

---

## 5.4 - Biological Resources

---

### 5.4.1 - Introduction

This section of the Draft EIR describes the biological resources of the 2,238-acre North Fork Village-1 (NFV-1) site and impacts to these resources that would occur with implementation of the proposed project. The base documents utilized for this section include the Rio Mesa Area Plan (RMAP), the RMAP Final EIR, the Investigation of Waters of the United States NFV-1 Rio Mesa Planning Area, prepared by Live Oak Association (2006), the NFV-1 Draft Specific Plan and the most recent Biological Survey report prepared for the NFV-1 site by Live Oak Associates (2005).

Biological surveys of the NFV-1 site were conducted in Spring of 2004, by Live Oak Associates. During the survey, wildlife and plant species presence, plant communities, wildlife movement patterns, habitats, and biologically sensitive areas were characterized. Surveys for wetlands and natural drainages were conducted during December 2004 and January 2005, resulting in detailed maps representing all drainages and wetlands onsite. Botanical surveys for Hartweg's golden sunburst (*Pseudobahia bahiifolia*) were conducted during Spring of 2000.

### Rio Mesa Area Plan and EIR

The RMAP includes policies to guide future development and minimize impacts to biological resources. These policies included 1) limiting development in areas of high biological significance; 2) encouraging clustering of development and transfer of densities away from sensitive areas, 3) preservation of natural drainage courses, use of special planning features in areas adjacent the San Joaquin River; 4) encouraging revegetation with native species; 5) incorporating natural features in development designs; and 6) provisions for both active and passive parklands to meet recreational and habitat preservation objectives.

The RMAP EIR included habitat information and mapping at a broad, Area Plan level of detail. The EIR identifies three different habitat classifications within the NFV-1 site: 1) River/Riparian/Wildlife Corridor, comprising the Cottonwood Creek drainage; 2) Grassland /Grazing Land, including lands south and west of Cottonwood Creek; and 3) Woodlands, comprising portions of the site north of Cottonwood Creek. Cottonwood Creek is identified as a biologically sensitive area. The RMAP EIR concluded that impacts to biological resources and habitat within the vicinity of the San Joaquin River corridor would remain cumulatively significant following mitigation.

### 5.4.2 - Existing Conditions

#### Biotic Habitats

The six biotic habitats identified on the site include non-native grassland, blue oak woodland, valley foothill riparian, seasonal drainages and swales, stock ponds, and man-made vernal pools. A list of vascular plants observed on the site during biological surveys is provided in Appendix C, Biological Resources. A list of terrestrial vertebrates observed, or potentially occurring on the site is also provided in Appendix C.

### **Non-native Grassland**

Non-native grassland is the most prevalent habitat type within the study area. Introduced annual grasses primarily of European origin are the dominant species in this habitat. Common species include ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), wild oats (*Avena fatua*), hare barley (*Hordeum murinum* ssp. *leporinum*), and rattail fescue (*Vulpia myuros*). Forbs commonly occurring in non-native grasslands on site include red-stem filaree (*Erodium cicutarium*), broad-leaf filaree (*Erodium botrys*), telegraph weed (*Heterotheca grandiflora*), and smooth cat's-ear (*Hypochaeris glabra*). Native spring-flowering annuals and perennials such as rusty popcorn flower (*Plagiobothrys nothofulvus*), Eastwood's fiddleneck (*Amsinckia eastwoodeae*), fringepod (*Thysanocarpus curvipes*), and bi-color lupine (*Lupinus bicolor*) were also observed in non-native grasslands. Many wildlife species use non-native grassland for breeding and foraging, including burrowing rodents, resident and wintering raptors, granivorous birds, amphibians, and reptiles. Sensitive wildlife species which could potentially use grasslands onsite include western spadefoot toad (*Spea hammondi*), California tiger salamander (*Ambystoma californiense*), and golden eagle (*Aquila chrysaetos*).

### **Blue Oak Woodland**

Blue oak woodland occurs primarily on the northern unit of the study area. Blue oak (*Quercus douglasii*) is the dominant tree species of this habitat, with some interior live oaks (*Q. wislizenii*) also present. Shrub cover is usually minimal in this habitat type, though poison oak (*Toxicodendron diversilobum*) and wedgeleaf ceanothus (*Ceanothus cuneatus*) grow in association with rocky outcrops. The understory is composed of grass and forb species characteristic of non-native grassland, including filaree (*Erodium* spp.), fiddleneck (*Amsinckia* spp.), brome grass (*Bromus* spp.), and wild oats (*Avena fatua*). Numerous species of reptiles, amphibians, birds, and mammals are known to use this habitat type for breeding and/or foraging. Rocks, brush piles, leaf litter, decaying logs, and rodent burrows provide habitat for various reptiles and amphibians. Blue oak woodland also provides habitat for mammals and many avian species.

### **Valley Foothill Riparian Woodland**

Within the project site, this habitat type is associated with the riparian area of Cottonwood Creek. Mature riparian trees grow in narrow and discontinuous patches along the creek. The overstory is composed of Fremont's cottonwood (*Populus fremontii*), red willow (*Salix laevigata*), and some fig (*Ficus carica*). Herbaceous species growing on the banks and floodplain included horehound (*Marrubium vulgare*), field mint (*Mentha arvensis*), common monkeyflower (*Mimulus guttatus*), western dock (*Rumex occidentalis*), and watercress (*Rorippa nasturtium-aquatica*). This habitat type supports numerous species of reptiles, amphibians, birds, and mammals through providing food, water, thermal cover, nesting habitat, and proximity to aquatic habitat. Valley foothill riparian woodland is also important as a wildlife corridor for migration and dispersal.

### **Seasonal Drainages and Swales**

Seasonal wetlands onsite include broad wet swales, narrow and often eroded drainages, springs, and seep zones. During wet winters, several of the drainages and swales carry small flows of surface water, or their beds become saturated. Presence of hydrophytic plants within these seasonal wetlands indicates that soil saturation and/or inundation commonly occurs during the winter. Obligate hydrophytic plants common to these wetlands included annual bluegrass (*Poa annua*), common monkeyflower (*Mimulus guttatus*), creeping spikerush (*Eleocharis macrostachya*), and Baltic rush (*Juncus balticus*). In 2005, three small pools which had formed behind an elevated embankment of a ranch road just west of Road 206, supported a number of vernal pool plants including Vasey's coyote thistle (*Eryngium vaseyi*) and slender popcorn flower (*Plagiobothrys stipitatus*). Reptiles and amphibians which could potentially use these seasonal wetland habitats include western toad (*Bufo boreas*), pacific chorus frog (*Pseudacris cadaverina*), and common garter snake (*Thamnophis sirtalis*). Avian species likely to use wetland habitats include western kingbird (*Tyrannus verticalis*), red-winged blackbird (*Agelaius phoeniceus*), and black phoebe (*Sayornis nigricans*). Additionally, small pools within the swales and seasonal drainages serve as a source of drinking water for many mammal species.

### **Stock Ponds**

Six stock ponds, created to provide cattle with drinking water during the summer months, are located on the site; four of which were observed inundated during previous site surveys. Plant species in the vicinity of the ponds include creeping spikerush (*Eleocharis macrostachya*), rabbit's foot grass (*Polypogon monspeliensis*), Italian thistle (*Carduus pinocephalus*), curly dock (*Rumex crispus*), and Goodding's black willow (*Salix gooddingii*). Seasonal stock ponds potentially provide habitat for species including western toad, western spadefoot toad, and tiger salamander. Stock ponds also provide foraging habitat for species including common garter snake, great egret (*Ardea alba*), great blue heron (*Ardea herodias*), mallard (*Anas platyrhynchos*), ornate shrew (*Sorex ornatus*), and various species of bats. Additional mammalian species of the area would likely use the ponds as a source of drinking water.

