

APPENDIX D

Biological Resources Appendix

**TABLE D-1
SPECIAL STATUS SPECIES CONSIDERED IN THE EVALUATION AT THE PROJECT SITE**

Common Name <i>Scientific Name</i>	Listing Status USFWS/CDFG/ CNPS	General Habitat	Potential for Species Occurrence Within the Project Area
SPECIES LISTED OR PROPOSED FOR LISTING			
Animals			
Invertebrates			
California freshwater shrimp <i>Syncaris pacifica</i>	FE/CE	In low elevation, low gradient streams with moderate to heavy riparian cover; in shallow pools away from main streamflow.	Absent. Seasonal drainages in project area do not provide habitat. Marginal habitat may be present in Americano Creek, but this portion of the creek is typically dry in years during the summer and fall. Nearest known occurrence is in Blucher Creek 2 miles north of the project area (CNDDDB, 2007).
Fish			
Tidewater goby <i>Eucyclogobius newberryi</i>	FE/CSC CH ¹	Lagoons and estuaries along the coast of California.	Absent. Drainages in or adjacent to the project area do not provide suitable habitat. No records of species in project area streams. Nearest known occurrence in Estero Americano, approx. 7 miles downstream of project area.
Coho salmon - Central California coast ESU <i>Oncorhynchus kisutch</i>	FE/SE ² CH	Central California coastal drainages, including drainages of San Francisco Bay; streams with cover, cool water and sufficient dissolved oxygen. Require beds of loose, silt-free gravel for spawning.	Absent. Drainages in or adjacent to the project area do not provide spawning or rearing habitat. No records of species in project area streams.
Steelhead - Central California coast DPS <i>Oncorhynchus mykiss</i>	FT/-- CH	Central California coastal drainages, including drainages of San Francisco and San Pablo Bays; streams with cover, cool water and sufficient dissolved oxygen. Require beds of loose, silt-free gravel for spawning.	Low. Drainages in or adjacent to the project area do not provide spawning or rearing habitat. Infrequent records of steelhead occurring in Estero Americano, approx. 7 miles downstream of project area. No records of species in project area streams. Designated critical habitat for the species does not occur in the vicinity of the project area.
Chinook salmon- California coastal ESU <i>Oncorhynchus tshawytscha</i>	FT/-- CH	Central California coastal drainages; mainstem streams and rivers with cover, cool water and sufficient dissolved oxygen. Require beds of loose, silt-free gravel for spawning. Russian River and tributaries mark southern extent of this ESU.	Absent. Drainages in or adjacent to the project area do not provide spawning or rearing habitat and is outside the geographic range of the ESU. No records of species in project area streams. Designated critical habitat for the species does not occur in the vicinity of the project area.

¹ Critical habitat is designated only in San Diego and Orange counties.

² Only populations south of San Francisco Bay are currently listed as State Endangered, but populations north of San Francisco Bay have also been proposed for endangered status.

