



Memorandum

To: Mr. Karl Drew, General Manager
Crestline Village Water District

From: Eliza Laws, Senior Environmental Analyst

Date: August 13, 2014

Re: Technical Study Findings and CEQA Recommendations for the Valle Drive Well Site Project

As part of WEBB's scope of services, biological studies were conducted to determine if sensitive biological resources would be adversely affected and what the appropriate level of CEQA documentation would be.

The following technical studies were prepared:

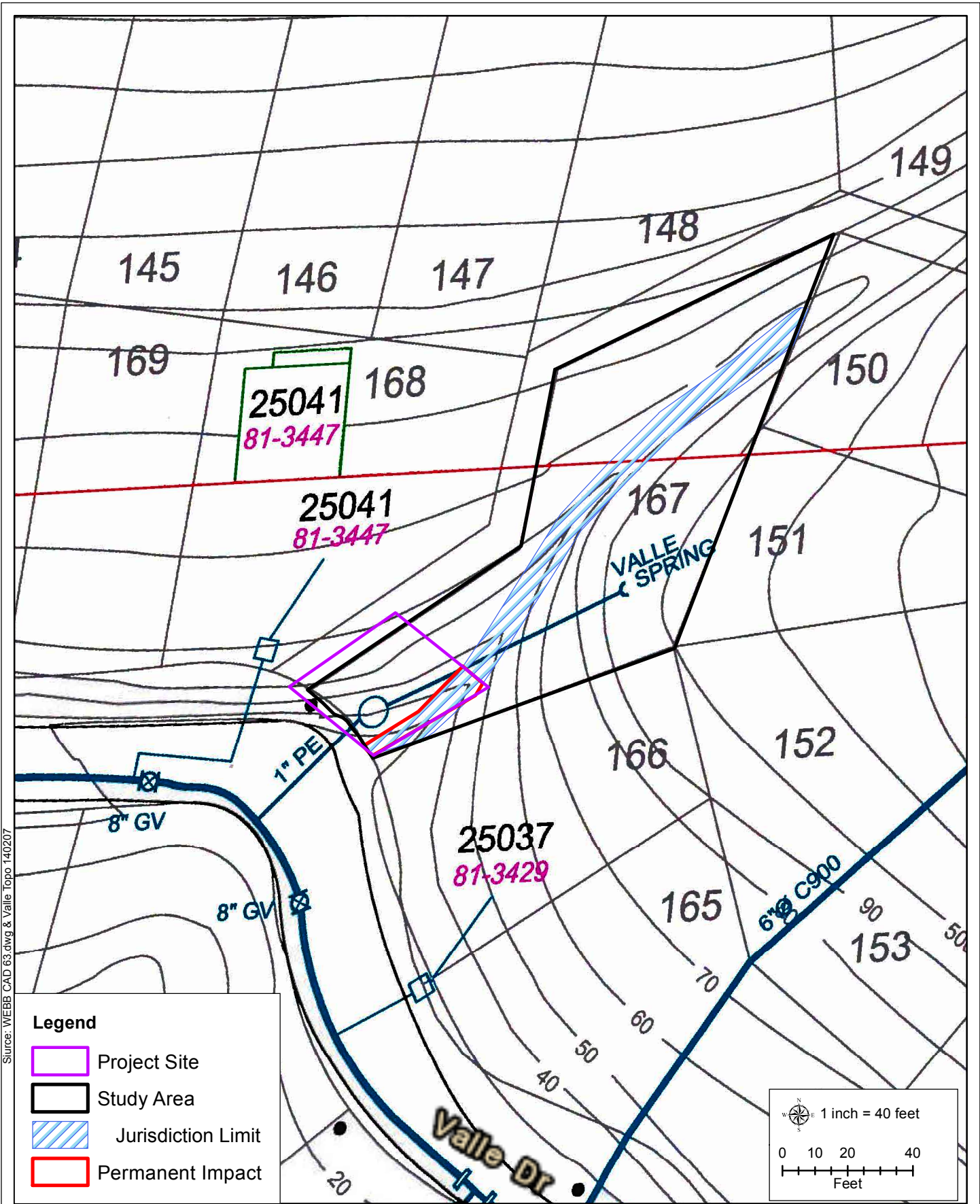
- General Biological Resources Assessment
- Jurisdiction Delineation
- Focused Surveys for Rare Plants and Andrew's Marble Host Plant Species

The results of the General Biological Resources Assessment concluded that potential for a variety of special-status species were present on the Project site, including but not limited to, eight rare plant species as well as several host species for the Andrew's marble butterfly. Focused surveys (report attached) for the rare plant and host species for the Andrew's marble butterfly species were conducted during the appropriate time of year and ended with negative results (i.e. the species are not present). The Project site was also found to contain potential habitat for the following special-status species: Southern rubber boa, two-striped garter snake, and San Bernardino Flying Squirrel. Potential impacts to these species would be avoided by conducting pre-construction clearance surveys and/or construction monitoring performed by a qualified biologist. These requirements can be incorporated into the Project's drilling specifications.

