of Fagan series (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).

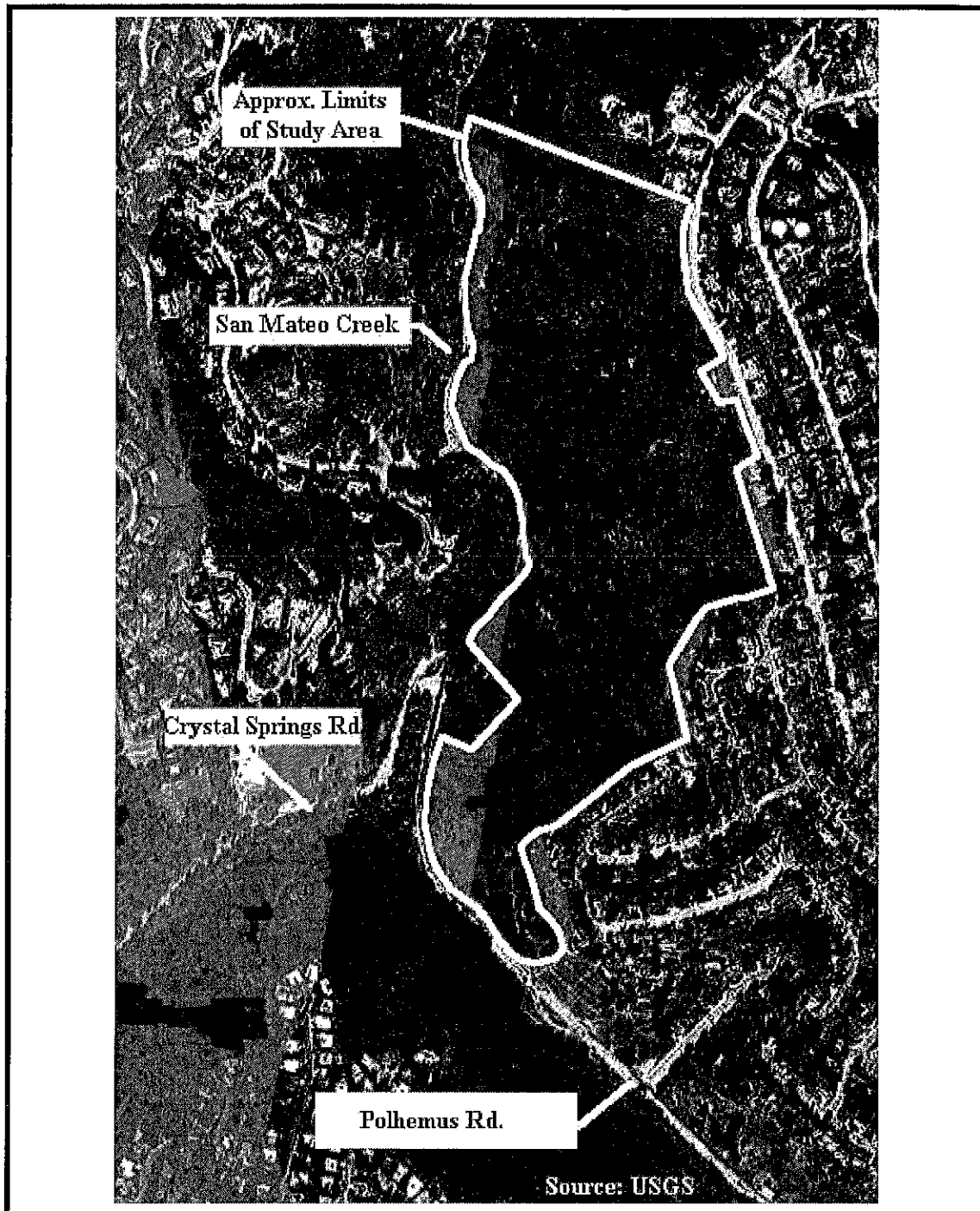
3.2 Characterization of the Vegetation

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, native bunchgrass grassland, and non-native grassland. Each of these plant communities is described, below. A map of the plant communities occurring on site is presented in Figure 4.

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.

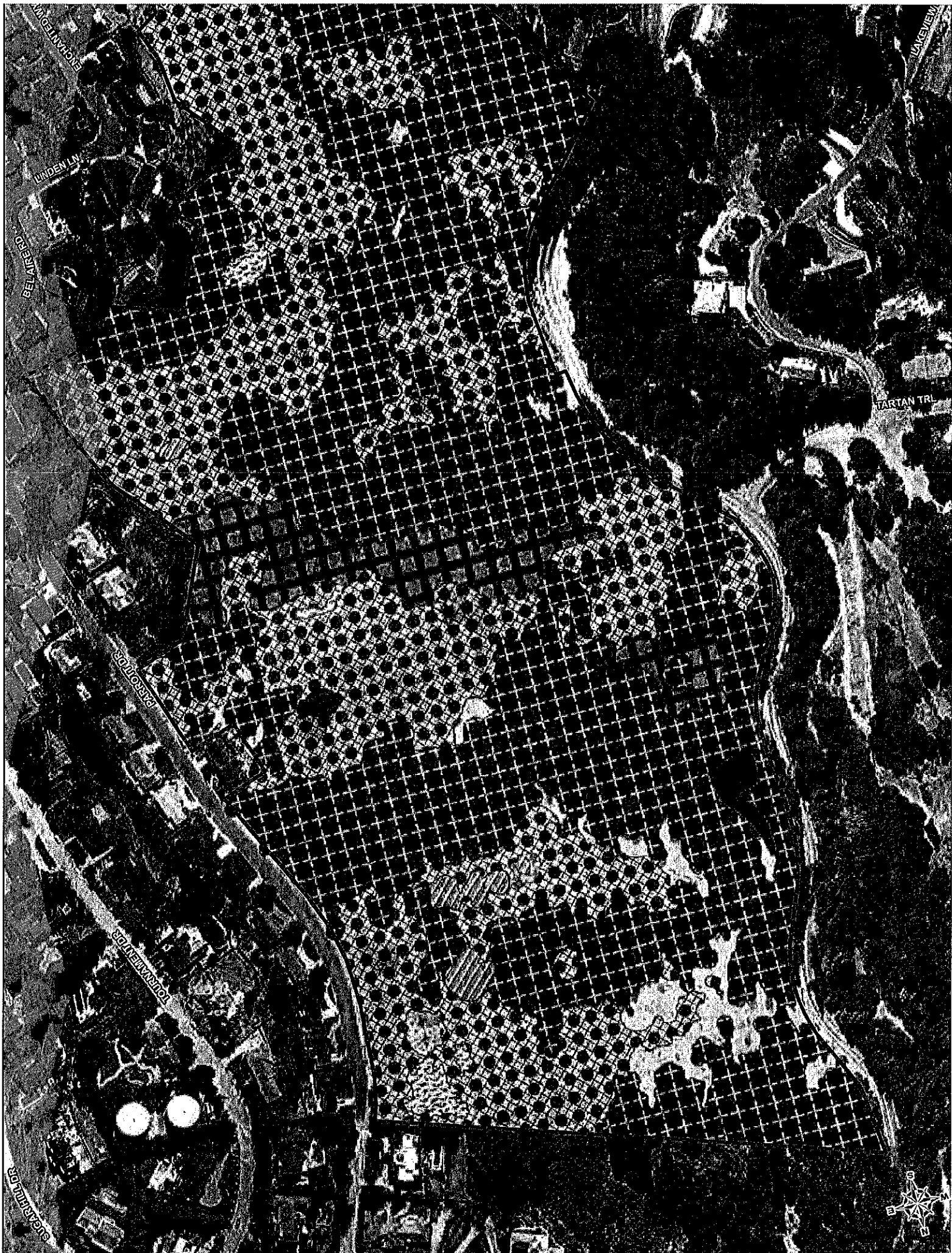
¹ Available on line at <http://ucjeps.berkeley.edu/interchange.html>



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**Figure 3. Aerial View of Study Area
(February 27, 2004)**

NORTH

Scale: 1" = ca 600'



Within the study area, 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 (*Quercus agrifolia*). Other trees commonly found on site include California bay (*Umbellularia californica*), California buckeye (*Aesculus californica*), with scattered individuals of big-leaf maple (*Acer macrophyllum*), and madrone (*Arbutus menziesii*). Native shrub and vine species commonly encountered include toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), hillside gooseberry (*Ribes californicum* var. *californicum*), poison oak (*Toxicodendron diversilobum*), common snowberry (*Symphoricarpos albus* var. *laeviagrus*), creeping snowberry (*Symphoricarpos mollis*), California blackberry (*Rubus ursinus*), California honeysuckle (*Lonicera hispidula* var. *vacillans*), and wood rose (*Rosa gymnocarpa*), among others. Native herbaceous species present include hound's tongue (*Cynoglossum grande*), Indian warrior (*Pedicularis densiflora*), wood fern (*Dryopteris arguta*), California polypody (*Polypodium californicum*), goldback fern (*Pentagramma triangularis*), California fescue (*Festuca californica*), blue wildrye (*Elymus glaucus*), osmorhiza (*Osmorhiza chilensis*), yerba buena (*Satureja douglasii*), coyote mint (*Monardella villosa*), bedstraw (*Galium aparine*), woodland strawberry (*Fragaria vesca*), California bedstraw (*Galium californicum* ssp. *californicum*), and Pacific sanicle (*Sanicula crassicaulis*), among many others.

On site, this vegetation type conforms to the Coast Live Oak series as described by Sawyer and Keeler-Wolf (1995) and would be considered as an upland as classified in Cowardin, *et al.* (1979).

Chamise Chaparral

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

Within the study area, chamise chaparral occurs in two 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 coyote brush (*Baccharis pilularis*), blue blossom (*Ceanothus thyrsiflorus*), sticky monkeyflower (*Mimulus aurantiacus*), California sagebrush (*Artemisia californica*), hollyleaf cherry (*Prunus ilicifolia*), poison oak, hillside gooseberry, and California broom (*Lotus scoparius*), among others. Herbaceous species present include yerba santa (*Eriodictyon californicum*), coffee fern (*Pellaea andromedifolia*), and foothill needlegrass (*Nassella lepida*), among others.

Within the study area, this plant community corresponds to the Chamise Chaparral series as described in Sawyer and Keeler-Wolf (1995) and is an upland following Cowardin, *et al.* (1979).

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).

Within the study area, northern coastal scrub is restricted to two large 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 on the southern portion of the property. 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 (*Potentilla glandulosa*), yerba buena, and pitcher sage (*Lepechinia calycina*), among others.

Within the study area, northern coastal scrub most closely corresponds to the California Sagebrush series as described by Sawyer and Keeler-Wolf (1995) and would be classified as an upland following Cowardin, *et al.* (1979).

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 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 within the study area, occurring on the upper slopes, especially where surface moisture is present or on sites that have been disturbed by land slippage or historic site clearing. 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. This plant community is also dominated by poison oak. Other plant species commonly encountered include soap plant (*Chloragalum pomeridianum* var. *pomeridianum*), Italian thistle (*Carduus pycnocephalus*), poison hemlock (*Conium maculatum*), ripgut brome, soft chess, bull thistle, Fuller's teasel (*Dipsacus sativus*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), and pampas grass (*Cortaderia selloana*).

On site, Northern Coyote Brush Scrub conforms to the coyote brush series as described in Sawyer and Keeler-Wolf (1995) and would be classified as an upland following Cowardin, *et al.* (1979).

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.

Within the study area, Central Coast riparian scrub exists in several isolated stands on the steep upper slopes at the tops of draws and where ground water reaches the surface. Characteristic native species occurring on site include arroyo willow (*Salix lasiolepis*), California blackberry (*Rubus ursinus*), coyote brush, small-fruited bulrush (*Scirpus microcarpus*), spreading rush (*Juncus patens*), Pacific rush (*Juncus effusus*), and brown-headed rush (*Juncus phaeocephalus*), among others. Non-native species present include Himalayan blackberry (*Rubus discolor*), pampas grass, evergreen thornless blackberry (*Rubus ulmifolius* var. *inermis*) and poison oak, among others.

On site, Central Coast riparian scrub conforms to the arroyo willow series as described in Sawyer and Keeler-Wolf (1995) and palustrine shrub-scrub wetland following Cowardin, *et al.* (1979).

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.

Within the study area, 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 grasses, wild barley (*Hordeum* spp.), big quaking grass (*Briza maxima*), Italian ryegrass (*Lolium multiflorum*), and rattail fescue (*Vulpia myuros*), among others. Common non-native forbs include yellow star thistle (*Centaurea solstitialis*), bristly ox-

tongue (*Picris echioides*), and long-beaked storks-bill (*Erodium botrys*), among others. Native species detected include hayfield tarweed (*Hemizonia congesta* ssp. *luzulifolia*), foothill needlegrass, soap plant, tall willowherb (*Epilobium brachycarpum*), and California brome (*Bromus carinatus*), among others.

Non-native annual grassland conforms to the California Annual Grassland series as described in Sawyer and Keeler-Wolf (1995), and would be classified as an upland, following Cowardin, *et al.* (1979).

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 *Nassella*. 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 study area, 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 study area, is dominated by California oatgrass (*Danthonia californica*). The remaining locations support relatively intact stands of purple needlegrass (*Nassella pulchra*). The locations of these grassland areas are shown on Figure 4.

On site, grassland dominated by California oatgrass conforms to the California oatgrass series as described by Sawyer and Keeler-Wolf (1995). Grasslands dominated by purple needlegrass grassland conforms to the purple needlegrass series as described by Sawyer and Keeler-Wolf (1995). Both grassland types would be classified as uplands following Cowardin, *et al.* (1979).

Seep

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 densa*). This isolated seep was soggy at the surface during multiple visits.

4.0 RESULTS

Based on a review of special-status plant species in San Mateo County (CNDDDB 2007, CNPS 2007), a total of 78 special-status plant species have been recorded from the project region. A summary of the status, habitat affinities, blooming period, and potential for occurrence within the 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 B.

During floristic surveys of the property, a total of six special-status plant species were detected in the study area. 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 [*Dirca occidentalis*], Franciscan onion [*Allium peninsulare* var. *fransiscanum*], San Francisco collinsia [*Collinsia multicolor*], and arcuate bush mallow [*Malacothamnus arcuatus*]), and one CNPS List 4 species (California bottle-brush grass [*Elymus californicus*]). The remaining 72 target species were determined to be absent from the subject property. The location of each significant rare plant population is presented in 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 subshrub from less than one to almost 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, arising in loose clusters of up to ten flower-heads 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 federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA) and, and it is on the CNPS List 1B.1.

San Mateo woolly sunflower was recorded in scattered locations primarily near the central western margin of the site. 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 (see Figure 5).



BELLAIR

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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 CDFG and is on the CNPS List 1B.2. as a species that is moderately endangered in California. In general, under the guidelines of the California Environmental Quality Act (CEQA), plants appearing on CNPS List 1A, 1B, or 2 meet the criteria for listing as endangered, rare or threatened² and impacts to these species would meet the criteria for being considered significant³. Additionally, plants appearing on CNPS List 1A, 1B, or 2 also meet the definition endangered or rare under the Native Plant Protection Act⁴ and CESA⁵.

During the present survey, scattered stands of western leatherwood were detected, primarily in the central and northern central portions of the site. An estimated total of 660 individuals of western leatherwood were counted and mapped (see 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 CDFG (CDFG 2007a) and is on the CNPS List 1B.2. as a species that is moderately endangered in California (CNPS 2007). In general, under the guidelines of the California Environmental Quality Act (CEQA), plants appearing on CNPS List 1A, 1B, or 2 meet the criteria for listing as endangered, rare or threatened⁶ and impacts to these species would meet the criteria for being considered significant⁷. Additionally, plants appearing on CNPS List 1A, 1B, or 2 also meet the definition endangered or rare under the Native Plant Protection Act⁸ and CESA⁹.

² pursuant to CEQA §15380

³ pursuant to CEQA §15065

⁴ §1901, chapter 10

⁵ California Fish and Game Code, §2062 and §2067 (California Endangered Species Act).

⁶ pursuant to CEQA §15380

⁷ pursuant to CEQA §15065

⁸ §1901, chapter 10

During the present survey, 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 and mapped (see 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 CDFG (CDFG 2007a) and is on the CNPS List 1B.2. as a species that is moderately endangered in California (CNPS 2007). In general, under CEQA guidelines, plants appearing on CNPS List 1A, 1B, or 2 meet the criteria for listing as endangered, rare or threatened¹⁰ and impacts to these species would meet the criteria for listing as endangered, rare or threatened¹¹ and impacts to these species would meet the criteria for being considered significant¹². Additionally, plants appearing on CNPS List 1A, 1B, or 2 also meet the definition endangered or rare under the Native Plant Protection Act¹³ and CESA¹⁴.

During the present study, scattered stands of Franciscan onion were detected, located primarily at lower elevations of the site on steep, rocky soils. An estimated total of 2,373 individuals were counted and mapped (see 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 2007).

⁹ California Fish and Game Code, §2062 and §2067 (California Endangered Species Act).

¹⁰ pursuant to CEQA §15380

¹¹ pursuant to CEQA §15380

¹² pursuant to CEQA §15065

¹³ §1901, chapter 10

¹⁴ California Fish and Game Code, §2062 and §2067 (California Endangered Species Act).

Arcuate bush mallow is listed as a special plant by the CDFG (2007a) and is on the CNPS List 1B.2, indicating it is fairly endangered in California (CNPS 2007). As such, it is eligible for State listing as endangered, rare or threatened¹⁵ 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 (Hickman 1993), 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 CDFG (CDFG 2007a) and is on the CNPS List 1B.2. as a species that is moderately endangered in California (CNPS 2007). In general, under CEQA guidelines, plants appearing on CNPS List 1A, 1B, or 2 meet the criteria for listing as endangered, rare or threatened (§15380) and impacts to these species would meet the criteria for listing as endangered, rare or threatened¹⁶ and impacts to these species would meet the criteria for being considered significant¹⁷. Additionally, plants appearing on CNPS List 1A, 1B, or 2 also meet the definition endangered or rare under the Native Plant Protection Act¹⁸ and CESA¹⁹.

During the present study, arcuate bush mallow was detected at a single location among chamise near the center of the study area. A total of three individuals were counted and mapped (see 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, San Mateo and Sonoma counties. It occurs in broadleafed upland forest, cismontane woodland, North Coast coniferous forest, and riparian woodland, between 15 and 470 meters in elevation.

California bottle-brush grass is on the CNPS List 4.3, indicating that it is a plant of limited distribution but not very endangered in California; this is considered a “watch” list and is included on the CDFG’s list of special plant species (CDFG 2007a). Very few CNPS List 4 species meet the definitions of the Native Plant Protection Act²⁰ or the CESA²¹ 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.

¹⁵ pursuant to CEQA §15380

¹⁶ pursuant to CEQA §15380

¹⁷ pursuant to CEQA §15065

¹⁸ §1901, chapter 10

¹⁹ California Fish and Game Code, §2062 and §2067 (California Endangered Species Act).

²⁰ §1901, chapter 10

²¹ California Fish and Game Code, §2062 and §2067 (California Endangered Species Act).

guidelines²². Because this species lacks any formal status as a regulated species, the extent of this species on site were not mapped.

5.0 CONCLUSIONS

Special-status plant species include those listed as endangered, threatened, rare, or as candidates for listing by the USFWS (1996, 1999, 2007), the CDFG (2007a,b), and the CNPS (2007). The CNPS *Inventory of Rare and Endangered Plants* (2007) 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 1A, 1B, and 2 are considered to meet the criteria for listing as a rare species in California.

As described above, the subject property supports one species, San Mateo woolly sunflower, listed under the FESA and CESA. Impacts to this species would be regarded as significant under CEQA guidelines (§15065). If any federal permits (*e.g.*, Clean Water Act, §404) are required, the lead agency would initiate consultation with the USFWS regarding potential impacts to this species. The USFWS has authority over federally listed species under FESA. Consultation with the CDFG for unavoidable impacts to this species is required under CESA. The concerns of these agencies regarding impacts on this species would be incorporated into the federal permit, or, if no federal permit is required, in consultation with the CDFG. These concerns are generally addressed by incorporation of mitigation measures which include, in descending order of preference by the regulating agencies, 1) impact avoidance by project redesign, 2) impact minimization, and 3) compensation for unavoidable impacts. Compensation may take the form of habitat preservation and enhancement on site or off site, in combination with plant propagation and restoration, and/or monetary contributions for habitat acquisition and preservation

In addition, the subject property also supports four species, *e.g.*, San Francisco Collinsia, Franciscan Onion, Western leatherwood, and Arcuate bush mallow, on CNPS List 1B and listed as special-status species by the CDFG (2007a). Impacts to these species are generally regarded as significant under CEQA guidelines (§15065). Mitigation measures for unavoidable impacts would be required pursuant to CEQA guidelines; such measures should be developed in consultation with the CDFG. Although one of these, arcuate bush mallow, is not currently recognized as a valid taxon (Jepson Online Interchange), it remains listed by the CDFG as a special status species. As such, for purposes of completing an analysis of impacts under CEQA, impact to this species should be regarded as significant and mitigated appropriately. California bottle-brush grass does not meet the criteria for listing as endangered, rare or threatened and impacts to this species do not meet the criteria for being considered significant pursuant to CEQA guidelines.

²² §15065

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APPENDIX A

**POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES AT THE
BEESON PROPERTY**

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

Sep 6, 2007



FAMILY

Scientific Name
Common Name

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Apiaceae - Carrot Family				
<i>Eryngium aristulatum</i> var. <i>hooveri</i> Hoover's button-celery	Federal none State none CNPS 1B.1 Other DFG: Special Plant	Occurs in vernal pools Moisture: vernal-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 present survey.
Perideridia gairdneri ssp. <i>gairdneri</i> Gairdner's yampah				
	Federal none State none CNPS 4.2 Other DFG: Special Plant	Occurs in broadleaved upland forest, chaparral, coastal prairie, mixed evergreen forest, valley and foothill grassland; vernal pools Moisture: moist. 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.	Jun-Oct Perennial Herb	None: marginally suitable habitat present. Would have been detectable during present survey.
Sanicula maritima adobe sanicle				
	Federal none State SR CNPS 1B.1 Other DFG: Special Plant	Occurs in chaparral, coastal prairie, meadows, valley and foothill grassland Substrate: serpentine, Habitats Note: clay. Recorded from Alameda, Monterey, San Francisco, San Luis Obispo.	Perennial Herb Feb-May	None: marginally suitable habitat present. Would have been detectable during present survey.
Asteraceae - Sunflower Family				
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in valley and foothill grassland. Substrate: alkaline. Recorded from Alameda, Contra Costa, Monterey, San Luis Obispo, Santa Clara, Santa Cruz, Solano.	May-Nov Annual Herb	None: marginally suitable habitat present. Would have been detectable during present survey.

