

## 4.4 Biological Resources

This section analyzes potential impacts to biological resources that could result from implementation of the December 2011 Reclamation Plan Amendment (RPA, or Project) (EnviroMINE, 2011) within the Lehigh/Permanente Quarry (Quarry). The “Project Area” is defined in Chapter 2 (Project Description) and refers to the area within which reclamation activities would occur. The term “Study Area” as used in this section provides an additional 250-foot study buffer in which wetland and biological resources were examined to determine potential Project impacts, which also includes Permanente Creek approximately 1.5 miles downstream of the Project Area.

This evaluation of biological resources includes a review of vegetation communities, wildlife habitat, and jurisdictional waters of the U.S. and of the State that occur or potentially occur in the Study Area, including ecosystems, habitats, plant communities, and special-status plants and wildlife. As part of this analysis, this section identifies the federal, state, and local regulations that pertain to wetlands and other biological resources.

Sources used in support of the analysis include: the RPA (EnviroMINE, 2011); focused biological survey reports for the RPA and Hanson/Lehigh Permanente Quarry (WRA, 2006a; 2006b; 2010a; 2010b; 2011), including a California red-legged frog survey report (Jennings, 2006); the California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDDB) (CDFG, 2011); the California Native Plant Society Electronic Inventory (CNPS, 2011); a species list obtained from the U.S. Fish and Wildlife Service (USFWS) (USFWS, 2011), and a reconnaissance-level field survey performed by ESA biologist Bryan Olney on June 3, 2010.

### 4.4.1 Setting

#### 4.4.1.1 Study Area

The Study Area is located in an unincorporated area of western Santa Clara County. The Quarry is in the eastern foothills of the Santa Cruz Mountains, which are part of the California Coast Range mountains, which separate the San Francisco Bay Area from the Pacific Ocean along most of the San Francisco Peninsula. Much of the Coast Range including areas surrounding the Quarry remains undeveloped; however, lowland areas around San Francisco Bay are highly urbanized. Nearby residential areas include the cities of Cupertino, Los Altos, Palo Alto, and Saratoga, the Town of Los Altos Hills, and unincorporated communities.

The Study Area is located in the Bay Area-Delta Bioregion (as defined by the California Environmental Resources Evaluation System (CERES). This Bioregion is comprised of a variety of natural communities, which range from tidal salt marshes to chaparral to oak woodlands. Both the Santa Cruz and Diablo mountain ranges, as well as areas of the southern Santa Clara Valley, are still generally undeveloped and contain high-quality habitat for a number of sensitive species. Topographic and micro-climate diversity in the County have promoted relatively high levels of

endemism<sup>1</sup>, and in combination with the rapid pace of development in the region, also have resulted in a relatively high degree of endangerment for local flora and fauna.

#### **4.4.1.2 Local Setting**

The Project Area includes each of the primary areas to be reclaimed, which are: the Quarry pit, WMSA, EMSA, the crusher/Quarry office support area, surge pile, rock plant, Exploration Area, and the PCRA. The Rancho San Antonio Open Space Preserve is directly north of the Project Area, which is connected directly to several other open space preserves, including Monte Bello Regional Open Space and Los Trancos Regional Open Space. Areas east of the Project Area include open space, and developed residential and commercial areas in the City of Cupertino. Several large County parks are in close proximity to the Project Area, including Steven's Creek County Park and Sanborn Skyline County Park to the south, and Pescadero Creek County Park to the southwest.

The Project Area is within the Permanente Creek watershed. Permanente Creek descends from relatively undisturbed tributaries in the Santa Cruz Mountains through the Project Area. After passing through sections that have been modified by past onsite operations and a culverted section under the railway east of the Project Area, Permanente Creek runs through mostly culverted reaches in the cities of Los Altos and Mountain View before discharging in the San Francisco Bay at Shoreline Park. The hydrology of the Permanente Creek watershed has been significantly altered to provide greater flood protection. The Permanente Creek Diversion, constructed in 1959, and located about 1.5 miles upstream of Hale Creek confluence, currently diverts stream flows up to 1,500 cubic feet per second (cfs) into Stevens Creek during the winter season (SCVURPPP, 2011).

#### ***Biological Communities and Wildlife Habitat Types***

Existing biological communities in the portion of the Project Area where reclamation activities would occur are identified in **Table 4.4-1**.

**Figures 4.4-1** through **4.4-4** show mapped habitat details for the entire Project Area. However, because no Project activity would occur in the buffer areas, the descriptions and analysis in the sections that follow focus on the communities identified in Table 4.4-1. As shown in Table 4.4-1, much of the Project Area (477.9 acres) is designated "active quarry," signifying active and historic mining areas that remain barren or support opportunistic weed species. Additionally, an approximately 0.2 acre rock outcropping is present in PCRA. The remaining terrestrial and aquatic habitat types found in the Project Area are described below.

#### **Terrestrial Habitat**

Areas of mixed scrub, chamise chaparral, and oak woodland are still present in undisturbed sections of the Project Area, particularly near the EMSA and crusher/Quarry office support area (WRA, 2011). Non-native annual grassland also is present in the Project Area. While not a vegetation community native to California, this habitat type has the potential to support special-status species.

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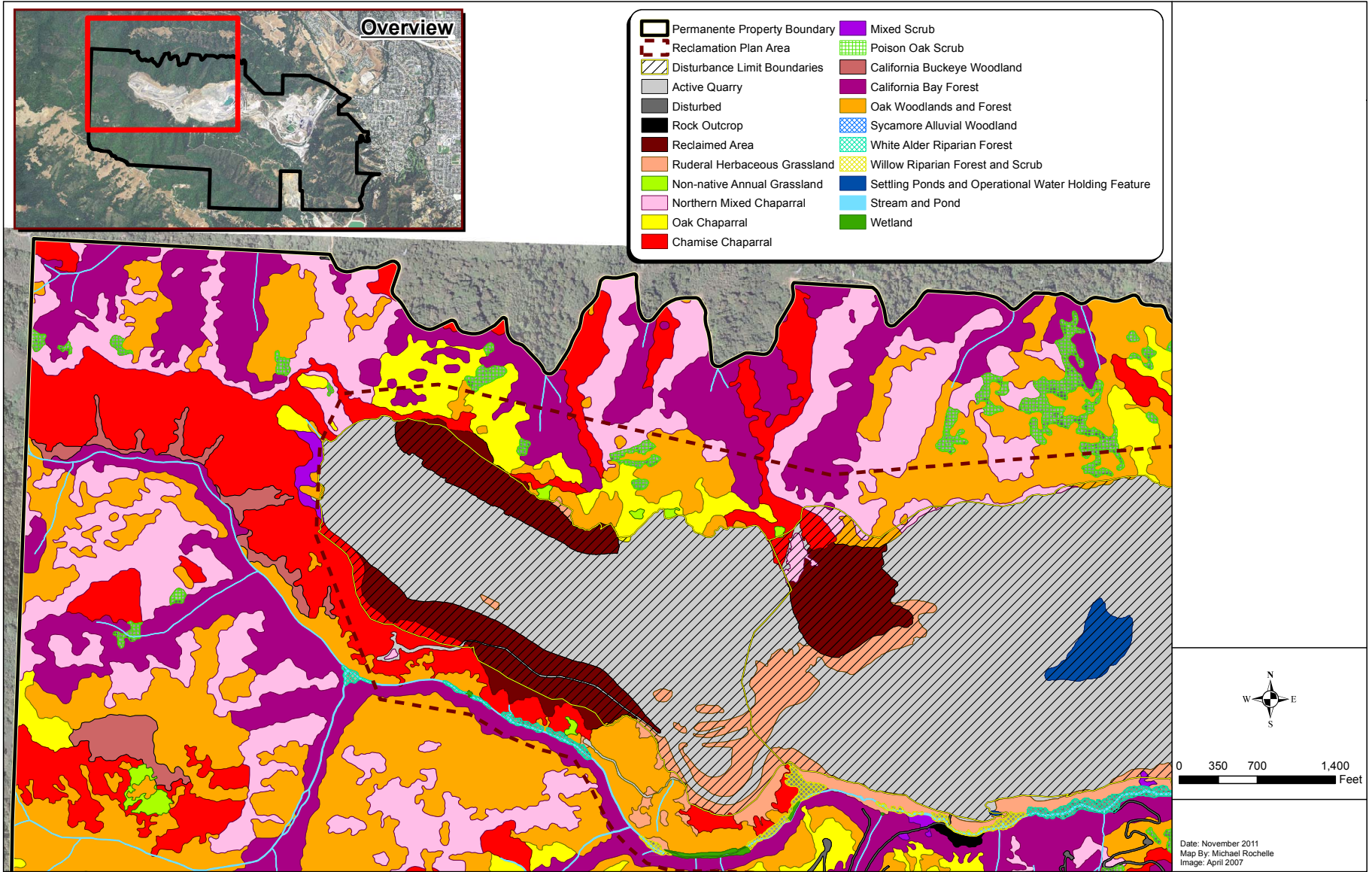
<sup>1</sup> *Endemism* refers to the degree to which the distribution of organisms or taxa is restricted to a geographical region or locality. For example, an organism with worldwide distribution would not be characterized as being endemic to any one place, while an organism found only in California would be characterized as being endemic to the state.

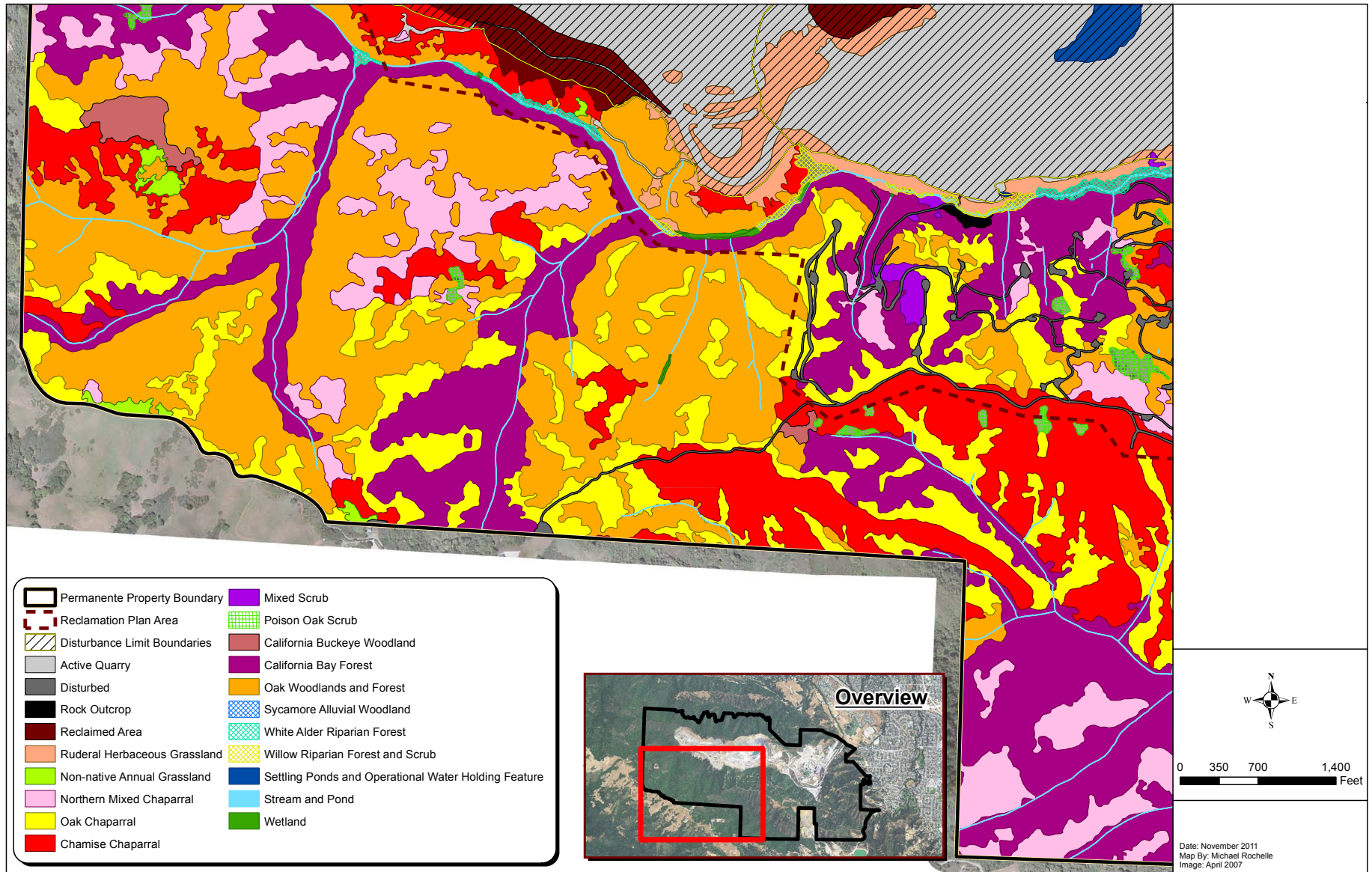
**TABLE 4.4-1  
EXISTING BIOLOGICAL COMMUNITIES IN THE ACTIVE RECLAMATION AREAS**

<b>Biological Community</b>	<b>Quarry Pit (acres)</b>	<b>WMSA (acres)</b>	<b>EMSA (acres)</b>	<b>Crusher/Support (acres)</b>	<b>Surge Pile (acres)</b>	<b>Rock Plant (acres)</b>	<b>Exploration Area (acres)</b>	<b>PCRA (acres)</b>	<b>Total (acres)</b>
Active Quarry	210.5	124.2	74.1	33.4	8.5	17.3	0	3.3	<b>471.3</b>
California Bay Forest	0.04	0	0	0	0	0	0	0.6	<b>0.64</b>
Chamise Chaparral	2.4	3.4	0.4	0	0	0	0	3.7	<b>9.9</b>
Disturbed	0	0	0	0	0	0.04	19.5	0.1	<b>19.64</b>
Mixed Scrub	0.8	0	0	1.1	0	0.05	0	0.8	<b>2.75</b>
Non-native Annual Grassland	0.8	0.02	0	0	0	0.01	0	0	<b>0.83</b>
Northern Mixed Chaparral	3.1	0.02	0.7	0	0	0.4	0	0.2	<b>4.42</b>
Oak Chaparral	0	0.1	0	0	0	0	0	0	<b>0.1</b>
Oak Woodlands and Forests	2.8	0.3	0	0	0.01	0.3	0	1.2	<b>4.61</b>
Operational Water Holding Feature	6.6	0	0	0	0	0	0	0	<b>6.6</b>
Reclaimed Area	21.0	34.6	0	0	0	0	0	22.2	<b>77.8</b>
Rock Outcrop	0	0	0	0	0	0	0	0.2	<b>0.2</b>
Ruderal Herbaceous Grassland	16.8	10	0	18.8	0.3	0.7	0	12.6	<b>59.2</b>
Sediment Ponds	0.04	0	0	0.1	0	0.3	0	0	<b>0.44</b>
Streams and Ponds	0	0	0	0	0	0	0	0.66	<b>0.66</b>
Wetland	0	0	0	0	0	0	0	0.5	<b>0.5</b>
White Alder Riparian Forest	0	0	0	0	0	0	0	1.4	<b>1.4</b>
Willow Riparian Forest and Scrub	0	0	0	0	0	0	0	2.0	<b>2</b>
<b>Total</b>	<b>264.88</b>	<b>172.64</b>	<b>75.2</b>	<b>53.4</b>	<b>8.81</b>	<b>19.1</b>	<b>19.5</b>	<b>49.46</b>	<b>662.99</b>

