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Biological Study

Flynnville Wine Company P12-00222 & P12-00223
Planning Commission Hearing February 15, 2017

Biological Resource Survey

Flynnville Wine Company

1184 Maple Lane
Calistoga, CA

Prepared
For

Flynnville Wine Company

By
Kjeldsen Biological Consulting
923 St. Helena Ave.
Santa Rosa, CA 95404

January 2013

Biological Resource Survey

Flynnville Wine Company

1184 Maple Lane
Calistoga, CA

PROJECT NAME:

Flynnville Wine Company
1402 St Helena Hwy
and 1184 Maple Lane
Calistoga, CA

Use Permit for Winery

APN # 020-320-003, 006, 009, 011-014;
& 020-017-012

CIVIL ENGENEER:

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Santa Rosa, CA 95403

PROJECT COORDINATOR

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PERIOD OF STUDY:

October-November 2012

Biological Resource Survey

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1184 Maple Lane

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Executive Summary

This study was conducted at the request of Jeff Redding, AICP Land Use, Environmental and Strategic Planning Services on behalf of the property owners, as background information for project permits from the Napa County Conservation, Development and Planning Department.

The project proposes a winery, hospitality room, wastewater pretreatment facility and treated wastewater disposal area. The property is in Napa County located on at 1184 Maple Lane and1402 State Highway 29, between Drew Drive and Maple Lane. The property is within the USGS Calistoga Quadrangle.

The purpose of this report is to identify biological resources that may be affected by the proposed project. The fieldwork studied the proposed project envelope and surrounding environment. The findings presented below are the results of fieldwork conducted from September to December 2012 by Kjeldsen Biological Consulting:

- The project footprint is within a developed landscape (hardscape) and agricultural fields that have had decades of different industrial, residential and agricultural endeavors;
- The property extends from State Highway 29 to the riparian corridor of the Napa River. The site supports a seasonal unnamed tributary (channelized through most of the property) to the Napa River. Residual valley oaks and live oaks are present indicating that prior to development of the property the site was a valley oak grassland savanna or Quercus Woodland Alliance with riparian corridor along the Napa River;
- The proposed project will not significantly reduce habitat for any local special-status plants or animals;
- No sensitive plants, sensitive plant habitat, or special-status plant species was identified within the footprint of the project. We find that it is unlikely that the proposed project would impact any of the special-status plants known for the Quadrangle or the region based on our fieldwork, the habitat present and historic use within and associated with the project footprint:
- Wildlife Research Associates Bat Habitat Assessment dated 11/19/12 identified evidence for the presence of one special-status bat found within a buildings on the site and cavities on several trees may have potential for roosting bats.
- The proposed project does not have the potential to negatively impact any other habitat for special-status animal species

- The project as proposed will not have any direct impacts to Federal or State protected wetlands as defined by Section 404 of the Clean Water Act. The riparian corridor of the Napa River and the seasonal drainage on the property must be avoided and provided with a setback as per Napa County.
- No raptor activity or nests were observed on or near the proposed project site. No, wildlife corridors will be impacted by the proposed project;
- There are no indications of the presence of Sensitive Natural Communities regulated by the California Department of Fish and Wildlife or US Fish and Wildlife within or directly associated with the project footprint;
- Eighteen native oak trees will be removed as well as 50 ornamental trees that are part of the existing landscaping. Twenty-two native oaks will be retained;
- The footprint of the project will not significantly contribute to habitat loss or habitat fragmentation; and
- The flora and fauna observed on and near the site are included as an Appendix.

The following recommended measures are presented to reduce potential biological impacts by the proposed project to a less than significant level pursuant to the California Environmental Quality Act (CEQA).

Assessment of Impacts

The property and project site conditions are such that there is no reason to expect any impacts to special-status species on site or off site provided Best Management Practices (BMP) and the Bat Habitat mitigation recommendations are implemented. The primary biological concerns are the protection of the Napa River and the unnamed tributary that is day-lighted through a portion of the property and prevention of sediment release from the construction phase of the project. Standard Erosion control measures, BMP's and Napa County Stream Setbacks will protect resources associated with the Napa River on site and off site.

The project will remove eighteen native oak trees.

Tree removal and construction has the potential for disturbing roosting bats (see below for preconstruction protocol for removing trees with potential bat roosts and buildings with bats). Buildings on the site show evidence of occupation by bats which could be harmed if demolished (see report by Wildlife Research Associates that is attached).

Recommendations

Best Management Practices including silt and erosion control measures must be implemented to prevent off-site movement of sediment and dust during and post construction.

The project should comply with the Oak Woodlands Preservation Act (PRC Section 21083.4) regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland communities. Native trees to be removed greater than 6" DBH should be replaced by planting same species Plantings of native oaks on site at a ratio of 2 to 1 (as per Napa County Guidelines) should be installed within the project landscape plan. It is recommended that new landscape plantings utilize as many native species as possible (shrubs and trees).

Mitigation recommendations for prevention of bat "take" are included in a separate report that is attached. Following these recommendations will prevent any significant take as the site is prepared for a change in use.

The riparian corridor of the Napa River must be preserved, avoided and protected with setback as per Napa County regulations. Any widening or replacement of the culvert crossing of the unnamed seasonal drainage will require agency consultation and permits from the California Department of Fish and Wildlife, U.S. Army Corps of Engineers, and Regional Water Quality Control Boards for impacts to "Waters of the State".

Biological Resource Survey
Flynnville Wine Company
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Calistoga, CA

A PROJECT DESCRIPTION

This study was conducted at the request of Jeffery Redding, and the property owner. This study and report are provided as background information necessary for securing permits from Napa County Conservation, Development and Planning Department for the proposed project.

The study site is in Napa County, north of the city of St Helena with access from State Highway 29 (St. Helena Highway). The study site is within the Calistoga USGS Quadrangle. The APNs for the property are 020-320-003, 006, 009, 011-014 and 020-017-012. The surrounding land use consists of vineyards, residences, riparian corridor, State Highway 29, and oak and conifer woodlands. The property is an irregularly shaped parcel within the Napa Valley. The parcel at present consists of an industrial complex supporting several businesses, fallow agricultural lands, and a drainage ditch that connects to a seasonal drainage channel. Plate III provides an aerial photograph of the property.

The project proposes development along the highway frontage of a winery with support facilities, hospitality room, parking, new landscaping, process wastewater treatment facility and treated wastewater disposal area. The existing industrial structures will be removed. Plate I provides a site and location map of the property. The attached Site Plan UP1 And UP2 prepared by Summit Engineering Inc., illustrates the project (1/16/13).

A.1 Purpose

The purpose of this report is to identify biological resources that may be affected by the proposed project as listed below:

- To determine the presence of potential habitat for special-status species which would be impacted by the proposed project, including habitat types which may have the potential for supporting special-status species (target species that are known for the region, habitat, the Quadrangle and surrounding Quadrangles);
- To identify the presence of special-status plant species and assess the potential impact of the project on sensitive plants or sensitive plant habitat;
- To identify if the project will have a substantial adverse effect on Sensitive Habitats or Communities regulated by the California Department of Fish and Wildlife;
- To identify and assess potential impacts to Federal or State protected wetlands as defined by Section 404 of the Clean Water Act; and
- To determine if the project will substantially interfere with native wildlife species, wildlife corridors, and or native wildlife nursery sites;
- Identify any State or Federal biological permits required by the proposed project; and

- Recommend measures to reduce biological impacts to a less than significant level pursuant to the California Environmental Quality Act (CEQA).

A.2 Definitions

Definitions used in this report are attached in Appendix B.

B SURVEY METHODOLOGY

The purpose of our survey is to identify habitat on the project site, provide a faunal and floristic study of the project site with emphasis on any potential habitat for special-status animals, plants, unique plant populations and or critical habitat associated with the proposed project.

B.1 Project Scoping

The scoping for the project considered location and type of habitat and or vegetation types present on the property or associated with potential special-status plant species known for the Quadrangles, surrounding Quadrangles the County or the region. Our scoping also considered records in the most recent version of the Department of Fish and Wildlife California Natural Diversity Data Base (DFW CNDDB Rare Find-4), Biogeographic Information and Observation System Online mapping tool, and the California Native Plant Society (CNPS) Electronic Inventory of Rare or Endangered Plants. "Target" special-status species are those listed by the State, the Federal Government or the California Native Plant Society or considered threatened in the region. Our scoping is also a function of our familiarity with the local flora and fauna as well as previous projects on other properties in the area.

The California Wildlife Habitat Relationships (WHR) System Department of Fish and Wildlife query was run to determine through habitat what potential species could be present on the project site.

Tables II and III present DFW CNDDB Rare Find-3 species within five miles. We also considered species which are known for the nine surrounding Quadrangles, and would potentially be present based on habitat present on site.

B.2 Field Survey Methodology

A site and project introduction was provided by Jeffery Redding, AICP Land Use, Environmental and Strategic Planning Services. Our studies were made by walking transects through and around the project site. Our fieldwork focused on locating suitable habitat for organisms or indications that such habitat exists on the site. Digital photographs were taken during our studies to document conditions and selected photographs are included within this report.

Plants Field surveys were conducted recording identifying all species on the site and in the near proximity. Transects through the proposed project sites were made methodically by foot. Transects were established and scrutinized to cover topographic and vegetation variations within the study area. The Intuitive Controlled approach calls for the qualified surveyor to conduct a survey of the area by walking through it and around its perimeters, and closely examining portions where target species are especially likely to occur. The open nature of the site, historic and on going agricultural practices, and small size of the proposed development footprint facilitated our field studies.

The fieldwork for identifying special-status plant species is based on our knowledge and many years of experience in conducting special-status plant species surveys in the region. Plants were identified in the field or reference material was collected, when necessary, for verification using laboratory examination with a binocular microscope and reference materials. Herbarium specimens from plants collected on the project site were made when relevant. Voucher material for selected individuals is in the possession of the authors. All plants observed (living and/or remains from last season's growth) were recorded in field notes.

Typically, blooming examples are required for identification however; it is not the only method for identifying the presence of or excluding the possibility of rare plants. Vegetative morphology and dried flower or fruit morphology, which may persist long after the blooming period, may also be used. Skeletal remains from previous season's growth can also be used for identification. Some species do not flower each year or only flower at maturity and therefore must be identified from vegetative characteristics. Algae, fungi, mosses, lichens, ferns, Lycophyta and Sphenophyta have no flowers and there are representatives from these groups that are now considered to be special-status species, which require non-blooming identification. For some plants unique features such as the aromatic oils present are key indicator. For some trees and shrubs with unique vegetative characteristics flowering is not needed for proper identification. The vegetative evaluation as a function of field experience can be used to identify species outside of the blooming period to verify or exclude the possibility of special-status plants in a study area.

Habitat is also a key characteristic for consideration of special-status species in a study area. Many special-status species are rare in nature because of their specific and often very narrow habitat or environmental requirements. Their presence is limited by specific environmental conditions such as: hydrology, microclimate, soils, nutrients, interspecific and intraspecific competition, and aspect or exposure. In some situations special-status species particularly annuals may not be present each year and in this case one has to rely on skeletal material from previous years. A site evaluation based on habitat or environmental conditions is therefore a reliable method for including or excluding the possibility of special-status species in an area.

Animals were identified in the field by their sight, sign, or call. Our field techniques consisted of surveying the area with binoculars and walking the perimeter of the project site. Existing site conditions were used to identify habitat, which could potentially support special status animal species. All animal life was recorded and is presented in Appendix A.

Trees were surveyed to determine whether occupied raptor nests were present within the proximity of the project site (i.e., within a minimum 500 feet of the areas to be disturbed). Surveys consisted of scanning the trees on the property (500 ft +) with binoculars searching for nest or bird activity. Our search was conducted from the property and by walking under existing trees looking for droppings or nest scatter from nests that may be present that were not observable by binoculars.

Aerial photos were reviewed to look at the habitat surrounding the site and the potential for wildlife movement, or wildlife corridors from adjoining properties onto or through the site.

Greg Tatarian, Wildlife Research Associates, conducted a bat habitat assessment on November 7, 2012. All exterior and interior surfaces were examined for evidence of bat roosting activity,

including accumulated fecal matter, urine staining, fur staining at entry points, live or dead bats, insect prey remains, audible social calls, and characteristic odor.

Trees were assessed for bats using 10 x 42 roof-prism binoculars. All trees planned for removal, as well as those within 50 feet of project activities, were examined for evidence of suitable potential colonial bat roosting habitat, comprised of cavities, crevices, and exfoliating bark. A full report is attached.

Wetlands The project site was reviewed to determine from existing environmental conditions with a combination of vegetation, soils, and hydrologic information if seasonal wetlands were present. Wetlands were evaluated using the ACOE's three-parameter approach: Vegetation, Hydrology, and Soils.

Tributaries to Waters of the US Tributaries to Waters of the US are determined by the evaluation of continuity and "ordinary high water mark." The ordinary high water mark is determined based on the top of scour marks and high flow impacts on vegetation.

The area surveyed is shown on Plate III.

C RESULTS / FINDINGS

C.1 Biological Setting

The study site is located in Napa County within the Napa Valley adjacent to the Napa River. The property is at an elevation of 300 feet along the edge of the Napa Valley floor. The parcel drains by sheet flow into roadside and unnamed tributaries of the Napa River. The proposed winery and support facilities are within a developed landscape (hardscape) and the wastewater disposal system is to be located within fallow agricultural lands.

The riparian corridor of the Napa River and the section of the seasonal drainage will be avoided and provided with setback buffer zones of 100 ft and 25 ft (see Plate I for Location and UP1 and UP2 Site Map and Plate III for an aerial photograph of the property). Figures 1 to 6 illustrate the site conditions.

The property is located in the Napa Valley within the inner North Coast Range Mountains, a geographic subdivision of the larger California Floristic Province (Hickman, 1993). The property and surrounding region is strongly influenced storms and fog from the Pacific Ocean. The region is in climate Zone 14 "Ocean influenced Northern and Central California" characterized as an inland area with ocean or cold air influence. The climate of the region is characterized by hot, dry summers and cool, wet winters, with precipitation that varies regionally from less than 30 to more than 60 inches per year. This climate regime is referred to as a "Mediterranean Climate." The average annual temperature ranges from 45 to 90 degrees Fahrenheit. The variations of abiotic conditions including geology results in a high level of biological diversity per unit area in the region.

The survey area is shown on (Plate III). Our survey focused on the areas proposed project footprint, irrigation wastewater site, and immediate surrounding habitat. The aerial photo illustrates the site (Plate III) and the photographs that follow further document existing conditions of the project sites.

C.2 Habitat Types Present

The vegetation of California has been considered to be a mosaic with major changes present from one area to another often with distinct vegetation changes within short distances. The variation in vegetation is a function of topography, geology, climate and biotic factors. It is generally convenient to refer to the vegetation associates on a site as a plant community or alliance. Typically plant communities or vegetation alliances are identified or characterized by the dominant vegetation form or plant species present. There have been numerous community classification schemes proposed by different authors using different systems for the classification of vegetation. A basic premise for the designation of plant communities, associations or alliances is that in nature there are distinct plant populations occupying a site that are stable at any one time (climax community is a biotic association, that in the absence of disturbance maintains a stable assemblage over long periods of time). There is also evidence that vegetation on the site is part of a continuum without well-defined boundaries.

Biotic Communities integrate the concept of assemblages of plants and animals in a discrete area of the landscape associated with particular soils climate and topographic conditions. The Plant Community on the parcel would be classified by California Native Plant Society (CNPS) and Department of Fish and Wildlife California Natural Diversity Data Base (CNDDB) as: Riparian Woodland, Cismontane Woodland and Valley and Foothill Grassland.

In general terminology one would refer to the habitat on the property as Ruderal Grassland (Agricultural land that has been routinely disked), Riparian corridor, and hardscape with landscape plantings. The dominant land cover types on the project site consist of landscape plantings with occasional residual valley oak. In the sections below each of habitat types is present described and further categorized with the new system of vegetation classification by Sawyer *et al* A Manual of California Vegetation Second Edition. Sawyer classifies the vegetation on the property as Grassland Semi-natural Stands with Herbaceous Layer and a Forest Woodland Alliance (Sawyer does not classify hardscape or landscape plantings. This classification is the presently preferred system that over time will replace existing classification systems.

Annual Semi-Natural Herbaceous Grassland Stands present as "weeds" within the agricultural lands of the property (this area can also be classified as "ruderal habitat" which reflects the abundance of non-native annuals as a result of the agricultural disturbance.

The Annual Herbaceous Grassland Stands are also present as an understory within the residual Woodland Alliance and along the riparian corridor of the Napa River and the unnamed section of the seasonal drainage that bisects a portion of the property (Plate III).

Disked Agricultural Land – Ruderal-Grassland Semi-Natural Herbaceous Stands with Herbaceous Layer (Annual Grasslands)

Semi-Natural Herbaceous Grasslands are a result of decades of agriculture and the introduction of non-native grasses and herbs. Sawyer uses the term "Semi-natural Stands to refer to non-native introduced plants that have become established and coexist with native species. This includes what can be termed weeds, aliens, exotics or invasive plants in agricultural and nonagricultural settings. The Semi-natural Herbaceous Stands cannot be mapped due to the small size but if one searches the site one can find small patches of the following;

Avena ssp. Semi-natural Herbaceous Stand, Wild oats grasslands. The membership rules require *Avena ssp*. to be> 50% relative cover of the herbaceous layer. Semi-natural stands are those dominated by non-native species that have become naturalized primarily as a result of historic agricultural practices and fire suppression or management practices for weed abatement and fire suppression.

Bromus diandrus Semi-Natural Herbaceous Stands Annual brome grassland; (Membership Rules *Bromus diandrus >60%* relative cover with other non-natives in the herbaceous layer). *Bromus diandrus* is dominant or co-dominant with non-native in the herbaceous layer. Emergent trees and shrubs may be present at low cover Herbs<75 cm tall are intermittent to continuous. Ripgut brome is an annual grass from Eurasia. This alliance accounts for the largest acreage of grassland vegetation in cismontane California. Stands in our area contain *Aria caryophylla, Cynosurus*

echinatus, Dichelostemma multiflorum, Erodium botrys, Limnanthes douglasii, Taeniantherum caput-medusae, and *Baccharis pilularis* shrubs.

***Centaurea (solstitialis, melitensis*)** Semi-Natural Herbaceous Stands Yellow star-thistle fields; (Membership Rules *Centaurea solstitialis* >50% relative cover in the herbaceous layer). *Centaurea solstitialis*, yellow star thistle, has a Cal IPC rank of High and a CDFA rank of C. It is the most serious range weed in the western United States.