### **Man-Made Vernal Pools**

Four vernal pools, approximately 0.6 acres, were identified on the site. The pools were likely created when roads blocking natural drainage were constructed. One large pool was located immediately south of Road 206, while three smaller pools were located immediately south of the main road into the property. These pools were inundated at the time of a survey in April of 2005. Dominant plant species observed in the vernal pools included slender popcornflower (*Plagiobothrys stipitatus*), white-tipped clover (*Trifolium variegatum*), woolly marbles (*Psilocarpus brevissimus*), Mediterranean barley (*Hordeum murinum* ssp. *leporinum*), and Vasey's coyote thistle (*Eryngium vaseyi*). These pools potentially support a number of aquatic and terrestrial species, some of which may be unique to vernal pool habitats. Several aquatic invertebrates are likely associated with this habitat type, along with various crustaceans possibly including vernal pool tadpole shrimp (*Lepidurus packardii*) and vernal pool fairy shrimp (*Branchinecta lynchi*), both of which are federally protected.

The larger vernal pool offers potential breeding habitat for the California tiger salamander (*Ambystoma californiense*), and western spadefoot toad (*Spea hammondi*). Both of these amphibian species have been documented in seasonal pools one-quarter to one-half mile north of the site. Avian species likely to forage within these vernal pools include killdeer (*Charadrius vociferus*), mallard (*Anas platyrhynchos*), cinnamon teal (*Anas cyanoptera*), and greater yellowlegs (*Tringa melanoleuca*).

### **Regulatory Framework**

A number of plant and wildlife species known to occur in the vicinity of the project site have been accorded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels. These plant and animal species are referred to collectively as special-status species.

Federally-listed plant and wildlife species are protected under the Endangered Species Act (ESA) and the United States Fish and Wildlife Service (USFWS) enforces regulations related to the ESA. State-listed species are protected under the California Endangered Species Act (CESA) and these regulations are enforced by the California Department of Fish and Game (CDFG). The CDFG also designates certain species as Species of Special Concern as a result of declines in their local and /or statewide populations.

The California Native Plant Society (CNPS) has developed an inventory of California's sensitive plant species, which summarizes information on the distribution, rarity, and endangerment of California's vascular plants. The inventory is divided into four lists based on the rarity of the species. In addition, the CNPS provides an inventory of plant communities that are considered sensitive by the state and federal resource agencies, academic institutions, and various conservation groups. Determination of the level of sensitivity is based on the number and size of remaining occurrences as well as recognized threats. Additionally, most birds and their active nests are protected by the Federal Migratory Bird Treaty Act.

Twelve United States Geological Survey (USGS) 7.5-minute quadrangles were considered in the literature reviews for special status species, including Knowles, O'Neal's, North Fork, Little Table Mountain, Millerton Lake West, Millerton Lake East, Lanes Bridge, Friant, Academy, Fresno North, Clovis, and Round Mountain. Information about possible threatened, endangered, or other special-status species of the area was collected from several sources, including California's Wildlife, Volumes I, II, and III, California Natural Diversity Database 2003, Endangered and Threatened Wildlife and Plants 2002, Annual Report on the Status of California State Listed Threatened and Endangered Animals and Plants 2002, and The California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California 2001. For complete citations, refer to Appendix C, Biological Resources' reference section.

### **Special-Status Species**

Several special-status species have documented occurrences in the vicinity of the study area. A discussion of special-status species recognized by the CNDDDB, CNPS, and MBA as potentially present on the site, are listed in Appendix C, Biological Resources. The Appendix identifies each sensitive plant and wildlife species, their federal and state status, required habitat, and potential to occur within the Project Site. Further discussion of special-status species that are considered either likely to occur or present onsite is presented below.

#### ***Hartweg's Golden Sunburst***

Hartweg's golden sunburst (*Pseudobahia bahiifolia*) is both federally and state-listed as endangered and is present on the project site. This species also has CNPS List 1B status (Plants Rare, Threatened, or Endangered in California and elsewhere). During a comprehensive botanical survey in the spring of 2000, all populations present on site were delineated, staked, and mapped. At the time of the survey, many thousands of individuals were blooming. The total area of the site occupied by Hartweg's golden sunburst is 11.7 acres.

Hartweg's golden sunburst occurs only in the Central Valley of California. This species is found in open grasslands and grasslands at the margins of blue oak woodland, primarily on shallow, well-drained, fine-textured soils. Hartweg's golden sunburst is associated with the Rocklin soil series. On site, Rocklin soils are only found in the area located between Cottonwood Creek and Road 206. The population of Hartweg's golden sunburst which occurs onsite is one of 19 known extant populations within its range, and is the largest known population.

#### ***Madera Linanthus***

Madera linanthus (*synonym Madera leptosiphon*) has CNPS List 1B status, but is not federally or state listed as endangered or threatened. This species does not have legal protection under the Federal Endangered Species Act (FESA) or CESA, but is included in the assessment for project-related impacts under the CEQA. Due to the presence of suitable habitat and a recorded occurrence in the vicinity of the project site, this species is considered potentially present onsite.

Madera linanthus occurs in non-native grasslands and blue oak woodlands of the Sierra foothills. This species can also be found on dry slopes, often on decomposed granite in woodland. Both of these habitat types occur throughout the project site. This species occurs mostly at elevations above 1,000 feet National Geodetic Vertical Datum (NGVD), but has been documented in oak woodland habitat adjacent to the south shore of Millerton Lake, outside of the project.

#### ***Valley Elderberry Longhorn Beetle***

The Valley elderberry longhorn beetle (VELB) is federally listed as threatened and is considered potentially present on site.

VELB was not observed on the project site during biological surveys, but three blue elderberry (*Sambucus mexicana*) bushes were present onsite; one in the south unit and two in the north unit.

VELB is a wood borer and occurs only in association with blue elderberry, a common shrub of riparian and foothill woodland habitats. VELB's life cycle is completely dependent on blue elderberry as a host plant. The beetle's adult stage is short-lived and the entire larval stage is spent living within the elderberry plant stems. VELB has been documented in various habitats in the Sierra foothills and also in the riparian corridor of the San Joaquin River below Friant Dam.

### **California Tiger Salamander**

California tiger salamander (*Ambystoma californiense*) is federally listed as threatened and is also listed by CDFG as a species of concern. This species is considered potentially present on site

California tiger salamander (CTS) has documented occurrences within the Rio Mesa Planning Area. Several CTS have been located east of Little Table Mountain and west of the San Joaquin River in Sections 11, 14, and 23 of Township 10 South, Range 19 East. CTS usually breeds between December and February in vernal pools and other seasonal ponds within the grassland habitats of California. Eggs are laid on pool bottoms; larvae hatch within approximately 3 weeks; and larvae develop into adults within 10 to 12 weeks. Adult CTS spend a majority of time aestivating in subterranean refugia. CTS has also been documented in vernal pools located within approximately one-quarter mile of the project's western boundary. One vernal pool and six stock ponds on site provide possible breeding habitat for CTS. Rodent burrows in grasslands on site also provide aestivation habitat for CTS. Approximately 850 acres of potential CTS breeding habitat exist on site, if every stock pond and vernal pool is considered. CTS has been documented to the north of the site. The NFV-1 site is not included within CTS designated habitat.

### **Western Spadefoot**

The western spadefoot (*Spea hammondi*) is listed by the CDFG as a species of concern, and is considered potentially present on site. This species does not have legal protection under the FESA or CESA.