TABLE D-1 (continued)
SPECIAL STATUS SPECIES CONSIDERED IN THE EVALUATION AT THE PROJECT SITE

Common Name <i>Scientific Name</i>	Listing Status USFWS/CDFG/ CNPS	General Habitat	Potential for Species Occurrence Within the Project Area
SPECIES LISTED OR PROPOSED FOR LISTING (cont.)			
Amphibians			
California tiger salamander <i>Ambystoma californiense</i>	FT/CSC PCH	Wintering sites occur in grasslands occupied by burrowing mammals; breed in ponds and vernal pools.	Low. Aquatic and upland habitat present within the project area, but species was not found surveys between 2002 and 2007. Numerous known occurrences within 5 miles of project area; 2007 observation 1.1 m NE of quarry property boundary (CNDDDB, 2007).
California red-legged frog <i>Rana aurora draytonii</i>	FT/CSC ³ CH	Breeds in stock ponds, pools, and slow-moving streams.	Present. Center Pond within the project area supports species and provides potential breeding habitat. Frogs were observed in this pond in 2005 and 2007 (Fawcett, 2005; ESA, 2007).
Birds			
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FC/CE	Nests in thick riparian forest growth of willow, often mixed with cottonwood and understory of blackberry, nettles or wild grape; usually in flood bottoms of larger river systems.	Unlikely. Last reported in Cotati area in 1975. Marginal habitat present along Americano Creek, but integrity of riparian vegetation has been extensively impacted by grazing practices and Roblar Road.
Plants			
Sonoma alopecurus <i>Alopecurus aequalis</i> var. <i>sonomensis</i>	FE/-/1B	Freshwater marshes and swamps; on banks with other wetland species in riparian scrub.	Unlikely. Steeply cut creek banks provide minimal wetland habitat.
Sonoma sunshine <i>Blennosperma bakeri</i>	FE/CE/1B	Vernal pools and swales in grassland.	Low. Seasonal wetlands on site are of artificial origin and are degraded; disturbance levels probably too high for this species to occur; not observed during past surveys.
Burke's goldfields <i>Lasthenia burkei</i>	FE/CE/1B	Vernal pools; seeps and meadows.	Low. Seasonal wetlands on site are of artificial origin and are degraded; disturbance levels probably too high for this species to occur; not observed during past surveys.
Pitkin marsh lily <i>Lilium pardalinum</i> ssp. <i>pitkinense</i>	FE/CE/1B	Mesic and freshwater marsh	Low. Seasonal wetlands on site are of artificial origin and are degraded, other grassland areas regularly disked; disturbance levels probably too high for this species to occur; not observed during past surveys.
Sebastopol meadowfoam <i>Limnanthes vincularis</i>	FE/CE/1B	Vernal pools, swales, mesic meadows, or marshy areas in grassland or valley oak savannah.	Low. Seasonal wetlands on site are of artificial origin and are degraded, other grassland areas regularly disked; disturbance levels probably too high for this species to occur; not observed during past surveys.

³ The April 2006 California red-legged frog final critical habitat ruling (USFWS, 2006) amended the geographic range for which this species is listed to reflect the entire range of the subspecies.

TABLE D-1 (continued)
SPECIAL STATUS SPECIES CONSIDERED IN THE EVALUATION AT THE PROJECT SITE

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SPECIES LISTED OR PROPOSED FOR LISTING (cont.)			
North Coast semaphore grass <i>Pleuropogon hooverianus</i>	FSC/CT/1B	Wet grassy meadows and seeps, sometimes freshwater marsh; in usually shaded areas of broadleaved upland forest and north coast coniferous forest.	Unlikely. Combination of wetland/shaded forest habitat lacking on project site. Disturbance levels probably too high for this species to occur; not observed during past surveys.
Hickman's cinquefoil <i>Potentilla hickmanii</i>	FE/CE/1B	Mesic and freshwater marsh	Low. Seasonal wetlands on site are of artificial origin and are degraded, other grassland areas regularly disked; disturbance levels probably too high for this species to occur; not observed during past surveys.
Showy Indian clover <i>Trifolium amoenum</i>	FE/--/1B	Open sites and swales in grassland and coastal bluff scrub; sometimes on serpentine soils.	Unlikely. Optimal habitat lacking, disturbance levels probably too high; not observed during past surveys.
OTHER SPECIAL-STATUS SPECIES			
Animals			
Fish			
Russian River tule perch <i>Hysteroecarpus traskii pomo</i>	FSC/--	Require deep pools (> 3ft.) in streams with clear flowing water with abundant cover.	Absent. Streams in project area do not provide spawning or rearing habitat. No records of species in project area streams.
River lamprey <i>Lampetra ayresi</i>	FSC/--	Clean gravelly riffle necessary for spawning; ammocoetes require sandy stream edges or backwaters.	Absent. Streams in project area do not provide spawning or rearing habitat. No records of species in project area streams.
Hardhead <i>Mylopharodon conocephalus</i>	--/CSC	Streams with slow velocity; in clear deep pools with sand-gravel-boulder bottoms.	Absent. Streams in project area do not provide spawning or rearing habitat. No records of species in project area streams.
Amphibians			
Northern red-legged frog <i>Rana aurora aurora</i>	--/CSC	Generally near permanent water, but during non-breeding season can be found far from water in damp woods and meadows.	Absent. Range of the species extends from approximately the Russian River north. Not known from the Cotati area.
Foothill yellow-legged frog <i>Rana boylei</i>	FSC/CSC	Found in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types.	Low-Moderate. No suitable habitat present on the project site. Marginal habitat present in Ranch Tributary at southern border of project site. Not observed on site or vicinity (Fawcett, 2005). Recorded in Copeland and Crane creeks east of Rohnert Park (CNDDDB, 2007).
Reptiles			
Northwestern pond turtle <i>Emys (=Clemmys) marmorata marmorata</i>	FSC/CSC	Needs permanent or almost permanent water with basking sites.	Moderate. Stock pond on site provides suitable habitat. Not observed on site (Fawcett, 2005). Nearest known occurrence approx. 2.5 miles SE of project area (CNDDDB, 2007).