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



FAMILY

Scientific Name

Common Name

Status

Habitat Affinities And Reported Distribution

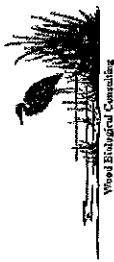
Blooming Time Life Form

Potential For Occurrence On Site

<i>Centromadia parryi</i> ssp. <i>parryi</i>	Federal State CNPS 1B.2 Other	none none 1B.2	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: marginally suitable habitat present. Would have been detectable during present survey.
<i>Cirsium andrewsii</i> Franciscan thistle	Federal State CNPS 1B.2 Other DFG: Special Plant	none none 1B.2	Occurs in broadleafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub, mixed evergreen forest, northern coastal scrub Substrate: 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 present survey.
<i>Cirsium fontinale</i> var. <i>fontinale</i> fountain thistle	Federal State CNPS 1B.1 Other DFG: Special Plant	FE SE 1B.1	Occurs in chaparral, valley and foothill grassland Substrate: serpentine. Recorded from San Mateo.	Jun-Oct Perennial Herb	None: no suitable habitat present. Would have been detectable during present survey.
<i>Cirsium occidentale</i> var. <i>compactum</i> compact cobwebby thistle	Federal State CNPS 1B.2 Other DFG: Special Plant	none none 1B.2	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 present survey.
<i>Cirsium praeteriens</i> lost thistle	Federal State CNPS 1A Other DFG: Special Plant	none none 1A	Habitat affinities unknown. Recorded from Santa Clara. Presumed extinct. Not seen since 1901.	Jun-Jul Perennial Herb	None: Would have been detectable during present survey.

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

Sep 6, 2007



Wood Biological Consulting

FAMILY

Scientific Name

Common Name

Status

Habitat Affinities And Reported Distribution

Blooming Time Life Form

Potential For Occurrence On Site

<i>Eriophyllum latifolium</i>	San Mateo woolly sunflower	Federal FE State SE CNPS 1B.1 Other DFG: Special Plant	Occurs in cismontane woodland, foothill woodland Substrate: often on serpentine, roadcuts. Recorded from San Mateo. Recorded from SFPUC pipeline right-of-way on west side of Crystal Springs Road.	May-Jun Perennial Herb	Detected: suitable habitat present. Detected on site; see report for details.
<i>Grindelia hirsutula</i> var. <i>maritima</i>	San Francisco gumplant	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in coastal bluff scrub, coastal sage scrub, coastal scrub, northern coastal scrub, valley and foothill grassland Substrate: serpentine, Habitats Note: sandy. Recorded from Marin, Monterey, San Francisco, San Luis Obispo, San Mateo, Santa Cruz.	Aug-Sep Perennial Herb	None: no suitable habitat present. Would have been detectable during present survey.
<i>Helianthella castanea</i>	Diablo helianthella	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, foothill woodland, northern coastal scrub, riparian woodland, valley and foothill grassland. Recorded from Alameda, Contra Costa, Marin, San Francisco, San Mateo.	Apr-Jun Perennial Herb	None: suitable habitat present. Would have been detectable during present survey.
<i>Hesperivax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax	Federal none State none CNPS 2.2 Other DFG: Special Plant	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 present survey.
<i>Holocarpha macradenia</i>	Santa Cruz tarplant	Federal FT State SE CNPS 1B.1 Other DFG: Special Plant	Occurs in coastal prairie, coastal scrub, valley and foothill grassland Habitats Note: clay. Recorded from Alameda, Contra Costa, Marin, Monterey, Santa Cruz.	Jun-Oct Annual Herb	None: marginally suitable habitat present. Would have been detectable during present survey.

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



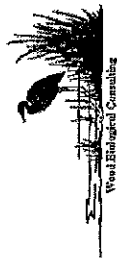
FAMILY

Scientific Name

Common Name

Scientific Name	Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
<i>Layia carnos</i>	beach layia	Federal FE State SE CNPS 1B.1 Other DFG: Special Plant	Occurs in coastal dunes, coastal scrub, coastal strand. Recorded from Humboldt, Marin, Monterey, San Francisco, Santa Barbara.	Mar-Jul Annual Herb	None: no suitable habitat present. Would have been detectable during present survey.
<i>Lessingia arachnoidea</i>	Crystal Springs lessingia	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in cismontane woodland, coastal scrub, foothill woodland, northern coastal scrub, valley and foothill grassland. Substrate: serpentinite. Recorded from San Mateo, Sonoma.	Jul-Oct Annual Herb	None: no suitable habitat present. Would have been detectable during present survey.
<i>Lessingia germanorum</i>	San Francisco lessingia	Federal FE State SE CNPS 1B.1 Other DFG: Special Plant	Occurs in coastal scrub, northern 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 present survey.
<i>Lessingia hololeuca</i>	woolly-headed lessingia	Federal none State none CNPS 3 Other DFG: Special Plant	Occurs in broadleaved upland forest, coastal scrub, lower montane coniferous forest, northern coastal scrub, valley and foothill grassland, yellow pine forest. Substrate: serpentinite, clay. Recorded from Alameda, Marin, Monterey, Napa, San Mateo, Santa Clara, Solano, Sonoma, Yolo.	Jun-Oct Annual Herb	None: marginally suitable habitat present. Would have been detectable during present survey.
<i>Micropus amphibolus</i>	Mt. Diablo cottonweed	Federal none State none CNPS 3.2 Other DFG: Special Plant	Occurs in broadleaved upland forest, chaparral, cismontane woodland, foothill woodland, mixed evergreen forest, valley and foothill grassland. Substrate: rocky. Recorded from Alameda, Colusa, Contra Costa, Lake, Marin, Monterey, Napa, Santa Barbara, Santa Clara, Santa Cruz, Solano, Sonoma.	Mar-May Annual Herb	None: suitable habitat present. Would have been detectable during present survey.

Potentially Occurring Special-status Plant 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>Microseris paludosa</i> marsh microseris	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in cismontane woodland, closed-cone coniferous forest, coastal scrub, valley and foothill grassland. Recorded from Marin, Mendocino, Monterey, San Benito, San Francisco, San Luis Obispo, San Mateo, Santa Cruz, Sonoma.	Apr-Jul Perennial Herb	None: suitable habitat present. Would have been detectable during present survey.
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	Federal FE State SE CNPS 1B.1 Other DFG: Special Plant	Occurs in valley and foothill grassland. Substrate: serpentine. Recorded from Marin, San Mateo, Santa Cruz.	Mar-May Annual Herb	None: no suitable habitat present. Would have been detectable during present survey.
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in broadleaved upland forest, chaparral, closed-cone coniferous forest, closed-cone pine forest, coastal prairie, coastal scrub, mixed evergreen forest, northern coastal scrub, valley and foothill grassland. Substrate: serpentine. Recorded from Marin, Monterey, Santa Cruz.	Apr-May Annual Herb	None: no suitable habitat present. Would have been detectable during present survey.
Boraginaceae - Borage Family <i>Amsinckia lunaris</i> bent-flowered fiddleneck	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in cismontane woodland, coastal bluff scrub, foothill woodland, valley and foothill grassland. Recorded from Alameda, Colusa, Contra Costa, Lake, Marin, Napa, San Mateo, Santa Cruz, Shasta, Siskiyou, Sonoma.	Mar-Jun Annual Herb	None: marginally suitable habitat present. Would have been detectable during present survey.

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



World Biological Conservation Society

FAMILY

Scientific Name

Common Name

Status

Habitat Affinities And Reported Distribution

Blooming Time Life Form

Potential For Occurrence On Site

<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	Federal none State none CNPS 1B.2 Other DFG: Special Plant	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 present survey.
Choris's popcorn-flower				
<i>Plagiobothrys diffusus</i>	Federal none State SE CNPS 1B.1 Other DFG: Special Plant	Occurs in coastal prairie, valley and foothill grassland. Recorded from Alameda, San Francisco, Santa Cruz.	Mar-Jun Annual Herb	None: marginally suitable habitat present. Would have been detectable during present survey.
<i>Plagiobothrys glaber</i>	Federal none State none CNPS 1A * Other DFG: Special Plant	Occurs in coastal salt marsh, meadows. Substrate: alkaline, Habitats Note: coastal salt marsh. Recorded from Alameda, Marin, Merced, San Benito, Santa Clara.	Mar-May Annual Herb	None: no suitable habitat present. Would have been detectable during present survey.
hairless popcorn-flower				
Brassicaceae - Mustard Family				
<i>Arabis blepharophylla</i>	Federal none State none CNPS 4.3 Other DFG: Special Plant	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 present survey.
coast rock cress				

Potentially Occurring Special-status Plant 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>Erysimum franciscanum</i>	Federal State CNPS Other	none none 4.2 DFG: Special Plant	Occurs in coastal dunes, coastal scrub, coastal strand, northern coastal scrub, valley and foothill grassland Substrate: serpentine granitic. 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 present survey.
San Francisco wallflower					
<i>Tropidocarpum capparideum</i>	Federal State CNPS Other	none none 1B.1 DFG: Special Plant	Occurs in valley and foothill grassland 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.	Mar-Apr Annual Herb	None: no suitable habitat present. Would have been detectable during present survey.
caper-fruited tropidocarpum					
Caryophyllaceae - Pink Family					
<i>Arenaria patulicicola</i>	Federal State CNPS Other	FE SE 1B.1 DFG: Special Plant	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 present survey.
marsh sandwort					
<i>Silene verecurda</i> ssp. <i>verecurda</i>	Federal State CNPS Other	none none 1B.2 DFG: Special Plant	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 present survey.
San Francisco campion					

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

Sep 6, 2007



Wood Biological Consulting

FAMILY

Scientific Name
Common Name

Scientific Name	Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Chenopodiaceae - Goosefoot Family					
<i>Suaeda californica</i>	California seablite	Federal FE State none CNPS 1B.1 Other DFG: Special Plant	Occurs in coastal salt marsh, marshes and swamps. Recorded from Alameda, San Luis Obispo, Santa Clara.	Jul-Oct Shrub (evergreen)	None: no suitable habitat present. Would have been detectable during present survey.

Cyperaceae - Sedge Family

Carex comosa
bristly sedge

Federal	none	Occurs in coastal prairie, freshwater marsh, marshes and swamps, valley and foothill grassland.	May-Sep	None:
State	none	Recorded from Contra Costa, Lake, Mendocino, San Bernardino, San Francisco, San Joaquin, Santa Cruz, Shasta, Sonoma. Also recorded from Idaho, Oregon, Washington.	Perennial Herb (rhizomatous)	no suitable habitat present.
CNPS	2.1			
Other DFG:	Special Plant			

Equisetaceae - Horsetail Family

Equisetum palustre
marsh horsetail

Federal	none	Occurs in freshwater marsh, marshes and swamps. Recorded from Lake, Napa, San Francisco, San Mateo. Also recorded from Idaho, Oregon, Washington.	Unknown	None:
State	none		Perennial Herb (rhizomatous)	marginally suitable habitat present.
CNPS	3			Would have been detectable during present survey.
Other DFG:	Special Plant			

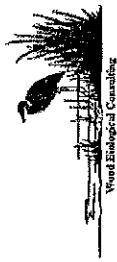
Ericaceae - Heath Family

Arctostaphylos andersonii
Santa Cruz manzanita

Federal	none	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	None:
State	none		Shrub (evergreen)	suitable habitat present.
CNPS	1B.2			Would have been detectable during present survey.
Other DFG:	Special Plant			

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

Sep 6, 2007

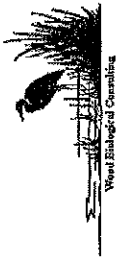


FAMILY

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 hookeri</i> ssp. <i>franciscana</i> Franciscan manzanita	Federal none State none CNPS 1A Other DFG: Special Plant	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 present survey.
<i>Arctostaphylos hookeri</i> ssp. <i>ravenii</i> Presidio manzanita	Federal FE State SE CNPS 1B.1 Other DFG: Special Plant	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 present survey.
<i>Arctostaphylos imbricata</i> San Bruno Mountain manzanita	Federal none State SE CNPS 1B.1 Other DFG: Special Plant	Occurs in chaparral, coastal scrub. Recorded from San Mateo.	Feb-May Shrub (evergreen)	None: marginally suitable habitat present. Would have been detectable during present survey.
<i>Arctostaphylos montaraensis</i> Montara manzanita	Federal none State none CNPS 1B.2 Other DFG: Special Plant	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 present survey.
<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	Federal none State none CNPS 1B.2 Other DFG: Special Plant	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 present survey.

Potentially Occurring Special-status Plant 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

Fabaceae - Legume Family

Astragalus pycnostachyus var.

pycnostachyus

coastal marsh milk-vetch

Federal none

State none

CNPS 1B.2

Other DFG: Special Plant

Occurs in coastal dunes, marshes and swamps.

Moisture: mesic, Habitats Note: coastal salt marshes, stream-sides.

Recorded from Humboldt, Marin, San Mateo.

Apr-Oct

Perennial Herb

None:

no suitable habitat present.

Would have been detectable during present survey.

Astragalus tener var. *tener*

alkali milk-vetch

Federal none

State none

CNPS 1B.2

Other DFG: Special Plant

Mar-Jun

Annual Herb

None:

no suitable habitat present.

Would have been detectable during present survey.

Lupinus eximius

San Mateo tree lupine

Federal none

State none

CNPS 3.2

Other DFG: Special Plant

Apr-Jul

Shrub

None:

suitable habitat present.

Would have been detectable during present survey.

Trifolium depauperatum var.

hydrophilum

saline clover

Federal none

State none

CNPS 1B.2

Other DFG: Special Plant

Occurs in marshes and swamps, valley and foothill grassland, vernal pools.

Moisture: mesic, Substrate: alkaline,

Recorded from Alameda, Colusa, Monterey, Napa, San Benito, San Luis Obispo, San Mateo, Santa Clara, Solano, Sonoma.

Apr-Jun

Annual Herb

None:

no suitable habitat present.

Would have been detectable during present survey.

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

Sep 6, 2007



FAMILY

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 2.1 Other DFG: Special Plant	Occurs in cismontane woodland, foothill 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, 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 present survey.
Lamiaceae - Mint Family				
<i>Acanthomintha duttonii</i> San Mateo thorn-mint	Federal FE State SE CNPS 1B.1 Other DFG: Special Plant	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 present survey.
Monardella villosa ssp. globosa robust monardella				
	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, foothill woodland, valley and foothill grassland. Recorded from Alameda, Contra Costa, Humboldt, Lake, Marin, Mendocino, Napa, San Mateo, Santa Clara, Sonoma. Recorded from SFPUC pipeline right-of-way on west side of Crystal Springs Road.	Jun-Jul Perennial Herb (rhizomatous)	None: suitable habitat present. Would have been detectable during present survey.
Liliaceae - Lily Family				
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in cismontane woodland, valley and foothill grassland. Substrate: clay, often serpentine. Recorded from San Mateo, Santa Clara, Sonoma.	May-Jun Perennial Herb (bulbiferous)	Detected: suitable habitat present. Detected on site; see report for details.

Potentially Occurring Special-status Plant 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>Fritillaria biflora</i> var. <i>ineziana</i>		Federal none	Occurs in cismontane woodland, foothill woodland, valley and foothill grassland	Mar-Apr	None:
Hillsborough chocolate lily		State none	Substrate: serpentine.	Perennial Herb (bulbiferous)	no suitable habitat present.
		CNPS 1B.1	Recorded from San Mateo.		
		Other DFG: Special Plant			Would have been detectable during present survey.
<i>Fritillaria liliacea</i>		Federal none	Occurs in cismontane woodland, coastal prairie, coastal scrub, northern coastal scrub, valley and foothill grassland.	Feb-Apr	None:
fragrant fritillary		State none	Substrate: often serpentine.	Perennial Herb (bulbiferous)	marginally suitable habitat present.
		CNPS 1B.2	Recorded from Alameda, Contra Costa, Marin, Monterey, San Benito, San Francisco, San Mateo, Santa Clara, Solano, Sonoma.		Would have been detectable during present survey.
		Other DFG: Special Plant			
<i>Lilium maritimum</i>		Federal none	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.	May-Jul	None:
coast lily		State none	Recorded from Marin, Mendocino, San Francisco, San Mateo, Sonoma.	Perennial Herb (bulbiferous)	marginally suitable habitat present.
		CNPS 1B.1			Would have been detectable during present survey.
		Other DFG: Special Plant			
Limnanthaceae - Meadowfoam Family					
<i>Limnanthes douglasii</i> ssp. <i>sulphurea</i>		Federal none	Occurs in coastal prairie, freshwater marsh, marshes and swamps, meadows, vernal pools	Mar-May	None:
Point Reyes meadowfoam		State SE	Moisture: moist.	Annual Herb	no suitable habitat present.
		CNPS 1B.2	Recorded from Marin, San Mateo.		Would have been detectable during present survey.
		Other DFG: Special Plant			

Potentially Occurring Special-status Plant 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
Linaceae - Flax Family				
<i>Hesperolinon congestum</i> Main western flax	Federal FT State ST CNPS 1B.1 Other DFG: Special Plant	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 present survey.
Malvaceae - Mallow Family				
<i>Malacothamnus aboriginum</i> Indian Valley bush mallow	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in chaparral, cismontane woodland, foothill woodland Habitats Note: rocky. Recorded from Fresno, Monterey, San Benito.	Apr-Oct Shrub (deciduous)	None: suitable habitat present. Would have been detectable during present survey.
<i>Malacothamnus arcuatus</i> arcuate bush mallow	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in chaparral. Recorded from San Mateo, Santa Clara, Santa Cruz.	Apr-Sep Shrub (evergreen)	Detected: suitable habitat present. Detected on site; see report for details.
<i>Malacothamnus davidsonii</i> Davidson's bush mallow	Federal none State none CNPS 1B.2 Other DFG: Special Plant	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 present survey.

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

Sep 6, 2007



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>Malacothamnus hallii</i>	Federal none	Occurs in chaparral, coastal scrub.	May-Sep	None:
Hall's bush mallow	State none CNPS 1B.2 Other DFG: Special Plant	Recorded from Alameda, Contra Costa, Mendocino, Merced, San Mateo, Santa Clara, Stanislaus.	Shrub (evergreen)	suitable habitat present. Would have been detectable during present survey.

Onagraceae - Evening Primrose Family

Clarkia franciscana
Presidio clarkia

Federal FE	Occurs in coastal scrub, northern coastal scrub, valley and foothill grassland	May-Jul	None:
State SE	Substrate: serpentine.	Annual Herb	no suitable habitat present.
CNPS 1B.1	Recorded from Alameda, San Francisco.		Would have been detectable during present survey.
Other DFG: Special Plant			

Poaceae - Grass Family

Elymus californicus
California bottle-brush grass

Federal none	Occurs in broadleaved upland forest, cismontane woodland, closed-cone pine forest, Douglas-fir forest, foothill woodland, mixed evergreen forest, North Coast coniferous forest, redwood forest, riparian woodland.	May-Nov	Detected:
State none	Recorded from Marin, Monterey, San Mateo, Santa Cruz, Sonoma.	Perennial Herb	suitable habitat present.
CNPS 4.3			Detected on site; see report for details.
Other DFG: Special Plant			

Polemoniaceae - Phlox Family

Gilia capitata ssp. *chamissonis*
dune gilia

Federal none	Occurs in coastal dunes, coastal scrub.	Apr-Jul	None:
State none	Recorded from Marin, San Francisco, Sonoma.	Annual Herb	no suitable habitat present.
CNPS 1B.1			Would have been detectable during present survey.
Other DFG: Special Plant			

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

Sep 6, 2007

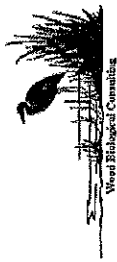


FAMILY

Scientific Name
Common Name

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
<i>Gilia millefoliata</i> dark-eyed glilia	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in coastal dunes, coastal strand. 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 present survey.
<i>Leptosiphon croceus</i> coast yellow linanthus	Federal none State none CNPS 1B.1 Other DFG: Special Plant	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 present survey.
<i>Leptosiphon rosaceus</i> rose leptosiphon	Federal none State none CNPS 1B.1 Other DFG: Special Plant	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 present survey.
Polygonaceae - Buckwheat Family <i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> San Francisco Bay spineflower	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub, coastal strand, northern coastal scrub. Substrate: sandy. Recorded from Alameda, Marin, San Francisco, San Mateo, Santa Clara, Sonoma.	Apr-Aug Annual Herb	None: no suitable habitat present. Would have been detectable during present survey.

Potentially Occurring Special-status Plant 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>Chorizanthe robusta</i> var. <i>robusta</i>	Federal FE	Occurs in cismontane woodland, coastal dunes, coastal scrub, coastal strand, foothill woodland, northern coastal scrub.	Apr-Sep	None:
robust spineflower	State none	Substrate: sandy, gravelly.	Annual Herb	no suitable habitat present.
	CNPS 1B.1	Recorded from Alameda, Monterey, San Mateo, Santa Clara, Santa Cruz.		Would have been detectable during present survey.
	Other DFG: Special Plant			
<i>Chorizanthe valida</i>	Federal FE	Occurs in coastal prairie	Jun-Aug	None:
Sonoma spineflower	State SE	Habitats Note: sandy.	Annual Herb	no suitable habitat present.
	CNPS 1B.1	Recorded from Marin, Sonoma.		Would have been detectable during present survey.
	Other DFG: Special Plant			
<i>Eriogonum luteolum</i> var. <i>caninum</i>	Federal none	Occurs in chaparral, coastal prairie, valley and foothill grassland.	Jun-Sep	None:
Tiburon buckwheat	State none	Substrate: serpentine.	Annual Herb	suitable habitat present.
	CNPS 3.2	Recorded from Alameda, Colusa, Lake, Marin, Napa, San Mateo, Santa Clara, Sonoma.		Would have been detectable during present survey.
	Other DFG: Special Plant			
Potamogetonaceae - Pondweed Family				
<i>Stuckenia filiformis</i>	Federal none	Occurs in freshwater marsh, marshes and swamps	May-Jul	None:
slender-leaved pondweed	State none	Moisture: shallow-water.	Perennial Herb (rhizomatous), Aquatic	no suitable habitat present.
	CNPS 2.2	Recorded from Contra Costa, Lassen, Merced, Mono, Santa Clara, Sierra. Also recorded from Arizona, Nevada, Oregon, Washington.		Would have been detectable during present survey.
	Other DFG: Special Plant			

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

Sep 6, 2007



FAMILY

Scientific Name
Common Name

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Pottiaceae				
<i>Triquetrella californica</i>	Federal State CNPS 1B.2 Other DFG: Special Plant	Occurs in coastal bluff scrub, coastal scrub. Recorded from Contra Costa, Mendocino, San Diego, San Francisco counties. Also recorded from Oregon.	n/a Moss	None: no suitable habitat present. Would have been detectable during present survey.