Cynosurus echinatus Semi-Natural Herbaceous Stands Annual Dogtail Grasslands; (Membership Rules *Cynosurus echinatus >50%* relative cover with other non-natives in the herbaceous layer). *Cynosurus* echinatus is dominant or co-dominant with other non-natives in the herbaceous layer. Emergent Trees and shrubs may be present. Herbs < 50cm; cover is intermittent to continuous. Native plants associated with *Cynosurus echinatus* stands include *Achaatherum lemmonii, Bromus carinatus, Danthonia californica, Elymus glaucus, Eschoscholzia californica, Hemizonia congesta, Lotus micranthus, Lupinus bicolor* and *Madia* ssp. Non-native plants include *Aira caryophyllea, Avena* ssp., *Bromus hordeaceus, Bromus tectorum Erodium* ssp., *Poa pratensis, Rumex acetosella, Taeniantherum caput-medusae,* and *Taraxacum officinale*.

Lolium perenne Semi-Natural Herbaceous Stands Perennial Rye Grass Field; (Membership Rules *Lolium perenne*> %50 relative cover, native plants< 15% relative cover). *Lolium perenne* is a non-native grass from Europe introduced into temperate regions throughout the world. It is an annual or a perennial, cool-season bunch grass.

Phalaris aquatica Semi-Natural Herbaceous Stands Harding grass swards; (Membership Rules *Phalaris aquatica* > %50 relative cover in the herbaceous layer or *Phalaris aquatica* > 15% absolute cover and 75% relative cover when compared to native species in the herbaceous layer). *Phalaris* aquatica is dominant in the herbaceous layer. Scattered emergent shrubs such as *Baccharis pilularis* may be present. Herbs < 1.5 m: canopy is intermittent to continuous.

<u>Riparian Woodland - Forest or Woodland Alliance</u>

A Forest or Woodland Alliance is residual on the property (present along fence lines, the ephemeral seasonal drainage and riparian corridor of Napa River). The majority of the Forest or Woodland Alliance will be retained within the setback zone of Napa River and the unnamed seasonal drainage.

Forest Alliance Mixed Oak Forest; *Quercus agrifolia, Q. douglasii, Q, garryana, Q. kelloggii, Q. lobata* and/or *Q. wislizeni* are co-dominant in the tree canopy with *Aesculus californica, Arbutus menziesii, Piuns sabiniana, Pseudotsuga menziesii,* and *Umbellularia californica*. The canopy is intermittent to continuous. Shrubs are infrequent or common, herbaceous layer is sparse or abundant, may be grassy. This Alliance is found in valley and on gentle to steep slopes. The membership rules require three or more *Quercus* species present at >30% constancy and they are co-dominant in the tree canopy.

Developed Hardscape with Landscape Plantings

This occupies the majority of the project footprint on the west side of the parcel adjacent to State Highway 29. It consists of buildings, paved / gravel parking lots and roads.

Table I. Summary of Estimated Habitat Types. Alliance or Stands within the footprint of each element of the proposed project and an estimate of the acreage.

Project Element	Habitat Type	Approximate Acreage
Winery and Infrastructure	**Hardscape with Landscape Plantings**	6.0+/- Acres
Treated Waste-water And Treatment System	**Grassland Semi-Natural Herbaceous Stands with Herbaceous Layer**	3.6+/- Acres Disposal Area 0.3+/- Wastewater Pond

Figure 1. Proposed Winery Site.

Figure 2. View of existing structures to be removed.

Figure 3. Fallow agricultural field which will be used for treated process wastewater disposal.

Figure 4. Area proposed for process water irrigation and process wastewater pond servicing truck route.

Figure 5. Process wastewater pond site and disposal area.

Figure 6. Seasonal drain ditch along the southeast side of a portion of the property.

The aerial photograph, Plate III illustrates the site and the surrounding environment. The environmental setting of the project site consists of:

- On the north side of the project – Vineyard, Rural Residential;
- On the east side of the project – Rural Residential and Riparian Corridor of Napa River;
- On the south side of the project – Vineyards; and
- On the west side of the project - State Highway 29.

The dominant land cover types in the vicinity of the property consist of vineyards followed by riparian corridor and on the edge of the valley floor, and Conifer Oak Woodland (Forest or Woodland Alliance)

Drainage is by sheet flow into a seasonal unnamed tributaries of the Napa River, and thence San Pablo Bay.

Napa County Definition for a Defined Drainages is a watercourse designated by a solid line or dash and three dots symbol on the largest scale of the United States Geological Survey maps most recently published, or any replacement to that symbol, and or any watercourse which has a well-defined channel with a depth greater that four feet and banks steeper that 3:1 and contains

hydrophilic vegetation, riparian vegetation or woody-vegetation including tree species greater that ten feet in height.

The drainage along a portion of the south side of the property (Figure 6) and the Napa River along the east side of a portion of the on the property would be considered Napa County Defined Drainages, however there are no direct impacts to these drainages associated with the proposed winery site, or wastewater irrigation area.

C.3 Special-Status Species

Special-status organisms are plants or animals that have been designated by Federal or State agencies as rare, endangered, or threatened. Section 15380 of the California Environmental Quality Act [CEQA (September, 1983)] has a discussion regarding non-listed (State) taxa. This section states that a plant (or animal) must be treated as Rare or Endangered even if it is not officially listed as such. If a person (or organization) provides information showing that a taxa meets the State's definitions and criteria, then the taxa should be treated as such.

A map from the DFW CNDDB Rare Find-3 shows known special-status species in the proximity of the project as shown on Plate II. These taxa as well as those listed in Appendix C Special-status Species known for the Quadrangle and Surrounding Quadrangles were considered and reviewed as part of our scoping for the project site and property. Reference sites were reviewed as part of our scoping for some of the species.

Tables II and III below provides a list of species that are known to occur (DFW CNDDB Rare Find 3- 5 mile search). The table includes an analysis / justification for concluding absence.

Table II. Analysis of DFW CNDDB plant species within five miles. Columns are arranged alphabetically by scientific name.

Scientific Name Common Name	**Species Habitat Association or Plant Community**	**Habitat present on Project Site**	**Bloom Time**	**Obs. on or Near Site**	**Justification for Concluding Absence on Project Site**
Amorpha californica var. *napensis* Napa False Indigo	Cismontane Woodland	No	April-July	No	Requisite habitat, exposure and historic land use preclude presence on project site.
Arctostaphylos stanfordiana ssp. *decumbans* Rincon Manzanita	Chaparral, Lower Montane Coniferous Forest (openings), Rocky, often Serpentinite	No	Feb.-April	No	Absence of requisite habitat and vegetation associates on the site or in the immediate vicinity. Lack of finding during our fieldwork.

Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat present on Project Site	Bloom Time	Obs. on or Near Site	Justification for Concluding Absence on Project Site
Astragalus claranus Clara Hunt's Milk-vetch	Chaparral, Cismontane Woodland, Valley and Foothill Grassland	No	March-May	No	Absence of requisite micro-habitat, vegetation associates and historic land use precludes presence. Lack of finding during our fieldwork
Brodiaea californica var. *leptandra* (=*B. leptandra*) Narrow-anthered California Brodiaea	Cismontane Woodland	No	May-June	No	Requisite habitat, exposure and historic land use preclude presence on project site
Ceanothus confusus Rincon Ridge Ceanothus	Closed Cone Conifer Forests, Chaparral	No	Feb.-April	No	Absence of typical habitat and vegetation associates. Lack of finding during our fieldwork.
Ceanothus divergens Calistoga Ceanothus	Chaparral, Serpentinite or Volcanic-Rocky.	No	May-Sept.	No	Absence of typical habitat and vegetation associates. Lack of finding during our fieldwork.
Ceanothus purpureus Holly-leaved Ceanothus	Chaparral	No	March-May	No	Absence of typical habitat and vegetation associates. Lack of finding during our fieldwork.
Centromadia parryi ssp. *parryi* Pappose Tarplant	Grassland salt or alkaline Marshes	No	March-June	No	Requisite mesic conditions absent. Lack of finding during our fieldwork.
Erigeron greenei Green's Narrow-leaved Daisy	Chaparral, (serpentinite)	No	May-Sept.	No	Absence of edaphic conditions required for presence. Lack of finding during our fieldwork.
Eryngium constancei Loch Lomond button-celery	Vernal Pools	No	April-June	No	Absence of mesic conditions required for presence. Lack of finding during our fieldwork.

Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat present on Project Site	Bloom Time	Obs. on or Near Site	Justification for Concluding Absence on Project Site
Lasthenia burkei Burke's Goldfields	Vernal Pools	No	April – June	No	Requisite aquatic habitat absent on the site or in the immediate vicinity.
Layia septentrionalis Colusa Layia	Cismontane Woodland, Valley and Foothill Grassland, Serpentinite	No	April-May	No	Historic agricultural use and hardscape as well as absence of requisite edaphic conditions preclude presence.
Leptosiphon jepsonii Jepson's Leptosiphon	Chaparral, Cismontane Woodland, Valley and Foothill Grassland	No	April-May	No	Requisite habitat absent on the site or in the immediate vicinity. Lack of finding during our fieldwork.
Limnanthes vinculans Sebastopol Meadowfoam	Meadows and Seeps, Valley and Foothill Grassland, Vernal Pools.	No	April-May	No	Requisite mesic habitat absent on the site or in the immediate vicinity.
Lupinus sericatus Cobb Mountain Lupine	Broadleaved upland forest, chaparral, cismontane woodland	No	March-June	No	Absence of requisite vegetation associates as well as historical use of project site precludes presence. Lack of finding during our fieldwork.
Navarretia leucocephala ssp. *bakeri* Baker's Navarretia	Meadows and Seeps Cismontane Woodland, Valley and Foothill Grassland, Vernal Pools	No	May-July	No	Absence of typical habitat and vegetation associates. Lack of finding during our fieldwork.
Penstemon newberryi var. *sonomensis* Sonoma Beardtongue	Cismontane Woodland	No	April-Aug.	No	Absence of typical habitat and vegetation associates. Lack of finding during our fieldwork.

Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat present on Project Site	Bloom Time	Obs. on or Near Site	Justification for Concluding Absence on Project Site
Plagiobothrys strictus Calistoga Popcorn-flower	Vernal pools near thermal springs	No	March-June	No	Requisite mesic habitat absent on the site or in the immediate vicinity.
Poa napensis Napa Blue Grass	Meadows near Hot Springs	No	May-Aug.	No	Requisite mesic habitat absent on the site or in the immediate vicinity. Lack of finding during our fieldwork.
Sidalcea hickmanii ssp. *napensis* Napa Checkerbloom	Chaparral Serpentinite	No	May-June	No	Absence of typical habitat and vegetation associates. Lack of finding during our fieldwork.
Sidalcea oregana ssp. *hydrophila* Marsh Checkerbloom	Meadows and seeps, Riparian scrub mesic	No	June-Aug.	No	Requisite mesic habitat absent.
Trifolium hydrophilum Saline Clover	Marshes and Swamps Grassland	No	April-June	No	Absence of mesic habitat required for presence.

Table III. Analysis of species that are known to occur (DFW CNDDB Rare Find 3- 5 mile search). Columns are arranged alphabetically by scientific name.

Scientific Name Common Name	Habitat	Potential for Property	Obs. or Potential for Project Site	Findings Relative to Potential Project Impacts
Accipter sriatus Sharp-Shinned Hawk	Avian prey, Nests in conifers or tops of live oaks	Yes	No	Potential for presence in Napa River. Industrial site and historic disturbance reduces potential. Lack of habitat for prey.
Antrozous pallidus Pallid Bat	Roosts in Buildings and Overhangs, woodlands	Yes	No	No evidence for presence observed.
Corynorhinus townsendii Townsend's Big-eared Bat	Caves, also in Buildings	Yes	Yes	Fecal pellets found in barn See bat assessment attached.

Scientific Name Common Name	Habitat	Potential for Property	Obs. or Potential for Project Site	Findings Relative to Potential Project Impacts
Emys marmorata Western Pond Turtle	Slow moving water or ponds	Yes	No	Potential for presence in Napa River. Unlikely to occur on project site.
Falco mexicanus Prairie Falcon	Nests on cliffs	No	No	May fly over. Lack of habitat for nesting and feeding.
Falco peregrinus anatum American Peregrine Falcon	Nests on cliffs	No	No	May fly over. Lack of habitat for nesting and feeding.
Myotis thysanodes Fringed Myotis	Montane Forests or Montane Meadows	Yes	No	No evidence for presence observed during our fieldwork.
Oncorhynchus mykiss irideus Steelhead-central California Coast	Aquatic	Yes	No	Potential for presence in Napa River. No aquatic impacts. Habitat not associated with the proposed project.
Progne subis Purple Martin	Cavity nesters. Like open areas near water.	No	No	Habitat associated with proposed project is unlikely to contain feeding or nesting potential.
Rana boylii Foothill Yellow-legged Frog	Streams with pools	Yes	No	Potential for presence in Napa River. Unlikely to occur on project site.
Syncaris pacifica California Freshwater Shrimp	Creeks and Estuaries below 300 ft.	No	No	Requisite habitat required for presence lacking.

C.4 Discussion of Sensitive Habitat Types

The Napa County Baseline Data Report defines Biotic communities as the characteristic assemblages of plants and animals that are found in a given range of soil, climate, and topographic conditions across a region. Sensitive biotic communities in the County were identified using a two-step process for the Napa County Baseline Data Report. The two steps were:

1. An existing list of sensitive biotic communities prepared by the California Department of Fish and Wildlife (DFW) (2003a) was first reviewed by senior Jones & Stokes biologists, and those communities that may occur in the County were identified. Because the community names in the DFW list (2003a) did not correspond directly with the names used in the Land Cover Layer, a

determination was made as to which land cover types on the Land Cover Layer correspond to the communities on the DFW list.

2. The aerial extent of each land cover types mapped in the County was generated from the land cover layer. Those biotic communities with an areal extent of less than 500 acres in the County (approximately 0.1% of the County) were identified. These communities were discussed with local experts and their conservation importance established. Those that were not already on the original DFW list and that were determined to be worthy of conservation were added to the list.

The Napa County Baseline Data Report as well as the California Department of Fish and Wildlife Natural Diversity Data Base (DFW CNDDB) lists recognized Sensitive Biotic Communities. The Napa County Baseline Data Report lists twenty-three communities which are considered sensitive by DFW due to their rarity, high biological diversity, and/or susceptibility to disturbance or destruction. The CNDDB communities in Napa County are the following:

Serpentine bunchgrass grassland,
Wildflower field (located within native grassland),
Creeping ryegrass grassland,
Purple Needlegrass grassland,
One-sided bluegrass grassland,
Mixed serpentine chaparral,
McNab cypress woodland,
Oregon white oak woodland,
California bay forests and woodlands,
Fremont cottonwood riparian forests,
Arroyo willow riparian forests,
Black willow riparian forests,
Pacific willow riparian forests,
Red willow riparian forests,
Narrow willow riparian forests,
Mixed willow riparian forests,
Sargent cypress woodland,
Douglas-fir-ponderosa pine forest (old-growth),
Redwood forest,
Coastal and valley freshwater marsh,
Coastal brackish marsh,
Northern coastal salt marsh, and
Northern vernal pool.

Napa County biotic communities of limited distribution that are sensitive include:
Native grassland;
Tanbark oak alliance;
Brewer willow alliance;
Ponderosa pine alliance;
Riverine, lacustrine, and tidal mudflats; and
Wet meadow grasses super alliance.

The grasslands within the footprint of the project do not consist of any of the sensitive grassland communities listed by the County Baseline Data Report of DFW. The riparian woodlands along the Napa River are considered a sensitive habitat type.

The California Department of Fish and Wildlife Natural Diversity Database five-mile search shows that Coastal and Valley Freshwater Marsh is present near the project site. There are no marshes or wetlands associated with the property.

D. POTENTIAL BIOLOGICAL IMPACTS

D.1 Analysis of Potential Impacts to Special-status Species

The proposed project is primarily within a developed landscape. Buildings on the property contain habitat for special-special status bats. The Napa River also contains habitat for special-status animal species. There is no reason to expect any impacts to special-status species provided BMP's and buffers are established for the Napa River and the sections of the unnamed drainage that traverses the parcels.

The project site is within the confidence interval (Plate II) for the Calistoga Popcorn-Flower *Plagiobothrys strictus*. This is a species that is limited in nature and is historically known from sites on the west side of State Highway 29. It is associated with geothermal springs or swales in clay loam soil. There is no habitat on the property that would support this species. We found no evidence that would indicate any potential for presence on the property. The other species known for the quadrangle and surrounding quadrangles and those listed in the table above are reasonably precluded by the historic use of the property and the hardscape present.

Buildings on the project site, proposed to be removed, contain potential habitat for day roosts, night roosts, or hibernation roosts for bats. Three oaks trees on the project site have potential for day and night roosts. Proper demolition of building, proper tree removal, and seasonal timing will prevent any potential negative impacts to special-status bats on the property.

The Western Pond Turtle can be assumed to be present along the Napa River. There is no upland nesting habitat within the footprint of the project, as the undeveloped portions of the property has been in agriculture, disked and dry, therefore, not ideal nesting pond turtles.

Our fieldwork did not find any habitat for any other special-status species that are known for the Quadrangle surrounding Quadrangles or for the region that would be impacted by the proposed project. The present conditions of the project site are such that there is little reason to expect the occurrence of any special-status animal species within the footprint of the project.

Habitat impacted by the proposed project is such that it will not substantially reduce or restrict the range of listed animals.

D.2 Analysis of Potential Impacts on Sensitive Habitat

Native Grassland - The project will not impact any populations of native grasslands.

There are no DFW Sensitive Communities or Napa County Sensitive Biotic Communities present on project site. The project footprint is primarily within a historically developed landscape.

Seasonal Wetland generally denotes areas where the soil is seasonally saturated and/or inundated by fresh water for a significant portion of the wet season, and then seasonally dry during the dry season. To be classified as "Wetland," the duration of saturation and/or inundation must be long enough to cause the soils and vegetation to become altered and adapted to the wetland conditions.

Varying degrees of pooling or ponding, and saturation will produce different edaphic and vegetative responses. These soil and vegetative clues, as well as hydrological features, are used to define the wetland type. Seasonal wetlands typically take the form of shallow depressions and swales that may be intermixed with a variety of upland habitat types. Seasonal wetlands fall under the jurisdiction of the U.S. Army Corps of Engineers. There are no potential seasonal wetlands or vernal pools associated with the project footprint.

"Waters of the State" include drainages which are characterized by the presence of definable bed and bank that meet ACOE, and RWQCB definitions and or jurisdiction. Any direct discharge of storm water into "Waters of the State" will require ACOE, DFW, and RWQCB permits. The Napa River and the un-named drainage on the property are considered "Waters of the State".

The Napa River and the unnamed seasonal drainage on the project property must be avoided and provided setback as per Napa County regulations.

