

Rough and Ready Fire Station Biological Inventory/Assessment Report

June 2010

Prepared for

Rough and Ready Volunteer Fire Department

Prepared by

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SITE AND SURVEY INFORMATION

Site name: Rough and Ready Fire Station

APN: 052-270-019, -22, and -028 (portion)

Location: Section 24, T. 16 N, R. 8 E (USGS Rough and Ready quadrangle).

Prepared for: Rough and Ready Volunteer Fire Department

Survey dates: August 3 and September 16, 2009

Report date: September 21, 2009; revised June 10, 2010

Biologist: Adrian Juncosa, Ph.D.

SUMMARY

The proposed new Rough and Ready fire station site is vegetated primarily by ruderal (weedy) species amongst some remnants of the mixed oak – ponderosa pine woodland which formerly existed at the site prior to its urbanization. A small expanse of grassland occurs east of the proposed structures.

There are no wetlands or other waters of the U.S., or natural ephemeral or seasonal tributaries which are subject to Clean Water Act or Fish and Game Code regulation, or to Nevada County policy.

No landmark oak trees or groves occur on the site.

Habitat suitable that is marginally suitable for one special-status plant species (Brandegge's clarkia) is found within the study area, but not within the area to be affected by project construction. The project provides no habitat for other special-status species, and in particular provides no habitat for federally listed threatened or endangered species, or candidates for listing, or critical habitat. The project will have no effect on any listed species or critical habitat.

INTRODUCTION

Rough and Ready Volunteer Fire Department has applied for grant funding and other financial assistance to support the construction of a new fire station to replace the existing one which is poorly situated for fire protection purposes, inadequate in size and facilities, and suffers from numerous safety and code non-compliance issues. The proposed new building is 8,167 square feet, with parking areas and an access driveway. Water supply will be from a new well to be drilled within the parcel, and wastewater disposal will be via a septic system also installed within the Department's parcel. The proposed project does not entail any modification to the Department's emergency response or other operations, except for the change in location. Accordingly, the action area is essentially limited to the construction site itself and the immediate surrounding area within the range of construction lighting and noise. Evaluation by a civil engineer of the project's likely effect with respect to off-site stormwater runoff (quantity and quality) determined that no significant off-site hydrologic alterations would occur.

SITE LOCATION AND SETTING

The study site lies in Section 24, T. 16 N, R. 8 E; USGS Rough and Ready quadrangle (Figure 1; see Appendices for all figures and species lists). The elevation of the site varies from approximately 1,870 to 1,900 feet. The study area of this report includes all areas where proposed project construction will occur. Portions of APN 052-270-028 which lie far upslope from the project footprint were not studied but are not relevant to the evaluation of potential project impacts.

The regional setting of the study site is a mosaic of undeveloped woodland, low density rural residential development, and some grazing lands. Prior to settlement, the area probably supported mixed oak and ponderosa pine forest. Unless otherwise noted, plant community names that are capitalized in this report are those developed for the California Department of Fish and Game Wildlife Habitat Relationship system and slightly refined in the Nevada County Natural Resources Report (NCNRR; Nevada County, 2002). However, because the area where construction will actually occur has been highly altered since the region was first settled in the 1800s, discussion of natural terrestrial communities and original regional vegetation (which do not occur on the site) is not relevant to impact analysis and is not provided.

METHODS

The project site was surveyed on foot with the aid of a large-scale (1"=20') line drawing with topographic base map.

Oak trees were measured with a metal diameter tape; since none measured more than 36 inches dbh (4.5 feet above average ground level at the location of the tree), there was no mapping of individual trees for this inventory. No trees of other hardwood species were found that exceeded 36 inches dbh. Likewise, no areas within the project footprint were found to have hardwood woodland with vegetative cover >33 percent (therefore no mapping methodology).

All plant species present were identified by sight or by reference to Hickman (1993), and were noted on a proprietary checklist of the local flora. No vertebrates were encountered during the survey. The site was studied in August and September, which is outside the blooming time for the special-status plant species that are recorded from the region. However, because no habitat suitable for special-status species occurs on the site, the timing of the survey did not impair our ability to definitively assess potential project impacts on special-status plants.

SURVEY RESULTS

A map of habitats is included as Figure 2 (Appendices); text descriptions are provided below, roughly in the order of decreasing areal extent. Two of the main cover types that occur on the site do not correspond well to any published natural community types in standard sources, therefore we have used site-specific terminology and explained it in the descriptions below. Nearly all of the species that were observed on the site are mentioned in the habitat descriptions, therefore, no separate general list is provided.

Upland Habitats

MIXED URBANIZED AND NON-NATIVE VEGETATION

This cover type occurs over almost the entirety of the area of project construction. It is a mosaic of buildings, paved areas, gravel-surfaced areas, and ruderal (weedy) vegetation with scattered trees, nearly all of which were planted. The grassy areas are vegetated primarily by non-native grasses such as Bermuda grass (*Cynodon dactylon*), oats (*Avena* sp.), ripgut brome (*Bromus diandrus*), and perennial rye-grass (*Lolium perenne*). Variable amounts of non-native forbs such as plantain (*Plantago lanceolata*) and mustard (*Brassica nigra*) occur in unpaved areas. The non-native trees include one redwood (*Sequoia sempervirens*, native to California but not to the site), sweet gum (*Liquidambar styraciflua*), and mulberry (*Morus alba*). No hardwood trees larger than 36 inches dbh are present.