Rosaceae - Rose Family

Horkelia cuneata ssp. *sericea*
Kellogg's horkelia

Federal State CNPS 1B.1 Other DFG: Special Plant	Occurs in closed-cone coniferous forest, closed-cone pine forest, coastal sage scrub, coastal scrub, northern coastal scrub. Recorded from Alameda, Marin, Monterey, San Francisco, San Luis Obispo, San Mateo, Santa Barbara, Santa Cruz.	Apr-Sep Perennial Herb	None: suitable habitat present. Would have been detectable during present survey.
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Horkelia marinensis

Point Reyes horkelia

Federal State CNPS 1B.2 Other DFG: Special Plant	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 present survey.
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Potentilla hickmanii

Hickman's cinquefoil

Federal State CNPS 1B.1 Other DFG: Special Plant	Occurs in closed-cone coniferous forest, closed-cone pine forest, coastal bluff scrub, freshwater marsh, marshes and swamps, meadows, northern coastal scrub. Recorded from Monterey, San Mateo, Sonoma.	Apr-Aug Perennial Herb	None: marginally suitable habitat present. Would have been detectable during present survey.
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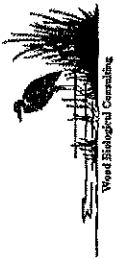
Potentially Occurring Special-status Plant Species Evaluated At The Beeson Property



FAMILY

Scientific Name Common Name	Status	Habitat Affinities And Reported Distribution	Blooming Time Life Form	Potential For Occurrence On Site
Scrophulariaceae - Figwort Family				
<i>Collinsia corymbosa</i> round-headed Chinese houses	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in coastal dunes, coastal strand. Recorded from Humboldt, Marin, Mendocino, San Francisco, Sonoma.	Apr-Jun Annual Herb	None: no suitable habitat present. Would have been detectable during present survey.
<i>Collinsia multiflora</i> San Francisco collinsia	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in closed-cone coniferous forest, closed-cone pine forest, coastal scrub, northern coastal scrub. Substrate: sometimes serpentine. Recorded from Monterey, San Francisco, San Mateo, Santa Clara, Santa Cruz.	Mar-May Annual Herb	Detected: marginally suitable habitat present. Detected on site; see report for details.
<i>Corydanthus maritimus</i> ssp. <i>palustris</i> Point Reyes bird's-beak	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in coastal salt marsh, marshes and swamps. Habitats Note: coastal salt marsh. Recorded from Alameda, Humboldt, Marin, San Mateo, Santa Clara, Sonoma. Also recorded from Oregon.	Jun-Oct Annual Herb, Hemiparasitic	None: no suitable habitat present. Would have been detectable during present survey.
<i>Pedicularis dudleyi</i> Dudley's lousewort	Federal none State SR CNPS 1B.2 Other DFG: Special Plant	Occurs in chaparral, cismontane woodland, North Coast coniferous forest, redwood forest, valley and foothill grassland. Recorded from Monterey, San Luis Obispo, San Mateo, Santa Cruz.	Apr-Jun Perennial Herb	None: suitable habitat present. Would have been detectable during present survey.
<i>Triphysaria floribunda</i> San Francisco owl's-clover	Federal none State none CNPS 1B.2 Other DFG: Special Plant	Occurs in coastal prairie, coastal scrub, valley and foothill grassland Substrate: serpentine. Recorded from Marin, San Francisco, San Mateo.	Apr-Jun Annual Herb	None: no suitable habitat present. Would have been detectable during present survey.

Potentially Occurring Special-status Plant 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

Thymelaeaceae - Mezereum Family

Dirca occidentalis

western leatherwood

Federal none

State none

CNPS 1B.2

Other DFG: Special Plant

Occurs in broadleafed upland forest, chaparral, cismontane woodland, closed-cone coniferous forest, closed-cone pine forest, foothill woodland, mixed evergreen forest, north coast coniferous forest, riparian forest, riparian woodland.

Moisture: moist.

Recorded from Alameda, Contra Costa, Marin, San Mateo, Santa Clara, Sonoma.

Jan-Apr

Shrub (deciduous)

Detected on site; see report for details.

Detected:

suitable habitat present.

APPENDIX B
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
FSC = federal species of concern; receives no legal protection. Use of the term does not necessarily mean that a species will eventually be proposed for listing.

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

CALIFORNIA NATIVE PLANT SOCIETY DESIGNATIONS (CNPS)

- List 1: Plants of highest priority
List 1A: Plants presumed extinct in California
List 1B: Plants rare and endangered in California and elsewhere
List 2: Plants rare and endangered in California but more common elsewhere
List 3: Plants about which additional data are needed
List 4: Plants of limited distribution

CNPS Threat Code Extensions (replaces the RED code)

- .1 - Seriously endangered in California
- .2 - Fairly endangered in California
- .3 - Not very endangered in California

OTHER CODES

- AFS: American Fisheries Society categories of risk for marine, estuarine and diadromous fish stocks.
Audubon: Watch List: Bird species facing population declines and/or threats such as loss of breeding and wintering grounds, or species with limited geographic ranges.
BLM: Sensitive: Bureau of Land Management. Includes species under review by FWS 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: Sensitive: California Department of Forestry and Fire Protection. Includes species that warrant special protection during timber operations.
DFG: CSC: California species of Special Concern.
DFG: Special Animal: Species included by the Department of Fish and Game in their special species lists.
DFG: Fully Protected: Species protected under Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code.
FS: Sensitive: USDA Forest Service. Species identified by a regional forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density, or in habitat capability that would reduce a species' existing distribution.
FWS: BCC: Birds of Conservation Concern: migratory and non-migratory bird species (beyond listed species) that represent the FWS's highest conservation priorities.
FWS: BEPA: Bald Eagle Protection Act
FWS: MBTA: International Migratory Bird Treat Act
FWS: MNBMC: US Fish and Wildlife Service: Migratory Nongame Birds of Management Concern. Species considered to be of concern in the U.S. due to documented or apparent population declines, small or restricted populations, or dependence on restricted or vulnerable habitats.
USMC Watch List: US Bird Conservation Watch List.
WBWB: Priority: The Western Bat Working Group. Species imperiled or at high, medium, or low risk of imperilment based on available information on distribution, status, ecology, and known threats.

APPENDIX C

**INVENTORY OF VASCULAR PLANT SPECIES RECORDED AT THE
BEESON PROPERTY**



Preliminary Inventory Of Vascular Plants Occurring At The Beeson Property

10/4/2007

Sorted by CLASS, Family

Scientific Name	Common Name	Note
FILICOPSIDA – FERNS		
Dryopteridaceae - Wood Fern		
<i>Dryopteris arguta</i>	wood fern	
<i>Polystichum munitum</i>	western sword fern	
Polypodiaceae - Polypody		
<i>Polypodium californicum</i>	California polypody	
Pteridaceae - Fern Family		
<i>Adiantum jordanii</i>	maidenhair fern	
<i>Pellaea andromedifolia</i>	coffee fern	
<i>Pentagramma triangularis</i> ssp. <i>triangularis</i>	goldback fern	
DICOTYLEDONES - DICOTS		
Aceraceae - Maple Family		
<i>Acer negundo</i> var. <i>californicum</i>	box elder	
Anacardiaceae - Sumac		
<i>Malosma laurina</i>	laurel sumac	
<i>Toxicodendron diversilobum</i>	poison oak	
Apiaceae - Carrot Family		
<i>Anthriscus caucalis</i>	bur-chervil	•
<i>Conium maculatum</i>	poison-hemlock	•
<i>Daucus carota</i>	Queen Anne's lace	•
<i>Daucus pusillus</i>	rattlesnake weed	
<i>Heracleum lanatum</i>	cow parsnip	
<i>Lomatium californicum</i>	California lomatium	
<i>Osmorhiza chilensis</i>	mountain sweetcicely	
<i>Perideridia kelloggii</i>	Kellogg's yampah	
<i>Sanicula crassicaulis</i>	Pacific sanicle	
<i>Scandix pecten-veneris</i>	shepherd's needle	•
<i>Torilis arvensis</i>	hedgепarsley	•

Footnotes:

1 = federal or State listed Species 2 = other special-status species 3 = CALEPPC Listed Invasive Species
 * = Species not indlgenous to CA ** = Native Species not indigenous to site AG = agricultural species HORT = horticultural species



Preliminary Inventory Of Vascular Plants Occurring At The Beeson Property

10/4/2007

Sorted by CLASS, Family

Scientific Name	Common Name	Note
Apocynaceae - Dogbane		
<i>Vinca major</i>	big periwinkle	•
Asteraceae - Sunflower Family		
<i>Achillea millefolium</i>	yarrow	
<i>Anisocarpus madioides</i>	woodland madia	
<i>Artemisia californica</i>	California sagebrush	
<i>Artemisia douglasiana</i>	mugwort	
<i>Baccharis pilularis</i>	coyote brush	
<i>Carduus pycnocephalus</i>	Italian thistle	•
<i>Centaurea melitensis</i>	toçalote	•
<i>Centaurea solstitialis</i>	yellow starthistle	•
<i>Cirsium occidentale</i> var. <i>venustum</i>	Venus thistle	
<i>Cirsium vulgare</i>	bull thistle	•
<i>Conyza floribunda</i>	horseweed	•
<i>Deinandra corymbosa</i> ssp. <i>corymbosa</i>	Central Coast tarweed	
<i>Dittrichia graveolens</i>	stinkwort	
<i>Erechtites minima</i>	Australian fireweed	•
<i>Eriophyllum confertiflorum</i>	golden-yarrow	
<i>Eriophyllum latilobum</i>	San Mateo woolly sunflower	1
<i>Eurybia radulina</i>	rough-leaved aster	
<i>Gnaphalium californicum</i>	California everlasting	
<i>Gnaphalium ramosissimum</i>	pink everlasting	
<i>Helenium puberulum</i>	sneezeweed	
<i>Hemizonia congesta</i> ssp. <i>luzulifolia</i>	hayfield tarweed	
<i>Hesperis matronalis</i> var. <i>sparsiflora</i>	short-leaved evax	
<i>Hypochaeris radicata</i>	rough cat's-ear	•
<i>Lactuca virosa</i>	wild lettuce	•
<i>Layia hieracioides</i>	tall tidy-tips	
<i>Logfia gallica</i>	narrow-leaf filago	•
<i>Madia exigua</i>	threadstem madia	

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Preliminary Inventory Of Vascular Plants Occurring At The Beeson Property

10/4/2007

Sorted by CLASS, Family

Scientific Name	Common Name	Note
<i>Madia gracilis</i>	slender tarweed	
<i>Micropus californicus</i>	slender cottonweed	
<i>Picris echioides</i>	bristly ox-tongue	•
<i>Psilocarphus tenellus</i>	woolly-heads	
<i>Rafinesquia californica</i>	California chicory	
<i>Senecio aronicoides</i>	California butterweed	
<i>Senecio vulgaris</i>	common groundsel	•
<i>Silybum marianum</i>	milkthistle	•
<i>Solidago californica</i>	California goldenrod	
<i>Sonchus asper</i> ssp. <i>asper</i>	prickly sowthistle	
<i>Symphyotrichum chilense</i>	common California aster	
Boraginaceae - Borage Family		
<i>Cryptantha clevelandii</i>	Cleveland's cryptantha	
<i>Cryptantha micromeres</i>	pygmyflower cryptantha	
<i>Cynoglossum grande</i>	hound's tongue	
<i>Myosotis latifolia</i>	common forget-me-not	•
<i>Pectocarya pusilla</i>	little combseed	
Brassicaceae - Mustard Family		
<i>Barbarea orthoceras</i>	American wintercress	
<i>Brassica nigra</i>	black mustard	•
<i>Cardamine oligosperma</i>	bitter-cress	
Caprifoliaceae - Honeysuckle		
<i>Lonicera hispidula</i> var. <i>vacillans</i>	California honeysuckle	
<i>Sambucus mexicana</i>	blue elderberry	
<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	common snowberry	
<i>Symphoricarpos mollis</i>	creeping snowberry	
Caryophyllaceae - Pink Family		
<i>Cerastium arvense</i>	field chickweed	
<i>Polycarpon tetraphyllum</i>	four-leaved allseed	•

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Preliminary Inventory Of Vascular Plants Occurring At The Beeson Property

10/4/2007

Sorted by CLASS, Family

Scientific Name	Common Name	Note
<i>Sagina apetala</i>	dwarf pearlwort	
<i>Silene gallica</i>	common catchfly	•
<i>Stellaria media</i>	common chickweed	•
Cistaceae - Rock-rose Family		
<i>Cistus creticus</i>	pink rock-rose	
Convolvulaceae -		
<i>Calystegia subacaulis</i>	hill morning-glory	
Crassulaceae - Stonecrop		
<i>Crassula connata</i>	pygmyweed	
Cucurbitaceae - Gourd Family		
<i>Marah fabaceus</i>	California man-root	
Dipsacaceae - Teasel Family		
<i>Dipsacus sativus</i>	Fuller's teasel	•
Ericaceae - Heath Family		
<i>Arbutus menziesii</i>	madrone	
Euphorbiaceae - Spurge		
<i>Euphorbia peplus</i>	petty spurge	•
Fabaceae - Legume Family		
<i>Acmispon wrangelianus</i>	Chile trefoil	
<i>Astragalus gambelianus</i>	Gambel's dwarf locoweed	
<i>Genista monspessulana</i>	French broom	•
<i>Lathyrus vestitus</i>	Pacific pea	
<i>Lathyrus vestitus var. vestitus</i>	common Pacific pea	
<i>Lotus corniculatus</i>	broadleaf bird's-foot trefoil	•
<i>Lotus scoparius</i>	California broom	
<i>Lotus subpinnatus</i>	bird's-foot trefoil	
<i>Lupinus albifrons var. albifrons</i>	silver bush lupine	
<i>Lupinus latifolius</i>	broad-leaf lupine	
<i>Lupinus succulentus</i>	succulent annual lupine	

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Preliminary Inventory Of Vascular Plants Occurring At The Beeson Property

10/4/2007

Sorted by CLASS, Family

Scientific Name	Common Name	Note
<i>Medicago polymorpha</i>	burclover	•
<i>Trifolium dubium</i>	little hop clover	•
<i>Trifolium hirtum</i>	rose clover	•
<i>Trifolium microcephalum</i>	small head clover	
<i>Trifolium willdenovii</i>	tomcat clover	
<i>Vicia sativa</i>	common vetch	•
<i>Vicia tetrasperma</i>	slender vetch	•
Fagaceae - Oak Family		
<i>Quercus agrifolia</i>	coast live oak	
Garryaceae - Silk Tassel		
<i>Garrya elliptica</i>	wavyleaf silk tassel	
Gentianaceae - Gentian Family		
<i>Centaurium muehlenbergii</i>	Muhlenberg's centaury	
Geraniaceae - Geranium		
<i>Erodium botrys</i>	long-beaked storksbill	•
<i>Erodium cicutarium</i>	red-stemmed filaree	•
<i>Geranium dissectum</i>	cut-leaved geranium	•
<i>Geranium molle</i>	dove's-foot geranium	•
Grossulariaceae - Gooseberry		
<i>Ribes californicum</i>	hillside gooseberry	
Hippocastanaceae - Buckeye		
<i>Aesculus californica</i>	California buckeye	
Hydrophyllaceae - Waterleaf		
<i>Eriodictyon californicum</i>	yerba santa	
<i>Nemophila parviflora</i> var. <i>parviflora</i>	woodland nemophila	
<i>Phacelia distans</i>	common phacelia	
<i>Phacelia malvifolia</i>	stinging phacelia	
Lamiaceae - Mint Family		
<i>Lepechinia calycina</i>	pitcher sage	

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Preliminary Inventory Of Vascular Plants Occurring At The Beeson Property

10/4/2007

Sorted by CLASS, Family

Scientific Name	Common Name	Note
<i>Marrubium vulgare</i>	white horehound	•
<i>Monardella villosa</i> ssp. <i>villosa</i>	coyote mint	
<i>Pogogyne serpylloides</i>	thyme-leaved pogogyne	
<i>Rosmarinus officinalis</i>	rosemary	Hort
<i>Satureja douglasii</i>	yerba buena	
<i>Scutellaria tuberosa</i>	Danny's skullcap	
<i>Stachys ajugoides</i> var. <i>rigida</i>	rigid hedge nettle	
Lauraceae - Laurel Family		
<i>Umbellularia californica</i>	California bay	
Linaceae - Flax Family		
<i>Linum bienne</i>	narrow-leaved flax	•
Malvaceae - Mallow Family		
<i>Malacothamnus arcuatus</i>	arcuate bush mallow	2
Myrtaceae - Myrtle Family		
<i>Eucalyptus globulus</i>	Tasmanian blue gum	•
Oleaceae - Olive Family		
<i>Fraxinus</i> sp.	ash	
Onagraceae - Evening		
<i>Camissonia ovata</i>	sun cups	
<i>Clarkia rubicunda</i>	farewell-to-spring	
<i>Epilobium brachycarpum</i>	tall willowherb	
Papaveraceae - Poppy Family		
<i>Stylomecon heterophylla</i>	windpoppy	
Plantaginaceae - Plantain		
<i>Plantago lanceolata</i>	English plantain	•
<i>Plantago major</i>	broadleaf plantain	•
Polygonaceae - Buckwheat		
<i>Pterostegia drymarioides</i>	woodland pterostegia	

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Preliminary Inventory Of Vascular Plants Occurring At The Beeson Property

10/4/2007

Sorted by CLASS, Family

Scientific Name	Common Name	Note
Portulacaceae - Purslane		
<i>Claytonia perfoliata</i>	miner's lettuce	
Primulaceae - Primrose Family		
<i>Anagallis arvensis</i>	scarlet pimpernel	•
Ranunculaceae - Buttercup		
<i>Aquilegia formosa</i>	red columbine	
<i>Clematis lasiantha</i>	pipestems	
<i>Ranunculus californicus</i>	California buttercup	
<i>Ranunculus hebecarpus</i>	slender annual buttercup	
<i>Thalictrum fendleri</i> var. <i>polycarpum</i>	Fendler's meadow-rue	
Rhamnaceae - Buckthorn		
<i>Ceanothus thyrsiflorus</i>	blue blossom	
<i>Rhamnus californica</i> ssp. <i>californica</i>	California coffeeberry	
Rosaceae - Rose Family		
<i>Adenostoma fasciculatum</i>	chamise	
<i>Aphanes occidentalis</i>	western lady's mantle	
<i>Cotoneaster</i> sp.	cotoneaster	
<i>Fragaria vesca</i>	woodland strawberry	
<i>Heteromeles arbutifolia</i>	toyon	
<i>Horkelia cuneata</i> ssp. <i>cuneata</i>	wedge-leaved horkelia	
<i>Oemleria cerasiformis</i>	oso berry	
<i>Potentilla glandulosa</i>	sticky cinquefoil	
<i>Prunus cerasifera</i>	cherry plum	•
<i>Prunus ilicifolia</i>	hollyleaf cherry	
<i>Rosa californica</i>	California rose	
<i>Rubus discolor</i>	Himalayan blackberry	•
<i>Rubus ursinus</i>	California blackberry	
Rubiaceae - Madder Family		
<i>Galium aparine</i>	goose grass	

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Preliminary Inventory Of Vascular Plants Occurring At The Beeson Property

10/4/2007

Sorted by CLASS, Family

Scientific Name	Common Name	Note
<i>Galium californicum</i>	California bedstraw	
<i>Sherardia arvensis</i>	field madder	•
Salicaceae - Willow Family		
<i>Salix lasiolepis</i>	arroyo willow	
Saxifragaceae - Saxifrage		
<i>Lithophragma affine</i>	San Francisco woodland-star	
Scrophulariaceae - Figwort		
<i>Castilleja affinis</i> ssp. <i>affinis</i>	Wight's Indian Paint-brush	
<i>Castilleja exserta</i>	purple owl's-clover	
<i>Castilleja wightii</i>	Wight' Indian paintbrush	
<i>Collinsia multicolor</i>	San Francisco collinsia	2
<i>Mimulus aurantiacus</i>	sticky monkeyflower	
<i>Pedicularis densiflora</i>	Indian warrior	
<i>Scrophularia californica</i>	California figwort	
<i>Veronica peregrina</i> ssp. <i>xalapensis</i>	purslane speedwell	
Solanaceae - Nightshade		
<i>Solanum umbelliferum</i>	blue-witch nightshade	
Thymelaeaceae - Mezereum		
<i>Dirca occidentalis</i>	western leatherwood	2
Urticaceae - Nettle Family		
<i>Hesperocnide tenella</i>	western nettle	
Valerianaceae - Valerian		
<i>Plectritis ciliosa</i>	plectritis	
MONOCOTYLEDONES - MONOCOTS		
Cyperaceae - Sedge Family		
<i>Carex densa</i>	dense sedge	
<i>Carex gracilior</i>	slender sedge	
<i>Carex tumulicola</i>	foothill sedge	

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Preliminary Inventory Of Vascular Plants Occurring At The Beeson Property

10/4/2007

Sorted by CLASS, Family

Scientific Name	Common Name	Note
<i>Cyperus eragrostis</i>	umbrella sedge	
<i>Schoenoplectus californicus</i>	California bulrush	
<i>Scirpus microcarpus</i>	small-fruited bulrush	
Iridaceae - Iris Family		
<i>Crocsmia x crocosmiiflora</i>	montbretia	•
<i>Iris douglasiana</i>	Douglas iris	
<i>Sisyrinchium bellum</i>	blue-eyed grass	
Juncaceae - Rush Family		
<i>Juncus effusus</i> var. <i>pacificus</i>	Pacific bog rush	
<i>Juncus patens</i>	spreading rush	
<i>Juncus phaeocephalus</i>	brown-headed rush	
<i>Luzula comosa</i>	Pacific wood rush	
Liliaceae - Lily Family		
<i>Agave americana</i>	century plant	•
<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion	2
<i>Calochortus albus</i>	fairly lantern	
<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	wavyleaf soap plant	
<i>Dichelostemma capitatum</i> ssp. <i>capitatum</i>	blue dicks	
<i>Disporum hookeri</i>	Hooker's fairy bells	
<i>Fritillaria affinis</i> var. <i>affinis</i>	checker lily	
<i>Smilacina racemosa</i>	false Solomon's seal	
<i>Smilacina stellata</i>	false Solomon's seal	
<i>Trillium chloropetalum</i>	giant trillium	
<i>Triteleia laxa</i>	lthuriel's spear	
<i>Zigadenus fremontii</i>	Fremont's deathcamas	
Orchidaceae - Orchid Family		
<i>Corallorhiza striata</i>	striped coralroot	
<i>Epipactis helleborine</i>	broadleaf helleborine	

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Preliminary Inventory Of Vascular Plants Occurring At The Beeson Property

10/4/2007

Sorted by CLASS, Family

Scientific Name	Common Name	Note
Poaceae - Grass Family		
<i>Aira caryophyllea</i>	silver European hairgrass	•
<i>Avena fatua</i>	wild oats	•
<i>Brachypodium distachyon</i>	purple false-brome	•
<i>Briza maxima</i>	big quaking grass	•
<i>Briza minor</i>	little quaking grass	•
<i>Bromus carinatus</i>	California brome	
<i>Bromus hordeaceus</i>	soft chess	•
<i>Bromus madritensis ssp. rubens</i>	red brome	•
<i>Cortaderia selloana</i>	pampas grass	•
<i>Cynosurus echinatus</i>	hedgehog dogtail	
<i>Dactylis glomerata</i>	orchardgrass	•
<i>Danthonia californica</i>	California oatgrass	
<i>Deschampsia cespitosa ssp. holciformis</i>	coastal tufted hairgrass	
<i>Elymus californicus</i>	California bottle-brush grass	2
<i>Elymus glaucus ssp. glaucus</i>	blue wildrye	
<i>Festuca californica</i>	California fescue	
<i>Gastridium ventricosum</i>	nit grass	•
<i>Melica californica</i>	California melic	
<i>Melica imperfecta</i>	Coast Range melic	
<i>Melica torreyana</i>	Torrey melic	
<i>Nassella lepida</i>	foothill needlegrass	
<i>Polypogon monspeliensis</i>	annual rabbitsfoot grass	•
<i>Vulpia bromoides</i>	six-weeks fescue	•
<i>Vulpia myuros</i>	rattail fescue	•

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APPENDIX D

CALIFORNIA NATIVE PLANT FIELD SURVEY FORMS

California Native Species Survey Form

Mail to:
Natural Diversity Data Base
California Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, California 95814

For office use only	
Source Code _____	Quad Code _____
Elm Code _____	Occ # _____
Copy to _____	Map Index # _____

Date of field work March, May, July, 2007
mo. day year

Scientific Name: *Allium peninsulare* var. *franciscanum*
Common Name: Franciscan onion

Species Found? Yes

Total # of Individuals 2,373 Subsequent visit? yes
Is this an existing NDDDB occurrence? unknown
Yes, Occ. # _____

Collection? If yes: _____
number Museum/Herbarium

Reporter: Heath Bartosh & Mike Wood

Wood Biological Consulting
Address: 65 Alta Hill Way
Walnut Creek, CA 94595
Phone: (925) 899-1282

Plant Information

Phenology: 20% vegetative 80% flowering %fruiting _____

Animal Information

Age Structure: _____
adults # juveniles # unknown _____
nesting breeding foraging wintering roosting burrow site other

Location (Please also attach or draw map on back.)
60-Acre property on east side of Crystal Springs Rd. and San Mateo Creek
County: San Mateo Landowner/Mgr: Private
Quad Name: San Mateo Lat/Long: 37.538225 N / -122.348537 W

T _____ R _____ 1/4 of _____ 1/4 Sec _____ T _____ R _____ 1/4 of _____ 1/4 Sec _____

Habitat Description (Plant communities, dominants, associates, substrate/soils, aspects/slope)

Coast live oak woodland, northern coastal scrub, rocky soils. Soils are mapped as Fagan loam, 15 to 50 percent slopes. West to southwest-facing slopes. Elevations range from 100-500 feet.

other rare spp.? *Collinsia multicolor*, *Eriophyllum latilobum*, *Dirca occidentalis*, *Malacothamnus arcuatus*

Site Information Overall site quality: Good
Current/surrounding land use: Suburban residential and undeveloped canyon slopes on private property

Visible disturbances, possible threats: a few single-family residences are proposed for these canyon slopes.