Occurrences of this species have been documented within a few miles west and south of the study area. The western spadefoot typically breeds between January and May in seasonal ponds of chaparral, short grass plains or coastal sage scrub. The spadefoot is mostly active at night and seeks refuge in small rodent burrows during the day. Potential breeding habitat on site is limited to one vernal pool adjacent to Road 206 and several stock ponds. Rodent burrows in grassland on site also provide potential aestivation habitat.

### **Vernal Pool Invertebrates**

Four vernal pools and a number of small stock ponds provide potential habitat for one or more species of vernal pool invertebrates including the vernal pool fairy shrimp and the vernal pool tadpole shrimp. Vernal pool fairy shrimp are federally listed as threatened, and vernal pool tadpole shrimp are federally listed as endangered.

The vernal pool fairy shrimp occurs in a wide range of vernal pool habitats in the Central Valley and southern California. Vernal pool fairy shrimp are most commonly found in grass or mud-bottomed swales, or basalt flow depression pools in unplowed grasslands. Vernal pool fairy shrimp are most frequently found in pools measuring less than 0.05 acre. Vernal pool tadpole shrimp occur across the Central Valley and in the San Francisco Bay area. This species inhabits vernal pools of various sizes, which contain clear to highly turbid water. Both vernal pool shrimp species give rise to cysts, which remain in dry vernal pool beds until winter rainwater fills the pool.

### **Bald Eagle**

Bald eagle (*Haliaeetus leucocephalus*) is state listed as endangered, fully protected and federally listed as threatened. This species is potentially present onsite.

Wintering bald eagles use trees in the Tillis Cove area of Millerton Lake as perch sites. Censuses taken on Millerton Lake in 1984 counted as many as 35 Bald eagles roosting near the lake's shore. Bald eagles likely forage onsite for rodents and waterfowl occurring in on-site stock ponds. Breeding range of the bald eagle is mainly in mountainous habitats near reservoirs, lakes and rivers in the upper canopy of larger trees, usually conifers. Bald eagles have never been documented nesting at Millerton Lake. The available nesting habitat onsite is limited to blue oaks, which due to their relatively short height do not constitute preferred nesting habitat.

### **Burrowing Owl**

Burrowing owls (*Athene cunicularia*) are ground dwelling owls that occur in grassland habitats of the Central Valley. Burrowing owl is listed by the CDFG as species of concern, but is not federally or state listed as endangered or threatened and therefore does not have legal protection under the FESA or CESA. However, under the California Environmental Quality Act (CEQA) and Migratory Bird Treaty Act (MBTA), Project-related impacts to this species must be included in the assessment.

Burrowing owl typically uses burrows of small mammals and large rodents, particularly California ground squirrels, for shelter and breeding. Grasslands on the project site with flat to gently rolling topography provide suitable foraging and breeding habitat for burrowing owl. Burrowing owl is unlikely to occur in oak woodland habitat or areas of the project site with steep topography.

### **Swainson's Hawk**

Swainson's hawk (*Buteo swainsoni*) is state listed as threatened and, as a migratory bird with nearly unlimited range, is considered potentially present onsite.

This species have been documented approximately 4 miles northwest of the Project Site. The Swainson's hawk are medium sized raptors restricted to the portions of the Central Valley and the Great Basin, often near riparian systems with adequate foraging sites. These hawks are typically found near large open grasslands with abundant prey base and suitable nesting sites. Foraging habitat may include annual grasslands, lightly grazed pastures, alfalfa, and other row crops. Among suitable nesting habitats are: mature trees within riparian forests, oak groves, along roadsides and agricultural

fields. Riparian areas and adjacent non-native grass areas within the project site provide potential nesting and foraging habitat for the Swainson's hawk.

### **San Joaquin Kit Fox**

The San Joaquin kit fox (*Vulpes macrotis mutica*), listed as federally endangered and state threatened, is considered potentially present on the Project site.

The nearest documented occurrence of San Joaquin kit fox is in western Madera County, approximately 40 miles away from the project site. There are no records of San Joaquin kit fox occurring east of Highway 99 in Madera County. A number of kit fox surveys have been conducted in the Millerton and Friant areas in recent years. No evidence of kit fox was detected during these surveys. However, the USFWS maintain that kit fox has the potential to occur in the Friant/Millerton area of Fresno and Madera counties. San Joaquin kit foxes primarily inhabit grasslands and scrublands, many acres of which have been lost, degraded, or fragmented over the past few decades. Oak woodland, alkali sink scrubland, vernal pool, and alkali meadow communities can also provide habitat for kit foxes. Kit foxes construct their own dens, but they are also known to enlarge or modify burrows constructed by other animals, such as ground squirrels, badgers, and coyotes. Kit foxes also den in human-made structures, such as culverts, abandoned pipes, and banks in roadbeds (Brown et al. 2004).

### **Jurisdictional Waters**

A formal jurisdictional delineation was conducted onsite during the winter of 2004-2005. The total area of drainage channels, stock ponds, and vernal pools delineated on the site was 11.07 acres. Both the San Joaquin River and Cottonwood Creek are considered to be Waters of the United States, under Army Corps of Engineers (ACOE) jurisdiction. Therefore, tributaries of Cottonwood Creek and drainages that empty into Millerton Lake are also considered Waters of the United States.

Additionally, a jurisdictional impoundment on the San Joaquin River, and one natural and three man-made vernal pools are also considered Waters of the United States. All natural drainages and stock ponds within the site would also be within the jurisdiction of the CDFG. The drainages, stock ponds, and vernal pools would fall under the jurisdiction of the California Regional Water Quality Control Board (CRWQCB). The USACE and the Regional Water Quality Control Board (RWQCB) regulate discharge of fill into waters of the United States under Section 404 and 401 of the federal Clean Water Act (CWA), respectively. The CDFG regulates alterations to stream courses including adjacent riparian habitat areas under Section 1600 of the state Fish and Game Code.

### **Wildlife Movement Corridors**

Existing land use within the project area consists largely of undeveloped rangeland. Surrounding land use includes recreation associated with Millerton Lake, which borders much of the site to the southeast; large areas of rangeland to the north and west; and pistachio orchards located to the south and west. Cottonwood Creek and its associated riparian habitat are likely to function as a wildlife movement corridor, facilitating wildlife movement between the Sierra foothills and the riparian



habitats in the portion of the San Joaquin River downstream of Friant Dam. The remainder of the project site facilitates home range and dispersal movements, but does not serve as a wildlife movement corridor.

### 5.4.3 - Thresholds of Significance

Significant impacts that could occur were determined from criteria in the CEQA Guidelines. Based on Appendix G of the CEQA Guidelines and other agency standards, a project will normally have a significant impact on biological resources if it will:

- 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 California Department of Fish and Game or U.S. Fish and Wildlife Service.
- 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 California Department of Fish and Game or U.S. Fish and Wildlife Service.
- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- d) 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.
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- 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.

Section 15065(a) of the CEQA Guidelines also states that a project may have a significant effect on the environment when “the project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal.” Other significant impacts could include those that would conflict with local, state, or federal resource conservation plans, goals, or regulations.

### 5.4.4 - Project Impacts

The proposed project includes approximately 1,609 gross acres in the residential, mixed-use and commercial/office land use categories. Approximately 629 gross acres are included in major open space categories (natural, preserve and use). Significant additional natural open space may be

retained as private open space within the Rural, Very Low and Low Residential categories. However, utilizing these figures as a worst case impact assessment, up to 72% of the project site will be disturbed during project construction and development. This impact will occur primarily to non-native grasslands, the predominant habitat type on the site. Some losses may also occur within existing blue oak woodlands in the northern unit of the site.