The results of the Jurisdictional Delineation concluded that the Project site contains one ephemeral, jurisdictional drainage, Valle spring. If the location of the proposed well can be shifted slightly so that the well is located outside the red lines and blue cross-hatch areas on the attached figure, permitting requirements from regulatory agencies can be avoided.

Because of the negative results of the focused surveys and with the implementation of pre-construction clearance surveys for reptile and small mammal species noted above, WEBB anticipates these studies could be used to support a Categorical Exemption to comply with CEQA requirements. It is anticipated that the California Department of Fish and Wildlife (CDFW) and the Regional Water Quality Control Board will accept the Notice of Exemption (NOE) as the final CEQA document for processing regulatory permits for the Project with the supporting biological studies that indicate the Project will not result in impacts to sensitive species. If the jurisdictional drainage can be avoided, an NOE can be prepared and posted immediately. After the 35-day statute of limitations expires, construction can begin. If the jurisdictional drainage cannot be avoided, the permitting process is anticipated to take between three to six months after the NOE has been posted with the County Clerk.

CC: Wally Franz



S:\active projects\Valle Drive well site 1455400573\maps

Delineation/Impacts Map
 Proposed Well Site
 APN 034-018-311
 Crestline Village Water District

FIGURE
 3



Draft Focused Survey Report

Crestline Village Water District
Proposed Well Site APN 034-018-311
Focused Surveys for Rare Plants & Andrew's Marble Butterfly Host Plant Species
Albert A. Webb Associates
31 July 2014



DRAFT

**Crestline Village Water District
Proposed Well Site
APN 034-018-311**

Focused Surveys for Rare Plants & Andrew's Marble Host Plant Species

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Report Date: 31 July 2014



TABLE OF CONTENTS

	PAGE
1.0 INTRODUCTION.....	3
2.0 PROJECT/SITE DESCRIPTION	3
3.0 TARGET SPECIES BACKGROUND INFORMATION.....	4
3.1 Special-status Plant Species.....	4
3.1.1 Palmer's Mariposa Lily.....	4
3.1.2 San Bernardino Mountains Owl's-clover	4
3.1.3 Parish's Alumroot.....	4
3.1.4 Hall's Monardella	5
3.1.5 Parish's Yampah.....	5
3.1.6 Bear Valley Checkerbloom	5
3.1.7 Laguna Mountains Jewel-flower.....	5
3.1.8 Southern Jewel-flower	5
3.1.9 San Bernardino Aster	6
3.2 Andrew's Marble Butterfly	8
3.3 Andrew's Marble Butterfly Host Plant Species	8
3.3.1 Hoboell's Rockcress	9
3.3.2 Mountain Tansymustard	9
4.0 METHODS	10
4.1 Preliminary Review	10
4.2 Field Surveys	11
5.0 RESULTS.....	11
6.0 DISCUSSION	11



LIST OF APPENDICES

- Appendix 1. Maps
- Appendix 2. Plant Species List
- Appendix 3. Representative Site Photos

LIST OF TABLES

Table 1. Special-status Plants	6
Table 2. Andrew's Marble Butterfly	8
Table 3. Andrew's Marble Butterfly Larval Host Plant Species.....	9
KEY TO TABLES	10

DRAFT
**Crestline Village Water District
Proposed Well Site
APN 034-018-311**

Focused Surveys for Rare Plants & Andrew's Marble Host Plant Species

1.0 INTRODUCTION

Crestline Village Water District proposes the drilling of a replacement water well at Assessor's Parcel Number (APN) 034-018-311 (project) located in the Community of Crestline, San Bernardino County, California. Contracted by Albert A. Webb Associates (Webb), AMEC Environment & Infrastructure, Inc. (AMEC) completed a general biological resources assessment for this project in February 2014. The results of that study concluded that potential for a variety of special-status biological resources, including but not limited to, eight rare plant species as well as several host plant species for Andrew's marble butterfly (*Euchloe hyantis andrewsi*) was present at the proposed project site (AMEC 2014).

As a result of these findings, Webb contracted AMEC to conduct focused surveys for special-status plant species and host plants for Andrew's marble butterfly. This report presents a project overview, background information for the target species, study methods, results and conclusions of the surveys.

2.0 PROJECT/SITE DESCRIPTION

The project site is located in the Community of Crestline, San Bernardino County, California. Specifically, it is located on Lot 167 on Valle Drive in the northwest 1/4 of Section 25 of Township 2 North, Range 4 West, as shown on the U.S.G.S. 7.5 minute *San Bernardino North, California* Quadrangle (Appendix 1, Figures 1-2). The Assessor's Parcel Number (APN) is 034-018-311. The project consists of the replacement of an existing horizontal well that is no longer productive and the construction and installation of a new slant water well at this location. The permanent project impacts (i.e., the well) are anticipated to be approximately 40 square feet while the temporary project impacts (i.e., off road access, equipment operations, staging, and spoils) are expected to be approximately 1,600 square feet.