Comments:
See Map Attached

Determination: (Check one or more, fill in the blanks)

Keyed in a site reference: Jepson, Thomas and Munz

Compared with specimen housed at: _____

Compared with photo/drawing in: _____

By another person (name): _____

Other: _____

Photographs: (Check one or more) Slide Print

Plant/animal	_____	_____
Habitat	_____	_____
Diagnostic Feature	_____	_____

May we obtain duplicates at our expense? yes no

FG/NHD/1747 Revised 12/95

California Native Species Survey Form

Mail to:
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California Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, California 95814

For office use only	
Source Code _____	Quad Code _____
Elm Code _____	Occ # _____
Copy to _____	Map Index # _____

Date of field work March, May, July, 2007
mo. day year

Scientific Name: Collinsia multicolor
Common Name: San Francisco collinsia

Species Found? Yes
 Total # of Individuals 6,666 Subsequent visit? yes
 Is this an existing NDDDB occurrence? unknown
 Collection? If yes: _____
number Museum/Herbarium

Reporter: Heath Bartosh & Mike Wood
Wood Biological Consulting
Address: 65 Alta Hill Way
Walnut Creek, CA 94595
Phone: (925) 899-1282

Plant Information

Phenology: % vegetative +/- 100% flowering in late March
 % fruiting

Animal Information

Age Structure: _____
adults # juveniles # unknown

nesting breeding foraging wintering roosting burrow site other

Location (Please also attach or draw map on back.)
 60-Acre property on east side of Crystal Springs Rd. and San Mateo Creek
 County: San Mateo Landowner/Mgr: Private
 Quad Name: San Mateo Lat/Long: 37.538225 N / -122.348537 W
 T _____ R _____ 1/4 of _____ 1/4 Sec _____ T _____ R _____ 1/4 of _____ 1/4 Sec _____

Habitat Description (Plant communities, dominants, associates, substrate/soils, aspects/slope)
 Coast live oak woodland. Soils are mapped as Fagan loam, 15 to 50 percent slopes. West to southwest-facing slopes. Elevations range from 100-500 feet.
 other rare spp.? Allium peninsulare v. franciscanum, Eriophyllum latifolium, Dirca occidentalis, Malacothamnus arcuatus

Site Information Overall site quality: Good
 Current/surrounding land use: Suburban residential and undeveloped canyon slopes on private property
 Visible disturbances, possible threats: a few single-family residences are proposed for these canyon slopes.
 Comments:
See Map Attached

Determination: (Check one or more, fill in the blanks)
 Keyed in a site reference: Jepson, Thomas and Munz
 Compared with specimen housed at: _____
 Compared with photo/drawing in: _____
 By another person (name): _____
 Other: _____

Photographs: (Check one or more) Slide Print
 Plant/animal _____
 Habitat _____
 Diagnostic Feature _____
 May we obtain duplicates at our expense? yes no

FG/NHD/1747 Revised 12/95

California Native Species Survey Form

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Natural Diversity Data Base
California Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, California 95814

For office use only	
Source Code _____	Quad Code _____
Elm Code _____	Occ # _____
Copy to _____	Map Index # _____

Date of field work March, May, July, 2007
mo day year

Scientific Name: *Dirca occidentalis*
Common Name: western leatherwood

Species Found? Yes

Total # of Individuals 660 Subsequent visit? yes
 Is this an existing NDDB occurrence? unknown
Yes, Occ. #

Collection? If yes: _____
number Museum/Herbarium

Reporter: Heath Bartosh & Mike Wood

Address: Wood Biological Consulting
65 Alta Hill Way
Walnut Creek, CA 94595

Phone: (925) 899-1282

Plant Information

Phenology: 100% vegetative 10% flowering 10% %fruiting

Animal Information

Age Structure: _____
adults # juveniles # unknown

nesting breeding foraging wintering roosting burrow site other

Location (Please also attach or draw map on back.)
 60-Acre property on east side of Crystal Springs Rd. and San Mateo Creek
 County: San Mateo Landowner/Mgr: Private
 Quad Name: San Mateo Lat/Long: 37.538225 N / -122.348537 W

T _____ R _____ 1/4 of _____ 1/4 Sec _____ T _____ R _____ 1/4 of _____ 1/4 Sec _____

Habitat Description (Plant communities, dominants, associates, substrate/soils, aspects/slope)

Coast live oak woodland, northern coastal scrub, rocky soils. Soils are mapped as Fagan loam, 15 to 50 percent slopes. West to southwest-facing slopes. Elevations range from 100-500 feet.

other rare spp.? *Allium peninsulare* var. *franciscanum*, *Collinsia multicolor*, *Eriophyllum latilobum*, *Malacothamnus arcuatus*

Site Information Overall site quality: Good
 Current/surrounding land use: Suburban residential and undeveloped canyon slopes on private property

Visible disturbances, possible threats: a few single-family residences are proposed for these canyon slopes.

Comments:
See Map Attached

Determination: (Check one or more, fill in the blanks)

Keyed in a site reference: Jepson, Thomas and Munz
 Compared with specimen housed at: _____
 Compared with photo/drawing in: _____
 By another person (name): _____
 Other: _____

Photographs: (Check one or more) Slide Print

Plant/animal	___	___
Habitat	___	___
Diagnostic Feature	___	___

May we obtain duplicates at our expense? yes no

California Native Species Survey Form

Mail to:
Natural Diversity Data Base
California Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, California 95814

For office use only	
Source Code _____	Quad Code _____
Elm Code _____	Occ # _____
Copy to _____	Map Index # _____

Date of field work March, May, July, 2007
mo. day year

Scientific Name: *Eriophyllum latilobum*
Common Name: San Mateo wooly sunflower

Species Found? Yes

Total # of Individuals 56 Subsequent visit? yes
 Is this an existing NDDDB occurrence? unknown
 Yes, Occ. # _____

Collection? If yes: _____
number Museum/Herbarium

Reporter: Heath Bartosh & Mike Wood

Wood Biological Consulting
Address: 65 Alta Hill Way
 Walnut Creek, CA 94595
Phone: (925) 899-1282

Plant Information

Phenology: %vegetative 100% flowering %fruiting

Animal Information

Age Structure: _____
 # adults # juveniles # unknown

nesting breeding foraging wintering roosting burrow site other

Location (Please also attach or draw map on back.)
 60-Acre property on east side of Crystal Springs Rd. and San Mateo Creek
 County: San Mateo Landowner/Mgr: Private
 Quad Name: San Mateo Lat/Long: 37.538225 N / -122.348537 W

T _____ R _____ 1/4 of _____ 1/4 Sec _____ T _____ R _____ 1/4 of _____ 1/4 Sec _____

Habitat Description (Plant communities, dominants, associates, substrate/soils, aspects/slope)

Coast live oak woodland, northern coastal scrub, rocky soils, on road cut along Crystal Springs Road. Soils are mapped as Fagan loam, 15 to 50 percent slopes. West to southwest-facing slopes. Elevations range from 100-500 feet

Other rare spp.? *Allium peninsulare* var. *franciscanum*, *Collinsia multicolor*, *Dirca occidentalis*

Site Information Overall site quality: Good
 Current/surrounding land use: Suburban residential and undeveloped canyon slopes on private property

Visible disturbances, possible threats: a few single-family residences are proposed for these canyon slopes.

Comments

See Map Attached

Determination: (Check one or more, fill in the blanks)

X Keyed in a site reference: Jepson, Thomas and Munz
 _____ Compared with specimen housed at: _____
 _____ Compared with photo/drawing in: _____
 _____ By another person (name): _____
 _____ Other

Photographs: (Check one or more) Slide Print

Plant/animal	_____	_____
Habitat	_____	_____
Diagnostic Feature	_____	_____

May we obtain duplicates at our expense? yes no

California Native Species Survey Form

Mail to:
Natural Diversity Data Base
California Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, California 95814

For office use only	
Source Code _____	Quad Code _____
Elm Code _____	Occ # _____
Copy to _____	Map Index # _____

Date of field work March, May, July, 2007
mo. day year.

Scientific Name: *Malacothamnus arcuatus*
Common Name: arcuate bush mallow

Species Found? Yes

Total # of Individuals 3 Subsequent visit? yes
 Is this an existing NDDB occurrence? unknown

Collection? If yes: _____
number Museum/Herbarium

Reporter: Heath Bartosh & Mike Wood

Wood Biological Consulting
Address: 65 Alta Hill Way
 Walnut Creek, CA 94595
Phone: (925) 899-1282

Plant Information

Phenology: % vegetative +/- 100% flowering % fruiting

Animal Information

Age Structure: _____
adults # juveniles # unknown

nesting breeding foraging wintering roosting burrow site other

Location (Please also attach or draw map on back.)
 60-Acre property on east side of Crystal Springs Rd. and San Mateo Creek
 County: San Mateo Landowner/Mgr: Private
 Quad Name: San Mateo Lat/Long: 37.538225 N / -122.348537 W

T _____ R _____ 1/4 of _____ 1/4 Sec _____ T _____ R _____ 1/4 of _____ 1/4 Sec _____

Habitat Description (Plant communities, dominants, associates, substrate/soils, aspects/slope)

Chamise chaparral. Soils are mapped as Fagan loam, 15 to 50 percent slopes. West to southwest-facing slopes. Elevations range from 100-500 feet.

other rare spp.? *Allium peninsulare* v. *franciscanum*, *Eriophyllum latilobum*, *Dirca occidentalis*, *Collinsia multicolor*

Site Information Overall site quality: Good
 Current/surrounding land use: Suburban residential and undeveloped canyon slopes on private property

Visible disturbances, possible threats: a few single-family residences are proposed for these canyon slopes.

Comments:
 See Map Attached

Determination: (Check one or more, fill in the blanks)

Keyed in a site reference: Jepson, Thomas and Munz
 Compared with specimen housed at: _____
 Compared with photo/drawing in: _____
 By another person (name): _____
 Other: _____

Photographs: (Check one or more) Slide Print

Plant/animal	_____	_____
Habitat	_____	_____
Diagnostic Feature	_____	_____

May we obtain duplicates at our expense? yes no

FG/NHD/1747 Revised 12/95



County of San Mateo - Planning and Building Department

ATTACHMENT B



COAST RIDGE ECOLOGY^{LLC}

BIOLOGICAL SURVEYS • MONITORING • PERMITTING • RESEARCH

July 22, 2016

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

Subject: *Letter Report for Mission Blue Butterfly Habitat Survey at Lands of Zmay Property, Hillsborough, California.*

Dear Mr. Wood:

On July 20, 2016, I conducted a survey for habitat of the federally endangered mission blue butterfly (*Icaricia icarioides missionensis*) at parcel 1 and parcel 2 of the Lands of Zmay, along Parrot Road in Hillsborough, California. I am familiar with the host plants of the mission blue butterfly, having conducted surveys for the species for over 20 years, including 13 years of managing and monitoring a population of the species on San Bruno Mountain.

The mission blue butterfly is a member of the gossamer-winged butterfly family (Lycaenidae), and is a federally listed endangered animal. The mission blue butterfly is restricted to grasslands within the coastal fogbelt of San Mateo County, San Francisco County and Marin County. The subspecies is a small butterfly with wingspan approximately 1 inch across. It is a non-migratory butterfly whose lifecycle is closely tied to its larval host plants which consist of three perennial lupines; summer lupine (*Lupinus formosus*), silver lupine (*Lupinus albifrons*), and varied-color lupine (*Lupinus variicolor*). Mission blue adult females lay eggs on the lupines in the spring, and after 4-10 days the caterpillars hatch and begin feeding on the lupine leaves. The caterpillars go into an extended dormancy (diapause) through late summer, fall and winter, and commence feeding again in the early spring of the following year. Once the caterpillars reach the fifth and final instar, they pupate for approximately three weeks and then emerge as adults. The adult phase of mission blue butterflies lasts for approximately 6-10 days (Arnold 1983).

Mission blue habitat consists of open grasslands with host plants and a variety of herbaceous and shrubby nectar plants. Habitats where mission blues are found include native and non-native grasslands, rocky outcrops and disturbed road cuts. Lupines are early successional species that add soil nitrogen through nitrogen fixation, and often colonize disturbed eroded areas that have poor soil conditions (i.e. barren rocky areas, landslides, and manmade disturbed areas).

For mission blues to be present at a site, at least one of the three larval host plant lupine species needs to be present, along with suitable nectar sources. A sizeable patch of lupines with at least 100 plants is typically necessary to support a mission blue colony (San Mateo County 2008). Mission blues typically do not fly more than ¼ mile between habitat areas (San Mateo County 1982). Mission blues use a variety of nectar plants in any given area. Favored nectar plants include coastal buckwheat (*Eriogonum latifolium*), hairy false goldenaster (*Heterotheca sessiliflora* ssp. *bolanderi*), blue dicks (*Dichelostemma capitatum*), Ithuriel's spear (*Triteleia laxa*), California phacelia (*Phacelia californica*), California horkelia (*Horkelia californica*), and a variety of native and non-native thistles.

METHODS

The daytime survey of the project site consisted of conducting an evaluation for mission blue habitat. Surveys were conducted by walking all grassland areas on site for approximately 1 hour on July 20, 2016. Weather was warm and clear, and all grassland patches on site were walked and searched for mission blue butterfly host plant presence.

RESULTS

One individual silver lupine (*Lupinus albifrons* var. *albifrons*) plant was observed on site. No other lupines were observed. The predominant vegetation on site is coastal scrub vegetation, a large infestation of jubata grass (*Cortaderia jubata*), and some smaller, isolated patches of grassland. Previous comprehensive floristic surveys conducted by Wood Biological, LLC did not detect any other host plants for the species on site.

CONCLUSIONS

Surveys for mission blue butterfly were conducted at an appropriate time to detect mission blue butterfly host plants, and only one individual lupine plant was observed. This one plant would not be enough to support a colony of mission blue butterflies on the site, as the butterfly requires a sizeable patch of lupines with approximately 100 host plants to support a mission blue colony (San Mateo County 2008). Furthermore, I have not observed a mission blue butterfly using *Lupinus albifrons* var. *albifrons*. In all areas where I have detected and monitored the species using *Lupinus albifrons*, where present, the mission blues have been associated with *Lupinus albifrons* var. *collinus*. Based on these results, I do not believe any further surveys are warranted. The site does not have suitable habitat to support the mission blue butterfly, and I do not believe the species is present on site.

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

Sincerely,



Patrick Kobernus
Senior Biologist
CRE, LLC

References:

Arnold, R. A. 1983. Ecological Studies of Six Endangered Butterflies Island Biogeography, Patch Dynamics, and Design of Habitat Preserves. pp. 1-161. University of California Publications in Entomology 99.

San Mateo County. 1982. Endangered Species Survey, San Bruno Mountain. Biological Study 1980 – 1981. Final Report to the San Mateo County Steering Committee for San Bruno Mountain. Prepared for San Mateo County by Thomas Reid Associates. May.

San Mateo County. 2008. San Bruno Mountain Habitat Management Plan, September 2007 Revised March 2008. Prepared in Support of the San Bruno Mountain Habitat Conservation Plan, San Mateo County Parks Department.

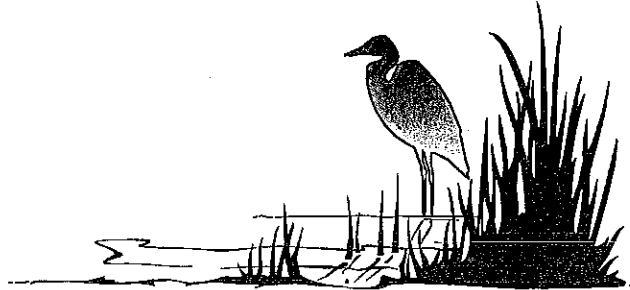
<https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=san%20bruno%20mountain%20habitat%20managment%20plan%202008>



County of San Mateo - Planning and Building Department

ATTACHMENT C

**WETLAND DELINEATION AND
PRELIMINARY JURISDICTIONAL DETERMINATION
FOR THE BEESON PROPERTY,
SAN MATEO COUNTY, CALIFORNIA**



June 18, 2007

Prepared for:
S.W. Syme Properties, Inc.
400 South El Camino Real, Suite 640
San Mateo, CA 94402
(650) 347-7963

Prepared by:
Wood Biological Consulting
65 Alta Hill Way
Walnut Creek, CA 94595
(925) 899-1282

with assistance by:
Nomad Ecological Consulting
832 Escobar Street
Martinez, CA 94553

The information provided in this document is intended solely for the use and benefit of S.W. Syme Properties, Inc.

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, 65 Alta Hill Way, Walnut Creek, CA 94595.

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SUMMARY

This report presents the results of a formal delineation of waters of the U.S./waters of the State, including wetlands, potentially falling under federal and/or State jurisdiction at the Beeson property, located in unincorporated San Mateo County. The study area covers approximately 60 acres 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.

The study area is situated adjacent to San Mateo Creek. Plant communities occurring within the study site include 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.

Soils over a majority of the study area are mapped as Los Gatos Loam, 30 to 75 percent slopes, with an area of Fagan loam, 15 to 50 percent slopes.

The study area is situated in the upper reaches of San Mateo Creek, a perennial "blue-line" stream course. The principal hydrologic features within the study area include surface tributaries to San Mateo Creek and seeps and springs.

Based on this survey, the project site supports a total 0.21 acre (9,160 sq. ft.) of wetland habitat and 0.40 acre (4,624 lin. ft.; 8,336 sq. ft.) of unvegetated "waters" potentially falling under federal and State jurisdiction. In addition, the study area supports 0.21 acre (9,164 sq. ft.) of isolated wetland habitat expected to fall under State jurisdiction only.

These conclusions must be regarded as preliminary and must be confirmed in consultation with each agency before performing any work that would impact aquatic habitats on site. A copy of this wetland delineation should be submitted to the USACE for verification and for a jurisdictional determination. Impacts to any of these habitats should be presumed to be regulated under federal or State law, and permits are required before initiating any work that would affect them.

1.0 INTRODUCTION

This report presents the results of a formal delineation of waters of the U.S./waters of the State, including wetlands, potentially falling under State or federal jurisdiction at the Beeson Property, a 60-acre site located in unincorporated San Mateo County. The study area is situated on the east side Crystal Springs Road, just across from the intersection with Polhemus Road (figures 1 and 2).