ANNUAL GRASSLAND

The gentle slopes to the east of the area of project structures and pavement are vegetated by Annual Grassland, dominated by rye-grass and bromes with scattered non-native weedy species such as mustard and yellow star-thistle (*Centaurea solstitialis*). This Annual Grassland area is where the project's wastewater disposal leach lines will be installed.

NEEDLE-GRASS GRASSLAND

The vegetation of the steep slopes above and north of the Annual Grassland is dominated by the native perennial purple needle-grass (*Nasella pulchra*), mixed with rose clover (*Trifolium hirtum*), oats, and minor amounts of other non-native grasses. Native grasslands are relatively uncommon in the project region (and

for that matter, everywhere in California). In the present case, the needle-grass occurs on slopes that are all steeper than 20 percent and are also mostly steeper than 30 percent, therefore not an area where construction would occur anyway, for policy reasons other than protection of an uncommon plant community.

MIXED OAK-PINE WOODLAND

A broken-canopy woodland occurs on slopes far above the area where the project will be constructed. The predominant trees are black oak (*Quercus kelloggii*) and interior live oak (*Q. wislizenii*), therefore the cover type does not correspond either to the Montane Hardwood or Foothill Hardwood type as described in the NCNRR. Scattered ponderosa pine trees (*Pinus ponderosa*) also occur, but in a proportion far below 50 percent, therefore the Ponderosa Pine woodland type is not applicable either.

Wetlands and Riparian Areas

There are no wetlands, riparian areas, or other natural drainageways or waters of the U.S. on the site. Scattered hydrophytic plants were found along an excavated roadside ditch, supported by artificial hydrology (pumped and/or manually diverted irrigation water). This water is from two sources, which may result in flow in the excavated ditch either individually or in combination: leakage from a Nevada Irrigation District ditch located just upslope from the site (repaired during summer 2009), and overflow from a storage tank which is filled by diversion from the ditch (history and details provided in memorandum from Bruce Ivy Construction, October 8, 2009). This overflow is frequently diverted in turn by a nearby home owner, and the portion not used by him flows down the ditch. We confirmed during the September site visit that, with the repair of the leak and when the home owner does not divert the overflow, there is no flow in the ditch. Accordingly, since the hydrology that occurs (when it occurs) is regarded by regulatory agencies as artificial, this mixed vegetation would not be correctly mapped as any type of water-dependent natural community that is protected under Clean Water Act regulations or County policy.

Landmark Oaks and Groves

No landmark oak trees or groves are found within the project site.

LANDMARK OAKS AND GROVES

No landmark oak trees or groves are found within the project site.

Special-status Species

A summary of special-status species that were evaluated for this report appears in Table 1 (following page). The original printouts of official lists from U.S. Fish and Wildlife Service (FWS) and the California Natural Diversity Data Base (CNDDDB; CDFG, 2010) are included in the Appendices. Additional detail and a summary of special-status species habitat and/or presence within the site is provided in the text that follows the table. Finally, for completeness, a separate brief summary is provided including our conclusions about potential

Table 1. Summary of special-status species evaluated for potential impacts. See text for sources consulted and additional discussion. Footnote providing Status definitions appears on following page. * indicates species on FWS list