The site consists of a rocky, ephemeral drainage located between two mountain cabins/residential dwellings. Despite the adjacent mountain residences, relatively undisturbed natural open space occurs in all directions surrounding the project site. The drainage contained two small, shallow pools (Valle Spring) where the existing well is located. The drainage contained surface water at the time of the site visit downstream of the existing well (Appendix 3, Photos 1-2). Topography of the drainage is moderately steep with the steepest areas occurring along both natural earthen embankments. The elevational range of the site is from 1,511-1,538 meters (4,958-5,047 feet) above sea level. Site disturbances observed included dumping of trash and accumulation of roadside debris (i.e., discarded tires, cans, plastics, clothing, etc.).

3.0 TARGET SPECIES BACKGROUND INFORMATION

3.1 Special-status Plant Species

Although a total of twenty-one (21) special-status plant species were reported by the California Natural Diversity Data Base (CNDDDB) and California Native Plant Society (CNPS), the biological resources assessment concluded that habitat for eight (8) of these was present at the proposed project site. Although not reported from the vicinity by the CNDDDB or CNPS, one additional special-status plant species, Laguna Mountains jewel-flower, which is also one of the larval host plant species for Andrew's marble butterfly, is also considered to have potential for occurrence at the project site despite the apparent lack of records. Each of these potentially-occurring special-status plant species are summarized in the following subsections and in Table 1 below.

3.1.1 Palmer's Mariposa Lily

Palmer's mariposa lily (*Calochortus palmeri* var. *palmeri*) is a perennial bulbiferous herb that is a member of the lily family (Liliaceae). This species is not federally or state listed as endangered or threatened but has been designated with a "California Rare Plant Rank (CRPR)" of 1B.2 by the CNPS, meaning that it is considered to be "rare, threatened, or endangered in California and elsewhere" and "fairly endangered in California." Palmer's mariposa lily is a spring-summer (April-July) blooming species that is associated with meadows and seeps and/or mesic areas within chaparral, lower montane coniferous forest vegetation communities between 1,000-2,390 meters (m) (3,281-7,841 feet [ft]) in elevation (CNPS 2014). See Table 1 below for an additional summary of this species.

3.1.2 San Bernardino Mountains Owl's-clover

San Bernardino Mountains owl's-clover (*Castilleja lasiorhyncha*) is an herbaceous hemiparasitic annual that is a member of the broomrape family (Orobanchaceae). Like Palmer's mariposa lily, it is also not listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and Wildlife (CDFW), but has been given a CRPR of 1B.2 by the CNPS. This spring-summer (May-August) blooming species is associated with meadows and seeps and/or otherwise mesic areas within chaparral, pebble plain, riparian woodlands, and upper montane coniferous forest between 1,300-2,390m (3,281-7,841ft) in elevation (CNPS 2014). Table 1 below provides an additional summary of this species.

3.1.3 Parish's Alumroot

Parish's alumroot (*Heuchera parishii*) is a perennial rhizomatous herbaceous member of the saxifrage family (Saxifragaceae). This species is also not federally or state listed, but has been given a CRPR of 1B.3 by the CNPS, which means it is considered to be "rare, threatened, or endangered in California and elsewhere" but "not very endangered in California." Parish's alumroot is a summer (June-August) blooming species that is associated with rocky, sometimes carbonate areas and alpine boulder and rock fields in lower and upper montane and subalpine

coniferous forests between 1,500-3,800m (4,021-12,467ft) in elevation (CNPS 2014). See Table 1 below for an additional summary of this species.

3.1.4 Hall's Monardella

Like Parish's alumroot, Hall's monardella (*Monardella macrantha* ssp. *hallii*) is a perennial rhizomatous herb. This member of the mint family (Lamiaceae) is not listed by the USFWS or CDFW, but has been given a CRPR of 1B.3 by the CNPS. This summer-fall (June-October) blooming species is associated with broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest and valley and foothill grassland, between 730-2,195m (2,395-7,201ft) in elevation (CNPS 2014). Table 1 below provides an additional summary of this species.

3.1.5 Parish's Yampah

Parish's yampah (*Perideridia parishii* ssp. *parishii*) is a perennial herbaceous member of the carrot family (Apiaceae) that is not federally or state listed but has been designated with a CRPR of 2B.2, which means the CNPS considers it to be "endangered in California" and "fairly endangered in California." This species blooms in the summer (June-August) and is associated with damp meadows and along streambeds in lower and upper montane coniferous forests, especially in open pine canopy between 1,390-3,000m (4,560-9,843ft) in elevation (CNPS 2014). See Table 1 below for an additional summary of this species.