Site development may result in potentially significant impacts to some special status plant and wildlife species, due to the conversion of habitat into commercial and residential development, and associated infrastructure. Biological resources impacts are described below, with reference to identified impact thresholds of significance.

---

**Impact 5.4-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. (Threshold a.)**

---

#### ***Special Status Vernal Pool Plant Species***

The largest vernal pool onsite with a 250-foot buffer around it lies outside of areas proposed for development. However, there are three small vernal pools located immediately south of the main road of the property which provide limited suitable habitat for special status plant species. Vernal pool endemic species such as succulent owl's-clover, Hoover's spurge, Bogg's Lake hedge hyssop, San Joaquin Valley orcutt grass, hairy orcutt grass and spiny-sealed button celery have some potential to occur within these pools. Therefore, the loss of these pools with potential for special status plants may constitute a *significant adverse environmental impact*.

#### ***Hartweg's Golden Sunburst***

The NFV-1 Specific Plan designates a 28.7-acre open space preserve onsite as a permanent sanctuary for Hartweg's golden sunburst, a federally and state-listed endangered plant. However, the proposed project would eliminate approximately 4.1 acres of the site currently occupied by Hartweg's golden sunburst. The plant population onsite is the largest known and one of 19 extant populations within its range. Based on project plans, it is estimated that approximately 35% of the population onsite will be lost. Therefore, this would constitute a *significant adverse environmental impact*.

#### ***Madera Linanthus***

There are only 18 known populations of Madera linanthus throughout its range, and this species has potential to occur onsite. Proposed site development has the potential to remove suitable soil habitat. Therefore, loss of this species would constitute a *potentially significant adverse environmental impact*.

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

Central Coast steelhead, Sacramento splittail, and river lamprey are unlikely to occur in Cottonwood Creek, due to discontinuous flows in the San Joaquin River. Kern Brook lamprey, hardhead, and San Joaquin roach have potential to move into Cottonwood Creek during times of high flow. These three special status fish species potentially use Cottonwood Creek for breeding, but this creek habitat will

not be affected by development. Therefore, potential impacts to Kern brook lamprey, hardhead, and San Joaquin roach are considered *less than significant*.

#### *Vernal Pool Invertebrates*

Three small human-made vernal pools and several stock ponds onsite provide potential habitat for the vernal pool fairy shrimp and the vernal pool tadpole shrimp. Proposed site development would eliminate these pools. The loss of habitat potentially used by these species would be less than 0.1 acre. Possible impacts to one or both of these federally listed threatened and endangered invertebrate species would be regulated by the USFWS under the federal Endangered Species Act. The loss of habitat for vernal pool invertebrates represents a *potentially significant adverse impact*.

#### *California Tiger Salamander and Western Spadefoot Toad*

Three human-made vernal pools and several stock ponds onsite provide potential breeding habitat for California tiger salamander (CTS) and western spadefoot toad. Rodent burrows in grasslands adjacent to the vernal pools and stock ponds also provide potential aestivation habitat for both species. Proposed site development would not eliminate these vernal pools and stock ponds, but would result in the disturbance of approximately 400 acres of potential aestivation habitat. Construction activities within potential aestivation habitat could possibly result in species mortality. CTS has been observed in vernal pools located within approximately one-quarter mile of the project site's western boundary and on adjacent lands to the north of the site. Because surveys for CTS and western spadefoot toad have not been conducted for the project site and effects on either species are unknown, this is considered *potentially significant adverse impact*.

#### *Bald Eagle*

Bald eagles are commonly observed on the NFV-1 site perched on fence posts or in trees adjacent to Millerton Lake. Trees in the Tillis Cove area of Millerton Lake are commonly used by bald eagles as roost sites. They have been observed in inland portions of the NFV-1 site where they may forage in grasslands for rodents and on ponds for winter waterfowl. However, more than half of Millerton Lake shoreline is in public domain and will not be developed. These areas will remain in perpetuity, suitable for bald eagle foraging habitat. Moreover, the Specific Plan includes measures to preserve oak woodlands available for roosting and natural open space areas available for foraging. Therefore, project impacts to Bald eagle resulting from foraging habitat loss constitute a *less than significant adverse impact*.

#### *Swainson's Hawk*

The riparian areas along Cottonwood Creek provide suitable nesting habitat for Swainson's hawk. The adjacent grassland areas provides suitable foraging habitat. Project construction during the nesting season would likely result in mortality to nestlings and loss of foraging habitat in grasslands. Such disturbance would be a possible violation of the federal Migratory Bird Treaty Act and CDFG Code. This is considered a *potentially significant adverse impact*.

*Special Status Raptors and the Loggerhead Shrike*

White-tailed kite, golden eagle, Cooper's hawk, long-eared owl, and loggerhead shrike are likely to use the blue oak woodland in the site's north unit and also the cottonwood trees along Cottonwood Creek for nesting habitat. Project construction during the nesting season could result in nest destruction or abandonment, potentially leading to mortality of nestlings. Mortality of nestlings would be a violation of the federal Migratory Bird Treaty Act and California Fish and Game Code. This is considered a *potentially significant adverse impact*.

*Burrowing Owl and Short-eared Owl*

Non-native grasslands onsite provide potential nesting habitat for both burrowing owl and short-eared owl. Neither of these species was observed on the NFV-1 site during biological surveys, but both species could move into grassland habitats of the site sometime in the future. Site construction could result in nest disturbance or abandonment. Such disturbance would be a possible violation of the federal Migratory Bird Treaty Act and California Fish and Game Code. This is considered a *potentially significant adverse impact*.

*California Horned Lark*

California horned lark is likely to use non-native grasslands onsite for both nesting and foraging habitat. Project construction during the nesting season would likely result in mortality to nestlings. Such disturbance would be a possible violation of the federal Migratory Bird Treaty Act and California Fish and Game Code. This is considered a *potentially significant adverse impact*.

*Special Status Mammal Species*

Mammal species that would potentially forage on the site include pallid bats, Pacific western big-eared bats, and western mastiff bats. The site provides little to no nesting or roosting habitat for these species. Even after the project site has been built out, these bat species would be likely to forage in the air space over the site even with residential development and infrastructure in place.

San Joaquin kit fox once occurred throughout most of the San Joaquin Valley, but there are no records of this species east of Highway 99 in Madera County. A number of kit fox surveys have been conducted in the Millerton and Friant areas in recent years, all of which have reported negative findings. The project site may provide limited foraging habitat for kit foxes, but there is no evidence that a kit fox population exists in this portion of Madera County. *Site development would result in a less than significant environmental impact on special status mammal species.*

---

**Impact 5.4-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. (Threshold b.)**

---

The proposed project is not expected to result in any loss of riparian habitat on the project site. The NFV-1 Specific Plan identifies a clear-span bridge for Rio Mesa Boulevard over Cottonwood to avoid any encroachment upon the riparian habitat along the creek, and a riparian buffer zone that consists of

a minimum of 150 horizontal feet as measured from the top of bank of the creek. Impacts on riparian habitats are *less than significant*.