Species (Scientific and Common Name)	Status (US/Ca/CNPS)	Suitable Habitat Presence (Yes/No) and Description	Comments
WILDLIFE/INVERTEBRATES			
<i>Actinemys marmorata</i> western pond turtle	SC/SC	No; aquatic habitat with basking opportunity	No ponds or perennial slowly flowing water.
* <i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	T/-	No; requires elderberry shrubs > 1 inch diameter at ground	Host plant not encountered.
* <i>Hypomesus transpacificus</i> Delta smelt	T/-	No; present in San Joaquin/Sacramento River delta	On USFWS list for entire Sacramento River watershed.
<i>Laterallus jamaicensis coturniculus</i> California black rail	BCC/T	No; requires densely vegetated rush/sedge wetland.	No wetlands present; species has very narrow requirements
* <i>Oncorhynchus mykiss</i> Central Valley steelhead	T/-	No; major rivers without dams and their tributaries	No tributaries present.
* <i>Oncorhynchus tshawytscha</i> chinook salmon	T,E/-	No; major rivers without dams and their tributaries	No tributaries present.
<i>Phrynosoma blainvillii</i> coast horned lizard	-/SC	Unlikely ; open vegetation, friable soil, and native ants	Open habitat present but too highly disturbed.
<i>Rana boylei</i> foothill yellow-legged frog	-/SC	No; medium swift foothill creeks	No creek on site.
* <i>Rana draytonii</i> California red-legged frog	T/SC	No; ponds and inundated wetlands	No breeding habitat or movement corridor on site.
PLANTS			
<i>Calystegia stebbinsii</i> Stebbins's morning-glory	E/E/1B	No; serpentine soils.	Suitable soils not present.
<i>Clarkia biloba</i> ssp. <i>brandegeae</i> Brandegee's clarkia	-/-1B	Yes; steep slopes with limited competing vegetation	Steep slopes occur within study area but not within project footprint.
<i>Didymodon norrisii</i> Norris's beard moss	-/-2	No; vernal wet rocks in humid (ravine) setting	No moist rock habitat.
* <i>Fremontodendron decumbens</i> Pine Hill flannel bush	E/R/1B	No; requires serpentine- or gabbro-derived soils.	No suitable soils.
<i>Fritillaria eastwoodiae</i> Butte County fritillary	-/-3	No; wide variety of native vegetation in foothills	Does not grow in urbanized/disturbed/compacted soils.
<i>Lewisia cantelovii</i> Cantelow's lewisia	-/-1B	No; wet rocks in major river canyons (e.g. Yuba River)	No suitable habitat.
<i>Mielichhoferia elongata</i> elongate copper moss	-/-2	No; wet rocks in river or stream canyons	No creeks.
<i>Packera (Senecio) layneae</i> Layne's ragwort	T/R/1B	No; serpentine-derived soils	No serpentine or other ultramafic rocks on site.
<i>Rhynchospora capitellata</i> brownish beaked-rush	-/-2	No; wetlands with long period of saturation/inundation	No wetlands present on site.
<i>Sidalcea stipularis</i> Scadden Flat checkerbloom	-/E/1B	No; wetlands.	No wetlands present on site.

Status definitions (Federal status/State status/California Native Plant Society [CNPS] list):

E or T, listed as endangered or threatened; C, candidate for listing as endangered or threatened;

BCC, bird species of conservation concern (FWS)

SC, species of (special) concern (Sacramento FWS or California DFG);

CNPS List 1B, considered globally rare, threatened or endangered; List 2, rare, threatened, or endangered in California but more common elsewhere; List 3, insufficient information; List 4, plants of limited distribution (watch list).

effects of the project on each federally listed or candidate species, or critical habitat, that appears on the federal list for the quadrangles within which project effects will occur, or which adjoin the project's quadrangle and feature sufficiently similar habitat elements that the potential for occurrence of listed or candidate species was considered.

The Project site lies in the northeast corner of the Rough and Ready quadrangle. The CNDDDB was queried for this and three nearby quadrangles (French Corral, Grass Valley, and Nevada City), and the US Fish and Wildlife Service was consulted (both prior to initiation of the field work and shortly before completion of the environmental assessment) to obtain a list for the same four quadrangles. All but one of the federally listed species within the County are aquatic, and no aquatic habitat occurs on the site. Nevertheless, for completeness, text discussions are provided for all of the species in Table 1. In accordance with CNPS (2001), plants on CNPS Lists 1 and 2 are regarded as potentially rare, threatened, or endangered under CEQA guideline §15380. Plants on List 3 are discussed on a case-by-case basis; those on List 4 are not generally regarded as meeting the language of §15380.

WILDLIFE AND INVERTEBRATES

Species are discussed in alphabetical order by scientific name (same order as in Table 1).

Western pond turtle inhabits ponds or slow-moving streams with bordering wetlands and submerged aquatic vegetation, and requires gently sloping pond shores and/or logs or rocks to use as basking sites. There is no aquatic habitat on the site, therefore no suitable habitat for this species.

Valley elderberry longhorn beetle is regarded by U.S. Fish and Wildlife Service as having a geographic range extending up to 2,500 feet in the Sierra Nevada foothills, although there is no occurrence recorded in the CNDDDB for Nevada County. This insect requires a specific host plant, blue elderberry (*Sambucus nigra* ssp. *cerulea*) which was not encountered within the study site.

Delta smelt occur only in the Sacramento/San Joaquin River delta but appear on the U.S. Fish and Wildlife Service list for the entire watersheds of these two rivers. There is no habitat for, or potential impact upon, this species from the proposed project.

California black rail is a tiny and extremely secretive marsh bird that, in inland areas, inhabits grassy (actually primarily sedge-y and rush-y) wetlands, with tall or low stature but always very dense visual cover. Other

types of wetland vegetation may be used in coastal areas. There is no wetland habitat on the project site that is of sufficient extent and density of visual cover to support an individual of this species (only scattered wetland plants supported by leakage and overflow). Therefore, no suitable habitat for black rail occurs on the Rough and Ready fire station site.

Central Valley steelhead is an anadromous (migratory) form of rainbow trout. It spawns in tributaries of the major northern California rivers, migrates to the ocean to mature, and returns to the natal stream to spawn. There is no habitat for, or potential impact upon, this species from the proposed project.