3.1.6 Bear Valley Checkerbloom

Like Parish's yampah, Bear Valley checkerbloom (*Sidalcea malviflora* ssp. *dolosa*) is a perennial herb that is not listed by the USFWS or CDFW, but has been given a CRPR of 1B.2. Bear Valley checkerbloom is a member of the mallow family (Malvaceae) that blooms from spring-summer (May-August), and is associated with meadows and seeps in lower and upper montane coniferous forest and riparian woodlands between 1,495-2,685m (4,905-8,809ft) in elevation (CNPS 2014). Table 1 below provides an additional summary of this species.

3.1.7 Laguna Mountains Jewel-flower

Laguna Mountains jewel-flower is a perennial herbaceous member of the mustard family (Brassicaceae) that is not or state listed but has been designated with a CRPR of 4.3 which means the CNPS considers it to be "uncommon in California" and "not very endangered in California." This species is associated with chaparral and yellow pine forests of the Transverse and Peninsular ranges in southern California and Baja between 1,200-2,500m (3,937-8,202ft). It blooms in the spring through the summer (May-August).

3.1.8 Southern Jewel-flower

Southern jewel-flower (*Streptanthus campestris*) is a spring-summer (April-May) blooming member of the mustard family (Brassicaceae). This species is not listed by the federal or state

regulatory agencies but like Parish's alumroot is designated with a CRPR of 1B.3. Southern jewel-flower is associated with rocky areas in chaparral, lower montane coniferous forest and pinyon and juniper woodland between 900-2,300m (2,953-7,546ft) in elevation (CNPS 2014). See Table 1 below for an additional summary of this species.

3.1.9 San Bernardino Aster

San Bernardino aster (*Symphyotrichum defoliatum*) is a perennial rhizomatous herbaceous member sunflower family (Asteraceae) that blooms from late summer to fall (July-November). Like Palmer's mariposa lily, San Bernardino Mountains owl's-clover and Bear Valley checkerbloom above, this species is also not listed as endangered or threatened by the USFWS or CDFW, however has been designated with a CRPR of 1B.2. San Bernardino Aster is associated with meadows, seeps, marshes and swamps in coastal scrub, cismontane woodland, lower montane coniferous forest, vernal mesic grassland or near ditches and in disturbed areas between 2-2,040m (7-6,693ft) in elevation (CNPS 2014). Table 1 below provides an additional summary of this species.

Table 1. Special-status Plants

Species	Protective Status [F=Federal; C=California]	Habitat	Flowering Period	Family
<i>Calochortus palmeri</i> var. <i>palmeri</i> Palmer's mariposa lily	F: None C: None CRPR: List 1B.2	Chaparral, lower montane coniferous forest, meadows and seeps/mesic. 1,000-2,390m (3,281-7,841')	Apr-Jul	Lily Family Liliaceae
<i>Castilleja lasiorhyncha</i> San Bernardino Mountains owl's-clover	F: None C: None CRPR: List 1B.2	Chaparral, meadows and seeps, pebble plain, riparian woodland, upper montane coniferous forest/mesic. 1,300-2,390m (4,265-7,481')	May-Aug	Broomrape Family Orobanchaceae
<i>Heuchera parishii</i> Parish's alumroot	F: None C: None CRPR: List 1B.3	Lower & upper montane coniferous forests, subalpine coniferous, alpine boulder & rock fields, rocky sometimes carbonate. 1,500-3,800m (4,021-12,467')	Jun-Aug	Saxifrage Family Saxifragaceae

Species	Protective Status [F=Federal; C=California]	Habitat	Flowering Period	Family
<i>Monardella macrantha</i> ssp. <i>Hallii</i> Hall's monardella	F: None C: None CRPR: List 1B.3	Broadleafed upland forest, chaparral, cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland. 730-2,195m (2,395-7,201')	Jun-Oct	Mint Family Lamiaceae
<i>Perideridia parishii</i> ssp. <i>parishii</i> Parish's yampah	F: None C: None CRPR: 2B.2	Lower & upper montane coniferous forests and meadows. Damp meadows and along streambeds, especially in open pine canopy. 1,390-3,000 m (4,560-9,843')	Jun – Aug	Carrot Family Apiaceae
<i>Sidalcea malviflora</i> ssp. <i>dolosa</i> Bear Valley checkerbloom	F: None C: None CRPR: 1B.2	Lower montane coniferous forest (meadows and seeps), Meadows and seeps, riparian woodland, upper montane coniferous forest (meadows and seeps). 1,495-2,685m (4,905-8,809')	May-Aug	Mallow Family Malvaceae
<i>Streptanthus bernardinus</i> Laguna Mountains jewel-flower	F: None C: None CRPR: List 4.3	Chaparral, yellow pine forest. 1,200-2,500m (3,937-8,202ft)	May-Aug	Mustard Family Brassicaceae
<i>Streptanthus campestris</i> southern jewel-flower	F: None C: None CRPR: 1B.3	Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland/rocky. 900-2,300m (2,953-7,546')	(Apr), May-Jul	Mustard Family Brassicaceae