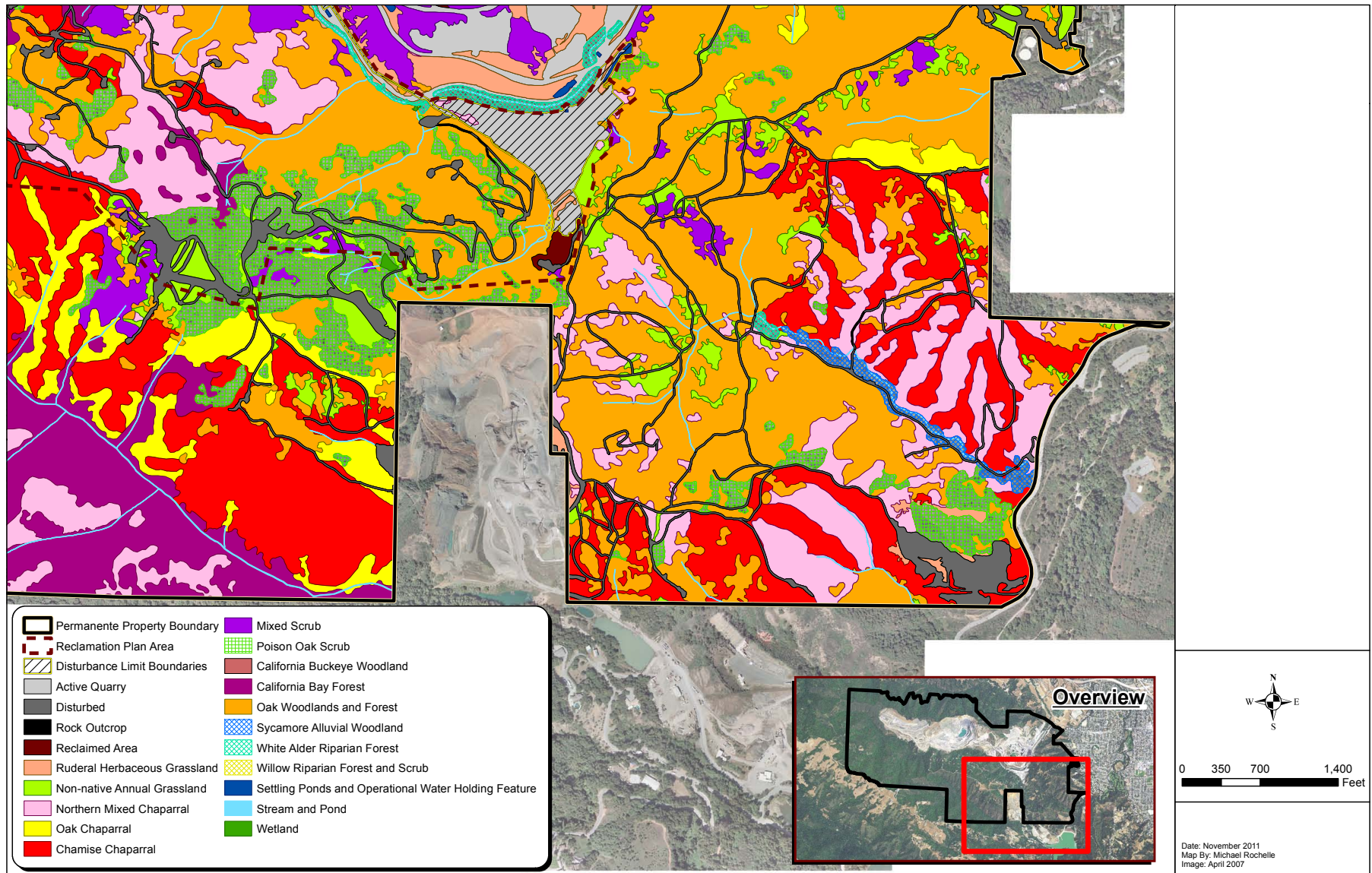
SOURCE: WRA, 2011 (Table 2)

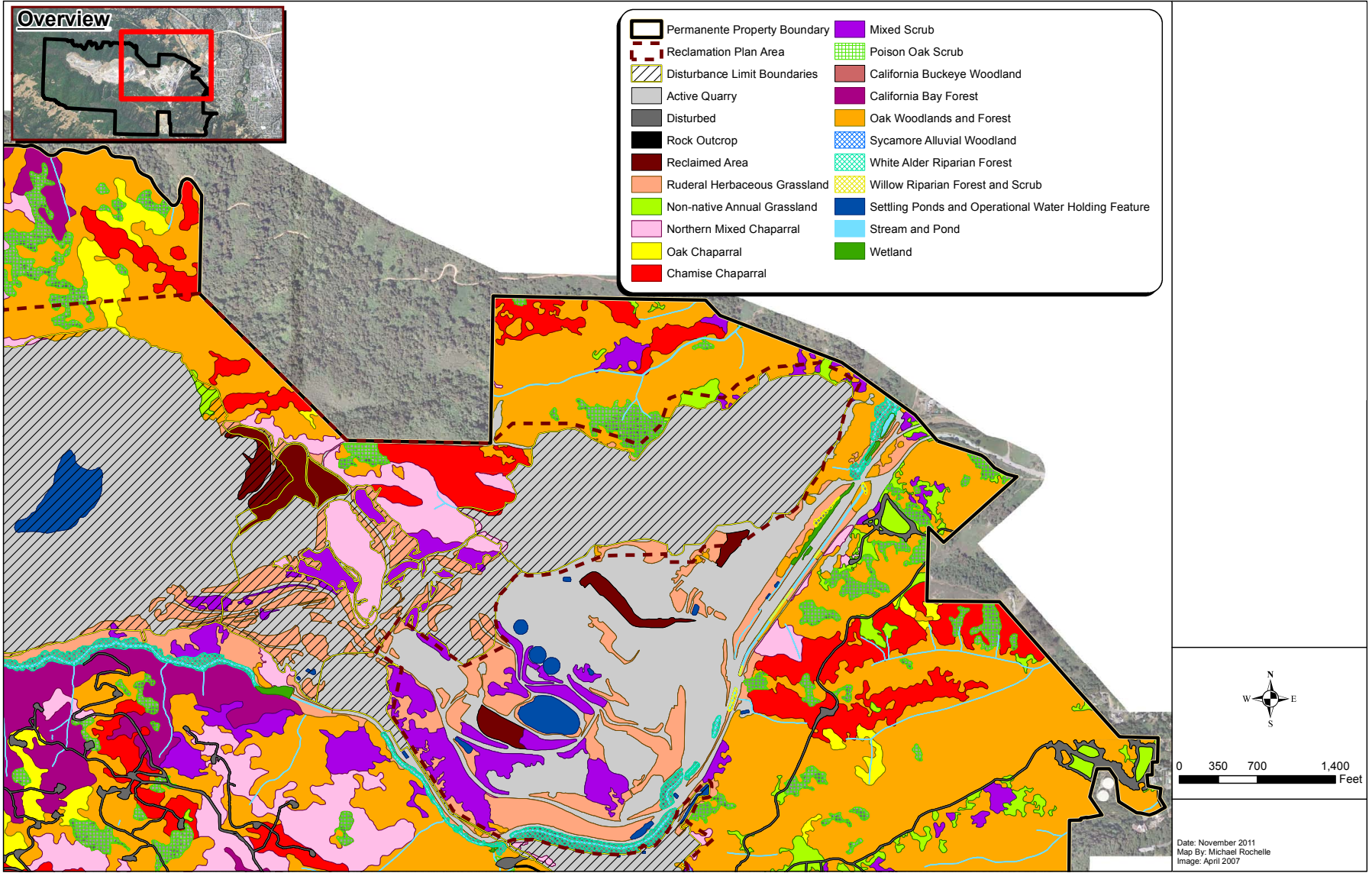
There are nine terrestrial vegetation communities in the Project Area, based in part on Holland's *Preliminary Descriptions of Terrestrial Natural Communities in California* (WRA, 2011; Holland, 1986).











**Oak Woodland and Other Woodland Communities.** Oak woodlands are distributed throughout California typically in protected valleys and north-facing slopes, intergrading with chaparral habitat on drier sites and mixed evergreen forests on moister sites. Oak woodlands are a sensitive natural community that is afforded protection through the California Oak Woodlands Conservation Act and the Santa Clara County Oak Woodlands Impact Guidelines (2008), which are discussed in the *Regulatory Setting*.

Oak woodlands within the portions of the Project Area where active reclamation would occur are primarily blue oak (*Quercus douglasii*) woodland and coast live oak (*Quercus agrifolia*) woodland, although a few small pockets of interior live oak (*Quercus wislizenii*) woodlands also are present. This community type is found primarily along north- and east-facing slopes and in small drainages; in isolated relict patches of otherwise disturbed surroundings; and along portions of the Project Area's northern boundary. These areas have dense overstories dominated by oak species without a substantial number of subdominant species. Other overstory species include California buckeye (*Aesculus californica*) and California bay (*Umbellularia californica*). Species characteristic of the understory include poison oak (*Toxicodendron diversilobum*), coffeeberry (*Rhamnus californica*), ocean spray (*Holodiscus discolor*), elderberry (*Sambucus mexicana*), toyon (*Heteromeles arbutifolia*), and gooseberries (*Ribes* spp.) (WRA, 2011). Wildlife observed in the oak woodland community within the Project Area include white-tailed kite (*Elanus leucurus*), oak titmouse (*Baeolophus inornatus*), black-tailed deer (*Odocoileus hemionus columbianus*), and California deer mouse (*Peromyscus californicus*) (WRA, 2011).

Other woodland communities identified in the Project Area include 0.64 acre of California Bay Forest, found predominantly in the PCRA, and 0.1 acre of Oak Chaparral, found in the WMSA.

**Mixed Scrub.** Mixed scrub occurs on shallow rocky soils, typically on hot southern exposures of the coast range from Oregon to Central California in areas out of the range of coastal fog incursion. Within the portions of the Project Area where active reclamation would occur, mixed scrub is found in the Quarry pit, crusher/Quarry office support area, Rock Plant, and PCRA on southern exposures, and intergrades with chaparral and oak woodland. It is a shrub-dominated community with little to no understory vegetation, dominated by coyote brush (*Baccharis pilularis*), California sagebrush (*Artemisia californica*), and California buckwheat (*Eriogonum fasciculatum*). This community is partially described as Diablan Sage Scrub by Holland (1986). Wildlife observed in this community type at the site include hermit thrush (*Catharus guttatus*), northern Pacific rattlesnake (*Crotalus viridis oreganus*), and wrentit (*Chamaea fasciata*) (WRA, 2011).

**Northern Mixed Chaparral.** Northern mixed chaparral is a community of broadleaved sclerophyll shrubs forming dense, often impenetrable stands dominated by chamise (*Adenostoma fasciculatum*), scrub oak (*Quercus berberidifolia*), various manzanitas (*Arctostaphylos* spp.), and various members of the genus *Ceanothus* (Holland, 1986). When present, a diverse shrub layer forms dense impenetrable stands up to 10-feet tall that intergrades with oak woodlands on deeper soils, and chamise chaparral on dry, rocky, steep, typically south-facing slopes with shallow soils. Within the portions of the Project Area where active reclamation would occur, Northern mixed



chaparral is found on east and south-facing slopes in the Quarry pit, WMSA, EMSA, Rock Plant, and to a lesser extent, in the PCRA.

Species typical of this community type in the Project Area include chamise, scrub oak, Eastwood's Manzanita (*Arctostaphylos glandulosa* ssp. *glandulosa*), jimbrush (*Ceanothus oliganthus* var. *sorediatus*), buckbrush (*Ceanothus cuneatus*), birch-leaf mountain mahogany (*Cercocarpus betuloides*), poison oak, yerba santa (*Eriodictyon californicum*), white pitcher sage (*Lepichinia calycina*), coffeeberry (*Rhamnus californicus*), and redberry (*Rhamnus crocea*) (WRA, 2011). Wildlife observed in northern mixed chaparral at the site includes brush rabbit (*Sylvilagus bachmani*), California thrasher (*Toxostoma redivivum*) and California quail (*Callipepla californica*) (WRA, 2011).

**Chamise Chaparral.** This is a chaparral community dominated by chamise with associated species contributing little to overall cover, and mature stands containing very little herbaceous understory (Holland, 1986). Associated species typically include manzanita species (*Arctostaphylos* spp.), scrub oak, buckbrush, birch-leaf mountain mahogany, yerba santa, sage (*Salvia* sp.), and California buckwheat. Within the portions of the Project Area where active reclamation would occur, chamise chaparral occurs generally on southern exposures with shallow soils in the Quarry pit, WMSA, and the PCRA. It ranges from 1 to 10 feet tall with impenetrable shrub stands and no herbaceous understory, and intergrades with northern mixed chaparral on eastern exposures. It abruptly borders oak woodland and oak chaparral at ridgelines. Occasional associates include scrub oak, toyon (*Heteromeles arbutifolia*), and madrone (*Arbutus menziesii*) (WRA, 2011). Wildlife observed in this community type at the site includes spotted towhee (*Pipilo maculatus*), Bewick's wren (*Thryomanes bewickii*), and Anna's hummingbird (*Calypte anna*) (WRA, 2011).

**Non-native Annual Grassland.** This community type is distributed throughout the valleys and foothills of California below 3,000 feet. It comprises a dense to sparse cover of annual grasses and herbs up to 1.5 feet high (Holland, 1986). Non-native annual grassland intergrades with chaparrals and oak woodlands on slopes and ridgelines. Less than 1 acre of non-native annual grassland is found within the portion of the Project Area where active reclamation would occur: small patches of it are found in the Quarry pit, WMSA, and Rock Plant. Species typical of this community type in the Project Area include wild oats (*Avena* spp.), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), Italian ryegrass (*Lolium multiflorum*), filaree (*Erodium botrys* and *E. cicutarium*), small fescue (*Vulpia microstachys*), California poppy (*Eschscholzia californica*), bird vetch (*Vicia cracca*), and birdfoot trefoil (*Lotus corniculatus*) (WRA, 2011). Wildlife observed in this plant community at the site include western meadowlark (*Sturnella neglecta*), violet-green swallow (*Tachycineta thalassina*), and bobcat (*Lynx rufus*) (WRA, 2011).

**Ruderal Herbaceous Grassland.** This community type includes habitats previously disturbed and/or reclaimed that have been inactive long enough to recruit a plant community dominated by herbaceous weeds and non-native grasses. Species typical of this plant community in California include brome grasses (*Bromus* spp.), wild oats, Italian thistle (*Carduus pycnocephalus*), wild mustard (*Brassica* sp.), and filaree (*Erodium* sp.) (WRA, 2011). With the portions of the Project

Area where active reclamation would occur, ruderal herbaceous grassland is found primarily on slopes between quarry roads, in areas with recent disturbance, or in areas adjacent to quarry activities. Wildlife observed in this plant community at the site include Pacific ring-necked snake (*Diadophis punctatus*), dark-eyed junco (*Junco hyemalis*), and California towhee (*Pipilo crissalis*) (WRA, 2011).

**Riparian Forest and Scrub.** Two riparian communities are present within the portion of the Project Area where active reclamation would occur: white alder riparian forest and willow riparian forest and scrub. Willow riparian forest and scrub has a canopy dominated by arroyo willow (*Salix lasiolepis*), red willow (*S. laevigata*), and black willow (*S. gooddingii*), and occurs in flat areas adjacent to creeks and wet tributaries (WRA, 2011). Canopy cover ranges from dense to sparse, and typical understory species include short spike hedge nettle, stinging nettle, poison oak, California blackberry (*Rubus ursinus*), and western creek dogwood (*Cornus sericea* ssp. *occidentalis*). These riparian communities occur along Permanente Creek and wet tributaries within the PCRA.

White alder riparian forest forms along rapidly flowing, steep-sided canyons, and is dominated by white alder (*Alnus rhombifolia*) with abundant willows, poison oak, California wild rose (*Rosa californica*), and snowberry in the understory. Associated species include bigleaf maple (*Acer macrophyllum*), western creek dogwood, and Oregon ash (*Fraxinus latifolia*) (WRA, 2011).