Chinook salmon are anadromous (migratory) fish with similar life history as for steelhead (above). Different salmon runs have different federal listing status. At present, spring-run chinook salmon are reported from the Narrows in the Yuba River below Engelbright Dam, and cannot move upstream past the dam (CDFG, 2004). There is no river, creek, or other tributary within the project site, therefore no potential impact on this species.

Coast horned lizard is usually found in habitats with scattered shrubs or trees and much open area (usually not in grassland on dense clayey or loamy soils), with loose soils in which the lizard buries itself for cover and thermal protection. It is also dependent on abundant native ants for food. Although the vegetation cover within the project site is relatively open, the areas where this is the case are highly compacted from long-term human use, and do not provide any food resource (ants) for horned lizard. Therefore, there is virtually no potential for occurrence of this species within the project construction area.

Foothill yellow-legged frog inhabits pools within streams with generally medium swift flow velocities. There is no river, creek, or other tributary within the project site, therefore no possibility of occurrence of this species.

California red-legged frog is not known to occur anywhere close to the Project site, but has a historical range that includes the site, and recorded occurrences at similar elevations. It requires permanent or near-permanent aquatic habitat that is ponded or very slowly flowing for breeding, but may disperse up or down tributaries at certain times of the year. There is no aquatic habitat within the project site, therefore no potential for occurrence of this species.

PLANTS

Species are discussed in alphabetical order by scientific name (as in table above).

Brandegee's clarkia is reported from many quadrangles in the region, including a recent record within the Grass Valley quadrangle (Alta Sierra area). In all cases, as for the whole species *C. biloba* (all ssp.), subspecies *brandegeae* occurs exclusively on steep slopes or road cuts in non-granitic substrate, typically steeper than 30 percent, where competing vegetation is relatively sparse and does not include substantial biomass

of large perennial grasses or yellow star-thistle. The 30 percent slopes upslope of the proposed project footprint provide potentially suitable habitat for this species.

Norris's beard moss is described by the CNDDDB as occurring on intermittently moist rock slabs or outcrops. The only occurrence in Nevada County is on moist rocks near Highway 49 about three miles west of Nevada City. This is presumably typical for the plant's habitat. Nearly all special-status mosses – indeed, mosses in general - have extremely narrow ecological amplitudes. Based on this principle, we are confident that no potentially suitable habitat for beard moss occurs within the study area.

Butte County fritillary is a lily relative that grows in various oak and mixed oak and coniferous woodland sites, widely scattered throughout the Sierra Nevada foothills, including two locations near and just south of the confluence of the middle and north forks of the American River. The plant is probably specific to certain soil conditions, but other than an apparent preference for soils with at least some clay content and a humus layer on the surface (which includes a very wide range of foothills soils), the exact nature of its soil requirements is not at all clear from CNDDDB records or other sources. Accordingly, nearly every site with open undisturbed woodland habitat in western Nevada County could include habitat that is potentially suitable for Butte County fritillary. However, there is no record from substantially disturbed (urbanized) habitat such as the area where the fire station will actually be constructed. Therefore, there would be no impact on Butte County fritillary from the proposed project.

Cantelow's lewisia occurs on seasonally wet rocks on the sides of major river canyons (e.g., Yuba River). No such habitat occurs within the study area.

Elongate copper moss grows on wet rocks by perennial rivers and streams or at seeps. No such habitat occurs within the study area.

Layne's ragwort is a plant which grows only on serpentine or other ultramafic rocks, neither of which occur anywhere within the project study site.

Brownish beaked-rush is known in our area only from a marsh in the North Columbia diggings. No wetlands suitable for this species occur on the project site.

Scadden Flat checkerbloom is a strictly wetland species known from only a very few occurrences within and near Grass Valley, apparently in a rather specialized wetland type. No wetlands occur in the study area, therefore no suitable habitat for this species.

SPECIAL-STATUS SPECIES SUMMARY - HABITAT SUITABILITY

Suitable habitat for one special-status plant species, Brandegee's clarkia, occurs on the steep slopes roughly coincident with the needle-grass grassland habitat. All of the project construction is proposed to occur on the gentler slopes below this grassland, therefore there is no suitable habitat for Brandegee's clarkia within the project footprint as we understand it. There is no suitable habitat for other special-status species within the project direct or indirect impact area.

POTENTIAL EFFECTS ON FEDERALLY LISTED OR CANDIDATE SPECIES

The species discussed below are found on the current US Fish and Wildlife Service list for the quadrangles considered (lists are included in the Appendices). For each species, the potential effects of the project are stated, with a brief explanation. Informal consultation by FEMA with the Service resulted in a determination that the project is not likely to affect any listed or candidate species or critical habitat for any such species.