Species	Protective Status [F=Federal; C=California]	Habitat	Flowering Period	Family
<i>Symphytotrichum defoliatum</i> San Bernardino aster	F: None C: None CRPR: List 1B.2	Meadows and seeps, marshes and swamps, coastal scrub, cismontane woodland, lower montane coniferous forest, vernal mesic grassland or near ditches, disturbed areas. 2-2,040m (7-6,693')	Jul - Nov	Sunflower Family Asteraceae

3.2 Andrew's Marble Butterfly

Andrew's marble butterfly (*Euchloe hyantis andrewsi*) is a California endemic subspecies that is not listed as threatened, endangered or designated as a Candidate Species or California Species of Concern (CSC) by either the USFWS or CDFW respectively, but has been assigned a "state conservation status rank" of S1 by the California Natural Diversity Data Base (CNDDDB), which means it is considered by the CDFW to be critically imperiled and that there are less than six occurrences or less than 1,000 individuals or less than 2,000 acres. Andrew's marble butterfly is associated with yellow pine coniferous forest near Lake Arrowhead and Big Bear Lake in the San Bernardino Mountains. Adults of this subspecies typically fly in the summer months (June-July).

Table 2. Andrew's Marble Butterfly

Species	Protective Status [F=Federal; C=California]	Habitat	Flight Period	Occurrence Probability
Andrew's marble butterfly (<i>Euchloe hyantis andrewsi</i>)	F: None C: None Other: CNDDDB G3G4T1 S1	Endemic to yellow pine forest near Lake Arrowhead and Big Bear Lake, San Bernardino Mountains.	June-July	Absent (larval host plants not found)

3.3 Andrew's Marble Butterfly Host Plant Species

Andrew's marble butterfly larval host plants include Laguna Mountains jewel-flower (*Streptanthus bernardinus*), Holboell's rockcress (*Boechera pinetorum*, formerly named *Arabis*



holboellii var. *pinetorum*) and/or mountain tansymustard (*Descurainia richardsonii*). Laguna Mountains jewel-flower is discussed in the Section 3.1.7 and Table 1 above (as it is considered a special-status species) while the remaining larval host plant species are discussed separately below and in Table 2.

3.3.1 Hoboell's Rockcress

Hoboell's rockcress is a short-lived perennial herbaceous member of the mustard family (Brassicaceae) that is associated with rocky outcrops or gravelly substrates in meadows and open coniferous forest between 1,100-3,200m (3,609-10,499ft) in elevation. This species blooms in the spring through the summer (May-July).

3.3.2 Mountain Tansymustard

Mountain tansymustard is a perennial herbaceous member of the mustard family (Brassicaceae) that is associated with open areas, meadows, sagebrush scrub, aspen groves and roadsides between 100-3,500 (328-11,483ft) in elevation. Mountain tansymustard blooms from spring through early fall (May-September).

Table 3. Andrew's Marble Butterfly Host Plant Species

Species	Protective Status [F=Federal; C=California]	Habitat	Flowering Period	Family
<i>Boechnera pinetorum</i> Holboell's rockcress	F: None C: None CRPR: None	Rocky outcrops or gravelly substrates in meadows and open coniferous forest. 1,100-3,200m (3,609-10,499ft)	May-July	Mustard Family Brassicaceae
<i>Descurainia richardsonii</i> mountain tansymustard	F: None C: None CRPR: None	Open areas, meadows, sagebrush scrub, aspen groves and roadsides. 100-3,500m (328-11,483ft)	May-Sept	Mustard Family Brassicaceae

KEY TO TABLES

F: Federal (Endangered, Threatened, Candidate)

C: California (Endangered, Threatened, Species of Concern)

CRPR: California Native Plant Society (CNPS) "California Rare Plant Rank (CRPR)"

CNPS CRPR: 1A - Plants Presumed Extinct in California; List 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere; List 2: Plants Rare, Threatened, or Endangered in California, But More Common

Elsewhere; List 3: Plants About Which We Need More Information - A Review List; List 4: Plants of Limited Distribution - A Watch List.

CNPS Threat Ranks

- 0.1 - Seriously threatened in California (high degree/immediacy of threat).
- 0.2 - Fairly threatened in California (moderate degree/immediacy of threat).
- 0.3 - Not very threatened in California (low degree/immediacy of threats or no current threats known).