Wildlife associated with riparian areas includes a diverse assemblage of bird species, including Lincoln's sparrow (*Melospiza linconii*), Wilson's warbler (*Wilsonia pusilla*), great blue heron (*Ardea herodias*), Nuttall's woodpecker (*Picoides nuttallii*), black phoebe (*Sayornis nigricans*), and Pacific slope flycatcher (*Empidonax difficilis*) (WRA, 2011). Dusky-footed woodrat (*Neotoma fuscipes annectens*), a California species of special concern, can also occur in riparian habitat.

**Revegetated (Reclaimed) Area.** Revegetated areas include historically disturbed slopes that have been reclaimed by grading to a final contour, planted with native grass species, and/or planted at a low to moderate density with native shrubs and trees including coyote brush, chamise, and oaks from locally collected cuttings and acorns. Irrigation has been applied to some of the more recent, large-scale revegetated areas to encourage the establishment of planted trees and shrubs, and protective cages have been installed around most container plantings to reduce damage from deer browsing. Generally, these areas are dominated by grass species including wild oats, brome grasses, small fescue, and Italian rye-grass with some establishment of yellow star thistle throughout the open areas (WRA, 2011).

Wildlife observed in this plant community at the site include grasshopper sparrow (*Ammodramus savannarum*), Bewick's wren, and spotted towhee (WRA, 2011).

**Disturbed.** "Disturbed" areas do not comprise a vegetation community per se, but the term is used here to describe areas with active Quarry operations. This habitat is characterized by a small number of weedy and/or rapidly seeding native plants that include yellow star thistle, coyote bush, chamise, wild oats, sweet fennel (*Foeniculum vulgare*), and field mustard. Generally, plant cover in these areas is sparse due to the lack of topsoil (EnviroMINE, 2011).

### **Aquatic Habitat**

As shown in Table 4.4-1, aquatic habitat in the Project Area includes natural and built features. Natural features include 0.66 acre of streams and ponds and 0.5 acre of wetland, each located in the PCRA. Built features include 6.6 acres within the Quarry pit that are designated as “operational water holding feature” and a total of 0.44 acre of sediment ponds, of which 0.04 acre is located in the Quarry pit, 0.1 acres is located in the crusher/Quarry office support area, and 0.3 acre is located in the Rock Plant. Each of these aquatic habitat types is described below.

**Streams and Ponds.** Permanente Creek flows across the site from its headwaters in the west to the northeastern boundary of the site. The creek’s western reaches within the Project Area follow the stream’s natural course, although downstream reaches outside of the Project Area have been realigned, impounded, and culverted. Ohlone Creek to the north and Monte Bello Creek to the south of the site are outside the Project Area (WRA, 2011).

Aquatic biota surveys were conducted in Permanente Creek in 2009, including fish sampling, amphibian surveys, and macroinvertebrate sampling. The results of these sampling efforts were reported in the *Biological Resources Assessment for the Lehigh Permanente Quarry*, which was prepared by WRA for the Project (WRA, 2011). For sampling purposes, the largely natural portion of Permanente Creek was designated the “upper reach” and the active quarry area starting near the Rock Plant was designated the “lower reach.” Three fish species were found within the site boundary, including resident non-anadromous Rainbow Trout (*Oncorhynchus mykiss*), Sacramento Sucker (*Catostomus occidentalis*), and Western Mosquito Fish (*Gambusia affinis*). Within the upper reaches of Permanente Creek, only Rainbow Trout were observed. All three species were observed within the lower reach. Nine amphibian species were found within the site boundary, including the California red-legged frog. Within the upper reaches of Permanente Creek, five amphibian species were observed: California giant salamander (*Dicamptodon ensatus*), California newt (*Taricha torosa*), rough-skinned newt (*Taricha granulosa*), ensatina salamander (*Ensatina eschscholtzii*) and Pacific tree frog (*Hyla [=Pseudacris] regilla*). Within the lower reach, six aquatic species were observed: the rough-skinned newt, California red-legged frog, Pacific tree frog, California newt, ensatina salamander, and Western toad (*Bufo [=Anaxyrus] boreas*). California red-legged frog egg mass, juvenile and adult life stages were observed in the lower reach. For macroinvertebrates, sampling results indicate that the physical habitat quality is very high in the upper and lower reaches: 26 species were documented in the upper reach, and 24 species were documented in the lower reach.

**Wetlands.** Emergent freshwater wetlands and wetland seeps both occur in the PCRA. Emergent freshwater wetlands are associated with Permanente Creek, especially within constructed sediment basins 13, 14, 21, and 22, as slower-flowing water and accumulated sediments enable the growth of wetland vegetation. Species typical of emergent wetlands areas include cattails (*Typha* sp.), watercress (*Rorippa nasturtium* ssp. *aquaticum*), field horsetail (*Equisetum arvense*), stinging nettle (*Urtica dioica*), and short spike hedge nettle (*Stachys pycnantha*) (WRA, 2011). Wildlife observed in emergent freshwater wetland habitat on the site include song sparrow (*Melospiza melodia*), Pacific tree frog (*Pseudacris regilla*), and red-winged blackbird (*Agelaius phoeniceus*) (WRA, 2011).

Wetland seeps are present on steep slopes where groundwater intersects the soil surface or along intermittent spring-fed streams. Typical wetland vegetation in seep habitats in the PCRA include California elk clover (*Aralia californica*), wild ginger (*Asarum caudatum*), giant chain fern (*Woodwardia finbriata*), maiden hair fern (*Adiantum jordanii*), and five-fingered fern (*Adiantum aleuticum*) (WRA, 2011). Wildlife observed in wetland seep habitat at the site include Stellar's jay, Bewick's wren, and California newt (*Taricha torosa*) (WRA, 2011).

**Settling Ponds.** As described in Table 2-12 of the Project Description, there are 26 existing ponds or basins on site, of which 21 are located in the Project Area. Of the Project Area ponds/basins, two (Ponds 14 and 22) have been determined to provide habitat for aquatic species including the California red-legged frog (*Rana draytonii*) (CRLF). The remaining ponds have not been determined to hold water for a sufficient period of time to support breeding of aquatic species and are not connected by undisturbed habitat to any other breeding ponds (WRA, 2011).

### ***Jurisdictional Waters and Wetlands***

A jurisdictional determination report was submitted to the U.S. Army Corps of Engineers in January 2010 that described tributaries to Permanente Creek as well as tributaries to two creeks located outside the Project Area (i.e., Ohlone Creek to the north and Monte Bello Creek to the south) (WRA, 2011). Within the Project Area, the PCRA contains stream and wetland habitat that are considered wetlands under the CWA, and so are subject to the jurisdiction of the USACE and CDFG. The settling ponds noted above are not considered waters of the U.S. or of the State.

### ***Special Status Species***

A number of species known to occur in the vicinity of the Project are protected pursuant to the federal and/or state endangered species laws described in the Regulatory Setting, or have been designated species of special concern by the CDFG. In addition, CEQA Guidelines §15380(b) provides a definition of rare, endangered or threatened species that are not included in any listing.<sup>2</sup> Species recognized under these terms are collectively referred to as "special-status species." For the purposes of this EIR, special-status species include:

- Plant and wildlife species listed as rare, threatened or endangered under the federal or state endangered species acts.
- Species that are candidates for listing under either federal or state law.
- Species formerly designated by the USFWS as Species of Concern or by CDFG as species of special concern.
- Species protected by the federal Migratory Bird Treaty Act and the California Fish and Game Code.
- Species such as candidate species that may be considered rare or endangered pursuant to CEQA Guidelines §15380(b).

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<sup>2</sup> For example, vascular plants listed as rare or endangered or as List 1 or 2 by CNPS are considered to meet §15380(b).



The *Biological Resources Assessment* (WRA, 2011) provides a comprehensive list of the special-status plant and wildlife species that have been documented from, or have suitable habitat in the Study Area. This list was compared with lists obtained from the CNDDDB, California Native Plant Society (CNPS) Electronic Inventory (CNPS, 2011), and the USFWS (2011), and results between these two sources were consistent. Based on a review of the biological literature of the region, recent biological reports for the Project Area, and an evaluation of habitat conditions based on ESA reconnaissance survey, ESA determined whether each species has a Low, Medium, or High potential to occur in the Project Area.

Species with a Low potential to occur are species whose known current distribution or range does not include the Study Area, or species whose specific habitat requirements are not present (e.g., tidal salt marsh). Species with a Moderate potential to occur are those for whom suitable foraging, breeding, or movement habitat is present in the Project Area, even though the species has not been observed locally. A species was determined to have a High potential for occurrence if moderate to high quality habitat is present within the Project Area in addition to the site being included in the documented range of the species. Species observed or with a Moderate to High potential to occur within the Project Area are discussed in detail below. Species documented by the CNDDDB within 5 miles of the Project Area are shown in **Figure 4.4-5**.

#### **Special Status Species Assessed in Detail**

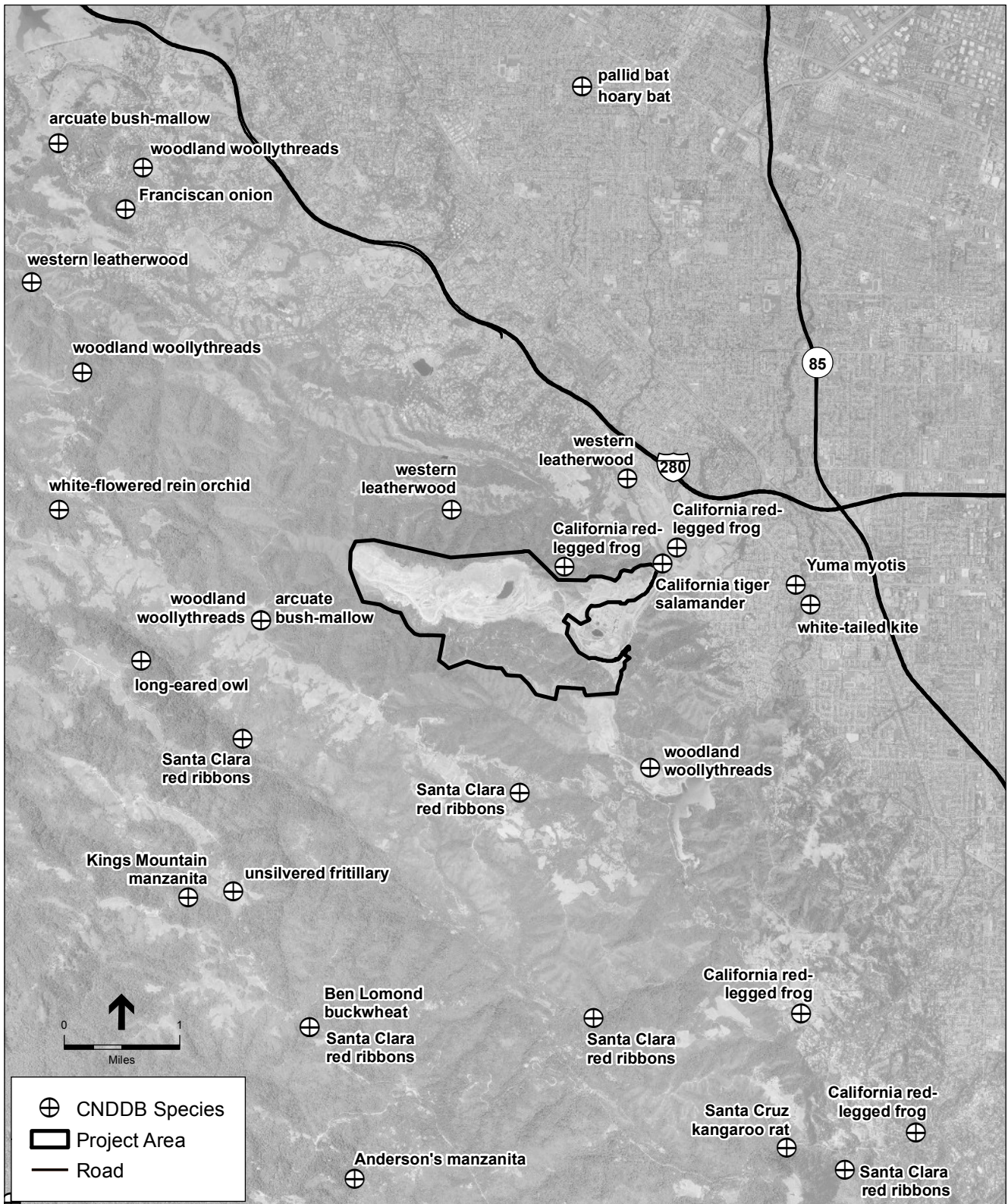
Of the special-status plants and animals described in the *Biological Resources Assessment* (WRA, 2011), along with the regulatory basis for their status, only the following species were observed or determined to have a high or moderate potential to occur within the Project Area:

- California red-legged frog
- White-tailed kite
- Grasshopper sparrow
- Olive-sided flycatcher
- Yellow warbler
- Long-eared owl
- Loggerhead shrike
- San Francisco dusky-footed woodrat
- Pallid bat
- Western red bat

These species are described in detail below.

#### **Special Status Plants**

Although 81 special-status plant species are reported in the nine U.S. Geological Survey quadrangles within and surrounding the Project Area, no special-status plant species have been identified in the Project Area (WRA, 2011). In 2008, two protocol level rare plant surveys were conducted (one early season, the other late season) in compliance with guidelines recommended by CNPS, CDFG, and USFWS. The entire site was surveyed, with the exception of areas with excessively dense poison oak and where extreme terrain prevented safe access. For those areas that were inaccessible, inspection was conducted using aerial photographs and referencing to areas observed on foot. No special-status plant species were observed during the onsite surveys (WRA, 2011). As a result, special-status plants are deemed absent from the Project Area.



SOURCE: Lehigh, 2011; ESRI, 2011; CNDDB, 2011 Lehigh Permanente Quarry Reclamation Plan Amendment. 211742

**Figure 4.4-5**  
 CNNDDB - Documented Distribution of Plants and Wildlife within 5 miles of the Project Area

### Special Status Wildlife Species

Six special status wildlife species have been observed on the site: one amphibian (CRLF), four birds (white-tailed kite, olive-sided flycatcher [*Contopus cooperi*], yellow warbler [*Dendroica petechia*], and grasshopper sparrow) and one mammal (San Francisco dusky-footed woodrat). One additional special status species, the pallid bat (*Antrozous pallidus*), has a high potential to occur on the site, and three additional species have a moderate potential to occur: loggerhead shrike (*Lanius ludovicianus*), long-eared owl (*Asio otis*), and western red bat (*Lasiurus blossevillii*).

**Special Status Amphibians.** CRLF is listed as federally threatened species and is a California species of special concern. CRLF reside in lowlands and foothills in or near permanent or semi-permanent water sources, such as lakes, stock ponds, and slow moving streams with deep pools and dense shrubs or emergent aquatic vegetation. Where water sources are not permanent, CRLF require access to dry-season upland aestivation habitat in the form of mammal burrows. They require at least 11 weeks of permanent water after egg laying for larval development. The Project Area does not occur within the USFWS-designated critical habitat for this species (USFWS, 2010).

CRLF surveys were conducted by herpetologist Dr. Mark Jennings at the site in 1997, 2000, 2006, 2007, 2008, 2009, and 2010 (WRA, 2011). Within the Project Area, CRLF were positively identified in Ponds 14 and 22, which are located along lower Permanente Creek in the northeast portion of the Quarry, approximately 300 feet east of the EMSA. Outside the Project Area but on the site, CRLF were identified in Pond 21 and in Monte Bello Creek in the southern portion of the site. Dr. Jennings concludes that it would be difficult and unlikely for CRLF to disperse through the intermediate landscape between these two occupied areas of the site, because the landscape is dominated by heavily trafficked roads, paved industrial areas, and unvegetated arid slopes. Furthermore, the ephemeral nature of the intervening creeks and ponds (specifically of the sediment pond in the EMSA), the long distance (1.75 miles), and the steep terrain precludes CRLF movement between the lower Permanente Creek and Monte Bello Creek drainages (WRA, 2011). Based on these results, CRLF are not expected within the Project Area.