Riparian Vegetation is by all standards considered sensitive. Riparian Vegetation functions to control water temperature, regulate nutrient supply (biofilters), bank stabilization, rate of runoff, wildlife habitat (shelter and food), release of allochthonous material, release of woody debris which functions as habitat and slow nutrient release, and protection for aquatic organisms. Riparian vegetation is also a moderator of water temperature has a cascade effect in that it relates to oxygen availability. Riparian vegetation is present along the Napa River, and the unnamed drainage. The project will not impact any riparian vegetation.

Trees The native trees within the proposed project that will be removed include Valley Oaks (*Quercus lobata*) and Coastal Live Oak (*Quercus agrifolia*). Some of the landscape tree plantings on the project site are also proposed for removal (these are predominantly sycamore trees a hybrid domestic tree = London Plain Tree).

Eighteen native oak trees will be removed as well as 50 ornamental trees that are part of the existing landscaping. Twenty-two native oaks will be retained. Approximately one-half of the present landscape trees will be retained. Mitigation plantings of oaks on site at a ratio of 2 to 1 (as per Napa County Guidelines) should be installed**.**

Wildlife Habitat and Wildlife Corridors

Natural areas interspersed with developed areas are important for animal movement, increasing genetic variation in plant and animal populations, reduction of population fluctuations, and retention of predators of agricultural pests and for movement of wildlife and plant populations. Wildlife corridors have been demonstrated to not only increase the range of vertebrates including avifauna between patches of habitat but also facilitate two key plant-animal interactions: pollination and seed dispersal. Corridors and also preserve watershed connectivity. Corridor users can be grouped into two types: passage species and corridor dwellers. The data from various studies indicate that corridors should be at least 100 feet wide to provide adequate movement for passage species and corridor dwellers in the landscape.

The riparian area along the Napa River would be considered a corridor. This will be provided with a 100 ft. setback which will continue to function as a longitudinal corridor. There are no other identifiable wildlife corridors through the property

Raptor Nests, Bird Rookeries, Bat Roosts, Wildlife Dens or Burrows

Raptors were observed in the area although no raptor nests were identified during our survey. We found no indications of nesting raptors on the property or in the near vicinity of the project sites. We did not observe any nests, whitewash or nest droppings, perching associated with the project site. No bird rookeries were present on the property or within the project footprint. No raptor nests, whitewash from nests on the project site were observed.

Mature trees with cavities on the property have the potential for support of bat roosting.

The buildings on the property show evidence of occupation by bats (see attached report by Western Wildlife Associates).

Very few burrows were observed, but small mammals and songbirds likely utilize habitats on the project site for foraging and cover. No significant wildlife dens or burrows were observed.

Unique Species that are Endemic, Rare or Atypical for the Area

No unique or unusual populations of plants or animals were present on the property or the project site.

The flora and fauna present are typical for the developed landscape of the region. There were no unique species, endemic populations of plants or animals or species that are rare or atypical for the area present on the project site other than the bats within the buildings.

Habitat Fragmentation

The proposed project is located adjacent to a highway and within a developed landscape. The footprint of the project is within a historically developed landscape. The critical biological issue is the protection of bats and retention of the riparian corridor of the Napa River. The project will not result in habitat fragmentation.

D.3 Potential Off-site Impacts of the Project

BMP's during development of the site will prevent any significant off-site impacts. Buffer zone setbacks along the Napa River and seasonal drainage will further prevent any off-site impacts.

D.4 Potential Cumulative Impacts

Cumulative biological effects are the result of incremental losses of biological resources within a region. The site location, historic development and use of the area within the footprint of the project negate the potential for cumulative biological resource effects. The project development

is proposed for an area of the property that has had a long historic use. There is nothing to indicate that there will be any cumulative biological impacts of the project provided the setbacks are observed and native oak replacement is initiated.

D.5 State and Federal Permit

Any widening or replacement of the culvert crossing of the unnamed seasonal drainage for the road servicing the waste water treatment system (See site Plan UP2) will require agency consultation and permits from the California Department of Fish and Wildlife, U.S. Army Corps of Engineers, and Regional Water Quality Control Boards for impacts to "Waters of the State".

E. RECOMMENDATIONS TO AVOID IMPACTS

E.1 Significance

The significance of potential impacts is a function of the scope and scale of the proposed project within the existing Federal, State and Local regulations and management practices. The determination of significance of impacts to biological resources consists of an understanding of the project as proposed and an evaluation of the context in which the impact may occur. The extent and degree of any impact on-site or off–site must be evaluated consistent with known or expected site conditions. Therefore, the significance of potential impacts is assessed relevant to a site-specific scale and the larger regional context.

The project's effect on onsite or regional biological resources is considered to be significant if the project results in:

- Alteration of unique characteristics of the area, such as sensitive plant communities and habitats (i.e. serpentine habitats, wetlands, riparian habitats);
- Adverse impacts to special-status plant and animal species;
- Adverse impacts to important or vulnerable resources as determined by scientific opinion or resource agency concerns (i.e. sensitive biotic communities, special status habitats; e.g. wetlands);
- Loss of critical breeding, feeding or roosting habitat; and
- Interference with migratory routes or habitat connectivity.

E.2 Recommendations

The historic use of the property and project site conditions are such that there is no reason to expect any impacts to special-status species on-site or off-site provided standard construction practices are utilized, setbacks from the Napa River and the un-named drainage, and bat recommendation is implemented.

The project must comply with Napa County SWPPP requirements to ensure that best management practices are adopted in order to minimize the amount of sediment and other pollutants leaving the site during construction activities.

Best Management Practices including silt and erosion control measures must be implemented to prevent off-site movement of sediment and dust during and post construction.

Project construction has the potential to impact biological resources without appropriate avoidance and protection measures. Biological resources present include riparian habitat along the Napa River "Tributaries to Waters of the U.S", and Removal of Tree Habitat. There is the potential for special-status animal species within the Napa River.

Recommendation 1.0. Project construction must avoid any impact to the bed and bank of Napa River and unnamed drainage on the property.

Recommendation 1.1 The project should comply with the Oak Woodlands Preservation Act (PRC Section 21083.4) regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland communities. Native trees to be removed greater than 6" DBH should be replaced by planting same species at a minimum of 2:1 on-site.

Recommendation 1.2 Provide tree protection fencing along the outside edge of the tree canopy adjacent to construction activities in the irrigation disposal area to ensure they are not disturbed or impacted during construction activities. Avoid soil disturbance within the canopy of avoided trees during construction activities.

Recommendation 1.3 Incorporate native trees and shrub plantings into the landscape plan on the property to increase the habitat value for wildlife and to mitigate for habitat lost.

Direct or indirect impacts to drainages has the potential to result in a negative impacts to special-status species known or expected to occur downstream in the Napa River and its riparian woodland habitat.

Recommendation 1.4 The riparian corridor of the Napa River must be preserved, avoided and protected with setback as per Napa County regulations. Any widening or replacement of the culvert crossing of the unnamed seasonal drainage will require agency consultation and permits from the California Department of Fish and Wildlife, U.S. Army Corps of Engineers, and Regional Water Quality Control Boards for impacts to "Waters of the State".

Recommendations for prevention of bat "take" are included in a separate report that is attached. Following these recommendations will prevent any significant take as the site is prepared for a change in use.

All project construction activities must be limited to the project footprint. Best Management Practices including silt and erosion control measures must be implemented to protect off-site movement of sediment and dust during and post construction. Best Management Practices must be implemented throughout the construction period such as retaining ground cover litter, monitoring for invasive species, providing mulch for bare ground and standard erosion and dust control.

F. SUMMARY

This study is provided as background information necessary for evaluating potential impacts of the project on local Biological Resources.

We find that the proposed project following recommendations will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

The site is primarily developed landscape, and history of use reasonably preclude presence of any special-status plant species on the project site.

We find that the project as proposed will not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service. Buffer zone setbacks are included for the Napa River and seasonal drainage on the property.

We find that the project as proposed will not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. No wetlands or vernal pools are associated with the proposed project.

We find that the proposed project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Recommendations for the protection of potential bat roosting habitat must be followed.

In order for the proposed project to not conflict with any local policies or ordinances protecting biological resources, the project must comply with the Oak Woodlands Preservation Act and provide setback form all drainages on the property as per Napa County requirements.

The proposed project will not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans.

We conclude that the proposed project if recommended mitigation measures are incorporated will not result in any potentially significant adverse biological impacts.

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G.2 Qualifications of Field Investigators

Chris K. Kjeldsen, Ph.D., Botany, Oregon State University, Corvallis, Oregon. He has over forty years of professional experience in the study of California flora. He was a member of the Sonoma County Planning Commission and Board of Zoning (1972 to 1976). He has over thirty years of experience in managing and conducting environmental projects involving impact assessment and preparation of compliance documents, Biological Assessments, DFW Habitat Assessments, DFW Mitigation projects, ACOE Mitigation projects and State Parks and Recreation Biological Resource Studies. Experience includes conducting special-status species surveys, jurisdictional wetland delineations, general biological surveys, 404 and 1600 permitting, and consulting on various projects. He taught Plant Taxonomy at Oregon State University and numerous botanical science and aquatic botany courses at Sonoma State University including sections on wetlands and wetland delineation techniques. He has supervised numerous graduate theses, NSF, DOE and local agency grants and served as a university administrator. He has a valid DFW collecting permit.

Daniel T. Kjeldsen, B. S., Natural Resource Management, California Polytechnic State University, San Luis Obispo, California. He spent l994 to l996 in the Peace Corps managing natural resources in Honduras, Central America. His work for the Peace Corps in Central America focused on watershed inventory, mapping and the development and implementation of a protection plan. He has over ten years of experience in conducting Biological Assessments, DFW Habitat Assessments, ACOE wetland delineations, wetland rehabilitation, and development of and implementation of mitigation projects and mitigation monitoring. He has received 3.2 continuing education units MCLE 27 hours in Determining Federal Wetlands Jurisdiction from the University of California Berkeley Extension. Attended Wildlife Society Workshop Falconiformes of Northern California Natural History and Management California Tiger Salamander 2003, Natural History and Management of Bats Symposium 2005, Western Pond Turtle Workshop 2007, and Western Section Bat Workshop 2011. Laguna Foundation & The Wildlife Project Rare Pond Species Survey Techniques 2009. A full resume is available upon request.

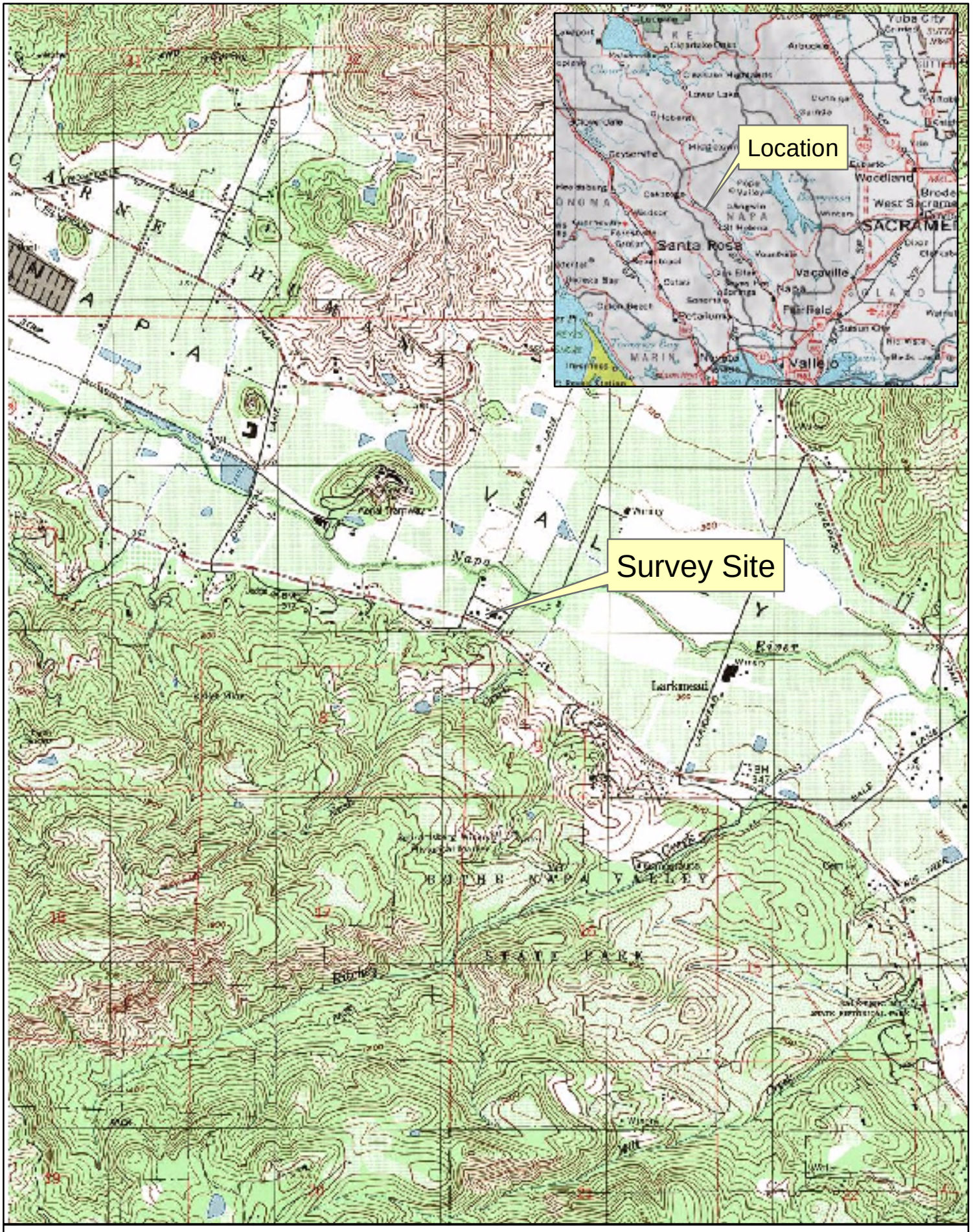

Plate I. Site / Location Map (Calistoga Quadrangle)

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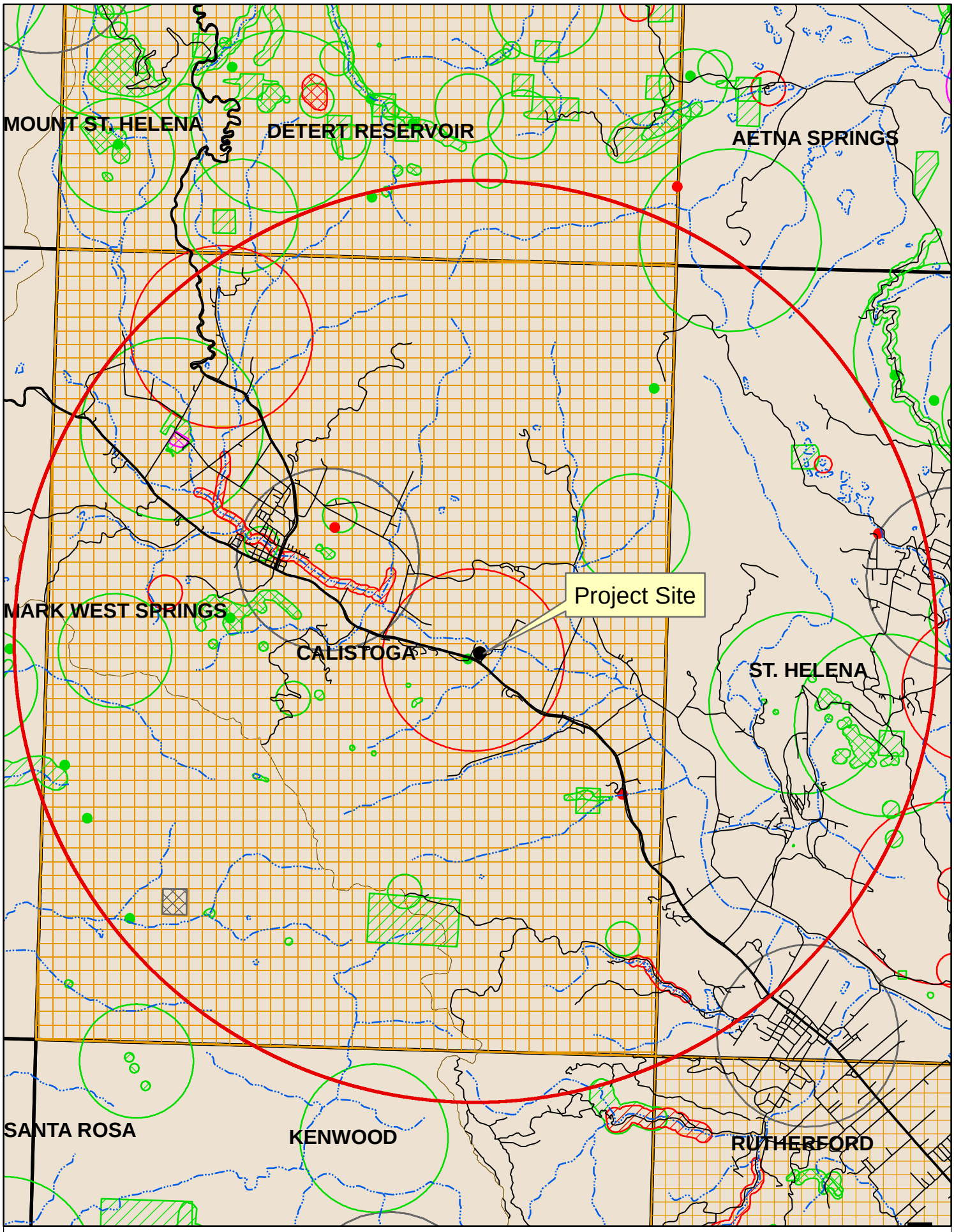


Plate II DFG CNDDB 5-Mile Search

0 0.5 1 2 Miles

(Data Date January 2013)