In addition to the riparian and aquatic habitats associated with Cottonwood Creek, sensitive habitats present within the project site include 4 vernal pools and other seasonal wetlands. Proposed site development would result in the loss of approximately one acre of natural drainage channels of the site and three small human-made vernal pools. These habitats potentially support a variety of flora and fauna, including some of special status. *The loss of these drainages and wetland habitats would constitute a potentially significant adverse environmental impact that would likely be regulated by one or more state and federal agencies.*

---

**Impact 5.4-3:**            **Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. (Threshold c.)**

---

***Waters of the United States***

The channel of Cottonwood Creek, tributaries to Cottonwood Creek, a number of stock ponds on these tributaries, one natural vernal pool adjacent to Road 206, and three man-made vernal pools onsite total approximately 11.07 acres, and are designated as Waters of the United States. Proposed site development would impact approximately one acre of these waters, including less than 0.1 acre of impact to human-made vernal pools and up to 0.9 acres of impact to drainage channels tributary to Cottonwood Creek. *The loss of approximately one acre of Waters of the United States constitutes a potentially significant adverse environmental impact that would be regulated by one or more of the state and federal resource agencies.*

---

**Impact 5.4-4:**            **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. (Threshold d.)**

---

Proposed project plans are designed to avoid encroachment into Cottonwood Creek and its associated riparian habitat. Cottonwood Creek will continue to function as a viable wildlife movement corridor between the Sierra foothills and the riparian habitats in the portion of the San Joaquin River downstream of Friant Dam. The remainder of the project site facilitates home range and dispersal movements, but does not serve as a wildlife movement corridor. Site development would modify wildlife movements on the site, because of habitat losses and the construction of barriers to onsite wildlife movements. However, these project effects will be local, and regional wildlife movements will not be substantially affected by the project. *Impacts to migratory fish and wildlife species, wildlife corridors and native wildlife nursery sites are less than significant.*

---

**Impact 5.4-5:**            **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (Threshold e.)**

---

The project was designed to minimize impacts to oak woodlands and more specifically, mature blue oaks. The NFV-1 Specific Plan identifies use of more refined ‘specialty’ grading practices in

sensitive areas to preserve natural features, including significant stands of oak trees. Nevertheless, impacts to individual blue oaks located in the north unit of the project site (proposed Oak Ridge and Sierra Crest Neighborhoods) are likely. *Impacts to oak woodlands are typically considered significant by the CDFG pursuant to provisions of the recently adopted Oak Woodlands Conservation Act. However, the project does not conflict with any local policies or ordinances protecting biological resources, including oak trees.*

---

**Impact 5.4-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. (Threshold f.)**

---

No habitat conservation plans have been prepared for the Friant and Rio Mesa areas. *Site development would not conflict with any known local, regional or state habitat conservation plans.*

### ***NFV-1 Specific Plan Design Features and Commitments***

The Specific Plan includes various design features and commitments that serve to reduce impacts to biological resources. These features are summarized below.

#### *Hartweg's Golden Sunburst*

A 28.7-acre open space preserve has been designated as a permanent sanctuary for Hartweg's golden sunburst, a federally and state-listed endangered plant. This preserve will function as a seedling ground for future plantings throughout the Central San Joaquin Valley and across this Specific Plan. This preserve shall be operated and maintained by the local landscape maintenance provider and function under the advice and direction given by the California Department of Fish and Game. As stated by the California Department of Fish and Game, it is important for the Hartweg's golden sunburst preserve to have a landscape maintenance plan which ensures cattle grazing to promote plant growth.

#### *Riparian and Wetland Habitats*

With the exception of necessary infrastructure facilities, no development or filling will be permitted within the 100-year floodplain that is delineated adjacent to Cottonwood Creek. A riparian protection buffer will be established around Cottonwood Creek that consists of a minimum of 150 horizontal feet as measured from the top of bank of the Creek. Within the Cottonwood Creek open space area, a series of swales and detention/sedimentation basins will be designed and landscaped to resemble a naturally occurring riparian corridor.

Two clear span bridges will be constructed over Cottonwood Creek so that the main arterial road serving the site and a secondary road will have minimal effects on the aquatic and riparian habitats of the creek.

Reclaimed water ponds shall be designed and operated as wetlands with fluctuating water levels and planted wetland grasses. Approximately 23 acres of ponds will be established with another 274 acres of irrigated open space-use areas, 20+ acres of parks, 28 acres of open space- preserve and 750+ acres

of open space-natural land use designations. New ponds with wetland plants, irrigated landscaped areas and natural open space lands will allow native animal species to forest and feed in a variety of habitats.

#### *Wildlife Corridors and Habitat*

The Cottonwood Creek corridor would be maintained as open space, with a variable width buffer zone allowing for wildlife movement with minimal impact from residential and commercial development along either side of the creek. Project plans include the planting of additional riparian native species such as cottonwoods, valley oaks, willows, etc. along the creek, in order to enhance the quality of riparian habitat for species likely to use the corridor. In addition, street lighting will be conducted via lights 12' and lower (48" in residential areas).

Project plans provide for all lighting on streets and buildings adjacent to the creek corridor to be equipped with shrouds that would direct light away from the creek corridor.

Following completion of construction within each Planning Area, any disturbed areas designated as Open Space will be promptly restored to resemble native habitat that existed onsite. In addition, approximately 256 acres are included within Habitat Revegetation Areas identified within overlay zones on the site.

### **5.4.5 - Cumulative Impacts**

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

The population of Hartweg's golden sunburst that occurs on the NFV-1 site is one of 19 known extant populations. The NFV-1 population is also the largest known population of this species. At least four additional populations of Hartweg's golden sunburst are located in areas of proposed development. Therefore, loss of 35% of the population located on the NFV-1 site contributes to a cumulatively significant adverse environmental impact.

#### **Habitat Loss**

The RMAP EIR identified significant cumulative impacts resulting from the loss of biological habitat within the RMAP area. It is likely that several hundred acres of non-native grassland habitat would be lost during site development. While habitat loss attributed to the NFV-1 project may not be substantial, other proposed projects within the Rio Mesa planning area would also result in the conversion of several thousand acres of grassland habitat. Non-native grasslands are used by a variety of native wildlife for foraging, nesting, denning, etc. This cumulative loss of habitat would likely result in significant impacts on regional populations of some wildlife species associated with this habitat type. Within a 20-mile radius of the NFV-1 site, other development projects include most of the Rio Mesa Planning Area, Friant Ranch, and the Millerton New Town. Some loss of blue oak woodland habitat would also result from the NFV-1 project. In conjunction with other development projects in the vicinity, the NFV-1 project would contribute to cumulative oak woodland habitat loss on a regional basis.

## **San Joaquin River Corridor**

The RMAP EIR identified significant cumulative impacts to natural resources, including biological resources, within the San Joaquin River corridor. These impacts will result from increased human population, access, and recreational use of the river parkway corridor. Although not directly adjacent the river corridor below Friant Dam, the proposed NFV-1 project will nonetheless contribute to these significant cumulative impacts.

### **5.4.6 - Mitigation Measures**

#### **Rio Mesa Area Plan and RMAP EIR**

The RMAP and RMAP EIR include the following policies and/or mitigation measures to reduce impacts to: 1) Biological Habitat Values; 2) Sensitive Plant and Wildlife Species; 3) River/Riparian and Wetland Habitats; 4) Grassland Habitats; 5) Wildlife Corridors; and 6) Breeding Raptors.

#### ***Biological Habitat Values***

Each specific plan and each project not included within a specific plan shall include a wildlife and habitat management plan to preserve and protect habitats retained or created as a result of the RMAP's implementation.

#### ***Sensitive Plant and Wildlife Species***

Project-specific surveys for sensitive plant and wildlife species (threatened, endangered, special status, or listed), their habitat, and special status natural communities will be conducted by a qualified biologist or botanist during the appropriate season to determine the presence or absence of such sensitive species or habitats. If sensitive species are found to be present, compliance and implementations of all local, state, or federal agency regulations and mitigation will be required. The appropriate local, state, or federal agency will be contacted to assist in the determination of the regulations apply and what mitigation, if any, will be necessary.