With respect to the physical and biological habitat elements that are important to the survival and reproduction of the federally listed species, the project's area of direct and indirect impacts are essentially coincident, because the project will not result in any significant alteration of hydrologic regimes (surface or groundwater) or off-site terrestrial habitat. The emergency response activities of the RRVFD are an existing condition and will not change in nature or magnitude as a result of the project. Even with respect to noise impacts, the vast majority of responses at present already pass right by the location of the proposed project. The area of the project site is already urbanized, therefore there is no significant type conversion from native habitat with low disturbance from human activity, lighting, and noise of vehicles. Relocating the station to the proposed new location will reduce the number of engine trips passing along the rural Rough and Ready Road and could therefore result in a minor reduction in risk of wildlife mortality (theoretically including listed amphibian species) along this road. However, we judge this to be an insignificant, if beneficial, impact. Thus, in terms of listed species impacts, the area of project effects is the same as the project footprint (Figure 1).

Invertebrates

Desmocerus californicus dimorphus (valley elderberry longhorn beetle): According to the Service, the project lies within the geographic range of the species, however, the host plant is not present within the project site or within the likely extent of project impacts. Therefore, the project will have **no effect** on this species.

Fish

Hypomesus transpacificus (delta smelt): This species occurs only within the Sacramento-San Joaquin River delta. The full scientific basis of all of the threats to the species is not known definitively, but the most important factors appear to be water quality and quantity, along with potential loss of individuals to water supply pumps. The project will not significantly alter any of the known survival/reproduction factors for delta smelt, therefore the project will have **no effect** on this species.

Onchorhynchus mykiss (Central Valley steelhead): This anadromous trout species migrates between spawning sites in fresh water and ocean habitats where it grows to reproductive age. For key portions of the life cycle, it inhabits and spawns in rivers and tributaries within the Sacramento River watershed. No tributaries occur within the project area, and the project will not significantly alter water quality or quantity in the nearest down-valley tributaries, therefore the project will have **no effect** on this species.

Onchorhynchus tshawytscha (Central Valley spring-run chinook salmon and winter-run chinook salmon): These non-interbreeding populations of chinook also spawn in rivers and tributaries within the Sacramento River watershed (CDFG, 2004). No tributaries occur within the project area, and the project will not significantly alter water quality or quantity in the nearest down-valley tributaries, therefore the project will have **no effect** on either population of this species.

Amphibians

Rana draytonii (California red-legged frog): Critical habitat and a small number of occurrence of this species are found within Nevada County. Critical habitat includes stationary or slow-moving perennial surface waters (ponds, creeks). There are no such waters within the project site, and the project will not result in any significant reduction of water quantity or degradation of water quality in any downstream waters, therefore the project will have **no effect** on this species.

Plants

Calystegia stebbinsii (Stebbins's morning-glory): This plant grows exclusively on serpentine-derived or other highly specialized soil types, which do not occur within the project site. Therefore, the project will have **no effect** on this species.

Fremontodendron californicum ssp. *decumbens* (Pine Hill flannelbush): This plant grows exclusively on serpentine-derived or other highly specialized soil types, which do not occur within the project site. Therefore, the project will have **no effect** on this species.

GAME SPECIES

Mule deer (*Odocoileus hemionus*; three subspecies are present in the western foothills of the northern Sierra Nevada) occur in the region, but deer do not depend upon urbanized sites along busy highways, and no deer sign was observed, so we conclude that there is little or zero use of the site by mule deer.

PROJECT DESCRIPTION AND EFFECTS

The proposed project is to construct a new fire station within the flat to gently sloping, disturbed portion of the parcel which includes the project site. The fire department's operations will then be moved from the present station to the new building and will thereafter be based on the site. The number of engines will not change, and the number of emergency response calls is based upon occurrences rather than any discretionary decisions of the Department or anything related to the new location.

Analysis of a wide variety of physical effects (e.g., water quantity, quality, air quality, and so on) determined that such changes will be non-existent, minimal, or will be beneficial (e.g., fewer vehicle miles driven to respond to calls; far fewer miles driven on small rural roads that pass through wildlife-rich areas by responding engines). The vast majority of emergency responses already pass right by the new fire station site, so noise impacts, at the site, of emergency responses will not be altered significantly by the relocation (except that siren noise in the more remote current location will be reduced). Therefore, the operational impacts of the Department will not change in ways that can reasonably be expected to affect biological resources significantly and are not analyzed below.

IMPACT ASSESSMENT AND MITIGATION

The impact statements and recommended mitigation measures provided below pertain both to construction of Master Plan infrastructure (specifically, the road system) and to any subsequent individual development projects that are proposed under the Master Plan. If such projects have elements or building envelopes which would affect the habitat types that are identified in the impact statements, then the impacts and mitigation measures would pertain. If the projects avoid the specified habitat types, then there is no impact and no mitigation required.

Special-status Species

Marginally suitable habitat for Brandegee's clarkia occurs within the study area, albeit not within the area where construction is intended to occur. If no construction occurs on any grasslands with slopes steeper than 30 percent, then no impact would result and no mitigation would be warranted. Also, construction that affects only the very short steep cut slopes within the urbanized part of the site would have no potential impact on Brandegee's clarkia. However, if project design entails excavation within the steep native grassland slopes, there would be a potential impact on the species, which would be avoided by the following mitigation measure. Under the circumstances of this project, it is infeasible to delay work until the next flowering season, therefore avoidance as specified in the mitigation measure is the only feasible and effective alternative.