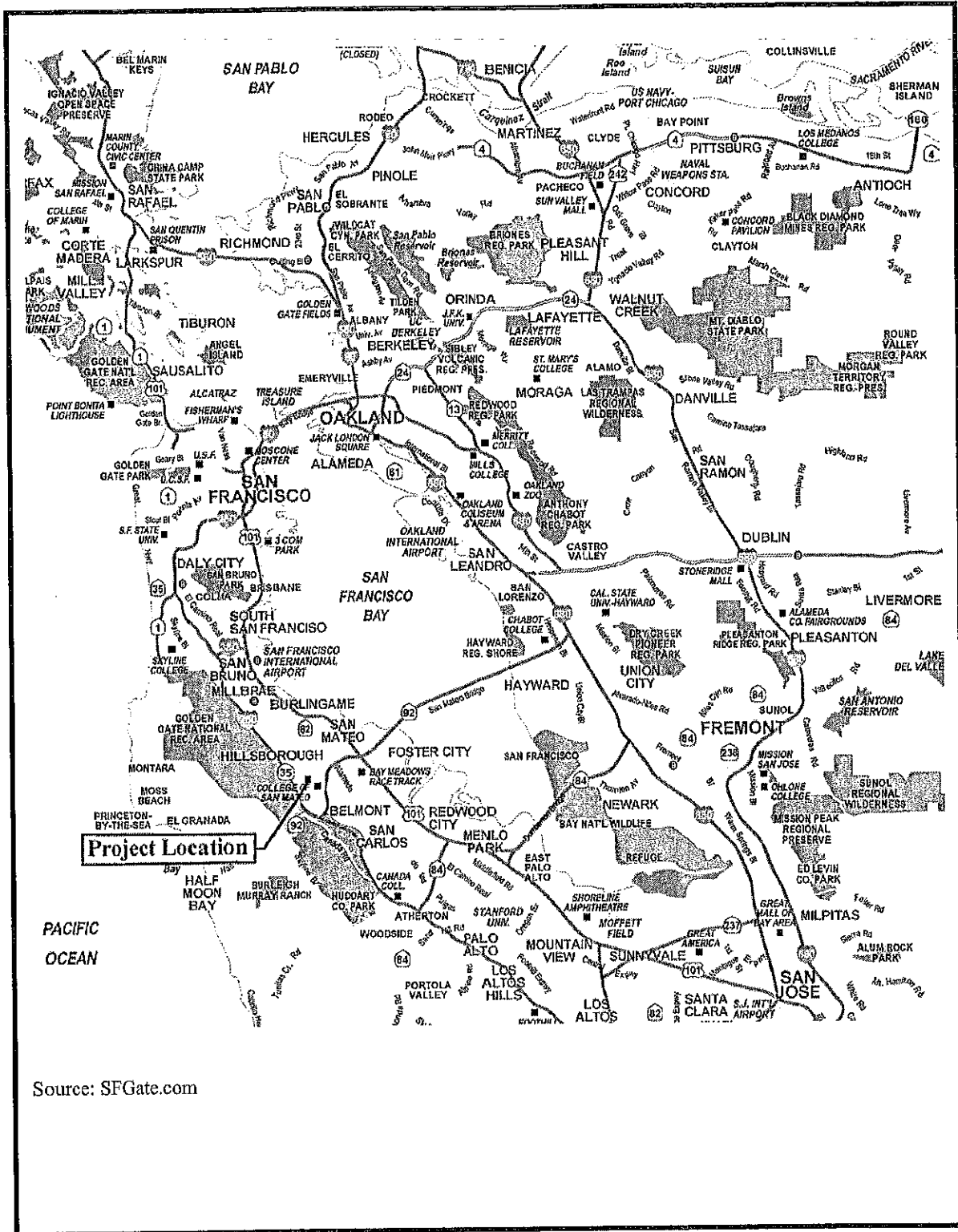
2.0 METHODS AND LIMITATIONS

A formal wetland delineation and preliminary jurisdictional determination of the study area was conducted by biologists Michael Wood and Heath Bartosh on March 5, 2007, in accordance with the procedures outlined in the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2006a). The limits of the ordinary high water mark (OHWM) conformed with procedures outlined in USACE (2006b). The project boundaries are exhibited in figures 2, 3 and 5.

A preliminary determination of jurisdiction was based on the presence of aquatic habitats or landscape features such as “waters of the United States”, wetlands meeting the federal three-parameter definition, “waters of the State”, and other wetland or riparian habitats. Federally jurisdictional non-tidal waters of the U.S. must connect ultimately to a “navigable waters” and must include a clear, natural line impressed on the bank, shelving, changes in the character of the soil, scouring of terrestrial vegetation, or the presence of litter and debris (USACE 2006b). Federally jurisdictional wetlands include aquatic habitats that are dominated by wetland indicator plant species, exhibit indicators of hydric soils, and show evidence of wetland hydrology. Waters of the State include waters of the U.S. but also include surface tributaries and isolated wetlands not connected to navigable waters. In many cases, wetlands or riparian habitats dominated by wetland indicator species but lacking field indicators of hydric soils or hydrophytic vegetation also fall under State jurisdiction.

The extent of potential wetlands, riparian habitats, and waters of the U.S./waters of the State were mapped in the field using a Trimbal GeoXT Geographic Positioning System in March 2007 Projection, NAD 1983 State Plane Zone CA Zone III (Figure 5, map pocket). Data on vegetation, soils and hydrology in potential wetlands were collected at seven sample points within the study area (Appendix A). Wetland or riparian habitats not meeting the federal three-parameter definition of wetlands but potentially falling under State jurisdiction were also mapped.

Nomenclature used in this report conforms to Hickman (1993) for plants. Plant community names conform to Holland (1986), Sawyer and Keeler-Wolf (1995) and/or the California Department of Fish and Game (CDFG 2003); wetland community names conforming to Cowardin, *et al.* (1979) are also given. The wetland indicator status of plant species conforms to Reed (1988). Wetland data forms were compiled using CalBiota, Version 2.1.



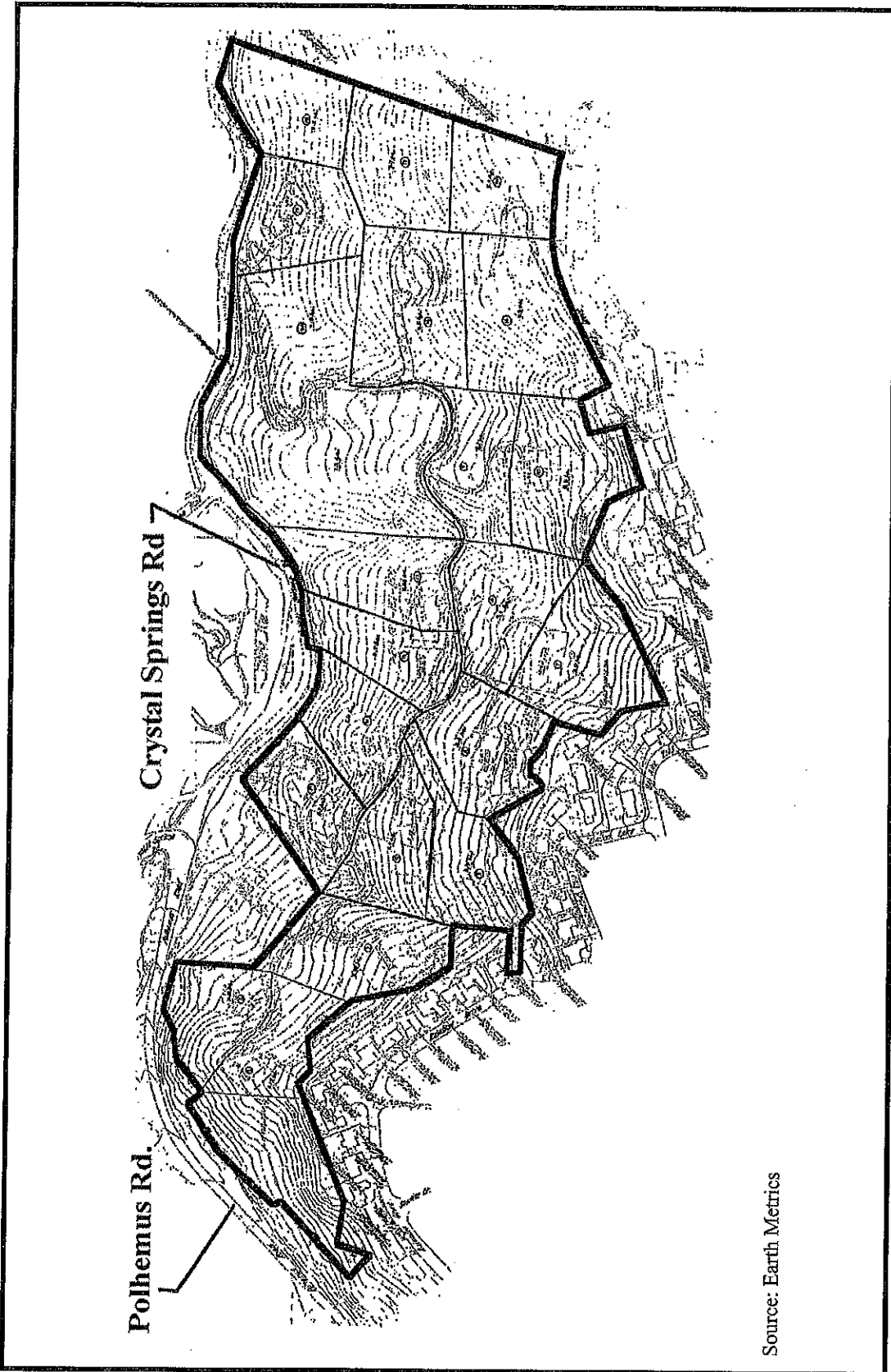
Source: SFGate.com

**WOOD
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Figure 1. Project Location

NORTH

Scale: 1" = 5 miles



Source: Earth Metrics

**WOOD
BIOLOGICAL
CONSULTING**

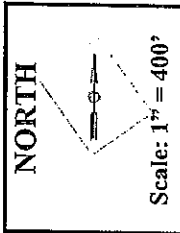


Figure 2. Project Vicinity

3.0 SETTING

The study site covers approximately 60 acres situated on the east side of Crystal Springs Road and west of Parrott Drive, in unincorporated San Mateo County. The subject property is situated on mostly steep terrain with west to southwest-facing slopes. Elevations range from 112-512 feet above mean sea level (msl). Five ephemeral stream channels cross the property, draining the slopes to San Mateo Creek, which does not intersect with the property. 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 study area is provided in Figure 3.

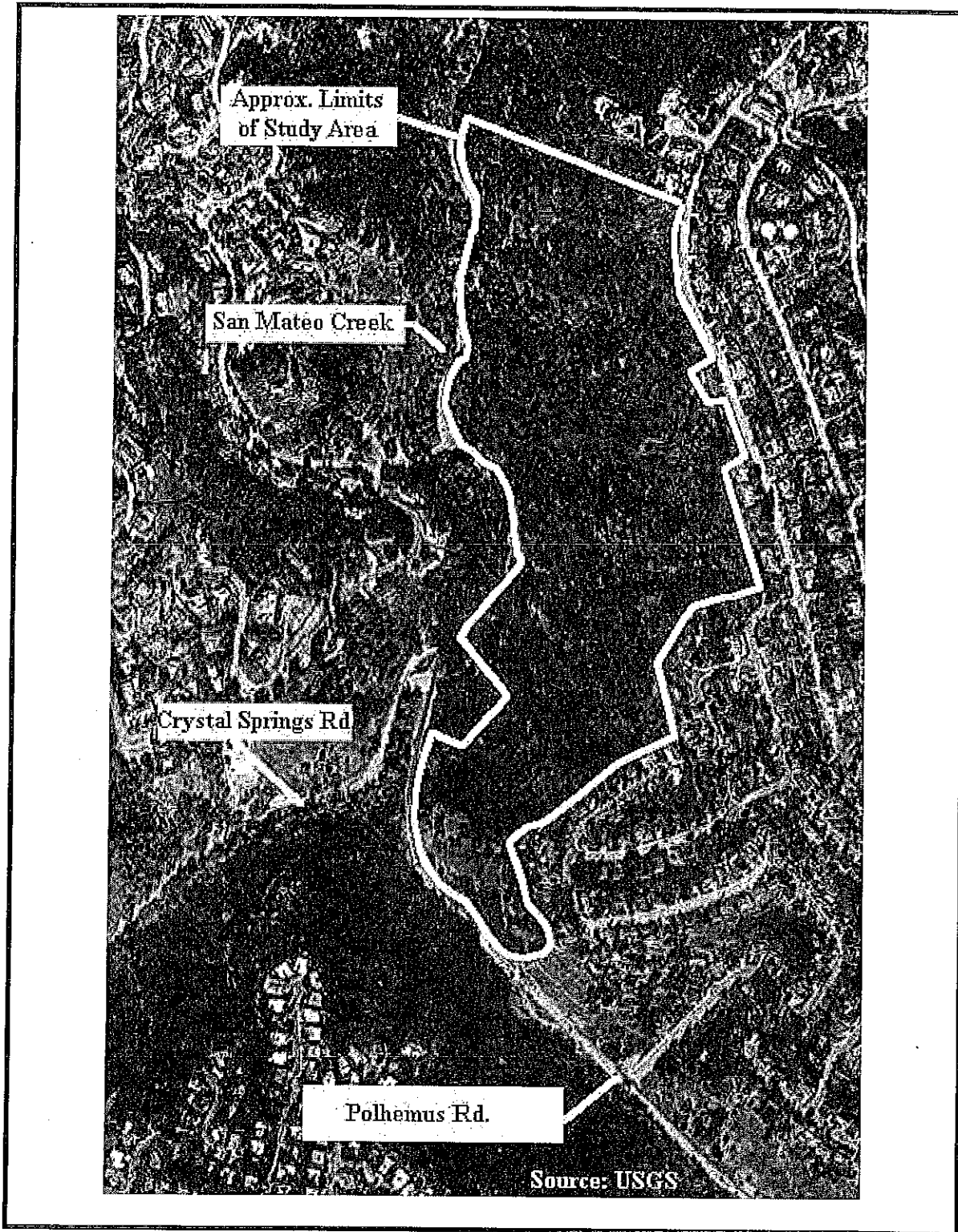
3.1 Characterization of the Vegetation

Within the study area, the predominant vegetation associations are coast live oak woodland, chamise chaparral, northern coastal scrub, northern coyote brush scrub. Other plant associations present on site are Central Coast riparian scrub, northern coastal scrub, and non-native grassland. Each of these plant communities is described, below.

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.


Within the study area, 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 (*Quercus agrifolia*). Other trees commonly found on site include California bay (*Umbellularia californica*), California buckeye (*Aesculus californica*), with scattered individuals of big-leaf maple (*Acer macrophyllum*), and madrone (*Arbutus menziesii*). Native shrub and vine species commonly encountered include toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), hillside gooseberry (*Ribes californicum*), poison oak (*Toxicodendron diversilobum*), common snowberry (*Symphoricarpos albus* var. *laeviagrus*), creeping snowberry (*Symphoricarpos mollis*), California blackberry (*Rubus ursinus*), California honeysuckle (*Lonicera hispidula* var. *vacillans*), and wood rose (*Rosa gymnocarpa*), among others. Native herbaceous species present include hound's tongue (*Cynoglossum grande*), Indian warrior (*Pedicularis densiflora*), wood fern (*Dryopteris arguta*), California polypody (*Polypodium californicum*), goldback fern (*Pentagramma triangularis*), California fescue (*Festuca californica*), giant wildrye (*Leymus condensatus*), blue wildrye (*Elymus glaucus*), osmorhiza (*Osmorhiza chilensis*), yerba buena (*Satureja douglasii*), coyote mint (*Monardella villosa*), bedstraw (*Galium aparine*), woodland strawberry



**WOOD
BIOLOGICAL
CONSULTING**

**Figure 3. Aerial View of Study Area
(February 27, 2004)**

NORTH



Scale: 1" = ca 600'

(*Fragaria vesca*), California bedstraw (*Galium californicum* ssp. *californicum*), and Pacific sanicle (*Sanicula crassicaulis*), among many others.

On site, this vegetation type conforms to the Coast Live Oak series as described by Sawyer and Keeler-Wolf (1995) and would be considered as an upland as classified in Cowardin, *et al.* (1979).

Chamise Chaparral

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

Within the study area, 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 coyote brush (*Baccharis pilularis*), blue blossom (*Ceanothus thyrsiflorus*), sticky monkeyflower (*Mimulus aurantiacus*), California sagebrush (*Artemisia californica*), hollyleaf cherry (*Prunus ilicifolia*), poison oak, hillside gooseberry, and California broom (*Lotus scoparius*), among others. Herbaceous species present include yerba santa (*Eriodictyon californicum*), coffee fern (*Pellaea andromedifolia*), and foothill needlegrass (*Nassella lepida*), among others.

Within the study area, this plant community corresponds to the Chamise Chaparral series as described in Sawyer and Keeler-Wolf (1995) and is an upland following Cowardin, *et al.* (1979).

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).

Within the study area, 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 (*Potentilla glandulosa*), yerba buena, and pitcher sage (*Lepechinia calycina*), among others.

Within the study area, northern coastal scrub most closely corresponds to the California Sagebrush series as described by Sawyer and Keeler-Wolf (1995) and would be classified as an upland following Cowardin, *et al.* (1979).

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 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 within the study area, occurring on the upper slopes, especially where surface moisture is present or on sites that have been disturbed by land slippage or historic site clearing. 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. This plant community is also dominated by poison oak. Other plant species commonly encountered include soap plant (*Chloragalum pomeridianum*), Italian thistle (*Carduus pycnocephalus*), poison hemlock (*Conium maculatum*), ripgut brome, soft chess, bull thistle, Durango root (*Datisca glomerata*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), and pampas grass (*Cortaderia selloana*).

On site, Northern Coyote Brush Scrub conforms to the coyote brush series as described in Sawyer and Keeler-Wolf (1995) and would be classified as an upland following Cowardin, *et al.* (1979).

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.

Within the study area, Central Coast riparian scrub exists in several isolated stands on the steep upper slopes at the tops of draws and where ground water reaches the surface. Characteristic native species occurring on site include arroyo willow (*Salix lasiolepis*), California blackberry (*Rubus ursinus*), coyote brush, small-fruited bulrush (*Scirpus microcarpus*), spreading rush (*Juncus patens*), Pacific rush (*Juncus effusus*), and brown-headed rush (*Juncus phaeocephalus*), among others. Non-native species present include Himalayan blackberry (*Rubus discolor*), pampas grass, evergreen thornless blackberry (*Rubus ulmifolius* var. *inermis*) and poison oak, among others.

On site, Central Coast riparian scrub conforms to the arroyo willow series as described in Sawyer and Keeler-Wolf (1995) and palustrine shrub-scrub wetland following Cowardin, *et al.* (1979).

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.

Within the study area, 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 grasses, wild barley (*Hordeum* spp.), big quaking grass (*Briza maxima*), Italian ryegrass (*Lolium multiflorum*), and rattail fescue (*Vulpia myuros*), among others. Common non-native forbs include yellow star thistle (*Centaurea solstitialis*), bristly ox-tongue (*Picris echioides*), and long-beaked storksbill (*Erodium botrys*), among others. Native species detected include hayfield tarweed (*Hemizonia congesta* ssp. *luzulifolia*), foothill needlegrass, soap plant, tall willowherb (*Epilobium brachycarpum*), and California brome (*Bromus carinatus*), among others.

Non-native annual grassland conforms to the California Annual Grassland series as described in Sawyer and Keeler-Wolf (1995), and would be classified as an upland, following Cowardin, *et al.* (1979).

Seep

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, spreading rush, and dense sedge (*Carex densa*). This isolated seep was soggy at the surface during multiple visits.

3.2 Characterization of the Soils

Soils over a majority of the study area belong to the Los Gatos series, with a small portion of the site at its northern end consisting of Fagan series. Descriptions of these soil types are presented below.

Los Gatos

The Los Gatos series consists of moderately deep, well-drained soils on uplands. These soils formed in material weathered from hard, fractured sandstone. Slopes ranges from 30 to 75 percent. Soils of the Los Gatos series are fine-loamy, mixed, mesic Typic Argixerolls (USDA 1991).

The specific map unit occurring on site is Los Gatos loam, 30 to 75 percent slopes. The native vegetation is mainly oaks, California laurel, brush, annual grasses and forbs. Elevations range from 200 to 400 feet. The average annual precipitation is 25 to 35 inches, the average annual air temperature is 54 to 56°F, and the average frost-free period is 275 to 330 days. Typically, the surface layer is dark grayish brown and light yellowish brown loam about 22 inches thick. Included in this unit are small areas of Fagan, Maymen, and Obispo soils, Rock outcrop and Urban land. Permeability is moderately slow. The available water capacity is low or moderate. Effective rooting depth is 20 to 40 inches. Runoff is rapid or very rapid, and the hazard of water erosion is high or very high. This map unit is not considered hydric (USDA 2004).

Within the study area, virtually the entire slope is mapped as Los Gatos loam, with the exception of the northern most portion of the site, which is mapped as Fagan loam.

Fagan

The Fagan series consists of deep, well-drained soils on uplands. These soils formed in material weathered dominantly from soft sandstone and shale. Slopes range from 15 to 50 percent. Soils of the Fagan series are fine, montmorillonitic, thermic Typic Argixerolls (USDA 1991).

The specific map unit occurring on site is Fagan loam, 15 to 50 percent slopes (USDA 1991). Elevations range from 200 to 2,000 feet. The average annual precipitation is 25 to 35 inches, the average annual air temperature is 56 to 58°F, and the average frost-free period is 275 to 330 days. Typically, the surface layer is brown loam over grayish brown clay loam

about 19 inches thick. Included in this unit are small areas of soils that are similar to the Fagan soil but are less than 40 inches deep to bedrock, have slopes less than 15 percent, or have a lighter colored surface layer. Permeability is slow in the Fagan soil. The available water capacity is moderate or high. Effective rooting depth is 40 to 60 inches. Runoff is rapid or very rapid, and the hazard of water erosion is high or very high. The soil is susceptible to slippage when it is wet, especially in steeper areas. Also included are small areas of Obispo and Maymen soils and Rock outcrop. Fagan soils are not considered hydric (USDA 2004).

Within the study area, Fagan soils are occur at the northern end of the site, extending from Crystal Springs Road to the top of the slope.

3.3 Characterization of the Hydrology

The study area is situated on moderately steep to steep west-facing slopes on the east side of San Mateo Creek. The property boundaries do not overlap with San Mateo Creek, a perennial "blue-line" stream, which runs parallel to the long axis of the property. A total of six incised channels cross the property. Four of these empty directly into San Mateo Creek via buried pipes beneath Crystal Springs Road; these are presumed to be intermittent. The remaining two channels originate and terminate on site with no direct connection to San Mateo Creek, emptying onto the roadside of Crystal Springs Road; these are presumed to be ephemeral (see Figure 5). Although none of the channels on site is mapped as a "blue-line" stream as seen on the 1998 USGS topographic map, three are shown as "blue-line" channels on the 1915 USGS topographic map (Figure 4).

Because the ridgetop above the site has been highly altered as a result of residential development, the natural overland flows have been greatly altered. Increased impervious paving, contributions to ground water from landscaping irrigation, and possible leaky pipes and sewer lines have likely increased surface and subsurface flows over the slopes on site from its natural condition. This is apparent by evidence of surface ground movement, the presence of surface water and soggy ground, and shifts in vegetation patterns.

The intermittent channels cross steep slopes and show evidence of a pattern of repeating blockage from minor slope failures in some locations. Hydrology is affected by direct precipitation, sheet flow, and ground water seepage. Some surface flows in the tributaries originates upslope (*i.e.*, off site) from road runoff. Other than very small pools and riffles within the very steep live channels of the tributaries themselves, there is no evidence of any significant ponding on site.

On the slopes, outside of the intermittent channels, hydrology consists ground water seepage. As stated above, some of the ground water might be natural, although it is likely to be contributed to by irrigation water and leaky pipes. A 8-inch PVC sewer line, connecting four or five homes at the top of the slope to a sewer main broke in the last year as a result of land movement (San Mateo County worker, pers. comm., to M. Wood, 3/5/07). The broken sewer line has since been repaired.