**Special Status Birds.** The white-tailed kite is a California fully protected species that occurs in low elevation grassland, agricultural, wetland, oak woodland, and savannah habitats. Riparian zones adjacent to open areas also are used. Vegetative structure and prey availability seem to be more important to this species than specific associations with plant species or vegetative communities. Kites primarily prey on small mammals, although occasional birds, reptiles, amphibians, and insects also are taken. This species nests in trees ranging from small shrubs less than 10 feet tall, to trees greater than 150 feet tall. White-tailed kites are present in the Project Area. They have been observed onsite, foraging and exhibiting pair bonding behavior, and suitable foraging and nesting habitat is present. The nearest documented nest is located 1.7 miles east of the site (WRA, 2011).

The olive-sided flycatcher is a California species of special concern typically associated with open to semi-open forest stands, including coniferous forest openings, forest edges, or human-made openings. This species typically appears near stream and ponds due to the natural mosaic of wooden

and open areas as well as greater insect prey availability near water bodies. The olive-sided flycatcher has moderate potential to occur in the Project Area. While no documented occurrences of this species are present within five miles of the site, one female was observed in 2008. This individual may have been a migrant, but breeding occurrences have been recorded at lower elevations near Santa Clara and Berkeley (WRA, 2011).

The yellow warbler is a California species of special concern typically found in wet thickets dominated by willows, deciduous riparian habitats, and early successional habitats. This species primarily feeds on small insects and berries. Main threats to the yellow warbler include habitat destruction and brood parasitism by brown-headed cowbirds (*Molothrus ater*). The yellow warbler is present in the Project Area. Members of this species have been observed regularly in the Project Area in both breeding and migration season, and could nest in riparian vegetation associated with Permanente Creek (WRA, 2011).

The grasshopper sparrow is a California species of special concern. It generally prefers moderately open grasslands and prairies with patchy bare ground, and avoids grasslands with extensive shrub cover. This species feeds primarily on insects. The grasshopper sparrow is present in the Project Area. This species has been observed consistently within sparsely vegetated areas in active quarry areas, and suitable foraging and breeding habitat for this species is present where shrub, grasslands and bare ground create a habitat mosaic (WRA, 2011).

The loggerhead shrike is a California species of special concern typically occurring in open habitats with scattered trees and abundant perches, including shrubs, posts, fences, and utility lines. Nests usually are built on a stable branch in a densely-foliaged shrub or small tree and are usually well-concealed. This species eats mostly arthropods, but is known to take amphibians, small reptiles, small mammals, other birds, and can scavenge on carrion. The loggerhead shrike has a moderate potential to be present in the Project Area. While no documented occurrences of this species are present within 6 miles of the site, suitable nesting and foraging habitat is present in the Project Area (WRA, 2011).

The long-eared owl is a California species of special concern that nests in riparian groves, planted woodlots, and belts of live oaks paralleling streams. Nests almost exclusively consist of old stick nests building by crows, magpies, ravens, hawks, or herons. Foraging habitat for this species includes woodland, forest, and riparian habitats. The long-eared owl has a moderate potential to be present in the Project Area. Suitable foraging and breeding habitat exists in the Project Area, including mature riparian vegetation undisturbed by noise from adjacent quarry activities. A breeding pair of long-eared owls was has been documented 1.3 miles west of the site (WRA, 2011).

**Special Status Mammals.** The San Francisco dusky-footed woodrat is a California species of special concern. It prefers brushy riparian habitats, coast live oak woodland, and dense scrub communities, and lives in stick houses 3-feet tall or larger. Several woodrat nests are present in the Project Area. The species may be present along the northern disturbance limit boundary within the Quarry pit, where 9.1 acres of marginal woodrat habitat exists; in the vegetated scrub and woodland perimeter of the WMSA, where 8.6 acres of marginal woodrat edge habitat exists; in the crusher/Quarry office support area, where 1 acre of suitable mixed scrub habitat exists; or



in the Rock Plant, where 0.9 acre of suitable scrub and chaparral edge habitat exists for the species (WRA, 2011).

**Special Status Bats.** The pallid bat is a California species of special concern. It is found in a variety of low elevation habitats throughout the state. Roosts generally include rock outcrops, hollow trees, caves, mines, buildings, and bridges. Pallid bats are sensitive to roost disturbance. The species preys primarily on large ground-dwelling arthropods; prey typically is taken on the ground. There is a moderate to high potential for the pallid bat to be present in the Project Area. The site contains potentially suitable roosting habitat in the form of hollow trees, rock outcrops, and cracks and crevices in the Quarry pit wall. The former aluminum plant building at the north east corner of the site outside the Project Area is known to support bat roosting. (WRA, 2011).

The western red bat is a highly migratory, broadly distributed species (it ranges from southern Canada and through much of the western United States). Typical roosts include the foliage of trees or shrubs. Roosting in urban areas can occur in association with riparian habitat. There is a moderate potential for this species to occur on the site. Suitable habitat could be present in the white alder riparian forest and willow riparian forest in the PCRA, and in the sycamore alluvial woodlands present on the site. Edge habitat suitable for foraging also is present. (WRA, 2011).

### ***Sensitive Natural Communities***

Other natural communities are present on the site that have special values or fulfill special functions. These communities are considered “sensitive natural communities” if they are identified by the CDFG or in local or regional plans, policies, and regulations. CDFG ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in its Natural Diversity Database. Sensitive plant communities are also identified by CDFG on its List of California Natural Communities Recognized by the CNDDDB. (WRA, 2011).

The CNDDDB identifies several sensitive natural communities in the nine U.S. Geological Survey quadrangles including and adjacent to the site: valley oak woodland, serpentine bunchgrass, northern interior cypress forest, and northern coastal salt marsh (CDFG, 2011). The Resource Conservation Element of the County’s General Plan identifies the following habitats for conservation: bayland habitats, riparian and freshwater habitats, grassland/savanna habitats, and chaparral/mixed woodland/evergreen forest areas.

### **4.4.1.3 Regulatory Setting**

This subsection briefly describes federal, state, and local regulations, permits, and policies pertaining to biological resources and wetlands as they apply to the Project.

### ***Special-Status Species and Sensitive Communities***

#### **Federal Endangered Species Act**

The USFWS, which has jurisdiction over plants, wildlife, and most freshwater fish, and the National Marine Fisheries Service (NMFS), which has jurisdiction over anadromous fish, marine fish, and marine mammals, oversee implementation of the Federal Endangered Species Act

(FESA). Section 7 of the FESA mandates that all federal agencies consult with the USFWS and NMFS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. A federal agency is required to consult with USFWS and NMFS if it determines that its decision may affect a listed species. The FESA prohibits the "take"<sup>3</sup> of any fish or wildlife species listed as threatened or endangered, including the destruction of habitat that could hinder species recovery.

FESA Section 9's take prohibition applies only to listed wildlife and fish species. Candidate species and species that are proposed for listing or are under petition for listing receive no protection under Section 9. Section 9 prohibits the removal, possession, damage or destruction of any endangered plant from federal land, as well as acts to remove, cut, dig up, damage, or destroy an endangered plant species in nonfederal areas in knowing violation of any state law or in the course of criminal trespass.

FESA Section 10 requires the issuance of an "incidental take" permit before any public or private action may be taken that would potentially harm, harass, injure, kill, capture, collect, or otherwise hurt (i.e., take) any individual of an Endangered or Threatened species. The permit requires preparation and implementation of a habitat conservation plan that would offset the take of individuals that may occur incidental to implementation of otherwise lawful activities by providing for the overall preservation of the affected species through specific conservation measures.

Under the FESA, the Secretary of the Interior (or the Secretary of Commerce, as appropriate) formally designates critical habitat for certain federally listed species and publishes these designations in the Federal Register. Critical habitat is not automatically designated for all federally listed species; thus, many do not have designated critical habitat.

Critical habitat is defined as the specific areas that are essential to the conservation of a federally listed species, and that may require special management consideration or protection. Critical habitat is determined using the best available scientific information about the physical and biological needs of the species. These needs, or primary constituent elements, include: space for individual and population growth and for normal behavior; food, water, light, air, minerals, or other nutritional or physiological needs; cover or shelter; sites for breeding, reproduction, and rearing of offspring; and habitat that is protected from disturbance or is representative of the historical geographic and ecological distribution of a species.

#### **Federal Migratory Bird Treaty Act**

The federal Migratory Bird Treaty Act (16 USC, Section 703, Supplement I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

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<sup>3</sup> "Take," as defined in Section 9 of the FESA, is broadly defined to include intentional or accidental "harassment" or "harm" to wildlife. "Harass" is further defined by the U.S. Fish and Wildlife Service as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, and sheltering. "Harm" is defined as an act which actually kills or injures wildlife. This may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

### **Surface Mining and Reclamation Act Performance Standards**

The regulations implementing SMARA require that the reclamation of mined lands be implemented in conformance with specified standards (14 CCR § 3700 et seq.). Standards regarding wildlife habitat and stream protection are outlined below.

Wildlife and wildlife habitat shall be protected in accordance with the following standards:

- (a) Rare, threatened or endangered species as listed by [CDFG], (14 CCR, §§ 670.2 - 670.5) or the U.S. Fish and Wildlife Service, (50 CFR 17.11 and 17.12) or species of special concern as listed by [CDFG] in the Special Animals List, Natural Diversity Data Base, and their respective habitat, shall be conserved as prescribed by [FESA] and the California Endangered Species Act, Fish and Game Code §2050 et seq. If avoidance cannot be achieved through the available alternatives, mitigation shall be proposed in accordance with the provisions of the California Endangered Species Act, Fish and Game Code § 2050 et seq., and the [FESA].
- (b) Wildlife habitat shall be established on disturbed land in a condition at least as good as that which existed before the lands were disturbed by surface mining operations, unless the proposed end use precludes its use as wildlife habitat or the approved reclamation plan establishes a different habitat type than that which existed prior to mining.
- (c) Wetland habitat shall be avoided. Any wetland habitat impacted as a consequence of surface mining operations shall be mitigated at a minimum of one to one ratio for wetland habitat acreage and wetland habitat value.

Streams, including surface water and groundwater, shall be protected in accordance with the following standards:

- (a) Surface and groundwater shall be protected from siltation and pollutants which may diminish water quality as required by Federal Clean Water Act §301 et seq. (33 U.S.C. §1311) and §404 et seq. (33 U.S.C. §1344), the Porter-Cologne Water Quality Control Act §13000 et seq., County anti-siltation ordinances, the Regional Water Quality Control Board or the State Water Resources Control Board.
- (b) In-stream surface mining operations shall be conducted in compliance with Section 16000 et seq. of the California Fish and Game Code, §404 of the Clean Water Act, and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403).
- (c) Extraction of sand and gravel from river channels shall be regulated to control channel degradation in order to prevent undermining of bridge supports, exposure of pipelines or other structures buried within the channel, loss of spawning habitat, lowering of ground water levels, destruction of riparian vegetation, and increased stream bank erosion (exceptions may be specified in the approved reclamation plan). Changes in channel elevations and bank erosion shall be evaluated annually using records of annual extraction quantities and benchmarked annual cross sections and/or sequential aerial photographs to determine appropriate extraction locations and rates.
- (d) In accordance with requirements of the California Fish and Game Code §1600 et seq., in-stream mining activities shall not cause fish to become entrapped in pools or in off-channel pits, nor shall they restrict spawning or migratory activities.

### **California Environmental Quality Act**

The intent of CEQA is to maintain “high-quality ecological systems and the general welfare of the people of the State.” It is the policy of the State to “prevent the elimination of fish or wildlife species due to man’s activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history.” CEQA forbids agencies from approving projects with significant adverse impacts when feasible alternatives or feasible mitigation measures can substantially reduce such impacts.<sup>4</sup>

CEQA requires consultation with CDFG on any project an agency initiates that is not statutorily or categorically exempt from CEQA (CDFG, 2011b). CEQA Guidelines Section 15065(a) indicates that impacts to State- and federally listed rare, threatened, or endangered plants or animals are significant if they significantly reduce the number or restrict the range of an endangered, rare, or threatened species. Under CEQA Guidelines Section 15380, impacts to other species (“special status species”) that meet certain criteria (i.e., it can be shown that the species’ survival in the wild is in jeopardy or it is at risk of becoming endangered in the near future) but are not officially listed also may be considered significant by the lead agency under CEQA, depending on the applicability of other laws (e.g., Migratory Bird Treaty Act) and the discretion of the lead agency. For example, CDFG interprets Lists 1A, 1B, and 2 of the CNPS Inventory of Rare and Endangered Vascular Plants of California to consist of plants that, in a majority of cases, would qualify for listing as rare, threatened, or endangered. However, the determination of whether an impact is significant is a function of the lead agency, absent the protection of other laws. Projects subject to CEQA review must specifically address potential impacts to listed species and provide mitigation measures if the impact is significant.

### **California Oak Woodlands Conservation Act**

California Senate Bill 1334, the Oak Woodlands Conservation Act, became law on January 1, 2005 and was added to CEQA as Public Resources Code §21083.4. This law protects oak woodlands that are not protected under the Z’Berg-Nejedly Forest Practice Act (Pub. Res. Code §§4511-4628). This Act requires a county to determine whether or not a project would result in a significant impact on oak woodlands. If the project would result in a significant impact on oak woodlands, then the county must implement mitigation measures as prescribed under the Public Resources Code to reduce or compensate for the loss of oak woodlands.

### **California Environmental Quality Act Guidelines §15380**

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included in the CEQA Guidelines primarily to deal with situations in

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<sup>4</sup> CEQA also provides that a project might be approved in spite of residual, unmitigated significant impacts, by adoption of a statement of overriding social and economic considerations in situations where mitigations or alternatives are deemed infeasible.



which a public agency is reviewing a project that may have a significant effect on, for example, a “candidate species” that has not yet been listed by either the USFWS or CDFG. Thus, CEQA provides a CEQA lead agency with the ability to protect a species from a project’s potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

## **California Fish and Game Code**

### **California Endangered Species Act**

Under the California Endangered Species Act (Fish and Game Code §2070 et seq.) (CESA), CDFG has the responsibility for maintaining a list of threatened and endangered species. CDFG also maintains a list of “candidate species,” which are species formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. In addition, CDFG maintains lists of “species of special concern,” which serve as “watch lists.” Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present in the area affected by the project and determine whether the proposed project could have a potentially significant impact on such species. In addition, CDFG encourages informal consultation on any proposed project that may affect a candidate species.

### **California Native Plant Protection Act**

State listing of plant species began in 1977 with the passage of the California Native Plant Protection Act (NPPA), which directed CDFG to carry out the legislature’s intent to “preserve, protect, and enhance endangered plants in this State.” The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants. The CESA expanded upon the original NPPA and enhanced legal protection for plants. The CESA established threatened and endangered species categories, and grandfathered all rare animals—but not rare plants—into the act as threatened species. Thus, there are three listing categories for plants in California: rare, threatened, and endangered.

### **Nesting Birds**

Under §3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. In turn, §3503.3 prohibits take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs.

### **Fully Protected Species**

The California Fish and Game Code also allows the designation of a species as Fully Protected (see §3511 regarding birds, §4700 regarding mammals, §5050 regarding reptiles and amphibians, and §5515 regarding fish). This designation provides a greater level of protection than is afforded by the CESA, and until recently, fully protected species could not be taken at any time. On October 18, 2011, Senate Bill 618 was signed into law, which permits take of fully protected

species where a Natural Communities Conservation Plan has been approved and is being implemented to ensure protection of those species.

### ***Sensitive Natural Communities***

Sensitive natural communities are identified as such by CDFG's Natural Heritage Division and include those that are naturally rare and those whose extent has been greatly diminished through changes in land use. The CNDDDB tracks 135 such natural communities in the same way that it tracks occurrences of special-status species: information is maintained on each site's location, extent, habitat quality, level of disturbance, and current protection measures. CDFG is mandated to seek the long-term perpetuation of the areas in which these communities occur. While there is no statewide law that requires protection of all special-status natural communities, CEQA requires consideration of a project's potential impacts on biological resources of statewide or regional significance.