Impact BIO-1: Project construction within the 30 percent slopes with grassland vegetation east of the access driveway could result in loss of individuals of Brandegee's clarkia. This would be a potentially significant impact under applicable CEQA guidelines.

The following mitigation measure is recommended, which would reduce this impact to a less-than-significant level:

Mitigation Measure BIO-1: The project shall be designed or redesigned so as to avoid any construction, except as exempted by County policy, within any area with 30 percent slopes east of the access driveway.

GENERAL HABITAT IMPACTS

Impacts on special-status wildlife and plants are addressed above. Although we are uncertain of precisely clear what CEQA issue area would include a finding of significance for impacts on general wildlife (including nesting birds) or plants, take of several categories of species is prohibited by state and federal statutes. Potential project effects on non-special-status species including nesting birds are discussed further under Regulatory Consistency (below). Regardless of the CEQA category or level of significance, such impacts are most logically addressed together with other biological resource issues.

REGULATORY CONSISTENCY

General Plan and Zoning Ordinance

Consistency with the policies of the Nevada County General Plan that pertain to biological resources is achieved through compliance with the specific sections of the Zoning Ordinance enumerated below.

§ L-II 4.3.12 (Rare, Threatened, and Endangered Species and Their Habitat)

The site includes suitable habitat for one special-status species, Brandegee's clarkia. The recommended mitigation measure provides for avoidance of any impact on this species.

§ L-II 4.3.15 (Trees)

No landmark oak trees occur within the project footprint.

§ L-II 4.3.17 (Watercourses, Wetlands, and Riparian Areas)

No water-dependent natural resources occur within the project site.

Other Applicable Regulations

CALIFORNIA FISH AND GAME CODE (FGC)

Various sections of the FGC prohibit take of protected species. Fully protected species are included in the CNDDDB and are properly treated as special-status species in CEQA analysis. Such species do not occur on the study site, therefore these sections are not applicable to the project.

Section 3503.5 prohibits take or possession of raptors, owls, or the destruction of eggs or occupied nests during the nesting season. Measures that could be taken to preclude potential impacts on raptor nests are the same as for nesting birds generally and are discussed below.

MIGRATORY BIRD TREATY ACT

Loss of limited numbers of common species of plants or animals is not a significant impact under current CEQA guidelines pertaining to biological resources. However, the MBTA and FGC §3513 prohibit take of migratory birds, which is defined to include destruction of active nests (legally presumed to contain eggs or nestlings). Compliance with the MBTA requires that no grading, brush clearing, or tree removal occur during the nesting season without a nesting bird survey that confirms that no occupied nests are present. If nests are present, temporary suspension of nearby construction would be required to achieve full compliance. In the case of tall coniferous trees, it is not scientifically possible to ensure that small bird nests high in the canopy can be found by a survey carried out from the ground. Thus, in coniferous habitat with trees >24 inches dbh, removal must occur outside the nesting season to be consistent with the MBTA.

In western Nevada County, the nesting season for raptors and owls extends from sometime in the late winter (as early as January in the case of great horned owl) through mid-August. Smaller migratory birds begin nesting in March or more usually April and continue to occupy nests until as late as August 15 (in the case of some species that raise two broods per year; depends upon habitat in question). Thus, tree removal and initial grading should preferably occur between August 15 and January 1.

If vegetation removal (tree removal or brush mastication) or ground surface disturbance (any form of grading) are to occur between March 1 and August 15, nesting bird surveys are usually prescribed to occur not less than 14 days nor more than 30 days prior to potentially nest-destroying activities. There is no resource-protection reason for surveys not to occur as little as 7 days prior to the activities. Nesting surveys for small birds are only fully effective if carried out between dawn and 11 AM; many species become inactive during mid-day.

Survey work should cover all habitat within 100 feet of vegetation removal or ground disturbance. The high level of disturbance and human activity at the site makes it unlikely that disturbance-sensitive species such as raptors or owls might nest within it.

FUTURE STUDIES

No future studies are warranted.

INVESTIGATOR AND QUALIFICATIONS

The site was studied and this report written by Adrian M. Juncosa, Ph.D. (Botany; Duke University). He has completed over 150 site studies, impact analyses, mitigation, and monitoring projects in central and northern California, including biological assessments for a wide variety of plant and wildlife species. As principal biologist of EcoSynthesis Scientific & Regulatory Services, he is listed by Nevada County as a pre-approved biological consultant for the preparation of biological inventories and habitat management plans and provides a full range of scientific and regulatory compliance services including general and special-status species surveys, wetland delineations and permitting, NEPA and CEQA compliance documentation, and expert witness services.

REFERENCES

California Department of Fish and Game. 2004. Sacramento River Spring-run Chinook Salmon. 2002-2003 Biennial Report. Report prepared for Fish and Game Commission by Habitat Conservation Division, Anadromous Fish and Watershed Branch.