CDFW state rankings are a reflection of the overall condition of an element throughout its California range. The number after the decimal point represents a threat designation attached to the rank:

S1= Critically Imperiled. Less than 6 Element Occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres

S1.1 = very threatened

S1.2 = threatened

S1.3 = no current threats known

S2 = Imperiled. 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres

S2.1 = very threatened

S2.2 = threatened

S2.3 = no current threats known

S3 = Vulnerable. 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres

S3.1 = very threatened

S3.2 = threatened

S3.3 = no current threats known

S4 = Apparently secure within California; this rank is clearly lower than **S3** but factors exist to cause some concern; e.g. there is some threat, or somewhat narrow habitat. No threat designation.

S5 = Demonstrably secure to ineradicable in California. No threat designation.

SH = Known California sites are historical, not extant

4.0 METHODS

4.1 Preliminary Review

Prior to commencing the focused field surveys, AMEC senior biologist Michael D. Wilcox reviewed pertinent literature and information for each of the target species. This included books, documents and files in the AMEC's in-house library, online sources (CNPS Rare and Endangered Plant Inventory, Jepson eflora and Calflora) and museum specimens at the University of California Riverside (UCR) Herbarium. The review was conducted to ensure that focused surveys were conducted at the appropriate time of year for the detection of the target species during their respective blooming periods and to obtain or refresh the search image for each of these species. Scientific nomenclature for this report follows: Jepson Flora Project (2013) for plants and Pelham (2008) for butterflies. Additional information for each species was also obtained from the CNPS online database (2013) and Calflora (2014).

4.2 Field Surveys

The focused rare plant and Andrew's marble butterfly host plant field surveys were conducted on 31 May 2014 and 24 July 2014 by Wilcox. All flora observed on and immediately adjacent to the project site during the course of the surveys were recorded in field notes and are included in Appendix 1. Plant species of uncertain identity were collected and identified by UCR herbarium collections manager Andrew Sanders. Representative site photographs were taken and are included in Appendix 2.

5.0 RESULTS

None of the target potentially-occurring special-status plant species or larval host plant species for Andrew's marble butterfly were detected on the proposed project site during the surveys. A total of thirty-one (31) plant species were identified on, or immediately adjacent to the site. Most plant species detected onsite are native species common to the region, however a few introduced species also occur (Appendix 2).

6.0 DISCUSSION

Focused botanical surveys conducted during the appropriate blooming periods for the potentially-occurring target species ended with negative results. None of the potentially-occurring special-status plant species or larval host plant species for Andrew's marble butterfly were found on, or immediately adjacent to the proposed project site. As a result, it is AMEC's opinion that implementation of the proposed project would have no effect on these special-status botanical resources or Andrew's marble butterfly.

