WESTPARK/FIDDYMENT RANCH OFF-SITE VERNAL POOL RESTORATION AND MONITORING PLAN FOR THE **YANKEE SLOUGH PRESERVE** (PLACER COUNTY, CALIFORNIA)

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Prepared for:
Conservation Resources

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ENVIRONMENTAL CONSULTANTS

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1.0 SUMMARY

This Off-Site Vernal Pool Restoration and Monitoring Plan has been prepared for the Westpark/Fiddyment Ranch project (also known as the West Roseville Specific Plan). This plan was prepared to:

- fulfill the requirement of the Biological Opinion issued for the Westpark/ Fiddyment Ranch by the U.S. Fish and Wildlife Service (Service) (Service File #1-1-03-F-0013) (Attachment A); and
- comply with the U.S. Army Corps of Engineers (Corps) Individual Permit (Regulatory #200200666) for the Westpark/Fiddyment Ranch project, requiring mitigation at the Yankee Slough site (Attachment B).

The Westpark/Fiddyment Ranch project is located in the City of Roseville, Placer County, California. There are a total of 60.44 acres of Waters of the U.S. on the Westpark/Fiddyment Ranch Site. Of these 22.75 acres will be permanently impacted through project implementation. The off-site mitigation for vernal pools and vernal swales will consist of the restoration of approximately 43.00 acres of vernal pool habitat, which will take place at the vernal pool restoration portion of the Yankee Slough Preserve (YSP) located in Placer County, California. The 43.00 acres of restoration will take place over approximately 436 acres, resulting in a final pool density of 9.8%. The restoration at YSP will be achieved by using the latest technology and design techniques along with a program of on-going monitoring and adaptive management. The following plan describes the methods by which this project will be accomplished and defines how the success of the restoration will be monitored and judged.

Wetland mitigation will also occur on the Westpark/Fiddyment Ranch project site. A mitigation and monitoring plan will be submitted for the on-site mitigation under separate cover.

2.0 RESPONSIBLE PARTIES

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3.0 PROJECT REQUIRING MITIGATION

3.1 Location of Project

The Westpark/Fiddyment Ranch project is located in the City of Roseville, Placer County, California. More specifically, the WRSP area corresponds to portions of Sections 22, 23 and 26, Township 11 North, and Range 5 East, of the Pleasant Grove, California 7.5-minute topographic quadrangle (U. S. Department of the Interior, Geological Survey 1967, Photo Revised 1981); all of Sections 13, 24, 25, Township 11 North, and Range 5 East; and portions of Sections 18 and 19, Township 11 North, and Range 6 East, of the Roseville, California 7.5-minute topographic quadrangle (U. S. Department of the Interior, Geological Survey 1992). The project location as well as the mitigation site location are shown on Figure 1 – *Project and Mitigation Sites and Vicinity.*

3.2 Brief Summary of Overall Project

The Westpark/Fiddyment Ranch project encompasses approximately 3,142 acres on the west side of Fiddyment Road immediately adjacent to the previous western boundary of the City of Roseville and the fully developed Sun City project. The project will encompass two villages, Westpark and Fiddyment Ranch. The plan encompasses a total of approximately 8,000 dwelling units. The plan includes a mix of residential uses ranging from low density, to medium and high density residential with a healthy mix of affordable housing. A variety of housing types and styles are anticipated, including neighborhoods specifically designed for active senior adults. In addition, the plan envisions approximately 120 acres of light industrial uses providing a buffer to the Pleasant Grove Regional Waste Water Treatment Plant. The plan also provides for approximately 75 acres of commercial use which will service plan residents and those living and working in close proximity to the project.

Open space is a dominant feature of the project. Oak woodland are clustered near the Pleasant Grove Creek and Kaseberg Creek drainage areas. In all, approximately 738 acres of the total land area will be preserved in passive open space preserve.

3.3 Jurisdictional Areas Affected by Project

The following table outlines the direct and indirect impacts anticipated as part of the Westpark/Fiddyment Ranch project. For a description of each of these wetland types occurring on the site, please refer to the "Jurisdictional Delineation for the Fiddyment Property" report prepared by Gibson and Skordal (Attachment C).

Table 1. Wetlands/Waters Impact and Preserve Acreages

	Existing	Direct Impact	Indirect Impact	On-Site Preserve
Habitat Type				
Vernal Pool	33.91	14.14	9.44	19.77
Vernal Swale	8.05	3.29	0.74	4.76
Wet Swale/Channel	17.39	4.36	--	13.03
Seasonal Wetland	0.47	0.34	--	0.13
Emergent Marsh	0.62	0.62	--	--
TOTAL:	**60.44**	**22.75**	**10.18**	**37.69**

3.3.1 Hydrology and Topography

The topography of the site is gently rolling, with a centrally located low area containing wetlands with drainage flowing towards Pleasant Grove Creek, which then conveys flows westward as it traverses the center of the site. The southwestern portion of the site is drained by the heads of several unnamed tributaries to Curry Creek. Elevations at the project site range from approximately 85 feet above mean sea level (MSL) to 120 feet above MSL.