California Department of Fish and Game (CDFG). 2010. California Natural Diversity Data Base. CDFG Habitat Conservation Division, Wildlife and Habitat Data Analysis Branch, Sacramento, California. Digital data base accessed by RareFind 3 software (CDFG).

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Appendices

Figure 1. Location map of site (USGS 7.5 minute base map)

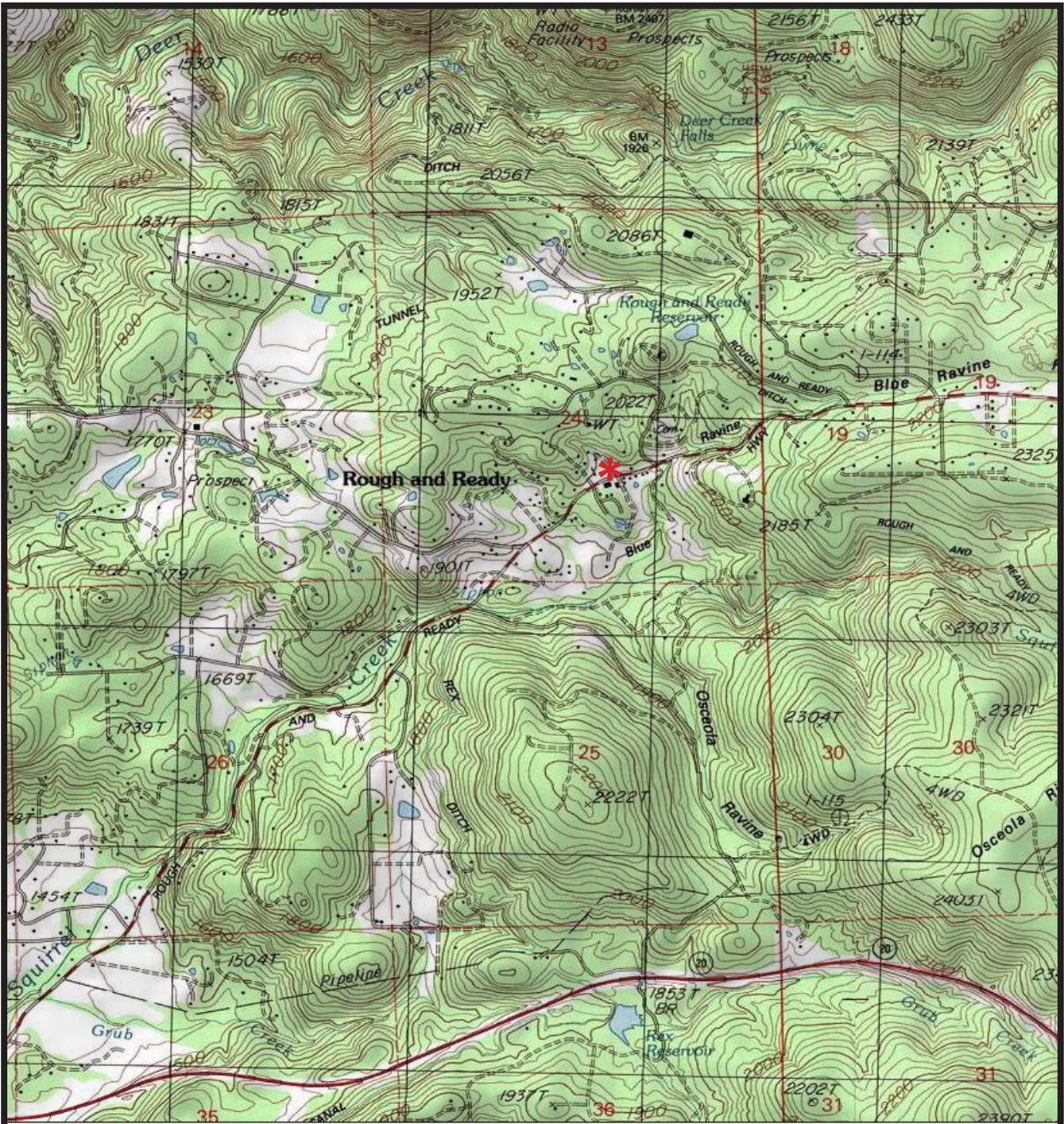
Figure 2. Map of vegetation types within site

FWS Species list for Rough and Ready and Grass Valley quadrangles

FWS Species list for French Corral and Nevada City quadrangles

CNDDDB Element List

Memorandum pertaining to leakage and overflow



Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)

EcoSynthesis

SCIENTIFIC & REGULATORY SERVICES INC.

Rough and Ready Fire Station

Figure 1. Site Location

USGS Rough and Ready 7.5 quadrangle

Scale 1:24,000 (1"=2,000')

Red asterisk indicates exact project site.

Rough and Ready Fire Station Project Biological Inventory

APN 052-270-019, and -028 (portion)

Figure 2. Biological Resources Map



Scale 1 : 600 (1 in = 50 ft)

Legend

- Urbanized/Non-native Vegetation
- Annual Grassland
- Needle-grass Grassland
- Mixed Oak/Pine Woodland

Notes

Portions of APN 052-270-028 extend beyond inventory study area shown here, which includes the entire project construction footprint.