Plate III. Aerial Photo / Survey Area

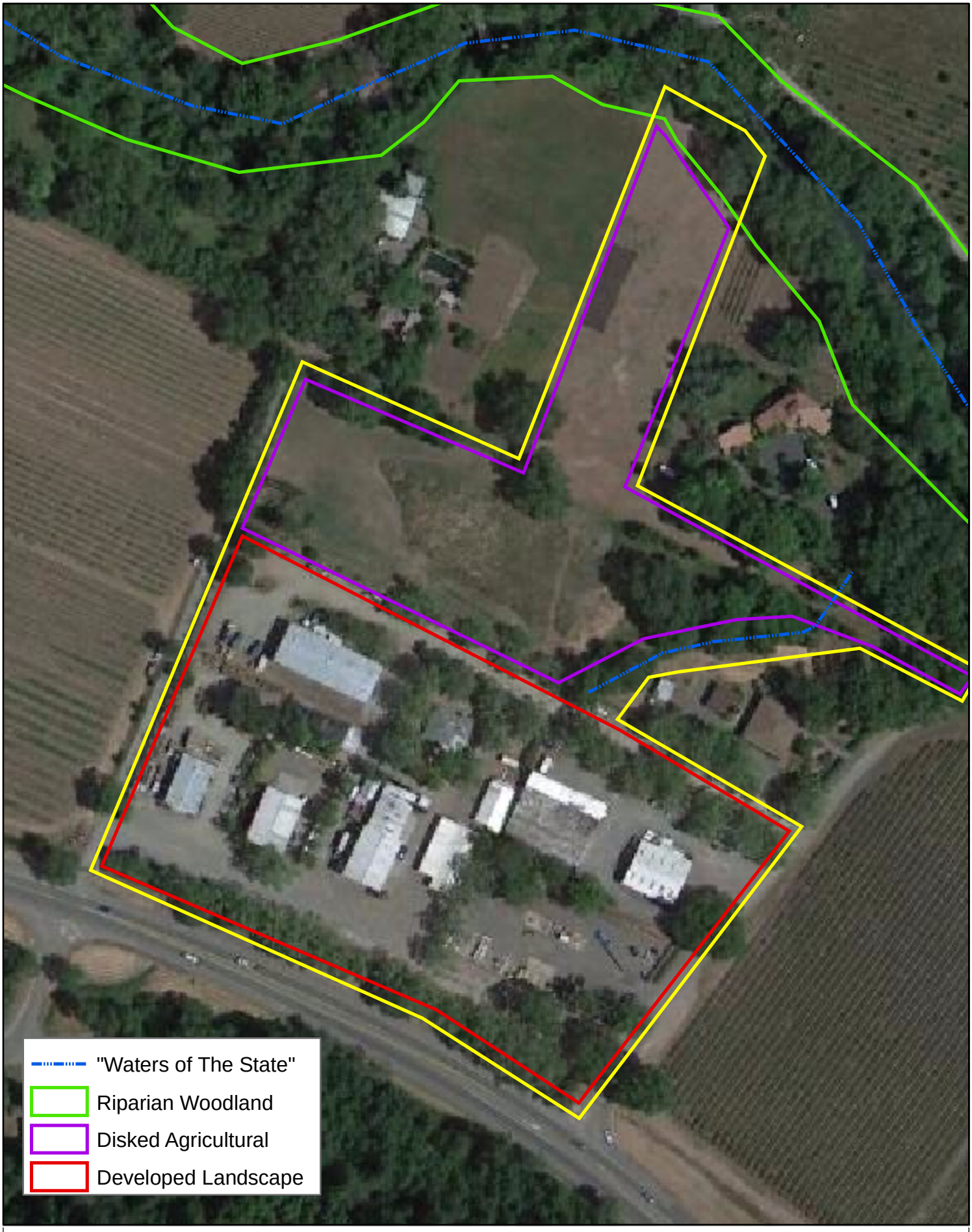


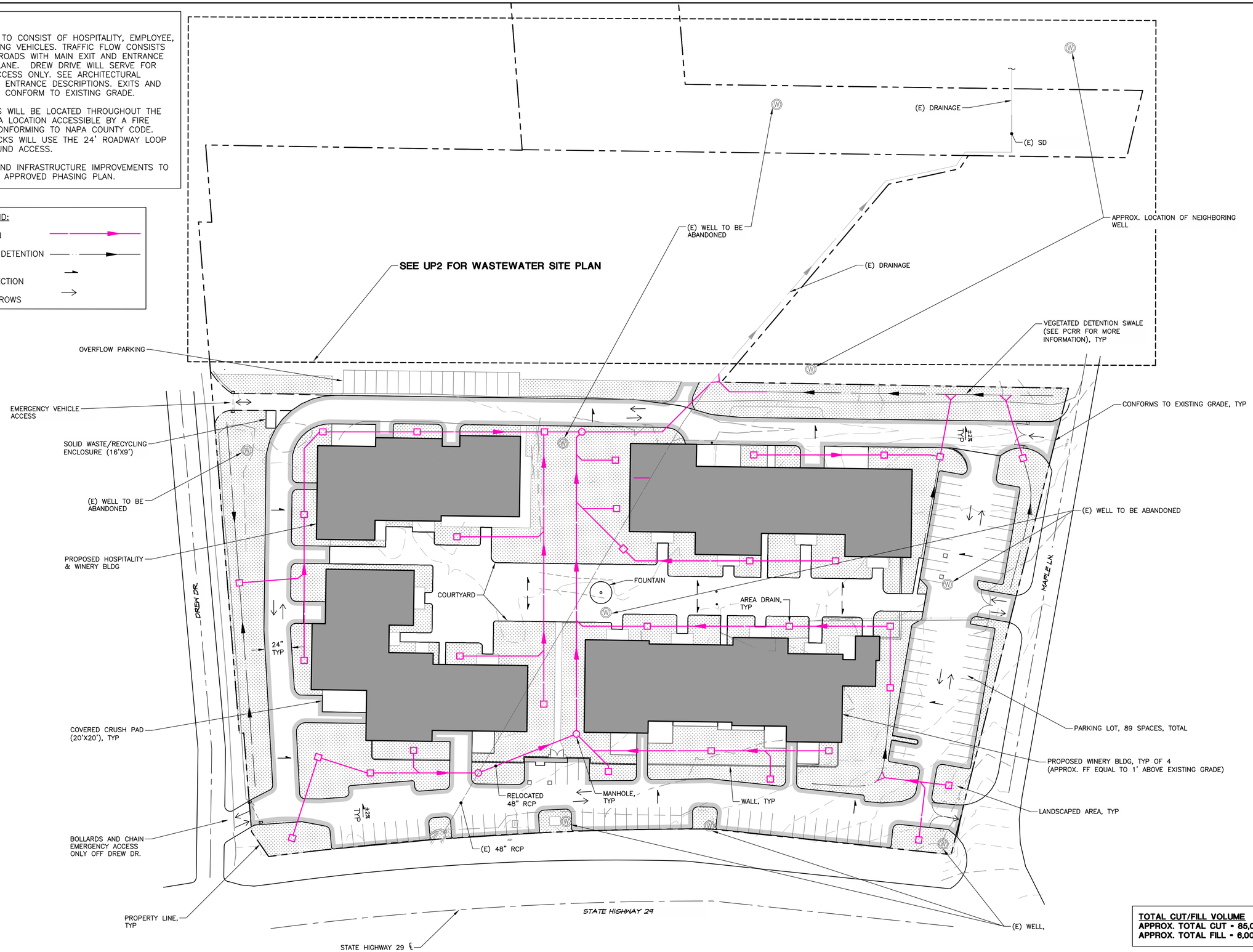
Plate IV. Vegetation Map

NOTES:

1. TRAFFIC FLOW TO CONSIST OF HOSPITALITY, EMPLOYEE, AND PROCESSING VEHICLES. TRAFFIC FLOW CONSISTS OF TWO–WAY ROADS WITH MAIN EXIT AND ENTRANCE FROM MAPLE LANE. DREW DRIVE WILL SERVE FOR EMERGENCY ACCESS ONLY. SEE ARCHITECTURAL DRAWINGS FOR ENTRANCE DESCRIPTIONS. EXITS AND ENTRANCES TO CONFORM TO EXISTING GRADE.
2. FIRE HYDRANTS WILL BE LOCATED THROUGHOUT THE PROPERTY IN A LOCATION ACCESSIBLE BY A FIRE TRUCK AND CONFORMING TO NAPA COUNTY CODE. THE FIRE TRUCKS WILL USE THE 24' ROADWAY LOOP FOR TURNAROUND ACCESS.
3. CIVIL UTILITY AND INFRASTRUCTURE IMPROVEMENTS TO COINCIDE WITH APPROVED PHASING PLAN.

CIVIL LEGEND:

- STORMDRAIN
- VEGETATED DETENTION SWALE
- SLOPE DIRECTION
- TRAFFIC ARROWS



TOTAL CUT/FILL VOLUME
APPROX. TOTAL CUT - 85,000 CF
APPROX. TOTAL FILL - 6,000 CF

SUMMIT ENGINEERING INC.
463 AVIATION BLVD. #200
SANTA ROSA, CA 95403
Phone 707.527.0775 Fax 707.527.0212
SUMMIT

FLYNNVILLE WINE COMPANY
1184 MAPLE LANE
CALISTOGA, CALIFORNIA

USE PERMIT APPLICATION

CIVIL SITE PLAN

	06–22–2012 UP SUBMITTAL
1	09–17–2012 USE PERMIT REV.1
2	01–16–2013 USE PERMIT REV.2

DATE: 06–22–2012
JOB NO: 2008008
SCALE: AS SHOWN
DRAWN: CN
CHECKED: RR

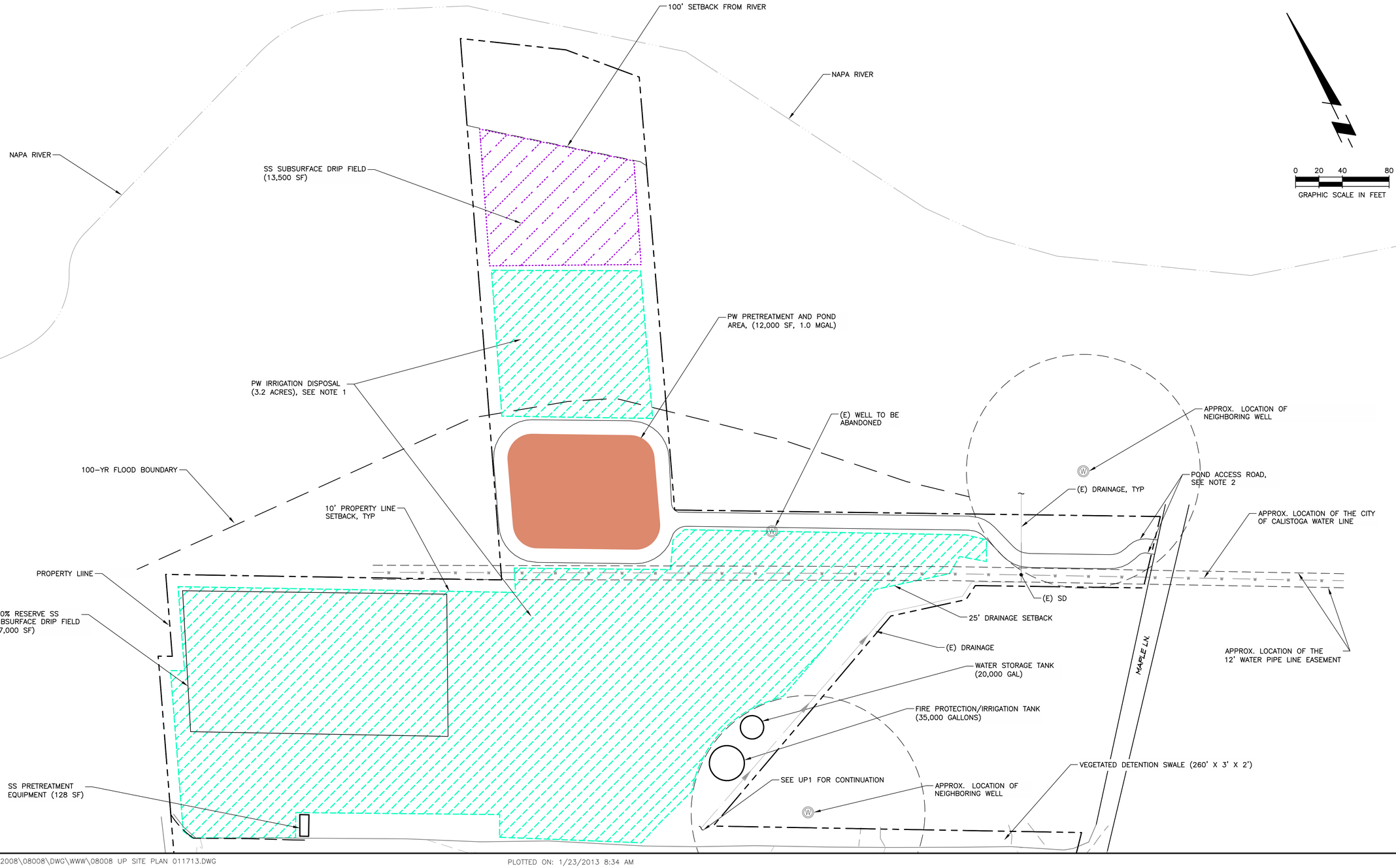
SHEET
UP1

NOTES:

1. EXISTING TREES IN THE PW DISPOSAL FIELD ARE TO TO BE PRESERVED. TREATED PROCESS WASTEWATER WILL NOT BE DRIPPED WITHIN THE TREE DRIP LINE.
2. THE PROCESS WASTEWATER POND WILL BE SERVICED THROUGH MEANS OF MAPLE LAND, FINAL ALIGNMENT TO BE CONFIRMED DURING WINERY DESIGN PHASE.

CIVIL LEGEND:

- SS SUBSURFACE DRIP FIELD
- PW POND
- PW IRRIGATION DISPSOSAL



SUMMIT ENGINEERING INC.
463 AVIATION BLVD. #200
SANTA ROSA, CA 95403
Phone 707.527.0775 Fax 707.527.0212

SUMMIT

FLYNNVILLE WINE COMPANY
1184 MAPLE LANE
CALISTOGA, CALIFORNIA

USE PERMIT APPLICATION

WASTEWATER
SITE PLAN

	06-22-2012 UP SUBMITTAL
1	09-17-2012 USE PERMIT REV.
2	01-16-2013 USE PERMIT REV.2

DATE: 06-22-2012
JOB NO: 2008008
SCALE: AS SHOWN
DRAWN: CN
CHECKED: RR

SHEET
UP2

APPENDIX A
Plants and Animals Observed Associated With The Project Site

PLANTS

The nomenclature for the list of plants found on the project site and the immediate vicinity follows: Brodo, Irwin M., Sylvia Duran Sharnoff and Stephen Sharnoff, 2001, for the lichens;; Arora -l985, for the fungi; S Norris and Shevrock - 2004, for the mosses; Doyle and Stotler - 2006 for liverworts and hornworts and Baldwin, B.G., D.H. Goldman, D.J.Keil, R.Patterson, T.J.Rosati, and D.H.Wilkens, editors, 2012 - for the vascular plants.. The plant list is organized by major plant group.

Habitat type indicates the general associated occurrence of the taxon on the project site or in nature.

Abundance refers to the relative number of individuals on the project site or in the region.

MAJOR PLANT GROUP **Family** **Genus** **Common Name**	**Habitat Type**	**Abundance**

NCN = No Common Name, * = Non-native, @= Voucher Specimen

MOSSES

MINACEAE

Homalothecium nuttallii (Wilson) Jaeger NCN	Epiphytic on Trees Near Coast-Inland	Common
Orthotrichum lyellii Hook & Tayl. NCN	Woodlands, Upper Canopy	Common
Scleropodium touretii (Brid.) L Koch. NCN	Woodlands	Common

LICHENS

FOLIOSE

Collema nigrescens (Huds.) DC. NCN	On Oaks	Occasional
Flavoparmelia caperata (L.) Hale NCN	On Oaks	Common
Flavopunctilia flaventor (Stirt.) Hale NCN	On Oaks	Common
Parmelia sulcata Taylor NCN	On Oaks	Common
Physcia stellaris (L.)Nyl. NCN	On Oaks	Common
**Xanthoria parietina* (L.) Th. Fr. Maritime Sunburst Lichen	On Trees Grown In Nurseries	Common
Xanthoria polycarpa (Hoffm.) Rieber Pin-cushion Sunburst Lichen	On Oaks Young Twigs	Common

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MAJOR PLANT GROUP **Family** **Genus** **Common Name**	**Habitat Type**	**Abundance**

NCN = No Common Name, * = Non-native, @= Voucher Specimen

FRUTICOSE		
Evernia prunastri (L.) Ach. NCN	On Oaks	Common
Ramalina farinacea (L.) Ach. NCN	On Oaks	Common
Ramalina menziesii Taylor non Tuck. Lace Lichen, Old Man's Beard	On Oaks	Common
Usnea intermedia=U. arizonica NCN	On Oaks	Common
VASCULAR PLANTS DIVISION CONIFEROPHYTA--GYMNOSPERMS		
CUPRESSACEAE		
*Calocedrus decurrens (*Torrey) Florin Incense-cedar	Domestic Introduction	Occasional
Cupressus sempervirens L. Italian Cypress	Domestic Introduction	Occasional
PINACEAE		
**Pinus radiata* D.Don Monterey Pine	Domestic Introduction	Occasional
VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS **CLASS--DICOTYLEDONAE- TREES**		
EUDICOTS		
ANACARDIACEAE Pepper Tree Family		
**Schinus molle* L. Pepper Tree	Domestic Introduction	Occasional
BIGNONIACEAE Trumpet-creeper Family		
**Catalpa bignonioides* Walt. Cigar Tree	Ruderal Domestic Introduction	Occasional
FAGACEAE Oak Family		
Quercus agrifolia Nee Live Oak	Woodlands	Common
Quercus lobata Nee. Valley Oak	Valley Grasslands	Common
MORACEAE Mulberry Family		
**Ficus carica* L. Fig	Ruderal Escape	Occasional
**Morus alba* L. White Mlberry	Ruderal Landscape Planting	Occasional

-

MAJOR PLANT GROUP **Family** **Genus** **Common Name**	**Habitat Type**	**Abundance**

NCN = No Common Name, * = Non-native, @= Voucher Specimen

OLEACEAE Olive Family		
Fraxinus latifolia Benth. Oregon Ash	Woodlands	Occasional
**Ligustrum* ssp. Privet	Domestic Ruderal	Occasional
PLATANACEAE Sycamore Family		
**Platanus acerifolia* Wild London Plane Tree, Sycamore	Domestic Introduction	Occasional
SALICACEAE Willow Family		
**Populus alba* Silver Poplar, White Poplar	Domestic Introduction	Occasional
SAPINDACEAE Soapberry Family		
Acer palmatum Thunb. Japanese Maple	Domestic Introduction	Occasional
SIMAROUBIACEAE Quassia or Simarouba Family		
**Ailanthus altissima* (Mill.) Swingle Tree of Heaven	Ruderal Escape	Common

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS
CLASS--DICOTYLEDONAE-SHRUBS AND WOODY VINES

EUDICOTS

APOCYANACEAE Dogbane Family		
**Nerium oleander* L. Oleander	Domestic Introduction	Common
ASTERACEAE (Compositae) Sunflower Family		
Baccharis pilularis deCandolle Coyote Brush	Woodlands, Grasslands	Common
CAPRIFOLIACEAE Honeysuckle Family		
Symphoricarpos albus (L.) SF Blake *var. laevigatus* Snowberry	Riparian, Shrub/Scrub Woodlands	Common
OLEACEAE Olive Family		
**Ligustrum* ssp. Privet	Domestic Escape	Occasional
ROSACEAE Rose Family		
**Pyracantha angustifolia* (Franc.) C.Schnei. Firethorn	Ruderal	Occasional
**Rubus armeniacus* Focke Himalayan Blackberry	Ruderal	Common
VITACEAE Grape Family		
Vitis vinifera L. Grape	Domestic Introduction	Occasional