3.4 Wetlands and Other Waters of the U.S.

There are seven categories of Waters of the United States¹. These include:

- (1) *All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;*
- (2) *All interstate waters including interstate wetlands;*
- (3) *All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:*
 - a) *Which are or could be used by interstate or foreign travelers for recreational or other purposes; or*
 - b) *From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or*
 - c) *Which are used or could be used for industrial purposes by industries in interstate commerce;*
- 4) *All impoundments of waters otherwise defined as waters of the United States under the definition;*
- 5) *Tributaries of waters identified in paragraphs (1) through (4) of this section;*
- 6) *The territorial seas; and*
- 7) *Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6) of this section. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act (other than cooling ponds², which also meet the criteria of this definition) are not waters of the United States*

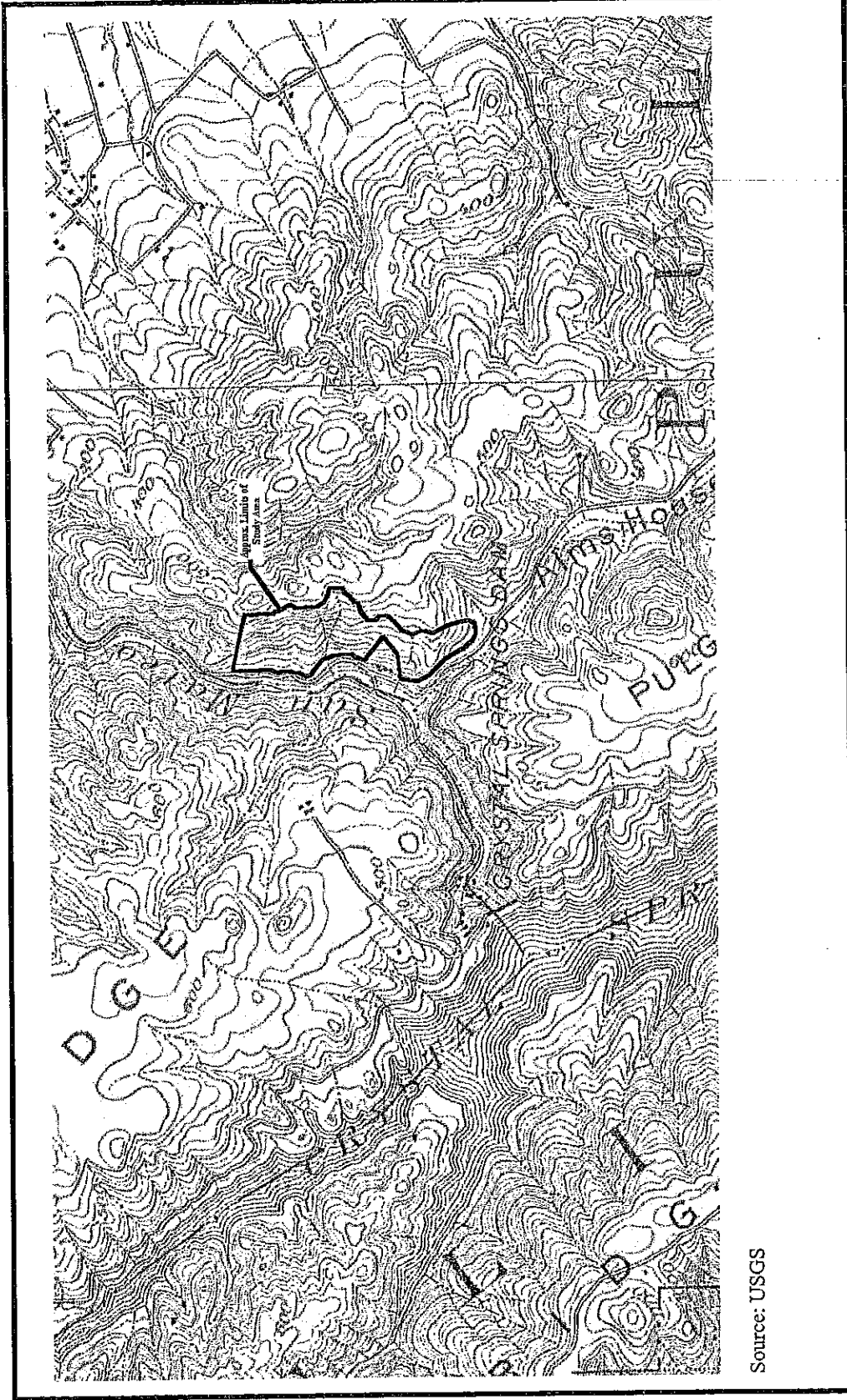
In the absence of adjacent wetlands, the extent of USACE jurisdiction over non-tidal waters is defined by the ordinary high water mark (OHWM). The OHWM is the line on the shores established by the fluctuations of water and indicated by physical characteristics such as³:

- a clear natural line impressed on the bank;
- shelving;
- changes in the character of the soil;
- destruction of terrestrial vegetation;
- the presence of litter and debris;
- or other appropriate means that consider the characteristics of the surrounding areas.

¹ 33 CFR 328.3(a); 40 CFR 230.3(s)

² as defined in 40 CFR 123.11(m)

³ USACE 2006b



NORTH

Scale: 1"=2500'

Figure 4. Historic Topography
(ca 1915)

**WOOD
BIOLOGICAL
CONSULTING**

Under the Porter-Cologne Act, waters of the State are broadly defined as "any surface water or groundwater, including saline waters, within the boundaries of the State"⁴. This definition includes all wetlands, including isolated wetlands, and drainage features such as dry and ephemeral/seasonal stream beds and channels outside USACE jurisdiction.

Under the State Fish and Game Code⁵, the definition of waters of the State emphasizes habitats associated with riparian zones bordering streams and lakes, and the extent of CDFG jurisdiction extends to drip line or edge of canopy. For unvegetated perennial, intermittent, or ephemeral surface waters, CDFG jurisdiction extends top of bank to top of bank.

Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions"⁶. Indicators of all three wetlands parameters (hydric soils, hydrophytic vegetation, wetlands hydrology) must be present for a site to be classified as a wetland (Environmental Laboratory 1987, USACE 2006). These parameters are described in more detail below.

Hydrophytic Vegetation

Hydrophytic vegetation includes those plant species that possess physiological features or reproductive adaptations that allow them to persist in soils subject to prolonged inundation and anaerobic soil conditions. Plant species are classified by their probability of being associated with wetlands or uplands. Obligate (OBL) species almost always (>99% of the time) occur in wetlands. Facultative Wetland (FACW) species occur in wetlands 67-99% of the time. Facultative (FAC) species have an equal probability 33-66% to occur in wetlands. Facultative Upland (FACU) and Obligate Upland (UPL) species occur in wetlands 1-33% and <1% of the time, respectively. For a sample point to meet this criterion, more than 50 percent of the dominant plant species in each of the strata must be OBL, FACW, or FAC indicator species.

All plant species within the study area were identified and their wetland indicator status recorded. The wetland indicator status of each was obtained from the National List of Plant Species that Occur in Wetlands, Region 0, California (Reed 1988). Dominant plant species were determined using the "50/20 Rule". For plant communities that fail the dominance test, but indicators of hydric soils and wetland hydrology are both present, the prevalence index was used to determine dominance by wetland or upland indicator species. The wetland indicator status of commonly encountered plant species detected in or near wetlands on site, along with their wetland indicator status, are summarized in Table 1, below.

⁴ Water Code Section 13050(e)

⁵ §1600, *et seq.*

⁶ §404 Clean Water Act

TABLE 1
WETLAND INDICATOR STATUS OF
COMMON PLANT SPECIES DETECTED WITHIN POTENTIAL WETLANDS

Scientific Name	Common Name	Indicator Status ^b
<i>Baccharis pilularis</i>	coyotebrush	none
<i>Carex densa</i>	dense sedge	OBL
<i>Cortaderia selloana</i>	pampas grass	none
<i>Cyperus eragrostis</i>	umbrella sedge	OBL
<i>Eleocharis macrostachya</i>	creeping spikerush	OBL
<i>Juncus bufonius</i>	toad rush	FACW+
<i>Juncus effusus</i>	common bog rush	OBL
<i>Juncus phaeocephalus</i>	brown-headed rush	FACW
<i>Juncus patens</i>	spreading rush	FAC
<i>Picris echioides</i> ^a	bristly ox-tongue	FAC*
<i>Polypogon monspeliensis</i> ^a	rabbitfoot grass	FACW+
<i>Salix lasiolepis</i>	arroyo willow	FACW
<i>Scirpus microcarpus</i>	small-fruited bulrush	OBL
<i>Toxicodendron diversilobum</i>	poison oak	none

^aindicates non-native species ^bper Reed 1988

Hydric Soils

Hydric soils are those that have formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA 2006). The criteria for hydric soils include:

1. All Histels except for Folistels, and Histosols except for Folists, or
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
 - a. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
 - b. are poorly drained or very poorly drained and have either:
 - (1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
 - (2) a water table at a depth of 0.5 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
 - (3) a water table at a depth of 1.0 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is less than 6.0 in/hr in any layer within a depth of 20 inches, or

3. Soils that are frequently ponded for long or very long duration during the growing season, or
4. Soils that are frequently flooded for long or very long duration during the growing season.

Hydric soil indicators are formed as a result of the accumulation or loss of iron, manganese, sulfur, or carbon compounds. Some characteristic field indicators of hydric soils include the presence of histic epipedon (*i.e.*, a thick organic layer at the surface), sulfidic odor, stratified layers of muck and mineral soils, muck, gleyed soils or soils with a low matrix chroma, redox depletions or concentrations, iron or manganese concretions, and soils listed as hydric by the USDA. Soils information for the project site was obtained from the *Soil Survey of San Mateo County, Eastern part, and San Francisco County* (USDA 1991). Classified hydric soils for San Mateo County are listed by the USDA (2004).

During the present survey, field indicators of hydric soils detected at sample points P 1-1, P 1-2, P 2-2, P 2-3, and P 3-1 included saturated soils within 12 inches of the surface, the presence of a depleted matrix (F3), sulfidic odor (A4), depleted matrix below dark surface (A11).

Wetland Hydrology

For the hydrology parameter to be met, a wetland site must be seasonally inundated or saturated to within 12 inches of the soil surface for at least 12.5 percent of the growing season; areas inundated or saturated to within 12 inches of the soil surface for 5-12.5 percent of the growing season might or might not meet the parameter.

Considering the steepness of the slopes on site and the lack of opportunity for ponding, the most obvious indicator of wetland hydrology, the presence of surface water is not expected. However, numerous seeps are present, most notably in the northeastern end of the study area. Whether cause by the truncation of natural ground water sources or attributable to street runoff, irrigation, or leaky water or sewer lines, the presence of ground water is evidenced by the presence of water-dependent (*i.e.*, hydrophytic) plant species and land movements. Furthermore, surveys of the site conducted during the dry season found saturated soils at or near the surface that are not the result of recent rainfall. The presence of saturated soils at these site indicates that they are likely to be inundated or saturated to within 12 inches of the soil surface for around 41 consecutive days during the growing season to meet the wetland hydrology criterion (0.125 x 330 frost free days [worst-case scenario]).

4.0 RESULTS

Based on this survey, the project site supports a 9,160 sq. ft. (0.21 acre) of wetland habitat potentially falling under federal and State jurisdiction. In addition, the study area includes six surface tributaries to San Mateo Creek, representing federally and State-jurisdictional waters of the U.S./waters of the State. A total of 8,336 sq. ft. (4,624 lin. ft.; 0.19 acre) of unvegetated "waters" are present on site. In addition, the project site supports a total of 9,164 sq. ft. (0.21 acre) of isolated wetland habitat that is presumed to fall under State jurisdiction only. A summary of potentially regulated habitats on site is presented in Table 2.

TABLE 2

SUMMARY OF JURISDICTIONAL HABITATS ON SITE

Habitat Type	Federal and State Jurisdiction*		State Jurisdiction**	
	lin. ft.	sq. ft.	lin. ft.	sq. ft.
Waters of the U.S./State	4,624	8,336	0	0
Central Coast riparian scrub	0	9,160	0	9,031
freshwater marsh (seep)	0	0	0	133
Total	4,624	17,496	0	9,164

* Regulated by the USACE, RWQCB and CDFG

** Regulated only by the RWQCB and/or CDFG (in addition to areas regulated by the USACE)

5.0 PERMITTING IMPLICATIONS

In general, waters of the U.S. including wetlands and waters of the State, including isolated wetlands and riparian habitats are considered sensitive biological resources and typically fall under the jurisdiction of several regulatory agencies. Impacts to these habitats may require federal, State, and/or local permits or agreements. The permits required vary depending upon the location of the project and the type and extent of impacts. However, prior to the issuance of any permit for actions that would result in impacts to wetlands, waters, or special-status species or communities, notification to each of the following agencies is appropriate:

- U.S. Army Corps of Engineers (USACE), San Francisco District
- Regional Water Quality Control Board (RWQCB), San Francisco District
- California Department of Fish and Game (CDFG), Central Coast Region (Region 3)

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

U.S. Army Corps of Engineers

Section 404 of the Clean Water Act of 1972

Section 404 of the federal Clean Water Act (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 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. Waters of the U.S. include:

- All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of tide;
- All interstate waters, including interstate wetlands;
- All other waters, such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce;
- Tributaries of the above;
- Territorial seas; and
- Wetlands adjacent to waters defined above.

Under Section 404 projects may be authorized under existing general permits (a nationwide permit) or may require an individual permit. A nationwide permit is a more streamlined

permit process than an individual permit, although supporting compliance efforts, such as for the federal Endangered Species Act, are identical regardless of permit type. If the USACE decides that the project is ineligible for a nationwide permit, then a Section 404 Individual Permit would be required. The requirements of some Section 404 Nationwide Permits allow for impacts to less than 0.5 acre of federally jurisdictional wetlands and/or 300 linear feet of surface tributaries. Projects that would exceed these thresholds typically must be processed under a Section 404 Individual Permit. As a part of the Section 404 Individual Permit process, an Alternatives Analysis⁷ and National Environmental Policy Act (NEPA) review would also be required.

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 standards⁸. 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.

Under the Porter-Cologne Water Quality Control Act⁹, 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...."¹⁰ 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 project does not require a federal permit (*i.e.*, a Nationwide Permit for the USACE), it may require review and approval of 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 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

⁷ Clean Water Act Section 404(b)(1)

⁸ 23 CCR 3830 *et seq.*

⁹ Cal. Water Code §§13000-14920

¹⁰ Cal. Water Code §13050

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 Game

Streambed Alteration – Section 1600 Series Permit

The CDFG administers Section 1600 *et seq.* 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 CDFG] 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”¹¹. The extent of CDFG jurisdiction is usually bounded by the tops-of-bank or the outermost edges of adjacent riparian vegetation.

6.0 CONCLUSIONS

The study area supports four intermittent and two ephemeral surface tributaries that are presumed to fall under the jurisdiction of the USACE pursuant to §404 of the CWA, the CDFG pursuant to California Fish and Game Code §1600 *et seq.*, and the RWQCB pursuant to §401 of the CWA and the Porter-Cologne Act. In addition, isolated stands of willows and a single freshwater seep present on site are presumed to fall under State jurisdiction.

These conclusions must be regarded as preliminary and must be confirmed in consultation with each agency before performing any work that would impact aquatic habitats on site.

¹¹ §1601; www.dfg.ca.gov/1600/

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APPENDIX A

WETLAND DELINEATION FORMS

SUMMARY OF JURISDICTIONAL HABITATS

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

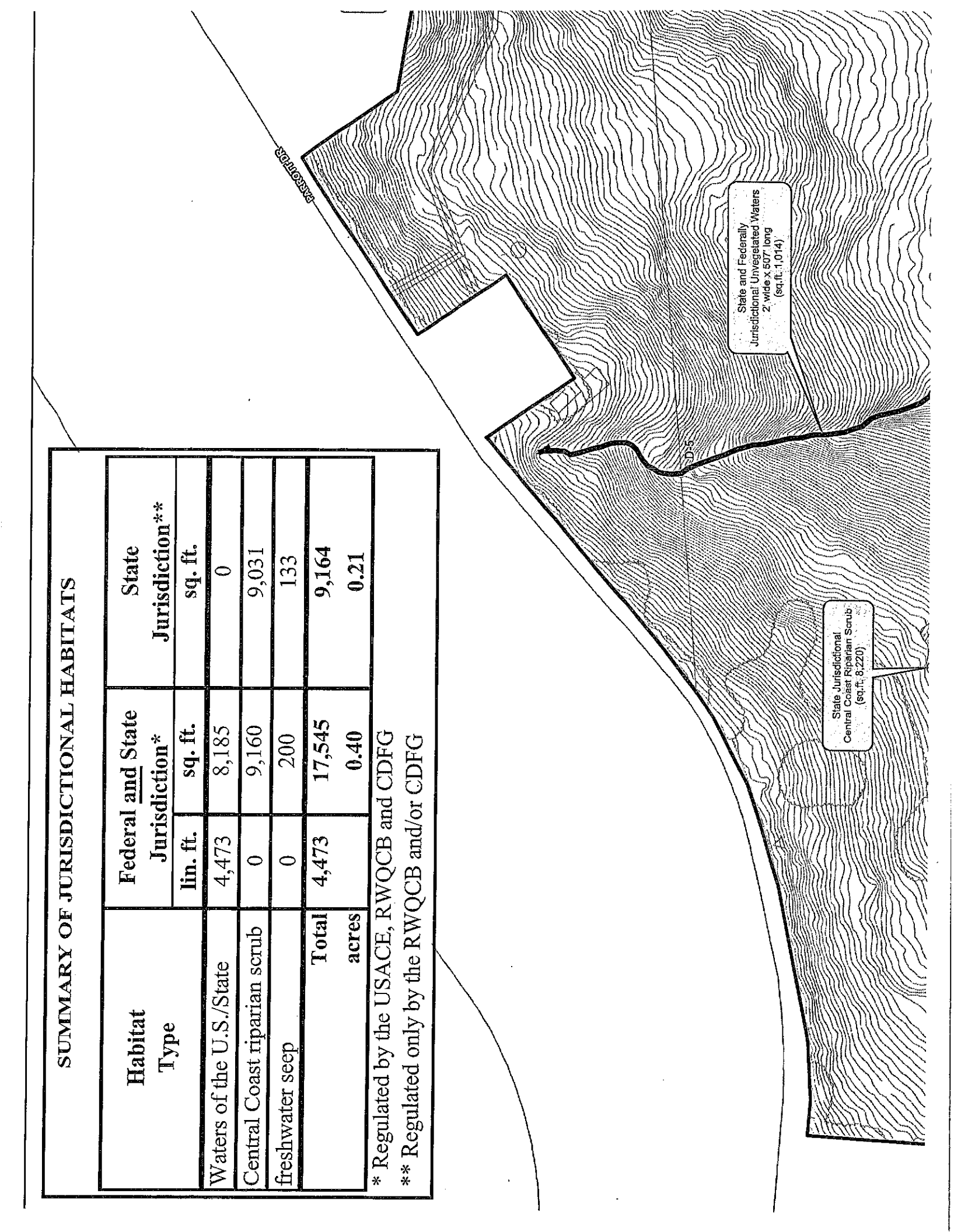
* Regulated by the USACE, RWQCB and CDFG

** Regulated only by the RWQCB and/or CDFG

BRIDGE

State and Federally
Jurisdictional Unvegetated Waters
2' wide x 507' long
(sq. ft. 1,014)

State Jurisdictional
Central Coast Riparian Scrub
(sq. ft. 8,220)

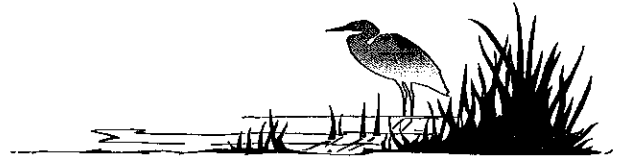






County of San Mateo - Planning and Building Department

ATTACHMENT D



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March 11, 2015
Revised June 6, 2017

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

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

Dear Mr. Zmay:

(Note: subsequent to the issuance of this memorandum, modifications to the grading plan were made to address comments by the County of San Mateo.¹ Figure 2, Attachment A illustrates the revised site plan and limits of grading.)

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

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

¹ Meeting was held on July 12, 2016 at the office of Planning and Building Department; it was attended by Erica Adams and Camille Leung (San Mateo County), Nick Zmay (applicant), and Michael Wood (biological consultant for the applicant.)

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

PROJECT BACKGROUND

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

One of the recommendations contained in that report was the preparation of a formal wetland delineation and its submittal to the U.S. Army Corps of Engineers (USACE) for verification. Based on that recommendation, a wetland delineation of the entire 60-acre property was performed by biologists Michael Wood and Heath Bartosh on March 5, 2007. The survey was performed in accordance with the procedures outlined by the USACE (2006 a, b). The results of that survey were presented in a separate technical report (Wood Biological Consulting, 2007b). The USACE conducted a field inspection of the subject property on September 26, 2007. Based on that inspection, minor revisions to the jurisdictional map were recommended. The revised map, as verified, is presented in Attachment B. A copy of the verification letter from the USACE² is provided in Attachment C.

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

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

² USACE File Number 4007055

METHODS

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

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

RESULTS

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

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

CONCLUSIONS

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

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

No jurisdictional stream channels occur within the boundaries of the four proposed lots (Figure 3, Attachment A). However, canopies of Central Coast riparian scrub, a habitat type found to meet the federal definition of a wetland, overlaps the down-slope boundaries of Lots 2, 3, and 4. This habitat falls under both federal and state jurisdiction. However, the riparian

canopy is no less than 80 feet from the nearest building envelopes. Construction within these building envelopes would not impact riparian habitat.

The anticipated grading needed to repair the documented slide on Parcel 2 (see Figure 2, Attachment A) does not overlap with the mapped limits of the protected riparian scrub. To ensure that unauthorized impacts to riparian habitat does not occur during slide repair, the following measures shall be undertaken:

1. The contractor and the biologist shall meet in the field to identify the limits of riparian habitat.
2. The limits of riparian habitat shall be marked in the field with high visibility construction fencing, and it shall be designated as an environmentally sensitive area (ESA). No equipment shall be permitted to operate within the ESA without prior coordination with and inspection by the project biologist.

If, during the course of excavation, it becomes clear that excavation within the ESA is necessary to satisfy geotechnical concerns, the following measures shall be undertaken:

1. The contractor, geotechnical consultant and biologist shall meet in the field to discuss the likely extent to which excavation within the ESA is needed.
2. If excavation would extend within the canopy of the willows but would not require the removal of any willow trees, grading may be permissible. The pruning of willow branches is not prohibited and prior authorization by the regulatory agencies is not required.
3. However, if excavation would require the removal of willows, or may be reasonably expected to result in the demise of any willows, regulatory permits are required. At this point, work may not proceed until all appropriate permits have been issued by the USACE and Regional Water Quality Control Board (RWQCB) pursuant to the Clean Water Act³, and by the California Department of Fish and Wildlife (CDFW)⁴.
4. Regulatory permits may be expected to require mitigation for temporal or permanent impacts to riparian habitat. Mitigation may include *in situ* restoration by planting, and long-term monitoring for plant survival and habitat restoration. With the issuance of regulatory permits and the implementation of all permit conditions and mitigation measures, impacts to riparian habitat would be reduced to a less-than-significant level pursuant to the guidelines of the California.
5. Copies of all regulatory permits and proof of the successful implementation of all permit conditions and mitigation measures shall be provided to the Planning and Building Department.