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

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

Document Number: 100610065213

Database Last Updated: April 29, 2010

Quad Lists

GRASS VALLEY (542A)

Listed Species

Invertebrates

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

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

Amphibians

Rana draytonii
California red-legged frog (T)

Plants

Calystegia stebbinsii
Stebbins's morning-glory (E)

Fremontodendron californicum ssp. decumbens
Pine Hill flannelbush (E)

ROUGH AND READY (542B)

Listed Species

Invertebrates

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

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

Amphibians

County Lists

No county species lists requested.

Key:

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

Important Information About Your Species List

How We Make Species Lists

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

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

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

Plants

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

Surveying

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

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

Your Responsibilities Under the Endangered Species Act

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

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

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

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

During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

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

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

Critical Habitat

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

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

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

Candidate Species

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

Species of Concern

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

[More info](#)

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be September 08, 2010.

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

**Federal Endangered and Threatened Species that Occur in
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U.S.G.S. 7 1/2 Minute Quads you requested**

Document Number: 100610065947

Database Last Updated: April 29, 2010

Quad Lists

FRENCH CORRAL (558C)

Listed Species

Invertebrates

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

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

Amphibians

Rana draytonii
California red-legged frog (T)

NEVADA CITY (558D)

Listed Species

Invertebrates

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

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

Amphibians

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

Proposed Species

Amphibians

Rana draytonii

Critical habitat, California red-legged frog (PX)

Candidate Species

Mammals

Martes pennanti

fisher (C)

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California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name – Portrait
Element List for Rough and Ready, Grass Valley, French Corral, and Nevada City quadrangles

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	<i>Actinemys marmorata</i> western pond turtle	ARAAD02030			G3G4	S3	SC
2	<i>Calystegia stebbinsii</i> Stebbins' morning-glory	PDCON040H0	Endangered	Endangered	G1	S1.1	1B.1
3	<i>Clarkia biloba ssp. brandegeeeae</i> Brandegee's clarkia	PDONA05053			G4G5T3	S3	1B.2
4	<i>Didymodon norrisii</i> Norris' beard moss	NBMUS2C0H0			G2G3	S2.2	2.2
5	<i>Fremontodendron decumbens</i> Pine Hill flannelbush	PDSTE03030	Endangered	Rare	G1	S1.2	1B.2
6	<i>Fritillaria eastwoodiae</i> Butte County fritillary	PMLIL0V060			G3Q	S3	3.2
7	<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041		Threatened	G4T1	S1	
8	<i>Lewisia cantelovii</i> Cantelow's lewisia	PDPOR04020			G3	S3.2	1B.2
9	<i>Melichhoferia elongata</i> elongate copper moss	NBMUS4Q022			G4?	S2.2	2.2
10	<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100			G4G5	S3S4	SC
11	<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050			G3	S2S3	SC
12	<i>Rhynchospora capitellata</i> brownish beaked-rush	PMCYP0N080			G5	S2S3	2.2
13	<i>Sidalcea stipularis</i> Scadden Flat checkerbloom	PDMAL110R0		Endangered	G1	S1.1	1B.1



BRUCE IVY
CONSTRUCTION

Adrian Juncosa

10/08/09

Re: Rough and Ready Fire

This is a summary of the fact relating to the artificial water source and how it has been repaired:

The Rough and Ready Fire District maintains a 100,000 gallon redwood water tank which is located on a neighboring parcel up the hill from the proposed fire station project. They have an easement to the tank, and use this water storage to furnish water to a fire hydrant located on Rough and Ready Highway.

The 100,000 gallon tank is filled with irrigation water from a Nevada Irrigation District (NID) ditch. Currently there is not a float/value system at the tank that stops the flow from the ditch into the tank when the tank is full. The inflow to the tank is controlled manually by blocking the input from the NID ditch.

A result of this system of water control, is that from time to time the water flowing into the tank is not shut off when the tank becomes full. When this occurs the water flowing into the full tank overflows and spills down the hill. The districts input from the ditch is equivalent to 1" of water which translates to a flow in excess of 600 gallons per hour.

When the department became aware that the water going into the tank was not shut off, they did visit the ditch and manually shut off the flow into the tank. This was sometime in August but the specific date is not known with certainty.

In early September the Fire Department discovered a leak in the NID ditch. The water leaking from the ditch travels the same path as the overflow from the tank.

Bob Vaughn, Assistant Fire Chief contacted NID regarding this leak. He met with Ken Hart, from NID, on site September 9, 2009. Upon their review they discovered the source of the leak in the ditch. NID estimated that the leak was spilling more than 1200 gallons per hour.

NID was out on September 10, 2009 and repaired the leak in the ditch.

So, at the time of your initial site visit the tank was overflowing and the NID ditch was leaking, sending approximately 1800 gallons per hour down the hill.

We believe these actions will result in the total elimination of the artificial water with the effected area drying up and returning to its natural state.

r&r/leaks