### ***Wetlands and Jurisdictional Waters***

#### **U.S. Army Corps of Engineers**

Wetlands and other waters (e.g., rivers, streams, and natural ponds) are a subset of "waters of the U.S.,"<sup>5</sup> and receive protection under §404 of the Clean Water Act (CWA). The U.S. Army Corps of Engineers (USACE) has primary federal responsibility for administering regulations that concern waters of the U.S. In this regard, the Corps acts under two statutory authorities: the Rivers and Harbors Act (§§9, 10), which governs specified activities in "navigable waters,"<sup>6</sup> and the CWA (§404), which governs specified activities in waters of the U.S., including wetlands. The U.S. Environmental Protection Agency (U.S. EPA) has the ultimate authority for designating dredge and fill material disposal sites and can veto the USACE's issuance of a permit to fill jurisdictional waters of the U.S.

USACE requires a permit if a project proposes placement of structures within navigable waters and/or alteration of waters of the U.S. Some classes of fill activities may be authorized under Regional General or Nationwide permits if specific conditions are met. Nationwide permits do not authorize activities that are likely to jeopardize the existence of a threatened or endangered species (listed or proposed for listing under the FESA). The Nationwide permit outlines general conditions and may specify project-specific conditions as required by USACE during the §404

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<sup>5</sup> The term "waters of the U.S.," as defined in Code of Federal Regulations (33 CFR 328.3[a]; 40 CFR 230.3[s]), includes: (1) all waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide; (2) all interstate waters, including interstate wetlands; (3) all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce, including any such waters that are or could be used by interstate or foreign travelers for recreational or other purposes; or from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or which are used or could be used for industrial purposes by industries in interstate commerce; (4) all impoundments of waters otherwise defined as waters of the U.S. under the definition; (5) tributaries of waters identified in numbers (1) through (4); (6) territorial seas; and (7) wetlands adjacent to waters (other than waters that are themselves wetlands) identified in numbers (1) through (6).

<sup>6</sup> Navigable waters are defined as those waters that are subject to the ebb and flow of the tide or that are presently used, have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

permitting process. When a project's activities do not meet the conditions for a Nationwide Permit, the USACE may issue an Individual Permit or Letter of Permission.

The USACE and USEPA will take jurisdiction over the following waters: 1) Traditional navigable waters, which are defined as all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; 2) Wetlands adjacent to traditional navigable waters; including adjacent wetlands that do not have a continuous surface connection to traditional navigable waters; 3) Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months); and 4) Wetlands adjacent to non-navigable tributaries as defined above; that have a continuous surface connection to such tributaries (e.g., they are not separated by uplands, a berm, dike, or similar feature). The USEPA and USACE decide jurisdiction over the following waters based on a fact-specific analysis: a) Non-navigable tributaries that are not relatively permanent; b) Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and c) Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary. The USEPA and USACE generally do not assert jurisdiction over: 1) swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow) or 2) ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The federal government also supports a policy of minimizing "the destruction, loss, or degradation of wetlands." Executive Order 11990 (May 24, 1977) requires that each federal agency take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

### **San Francisco Bay Regional Water Quality Control Board**

The San Francisco Bay Regional Water Quality Control Board (RWQCB) regulates waters of San Francisco Bay under the Porter-Cologne Water Quality Control Act (Water Code §13000 et seq.). Dredging, filling, or excavation of isolated waters constitutes a discharge of waste to waters of the State. Under the Porter-Cologne Act, anyone who discharges waste or proposes to discharge waste within any region that could affect the quality of the waters of the state must file a "report of waste discharge" with the applicable Regional Water Quality Control Board. The regional board then would issue a permit (called "waste discharge requirements" or WDRs) implementing relevant water quality control plans and taking into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, and the need to prevent nuisances (Water Code §13263).

In addition, California has been delegated CWA §404 permit authority for the National Pollutant Discharge Elimination System (NPDES) permit program including stormwater permits. Although the issuance of §404 permits remains the responsibility of the USACE, the state actively uses its CWA §401 water quality certification authority to ensure that §404 permits protect state standards. The RWQCB has a policy of no net loss of wetlands and typically requires mitigation for all impacts to wetlands before it will issue a water quality certification under CWA §401.

### **California Department of Fish and Game**

Under Fish and Game Code §§1600–1616, the CDFG regulates activities that would substantially divert, obstruct the natural flow of, or substantially change rivers, streams, and lakes. The jurisdictional limits of the CDFG are defined in §1602 as the “bed, channel, or bank of any river, stream, or lake.” In practice, the CDFG may exert authority over activities near such features that adversely affect fish and wildlife resources associated with them. Activities that would “deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake” are prohibited by the CDFG unless a streambed alteration agreement is issued. Potential impacts to CDFG jurisdictional areas would be considered significant in this EIR.

### **Local Plans and Policies**

#### **Santa Clara County General Plan (1994)**

Several policies and goals in the Santa Clara County General Plan (1994) provide for the protection of biotic resources. Resource Conservation Policies and Implementation measures relevant to the Project include:

**C-RC 2.** The County shall provide leadership in efforts to protect or restore valuable natural resources, such as wetlands, riparian areas, and woodlands, and others:

- a. for County-owned lands; and
- b. through multi-jurisdictional endeavors.

**R-RC 19.** Habitat types and biodiversity within Santa Clara County and the region should be maintained and enhanced for their ecological, functional, aesthetic, educational, medicinal, and recreational importance.

**R-RC 20.** Strategies and policies for maintaining and enhancing habitat and biodiversity should include the following:

1. Improve current knowledge and awareness of habitats and natural areas.
2. Protect the biological integrity of critical habitat areas.
3. Encourage habitat restoration wherever possible.
4. Evaluate the effectiveness of project mitigations as required under CEQA.

**R-RC 31.** Natural streams, riparian areas, and freshwater marshes shall be left in their natural state providing for percolation and water quality, fisheries, wildlife habitat, aesthetic relief, and educational or recreational uses that are environmentally compatible. Streams which may still provide spawning areas for anadromous fish species should be protected from pollution and development impacts which would degrade the quality of the stream environment.

**R-RC 32.** Riparian and freshwater habitats shall be protected through the following general means: a. setback of development from the top of the bank; b. regulation of tree and vegetation removal; c. reducing or eliminating use of herbicides, pesticides, and fertilizers by public agencies; d. control and design of grading, road construction, and bridges to minimize environmental impacts and avoid alteration of the streambed and stream banks (freeway bridges and arch culverts, for example); and e. protection of endemic, native vegetation.

**R-RC 37.** Lands near creeks, streams, and freshwater marshes shall be considered to be in a protected buffer area, consisting of the following: 1. 150 feet from the top bank on both sides where the creek or stream is predominantly in its natural state; 2. 100 feet from the top bank on both sides of the waterway where the creek or stream has had major alterations; and 3. In the case that neither (1) nor (2) are applicable, an area sufficient to protect the stream environment from adverse impacts of adjacent development, including impacts upon habitat, from sedimentation, biochemical, thermal and aesthetic impacts.

**R-RC 38.** Within the aforementioned buffer areas, the following restrictions and requirements shall apply to public projects, residential subdivisions, and other private non-residential development: a. No building, structure or parking lots are allowed, exceptions being those minor structures required as part of flood control projects. b. No despoiling or polluting actions shall be allowed, including grubbing, clearing, unrestricted grazing, tree cutting, grading, or debris or organic waste disposal, except for actions such as those necessary for fire suppression, maintenance of flood control channels, or removal of dead or diseased vegetation, so long as it will not adversely impact habitat value. c. Endangered plant and animal species shall be protected within the area.

**R-RC 43.** Large scale grading and clearing of land should not be allowed if it will significantly degrade valuable habitat or impair surface water quality.

**R-RC 49.** Retention and planting of native plant species shall be encouraged, especially for landscape uses.

**R-RC 53.** Restoration of habitats should be encouraged and utilized wherever feasible, especially in cases where habitat preservation and flood control, water quality, or other objectives can be successfully combined.

Implementation of the Project would be consistent with these policies and goals.

#### **Santa Clara County Oak Woodlands Impact Guidelines (2008)**

In accordance with the Oak Woodlands Conservation Act, Santa Clara County created the *Santa Clara County Planning Office Guide to Evaluating Oak Woodlands Impacts* (last updated November 18, 2008). According to the County's guidelines, a land development project is considered to have a *significant* direct impact on oak woodlands if the project will result in a decrease of 0.5 acre or more of native oak canopy within oak woodland on the project site. The County requires the following mitigation measures for significant impacts to oak woodlands, which are based on the mitigation measures required under Public Resources Code §21083.4:

- (A) **Planting Replacement of Oak Trees.** Pursuant to Public Resources Code §21083.4, the planting of oaks shall not fulfill more than 50 percent of the mitigation requirement for the project.

Tree replacement can be dependent upon the size of the canopy of the removed trees, the number of trees to be removed, the size of trees to be removed, the type of trees to be removed, the steepness of the slope on which trees will be removed, or the amount of room on a parcel in which trees can be planted. The objective of tree planting shall be to restore former oak woodland at a ratio of one acre of oak woodland for every one acre of impacted woodland on the project site.

The following standard mitigation ratios shall be used unless otherwise accepted by the Planning Office based on site specific characteristics:

- For the removal of one small tree (5-18 inches): two 24-inch boxed trees or three 15 gallon trees.
- For the removal of 1 medium tree (18-24 inches): three 24-inch boxed trees or four 15 gallon trees.
- For the removal of a tree larger than 24 inches: four 24-inch boxed trees or five 15 gallon trees.

All tree replacement shall be with in-kind species.

A Tree Planting and Maintenance Plan shall be submitted showing species, size, spacing and location of plantings and the location and species of established vegetation. The plan may be required to be prepared by a Licensed Landscape Architect will be subject to approval by the County Planning Office.

- (B) **Conservation Easement.** Protect existing native oak trees on or off the project site from future development through a conservation easement or fee title dedication to the County or a land conservation group approved by the County.

Oak woodland offered as mitigation must be configured in such a manner as to best preserve the integrity of the oak ecosystem and minimize the ratio of edge to area. Priority should be given to conserving oak habitat adjacent to existing woodlands under conservation easements, public lands or open space lands.

As a general guide, the protection of existing oak woodlands through conservation easements should mitigate for the loss of oaks at a ratio equal to 3,000 square feet of oak woodland habitat for each oak tree impacted which is 5 inches or more in diameter. Land proposed as mitigation, when viewed with adjacent conservation land, should not result in conserved parcels of less than one acre.

- (C) **Other Options.** If the onsite preservation of oak woodlands and/or tree planting is not feasible, oak woodland mitigation may occur in the form of in lieu fees paid to an agency, acceptable to the Planning Office, which shall use the fees for the preservation, restoration, or creation of oak woodland habitat. There must be a direct nexus between the amount of fees paid and mitigation required in terms of oak tree replacement and oak woodland preservation.

## 4.4.2 Baseline

While the description of the Project Area in Section 4.4.2.1, *Vegetative Communities and Wildlife Habitat Types*, is based on current conditions at the Quarry, the CEQA baseline against which Project impacts are assessed consists of the biological setting of the Project Area in June 2007. This section summarizes the biological communities and wildlife habitat, jurisdictional waters and wetlands, special status species, and sensitive natural communities present in the Project Area as of the June 2007 baseline as described in the *Biological Resources Assessment* completed by WRA in 2006 in support of the Applicant's original reclamation plan amendment application. This document (WRA, 2006a) is provided as **Appendix C** to this EIR.

## 4.4.2.1 Biological Communities and Wildlife Habitat Types

### ***Terrestrial Habitat***

The terrestrial habitat types described in Section 4.4.1.2 also were present, or presumed present, in the Project Area in June 2007.

#### **Northern Mixed Chaparral/Coast Live Oak Woodland**

Northern mixed chaparral/coast live oak woodland has been identified as one of seven distinct biological communities present in the Project Area in 2007 (WRA, 2006a). Under baseline conditions, this vegetation community was present in the buffer area north of the Quarry pit, in the vicinity of the EMSA, and in the PCRA. The Exploration Area was not within the initially proposed reclamation plan amendment boundary for the site, and so vegetation communities were not mapped in the Exploration Area as part of that proposal. However, based on the demonstrated presence of Northern mixed chaparral/coast live oak woodland habitat in the PCRA and to the west, south, and east of the Rock Plant (see Appendix C, Figure 3) and botanists' presumption that this community once dominated the Project Area, it is likely that Northern mixed chaparral/coast live oak woodland was present in the Exploration Area in 2007.

#### **Mixed Scrub**

Mixed scrub has not been identified as such in the Project Area under baseline conditions (WRA, 2006a).

#### **Chamise Chaparral**

Chamise chaparral has not been identified as such in the Project Area under baseline conditions (WRA, 2006a).

#### **Non-native Annual Grassland**

Annual grassland was present within the Project Area under baseline conditions primarily in undisturbed areas in the northeastern and eastern portions of the Project Area. Dominant non-native annual grasses included wild oat, rip-gut brome, soft chess, hare barley, and Italian ryegrass.

#### **Ruderal Herbaceous Grassland**

Ruderal herbaceous grassland has been identified as one of seven distinct biological communities present in the Project Area in 2007 (WRA, 2006a). Under baseline conditions, this vegetation community was present northwest and south of the WMSA, to a limited extent within the Quarry pit, the PCRA, the crusher/Quarry office support area, and Rock Plant. Although vegetation communities were not mapped in the Exploration Area as part of the Applicant's initial reclamation plan amendment proposal, ruderal herbaceous grassland is presumed to have been present in the Exploration Area in 2007 (see Appendix C, Figure 3).



### **Riparian Forest and Scrub**

Permanente Creek and its associated riparian corridor are shown on Appendix C, Figure 3 under baseline conditions, and “riparian corridor” has been identified as one of seven distinct biological communities present in the Project Area in 2007 (WRA, 2006a). The mapped area designated as “riparian corridor” contained a dense overstory of mature riparian trees, including white alder, willow, bigleaf maple, madrone, and cottonwood (*Populus balsamifera ssp. trichocarpa*), with an understory dominated by poison oak and California blackberry.

### **Revegetated (Reclaimed) Area**

Under baseline conditions, approximately 64 acres of the Project Area had been revegetated. Revegetation had occurred north of the WMSA, the northwestern and eastern portions of the Quarry pit, and in the western portions of the PCRA (see Appendix C, Figure 3). Revegetated areas typically were planted at a low to moderate density with native shrubs and trees including coyote brush, chamise, and oaks from locally collected cuttings and acorns. Grass species predominated, including wild oats, brome grasses, small fescue, and Italian rye-grass with some establishment of yellow star thistle throughout the open areas (WRA, 2006a).

### **Disturbed**

Disturbed portions of the Project Area included the pit, storage areas, the Rock Plant and related areas. Plant cover in disturbed areas was sparse in light of the lack of topsoil, although some weedy and/or native plant species including yellow star thistle, coyote brush, chamise, wild oats, sweet fennel, and black mustard were present (WRA, 2006a).

### **Aquatic Habitat**

#### **Streams and Ponds**

In June 2007, Permanente Creek traversed the PCRA and several settling ponds were present in the Project Area (see Appendix C, Figure 3).

Leidy (2007) characterized fish species in Permanente Creek in 2007 and Cleugh and Mcknight (2002) described steelhead migration barriers and the restoration potential for this stream. Leidy noted four fish introduced fish species in this creek: common carp (*Cyprinus carpio*), bluegill (*Lepomis macrochirus*), rainwater killifish (*Lucania parva*), and mosquito fish (*Gambusia affinis*); and three native species: Sacramento sucker (*Catostomus occidentalis*), threespine stickleback (*Gasterosteus aculeatus*), and California roach (*Lavinia symmetricus*) (Leidy, 2007).

CRLF had been found to inhabit four off-stream sediment settling ponds, including Pond 13, and portions of Permanente Creek (WRA, 2006a). This is consistent with the conclusions of the Habitat Assessment conducted in the Project Area in 2010, which concludes the creek does not support aquatic or upland dispersal habitat for CRLF in this region.