3.3.2 Geology and Soils

The site's topography consists primarily of flat to gently rolling terrain. Based on the "Geologic Map of the Sacramento Quadrangle, California" (Wagner et al 1981), the project site is primarily made up of Riverbank Formation with the north eastern portion of the site made up of Turlock Lake Formation.

All of the soils mapped on-site by the Soil Conservation Service (U. S. Department of Agriculture, Soil Conservation Service 1980) are terrace and alluvial bottom units. Associations are the San Joaquin-Cometa, Fiddyment-Cometa-Kaseberg, and Cometa-Ramona. They are all undulating soils of variable depth over dense clay subsoils or partially eroded siltstone. Primary individual units are Cometa-Fiddyment complex 1-5% slopes (141), Cometa-Ramona sandy loam 1-5% slopes (142), Fiddyment loam 1-8% slopes (146), Fiddyment-Kaseberg loams 2-9% slopes (147), and San Joaquin-Cometa sandy loam 1-5% slopes (182). Most of these units occur across broad areas of the terraces along Pleasant Grove Creek. Alluvial units are complex and discontinuous along the narrow stream bottom and are most frequently or occasionally flooded Xerofluvents (193, 194). Figure 2 - *Project Site NRCS Soil Types* shows the soil types that occur on-site.

3.3.3 Vegetation and Wildlife Use

The following outlines vegetation and/or wildlife use of the jurisdictional areas on-site.

3.3.3.1 Intermittent Drainage/Creeks

Intermittent drainages are characterized by a defined bed and bank with a distinct high-water level. They convey flows during storm events but standing water generally does not persist except in areas where deeper pools form. These types of drainages are largely unvegetated due to the scouring effects of fast flowing water, but hydrophytic vegetation may be prevalent at the upper edges of the drainage. Creeks also have a defined bed and bank with a distinct high-water level, but may have water flowing in them year round (perennially) or intermittently.

3.3.3.2 Vernal Pools

Vernal pools are poorly drained, isolated depressions that occur within annual grassland habitat. Water ponds in vernal pools for several weeks at a time during the rainy season and may dry completely if the duration between storm events is long.

The vernal pools on-site are dominated by such typical vernal pool community plants as slender popcorn-flower (*Plagiobothrys stipitatus*), annual hairgrass (*Deschampsia danthonoides*), Downingia (*Downingia* species), and Vasey's coyote-thistle (*Eryngium vaseyi*). Typical wildlife associated with vernal pools include various aquatic invertebrates and amphibians such as the Pacific chorus frog (*Pseudacris regilla*). On occasion, various bird species may forage and/or rest within vernal pools.

Vernal pools provide habitat for a variety of endemic and often special-status plant and animal species. As such, vernal pools are remnant patches of the native plant landscape within a grassland community dominated by non-native species.

3.3.3.3 Seasonal Wetland/Drainage Swales

A variety of plants and wildlife can be found within seasonal wetlands and drainage swale communities. The "drier" seasonal wetlands/drainage swales may be dominated by low-growing grasses and annual herbs including Italian ryegrass (*Lolium multiflorum*), Mediterranean barley (*Hordeum marinum*), and hyssop loosestrife (*Lythrum hyssopifolium*). The "wetter" seasonal wetlands/drainage swales are potentially dominated by species such as baltic rush (*Juncus balticus*), annual rabbit-foot grass (*Polypogon monspeliensis*), Bermuda grass (*Cynodon dactylon*), and creeping spikerush (*Eleocharis macrostachya*). When inundated, seasonal wetlands and drainage swales

provide habitat for aquatic invertebrates and amphibians. For most of the remainder of the year, wildlife usage is similar to that of typical Central Valley non-native annual grassland habitat.

3.3.4 Federally Threatened and Endangered Species

Only one federally threatened species is likely to occur at the impact site: the vernal pool fairy shrimp (*Branchinecta lynchi*).

4.0 MITIGATION DESIGN

4.1 Basis for Design

The mitigation taking place at the YSP is the restoration component of the mitigation required by the Service for impacts to listed invertebrate habitat as well as mitigation for impacts to vernal pools and vernal swales under the Clean Water Act, Section 404, Individual Permit, issued by the Corps. Based on the need to fulfill the mitigation under both of these federal permits, the Yankee Slough Preserve was selected for its vernal pool restoration potential, its appropriate soils characteristics, the presence of vernal pool fairy shrimp at the site, its proximity to the project site, and its proximity to other regional conservation areas (the potential for these conservation areas to result in larger contiguous preserved areas).