#### ***River/Riparian and Wetland Habitats***

Applicants for land use entitlements within a wetland area shall be required to submit a formal wetland jurisdictional delineation conducted by a qualified wetlands expert familiar with the requirements of the U.S. Army Corps of Engineers. In conjunction with entitlement applications, project specific surveys for sensitive vernal pool plant species shall be performed by a qualified botanist during the appropriate flowering season should the project have vernal pools within its boundary. During implementation of the Area Plan, individual projects with wetlands within the project boundary shall comply with U.S. Army Corps of Engineer requirements pursuant to Section 404 of the Clean Water Act. This will assure no net loss of wetland acreage or values.

#### ***Grassland Habitats***

Replacement of grassland habitats shall be subject to the approval of the County and Department of Fish and Game.



**Wildlife Corridors**

Wildlife corridors in the Plan area will be preserved to permit the free movement of wildlife and to integrate such corridors with the preservation of other wildlife resources. To the extent possible, all habitat preserves, parklands, and wildlife corridors will be interconnected. Road crossings in wildlife corridors will be designed in consultation with a wildlife biologist, with the intent of permitting and facilitating the free passage of wildlife. Bicycle, and pedestrian and equestrian pathways and trails will be placed as far as possible from watercourses (streams, creeks, ponds, vernal pools, etc.) to avoid wildlife impacts.

**Breeding Raptors**

Breeding season surveys for raptor nests will be conducted on a project by project basis, and any nest trees and the surrounding area will be avoided during the breeding season

These program measures from the RMAP EIR will be implemented by the NFV-1 Specific Plan and by additional project-level mitigation measures that follow.

**Additional Project Mitigation Measures****B-1. Hartweg's Golden Sunburst**

A focused survey for Hartweg's golden sunburst was conducted in Spring 2000, and all populations on the Project Site were mapped. Additional surveys for this species will not be necessary.

*Avoidance:* Under the CEQA guidelines, the preferred mitigation for impacts to listed species' habitat is avoidance. Avoidance would require that areas of the site supporting populations of special status plant species not be developed. The current project plans provide for the avoidance of approximately 7.6 acres of the site that are occupied by Hartweg's golden sunburst.

*Compensation:* An alternative to the avoidance of special status plant populations is the acquisition and protection of habitat off-site. Compensation ratios are typically 2:1 to 3:1, meaning that for every acre of impacted habitat, two to three acres of compensatory habitat must be created and protected under conservation easement. The applicant also has the option to purchase credits in a local conservation bank. Proposed project plans include a 28-acre preserve for Hartweg's golden sunburst, of which 7.6 acres are known to support this species. Compensation would also require the development of a relocation and monitoring plan for the plants which occur on 4.1 acres of the site slated for development. This plan would need to address seed collection, summer seed storage, site preparation of the preserve, and long-term management of the site, pending approval of California Department of Fish and Game, U. S. Fish and Wildlife Service, and Madera County.

*Permit Compliance:* Prior to any elimination and/or relocation of state and federally listed plant species, the applicant must comply with provisions of the state and federal Endangered Species Acts.

**B-2. Madera Linanthus**

*Surveys:* A focused botanical survey for Madera linanthus will be required. These surveys will need to be conducted at two week intervals between late March and early June, to positively identify the

species during its blooming period. Additional mitigation measures for the Madera linanthus would not be necessary if it is determined to be absent from the project site.

*Avoidance:* Under the CEQA guidelines, the preferred mitigation for impacts to listed species' habitat is avoidance. Avoidance would require that areas of the site supporting populations of special status plant species not be developed.

*Compensation:* An alternative to the avoidance of special status plant populations is the acquisition and protection of habitat off-site. Compensation ratios are typically 2:1 to 3:1, meaning that for every acre of impacted habitat, two to three acres of compensatory habitat must be created and protected under conservation easement. The applicant also has the option to purchase credits in a local conservation bank. Compensation would also require the development of a relocation and monitoring plan for the plants that would need to address seed collection, summer seed storage, site preparation of the preserve, and long-term management of the site.

### **B-3 Vernal Pool Plant Species**

*Surveys:* Focused botanical surveys for vernal pool plant species will be required. Surveys will follow USFWS guidelines to determine presence/absence of vernal pool plant species including Succulent owl's clover, Hoover's purge, Bogg's Lake hedge hyssop, San Joaquin orcutt grass, hairy orcutt grass, and spiny-sealed button celery. These surveys will need to be conducted at two week intervals during the appropriate blooming period in order to determine presence/absence of each species. Additional mitigation measures for vernal pool plant species will not be necessary if it is determined that these species are absent from the project site.

*Avoidance:* Under the CEQA guidelines, the preferred mitigation for impacts to listed species' habitat is avoidance. Avoidance would require that areas of the site supporting populations of special status plant species not be developed.

*Compensation:* An alternative to the avoidance of special status plant populations is the acquisition and protection of habitat off-site. Compensation ratios are typically 2:1 to 3:1. The applicant also has the option to purchase credits in a local conservation bank. Compensation would also require the development of a relocation and monitoring plan for the plants that would need to address seed collection, summer seed storage, site preparation of the preserve, and long-term management of the site, pending approval of California Department of Fish and Game and U. S. Fish and Wildlife Service and Madera County.

### **B-4. Vernal Pool Invertebrates**

*Surveys:* Focused surveys for vernal pool invertebrates will be required. Surveys will need to be conducted according to USFWS guidelines to determine presence/absence of vernal pool fairy shrimp and vernal pool tadpole shrimp onsite. These surveys require two consecutive wet season surveys, or one wet season and one dry season survey. Neither wet nor dry season survey sampling shall be conducted at any project site unless the permittee receives prior permission from USFWS. If the

listed invertebrate species are not found, then the mitigation measures discussed below would not be warranted.

*Avoidance:* Under the CEQA guidelines, the preferred mitigation for impacts to listed species' habitat is avoidance. Avoidance would require that areas of the site supporting populations of special status invertebrate species not be developed.

*Compensation:* If it is not possible to avoid populations of state and federally listed invertebrate species, habitat on or off-site could be constructed or acquired and protected from future disturbance. Typical compensation ratios are 2:1 preservation of existing habitat and 1:1 creation of new habitat. Compensatory habitat must be created and protected under conservation easement. The applicant also has the option to purchase credits in a local conservation bank.

*Permit Compliance:* Prior to any elimination of federally listed invertebrate species, the project applicant would be required to initiate consultation with the USFWS under Section 7 of the Endangered Species Act.

#### **B-5. California Tiger Salamander and Western Spadefoot Toad**

*Surveys:* Focused surveys for California Tiger Salamander (CTS) will be required to determine the presence/absence of this species in pools and stock ponds within the project area. Surveys need to be conducted according to USFWS guidelines. Surveys would concurrently establish the presence/absence of western spadefoot in these habitats. These surveys require two consecutive wet season surveys in which pit traps are arrayed around potential breeding pools. Pit traps must then be checked at the time of every storm event throughout the monitoring period. If CTS and western spadefoot are not detected during surveys, the mitigation measures discussed below would not be warranted.

*Avoidance:* Under the CEQA guidelines, the preferred mitigation for impacts to listed species' habitat is avoidance. The project plans provide for complete avoidance of one vernal pool, six stock ponds, and up to 450 acres of potential aestivation habitat.

*Compensation:* If it is not possible to avoid impacts to federally protected amphibian species habitat, mitigation onsite may require a substantial buffer around suitable habitat (e.g. up to 1.2 mile). Typical offsite mitigations include compensation at a 1:1 ratio at an approved mitigation bank. Storm water retentions basins are not considered suitable compensation. Mitigation measures will follow the requirements set by California Department of Fish and Game, U S Fish and Wildlife Service and Madera County.