### **Wetlands**

As described above, there are existing emergent freshwater wetlands and wetland seeps in the PRCA. These features, and the vegetation and wildlife species typically associated with them, also existed in 2007.

### **Settling Ponds**

The settling ponds that existed in the Project Area under baseline conditions are shown in Appendix C, Figure 3.

## **4.4.2.2 Jurisdictional Waters and Wetlands**

The waters in the Project Area that are described above as jurisdictional based on a 2009 report, i.e., the stream and wetlands associated with Permanente Creek, were present in 2007 and likely would have been determined to be jurisdictional if a determination had been made at that time.

## **4.4.2.3 Special-status Species**

Special-status species observed or with a Moderate to High potential to occur within the Project Area in 2007 are identified below.

- Special status plants: Three special status plant species were determined to have a high or moderate potential to occur in the Project Area under baseline conditions: Western leatherwood, Loma Prieta hoita, and Mount Diablo cottonweed (WRA, 2006a). However, as noted above, no special-status plant species were observed during protocol level surveys that were conducted on the site in 2008.
- Special status wildlife: One special status wildlife species was determined to be present in the Project Area under baseline conditions: CRLF. Although no special status wildlife species were determined to have a high potential to occur in the Project Area, two special status species were determined to have a moderate potential to occur in woodlands and/or chaparral within or immediately adjacent to the Project Area: Cooper's hawk and long-eared owl.

## **4.4.2.4 Sensitive Natural Communities**

Results of a CNDDDB query initiated in support of the County's preliminary consideration of potential effects of the Applicant's initially proposed reclamation plan amendment identified seven sensitive natural community types: North Central Coast California Roach/Stickleback/Steelhead Stream; North Central Coast Drainage Sacramento Sucker/Roach River; North Central Coast Steelhead/Sculpin Stream; Northern Coastal Salt Marsh; Northern Interior Cypress Forest; Serpentine Bunchgrass, and Valley Oak Woodland. However, none of the terrestrial sensitive natural community types identified from the database queries occurred within the site boundary as it existed in 2007.

Permanente Creek was identified as capable of supporting North Central Coast California Roach/Stickleback/Steelhead Stream and North Central Coast Drainage Sacramento Sucker/Roach River habitat for native fish species.

### 4.4.3 Significance Criteria

Consistent with the County's Environmental Checklist and Appendix G of the CEQA Guidelines, the Project would have a significant impact on biological resources if it would:

- (a) 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 CDFG or USFWS.
- (b) 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 CDFG or USFWS.
- (c) Have a substantial adverse effect on federally protected wetlands as defined by §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.
- (d) Have a substantial adverse effect on oak woodland habitat as defined by Oak Woodlands Conservation Law (conservation/loss of oak woodlands) – Pub. Res. Code §21083.4.
- (e) 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.
- (f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.
- (g) Conflict with any local policies or ordinances protecting biological resources:
  - i. Tree Preservation Ordinance [Section C16]
  - ii. Wetland Habitat [GP Policy, R-RC 25-30]
  - iii. Riparian Habitat [GP Policy, R-RC 31-41]

CEQA Guidelines §15382 identifies a significant effect on the environment as a "...substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance."

CEQA Guidelines § 15065 directs lead agencies to find that a project may have a significant effect if it has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish and wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, or reduce the number or restrict the range of an endangered, rare, or threatened species.

CEQA Guidelines §15380 further provides that a plant or wildlife species, even if not on one of the official lists, may be treated as "rare or endangered" if, for example, it is likely to become endangered in the foreseeable future.

In addition to the above, the CDFG and USFWS consider a project to have a significant impact if it were to cause a change in species composition or result in the measurable degradation of sensitive habitats, such as wetlands.

#### 4.4.4 Discussion of Criteria with No Biological Resources Impacts

The Project does not have the potential to cause a significant impact related to criteria e), f), or g). The potential of the Project to cause an impact related to the remaining significance criteria is analyzed in Section 4.4.5.

**(e) Implementation of the Project would 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.**

Permanente Creek functions as a wildlife corridor for a variety of native wildlife species. Impediments along the creek and ephemeral sections, however, prevent the creek from being a continuous wildlife corridor of aquatic habitat within the Study Area. Modifications within the creek, such as a diversion channel downstream of the Project Area, result in substantial barriers that prevent migration of anadromous fish. Additionally, upland migration habitat for CRLF is not present in the Project Area, preventing significant movements of this species in the Project Area (WRA, 2011). While native birds, bats, and mammals (including the San Francisco dusky-footed woodrat) use riparian habitat along Permanente Creek as a wildlife corridor, aquatic habitat is somewhat fragmented along the creek.

While some activities associated with the PCRA would occur within the riparian corridor of Permanente Creek, the wildlife corridor function of the creek would not be affected. PCRA activities would be conducted using minimal heavy equipment to prevent further degradation of slope stability, and the majority of ground disturbance would occur in habitats already impacted by mining activities. Additionally, Applicant proposed measures considered part of the Project would require surveys for nesting birds, roosting bats, and San Francisco dusky footed woodrat (see measures BIO-1 through BIO-6, below). These measures would prevent impacts on breeding special-status species within PRCA work areas, and maintain wildlife nursery habitat within Permanente Creek riparian corridor. Ultimately, implementation of reclamation activities would result in beneficial effects to the Permanente Creek riparian corridor.

Permanente Creek flows would be altered by the Project, and different phases of the Project continuing through the year 2030 would have varying effects on flows in Permanente Creek. Groundwater input into Permanente Creek is not projected to decrease by greater than 10 percent in any given phase, and the post-reclamation (2030) groundwater input into the creek is estimated to be almost 50 percent greater (+0.47 cubic feet per second) than 2008-2009 flow levels as the groundwater levels equilibrate after reclamation of the Quarry pit (Golder Associates, 2010). Any changes in base flow and groundwater elevations should be sufficient to maintain the existing riparian habitats and flow levels in Permanente Creek. Thus, the Project would not be expected to

interfere substantially with the movement of any native resident or migratory fish or wildlife species in Permanente Creek.

In a broader context, habitats surrounding the Project Area provide large amounts of natural oak woodland habitat, which serve as a larger wildlife corridor for species dependent on this habitat. Small reductions in wooded habitats during implementation of the Project would be compensated for by the substantial increases in wildlife habitat upon final reclamation; completion of the Project would greatly increase the function of wildlife corridors surrounding the Project Area. Therefore, the Project is not expected to impact wildlife corridors present within the Project Area or the Study Area.

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**f) The implementation of the Project would not fundamentally conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.**

A Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) currently is being prepared for the Santa Clara Valley. However, the Project site is not within the proposed boundaries of the HCP/NCCP.

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**g) Implementation of the Project would not conflict with local Santa Clara County policies, including a tree removal ordinance.**

Tree removal would occur during implementation of the Project, including the removal of 3.4 acres of oak woodland comprised of approximately 170 oak trees. Tree removal and replanting would be addressed by the County of Santa Clara through the RPA, and application for a tree removal permit would not be required by the Project. The Revegetation Plan would include the establishment of 6.5 acres of replacement oak woodland and the planting of 1,745 oak trees (WRA Inc., 2011).

## 4.4.5 Impacts and Mitigation Measures

**(a) Would the Project 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 CDFG or USFWS?**

**Impact 4.4-1: Project activities could result in adverse effects on special-status and migratory birds. (*Less than Significant Impact*)**

Habitat for nesting birds is present in many undisturbed communities in the Project Area, including oak woodlands, patches of scrub, and chaparral communities. Raptors protected under the MTBA and California Fish and Game Code could nest in oak woodlands within or bordering

the Project Area, including white-tailed kite, long-eared owl, and Cooper's hawk, are all considered special-status species. Shrub and chaparral areas mixed with open grassland, as well as riparian and oak woodlands, provide foraging and nesting habitat for grasshopper sparrow, loggerhead shrike, olive-sided flycatcher, and yellow warbler, all California species of special concern. In addition to nesting species of concern, nests of nearly all other native birds are protected by the MTBA and California Fish and Game Code. Within the Project Area, other nesting birds may include but are not limited to: acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), great horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), California quail (*Callipepla californica*), mourning dove (*Zenaida macroura*), and western bluebird (*Sialia mexicana*).

Disturbed areas within the Project Area also could provide habitat for disturbance-averse native birds. Killdeer (*Charadrius vociferus*) are known to nest on open ground, and are regularly found nesting in gravel parking lots. Few other native birds species are able to nest in cleared areas, but many species can forage in heavily impacted areas, including common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), barn swallow (*Hirundo rustica*), and dark-eyed junco (*Junco hyemalis*).

Tree and shrub removal and grading could directly impact nesting birds by damaging nests, causing adults to abandon nests, or directly killing or injuring nesting birds. Additionally, elevated sound levels from heavy equipment could cause adult birds to abandon nests, especially for larger bird species or birds that are accustomed to relative low ambient noise levels. Any Project activities directly or indirectly causing nest abandonment would be considered a significant impact.

Three Applicant Proposed Measures were proposed in the *Biological Resources Assessment* (WRA, 2011) to reduce Project impacts on special-status and migratory birds. As presented in Chapter 2, *Project Description*, these are:

**APM-1: Special Status Avian Species, Non-breeding Season.** Conduct as much ground disturbance and vegetation (tree and shrub) removal as is feasible between September 1 and January 30, outside of the breeding season for most bird species.

**APM-2: Special Status Avian Species, Breeding Season Surveys.** If ground disturbance or removal any trees or shrubs within the Project Area occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. If ground disturbance or removal of vegetation occurs between June 16 and August 31, pre-construction surveys will be performed within 30 days prior to such activities.

**APM-3: Special Status Avian Species, Use of Buffers for to Avoid Nests.** If active nests are present, establishment of temporary protective breeding season buffers will avoid direct mortality of these birds, nests or young. The appropriate buffer distance is dependent on the species, surrounding vegetation and topography and will be determined by a qualified biologist as appropriate to prevent nest abandonment and direct mortality during construction



With incorporation of nesting bird surveys and the establishment of variable buffers for nesting birds (depending on habitat and species) during the nesting bird season, impacts on these species would be less than significant.

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**Impact 4.4-2: Project activities could result in adverse effects on special-status bats. (*Less than Significant Impact with Mitigation Incorporated*)**

Habitats within and adjacent to the Project Area have the potential to support roosting special-status bat species, including western red bat and pallid bat. Specifically, these species are known to roost in buildings, in tree cavities, and under exfoliating bark (particularly the pallid bat), and in tree foliage (particularly the western red bat). Structures at the Rock Plant and within the crusher/Quarry office support area may support bat roosting, and oak woodland surrounding the Project Area contain suitable roosting habitat for bats. Additionally, smaller oak stands within the Project Area could support roosting bats, although many of these habitats may be too disturbed for bat roosting. Wooded habitats within and directly adjacent to the Quarry pit, WMSA, Surge Pile, Rock Plant, Exploration Area, and PCRA have large trees and snags capable of supporting roosting bats. Additionally, any Project components adjacent to wooded areas of the Buffer Zone could be in close proximity to roosting bats.

Tree and shrub removal and grading could directly impact roosting bats, and elevated sound levels from heavy equipment could cause adult bats to abandon maternity roosts. In addition, any increase in night lighting for the Project (see, for example, Impact 4.1-5) could result in disturbance to bat movement and behavior and may be a potential indirect impact. Any Project activities directly or indirectly causing roost abandonment would be considered a significant impact.

Measures proposed by the Applicant to address potential Project impacts to bats include:

**APM-4: Non-Roosting Season Minimization Measures.** Removal of potential bat roost habitat (buildings, large trees, snags, vertical rock faces with interstitial crevices; described above under impact 4.4.3) or construction activities within 250 feet of potential bat roost habitat will take place in September and October to avoid impacts to bat maternity or hibernation roosts.

**APM-5: Hibernation Season Minimization Measures.** If the above work window is not feasible, prior to construction, bat roost surveys will be conducted in the Project Area to determine if bats are occupying roosts. If bats are present, a suitable buffer around the roost site will be instated or bats will be excluded from the roost using methods recommended by a qualified biologist.

**APM-6: Maternity Season Emergence Minimization Measures.** Any trees felled during vegetation removal will not be chipped or otherwise disturbed for a period of 48 hours to allow any undetected bats potentially occupying these trees to escape

However, additional mitigation is necessary to provide greater detail about the required bat surveys and avoidance measures that would be implemented to reduce potential impacts to bats to a less-than-significant level:

**Mitigation Measure 4.4-2a: Use of Buffers near Active Roosts.** During the November 1 to March 31 hibernation season, work shall not be conducted within 100 feet of woodland habitat that provides suitable bat roosting habitat. Bat presence is difficult to detect using emergence surveys during this period due to decreased flight and foraging behavior. If a qualified bat biologist determines that woodland areas do not provide suitable hibernating conditions for bats and they are unlikely to be present in the area, work may commence as planned.

**Mitigation Measure 4.4-2b: Roosting Bats, Maternity Roosting Season.** Nighttime evening emergence surveys and/or internal searches within large tree cavities shall be conducted by a qualified biologist during the maternity season (April 1 to August 31) to determine presence/absence of bat maternity roosts within 100 feet of wooded Project boundaries. All active roosts identified during surveys shall be protected by a buffer to be determined by a qualified bat biologist. The buffer shall be determined by the type of bat observed, topography, slope, aspect, surrounding vegetation, sensitivity of roost, type of potential disturbance, etc. Each exclusion zone shall remain in place until the end of the maternity roosting season. If no active roosts are identified, then work may commence as planned. Survey results are valid for 30 days from the survey date. Should work commence later than 30 days from the survey date, surveys shall be repeated.

Operations may continue for many years. Surveys do not need to be repeated annually unless additional clearing of potential roosting or hibernation habitat could occur outside of the non-roosting season.

**Mitigation Measure 4.4-2c: Bat Roost Replacement.** All special-status bat roosts destroyed by the Project shall be replaced by the Applicant at a 1:1 ratio onsite with a roost suitable for the displaced species (e.g., bat houses for colonial roosters). The design of such replacement habitat shall be coordinated with CDFG. The new roost shall be in place prior to the time that the bats are expected to use the roost (e.g., prior to April 1 if the roost destroyed by the Project was used by a maternity colony), and shall be monitored periodically for 5 years to ensure proper roosting habitat characteristics (e.g., suitable temperature and no leaks). The roost shall be modified as necessary to provide a suitable roosting environment for the target bat species.

**Significance after Mitigation:** Less than significant. Seasonal restrictions on Project activities near wooded portions of the Project Area, along with bat surveys during the maternity roosting season and replacement of destroyed roosts with bat boxes, would reduce impacts on special-status bat species to a less-than-significant level.

**Impact 4.4-3: Project activities could result in adverse effects on the San Francisco dusky-footed woodrat. (*Less than Significant Impact*)**

San Francisco dusky-footed woodrat are known to nest in several vegetated areas of the Project Area containing oaks and dense shrub cover. Vegetation removal, grubbing, grading, or other ground disturbance activities in wooded or scrub habitats could result in direct impacts on dusky-footed woodrats. Direct impacts could include mortality of adults or young, as well as destruction of woodrat stick nests. Indirect impacts to dusky-footed woodrat could include increased predation caused by expanding the range of urban adapted predators, such as raccoon and coyote, into habitats that were previously inaccessible. Additionally increased night time lighting, noise or other human disturbances could cause abandonment of young. Any of these direct or indirect impacts would be considered significant.

The following measure has been proposed by the Applicant to address potential Project impacts to San Francisco dusky-footed woodrat:

**APM-BIO-7a: San Francisco Dusky-footed Woodrat.** Within 30 days prior to initial ground disturbance in woodland or scrub/chaparral communities, the Applicant shall conduct pre-construction surveys for active woodrat stick nests that could be directly impacted. Surveys should take place in all suitable habitat types within the Project Area. Any stick nests within active work areas will be flagged and dismantled under the supervision of a biologist. If young are encountered during the dismantling process, the material will be placed back on the nest and remain unmolested for two to three weeks in order to give the young enough time to mature and leave of their own accord. After two to three weeks, the nest dismantling process may begin again. Nest material should be moved to suitable adjacent areas (oak woodland, scrub, or chaparral) that will not be disturbed. If construction does not occur within 30 days of the pre-construction survey, surveys should be repeated.