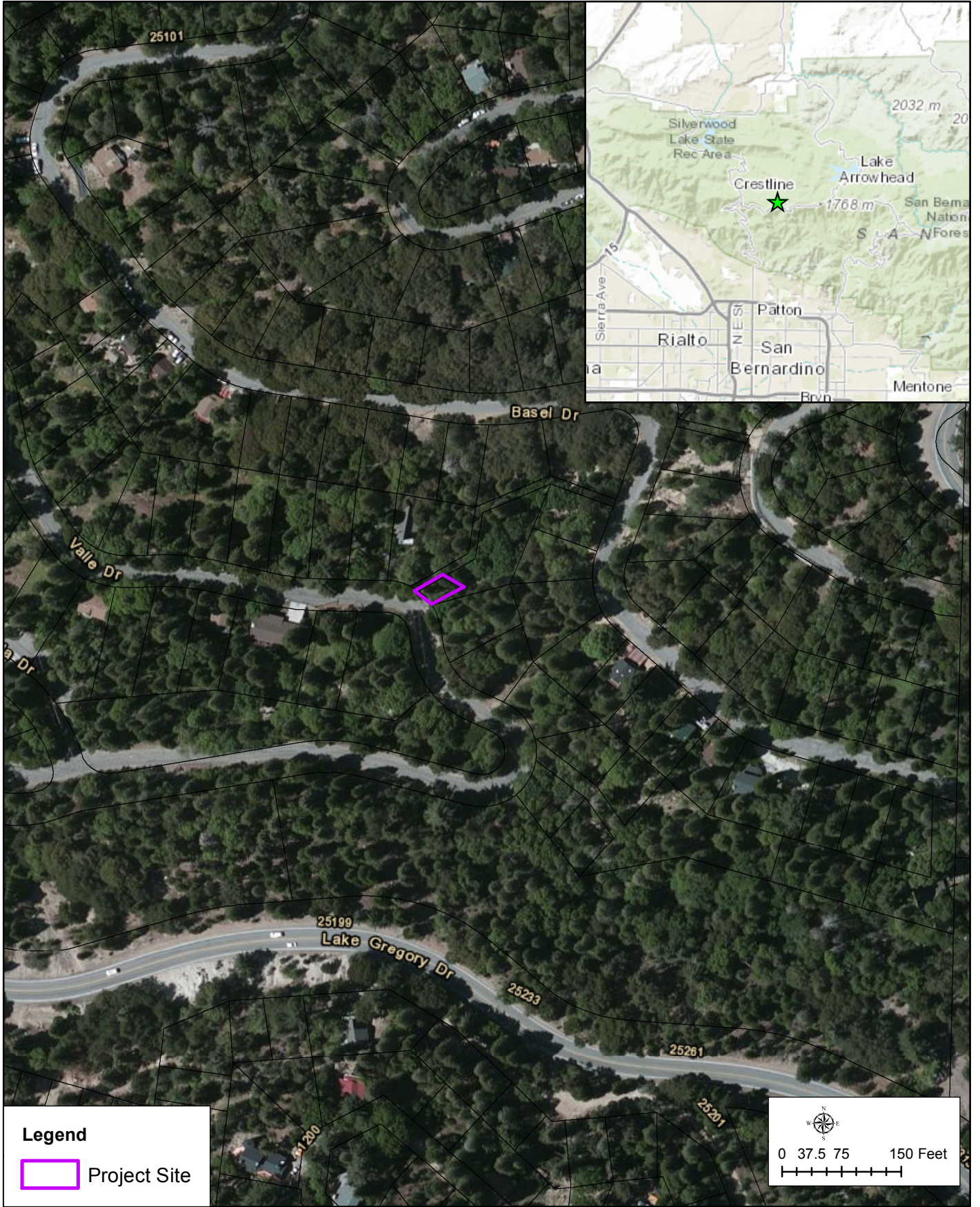
LITERATURE CITED AND REFERENCES

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APPENDIX 1

Valle Drive Well Site Project

MAPS



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Vicinity & Location
 Proposed Well Site
 APN 034-018-311
 Crestline Village Water District

FIGURE
 1



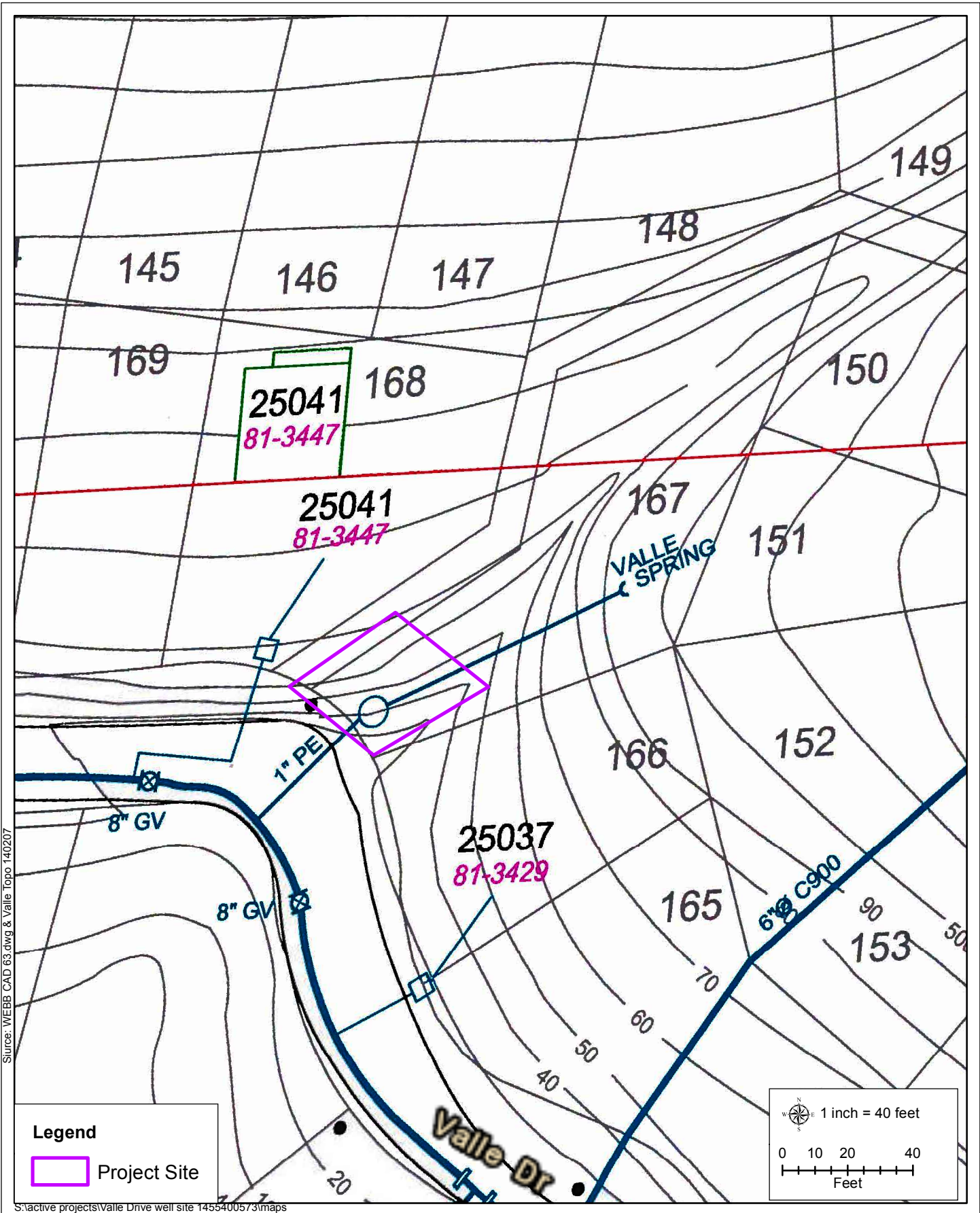
Source: USGS topo San Bernardino North 7.5 Quad