4.1.1 Site Feasibility

Review of the historic conditions at YSP through aerial photographic interpretation (photo date: 1937; black and white) revealed that the hydrologic regime of the site was that of a grassland, vernal pool and swale community (Figure 3 – *Mitigation Site Historic Aerial*). Extensive dry agriculture land management, including periodic disking in portions of the site, and leveling in others, has resulted in the degradation of the microtopographic features in the landscape which are indicative of vernal pool/swale communities. The dragging effect created by annual disking and planting has, over time, brought soil from adjacent upland areas into wetland and non-wetland basins. Many of these historically degraded features are evident in portions of the landscape today. As such, vernal pool restoration can be achieved in these areas by restoring the micro-topography which historically existed.

4.1.2 Restoration Area Selection

During the past winter and spring, biologists visually assessed the hydrologic and vegetative characteristics of existing degraded site microtopography. Transects across the site were walked and areas appropriate for vernal pool restoration were identified using a sub-meter accurate GPS unit. This data was combined with the 1-foot contour topography flown for the site and overlaid on the historic aerial. The results were used to create the Vernal Pool Restoration Plan Set (Attachment D). Existing wetlands identified in the wetland delineation (outside the leveled fields) will not be modified.

4.2 Characteristics of Design Reference Site

The reference site is the mitigation site. There are a number of vernal pools that due to their location or other factors were less disturbed than the remaining portions of the site. These pools exhibit a range of vernal pool characteristics including the presence of vernal pool fairy shrimp in a subset of their number. Thirty of these pools will be used as reference pools for the mitigation (see Section 4.5).

4.3 Characteristics of Proposed Mitigation Site

The following sections outline the various characteristics of the Yankee Slough Preserve.

4.3.1 Location and Size of Mitigation Area

The Yankee Slough Restoration Site (YSP), named after the perennial watercourse that bisects the project, and is located east of State Highway 65, at Nader Road. The site corresponds to a portion of Sections 19 and 30 of Township 13 north, Range 6 east, of the Lincoln, California 7.5-quadrangle (U. S. Department of the Interior, Geological Survey, revised 1981) (see Figure 1). The location of YSP is within 15 miles of the northern border of the City of Roseville.

4.3.2 Ownership Status

The property owner is Conservation Resources, LLC.

4.3.3 Jurisdictional Areas

A wetland delineation for the entire Yankee Slough property (of which the vernal pool restoration portion is a subset) was conducted during November and December 2000 during which time the entire project site was walked and potential jurisdictional waters of the U. S. were mapped (Figure 4 - *Wetland Delineation*). The wetland delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). Aerial photography (black and white, 1'=200" dated 15 May 1997) was used to assist with ground-truthing. The Corps verified this delineation on May 18, 2001 (Attachment E).

A total of 42.03 acres of potentially jurisdictional waters of the U.S. were mapped for the Preserve. This acreage is comprised of seasonal wetland (29.59 acre), vernal pool (1.72 acres), drainage swale (3.56 acres), intermittent drainage (0.60 acre), intermittent creek (6.09 acres), and a stock pond (0.47 acre).

Several measures will be taken to protect the integrity of the existing wetlands to be preserved. First, the project has been carefully designed to minimize the impact of the restored vernal pools on the immediate preserved vernal pool watershed, both during construction activities and in the long-term. Second, non-disturbance buffers of 75 feet will be established and maintained between any construction activity and preserved vernal pools and seasonal wetlands. In addition, a 75 foot buffer will be established from Yankee Slough and other swales/drainages. Smaller swales may have to be crossed to restore the vernal pools. Crossings will be minimized and restored. Buffers are indicated on the construction plans. Buffer/avoidance areas will be adequately marked with high visibility flagging, and the contractor will be walked through the designated avoidance areas during a pre-construction worker awareness meeting. Finally, a biologist will work with the construction personnel to determine if any preserved wetlands require specific post-construction protective measures.

4.3.4 Hydrology and Topography

Most of the site receives its water from precipitation and overland flow following storm events, most of which occur during the period of November through April. Yankee Slough bisects the property and flows from the northeast corner of the site, trending southwest. According to the "Lincoln, California" 7.5-minute quadrangle, Yankee Slough and its unnamed tributaries have been mapped as waterways with seasonal flows. Based on field surveys and consultation with the previous owners, it appears that the flow in Yankee Slough is perennial. Other surface water drains from east to west through small drainage swales and intermittent drainages. There is one stock pond in the southern portion of the site.