**APM-BIO-7a: San Francisco Dusky-footed Woodrat.** To reduce indirect impacts on San Francisco dusky-footed woodrat by attracting urban-adapted predators, trash and food waste should be disposed of in proper waste receptacles and emptied on a regular basis. Additionally, quarry personnel, contractors, and visitors should be dissuaded from feeding wildlife within the Permanente Property.

With incorporation of San Francisco dusky-footed woodrat preconstruction surveys with avoidance measures, dismantling of nests without young, and relocation of nest material, impacts on this species would be less than significant.

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**Impact 4.4-4: Project activities could result in adverse effects on special status aquatic organisms. (*Less than Significant Impact*)**

As described above in Section 4.4.2.3, *Special-status Species*, CRLF is the only special status aquatic species of concern in the Study Area. However, no CRLF have been found during surveys in the Project Area. Upland migration habitat for CRLF is not present in the Project Area, preventing significant movements of this species in the Project Area (WRA, 2011).

Consequently, it is considered unlikely for the species to occur in the Project Area and therefore no direct impacts to special status aquatic species would be expected to result from Project activities. The potential for indirect impacts is discussed under Impact 4.4-8, below, and determined to be less than significant.

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**Impact 4.4-5: Project activities could result in selenium-burdened runoff reaching aquatic habitats and, thereby, in deleterious effects to aquatic organisms and their prey base. (Significant and Unavoidable Impact)**

Selenium is a bioaccumulative pollutant. Aquatic life is exposed to selenium primarily through their diet. Risks stem from aquatic life eating food that is contaminated with selenium rather than from direct exposure to selenium in the water. Although selenium bioaccumulates, that is, accumulates in tissues of aquatic organisms, it is not significantly biomagnified. Unlike mercury or PCBs, concentrations of selenium do not increase significantly in animals at each level of the food chain going from prey to predator. For aquatic life, the toxic effects with the lowest thresholds are effects on the growth and survival of juvenile fish and effects on larval offspring of the adult fish that were exposed to excessive selenium. In the latter case, besides reducing survival, selenium causes skeletal deformities. Selenium risks to birds that eat aquatic organisms have been observed in some locations, such as Kesterson Reservoir in California.

As discussed in the Section 4.10, *Hydrology and Water Quality*, the Project would span a period of about 20 years. During that time, active ground disturbance would occur in the Project Area as a result of excavation, grading, contouring, hauling, and, in the PCRA, boulder removal from Permanente Creek and affected upslope areas. If the appropriate type of limestone were to be exposed to air and precipitation, then selenium could be produced and reach Permanente Creek in the form of runoff. This would cause a significant adverse impact to aquatic habitat. The implementation of Mitigation Measures 4.10-2a and 4.10-2b would reduce the potential for this impact to occur during the 20-year Project.

**Mitigation Measure 4.4-5: Selenium-related Impacts to Aquatic Habitat.** Implement Mitigation Measures 4.10-2a: Interim Stormwater Control and Sediment Management, and 4.10-2b: EMSA Interim Stormwater Monitoring Plan.

**Significance after Mitigation:** Significant and Unavoidable. Implementation of Mitigation Measure 4.10-2a would establish additional BMPs to ensure that over the 20-year duration of the Project a rigorous stormwater and sediment control implementation plan is developed and implemented. Implementation of Mitigation Measure 4.10-2b would supplement preexisting surface water monitoring required by the General Industrial Storm Water and Sand and Gravel NPDES Permit and be designed specifically to monitor surface water during reclamation activities in active and inactive excavation and backfill areas. Together, these measures would reduce the potential for stormwater runoff to deliver sediment and selenium to Permanente Creek during the Project activities, but would not be sufficient to fully eliminate the possibility.

Therefore, this interim impact would remain significant and unavoidable until final reclamation is complete.

After reclamation is complete, selenium-related impacts to Permanente Creek would be addressed through the implementation of Mitigation Measures 4.10-1a and 4.10-1b, which would require verification that non-limestone materials are used as the final reclamation cover, and that water monitoring is conducted to ensure stormwater and non-stormwater discharges do not contain selenium concentrations exceeding Basin Plan Benchmark values. Implementation of these measures would ensure that post-reclamation selenium impacts to aquatic species in Permanente Creek would be less than significant.

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**(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service.**

The Project would potentially impact riparian habitat associated with Permanente Creek, freshwater wetlands associated with Permanente Creek, and oak woodlands present in several different Project areas. Impacts to freshwater wetland are considered under (c) discussing impacts to jurisdictional waters and wetlands.

**Impact 4.4-6: Project activities could result in the loss or degradation of riparian habitat associated with Permanente Creek. (*Less than Significant Impact*)**

Reclamation treatments, channel modifications, and removal of man-made facilities associated with the PCRA would occur within riparian habitat along Permanente Creek. Many treatments would be located in disturbed or scrub habitats upslope of the Permanente Creek riparian corridor, and would not impact riparian habitats. Treatments that may impact riparian vegetation include boulder removal, slide removal, or soil treatment using heavy equipment, or installation of outfall pipes and flow dissipators in PCRA Subarea 2. While tree removal is not proposed in the PCRA, removal of understory vegetation including herbs and shrubs could alter the function and character of riparian habitats.

The goal of the PCRA is to reclaim reaches of the Permanente Creek riparian corridor disturbed by mining activities by stabilizing slopes and revegetating affected areas. This would include hand planting of woody riparian vegetation, as well as seeding for understory riparian vegetation. Five-year performance standards identified in the Revegetation Plan (WRA Inc., 2011) include:

- Species richness of two tree or shrub species per plot;
- 45percent canopy cover;
- Average density of 200 individuals per acre;
- 60 percent survival of planted individuals.

Impacts from initial PRCA treatments would be minimal, as hand methods would be implemented when feasible to avoid further slope destabilization and tree removal is not

anticipated. Impacts in the PRCA would also be temporary in nature, and revegetation adhering to performance standards would ensure affected areas would eventually function as riparian habitat. The PRCA would have a net benefit on riparian habitat in the long-term, through creation of additional riparian habitat along Permanente Creek. Based on these factors, impacts from the PRCA on riparian habitat are considered less than significant.

**Impact 4.4-7: Project activities could result in the loss of native oak woodland habitat as defined by Oak Woodlands Conservation Law. (*Less than Significant Impact with Mitigation Incorporated*)**

Oak woodlands are susceptible to loss in the County as a result of urban development, lack of oak regeneration, Sudden Oak Death, invasive species, changes in the frequency and intensity of fires within oak woodlands, and habitat fragmentation. Under California Public Resources Code §21083.4, counties are required to evaluate impacts to oak woodlands as part of the environmental analysis conducted in compliance with CEQA, and determine whether a project's impacts to oak woodlands are significant. In response to this statute, the County developed its own set of significance criteria for impacts to oak woodlands, whereby a decrease of 0.5 acre or more in the native oak canopy of an oak woodland is considered a significant impact.

As shown in Appendix C Figure 3, chaparral/oak woodlands communities were present in the Project Area under baseline conditions at the westernmost tip of the WMSA, some areas of the pit, EMSA, surge pile, Rock Plant, and PCRA. As shown in Table 4.4-1, approximately 2.8 acres of oak woodlands and forest communities currently are present in the Quarry pit, 0.3 acre in the WMSA, none in the EMSA, 0.01 acre in the surge pile, 0.3 acre in the Rock Plant, and 1.2 acres in the PCRA.

Reclamation of the Project Area would include removal of the materials from the WMSA to the Quarry pit for use as backfill; stabilization, contouring, grading, and revegetation of the EMSA. The surge pile and Rock Plant also would be reclaimed and revegetated. Reclamation of the PCRA also would involve some ground disturbance. Equipment use and other reclamation activities could affect existing oak woodland habitat. However, as part of the Project's Revegetation Plan, approximately 1,745 oak trees would be planted on north-facing benches using a mixture of acorn and container plantings, and approximately 21.7 acres of more visible east-facing benches would be planted with 75 percent (approximately 8,660) grey pine and 25 percent other native tree and shrub plantings that are common to oak woodland habitats. Grey pines establish more readily than oak seedlings in sunnier and harsher conditions and, and the developing pines would provide a protected microclimate that would support oak woodland establishment. Consequently, implementation of the Project would cause a less than significant impact to oak woodland habitat while active reclamation is in progress, and, once complete, would improve oak woodland habitat conditions relative to baseline conditions.

Oak woodlands in the Project Area may be indirectly impacted by Project activities should they introduce non-native plant species that outcompete native oak trees, or introduce Sudden Oak Death into the oak woodlands. Sudden Oak Death is caused by *Phytophthora ramorum*, an invasive water mold of unknown origin. This pathogen produces small sacs (sporangia) of



swimming spores that readily break off and can spread in rain splash, drip, stem flow, wind, and by contaminated materials. It has killed millions of trees since it first became evident in the mid-1990s, and resulted in reduced ecosystem functions, increased fire and safety hazards, and reduced property values in developed areas (BLM, 2009). No focused surveys for sudden oak death have been conducted on the site; however, it is assumed that sudden oak death does occur within the site due to the close proximity of known infected areas (WRA, 2011). Humans and construction equipment working in areas that are infected with Sudden Oak Death could spread this disease to non-infected areas of the Project Area. Common host species that may be present within or near the Project Area include coast live oak, madrone, bay laurel, and manzanita. The introduction of non-native species or Sudden Oak Death into healthy oak woodlands in the Project Area as a result of contaminated construction equipment would result in significant indirect impacts on oak woodlands.

The following measure has been proposed by the Applicant to address potential Project impacts related to the introduction of invasive plants and pathogens:

**APM-BIO-8: Introduction of Invasive Plants or Pathogens.** If regulated or restricted plant materials are to be transported between the Project Area and a location in a non-infested county or state, the spread of the Sudden Oak Death pathogen shall be avoided by obtaining the necessary certificates of transport pursuant to the regulations described in the Biological Resources Assessment prepared for the Lehigh Permanente Quarry by WRA Environmental Consultants, dated December 2011.

To supplement APM-BIO-8, the implementation of Mitigation Measure 4.4-7 would further reduce potential impacts that could result from the inadvertent introduction of invasive plants or pathogens.

**Mitigation Measure 4.4-7: Sudden Oak Death Minimization Measures.** To reduce the possibility of spreading Sudden Oak Death to oak woodlands in the Study Area, the Applicant shall implement the following measures:

- Prior to any reclamation work within the Project Area, equipment shall be sanitized, including shoes, pruning gear, trucks, and heavy equipment such as earthmoving, tree trimming, chipping, or mowing equipment. Except for trucks, this equipment shall remain onsite for the duration of Project activities and shall not be transferred between this and other worksites, as doing so increases the potential of transferring infected spores to or from another site.
- After the completion of work activities, any accumulation of plant debris (especially leaves), soil, and mud shall be washed off of equipment or otherwise removed onsite, and air filters shall be blown out.
- All contractors shall have sanitation kits onsite for cleaning equipment. Sanitation kits should contain chlorine bleach (10/90 mixture bleach to water) or Clorox Clean-Up or Lysol, scrub brush, metal scraper, boot brush, and plastic gloves.
- All organic material imported for mixing with Quarry pit backfill shall have been composted at a facility that meets the standards of Title 14 California Code of Regulations, Division 7, Chapter 3.1; alternative sources of organic material may be

used if approved by the County of Santa Clara Agricultural Commissioner as being as effective as the composting process to sanitize SOD-infected materials.

- All other imported fill material, soil amendments, gravel, etc. required for construction and/or restoration activities to be placed within the upper 12 inches of the ground surface shall be free of vegetation or plant material.

**Significance after Mitigation:** Less than significant. Oak woodland impacts would be mitigated to a less-than-significant level through establishment of a conservation easement, preventing and monitoring invasive weed establishment, and taking precautions to slow the spread of Sudden Oak Death.

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**(c) Implementation of the Project could adversely affect wetlands as defined by §404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means.**

**Impact 4.4-8: Project activities could result in substantial adverse effects on wetlands and jurisdictional waters associated with Permanente Creek through direct removal, filling, hydrological interruption, or other means. (*Less than Significant Impact with Mitigation Incorporated*)**

**Direct Impacts**

Restoration activities associated with elements of the PCRA, including channel modifications and removal of man-made facilities, have the potential to impact jurisdictional waters and wetlands. Many treatments associated with the PCRA would occur in areas that have been heavily disturbed and do not contain wetlands, such as areas dominated by overburden materials associated with the WMSA. However, erosion control measures involving ground disturbance, BMP installation, and revegetation would occur within largely undisturbed scrub or riparian habitats directly adjacent to tributaries and wetlands associated with Permanente Creek. A wetland delineation was conducted along Permanente Creek in 2008 which identified all wetlands and drainages within 100 feet of the creek, including any drainages or features that could be impacted by implementation of the PCRA (WRA, 2008). Several wetland features associated with Permanente Creek were identified within the PCRA, as well as one drainage classified as “non-relatively permanent waters”; these features are all considered potentially jurisdictional by both the U.S. Army Corps of Engineers and the California Regional Water Quality Control Board. According to the delineation report, these features include:

- W11, a wetland directly abutting Permanente Creek located within PCRA Subarea 2;
- T13, a non-relatively permanent drainage located within PCRA Subarea 2;
- W10, a wetland directly abutting Permanente Creek located within PCRA Subareas 2 and 3;
- W9, a wetland directly abutting Permanente Creek located within PCRA Subarea 3;
- W8, a wetland directly abutting Permanente Creek located within PCRA Subarea 4;

- Pond 13, an impoundment of jurisdictional waters located within PCRA Subarea 7.

Direct wetland impacts could occur if any equipment or foot traffic occurs within jurisdictional waters or wetlands, soil treatment or boulder removal using heavy equipment results in dirt or other materials entering jurisdictional wetlands or waters, or hydroseed is deposited in jurisdictional waters or wetlands. All these activities would be considered fill, and would result in significant wetland impacts.

Specifically, improvements to Basin Outlets and Flow Controls in PCRA Subarea 2 could potentially impact a jurisdictional drainage tributary to Permanente Creek. Installation of outfall pipes or energy dissipaters discharging water from two proposed sediment basins are constructed within a drainage identified as T13 in the wetland delineation would result in significant impacts on potentially jurisdictional waters. These direct impacts would be mitigated to less-than-significant levels through implementation of Mitigation Measures 4.4.8a and 4.4.8b.

**Mitigation Measure 4.4-8a: Wetland Identification and Avoidance.** A qualified wetland biologist shall physically delineate all wetland features mentioned above before any PCRA activities begin, and when feasible, reclamation activities shall completely avoid these areas. Silt fence shall be installed between jurisdictional waters or wetlands and areas sprayed with hydroseed to prevent filling of wetlands with tackifier or other hydroseed material. Use of hand-seeding or working with hand tools may be required to avoid equipment impacting wetlands.

**Mitigation Measure 4.4-8b: Wetland Mitigation Plan.** If avoidance of jurisdictional waters or wetlands is not feasible, the following measures shall be implemented:

A qualified wetland biologist shall prepare a wetland Mitigation and Monitoring Plan (MMP). The MMP shall outline the anticipated mitigation obligations for temporary and permanent impacts to waters of the U.S., including wetlands, resulting from PCRA activities. The MMP shall include:

- Baseline information;
- Anticipated habitat enhancements to be achieved through compensatory actions, including mitigation site location and hydrology;
- Performance and success criteria for wetland creation or enhancement including, but not limited to, the following:
  - At least 70 percent survival of installed plants for each of the first three years following planting.
  - Performance criteria for vegetation percent cover in Years 1-4 as follows: at least 10 percent cover of installed plants in Year 1; at least 20 percent cover in Year 2; at least 30 percent cover in Year 3; at least 40 percent cover in Year 4.
  - Performance criteria for hydrology in Years 1-5 as follows: Fourteen or more consecutive days of flooding, ponding, or a water table 12 inches or less below the soil surface during the growing season at a minimum frequency of three of the five monitoring years; OR establishment of a prevalence of wetland obligate plant species.