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MAJOR PLANT GROUP **Family** **Genus**	**Habitat Type**	**Abundance**
Common Name		

NCN = No Common Name, * = Non-native, @= Voucher Specimen

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS
CLASS--DICOTYLEDONAE-HERBS

EUDICOTS

APIACEAE (Umbelliferae) Carrot Family		
**Dacus carota* L. Wild Carrot, Queen Anne's Lace	Ruderal Grasslands	Common
**Foeniculum vulgare* Mill. Fennel	Ruderal	Common
**Torilis arvensis* (Huds.) Link Hedge-parsley	Grasslands Woodlands	Common
ASTERACEAE (Compositae) Sunflower Family		
**Ambrosia psilostachya* DC. Western Ragweed*)*	Ruderal	Occasional
**Carduus pycnocephalus* L.subsp.*pycnocephalus* Italian Thistle	Woodlands	Common
**Cichorium intybus* L. Chicory	Ruderal	Occasional
**Circium vulgare* (Savi) Ten. Bull Thistle	Grasslands, Ruderal	Common
**Helminthotheca echioides* (L.) Holub Ox-tongue (=*Picris echioides)*	Ruderal	Common
**Lactuca saligna* L. Willow Lettuce	Ruderal	Occasional
**Lactuca serriola* L. Prickly Lettuce	Ruderal	Occasional
**Matricaria discoidea* DC. Pineapple Weed, Rayless Chamomile = *Chamomilla suavolens)*	Ruderal	Common
**Sonchus asper* (L.) Hill var. *asper* Prickly Sow Thistle	Ruderal	Common
**Sonchus oleraceus* L. Common Sow Thistle	Ruderal	Common
**Taraxacum officinale* F.H.Wigg Dandelion	Ruderal	Common
BRASSICACEAE Mustard Family		
**Brassica nigra* (L.) Koch Black Mustard	Ruderal	Common
**Raphanus sativus* L. Wild Radish	Ruderal	Common
CONVOLVULACEAE Morning-glory Family		
Convolvulus arvensis L. Morning-glory, Bindweed	Grasslands	Common

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MAJOR PLANT GROUP **Family** **Genus** **Common Name**	**Habitat Type**	**Abundance**

NCN = No Common Name, * = Non-native, @= Voucher Specimen

EUPHORBIACEAE Spurge Family		
Croton setigerus Hook. Turkey Mullein, Dove Weed (=*Eremocarpus setigerus)*	Ruderal	Common
**Euphorbia virgata Waldst.&Kit.* Leafy Spurge	Ruderal	Common
FABACEAE (Leguminosae) Legum Family		
Acmispon micranthus (Torr.&A. Gray) Grasslands, Ruderal Small Flowered Lotus (= *Lotus micranthus)*		Common
**Lathyrus odoratus* L. Sweet Pea	Ruderal Escape	Occasional
**Meliotus albus* L. White Sweetclover	Grasslands	Common
GERANIACEAE Geranium Family		
**Erodium cicutarium* (L.) Aiton Red-stemed Filaree	Grasslands	Common
LAMIACEAE (Labiatae) Mint Family		
**Mentha pulegium* L. Pennyroyal	Ruderal	Occasional
MALVACEAE Mallow Family		
**Malva parviflora* L. Cheeseweed, Mallow	Ruderal	Common
ONAGRACEAE Evening-primrose Family		
Epilobium ciliatum Raf. Subsp. *ciliatum* Ruderal Northern Willow Herb		Common
PLANTAGINACEAE Plantain Family		
**Kickxia spuria* (L.) Dumort. Fluellin	Ruderal	Occasional
**Plantago lanceolata* L. English Plantain	Ruderal	Common
POLYGONACEAE Buckwheat Family		
**Polygonum aviculare* L. subsp. *depressum* Ruderal Common Prostrate Knotweed (=*P. arenastrum)*		Common
**Rumex crispus* L. Curly Dock	Ruderal	Common
SCROPHULARIACEAE Figwort Family		
**Verbascum blattaria* L. Moth Mullein	Ruderal	Occasional

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MAJOR PLANT GROUP **Family** **Genus**	**Habitat Type**	**Abundance**
Common Name		

NCN = No Common Name, * = Non-native, @= Voucher Specimen

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS
CLASS--MONOCOTYLEDONAE-GRASSES

POACEAE Grass Family		
**Arundo donax* L. Giant Reed	Domestic Introduction	Occasional
**Avena barbata* Link. Slender Wild Oat	Grasslands	Common
**Bromus diandrus* Roth Ripgut Grass	Ruderal, Grasslands	Common
**Echinochloa crus-galli* (L.) Beauv. Barnyard Grass	Ruderal	Common
**Holcus lanatus* L. Velvet Grass	Grasslands, Ruderal	Common
**Hordeum murinum* Huds. subsp. *leporinum* Farmers Foxtail	Grasslands	Common
**Polypogon interruptus* Kunth Ditch Beard Grass	Streambanks, Ditches	Common

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS
CLASS--MONOCOTYLEDONAE-SEDGES AND RUSHES

CYPERACEAE Sedge Family		
Caryx ssp. Nebraska Sedge	Seasonal Drainage	Occasional
Cyperus eragrostis Lam. Nut-grass	Seasonal Drainage	Common

VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS
CLASS--MONOCOTYLEDONAE-HERBS

ALISMATACEAE Water-plantain Family		
Alisma triviale Pursh Water Plantain (=*Alisma plantago-aquatica)*	Seasonal Drainage	Common

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Fauna Species Observed in the Vicinity of the Project Site

The nomenclature for the animals found on the project site and in the immediate vicinity follows: Mc Ginnis –1984, for the fresh water fishes; Stebbins -l985, for the reptiles and amphibians; and Udvardy and Farrand – 1998, for the birds; and Jameson and Peeters -l988 for the mammals.

AMPHIBIA AND REPTILIA		
ORDER		
Common Name	**Genus**	**Observed**
SQUAMATA		
Western Fence Lizard	*Sceloporus occidentalis*	X

MAMMALS		
ORDER		
Common Name	**Genus**	**Observed**
RODENTIA		
Pocket Gopher	*Thomomys bottae*	Sight

See Attached Bat Assessment for Bat species observed Appendix D

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APPENDIX B

Definitions (Not all are relevant to this project)

Absolute Cover. The percentage of ground covered by the vertical projection of the plant crowns of a species or defined set of plants as viewed from above The absolute cover of herbaceous plants includes any standing (attached to a living palnt, and not lying on the grouns) plant parts, whether alive or dead; this deviniton escludes litter and other searated plant material. The cover may include mosses, lichens and recognizable cryptogamic crusts.

Best Management Practices. Best management practices represent the construction or agricultural practices that are consistent with regulatory laws or industry standards which are prudent and consistent with site conditions.

Confidence Interval. The California Department of Fish and Wildlife (DFW) California Natural Diversity Data Base (CNDDB) uses map polygon projections for indicating potential for occurrence of special-status plant populations around a recorded occurrence.

Critical Habitat. Critical habitat is by definition a designated by U.S. Fish and Wildlife Service as essential for the existence of a particular population of species. The U.S. Fish and Wildlife Service designates critical habitat for special-status species as an area or region within which a species may be found. "Critical habitat" is defined as areas essential for the "conservation" of the species in question.

Habitat Fragmentation. The issue of habitat fragmentation is of concern locally, nationally, and globally. The term habitat fragmentation refers to the loss of connections within the biosphere such that the movement, genetic exchange, and dispersal of native populations is restricted or prevented. Anthropogenic habitat fragmentation can be the result of a road construction, logging, agriculture, or urban growth. The practice of retaining or planning for "Corridors" is an attempt to address this issue. Corridors that allow movement of wildlife through and around a site include stream and riparian areas and also areas that connect two or more sites of critical wildlife habitat.

Habitat Types. Habitat types are used by DFW to categorize elements of nature associated with the physical and biological conditions in an area. These are of particular importance for the wildlife they support, and they are important as indicators of the potential for special-status species.

Relative Cover. A measure of the cover of a species in relation to that of other species within a set area or sample of vegetation. This is usually calculated for species that occur in the same layer (stratum) of vegetation, and this measure can be calculated across a group of samples.

Riparian Corridor. Riparian corridors can be defined as the stream channel between the low-water and high-water marks plus the terrestrial landscape above the high water-mark (where vegetation

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may be influenced by elevated water tables or extreme flooding and by the ability of the soils to hold water; Naiman, et. al. 1993).

Riparian Corridor or Riparian Ecosystem. Riparian ecosystems occupy the ecotone between upland and lotic aquatic realms. Riparian corridors can be defined as the stream channel between the low- and high-water marks plus the terrestrial landscape above the high water-mark (where vegetation may be influenced by elevated water tables or extreme flooding and by the ability of the soils to hold water; Naiman, et. al. 1993).

Ruderal Habitat. Ruderal habitat is characterized by disturbance and the establishment and dominance of non-native introduced weed species. Ruderal plant communities are a function of or result of agricultural or logging practices. This habitat is typically found along graded roads, erosional surfaces or sites influenced by agricultural animal populations.

Sensitive Habitat. DFW Natural Diversity Data Base uses environmentally sensitive plant communities for plant populations that are rare or threatened in nature. Sensitive habitat is defined as any area in which plant or animal life or their habitats are either rare or especially valuable and any area which meets one of the following criteria: (1) habitats containing or supporting "rare and endangered" species as defined by the State Fish and Wildlife Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tide lands and marshes, (4) coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat, (7) existing game and wildlife refuges and reserves, and (8) sand dunes. Sensitive Habitat also includes wetlands and tributaries to “Waters of the US” as defined by the Corps of Engineers (ACOE) and DFW seasonal streams DFW.

Serpentinite. Serpentinite or serpentine consists of ultramafic rock outcrops that due to the unique mineral composition support a unique flora often of endemics. Kruckeberg, 1984, indicates that the taxonomy and evolutionary responses to serpentines include ”1) taxa endemic to serpentine, 2) local or regional indicator taxa, largely confined to serpentine in parts of their ranges, 3) indifferent or “bodenvag” taxa that range on and off serpentine, and 4) taxa that are excluded from serpentine.” Serpentine outcrops or serpentinites support numerous special-status plant taxa.

Special-status Species. Special-status organisms are plants or animals that have been designated by Federal or State agencies as rare, endangered, or threatened. We have also included plant species listed by the CNPS. Section 15380 of the California Environmental Quality Act [CEQA (September, 1983)] has a discussion regarding non-listed (State) taxa. This section states that a plant (or animal) must be treated as Rare or Endangered even if it is not officially listed as such. If a person (or organization provides information showing that a taxa meets the State’s definitions and criteria, then the taxa should be treated as such.

Standard Agricultural Practices. Standard agricultural practices are best management practices which are prudent as applied in the agricultural industry such as the use of regulated pesticides, methods of and timing of weed control, appropriate fertilizer application, irrigation management,

frost protection, erosion control and soil conservation and management, and dust control among other practices.

Streams. The DFW definition of stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports wildlife, fish, or other aquatic life. This includes watercourses having a surface or subsurface flow that support or have supported riparian vegetation. DFW's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife.

Target organisms. Special-status species that are listed by: the California Department of Fish and recorded in the Natural Diversity Data Base for the Quadrangle and surrounding Quadrangles of the project site; the California Native Plant Society for the habitat present on the project site Quadrangle and surrounding Quadrangles; Federal Endangered and Threatened Species that Occur in the U.S.G.S. 7 1/2 Minute Quadrangle; our experience with the local flora and fauna; any species identified by local individuals that are considered to be rare in the region; and DFW Five Mile radius CNDDB Rarefind 3 search (See Plate II).

Wetlands. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Many surface waters and wetlands in California meet the criteria for waters of the United States, including intermittent streams and seasonal lakes and wetlands.

Vernal Pools. Vernal pools are a type of seasonal wetland distinct for California and the western US. Typically they are associated with seasonal rainfall or "Mediterranean climate" and have a distinct flora and fauna, an impermeable or slowly permeable substrate and contain standing water for a portion of the year. They are characterized by a variable aquatic and dry regime with standing water during the spring plant growth regime. They have a high degree of endemism of flora and fauna.

Federal Regulations

Federal Endangered Species Act Pursuant to the federal Endangered Species Act (ESA), the U.S. Fish and Wildlife Service (FWS) and the National Oceanic and Atmospheric Administration (NOAA), have authority over projects that may affect the continued existence of a species that is federally listed as threatened or endangered. Section 9 of ESA prohibits the take of a federally listed species; take is defined, in part, as killing, harming, or harassment and includes habitat modification or degradation where it actually results in death or injury to wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.

Section 404 of the Clean Water Act Section 404 of the Clean Water Act establishes a requirement to obtain a permit before any activity that involves any discharge of dredged or fill material into "waters of the United States," including wetlands. Waters of the United States include navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or

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their tributaries. Army Corps of Engineers (ACOE) regulates and issues 404 permits for activities that involve the discharge of dredged or fill materials into waters of the United States. A Water Quality Certification 401 permit must also be obtain from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Board to the nine Regional Water Quality Control Boards (RWQCBs).

State Regulations

California Endangered Species Act Pursuant to the California Endangered Species Act (CESA) and Section 2081 of the Fish and Wildlife Code, a permit from Department of Fish and Wildlife (DFW) is required for projects that could result in the take of a state listed threatened or endangered species. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species, but the definition does not include "harm" or "harass," as the ESA does. As a result, the threshold for a take under CESA is higher than that under the ESA.

California Fish and Wildlife Code Section 1600 – Lake and Streambed Alteration Permit. All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by DFW pursuant to Section 1600 of the California Fish and Wildlife Code. Section 1600 states that it is unlawful for any person, government agency, state, local, or any public utility to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake or deposit or dispose of waste, debris, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake without first notifying DFW of such activity.

Porter-Cologne Water Quality Control Act Under the Porter-Cologne Water Quality Control Act, "waters of the state" fall under the jurisdiction of the RWQCB. Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control non-point and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the Clean Water Act.

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APPENDIX C

CNPS Special Status-species Listed for the Project Quadrangle and Surrounding Quadrangles

DFW CNDDB Rare Find 3 Special-status Species Listed for the Quadrangle and Surrounding Quadrangles

U.S. Fish and Wildlife Service Listed Species for the Quadrangle

California Wildlife Habitat Relationship System Species Summary Report by Habitat Present

California Department of Fish and Wildlife RareFind 4

Inventory of Rare and Endangered Plants

v7-13jan 1-07-13

Status: search results - Tue, Jan. 29, 2013 13:37 c

Your Quad Selection: Calistoga (517D) 3812255, Kenwood (501A) 3812245, Santa Rosa (501B) 3812246, Aetna Springs (516B) 3812264, St. Helena (516C) 3812254, Rutherford (500B) 3812244, Detert Reservoir (517A) 3812265, Mount St. Helena (517B) 3812266, Mark West Springs (517C) 3812256

scientific	common	family	CNPS
Allium peninsulare var. franciscanum	Franciscan onion	Alliaceae	List 1B.2
Alopecurus aequalis var. sonomensis	Sonoma alopecurus	Poaceae	List 1B.1
Amorpha californica var. napensis	Napa false indigo	Fabaceae	List 1B.2
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	List 1B.2
Anomobryum julaceum	slender silver moss	Bryaceae	List 2.2
Arctostaphylos canescens ssp. sonomensis	Sonoma canescent manzanita	Ericaceae	List 1B.2
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Ericaceae	List 1B.3
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	Ericaceae	List 1B.1
Astragalus claranus	Clara Hunt's milk-vetch	Fabaceae	List 1B.1
Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	Fabaceae	List 1B.2
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	List 1B.2

Blennosperma bakeri	Sonoma sunshine	Asteraceae	List 1B.1
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	List 1B.2
Carex albida	Sonoma white sedge	Cyperaceae	List 1B.1
Ceanothus confusus	Rincon Ridge ceanothus	Rhamnaceae	List 1B.1
Ceanothus divergens	Calistoga ceanothus	Rhamnaceae	List 1B.2
Ceanothus purpureus	holly-leaved ceanothus	Rhamnaceae	List 1B.2
Ceanothus sonomensis	Sonoma ceanothus	Rhamnaceae	List 1B.2
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	List 1B.2
Cryptantha dissita	serpentine cryptantha	Boraginaceae	List 1B.2
Downingia pusilla	dwarf downingia	Campanulaceae	List 2.2
Erigeron biolettii	streamside daisy	Asteraceae	List 3
Erigeron greenei	Greene's narrow-leaved daisy	Asteraceae	List 1B.2
Eriogonum nervulosum	Snow Mountain buckwheat	Polygonaceae	List 1B.2
Eryngium constancei	Loch Lomond button-celery	Apiaceae	List 1B.1
Eryngium pinnatisectum	Tuolumne button-celery	Apiaceae	List 1B.2
Fritillaria liliacea	fragrant fritillary	Liliaceae	List 1B.2

Fritillaria pluriflora	adobe-lily	Liliaceae	List 1B.2
Harmonia hallii	Hall's harmonia	Asteraceae	List 1B.2
Hemizonia congesta ssp. congesta	white seaside tarplant	Asteraceae	List 1B.2
Hesperolinon bicarpellatum	two-carpellate western flax	Linaceae	List 1B.2
Hesperolinon sharsmithiae	Sharsmith's western flax	Linaceae	List 1B.2
Hesperolinon tehamense	Tehama County western flax	Linaceae	List 1B.3
Juncus luciensis	Santa Lucia dwarf rush	Juncaceae	List 1B.2
Lasthenia burkei	Burke's goldfields	Asteraceae	List 1B.1
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	List 1B.1
Layia septentrionalis	Colusa layia	Asteraceae	List 1B.2
Leptosiphon jepsonii	Jepson's leptosiphon	Polemoniaceae	List 1B.2
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	List 3
Limnanthes vinculans	Sebastopol meadowfoam	Limnanthaceae	List 1B.1
Lupinus sericatus	Cobb Mountain lupine	Fabaceae	List 1B.2
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	List 3.2
Microseris paludosa	marsh microseris	Asteraceae	List 1B.2

Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	List 1B.1
Navarretia leucocephala ssp. plieantha	many-flowered navarretia	Polemoniaceae	List 1B.2
Navarretia myersii ssp. deminuta	small pincushion navarretia	Polemoniaceae	List 1B.1
Navarretia rosulata	Marin County navarretia	Polemoniaceae	List 1B.2
Penstemon newberryi var. sonomensis	Sonoma beardtongue	Plantaginaceae	List 1B.3
Plagiobothrys strictus	Calistoga popcorn-flower	Boraginaceae	List 1B.1
Poa napensis	Napa blue grass	Poaceae	List 1B.1
Sidalcea hickmanii ssp. napensis	Napa checkerbloom	Malvaceae	List 1B.1
Sidalcea oregana ssp. hydrophila	marsh checkerbloom	Malvaceae	List 1B.2
Sidalcea oregana ssp. valida	Kenwood Marsh checkerbloom	Malvaceae	List 1B.1
Streptanthus batrachopus	Tamalpais jewel-flower	Brassicaceae	List 1B.3
Streptanthus brachiatus ssp. brachiatus	Socrates Mine jewel-flower	Brassicaceae	List 1B.2
Streptanthus brachiatus ssp. hoffmanii	Freed's jewel-flower	Brassicaceae	List 1B.2
Streptanthus hesperidis	green jewel-flower	Brassicaceae	List 1B.2
Streptanthus morrisonii ssp. elatus	Three Peaks jewel-flower	Brassicaceae	List 1B.2
Streptanthus morrisonii ssp.	Kruckeberg's jewel-	Brassicaceae	List

kruckebergii	flower		1B.2
Streptanthus vernalis	early jewel-flower	Brassicaceae	List 1B.2
Stuckenia filiformis	slender-leaved pondweed	Potamogetonaceae	List 2.2
Trichostema ruygtii	Napa bluecurls	Lamiaceae	List 1B.2
Trifolium amoenum	two-fork clover	Fabaceae	List 1B.1
Trifolium hydrophilum	saline clover	Fabaceae	List 1B.2
Triquetrella californica	coastal triquetrella	Pottiaceae	List 1B.2
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	List 2.3

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - For The Quadrangle and Surrounding Quadrangles

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	Accipiter striatus sharp-shinned hawk	ABNKC12020			G5	S3	
2	Agelaius tricolor tricolored blackbird	ABPBXB0020			G2G3	S2	SC
3	Allium peninsulare var. franciscanum Franciscan onion	PMLIL021R1			G5T2	S2.2	1B.2
4	Alopecurus aequalis var. sonomensis Sonoma alopecurus	PMPOA07012	Endangered		G5T1Q	S1	1B.1
5	Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	SC
6	Amorpha californica var. napensis Napa false indigo	PDFAB08012			G4T2	S2.2	1B.2
7	Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070			G2?	S2?	1B.2
8	Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030			G2	S2	
9	Anomobryum julaceum slender silver moss	NBMUS80010			G4G5	S2	2.2
10	Antrozous pallidus pallid bat	AMACC10010			G5	S3	SC
11	Arctostaphylos canescens ssp. sonomensis Sonoma canescent manzanita	PDERI04066			G3G4T2	S2.1	1B.2
12	Arctostaphylos manzanita ssp. elegans Konocti manzanita	PDERI04271			G5T2	S2.3	1B.3
13	Arctostaphylos stanfordiana ssp. decumbens Rincon Ridge manzanita	PDERI041G4			G3T1	S1	1B.1
14	Astragalus claranus Clara Hunt's milk-vetch	PDFAB0F240	Endangered	Threatened	G1	S1	1B.1
15	Astragalus rattanii var. jepsonianus Jepson's milk-vetch	PDFAB0F7E1			G4T3	S3	1B.2
16	Balsamorhiza macrolepis big-scale balsamroot	PDAST11061			G2	S2	1B.2
17	Blennosperma bakeri Sonoma sunshine	PDAST1A010	Endangered	Endangered	G1	S1	1B.1
18	Brodiaea leptandra narrow-anthered brodiaea	PMLIL0C022			G2G3	S2S3.2	1B.2
19	Calystegia collina ssp. oxyphylla Mt. Saint Helena morning-glory	PDCON04032			G4T3	S3.2	4.2
20	Carex albida white sedge	PMCYP030D0	Endangered	Endangered	G1	S1	1B.1
21	Ceanothus confusus Rincon Ridge ceanothus	PDRHA04220			G2	S2.2	1B.1
22	Ceanothus divergens Calistoga ceanothus	PDRHA04240			G2	S2.2	1B.2
23	Ceanothus purpureus holly-leaved ceanothus	PDRHA04160			G2	S2	1B.2

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
24	Ceanothus sonomensis Sonoma ceanothus	PDRHA04420			G2	S2.2	1B.2
25	Centromadia parryi ssp. parryi pappose tarplant	PDAST4R0P2			G4T1	S1	1B.2
26	Coastal and Valley Freshwater Marsh	CTT52410CA			G3	S2.1	
27	Corynorhinus townsendii Townsend's big-eared bat	AMACC08010			G4	S2S3	SC
28	Cryptantha dissita serpentine cryptantha	PDBOR0A0H2			G2	S2	1B.2
29	Cypseloides niger black swift	ABNUA01010			G4	S2	SC
30	Downingia pusilla dwarf downingia	PDCAM060C0			G2	S2	2.2
31	Elanus leucurus white-tailed kite	ABNKC06010			G5	S3	
32	Emys marmorata western pond turtle	ARAAD02030			G3G4	S3	SC
33	Erigeron greenei Greene's narrow-leaved daisy	PDAST3M5G0			G2	S2	1B.2
34	Eriogonum nervulosum Snow Mountain buckwheat	PDPGN08440			G2	S2	1B.2
35	Eryngium constancei Loch Lomond button-celery	PDAPI0Z0W0	Endangered	Endangered	G1	S1	1B.1
36	Falco mexicanus prairie falcon	ABNKD06090			G5	S3	
37	Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T3	S2	
38	Fritillaria liliacea fragrant fritillary	PMLIL0V0C0			G2	S2	1B.2
39	Fritillaria pluriflora adobe-lily	PMLIL0V0F0			G3	S3	1B.2
40	Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S2	
41	Harmonia hallii Hall's harmonia	PDAST650A0			G2	S2?	1B.2
42	Hemizonia congesta ssp. congesta white seaside tarplant	PDAST4R065			G5T2T3	S2S3	1B.2
43	Hesperolinon bicarpellatum two-carpellate western flax	PDLIN01020			G2	S2.2	1B.2
44	Hesperolinon tehamense Tehama County western flax	PDLIN010C0			G3	S3	1B.3
45	Hydrochara ricksecker Ricksecker's water scavenger beetle	IICOL5V010			G1G2	S1S2	
46	Hydroporus leechi Leech's skyline diving beetle	IICOL55040			G1?	S1?	
47	Hysterocarpus traski pomo Russian River tule perch	AFCQK02011			G5T2	S2	SC

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
48	Juncus luciensis Santa Lucia dwarf rush	PMJUN013J0			G2G3	S2S3	1B.2
49	Lasionycteris noctivagans silver-haired bat	AMACC02010			G5	S3S4	
50	Lasiurus cinereus hoary bat	AMACC05030			G5	S4?	
51	Lasthenia burkei Burke's goldfields	PDAST5L010	Endangered	Endangered	G1	S1	1B.1
52	Lavinia symmetricus navarroensis Navarro roach	AFCJB19023			G5T1T2	S1S2	SC
53	Layia septentrionalis Colusa layia	PDAST5N0F0			G2	S2.2	1B.2
54	Leptosiphon jepsonii Jepson's leptosiphon	PDPLM09140			G2	S2	1B.2
55	Limnanthes floccosa ssp. floccosa woolly meadowfoam	PDLIM02043			G4T4	S3.2	4.2
56	Limnanthes vinculans Sebastopol meadowfoam	PDLIM02090	Endangered	Endangered	G1	S1	1B.1
57	Linderiella occidentalis California linderiella	ICBRA06010			G3	S2S3	
58	Lupinus sericatus Cobb Mountain lupine	PDFAB2B3J0			G2	S2.2	1B.2
59	Microseris paludosa marsh microseris	PDAST6E0D0			G2	S2.2	1B.2
60	Myotis thysanodes fringed myotis	AMACC01090			G4G5	S4	
61	Navarretia leucocephala ssp. bakeri Baker's navarretia	PDPLM0C0E1			G4T2	S2	1B.1
62	Navarretia leucocephala ssp. plieantha many-flowered navarretia	PDPLM0C0E5	Endangered	Endangered	G4T1	S1	1B.2
63	Navarretia myersii ssp. deminuta small pincushion navarretia	PDPLM0C0X2			G1T1	S1	1B.1
64	Navarretia rosulata Marin County navarretia	PDPLM0C0Z0			G2?	S2?	1B.2
65	Northern Vernal Pool	CTT44100CA			G2	S2.1	
66	Oncorhynchus mykiss irideus steelhead - central California coast DPS	AFCHA0209G	Threatened		G5T2Q	S2	
67	Penstemon newberryi var. sonomensis Sonoma beardtongue	PDSCR1L483			G4T1	S1.3	1B.3
68	Plagiobothrys strictus Calistoga popcornflower	PDBOR0V120	Endangered	Threatened	G1	S1	1B.1
69	Poa napensis Napa blue grass	PMPOA4Z1R0	Endangered	Endangered	G1	S1	1B.1
70	Progne subis purple martin	ABPAU01010			G5	S3	SC
71	Rana boylii foothill yellow-legged frog	AAABH01050			G3	S2S3	SC

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
72	Rana draytonii California red-legged frog	AAABH01022	Threatened		G4T2T3	S2S3	SC
73	Serpentine Bunchgrass	CTT42130CA			G2	S2.2	
74	Sidalcea hickmanii ssp. napensis Napa checkerbloom	PDMAL110A6			G1	S1	1B.1
75	Sidalcea oregana ssp. hydrophila marsh checkerbloom	PDMAL110K2			G5T2?	S2?	1B.2
76	Sidalcea oregana ssp. valida Kenwood Marsh checkerbloom	PDMAL110K5	Endangered	Endangered	G5T1	S1	1B.1
77	Streptanthus brachiatus ssp. brachiatus Socrates Mine jewel-flower	PDBRA2G072			G2T1	S1.2	1B.2
78	Streptanthus brachiatus ssp. hoffmanii Freed's jewel-flower	PDBRA2G071			G2T1	S1.2	1B.2
79	Streptanthus hesperidis green jewel-flower	PDBRA2G510			G2	S2	1B.2
80	Streptanthus morrisonii Morrison's jewel-flower	PDBRA2G0S0			G2	S2	
81	Streptanthus vernalis early jewel-flower	PDBRA2G120			G1	S1	1B.2
82	Stuckenia filiformis slender-leaved pondweed	PMPOT03090			G5	S1S2	2.2
83	Syncaris pacifica California freshwater shrimp	ICMAL27010	Endangered	Endangered	G1	S1	
84	Taxidea taxus American badger	AMAJF04010			G5	S4	SC
85	Trachykele hartmani serpentine cypress wood-boring beetle	IICOLX6010			G1	S1	
86	Trichostema ruygtii Napa bluecurls	PDLAM220H0			G2	S2	1B.2
87	Trifolium amoenum showy rancheria clover	PDFAB40040	Endangered		G1	S1	1B.1
88	Trifolium hydrophilum saline clover	PDFAB400R5			G2	S2	1B.2
89	Triquetrella californica coastal triquetrella	NBMUS7S010			G1	S1	1B.2
90	Valley Needlegrass Grassland	CTT42110CA			G3	S3.1	
91	Vandykea tuberculata serpentine cypress long-horned beetle	IICOLX7010			G1	S1	
92	Viburnum ellipticum oval-leaved viburnum	PDCPR07080			G5	S2.3	2.3
93	Wildflower Field	CTT42300CA			G2	S2.2	

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in
or may be Affected by Projects in the
CALISTOGA (517D)
U.S.G.S. 7 1/2 Minute Quad
Database last updated: September 18, 2011
Report Date: January 29, 2013
Listed Species

Invertebrates
Syncaris pacifica-California freshwater shrimp (E)

Fish
Hypomesus transpacificus-delta smelt (T)

Oncorhynchus kisutch-coho salmon - central CA coast (E) (NMFS)

Oncorhynchus mykiss-Central California Coastal steelhead (T) (NMFS)
Central Valley steelhead (T) (NMFS)
Critical habitat, Central California coastal steelhead (X) (NMFS)

Oncorhynchus tshawytscha-California coastal chinook salmon (T) (NMFS)
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians
Rana draytonii-California red-legged frog (T)

Birds
Strix occidentalis caurina-northern spotted owl (T)

Plants
Astragalus clarianus-Clara Hunt's milk-vetch (E)

Eryngium constancei-Loch Lomond coyote-thistle (=button-celery) (E)

Lasthenia burkei-Burke's goldfields (E)

Plagiobothrys strictus-Calistoga allocarya (popcorn-flower) (E)

Poa napensis-Napa bluegrass (E)

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

CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM
Supported by
CALIFORNIA INTERAGENCY WILDLIFE TASK GROUP
and maintained by the
CALIFORNIA DEPARTMENT OF FISH AND GAME
Database Version: 8.2 (2008)

SPECIES SUMMARY REPORT

	3=California Endangered	7=California Species of Special Concern	11=BLM Sensitive
	4=California Threatened	8=Federally-Proposed Endangered	12=USFS Sensitive
1=Federal Endangered	5=California Fully Protected	9=Federally-Proposed Threatened	13=CDF Sensitive
2=Federal Threatened	6=California Protected	10=Federal Candidate	14=Harvest

Note: Any given status code for a species may apply to the full species or to only one or more subspecies or distinct population segments.

ID	SPECIES NAME	STATUS												
A001	CALIFORNIA TIGER SALAMANDER		2				7							
A007	CALIFORNIA NEWT						7							
A012	COMMON ENSATINA						7			11	12			
A028	WESTERN SPADEFOOT						7			11				
A043	FOOTHILL YELLOW-LEGGED FROG						7			11	12			
A071	CALIFORNIA RED-LEGGED FROG		2				7							
B042	AMERICAN WHITE PELICAN						7							
B051	GREAT BLUE HERON											13		
B052	GREAT EGRET											13		
B059	BLACK-CROWNED NIGHT HERON									11				
B070	GREATER WHITE-FRONTED GOOSE						7							14
B090	REDHEAD						7							14
B102	BARROW'S GOLDENEYE						7							14
B110	OSPREY											13		
B111	WHITE-TAILED KITE					5								
B113	BALD EAGLE			3		5						13		
B114	NORTHERN HARRIER						7							
B124	FERRUGINOUS HAWK									11				
B126	GOLDEN EAGLE					5				11		13		
B140	CALIFORNIA QUAIL						7							14
B159	MOUNTAIN PLOVER						7			11				
B269	BURROWING OWL						7			11				
B270	SPOTTED OWL		2				7			11	12	13		
B272	LONG-EARED OWL						7							
B273	SHORT-EARED OWL						7							
B309	OLIVE-SIDED FLYCATCHER						7							
B338	PURPLE MARTIN						7							
B342	BANK SWALLOW				4									
B368	BEWICK'S WREN						7							
B410	LOGGERHEAD SHRIKE	1					7							
B417	HUTTON'S VIREO						7							
B430	YELLOW WARBLER						7							
B461	COMMON YELLOWTHROAT						7							
B467	YELLOW-BREASTED CHAT						7							
B483	SPOTTED TOWHEE						7							
B484	CALIFORNIA TOWHEE		2	3										
B487	RUFOUS-CROWNED SPARROW						7							
B494	VESPER SPARROW						7							
B499	SAVANNAH SPARROW			3			7							
B501	GRASSHOPPER SPARROW						7							
B505	SONG SPARROW						7							
B519	RED-WINGED BLACKBIRD						7							
B520	TRICOLORED BLACKBIRD						7			11				
M006	ORNATE SHREW	1					7							
M018	BROAD-FOOTED MOLE						7							
M023	YUMA MYOTIS									11				
M025	LONG-EARED MYOTIS									11				
M026	FRINGED MYOTIS									11				
M033	WESTERN RED BAT						7				12			

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Note: Any given status code for a species may apply to the full species or to only one or more subspecies or distinct population segments.

ID	SPECIES NAME	STATUS													
M037	TOWNSEND'S BIG-EARED BAT							7			11	12			
M038	PALLID BAT							7			11	12			
M045	BRUSH RABBIT	1		3											14
M051	BLACK-TAILED JACKRABBIT							7							14
M087	SAN JOAQUIN POCKET MOUSE							7			11				
M105	CALIFORNIA KANGAROO RAT							7			11				
M117	DEER MOUSE							7							
M127	DUSKY-FOOTED WOODRAT	1						7							
M134	CALIFORNIA VOLE	1		3				7			11				
M152	RINGTAIL					5									
M160	AMERICAN BADGER							7							14
M161	WESTERN SPOTTED SKUNK							7							14
M165	MOUNTAIN LION							7							
R004	WESTERN POND TURTLE							7			11	12			
R023	SAGEBRUSH LIZARD										11				
R036	WESTERN SKINK							7			11				
R046	RUBBER BOA				4							12			
R048	RINGNECK SNAKE											12			
R053	STRIPED RACER		2		4										
R057	GOPHER SNAKE							7							
R059	CALIFORNIA MOUNTAIN KINGSNAKE							7				12			
R061	COMMON GARTER SNAKE	1		3		5		7							

Total Number of Species: 71

Quad is (Calistoga (3812255) or Kenwood (3812245) or Santa Rosa (3812246) or Aetna Springs (3812264) or St. Helena (3812254) or Mount St. Helena (3812266) or Rutherford (3812244) or Detert Reservoir (3812265) or Mark West Springs (3812256))

ScientificName	CommonName	GlobalRank	StateRank	Federal Listing Status	State Listing Status	CNPSList	Habitat
Accipiter striatus	sharp-shinned hawk	G5	S3	None	None		Cismontane woodland | Lower montane coniferous forest | Riparian forest | Riparian woodland
Agelaius tricolor	tricolored blackbird	G2G3	S2	None	None		Freshwater marsh | Marsh and swamp | Swamp | Wetland
Allium peninsulare var. franciscanum	Franciscan onion	G5T2	S2.2	None	None	1B.2	Cismontane woodland | Ultramafic | Valley and foothill grassland
Alopecurus aequalis var. sonomensis	Sonoma alopecurus	G5T1Q	S1	Endangered	None	1B.1	Freshwater marsh | Marsh and swamp | Riparian scrub | Wetland
Ambystoma californiense	California tiger salamander	G2G3	S2S3	Threatened	Threatened		Cismontane woodland | Meadow and seep | Riparian woodland | Valley and foothill grassland | Vernal pool | Wetland
Amorpha californica var. napensis	Napa false indigo	G4T2	S2.2	None	None	1B.2	Broadleaved upland forest | Chaparral | Cismontane woodland
Amsinckia lunaris	bent-flowered fiddleneck	G2?	S2?	None	None	1B.2	Cismontane woodland | Valley and foothill grassland