³ CWA sections 404 and 401, respectively

⁴ Cal. Fish and Game Code Section 1600, *et seq.* "Lake and Streambed Alteration Program"

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

Sincerely,

A handwritten signature in black ink that reads "Michael Wood". The signature is written in a cursive, slightly slanted style.

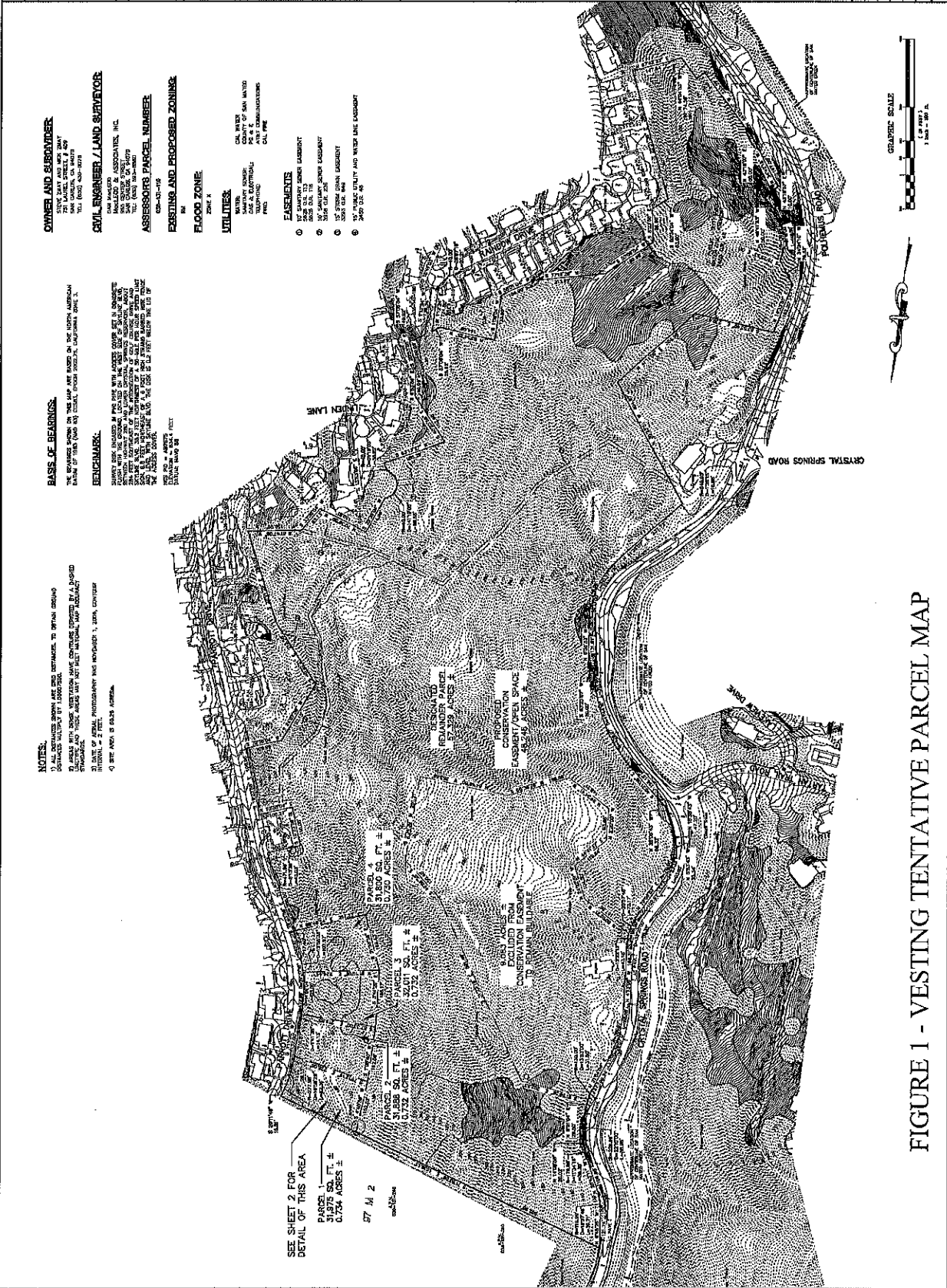
Michael Wood

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

LITERATURE CITED

- Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. *The National Wetland Plant List: 2014 Update of Wetland Ratings – Arid West*. Phytoneuron 2014-41: 1-42. Available online at <http://rsgisias.crrel.usace.army.mil/NWPL/>.
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- United States Army Corps of Engineers (USACE). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0); Final Report*. ERDC/EL TR-08-28. U.S. Army Engineer Research and Development Center, Vicksburg, MS. Available online at <http://www.usace.army.mil/CECW/Documents/cecwo/reg/trel08-28.pdf>.
- 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.

ATTACHMENT A
PROJECT MAPS AND FIGURES



OWNER AND SUBOWNER
 THE BANK OF AMERICA
 771 MARKET STREET, 8th FLOOR
 SAN FRANCISCO, CA 94102
 TEL: (415) 764-6000

CIVIL ENGINEER / LAND SURVEYOR
 MADDAD & ASSOCIATES, INC.
 585 COVER STREET, 8th FLOOR
 SAN CARLOS, CA 94060
 TEL: (650) 553-8580

ASSESSOR'S PARCEL NUMBER
 020-010-0000

EXISTING AND PROPOSED ZONINGS
 IN
 ZONE X

FLOOD ZONE
 ZONE X

UTILITIES
 WATER: 15" DUCTILE IRON
 GAS: 12" BLACK IRON
 SANITARY: 12" DUCTILE IRON
 POWER: 4" ALUMINUM
 CABLE TELEVISION: 4" POLYETHYLENE GLASS FIBER OPTIC

EASEMENTS
 15" DUCTILE IRON EASEMENT
 12" BLACK IRON EASEMENT
 12" POLYETHYLENE GLASS FIBER OPTIC EASEMENT
 15" STYRENE DURAL EASEMENT
 4" SANITARY EASEMENT
 4" CABLE TELEVISION EASEMENT

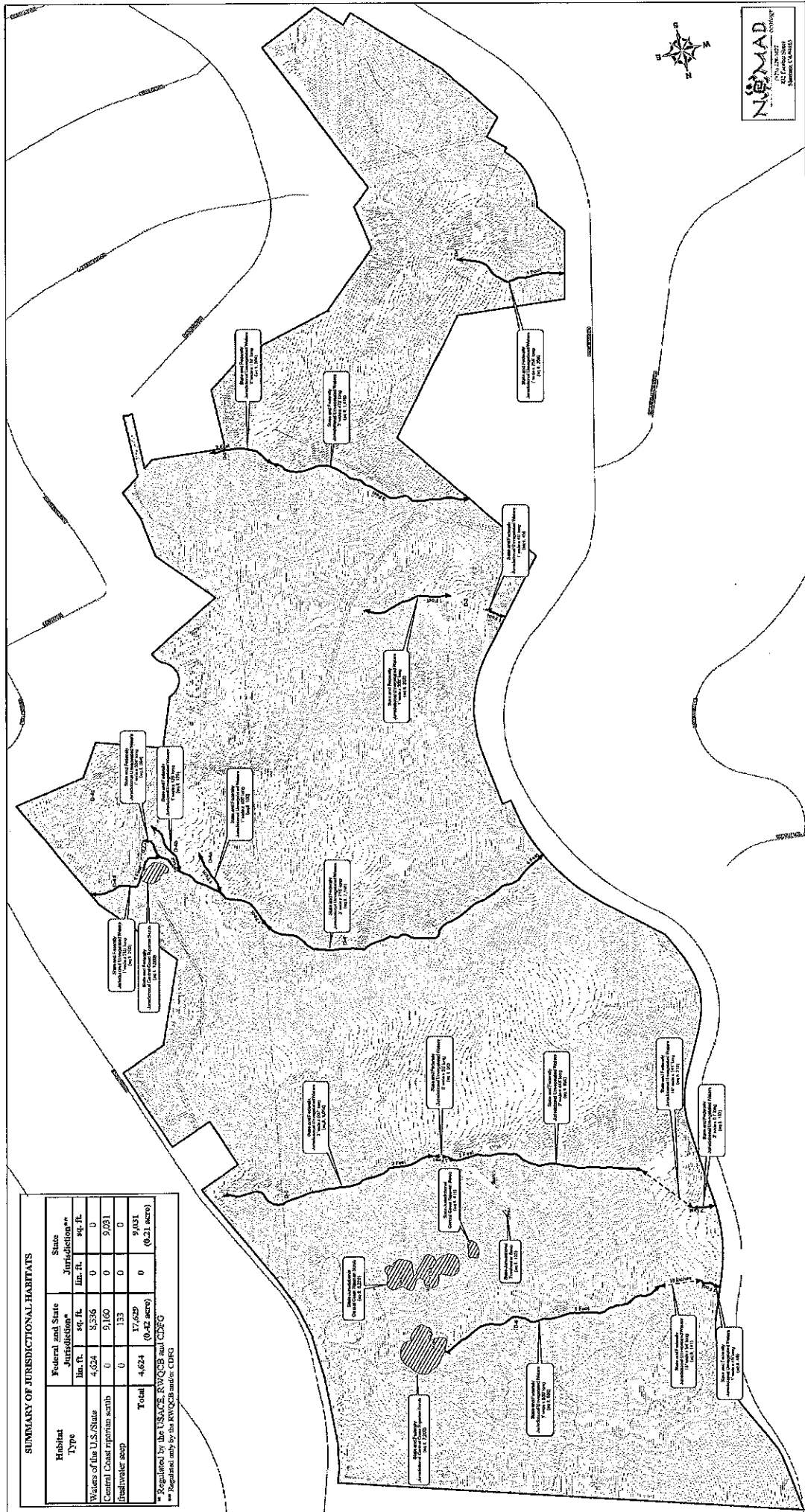
NOTES:
 1. ALL DISTANCES SHOWN ARE FIELD MEASUREMENTS TO NEAREST 0.01 FEET.
 2. THE BOUNDARIES SHOWN ON THIS MAP ARE BASED ON THE MOST RECENT AVAILABLE SURVEY DATA FOR THIS TOWN AND COUNTY RECORDS.
 3. THE BOUNDARIES SHOWN ON THIS MAP ARE BASED ON THE MOST RECENT AVAILABLE SURVEY DATA FOR THIS TOWN AND COUNTY RECORDS.
 4. THE BOUNDARIES SHOWN ON THIS MAP ARE BASED ON THE MOST RECENT AVAILABLE SURVEY DATA FOR THIS TOWN AND COUNTY RECORDS.
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 9. THE BOUNDARIES SHOWN ON THIS MAP ARE BASED ON THE MOST RECENT AVAILABLE SURVEY DATA FOR THIS TOWN AND COUNTY RECORDS.
 10. THE BOUNDARIES SHOWN ON THIS MAP ARE BASED ON THE MOST RECENT AVAILABLE SURVEY DATA FOR THIS TOWN AND COUNTY RECORDS.

FIGURE 1 - VESTING TENTATIVE PARCEL MAP

ATTACHMENT B
VERIFIED JURISDICTIONAL MAP

SUMMARY OF JURISDICTIONAL HABITATS

Habitat Type	Federal Jurisdiction**		State Jurisdiction**	
	lin. ft.	sq. ft.	lin. ft.	sq. ft.
Waters of the U.S./State	4,624	3,336	0	0
Central Coast riparian scrub	0	9,160	0	9,031
freshwater seep	0	133	0	0
Total	4,624	12,629	0	9,031
** Regulated by the USACE, RWQCB and CDEG				
** Regulated only by the RWQCB and CDEG				



Wetland Delineation and Jurisdictional Determination - Figure 5

0/02/07

Beeson Property Boundary

Aquatic Resources

Freshwater Seep

Wetland Data Points

Central Coast Riparian Scrub

Wetland Data Points

Corn/Watercourse

Cultivated Watercourse

Wetland Delineation Map of the Beeson Property

ATTACHMENT C

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



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

NOV 7 2007

Regulatory Branch

SUBJECT: File Number 400705S

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

Dear Mr. Syme:

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

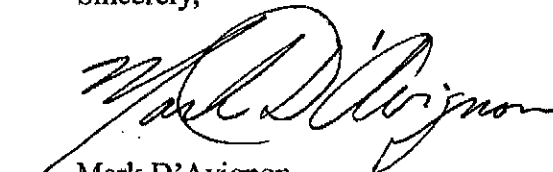
Enclosed is a map showing the extent and location of Corps of Engineers' jurisdiction. We have based this jurisdictional delineation on the current conditions on the site as verified during a site visit performed by our staff on September 26, 2007. A change in conditions may also change the extent of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

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

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

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

Sincerely,



Mark D'Avignon
Chief, South Section
Regulatory Branch

Enclosures

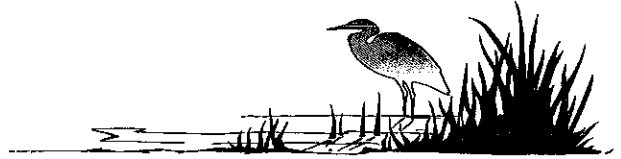
Copies Furnished (w/o Enclosures):

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



County of San Mateo - Planning and Building Department

ATTACHMENT E



WOOD BIOLOGICAL CONSULTING, Inc.

65 Alta Hill Way
Walnut Creek, CA 94595
Tel: (925) 899-1282
Fax: (925) 939-4026
e-mail: mike@wood-biological.com
www.wood-biological.com

August 16, 2017

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

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

Dear Mr. Zmay:

This memorandum presents an evaluation of the channels and wetland habitats present in the vicinity of the proposed four-lot residential subdivision on your property in unincorporated San Mateo County. This evaluation is based on a wetland delineation and jurisdictional determination prepared by me for the Zmay (formerly Beeson) property in 2007 (Wood Biological Consulting, 2007b).

The primary purpose of this effort is to fine-tune the limits of jurisdiction of a stand of willows growing below Parcels 2 and 3. The need for this arises from the identification of a landslide located predominantly on Parcel 2; repair of this landslide is required to enable the development of the parcel. And while the geotechnical engineer has mapped the likely limits of slope repair as not encroaching upon the willow habitat, the County has expressed concerns regarding the potential for impacts. This effort is also warranted because ten years have passed since the completion of the original wetland survey.

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 (see Attachment A, Figure 1). The proposed four-lot subdivision has been reduced in size to cover a total of 2.93 acres. The remainder of the property includes 48 acres to be designated as open space protected by a conservation easement and 9 acres excluded from the conservation easement and to remain buildable at a future date.

PROJECT BACKGROUND

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

One of the recommendations contained in that report was the preparation of a formal wetland delineation and its submittal to the U.S. Army Corps of Engineers (USACE) for verification. Based on that recommendation, a wetland delineation of the entire 60-acre property was performed by biologists Michael Wood and Heath Bartosh on March 5, 2007. The survey was performed in accordance with the procedures outlined by the USACE (2006 a, b). The results of that survey were presented in a separate technical report (Wood Biological Consulting, 2007b). The USACE conducted a field inspection of the subject property on September 26, 2007. Based on that inspection, minor revisions to the jurisdictional map were recommended. The revised map, as verified, is presented in Attachment B. A copy of the verification letter from the USACE¹ is provided in Attachment C. The verified jurisdictional determination expired five years after the date of the USACE verification letter (i.e., on November 6, 2012).

Subsequent to the completion of the 2007 biological studies, the owners put forth a revised project consisting of a five-lot subdivision, with four lots to accommodate four new single-family residences. The location of the proposed four residential lots is shown in Figure 3 (Attachment A). In support of the County's environmental review process, an evaluation of site conditions was performed to determine if development of the four parcels is likely to impact any of the identified biological constraints. The results were presented in separate memoranda covering botanical resources (Wood Biological Consulting, Inc., 2015a), wetlands (Wood Biological Consulting, Inc., 2015b), and creek setbacks (Wood Biological Consulting, Inc., 2015c).

METHODS

As discussed above, the identification of a landslide on Parcel 2 have led to concerns on the part of the County that the proposed repairs could result in direct impacts on wetlands falling under the jurisdiction of the USACE. Furthermore, as the verified delineation has expired, County staff felt that a revised delineation is needed. Therefore, a formal wetland delineation was undertaken by Wood Biological Consulting, Inc. The focus of this effort is solely on the willow habitat located immediately below Parcels 2 and 3, and adjacent to the landslide (see Attachment A, Figure 3). A formal wetland delineation was performed in conformance to the guidelines of the guidelines of the USACE (2006, 2008) and Environmental Laboratory (1987). Utilizing field data, site observations and recent and

¹ USACE File Number 4007055

historic aerial photographs, the wetland/upland boundary was mapped (see Attachment A, Figure 3). A total of two data points were sampled and data on vegetation, soils and hydrology were collected and recorded (field data forms are attached as Attachment D). In addition to the limits of jurisdiction of the USACE, the limits of jurisdiction of the California Department of Fish and Wildlife (CDFW) were also mapped.

RESULTS AND DISCUSSION

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

During the 2014 reconnaissance survey of the reduced study area, it was found that site conditions had not changed notably since verified in 2007. However, due to concerns raised by the County regarding the proximity of a stand of willows to the anticipated limits of grading associated with a slide repair area, an effort was undertaken to refine the delineation of habitat features falling under federal versus state jurisdiction.

The U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (USEPA) assert jurisdiction over "non-navigable tributaries of traditional navigable waters (TNW) that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months)" and "wetlands that abut such tributaries" (USEPA/USACE, 2008). Such areas are referred to collectively as "waters of the U.S."² The extent of USACE jurisdiction corresponds to the Ordinary High Water Mark (OHWM).³ Wetlands are defined as "those areas that are inundated or

² As defined in 40 CFR 230.3(s), Waters of the U.S. include:

- All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of tide;
- All interstate waters, including interstate wetlands;
- All other waters, such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce;
- Tributaries of the above;
- Territorial seas; and
- Wetlands adjacent to waters defined above.

Although isolated wetlands no longer fall under USACE jurisdiction, impacts to isolated wetlands continue to be regulated under State law (see below).

³ The OHWM is the line on the shores established by the fluctuations of water and indicated by physical characteristics such as: a clear natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding areas (USACE, 2006).

saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."⁴ Indicators of all three wetland parameters (e.g., hydric soils, hydrophytic vegetation, and wetland hydrology) must be present for a site to be classified as a wetland (Environmental Laboratory, 1987; USACE, 2006a). As such, the placement of fill into waters of the U.S. is regulated pursuant to the CWA⁵ and falls under the jurisdiction of the USACE and the San Francisco Regional Water Quality Control Board (RWQCB).

The CDFW also asserts jurisdiction over water courses and water bodies. Pursuant to the Lake and Streambed Alteration Program (LSAP)⁶, entities must notify the CDFW prior to commencing any of the following activities:

- Substantially divert or obstruct the natural flow of any river, stream or lake⁷;
- Substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or
- Deposit debris, waste or other materials that could pass into any river, stream or lake.

In addition, the extent of CDFW jurisdiction extends to the top of bank or beyond if an overhanging riparian canopy is present. Such habitat features are classified as waters of the State⁸.

In order to distinguish federally jurisdictional wetlands from potential waters of the State, a formal wetland delineation of the riparian habitat nearest the proposed slide repair was performed. Field data from two sample points were collected and recorded (see Attachment D). The upland/wetland boundary was flagged in the field, surveyed and mapped. The outer canopy edge of the willows was also surveyed and mapped.

As shown in Figure 3, the area in which field indicators of all three federal wetland parameters is smaller than that defined by the outer edge of the willow canopy. In total, the area of waters of the U.S. occupies 1,810 square feet while the area of willow canopy occupies 9,760 square feet (inclusive of the waters of the U.S.).

⁴ CWA §404

⁵ CWA § 404 and CWA § 401

⁶ CFGC §§ 1600, et seq.

⁷ These include those that are episodic (they are dry for periods of time) as well as those that are perennial (they flow year round). This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water.

⁸ As defined under California Water Code §13050(e), Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state". These include nearly every surface or ground water in California, or tributaries thereto, and include drainage features outside USACE jurisdiction (e.g., dry and ephemeral/seasonal stream beds and channels, etc.), isolated wetlands (e.g., vernal pools, seeps, springs and other groundwater-supplied wetlands, etc.), and storm drains and flood control channels.

CONCLUSIONS

Based on the current wetland delineation, the anticipated limits of grading for the proposed slide repair would not encroach upon habitat features regulated under the CWA (i.e., waters of the U.S.). As long as grading for the slide repair avoids the limits of the wetland as shown in Figure 3, a federal permit would not be required.

Regarding encroachment into the canopy of the willows, trimming of willow branches is not typically regulated if no other impacts to waters of the U.S. or waters of the State are proposed. Willows grow back rapidly after pruning. The litmus test for this work should be whether or not any willow trees would need to be graded out completely. Before any willow trees rooted outside of the limits of federal jurisdiction are removed, the CDFW should be contacted.

To satisfy the concerns of the County regarding the slope repair project as it might affect riparian habitat and wetlands, the following measures shall be undertaken:

1. The contractor and the biologist shall meet in the field to identify the limits of riparian habitat.
2. The limits of riparian habitat shall be marked in the field with high visibility construction fencing, and it shall be designated as an environmentally sensitive area (ESA). No equipment shall be permitted to operate within the ESA without prior coordination with and inspection by the project biologist.

If, during the course of excavation, it becomes clear that excavation within the ESA is necessary to satisfy geotechnical concerns, the following measures shall be undertaken:

1. The contractor, geotechnical consultant and biologist shall meet in the field to discuss the likely extent to which excavation within the ESA is needed.
2. If excavation would extend within the canopy of the willows but would not require the removal of any willow trees, grading may be permissible. The pruning of willow branches is not prohibited and prior authorization by the regulatory agencies is not required.
3. If excavation would require the removal of willows outside of the limits of federal jurisdiction, the CDFW will be notified and appropriate mitigation measures developed.
4. If excavation would require the removal of willows within the limits of federal jurisdiction, a federal permit is required. At this point, work may not proceed until all appropriate permits have been issued by the USACE and Regional Water Quality Control Board (RWQCB) pursuant to the Clean Water Act⁹, and by the California Department of Fish and Wildlife (CDFW)¹⁰.

⁹ CWA sections 404 and 401, respectively

¹⁰ Cal. Fish and Game Code Section 1600, *et seq.* "Lake and Streambed Alteration Program"

5. Regulatory permits may be expected to require mitigation for temporal or permanent impacts to riparian habitat. Mitigation may include *in situ* restoration by planting, and long-term monitoring for plant survival and habitat restoration. With the issuance of regulatory permits and the implementation of all permit conditions and mitigation measures, impacts to riparian habitat would be reduced to a less-than-significant level pursuant to the guidelines of the California.
6. Copies of all regulatory permits and proof of the successful implementation of all permit conditions and mitigation measures shall be provided to the Planning and Building Department.