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OTHER SPECIAL-STATUS SPECIES (cont.)			
Birds			
Cooper's hawk <i>Accipiter cooperi</i>	--/CSC	Nests in conifers or deciduous stands near riparian areas	Low-Moderate. Foraging habitat present. Potential nesting habitat in trees on site and in riparian area of Ranch Tributary, but species not very tolerant of human disturbance near nest sites.
Sharp-shinned hawk <i>Accipiter striatus</i>	--/CSC	Nests in forest canopy	Low-Moderate. Foraging habitat present. Potential nesting habitat in trees on site and in riparian area of Ranch Tributary, but species not very tolerant of human disturbance near nest sites.
Golden eagle <i>Aquila chrysaetos</i>	--/CSC	Nests in canyons and large trees in open habitats.	Low-Moderate. Foraging habitat present. Potential nesting habitat in trees on site.
Northern harrier <i>Circus cyaneus</i>	--/CSC	Mostly nests in emergent vegetation, wet meadows or near rivers and lakes, but may nest in grasslands away from water	Low. Foraging habitat present, but no nesting habitat on site (grassland nesting unlikely due to cattle grazing).
White-tailed kite <i>Elanus leucurus</i>	FSC/CSC	Nests in trees adjacent to grasslands, forages over grasslands and agricultural lands	Low-Moderate. Foraging habitat present. Potential nesting habitat in trees located in NE corner of project area.
Tricolored blackbird <i>Agelaius tricolor</i>	FSC/CSC	Colonial species; needs open water and insect foraging area within a few kilometers of colony.	Low. Habitat elements lacking at site. Record in Americano Creek approx. 5 miles west of project area.
Burrowing owl <i>Athene cunicularia</i>	FSC/CSC	Nests and forages in low-growing grasslands that support burrowing mammals.	Low-Moderate. Habitat present within the project area, including numerous ground squirrel burrows. Previously not recorded from area, but seen in 2002, approx. 7 miles NE of project area and in 2005 3 m SW of Petaluma (CNDDDB, 2007).
Oak titmouse <i>Baeolophus inornatus</i>	FSLC/--	Inhabits montane hardwood-conifer, montane hardwood, blue, valley, and coastal oak wood-lands, and montane and valley foothill riparian habitats.	Low-Moderate. Potential habitat is present on the property.
Lawrence's goldfinch <i>Carduelis lawrencei</i>	FSC/--	Preferred nesting habitat includes dense oak woodlands and riparian habitats.	Low-Moderate. The project site provides suitable nesting and foraging habitat.
California horned lark <i>Eremophila alpestris actia</i>	--/CSC	Nests and forages in short-grass prairie, mountain meadow, coastal plain, fallow fields, and alkali flats	Moderate. The project site provides suitable nesting and foraging habitat.
Loggerhead shrike <i>Lanius ludovicianus</i>	FSC/CSC	Scrub, open woodlands, and grasslands.	Moderate. The property provides suitable foraging and nesting habitat.
Allen's hummingbird <i>Selasphorus sasin</i>	FSC/--	Coastal scrub, valley foothill hardwood, and riparian habitats.	Moderate. May forage and nest on the property.