*Permit Compliance:* Prior to any elimination of federally listed amphibian species, the applicant must comply with provisions of the federal Endangered Species Act.

**B-6 Bald Eagle**

*Avoidance:* All construction activities should occur outside of the nesting season (February through July), in order to avoid potential impacts to nesting Bald Eagles.

*Pre-construction Surveys:* If construction is to occur during the nesting season (February through July), a pre-construction survey for nesting raptors will need to be conducted by a qualified biologist within 30 days prior to the on-set of construction.

*Establish Buffers:* If pre-construction surveys conducted during the nesting season (February through July) locate active nests within or near construction zones, the nests and an appropriate buffer around them would remain off-limits to construction until the breeding season ends. A minimum distance of 500 feet between occupied nests and proposed construction activities may be required.

**B-7. Swainson's Hawk**

*Avoidance:* All construction activities should occur outside of the nesting season (March through July), in order to avoid potential impacts to nesting Swainson's hawks.

*Pre-construction Surveys:* If construction is to occur during the nesting season (March through July), a pre-construction survey for nesting raptors will need to be conducted by a qualified biologist within 30 days prior to the on-set of construction.

*Establish Buffers:* If pre-construction surveys conducted during the nesting season (March through July) locate active nests within or near construction zones, the nests and an appropriate buffer around them would remain off-limits to construction until the breeding season ends. A minimum distance of 500 feet between occupied nests and proposed construction activities may be required.

*Compensation:* If it is not possible to avoid impacts to foraging or nesting habitat of Swainson's hawk, on or off site mitigation may be required. Mitigation measures will follow the required protocol set for by California Department of Fish and Game and Madera County.

**B-8. Special Status Raptors and the Loggerhead Shrike**

*Avoidance:* All construction activities should occur outside of the nesting season (February through August), in order to avoid potential impacts to nesting raptors.

*Pre-construction Surveys:* If construction is to occur during the nesting season (February through August), a pre-construction survey for nesting raptors will need to be conducted by a qualified biologist within 30 days prior to the on-set of construction.

*Establish Buffers:* If pre-construction surveys conducted during the nesting season (February through August) locate active nests within or near construction zones, the nests and an appropriate buffer around them would remain off-limits to construction until the breeding season ends. A minimum distance of 250 feet between occupied nests and proposed construction activities may be required.

**B-9. Burrowing Owls and Short-eared Owls**

*Focuses Surveys:* A focused survey for burrowing owls and short-ear owls will be required. Surveys need to be conducted by a qualified biologist in order to determine presence/absence of the species. The surveys need to be conducted according to guidelines established by CDFG and the Burrowing Owl Consortium (BOC) for burrowing owl. The burrowing owl survey would also establish the presence of the short-ear owl.

*Pre-construction Surveys:* A pre-construction survey for burrowing owls and short-ear owls will need to be conducted by a qualified biologist within 30 days prior to the on-set of construction. The survey will need to be conducted according to guidelines established by CDFG and the Burrowing Owl Consortium (BOC) for burrowing owl.

*Establish Buffers:* If surveys conducted during the nesting season (February through August) locate active nest burrows within or near construction zones, the nests and an appropriate buffer around them would remain off-limits to construction until the breeding season ends. A minimum distance of 100 meters between occupied nest burrows and construction activities may be required.

*Relocation:* Resident burrowing owls may be relocated to alternative habitat during the non-breeding season (August through January). Short-eared owls vacate their nests at the end of the breeding season, and would not need to be relocated. Relocation efforts should be conducted according to a relocation plan prepared by a qualified biologist. This plan should provide for the owls' relocation to land that provides available nesting and foraging habitat.

*Compensation:* If it is not possible to avoid impacts to foraging habitat of burrowing owl, on or off site mitigation may be required. Mitigation measures will follow the requirements set for burrowing owl by California Department of Fish and Game and Madera County.

**B-10. California Horned Lark**

*Avoidance:* All construction activities should occur outside of the nesting season (March through July), in order to avoid potential impacts to nesting horned larks.

*Pre-construction Surveys:* If construction is to occur during the nesting season (March through July), a pre-construction survey for nesting horned larks will need to be conducted by a qualified biologist within 30 days prior to the on-set of construction. The pre-construction survey should include all areas within 250 feet of construction activity.

*Establish Buffers:* If pre-construction surveys conducted during the nesting season (March through July) locate active nests within or near construction zones, the nests and an appropriate buffer around them would remain off-limits to construction until the breeding season ends. A minimum distance of 250 feet between occupied nests and proposed construction activities may be required.

**B-11. Wetlands/Waters of the United States**

*Verify Existing Delineation of Jurisdictional Waters:* An updated, detailed delineation of potential jurisdictional waters should be prepared for the project site. The completed Jurisdictional Delineation report should be submitted to the USACE for verification so that the extent of USACE jurisdiction can be determined.

*Avoidance:* The preferred mitigation measure for impacts to jurisdictional waters is avoidance. The project has been designed to avoid all direct impact to Cottonwood Creek and most direct impacts to tributaries of Cottonwood Creek. Less than 10% of the total area of Waters of the United States on the project site will be unavoidably impacted by site development.

*Setbacks:* The County will assure implementation of the riparian protection zones around natural watercourses identified in the NFV-1 Specific Plan (Section 6.5.2). Riparian protection zones shall include the bed and bank of both low and high flow channels and associated riparian vegetation, the band of riparian vegetation outside the high flow channel, and buffers of 100 feet in width as measured from the top of bank of unvegetated channels and 50 feet in width as measured from the outer edge for the canopy of riparian vegetation. Exceptions may be made in existing developed areas where existing development and lots are located within the setback areas.

*Compensation:* Based on the loss of one acre of Waters of the United States, compensation measures would include the protection of existing drainage channels, stock ponds, and vernal pools, and the creation of new wetland habitat. The applicant proposes to create approximately 27 acres of stormwater retention basins onsite, of which 21 acres will function as natural wetlands. According to current project plans, the ratio of constructed wetlands to wetlands lost would be approximately 20:1.

*Permit Compliance:* Prior to any site development that will impact onsite wetlands, the applicant must obtain a Clean Water Act permit issued by the USACE and a Water Quality Certification issued by the RWQCB. The applicant would also be obligated to implement all mitigation measures prescribed by either agency.

**B-12. Oak Woodlands**

*Avoidance:* The project will comply with the guidelines for building within oak woodland areas specified in the Madera County 'Oak Woodlands Management Plan' (August 2004). The following measures shall be implemented during construction and shall be enforceable through Conditions, Covenants, and Restrictions (CC&Rs) and deed restrictions on individual lots.

- Protect existing oaks during construction, replace trees with seedlings if removal is unavoidable.
- Avoid root compaction by limiting heavy equipment in the root zone (1 ½ times the crown width).
- Minimize cutting roots during road construction, building foundations, or septic systems.

- Avoid grade changes in the dripline zone of the trees.
- Avoid landscaping which requires or allows irrigation within the dripline of the crown of the tree.
- Oaks impacted by construction will be replaced at a 4:1 ratio.