Andrena blennospermatis	Blennosperma vernal pool andrenid bee	G2	S2	None	None		Vernal pool
Anomobryum julaceum	slender silver moss	G4G5	S2	None	None	2.2	Broadleaved upland forest | Lower montane coniferous forest | North coast coniferous forest
Antrozous pallidus	pallid bat	G5	S3	None	None		Chaparral | Coastal scrub | Desert wash | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Riparian woodland | Sonoran desert scrub | Upper montane coniferous forest | Valley and foothill grassland
Arctostaphylos canescens ssp. sonomensis	Sonoma canescent manzanita	G3G4T2	S2.1	None	None	1B.2	Chaparral | Lower montane coniferous forest | Ultramafic
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	G5T2	S2.3	None	None	1B.3	Chaparral | Cismontane woodland | Lower montane coniferous forest
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	G3T1	S1	None	None	1B.1	Chaparral
Astragalus claranus	Clara Hunt's milk-vetch	G1	S1	Endangered	Threatened	1B.1	Chaparral | Cismontane woodland | Valley and foothill grassland
Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	G4T3	S3	None	None	1B.2	Cismontane woodland | Ultramafic | Valley and foothill grassland
Balsamorhiza macrolepis	big-scale balsamroot	G2	S2	None	None	1B.2	Cismontane woodland | Ultramafic | Valley and foothill grassland
Blennosperma bakeri	Sonoma sunshine	G1	S1	Endangered	Endangered	1B.1	Valley and foothill grassland | Vernal pool | Wetland

Brodiaea leptandra	narrow-anthered brodiaea	G2G3	S2S3.2	None	None	1B.2	Broadleaved upland forest | Chaparral | Lower montane coniferous forest
Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	G4T3	S3.2	None	None	4.2	Chaparral | Ultramafic
Carex albida	white sedge	G1	S1	Endangered	Endangered	1B.1	Bog and fen | Freshwater marsh | Marsh and swamp | Meadow and seep | Wetland
Ceanothus confusus	Rincon Ridge ceanothus	G2	S2.2	None	None	1B.1	Chaparral | Cismontane woodland | Closed-cone coniferous forest | Ultramafic
Ceanothus divergens	Calistoga ceanothus	G2	S2.2	None	None	1B.2	Chaparral | Cismontane woodland | Ultramafic
Ceanothus purpureus	holly-leaved ceanothus	G2	S2	None	None	1B.2	Chaparral
Ceanothus sonomensis	Sonoma ceanothus	G2	S2.2	None	None	1B.2	Chaparral | Ultramafic
Centromadia parryi ssp. parryi	pappose tarplant	G4T1	S1	None	None	1B.2	Coastal prairie | Marsh and swamp | Meadow and seep | Valley and foothill grassland
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	G3	S2.1	None	None		Marsh and swamp | Wetland
Corynorhinus townsendii	Townsend's big-eared bat	G4	S2S3	None	None		Broadleaved upland forest | Chaparral | Chenopod scrub | Great Basin grassland | Great Basin scrub| Lower montane coniferous forest | Meadow and seep| Riparian forest | Riparian woodland | Sonoran desert scrub | Sonoran thorn woodland | Upper montane coniferous forest | Valley and foothill grassland

Cryptantha dissita	serpentine cryptantha	G2	S2	None	None	1B.2	Chaparral | Ultramafic
Cypseloides niger	black swift	G4	S2	None	None		
Downingia pusilla	dwarf downingia	G2	S2	None	None	2.2	Valley and foothill grassland | Vernal pool | Wetland
Elanus leucurus	white-tailed kite	G5	S3	None	None		Cismontane woodland | Marsh and swamp | Riparian woodland | Valley and foothill grassland | Wetland
Emys marmorata	western pond turtle	G3G4	S3	None	None		Aquatic | Artificial flowing waters | Klamath/North coast flowing waters | Klamath/North coast standing waters | Marsh and swamp | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast standing waters | Wetland
Erigeron greenei	Greene's narrow-leaved daisy	G2	S2	None	None	1B.2	Chaparral | Ultramafic
Eriogonum nervulosum	Snow Mountain buckwheat	G2	S2	None	None	1B.2	Chaparral | Ultramafic
Eryngium constancei	Loch Lomond button-celery	G1	S1	Endangered	Endangered	1B.1	Vernal pool | Wetland
Falco mexicanus	prairie falcon	G5	S3	None	None		Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Sonoran desert scrub | Valley and foothill grassland
Falco peregrinus anatum	American peregrine falcon	G4T3	S2	Delisted	Delisted		

Fritillaria liliacea	fragrant fritillary	G2	S2	None	None	1B.2	Coastal prairie | Coastal scrub | Ultramafic | Valley and foothill grassland
Fritillaria pluriflora	adobe-lily	G3	S3	None	None	1B.2	Chaparral | Cismontane woodland | Ultramafic | Valley and foothill grassland
Haliaeetus leucocephalus	bald eagle	G5	S2	Delisted	Endangered		Lower montane coniferous forest | Oldgrowth
Harmonia hallii	Hall's harmonia	G2	S2?	None	None	1B.2	Chaparral | Ultramafic
Hemizonia congesta ssp. congesta	white seaside tarplant	G5T2T3	S2S3	None	None	1B.2	Coastal scrub | Valley and foothill grassland
Hesperolinon bicarpellatum	two-carpellate western flax	G2	S2.2	None	None	1B.2	Chaparral | Ultramafic
Hesperolinon tehamense	Tehama County western flax	G3	S3	None	None	1B.3	Chaparral | Cismontane woodland | Ultramafic
Hydrochara rickseckeri	Ricksecker's water scavenger beetle	G1G2	S1S2	None	None		Aquatic | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters
Hydroporus leechi	Leech's skyline diving beetle	G1?	S1?	None	None		Aquatic
Hysterocarpus traski pomo	Russian River tule perch	G5T2	S2	None	None		Aquatic | Klamath/North coast flowing waters
Juncus luciensis	Santa Lucia dwarf rush	G2G3	S2S3	None	None	1B.2	Chaparral | Great Basin scrub | Lower montane coniferous forest | Meadow and seep | Vernal pool | Wetland
Lasionycteris noctivagans	silver-haired bat	G5	S3S4	None	None		Lower montane coniferous forest | Oldgrowth | Riparian forest

Lasiurus cinereus	hoary bat	G5	S4?	None	None		Broadleaved upland forest | Cismontane woodland | Lower montane coniferous forest | North coast coniferous forest
Lasthenia burkei	Burke's goldfields	G1	S1	Endangered	Endangered	1B.1	Meadow and seep | Vernal pool | Wetland
Lavinia symmetricus navarroensis	Navarro roach	G5T1T2	S1S2	None	None		Aquatic | Sacramento/San Joaquin flowing waters
Layia septentrionalis	Colusa layia	G2	S2.2	None	None	1B.2	Chaparral | Cismontane woodland | Ultramafic | Valley and foothill grassland
Leptosiphon jepsonii	Jepson's leptosiphon	G2	S2	None	None	1B.2	Chaparral | Cismontane woodland | Ultramafic
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	G4T4	S3.2	None	None	4.2	Chaparral | Cismontane woodland | Valley and foothill grassland | Vernal pool | Wetland
Limnanthes vinculans	Sebastopol meadowfoam	G1	S1	Endangered	Endangered	1B.1	Meadow and seep | Valley and foothill grassland | Vernal pool | Wetland
Linderiella occidentalis	California linderiella	G3	S2S3	None	None		Vernal pool
Lupinus sericatus	Cobb Mountain lupine	G2	S2.2	None	None	1B.2	Chaparral | Cismontane woodland | Lower montane coniferous forest | Ultramafic
Microseris paludosa	marsh microseris	G2	S2.2	None	None	1B.2	Cismontane woodland | Closed-cone coniferous forest | Coastal scrub | Valley and foothill grassland
Myotis thysanodes	fringed myotis	G4G5	S4	None	None		

Navarretia leucocephala ssp. bakeri	Baker's navarretia	G4T2	S2	None	None	1B.1	Cismontane woodland | Lower montane coniferous forest | Meadow and seep | Valley and foothill grassland | Vernal pool | Wetland
Navarretia leucocephala ssp. plieantha	many-flowered navarretia	G4T1	S1	Endangered	Endangered	1B.2	Vernal pool | Wetland
Navarretia myersii ssp. deminuta	small pincushion navarretia	G1T1	S1	None	None	1B.1	Vernal pool | Wetland
Navarretia rosulata	Marin County navarretia	G2?	S2?	None	None	1B.2	Chaparral | Closed-cone coniferous forest | Ultramafic
Northern Vernal Pool	Northern Vernal Pool	G2	S2.1	None	None		Vernal pool | Wetland
Oncorhynchus mykiss irideus	steelhead - central California coast DPS	G5T2Q	S2	Threatened	None		Aquatic | Sacramento/San Joaquin flowing waters
Penstemon newberryi var. sonomensis	Sonoma beardtongue	G4T1	S1.3	None	None	1B.3	Chaparral
Plagiobothrys strictus	Calistoga popcornflower	G1	S1	Endangered	Threatened	1B.1	Broadleaved upland forest | Meadow and seep | Valley and foothill grassland | Vernal pool | Wetland
Poa napensis	Napa blue grass	G1	S1	Endangered	Endangered	1B.1	Meadow and seep | Valley and foothill grassland | Wetland
Progne subis	purple martin	G5	S3	None	None		Broadleaved upland forest | Lower montane coniferous forest

Rana boylii	foothill yellow-legged frog	G3	S2S3	None	None	A	Aquatic | Chaparral | Cismontane woodland | Coastal scrub | Klamath/North coast flowing waters | Lower montane coniferous forest | Meadow and seep | Riparian forest | Riparian woodland | Sacramento/San Joaquin flowing waters
Rana draytonii	California red-legged frog	G4T2T3	S2S3	Threatened	None		Aquatic | Artificial flowing waters | Artificial standing waters | Freshwater marsh | Marsh and swamp | Riparian forest | Riparian scrub | Riparian woodland | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast standing waters | Wetland
Serpentine Bunchgrass	Serpentine Bunchgrass	G2	S2.2	None	None		Valley and foothill grassland
Sidalcea hickmanii ssp. napensis	Napa checkerbloom	G1	S1	None	None	1B.1	Chaparral
Sidalcea oregana ssp. hydrophila	marsh checkerbloom	G5T2?	S2?	None	None	1B.2	Meadow and seep | Riparian forest | Wetland
Sidalcea oregana ssp. valida	Kenwood Marsh checkerbloom	G5T1	S1	Endangered	Endangered	1B.1	Freshwater marsh | Marsh and swamp | Wetland
Streptanthus brachiatus ssp. brachiatus	Socrates Mine jewel-flower	G2T1	S1.2	None	None	1B.2	Chaparral | Closed-cone coniferous forest | Ultramafic
Streptanthus brachiatus ssp. hoffmanii	Freed's jewel-flower	G2T1	S1.2	None	None	1B.2	Chaparral | Cismontane woodland | Ultramafic
Streptanthus hesperidis	green jewel-flower	G2	S2	None	None	1B.2	Chaparral | Cismontane woodland | Ultramafic

Streptanthus morrisonii	Morrison's jewel-flower	G2	S2	None	None		Chaparral | Cismontane woodland | Closed-cone coniferous forest | Ultramafic
Streptanthus vernalis	early jewel-flower	G1	S1	None	None	1B.2	Chaparral | Closed-cone coniferous forest | Ultramafic
Stuckenia filiformis	slender-leaved pondweed	G5	S1S2	None	None	2.2	Marsh and swamp | Wetland
Syncaris pacifica	California freshwater shrimp	G1	S1	Endangered	Endangered		Aquatic | Sacramento/San Joaquin flowing waters
Taxidea taxus	American badger	G5	S4	None	None		Broadleaved upland forest | Chaparral | Chenopod scrub | Cismontane woodland | Closed-cone coniferous forest | Coastal bluff scrub Coastal dunes | Coastal prairie | Coastal scrub| Freshwater marsh | Great Basin grassland | Great Basin scrub | Interior dunes scrub | Valley and foothill grassland

Trachykele hartmani	serpentine cypress wood-boring beetle	G1	S1	None	None		
Trichostema ruygtii	Napa bluecurls	G2	S2	None	None	1B.2	Chaparral | Cismontane woodland | Lower montane coniferous forest | Valley and foothill grassland | Vernal pool | Wetland
Trifolium amoenum	showy rancheria clover	G1	S1	Endangered	None	1B.1	Coastal bluff scrub | Ultramafic | Valley and foothill grassland
Trifolium hydrophilum	saline clover	G2	S2	None	None	1B.2	Marsh and swamp | Valley and foothill grassland | Vernal pool | Wetland
Triquetrella californica	coastal triquetrella	G1	S1	None	None	1B.2	Coastal bluff scrub | Coastal scrub | Valley and foothill grassland
Valley Needlegrass Grassland	Valley Needlegrass Grassland	G3	S3.1	None	None		Valley and foothill grassland
Vandykea tuberculata	serpentine cypress long-horned beetle	G1	S1	None	None		
Viburnum ellipticum	oval-leaved viburnum	G5	S2.3	None	None	2.3	Chaparral | Cismontane woodland | Lower montane coniferous forest
Wildflower Field	Wildflower Field	G2	S2.2	None	None		Valley and foothill grassland

APPENDIX D

Bat Habitat Assessment

Wildlife Research Associates

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11/19/2012

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kjeldsen@sonic.net

RE: Bat Habitat Assessment – Flynville Wine Company – 1184 Maple Lane, Calistoga, CA

Dear Daniel,

The following is a report of my recent bat habitat assessment of buildings and trees located at 1184 Maple Lane, in Calistoga, Napa County, California. This assessment was conducted in advance of proposed demolition of existing buildings and removal of trees to accommodate development of a winery complex. This assessment provides recommendations for measures to avoid direct mortality of roosting bats resulting from these activities with specific focus on those special-status species that may roosting in buildings and trees, such as pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), Western red bat (*Lasiurus blossevillii*), as well as non-special status species that could form significant breeding colonies, such as Brazilian free-tailed bat (*Tadarida brasiliensis*) or Yuma myotis (*Myotis yumanensis*).

Proposed Project

The Flynville Wine Company has proposed to redevelop an existing site from wine-related and nonconforming uses. As described in the August 22, 2011 Napa County Use Permit Application, there are seven existing lots on the project site that will be combined to create a 11.84 acre parcel, on which the client proposes to establish a 300,000 gallon winery. To accommodate this development, all existing buildings and improvements, as well as some trees, will be removed prior to construction.

Located on the north side of the St Helena Highway, the site supports a total of 11 buildings and two shipping containers which range in size between one very small storage shed to up to 9,000 sq. storage warehouses. Located on the northern and southern boundaries are rows of trees as well as scattered rows of trees throughout the site.

METHODS

I conducted my habitat assessment on November 7, 2012, and met with you and Dan Pina at the site to review which trees would be removed, and to arrange entry into each structure so that I could survey the interior spaces of each building.

The exteriors and interiors of all structures were surveyed using a 300-Lumen flashlight, a 500,000 candlepower spotlight, and 10 x 42 roof-prism binoculars to render detail more clearly. All exterior and interior surfaces were examined for evidence of bat roosting activity, including accumulated fecal matter, urine staining, fur staining at entry points, live or dead bats, insect prey remains, audible social calls, and characteristic odor.

Trees were assessed using 10 x 42 roof-prism binoculars. I examined all trees planned for removal, as well as those within 50 feet, for evidence of suitable potential colonial bat roosting habitat, comprised of cavities, crevices, and exfoliating bark. I also assessed those trees, such as sycamores, which could provide suitable foliage for solitary, obligate tree-roosting bat species, such as Western red bat (*Lasiurus blossevillii*) or hoary bat (*Lasiurus cinereus*).

Night time emergence surveys were not conducted during this survey, since winter torpor in roosting bats would preclude most outflight activity, and even social vocalization within the roost. Emergence surveys are not required to develop an effective humane exclusion/eviction plan for the buildings prior to demolition, or trees prior to removal.

REGULATORY

A petition to list *C. townsendii* as either threatened or endangered in California was filed on October 18, 2012 by the Center for Biological Diversity. Although all California bats are protected as non-game mammals, 12 are classified as California Special Concern (CSC) species, affording them more protection under the California Environmental Quality Act (CEQA), and other California laws and regulations.

RESULTS

Buildings

Bat roosting activity was found in six of the 10 buildings, 1 small shed, and 2 steel shipping containers surveyed on the site. An existing site plan showing those buildings is included in this report, along with a table describing the buildings, type of roost habitat, and specific recommendations for each structure.

No bats were present in any of the buildings, and no audible vocalizations were noted, however evidence of bat roosting activity was widely distributed throughout the buildings, and was present in six of the 10 buildings (plus two steel shipping containers, and 1 small shed). This evidence included extensive deposits of bat fecal matter, urine staining, and some fur staining at a few entry points. The wood construction, age, and condition of most of the buildings on the site make them available for bats due to the many openings, and the site is located in excellent bat foraging habitat, so the widespread presence of bat roosting activity is not surprising for this site. Please see Table 1 for a building list, roost type, roosting evidence found and recommendations to prevent take of individuals. Text in the table is coded red for heavily used roosts, orange for lightly used roosts, and green for no roosting activity.

Of particular note, was evidence of roosting activity by Townsend's big-eared bat (*Corynorhinus townsendii*), a California Special Concern species. This species is very sensitive to disturbance, and has been declining in range and population throughout California (Pierson and Rainey 1998).