TABLE D-1 (continued)
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Common Name <i>Scientific Name</i>	Listing Status USFWS/CDFG/ CNPS	General Habitat	Potential for Species Occurrence Within the Project Area
OTHER SPECIAL-STATUS SPECIES (cont.)			
Mammals			
Pallid bat <i>Antrozous pallidus</i>	--/CSC	Inhabits a variety of habitats ranging from desert scrub to grasslands to coniferous and mixed hardwood forests. In northern and central CA, associated primarily with oak woodlands. Feeds mostly on ground-dwelling arthropods.	Low to Moderate. Project area buildings and woodlands provide potential roosting habitat.
Pacific western big-eared bat <i>Corynorhinus townsendii townsendii</i>	FSC/CSC	Highly associated with mines and caves, found in a variety of habitats ranging from oak woodlands to mixed coniferous forests, to low desert scrub.	Low to Moderate. Project area buildings and structures provide potential habitat.
Greater western mastiff-bat <i>Eumops perotis californicus</i>	FSC/CSC	Primarily distributed along the western Sierra Nevada in all habitats with significant rock outcrops and formations.	Low. Project area buildings and structures provide marginal habitat.
Long-eared myotis bat <i>Myotis evotis</i>	FSC/--	Inhabits woodlands and forests up to approximately 8,200 feet in elevation, roosts in crevices and snags.	Low to Moderate. Habitat in project area is marginal; buildings and structures provide potential habitat.
Long-legged myotis <i>Myotis volans</i>	FSC/--	Inhabits a wide variety of habitats ranging from coastal forests to Joshua tree woodlands, day roosts in hollow trees and snags. Forages over open areas on moths, beetles and other flying insects	Low to Moderate. could use various habitats on project site
Fringed myotis bat <i>Myotis thysanodes</i>	FSC/--	Inhabits a variety of woodland habitats, roosts in crevices or caves, and forages over vegetation and along forest edges.	Low to Moderate. Project area buildings and structures provide potential habitat.
Yuma myotis <i>Myotis yumanensis</i>	FSC/--	Found throughout California, particularly associated with most low elevation reservoirs; forages on emergent aquatic insects over relatively still water.	Low to Moderate. Project area buildings and structures provide potential habitat. Could forage over stockpond.
American badger <i>Taxidea taxus</i>	--/CSC	Non-native grassland and rolling hills of grassland/ oak woodland.	Present. Rolling grasslands within the project areas support badger dens with signs of habitation. Observed in project area in 2003 (ESA, 2007a; CNDDDB 2007).
Plants			
Marsh milk vetch <i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	FSLC/--/4	Coastal dunes and coastal salt marshes	Unlikely. Preferred habitat not present on site; disturbance levels probably too high for this species to occur; not observed during past surveys.
Narrow-anthered California brodiaea <i>Brodiaea californica</i> var. <i>leptandra</i>	--/--/1B	Broadleaved upland forest, chaparral, lower montane coniferous forest	Unlikely. Suitable habitat not present on site; disturbance levels probably too high for this species to occur; not observed during past surveys.
Bolander's reed grass <i>Calamagrostis bolanderi</i>	FSLC/--/4	Mesic meadows and seeps, freshwater marsh	Low. Disturbance levels probably too high for this species to occur; not observed during past surveys.