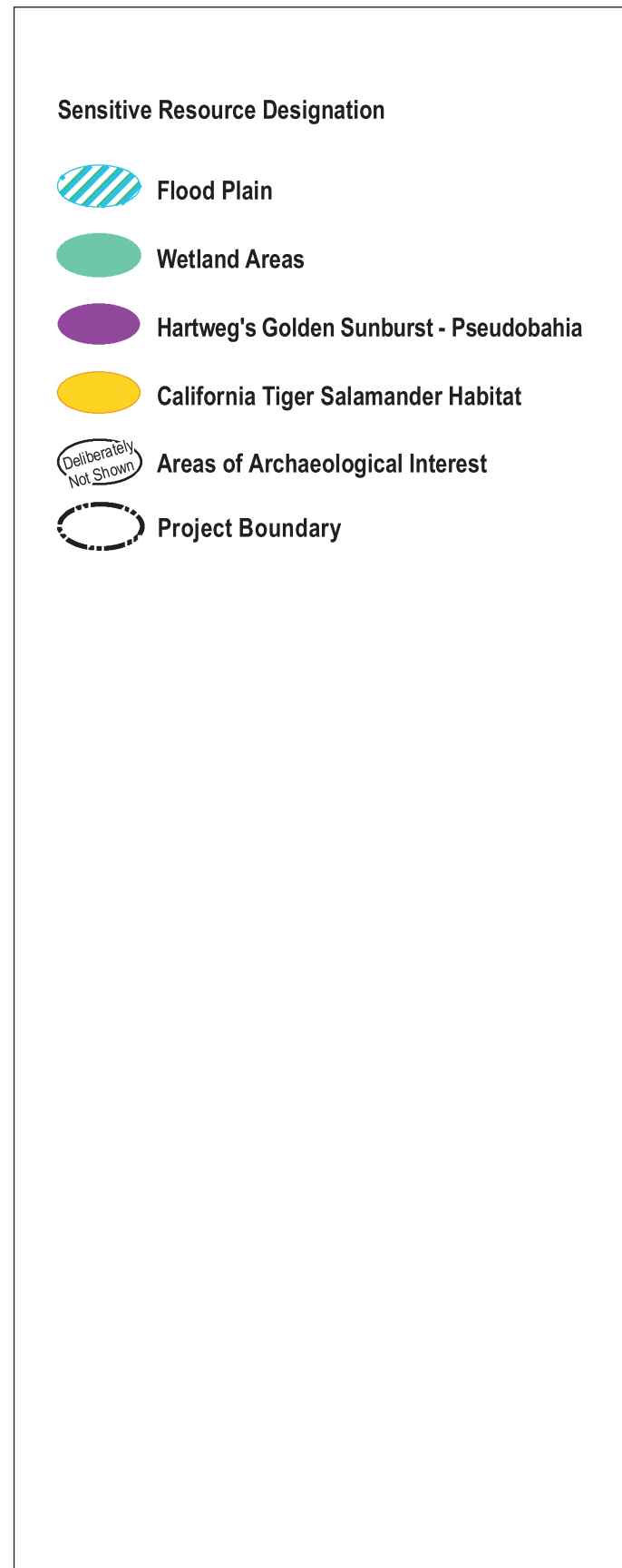
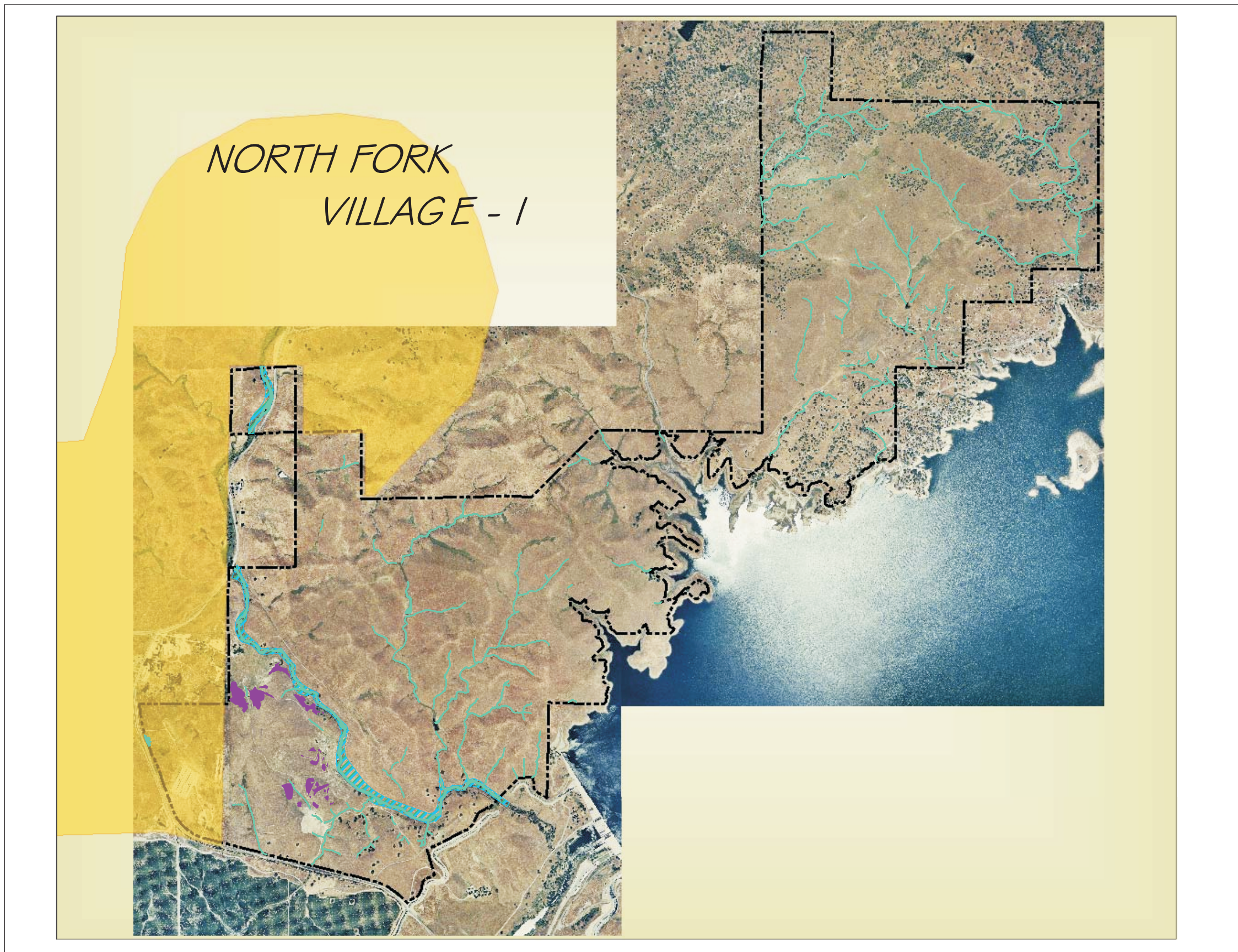
*Preservation:* Oak woodlands on the project site are located almost entirely within the northern unit comprised of the planned Oak Ranch and Sierra Crest Neighborhoods. Prior to recordation of any Final Map for development in these areas, the project shall prepare an Oak Woodland Conservation and Monitoring Plan to ensure the preservation of the significant oak woodlands onsite. The Plan will be submitted to the County and made available for review and comment by the California Department of Fish & Game.

#### **5.4.7 - Level of Significance after Mitigation**

Following implementation of RMAP policies, NFV-1 Specific Plan design features and commitments, and additional project mitigation measures, all impacts to biological resources would be less than significant with the exception of 1) the direct and cumulative impacts resulting from partial loss of the Hartweg's golden sunburst population onsite, and 2) cumulative loss of non-native grassland and blue oak woodland habitat in conjunction with other future development projects in the vicinity of the project site.







Source: Forma.



Michael Brandman Associates

Exhibit 5.4-1  
Biological Resources Map