TABLE 1.
Results of Building Surveys

BUILDING NAME	ROOSTING EVIDENCE	ROOST DESCRIPTION	RECOMMENDATIONS
Ag Services	Large amount of fecals in covered carport under roof, at gable vent.	Day – probably maternity – inside attic, night in carport. No bats present at time of survey, so not a likely winter roost this year.	Humane eviction by qualified bat excluder, or contractor under direct supervision of bat expert with exclusion experience. Alternatively, remove 2 – 4' x 8' sections of roof with demolition saw, 4' down slope from each side of the ridge to expose attic space. Also; open all doors and windows. Leave open 4-7 days before demolition. Conduct only during seasonal periods as described in report.
Warehouse 3,600 s.f.	Many available openings. *Myotis* sp. fecal pellets widely distributed on walls and floor throughout much of the building	Day – probably maternity, also night. No bats present at time of survey, so not a likely winter roost this year.	Humane eviction would be very difficult and costly; recommend phased removal as described in this report. Remove 4 – 4' x 8' sections of roofing materials to expose interior. Open all doors and windows. Leave open 4-7 days before demolition. Conduct only during seasonal periods as described in report.
Warehouse 9,000 s.f.	Many available openings. Extensive use by several bat species throughout building. ALSO: *C. townsendii* fecal pellets in upstairs loft - see text regarding rarity of this species.	Day – probably maternity, also night. No bats present at time of survey, so not a likely winter roost this year, but possibly a dispersal roost for *C. townsendii* (typically through October/November/December).	Humane eviction would be very difficult and costly; recommend phased removal as described in this report. Remove 6 – 4' x 8' sections of roofing materials to expose interior. Open all doors and windows. Leave open 4-7 days before demolition. Conduct only during seasonal periods as described in report.
Residence	Extensive use in interior rooms, no evidence in rafters/attic (ceiling removed most areas).	Possible day roost for non-reproductive individuals, also, heavily used night roost. No bats present at time of survey, so not a likely winter roost this year.	Humane eviction would be costly; recommend phased removal as described in this report. Remove 4 – 4' x 8' sections of roofing materials to expose interior. Open all doors and windows. Leave open 4-7 days before demolition. Conduct only during seasonal periods as described in report.
Carport	Some signs of use, but very good habitat.	Possible day roost, probable night roost for small numbers of individuals.	Remove 2 – 4' x 8' sections of roofing materials to expose interior. Leave open 4-7 days

BUILDING NAME	ROOSTING EVIDENCE	ROOST DESCRIPTION	RECOMMENDATIONS
		No bats present at time of survey, so not a likely winter roost this year.	before demolition. Conduct only during seasonal periods as described in report.
PGE Offices/carport	Fecal pellets throughout portions of building, mostly in garage area.	Possible day roost, probable night roost. No bats present at time of survey, so not a likely winter roost this year.	Remove 4 – 4' x 8' sections of roofing materials to expose interior. Leave open 4-7 days before demolition. Conduct only during seasonal periods as described in report.
Small Tool Storage Outbuilding (not shown on plan)	No evidence	None	None
Shipping containers (not shown on plan)	No evidence	None	None
Trailers (not shown on plan	No evidence	None	None
BBL Storage/BBL Builders	No evidence	None	None
Wine Country Cases	No evidence	None	None
BBL Storage 625 s.f.	No evidence	None	None
Jim's Supply	No evidence	None	None

Trees

Of the numerous trees surveyed on the site only three were identified as potentially supporting roosting habitat. Please refer to Table 2 for a list of roost types and recommendations to prevent take of individuals.

TABLE 2.
Results of Tree Surveys

TREE NUMBER	ROOST TYPE	RECOMMENDATIONS
B-1	Deep fissure/cavity in trunk	EITHER: roost inspection by qualified bat expert within 24 hours of tree removal, or; Two-step removal under supervision of qualified bat expert. See text for full description.
B-2	Multiple cavities	EITHER: roost inspection by qualified bat expert within 24 hours of tree removal, or; Two-step removal under supervision of qualified bat expert. See text for full description.
B-3	Multiple cavities	EITHER: roost inspection by qualified bat expert within 24 hours of tree removal, or; Two-step removal under supervision of qualified bat expert. See text for full description.

DISCUSSION AND RECOMMENDATIONS

As discussed earlier, the potential elevation of *C. townsendii* to either threatened or endangered will likely result in increased levels of mitigation to prevent "take" of individuals or loss of roosting habitat, possibly during the life of this project.

Preventing Take of Bats in Buildings – General Discussion and Specific Recommendations

In the case of buildings to be demolished for redevelopment, there are only two effective methods for getting bats out of the structure. The first, utilized mainly when the building is in good condition and the work is feasible, is "humane eviction", or "bat exclusion", which relies on the bats' ability to fly out of the roost. In this method, all potential, but currently unused entry points into the structure are sealed. The active entry points are fitted with one-way exits, which are left in place 7-10 days to allow all bats to emerge normally during nightly feeding flights. The one-way exits are then removed and the remaining openings sealed until demolition if it will occur more than 30 days after demolition. If the interval between successful eviction and demolition will be short (less than 4 weeks), the one-way exits may often be left in place until demolition. This work must be conducted by, or under direct supervision or instruction, a bat biologist qualified in humane bat eviction methods and materials.

In some cases, the physical condition of the existing structure is so poor that humane eviction as described above is not possible. If that occurs, the building must be carefully, and selectively dismantled in such a way that the internal environment is altered to a degree sufficient to cause bats to abandon the roost and not return. This must occur under the guidance bat biologist qualified in partial dismantling of structures for bat eviction.

Bats may be safely evicted in this area of Northern California between approximately March 1, or when evening temperatures are above 45°F and rainfall less than ½" in 24 hours occurs, and April 15, prior to parturition of pups. The next acceptable period is after pups become self-sufficiently volant – September 1 through about October 15, or prior to evening temperatures dropping below 45°F and onset of rainfall greater than ½" in 24 hours.

With the exception of the Ag Services building, the structures present on the Flynville Wine Co. project site are better candidates for partial dismantling, or phased removal, rather than blockage and eviction. This is because the age, condition and construction of the occupied buildings would otherwise require extensive blockage work which would be difficult, time consuming, and very costly. For this project, I recommend partial dismantling of all structures during appropriate seasonal periods of bat activity. Specific recommendations for phase removal of each structure are provided in Table 1. See Figure 2 for additional details on partial dismantling for each structure, and Figure 3 for further information on results of the building surveys by structure.

Preventing Take of Bats in Trees – General Discussion and Specific Recommendations

As in buildings, colonial bats that roost in trees are active only seasonally, so the above seasonal restrictions apply for trees as well as buildings. Unlike with buildings however, bats cannot readily be humanely evicted from trees. This is because many trees have numerous cavities, crevices, or large areas of exfoliating bark that cannot be fitted with one-way exits, or cannot even be safely worked on due to poor condition. This is particularly true of snags, due to their extremely poor condition; however, snags provide some of the most preferred and substantial bat tree roost habitat.

Conducting visual cavity surveys is only rarely possible due to difficulty with access and number of trees, and emergence surveys of potential roost trees is only feasible where a few habitat trees occur, because only 1-2 trees can be surveyed each night per observer. Importantly, because bats tend to switch tree roosts more frequently than more stable roosts such as caves, mines, rock outcrops, buildings, bridges, or culverts, negative results have extremely limited temporal validity (24-48 hours), which would result in

multiple mobilizations by tree cutters in order to remove trees immediately after a negative survey. In the event a tree is found to be occupied, a method for safely getting the bats out of the tree will still be needed.

As a result, I have developed a method that provides the most reasonable and feasible opportunity for bats to abandon the roost tree prior to cutting, and has been acceptable to CDFG for many previous tree removal projects on which I have previously worked. This method entails a two-step method, *conducted over two consecutive days*, and works by creating noise and vibration by cutting non-habitat branches and limbs from habitat trees using chainsaws only (no excavators or other heavy machinery) on Day 1. The noise and vibration disturbance , together with the visible alteration of the tree, is very effective in causing bats that emerge nightly to feed, to not return to the roost that night. The remainder of the tree is removed on Day 2.

Removal of trees containing suitable potential bat roosting habitat in the form of crevices, cavities, or exfoliating bark, as with exclusion/eviction from buildings, must be conducted only during seasonal periods of bat activity, and under at least initial supervision of a qualified bat expert with experience with tree roosts.

For the three trees identified containing suitable potential colonial bat habitat (B1-B3), each tree appears to be good candidates for visual examination of the cavities and crevices prior to removal, in lieu of two-step removal, as most are easily accessible. I recommend that as a possible alternative to two-step removal, each tree should be inspected by a qualified bat expert using the appropriate equipment for complete access to all roost features.

If bats are present, or all roost features cannot be fully surveyed, two-step removal will be required. A bat biologist qualified in two-step tree removal is required on Day 1 to supervise and instruct the tree-cutters who will be on the site conducting the work, for a time sufficient to train all tree cutters who will conduct two-step removal of habitat trees. The bat biologist is not required on Day 2, when tree cutters remove the remainder of each tree.

No buffer zone around habitat trees is required if all trees will be removed during seasonal periods of bat activity. If this cannot be accommodated, a 50’ buffer around habitat trees must be observed until the appropriate periods for two-step removal.

Please let me know if you have any questions.

Sincerely,

Greg Tatarian

Greg Tatarian
Attachments: APPENDIX – Figs. 1-3

REFERENCES:

PIERSON, E.D., PHD., AND W.E. RAINEY, PHD. 1998. DISTRIBUTION, STATUS, AND MANAGEMENT OF TOWNSEND’S BIG-EARED BAT (CORYNORHINUS TOWNSENDII) IN CALIFORNIA. STATE OF CALIFORNIA, THE RESOURCES AGENCY, DEPARTMENT OF FISH AND GAME. WILDLIFE MANAGEMENT DIVISION. BIRD AND MAMMAL CONSERVATION PROGRAM. FINAL REPORT FOR CONTRACT NO. FG7129. 34 PP.

APPENDIX

Figures 1-3

FLYNVILLE WINE CO.

BAT HABITAT ASSESSMENT

Wildlife Research Associates
11/19/12


PD PROPERTIES LLC
FLYNNVILLE WINE COMPANY
LANDSCAPE PLAN
L.1
SITE PLAN
MAPLE LANE
TRELLIS @ ENTRY
PARKING
FOUNTAIN
IDA LANE
HIGHWAY 99
B-1
B-2
B-3
(E) TREES TO BE REMOVED
EXISTING TREES
NEW LANDSCAPING
Potential Bat Habitat Tree

FIGURE 1.

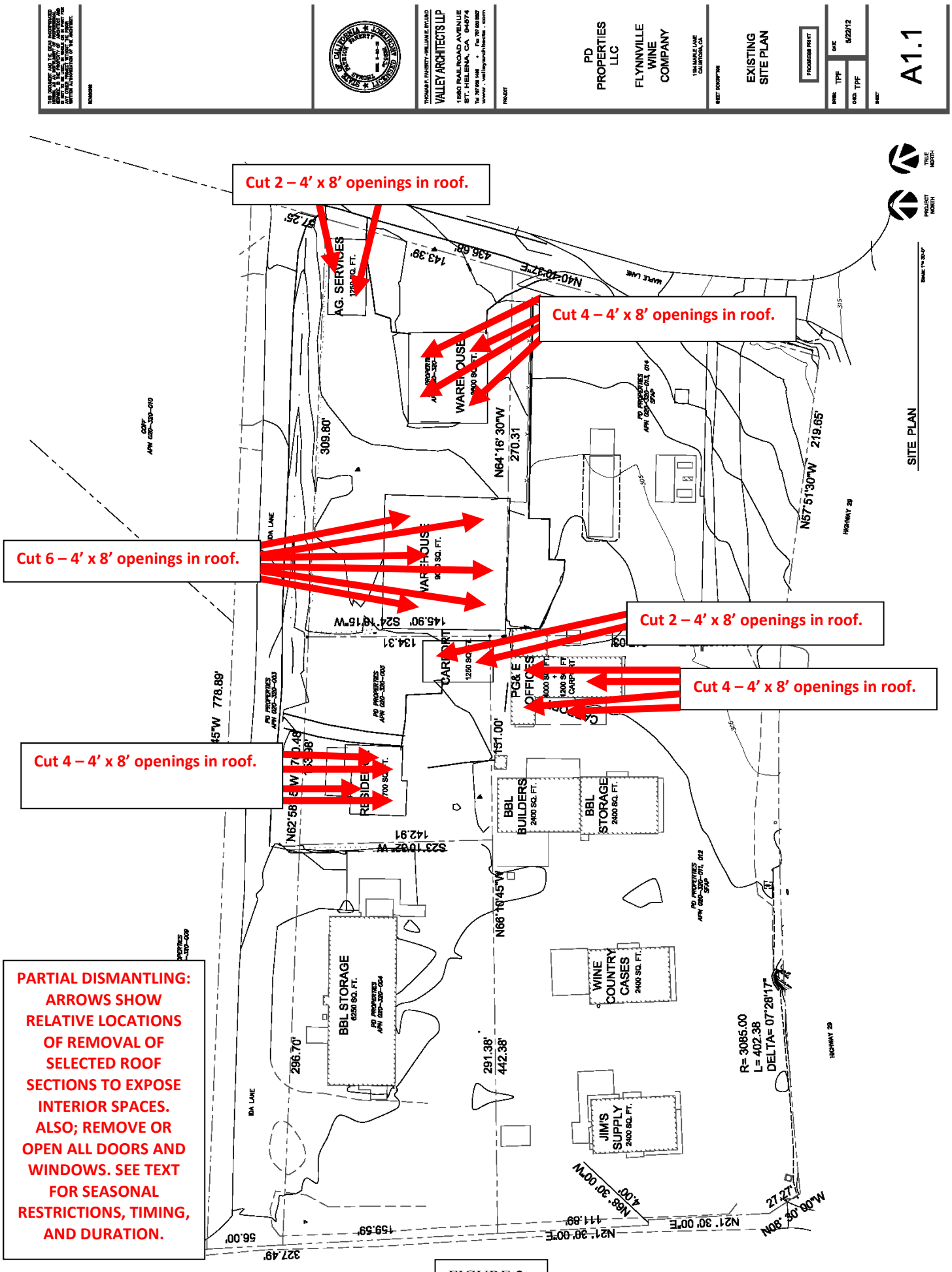
Cut 2 – 4' x 8' openings in roof.
Cut 4 – 4' x 8' openings in roof.
Cut 6 – 4' x 8' openings in roof.
Cut 2 – 4' x 8' openings in roof.
Cut 4 – 4' x 8' openings in roof.
Cut 4 – 4' x 8' openings in roof.
PARTIAL DISMANTLING: ARROWS SHOW RELATIVE LOCATIONS OF REMOVAL OF SELECTED ROOF SECTIONS TO EXPOSE INTERIOR SPACES. ALSO; REMOVE OR OPEN ALL DOORS AND WINDOWS. SEE TEXT FOR SEASONAL RESTRICTIONS, TIMING, AND DURATION.
SITE PLAN
PD PROPERTIES LLC
FLYNNVILLE WINE COMPANY
EXISTING SITE PLAN
A1.1
VALLEY ARCHITECTS LLP
1580 RAILROAD AVENUE
ST. HELENA, CA 94574
BBL BUILDERS 2400 SQ. FT.
BBL STORAGE 2400 SQ. FT.
WINE COUNTRY CASES 2400 SQ. FT.
JIM'S SUPPLY 2400 SQ. FT.
BBL STORAGE 6250 SQ. FT.
WAREHOUSE
OFFICES
HIGHWAY 29
DA LANE

FIGURE 2.

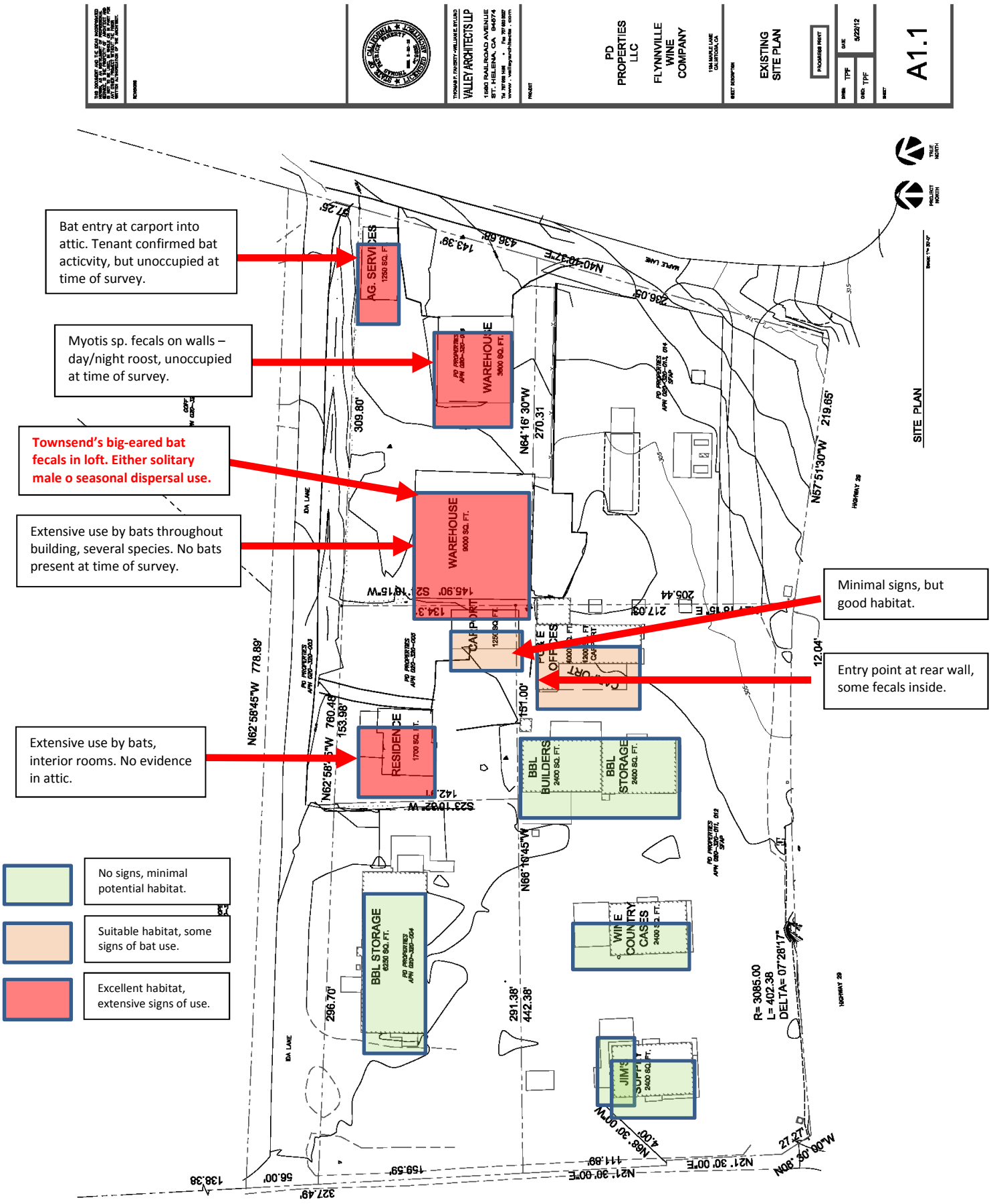
PD PROPERTIES LLC
FLYNNVILLE WINE COMPANY
EXISTING SITE PLAN
A1.1
VALLEY ARCHITECTS LLP
1580 RAILROAD AVENUE
ST. HELENA, CA 94574
SITE PLAN
Bat entry at carport into attic. Tenant confirmed bat acticvity, but unoccupied at time of survey.
Myotis sp. fecals on walls – day/night roost, unoccupied at time of survey.
Townsend's big-eared bat fecals in loft. Either solitary male o seasonal dispersal use.
Extensive use by bats throughout building, several species. No bats present at time of survey.
Extensive use by bats, interior rooms. No evidence in attic.
Minimal signs, but good habitat.
Entry point at rear wall, some fecals inside.
No signs, minimal potential habitat.
Suitable habitat, some signs of bat use.
Excellent habitat, extensive signs of use.
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Figure 3.