TABLE D-1 (continued)
SPECIAL STATUS SPECIES CONSIDERED IN THE EVALUATION AT THE PROJECT SITE

Common Name <i>Scientific Name</i>	Listing Status USFWS/CDFG/ CNPS	General Habitat	Potential for Species Occurrence Within the Project Area
OTHER SPECIAL-STATUS SPECIES (cont.)			
Fragrant fritillary <i>Fritillaria liliacea</i>	FSC/--/1B	Coastal scrub and prairie, grasslands, often on serpentine soils; 10 to 1350 feet	Unlikely. Preferred habitat not present on site; disturbance levels probably too high for this species to occur; not observed during past surveys.
Hayfield tarplant <i>Hemizonia congesta</i> ssp. <i>leucocephala</i>	--/--/3	Coastal scrub, valley and foothill grassland	Low. Preferred habitat not present on site; disturbance levels probably too high for this species to occur; not observed during past surveys.
Jepson's linanthus <i>Linanthus jepsonii</i>	FSC/--/1B	Open to partially shaded grassy slopes in chaparral and cismontane woodland; on volcanic soil or periphery of serpentine substrate	Unlikely. Habitat lacking on site; not observed during past surveys.
Marsh microseris <i>Microseris paludosa</i>	FSC/--/1B	Moist grassland or somewhat open areas of closed-cone coniferous forest, cismontane woodland and coastal scrub.	Unlikely. Habitat lacking on site; not observed during surveys.
Gairdner's yampah <i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	FSC/--/4	Wet meadows and vernal pools under <i>Pinus radiata</i> along the coast; mesic areas	Low. Preferred habitat not present on site; disturbance levels probably too high for this species to occur; not observed during past surveys.
California beaked-rush <i>Rhynchospora californica</i>	--/--/1B	Freshwater marshes, seeps and swamps	Low. Preferred habitat not present on site; disturbance levels probably too high for this species to occur; not observed during past surveys.
Round-headed beaked-rush <i>Rhynchospora globularis</i> var. <i>globularis</i>	--/--/2	Freshwater marshes and swamps	Unlikely. Habitat lacking on site; not observed during past surveys.
Santa Cruz clover <i>Trifolium buckwestiorum</i>	FSC/--/1B	Margins of coastal prairie, broadleaf upland forest, cismontane woodland	Low. Preferred habitat not present on site; disturbance levels probably too high for this species to occur; not observed during past surveys.

STATUS CODES:

FEDERAL: (U.S. Fish and Wildlife Service)

FE = Listed as Endangered (in danger of extinction) by the Federal Government.
 FT = Listed as Threatened (likely to become Endangered within the foreseeable future) by the Federal Government.
 FPT = Proposed for Listing as Threatened.
 FC = Candidate to become a *proposed* species.
 FSC = Federal Species of Concern. May be Endangered or Threatened, but not enough biological information has been gathered to support listing at this time.
 CH = Critical Habitat.
 PCH = Proposed Critical Habitat.

California Native Plant Society

List 1A= Plants presumed extinct in California
 List 1B= Plants rare, Threatened, or Endangered in California and elsewhere
 List 2= Plants rare, Threatened, or Endangered in California but more common elsewhere
 List 3= Plants about which more information is needed
 List 4= Plants of limited distribution

STATE: (California Department of Fish and Game)

CE = Listed as Endangered by the State of California
 CT = Listed as Threatened by the State of California
 CR = Listed as Rare by the State of California (plants only)
 CSC = California Species of Special Concern
 * = Special Animals
 3503.5=Protection for nesting species of Falconiformes (hawks) and Strigiformes (owls)

SOURCES: CNDDB (2007); CNPS (2005); ESA (2007); Golden Bear Biostudies (2003); Hickman (1993); Peterson (1990); Stebbins (1985); USFWS (2005); Zeiner et al. (1990).