Prior to any pruning of willows or other trees or shrubs, a preconstruction survey for nesting migratory birds is warranted if such work would occur between February 1 and August 31. An inspection for nesting San Francisco dusky-footed woodrats should also be performed. All impact avoidance, minimization and mitigation measures outlined in the Mitigated Negative Declaration must be conformed to.

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

Sincerely,



Michael Wood

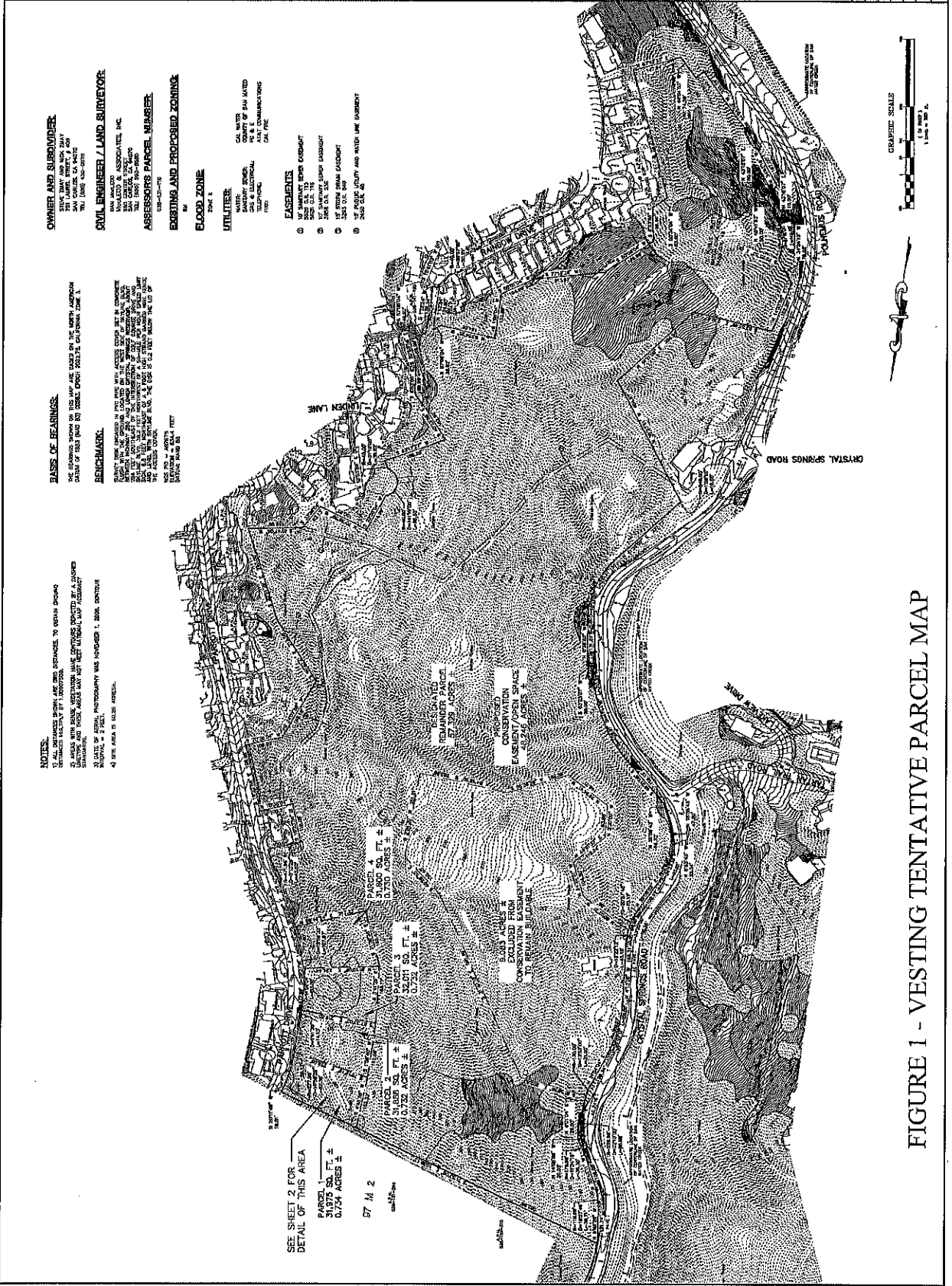
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Attachment A – Project Figures and Maps
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Attachment C – USACE Verification Letter
Attachment D – Wetland Delineation Field Forms

LITERATURE CITED

- Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. *The National Wetland Plant List: 2014 Update of Wetland Ratings – Arid West*. Phytoneuron 2014-41: 1-42. Available online at <http://rsgisias.crrel.usace.army.mil/NWPL/>.
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- 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.

ATTACHMENT A

PROJECT MAPS AND FIGURES



OWNER AND SUBOWNER:
 STEVE TRAY AND RICK TRAY
 SAN CARLOS, CA 95050
 TEL: (925) 593-8500

CIVIL ENGINEER / LAND SURVEYOR:
 MAPLE AND ASSOCIATES, INC.
 585 CENTER STREET
 SAN CARLOS, CA 95050
 TEL: (925) 593-8500

ASSESSOR'S PARCEL NUMBER:
 028-10-010

EXISTING AND PROPOSED ZONING:
 ZONE S

BLOOD ZONE:
 ZONE 1

UTILITIES:
 GAS WATER
 SANITARY SEWER
 TELEPHONE
 CABLE TELEVISION
 CABLE COMMUNICATIONS
 CAL FIRE

EASEMENTS:
 0 10' PUBLIC UTILITY AND WATER LINE EASEMENT
 1 10' PUBLIC UTILITY AND WATER LINE EASEMENT
 2 10' PUBLIC UTILITY AND WATER LINE EASEMENT
 3 10' PUBLIC UTILITY AND WATER LINE EASEMENT
 4 10' PUBLIC UTILITY AND WATER LINE EASEMENT
 5 10' PUBLIC UTILITY AND WATER LINE EASEMENT
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 96 10' PUBLIC UTILITY AND WATER LINE EASEMENT
 97 10' PUBLIC UTILITY AND WATER LINE EASEMENT
 98 10' PUBLIC UTILITY AND WATER LINE EASEMENT
 99 10' PUBLIC UTILITY AND WATER LINE EASEMENT
 100 10' PUBLIC UTILITY AND WATER LINE EASEMENT

BASE OF BEARINGS:
 THE BEARINGS SHOWN ON THIS MAP ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 AND THE LOCAL ZONING DISTRICT MAP OF SAN MATEO COUNTY, CALIFORNIA, ZONE 1.

BENCHMARK:
 THE BENCHMARK IS A 1.5" DIA. IRON ROD WITH A BRASS CAP, SET IN CONCRETE. THE BENCHMARK IS LOCATED AT THE CORNER OF THE PARCEL SHOWN ON THIS MAP. THE BENCHMARK IS 1.5" DIA. IRON ROD WITH A BRASS CAP, SET IN CONCRETE. THE BENCHMARK IS LOCATED AT THE CORNER OF THE PARCEL SHOWN ON THIS MAP.

NOTES:
 1. THIS MAP IS A TENTATIVE PARCEL MAP.
 2. THIS MAP IS NOT TO BE USED FOR ANY OTHER PURPOSE.
 3. THIS MAP IS NOT TO BE USED FOR ANY OTHER PURPOSE.
 4. THIS MAP IS NOT TO BE USED FOR ANY OTHER PURPOSE.

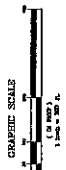


FIGURE 1 - VESTING TENTATIVE PARCEL MAP

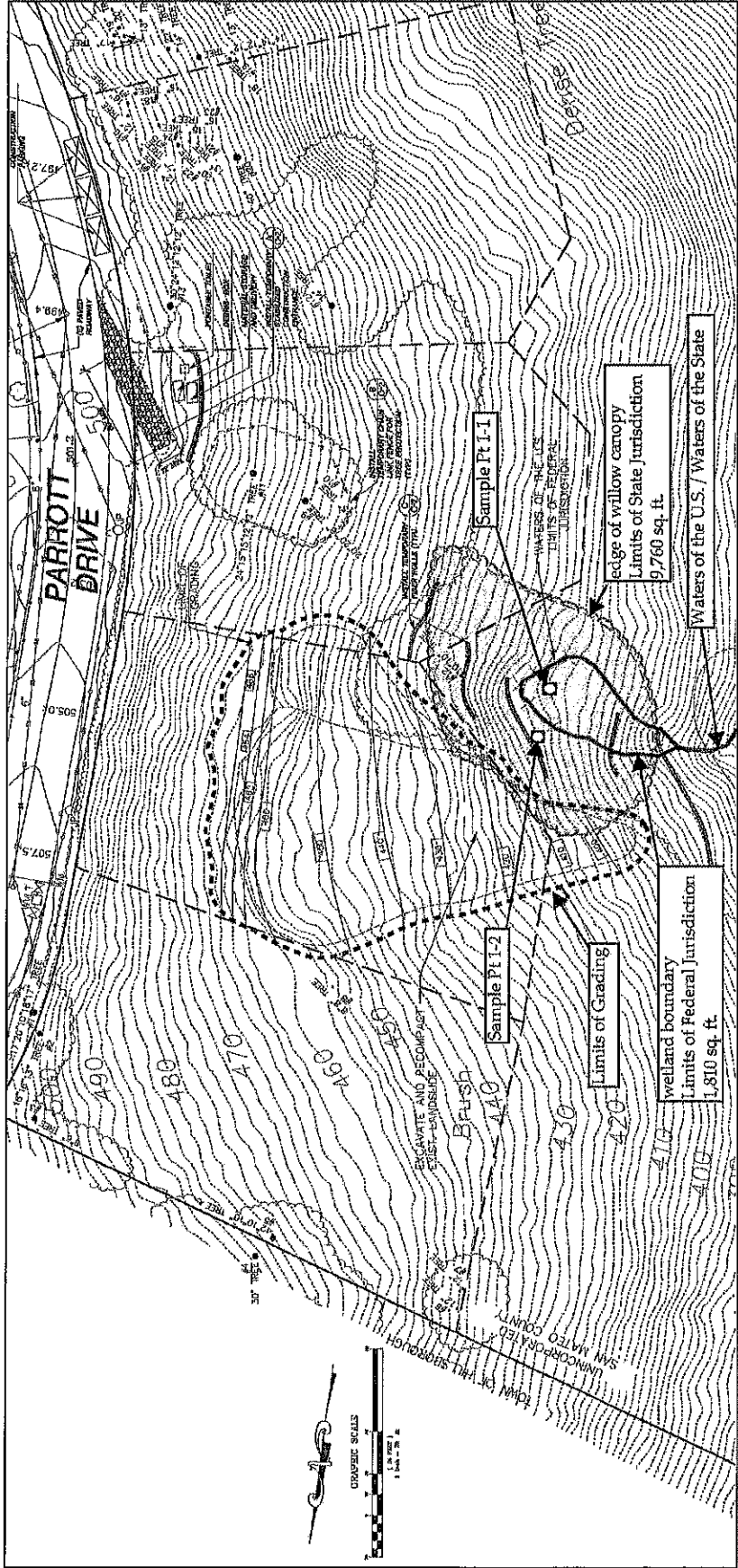


Figure 3. Preliminary Limits of Jurisdiction

ATTACHMENT B
VERIFIED JURISDICTIONAL MAP

ATTACHMENT C

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



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

NOV 7 2007

Regulatory Branch

SUBJECT: File Number 400705S

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

Dear Mr. Syme:

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

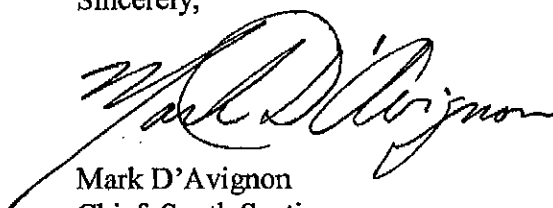
Enclosed is a map showing the extent and location of Corps of Engineers' jurisdiction. We have based this jurisdictional delineation on the current conditions on the site as verified during a site visit performed by our staff on September 26, 2007. A change in conditions may also change the extent of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

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

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

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

Sincerely,



Mark D'Avignon
Chief, South Section
Regulatory Branch

Enclosures

Copies Furnished (w/o Enclosures):

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

ATTACHMENT D

WETLAND DELINEATION FORMS



WETLAND DETERMINATION DATA FORM - Arid West Region



Project/Site: Zmay Property City/County: Hillsborough San Mateo Sampling Date: Jul 16, 2017
 Applicant / Owner: Nick Zmay State: CA Sampling Point: 1-1
 Investigator(s): Mike Wood Section Township Range: _____
 Landform (hillslope, terrace, etc.): hillslope Local Relief (concave, convex, none): sloping Slope(%) 20
 Subregion (LRR): LRR C Lat: 37.539180° Long: 122.346976° Datum: NAD 83
 Soil Map Unit Name: Fagan loam 15-50% slopes NWI Classification: SS-6

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (If no, explain in Remarks)
 Are Vegetation No, Soil No, or Hydrology No, significantly disturbed? Are "Normal Circumstances" present? Yes
 Are Vegetation No, Soil Yes, or Hydrology No, naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes	Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/> Yes
Hydric Soil Present?	<input checked="" type="checkbox"/> Yes		
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes		

Remarks:
 Strong field indicators of wetland hydrology and hydrophytic vegetation; soils are considered naturally problematic and only weakly hydric.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet	
1. <i>Salix lasiolepis</i>	95	Yes	FACW	Number of Dominant Species That are OBI, FACW or FAC	<u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata	<u>3</u> (B)
3. _____				Percent of Dominant Species That are OBI, FACW or FAC	<u>33.3%</u> (A/B)
4. _____				Prevalence Index worksheet	
Total Cover: <u>95</u>				Total % Cover of:	Multiply by:
<u>Sapling/Shrub Stratum</u>				OBL species	<u>1</u> x 1 = <u>1</u>
1. <i>Cortaderia selloana</i>	3	Yes	none	FACW species	<u>1</u> x 2 = <u>2</u>
2. <i>Toxicodendron diversilobum</i>	2	Yes	none	FAC species	_____ x 3 = _____
3. _____				FACU species	_____ x 4 = _____
4. _____				UPL species	_____ x 5 = _____
5. _____				Column Totals	<u>1</u> (A) <u>2</u> (B)
Total Cover: <u>5</u>				Prevalence Index = B/A = <u>2.0</u>	
<u>Herb Stratum</u>				Hydrophytic Vegetation Indicators:	
1. _____				<input type="checkbox"/> No Dominance Test is > 50%	
2. _____				<input checked="" type="checkbox"/> Yes Prevalence Index is ≤ 3.0 ¹	
3. _____				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____				Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____				¹ Indicators of hydric soil and wetland hydrology must be present	
6. _____				Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes	
7. _____					
8. _____					
Total Cover: _____					
<u>Woody Vine Stratum</u>					
1. _____					
2. _____					
Total Cover: _____					
% Bare Ground in Herb Stratum <u>60</u>		% Cover of Biotic Crust <u>0</u>			

Remarks:
 Vegetation is entirely distinct from surrounding oak woodland and scrub on steep slope. Clearly dominated by FACW indicator species. Willow canopy is nearly complete.

SOIL

Sampling Point: 1-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 5/3	85	none				Silty clay loam	
	10YR 4/1	15						
2-18	10YR 4/1	85	none				Silty clay loam	
	10YR 5/3	15						
.....								
.....								
¹ Type: C=Concentration, D=Depletion, RM=Reduced matrix. ² Location: PL=Pore Lining, RC=Root Channel, M=Matrix								
Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)						Indicators for Problematic hydric Soils³		
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	1 cm Muck (A9) (LLR C)			
<input type="checkbox"/>	Histic Epipedon(A2)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	2 cm Muck (A10) (LLR B)			
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Loamy Mucky Mineral (F1)	<input type="checkbox"/>	Reduced Vertic (F18)			
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Red Parent Material (TF2)			
<input type="checkbox"/>	Stratified Layers ((A5) (LRR C)	<input type="checkbox"/>	Depleted Matrix (F3)	<input checked="" type="checkbox"/>	Other (Explain in Remarks)			
<input type="checkbox"/>	1 cm Muck (A9) (LRR D)	<input type="checkbox"/>	Redox Dark Surface (F6)					
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input type="checkbox"/>	Depleted Dark Surface (F7)					
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Redox Depressions (F8)					
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Vernal Pools (F9)					
<input type="checkbox"/>	Sandy Gleyed Matrix (S4)					³ Indicators of hydrophytic vegetation and wetland hydrology must be present		
Restrictive layer (if present)								
Type: _____								
Depth (inches): _____						Hydric Soil Present? <input type="checkbox"/> Yes		
Remarks: Sample point is located at a point where ground water discharges on a steep slope (seep). Due to a preponderance of evidence of hydrophytic vegetation and wetland hydrology, site is considered to support naturally problematic hydric soils.								

HYDROLOGY

Wetland hydrology Indicators Primary Indicators (any one indicator is sufficient)				Secondary Indicators (2 or more required)			
<input type="checkbox"/>	Surface Water (A1)	<input type="checkbox"/>	Salt Crust (B1)	<input type="checkbox"/>	Water Marks (B1) (Riverine)		
<input type="checkbox"/>	High Water Table (A2)	<input type="checkbox"/>	Biotic Crust (B12)	<input type="checkbox"/>	Sediment Depsits (B2) (Riverine)		
<input type="checkbox"/>	Saturation (A3)	<input type="checkbox"/>	Aquatic Invertebrates (B13)	<input type="checkbox"/>	Drift Deposits (B3) (Riverine)		
<input type="checkbox"/>	Water Marks (B1) (Nonriverine)	<input type="checkbox"/>	Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/>	Drainage Patterns		
<input checked="" type="checkbox"/>	Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/>	Oxidized Rhizospheres along living roots (C3)	<input type="checkbox"/>	Dry-Season Water Table (C2)		
<input checked="" type="checkbox"/>	Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/>	Presence of Reduced Iron (C4)	<input type="checkbox"/>	Crayfish Burrows (C8)		
<input type="checkbox"/>	Surface Soil Cracks (B6)	<input type="checkbox"/>	Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/>	Saturation Visible on Aerial Imagery (C9)		
<input type="checkbox"/>	Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/>	Thin Muck Surface (C7)	<input type="checkbox"/>	Shallow Aquitard (D3)		
<input type="checkbox"/>	Water-Stained Leaves	<input type="checkbox"/>	Other (Explain in Remarks)	<input checked="" type="checkbox"/>	FAC-Neutral Test (D5)		
Field Observations:							
Surface Water Present		<input type="checkbox"/> No	Depth (inches)	_____			
Water Table Present?		<input type="checkbox"/> No	Depth (inches)	_____			
Saturation Present (Includes capillary fringe)		<input type="checkbox"/> No	Depth (inches)	_____		Wetlands Hydrology Present? <input type="checkbox"/> Yes	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections) if available							
Remarks: Sample point is situated in a topographic fold on a steep slope, and at the site of a historic slide. There is clear evidence of concentrated sheet flow across the site., downslope of the sample point is a head cut and incised channel. Sample point is clearly dominated by FACW species.							



WETLAND DETERMINATION DATA FORM - Arid West Region



Project/Site: Zmay Property City /County: Hillsborough San Mateo Sampling Date: Jul 16, 2017
 Applicant / Owner: Nick Zmay State: CA Sampling Point: 1-2
 Investigator(s): Mike Wood Section Township Range: _____
 Landform (hillslope, terrace, etc.): hillslope Local Relief (concave, convex, none): sloping Slope(%) 20
 Subregion (LRR): LRR C Lat: 37.539224° Long: 122.346948° Datum: NAD 83
 Soil Map Unit Name: Fagan loam 15-50% slopes NWI Classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? **Yes** (If no, explain in Remarks)
 Are Vegetation **No**, Soil **No**, or Hydrology **No**, significantly disturbed? Are "Normal Circumstances" present? **Yes**
 Are Vegetation **No**, Soil **No**, or Hydrology **No**, naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> No Hydric Soil Present? <input type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> No
Remarks: Based on topography and dominant vegetation, sample point is clearly not located in a wetland.	

VEGETATION

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet
1. <u><i>Salix lasiolepis</i></u>	40	Yes	FACW	Number of Dominant Species That are OBI, FACW or FAC <u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata <u>6</u> (B)
3. _____				Percent of Dominant Species That are OBI, FACW or FAC <u>16.7%</u> (A/B)
4. _____				
Total Cover: <u>40</u>				Prevalence Index worksheet
<u>Shrub/Strat</u>				Total % Cover of: _____ Multiply by: _____
1. <u><i>Toxicodendron diversilobum</i></u>	40	Yes	none	OBL species _____ x 1 = _____
2. <u><i>Artemisia californica</i></u>	20	Yes	none	FACW species <u>1</u> x 2 = <u>2</u>
3. <u><i>Mimulus aurantiacus</i></u>	15	Yes	none	FAC species _____ x 3 = _____
4. _____				FACU species _____ x 4 = _____
5. _____				UPL species _____ x 5 = _____
Total Cover: <u>75</u>				Column Totals <u>1</u> (A) <u>2</u> (B)
<u>Herb Stratum</u>				Prevalence Index = B/A = <u>2.0</u>
1. <u><i>Clinopodium douglasii</i></u>	5	Yes	none	Hydrophytic Vegetation Indicators: <input type="checkbox"/> No Dominance Test is > 50% <input checked="" type="checkbox"/> Yes Prevalence Index is ≤ 3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present
2. <u><i>Iris douglasiana</i></u>	2	Yes	none	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <u>7</u>				
<u>Woody Vine Stratum</u>				Hydrophytic Vegetation Present? <input type="checkbox"/> No
1. _____				
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum <u>25</u>		% Cover of Biotic Crust <u>0</u>		

Remarks:
 Sample point is located on a slope change above a seepage area, and on the face of an historic landslide. Willow canopy is overhanging from trees rooted in the seep, and therefore not indicative of the ground conditions. Vegetation rooted at the sample point is scrub, and typical of a non-wetland situation.

SOIL

Sampling Point: 1-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 5/3	100	none				Silty clay loam	
2-12	10YR 5/3	80	none				Silty clay loam	
	10YR 4/2	20						

¹ Type: C=Concentration, D=Depletion, RM=Reduced matrix. ² Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRR's, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers ((A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic hydric Soils³

- 1 cm Muck (A9) (LLR C)
- 2 cm Muck (A10) (LLR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present

Restrictive layer (if present)

Type: _____
Depth (inches): _____

Hydric Soil Present? No

Remarks:

No field indicators of hydric soils are evident.

HYDROLOGY

Wetland hydrology Indicators Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves
- Salt Crust (B1)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along living roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present No Depth (inches) _____
 Water Table Present? No Depth (inches) _____
 Saturation Present (includes capillary fringe) No Depth (inches) _____

Wetlands Hydrology Present? No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections) if available

Remarks:

Sample point is situated on the face of an historic slide. There is no evidence of sheet flow or subsurface seepage. Sample point is not likely to be inundated or saturated within 12 inches of the surface for a significant portion of the growing season.