- Invasive plant species that threaten the success of created or enhanced wetlands should not contribute relative cover greater than 35 percent in year 1, 20 percent in years 2 and 3, 15 percent in year 4, and 10 percent in year 5.
  - If necessary, supplemental water shall be provided by a water truck for the first two years following installation. Any supplemental water must be removed or turned off for a minimum of two consecutive years prior to the end of the monitoring period, and the wetland must meet all other criteria during this period. At the end of the five year monitoring period, the wetland must be self sufficient and capable of persistence without supplemental water.
  - At least 75 percent cover by hydrophytic vegetation at the end of the five-year monitoring period. In addition, wetland hydrology and hydric soils as defined by the Corps (ACOE, 2008) must be present and defined as follows:
    - *Hydrophytic vegetation* – A plant community occurring in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present.
    - *Wetland hydrology* – Identified by indicators such as sediment deposits, water stains on vegetation, and oxidized rhizospheres along living roots in the upper 12 inches of the soil, or satisfaction of the hydrology performance criteria listed above.
    - *Hydric soils* – Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions, which are often characterized by features such as redox concentrations, which form by the reduction, translocation, and/or oxidation of iron and manganese oxides. Hydric soils may lack hydric indicators for a number of reasons. In such cases, the same standard used to determine wetland hydrology when indicators are lacking can be used.
  - Five years after any wetland creation, a wetland delineation shall be performed to determine whether created wetlands are developing as planned. If they are not, remedial measures shall be taken to ensure that the Project’s mitigation obligations are met.
- Monitoring and reporting requirements.

The WMP would also include conceptual site specific plans to compensate for wetland losses resulting from the project. These may include, but are not be limited to, the provision of onsite mitigation through wetland creation or enhancement of existing jurisdictional features; additional onsite wetland creation or enhancement; or off-site mitigation.

**Significance after Mitigation:** Less than significant.

### Indirect Impacts

Impacts to water quality or alterations to flow as a result of the Project could impact sensitive riparian or wetland communities and protected and non-protected aquatic organisms. Permanente Creek has ephemeral hydrology, and changes of the creek’s hydrology would occur throughout the proposed Project. These include fluctuations in groundwater flows and discharge and surface water runoff, and these mechanisms are discussed in depth in Golder’s Hydrologic Investigation -

Permanente Quarry Reclamation Plan Update (2010). The effects of the potential changes in hydrology on sensitive biological habitats and species are discussed below.

Groundwater modeling conducted by Golder Associates (2010) predicts that during the final years of quarrying within the Quarry pit, groundwater input to Permanente Creek would be reduced by approximately 10 percent (-0.11 cfs; as modeled on the 2008-2009 water year). As the Quarry pit is reclaimed, the groundwater percolation into the Quarry pit would equilibrate resulting in an increase in groundwater flows into Permanente Creek by approximately 40 percent (+0.46 cfs). The final reclaimed flows (approximately year 2030) are estimated to be almost 50 percent greater (+0.47 cfs) than 2008-2009 flow levels as the groundwater levels equilibrate after reclamation of the Quarry pit. As the Quarry pit is filled with overburden, active pumping of groundwater seepage from the Quarry pit into Permanente Creek would be reduced. This reduction in flows would be countered by the rise in groundwater elevation which would result in an increase in direct groundwater discharge into Permanente Creek. This increase in base flow and groundwater elevations should be sufficient to maintain the existing riparian habitats and flow levels in Permanente Creek. The combination of annual stormwater flows in addition to the overall increase in groundwater discharge would be sufficient to maintain the existing habitats along Permanente Creek below the Quarry pit discharge area (Pond 4a). In a technical memo prepared by the Project engineer (Chang, 2010), annual precipitation in the Permanente watershed is of sufficient quantity to fill Pond 17 which supports CRLF. A calculation of monthly evaporation rates in the same memo shows that a maximum of 2.5 feet of water would evaporate from the pond over the dry summer months. This would leave over 3 feet of water in the pond, an amount sufficient to support CRLF breeding and development. The ephemeral reach of Permanente Creek does not convey surface flow except for several weeks during the wettest portion of the year. The Habitat Assessment conducted by Dr. Jennings (2010) concludes the creek does not support aquatic or upland dispersal habitat for CRLF in this region, and no CRLF have been observed during protocol level surveys for CRLF in 2006 and 2007.

A small but self-sustaining population of resident rainbow trout is known to inhabit and spawn upstream of the ephemeral reach of Permanente Creek. Rainbow trout have been observed outmigrating through the ephemeral reach when surface flow is present. If indirect impacts to Permanente Creek were to take place during the period when surface flow is present, outmigration of Rainbow Trout may be disrupted or mortality to fish may result from alterations to water chemistry, sedimentation, or desiccation. This population is not considered special-status, as it is geographically separated from steelhead populations associated with San Francisco Bay.

Hydrology calculations show that Pond 14, the primary CRLF breeding pond in the northeast of the Permanente Property but outside of the RPA, would be filled during the rainy season in an average rainfall year (Chang, 2010). While a maximum of 2.5 feet of water would be lost from the pond due to evaporation, the pond would retain at least three feet of water, sufficient to sustain CRLF through development, at least into August, which is the longest that CRLF juveniles would take to develop. This does not take into account additional water that the pond may receive in the dry season as a result of groundwater discharge into Permanente Creek upstream of Pond 14. Therefore there would be sufficient water discharging into Pond 14

annually such that the CRLF population would not be adversely affected by any changes to creek flows during Project implementation. The increase in base flow as a result of final reclamation is expected to increase both creek depth and wetted width and should increase connectivity of Permanente Creek through the ephemeral reach resulting in an increase of available habitat for fish and aquatic amphibians. This should result in an improvement over existing conditions including recruitment of riparian and wetland vegetation along the ephemeral reach and associated recruitment of benthic macroinvertebrates and amphibians as well. This impact would be less than significant.

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**(d) Could the Project have a substantial adverse effect on oak woodland habitat as defined by Oak Woodlands Conservation Law (conservation/loss of oak woodlands) – Pub. Res. Code §21083.4?**

See discussion in Impact 4.4-7, above.

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## 4.4.6 Alternatives

### 4.4.6.1 Alternative 1: Complete Backfill Alternative

In the Complete Backfill Alternative, all material would be removed from the EMSA upon the conclusion of mining activities and deposited into the Quarry pit. Similar to the proposed Project, both the EMSA and the Quarry pit would be reclaimed and revegetated after mining and overburden storage are complete. The Complete Backfill Alternative would result in similar potential impacts as the proposed Project, including potential impacts to nesting birds, roosting bats, dusky-footed woodrat nests, and the potential spread of plant pathogens to oak woodlands. Potential impacts to these resources would be similar in duration and intensity to impacts described for the proposed Project, as no additional areas would be impacted or reclaimed, but only the location of final materials storage would change. No new impacts on biological resources would occur from the implementation of this alternative.

Short-term impacts on biological resources due to selenium-laden runoff entering Permanente Creek would be essentially the same as the Project, as runoff could continue to enter the creek prior to final reclamation. Long-term impacts on biological resources due to selenium-laden runoff entering Permanente Creek would be somewhat lessened in this alternative compared to the Project. The Complete Backfill Alternative would result in impacts on aquatic wildlife in Permanente Creek similar to the proposed Project until final reclamation of the EMSA begins. However, unlike the proposed Project, the entirety of limestone-created sediment-laden runoff would be physically removed from the EMSA after final reclamation. This would potentially result in less selenium entering Permanente Creek after final reclamation has been completed. Following the application of APMs and mitigation measures, each of the above impacts was less than significant for the proposed Project. With implementation of Mitigation Measures 4.4-2a, b,



and c, (special-status bats), 4.4-5 (selenium impacts to aquatic habitats), 4.4-7 (oak woodland), and 4.4-8a and b (wetlands and jurisdictional waters), Alternative 1 would have impacts similar to the proposed Project.

#### **4.4.6.2 Alternative 2: Central Materials Storage Area Alternative**

In the Central Materials Storage Area Alternative, the EMSA would be immediately reclaimed and capped, and new overburden would be stored in an area directly west of the western edge of the EMSA, referred to as the Central Materials Storage Area (CMSA). The CMSA alternative would result in the same potential impacts to biological resources as the proposed Project, including potential impacts on nesting birds, roosting bats, dusky-footed woodrat nests, and the potential spread of plant pathogens to oak woodlands. Potential impacts to these resources would be greater in intensity than the proposed Project, as a larger area would be disturbed and would need to be reclaimed (i.e., both the EMSA and the new CMSA would be constructed and require reclamation, rather than solely the EMSA). These areas would not, however, generate any impacts that have not been described and addressed in the analysis of the proposed Project. The CMSA would be similar to the EMSA in character and surrounding habitat, and the use and reclamation of both these areas would not significantly differ from the EMSA under the proposed Project.

Both short- and long-term impacts on biological resources due to selenium-laden runoff entering Permanente Creek would be reduced under the CMSA Alternative relative to the proposed Project. Reclamation of the EMSA would begin immediately, which would include capping overburden and containing drainage of selenium-laden runoff. Unlike in the proposed Project, this alternative would result in an immediate reduction in selenium concentrations of runoff impacting aquatic wildlife in Permanente Creek. Additionally, interim drainage controls would be implemented in the CMSA, which would contain selenium-laden runoff in the CMSA and further reduce impacts on aquatic wildlife in Permanente Creek.

Following the application of APMs and mitigation, each of the above impacts was less than significant for the proposed Project. With implementation of Mitigation Measures 4.4-2a, b, and c, (special-status bats), 4.4-5 (selenium impacts to aquatic habitats), 4.4-7 (oak woodland), and 4.4-8a and b (wetlands and jurisdictional waters), Alternative 2 would have impacts similar to the proposed Project.

#### **4.4.6.3 No Project Alternative**

In the No Project Alternative, a SMARA-compliant reclamation plan would still need to be established and overburden storage in the EMSA would cease due to Orders to Comply/Notices of Violation issued by Santa Clara County in 2006 and 2008. This alternative would be similar to the proposed Project. The No Project Alternative would result in similar impacts as the proposed Project during reclamation, including potential impacts on nesting birds, roosting bats, dusky-footed woodrat nests, and the potential spread of plant pathogens to oak woodlands. Potential impacts to these resources would be similar to the proposed Project in intensity and duration.

Short-term impacts on biological resources due to selenium-laden runoff entering Permanente Creek may be greater than for the Project, as final reclamation of the EMSA would occur later under the No Project Alternative resulting in a longer interim period before effective controls would be in place. Long-term impacts on biological resources due to selenium-laden runoff entering Permanente Creek would be reduced under the No Project Alternative, relative to the proposed Project. While runoff from the EMSA would still enter Permanente Creek with elevated selenium levels until final reclamation, no additional overburden would be stored in the EMSA, preventing an increase in source material for selenium-laden runoff. In contrast, overburden storage in the EMSA under the proposed Project would continue until the area has reached storage capacity, resulting in continuous and potentially increased selenium-laden runoff from the EMSA until final reclamation occurs. Under the No Project Alternative, an approved reclamation plan amendment would be prepared that would likely incorporate the same APMs to address biological resources as for the proposed Project. With implementation of Mitigation Measures 4.4-2a, b, and c, (special-status bats), 4.4-5 (selenium impacts to aquatic habitats), 4.4-7 (oak woodland), and 4.4-8a and b (wetlands and jurisdictional waters), the No Project Alternative would have impacts similar to the proposed Project.

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## References – Biological Resources

- Bureau of Land Management (BLM), *Draft Environmental Impact Statement, Vegetation Treatments Using Herbicides on BLM Lands in Oregon*, September 2009.
- California Department of Fish and Game (CDFG), *California Natural Diversity Database for 7.5 Minute Topographic Quadrangles Palo Alto, Mountain View, Mindego Hill, Cupertino, San Jose West, Big Basin, Castle Rock Ridge, and Los Gatos*, Rarefind 4 commercial version, dated September 6, 2011.
- CDFG, 2011b. California Environmental Quality Act; The Department of Fish and Game's Role in Environmental Review, <http://www.dfg.ca.gov/habcon/ceqa/>, accessed December 2011.
- California Environmental Resources Evaluation System, The Bay Area/Delta Bioregion – An Overview, 2005, [http://ceres.ca.gov/geo\\_area/bioregions/Bay\\_Delta/about.html](http://ceres.ca.gov/geo_area/bioregions/Bay_Delta/about.html)
- California Native Plant Society (CNPS). *Inventory of Rare and Endangered Plants (online edition, v8-01a)*. California Native Plant Society. Sacramento, CA. Accessed on September 26, 2011 (2011).
- Cleugh, E. and C. McKnight. *Steelhead Migration Barrier Survey of San Francisco Bay Area Creeks (Contra Costa, Alameda, Santa Clara and San Mateo Counties)*. 2002.
- EnviroMine, Inc., *Reclamation Plan Amendment for Permanente Quarry (State Mine ID #91-43-0004)* (Comprehensive RPA), May 2010.
- EnviroMINE, Inc., 2011. *Reclamation Plan Amendment for Permanente Quarry (State Mine ID #91-43-0004)* (Comprehensive RPA), December 7, 2011.

- Golder Associates. 2010. Hydrologic Investigation - Permanente Quarry Reclamation Plan Update, Santa Clara County, California.
- Holland, Robert, *Preliminary Descriptions of Terrestrial Natural Communities in California*, October 1986.
- Jennings, M.R., *2006 California Red-Legged Frog (Rana draytonii) Surveys at the Hanson Permanente Cement Facility, Cupertino, California*, Rana Resources, 2006.
- Leidy, R.A. *Ecology, Assemblage Structure, Distribution, and Status of Fish in Streams Tributary to the San Francisco Estuary, California*. San Francisco Estuary Institute. Contribution No. 530. San Francisco, California, 2007.
- Santa Clara County, *Santa Clara County Planning Office Guide to Evaluating Oak Woodlands Impacts*, last updated March 8, 2010.
- Santa Clara County, *General Plan, Charting a Course for Santa Clara's Future: 1995-2010*, adopted Dec 1994, amended July 2002.
- Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP), 2011. [http://www.scvurppp-w2k.com/ws\\_permanente.shtml](http://www.scvurppp-w2k.com/ws_permanente.shtml), accessed December 19, 2011.
- U.S. Fish and Wildlife Service (USFWS), 2011. *Endangered and Threatened Wildlife and Plants: Revised Designation of Critical Habitat for California Red-Legged Frog; Final Rule*, Federal Register Vol. 75, No. 51, March 17, 2010.
- U.S. Fish and Wildlife Service (USFWS), 2011. *Official List of Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in Palo Alto, Mountain View, Mindego Hill, Cupertino, San Jose West, Big Basin, Castle Rock Ridge, and Los Gatos USGS 7.5 Minute Quadrangles*, Document Number: 110921114833, accessed September 21, 2011.
- WRA, Inc., 2011. *Biological Resources Assessment, Lehigh Permanente Quarry*, December.
- WRA, Inc., 2010a. *Revegetation Plan, Permanente Quarry, Santa Clara County, California*. Prepared for Lehigh Southwest Cement Company. May 2010.
- WRA, Inc., 2008. *Delineation of Potential Clean Water Act Section 404 Jurisdictional Wetlands and Waters, Lehigh Permanente Quarry, Santa Clara County, California*. Prepared for Lehigh Southwest Cement Company. January, 2008.
- WRA, 2006a. *Biological Resources Assessment, Hanson Permanente Quarry, Santa Clara, California*, Prepared for Hanson Permanente Cement, December.
- WRA, 2006b. *Biological Resources Assessment for the Crusher Addition, Hanson Permanente Quarry, Santa Clara, California*, Prepared for Hanson Permanente Cement, November 2006.