S:\active projects\Valle Drive well site 1455400573\maps



Topographic Map
 Proposed Well Site
 APN 034-018-311
 Crestline Village Water District

FIGURE
 2



Site Map
 Proposed Well Site
 APN 034-018-311
 Crestline Village Water District

FIGURE
 3

APPENDIX 2

Valle Drive Well Site Project

PLANT SPECIES LIST

**Vascular Plants Observed on the Valle Drive Rare Plant Survey
and Andrew's Marble Host Plant Survey,
San Bernardino County, California**

PTERIDOPHYTES

Dryopteridaceae

Polystichum imbricans

GYMNOSPERMAE

Cupressaceae

Calocedrus decurrens

Pinaceae

Pinus lambertiana

Pinus ponderosa

ANGIOSPERMAE

DICOTYLEDONES

Araliaceae

**Hedera canariensis*

Asteraceae

Artemisia douglasii

Pseudognaphalium beneolens

Betulaceae

Alnus rhombifolia

Boraginaceae

* *Nemophila spatulata*

Phacelia imbricate

Brassicaceae

* *Barbarea orthoceras*

* *Lunaria annua*

* *Sisymbrium orientale*

Fabaceae

* *Melilotus cf. albus* or *officinalis*

Fagaceae

Quercus chrysolepis

FERNS

Wood fern family

sword fern

CONE BEARING PLANTS

Cedar Family

incense cedar

Pine Family

sugar pine

Ponderosa pine

DICOT FLOWERING PLANTS

Ginseng Family

canary ivy

Sunflower Family

mugwort

cudweed

Birch Family

white alder

Waterleaf Family

Sierra baby blue eyes

imbricate phacelia

Mustard Family

American wintercress

money plant

Oriental hedge mustard

Oak Family

white or yellow sweetclover

Oak Family

canyon oak

<i>Quercus kelloggii</i>	black oak
Lamiaceae * <i>Marrubium vulgare</i>	Mint Family horehound
Onagraceae <i>Clarkia rhomboidea</i>	Primrose Family forest clarkia
Papaveraceae <i>Dicentra</i> sp.	Poppy Family unidentified bleedingheart
Phrymaceae <i>Mimulus moschatus</i>	Lopseed Family musk monkeyflower
Plataginaceae <i>Collinsia</i> cf. <i>parryi</i>	Plantain Family Parry's blue eyed Mary
Portulacaceae <i>Claytonia perfoliata</i>	Purslane Family sticky cinquefoil
Rosaceae <i>Drymocallis glandulosa</i> <i>Rubus parviflorus</i>	Rose Family sticky cinquefoil thimbleberry
Rubiaceae <i>Galium aparine</i>	Madder Family goose grass
Sapindaceae <i>Acer macrophyllum</i>	Maple Family big leaf maple
Saxifragaceae <i>Boykinia rotundifolia</i>	Saxifrage Family round leaved boykinia
Urticaceae <i>Urtica dioica</i>	Nettle Family <i>stinging nettle</i>
MONOCOTYLEDONEAE	MONOCOT FLOWERING PLANTS
Cyperaceae <i>Carex</i> sp.	Sedge Family unidentified sedge
Poaceae * <i>Bromus diandrus</i> * <i>Elymus glaucus</i>	Grass Family ripgut brome blue wild-rye

This list reports only plants observed on the site by this study. Other species may have been overlooked or undetectable due to their growing season. Plants were identified from keys, descriptions and drawings in Balwin et al. (2008). Some specimens were identified or confirmed by Andrew Sanders (U.C. Riverside Herbarium). Unless noted otherwise, nomenclature and systematics follows the Jepson Flora Project (2013). Where other names are also in use, they are noted in parentheses.

SYMBOLS AND ABBREVIATIONS:

- * = Non-native species.
- cf.* = Compares favorably with
- sp. = Plant identified only to genus.

APPENDIX 3

REPRESENTATIVE SITE PHOTOS

**Crestline Village Water District
APN 034-018-311 Proposed Well Site**



Photo 1. Representative photo of site. View facing east-northeast.



Photo 2. General condition of site. View facing west-southwest.