4.3.5 Geology and Soils

The site's topography consists of gently rolling hills with portions leveled for crop production. The mean elevation is approximately 150 feet above mean sea level. Based on the "Geologic Map of the Sacramento Quadrangle, California" (Wagner et al 1981), the project site is primarily made up of Riverbank formation, similar to the impact site. The site also has inclusions of the slightly older Laguna Formation.

According to the Natural Resource Conservation Service, the site contains four soil unit types. The soil unit supporting Yankee Slough is mapped as (193) Xerofluvents, occasionally flooded. The western edge of the subject property, outside of the Xerofluvents, the soil unit is mapped as (181) San Joaquin sandy loam, 1 to 5 % slopes. The majority of the property to both the north and south of Yankee Slough is mapped as (176) Redding and Corning gravelly loams, 2 to 9% slopes. The northern section of the property also supports small amounts of (195) Xerofluvents, hardpan substratum (Figure 5 – *Mitigation Site NRCS Soil Types*).

4.3.6 Vegetation

The dominant upland habitat at the YSP is annual grassland. The annual grassland community is dominated by non-native plant species such as soft brome (*Bromus hordeaceus*), ryegrass (*Lolium multiflorum*), filaree (*Erodium botrys*), and medusahead grass (*Taeniatherum caput-medusae*). Intermixed within the grassland habitat are naturally-occurring seasonally inundated wetland drainages and basins. The existing vernal pools are isolated basins within the grassland habitat that are dominated by native annual plants which have become adapted to the unique hydrologic regime. These species include slender popcorn flower (*Plagiobothrys stipitatus*), Fremont's goldfields (*Lasthenia fremontii*), and downingia (*Downingia* sp.). Vernal pools on-site range from well-defined basins with distinct boundaries to those with less distinct boundaries that have been altered over time due to past farming activities.

The seasonal wetlands are also isolated within the grassland habitats. Seasonal wetlands differ from vernal pools in that seasonal wetlands are usually comprised of

non-native wetland generalist species, such as perennial ryegrass (*Lolium perenne*) and Mediterranean barley (*Hordeum marinum*). On-site drainage swales have similar plant species composition to seasonal wetlands but differ in their hydrologic function. Swales carry seasonal run-off into larger drainages and then to Yankee Slough. The only trees at the YSP are associated with Yankee Slough. There is scattered willow scrub along the slough.

4.3.7 Wildlife Habitat and Use

The site supports a variety of wetland and upland habitats, which support plant and animal species typical of annual grasslands in western Placer County. General habitat surveys of the site have identified existing habitats suitable for supporting populations of listed vernal pool crustaceans, burrowing owl, and Swainson's hawk, the only determinate level survey for the site has been for federally-listed wetland plants. The survey was conducted on April 17, 2001 and no listed wetland plant species were found on the site. An assessment-level wet-season survey for a subset of the vernal pools at the site located several pools that support vernal pool fairy shrimp.

4.3.8 Historical, Present and Proposed Uses of Mitigation Area

Presently, the YSP is grazed. Within the last five years, the majority of the property was used for agricultural purposes. The northwestern section of the site (the leveled fields) were most recently planted in hay crops. The remaining sections of the property were used for grazing. Historically, the entire area was farmed (See Figure 3). The proposed uses of the mitigation include habitat restoration and cattle grazing.

4.3.9 Present and Proposed Uses of Adjacent Areas

Other than Highway 65, which runs along the majority of the western edge of the site, the areas immediately surrounding the YSP are cattle grazing pasture to the south, north and east, rural residential housing to the north, and a private hunt club to the west. There is also an aggregate mining operation taking place to the southeast of the project, but not immediately adjacent. There are several conservation areas in the vicinity. See Figure 6 - *Regional Conservation Areas*. There are no land use changes of which we are currently aware.

4.4 Habitats to be Created/Restored

A total of 43.00 acres of vernal pools will be restored at the site to provide mitigation for the Westpark/Fiddyment Ranch project.

4.4.1 Compensation Ratios

There will be 43.00 acres of vernal pools restored at the YSP for the Westpark/Fiddyment Ranch Project.

4.4.2 Long-term Goals

The long-term goal of the project is to restore the site's existing degraded grassland to the previously present indigenous vernal pool landscape. Implementation of this project is intended to benefit western Placer County by increasing the local abundance of endemic plant species associated with local vernal pool ecosystems and by contributing to the recovery and survival of the vernal pool invertebrates, listed under the federal Endangered Species Act.

4.4.3 Hydrology and Topography

The restored vernal pools have been designed to have hydrology typical of vernal pools in the Central Valley. The depth of the pools will range between 12 and 24 inches and the side slopes for the vernal pools will be no steeper than 7:1. Direct precipitation and overland flows resulting from precipitation will make up the source of water for the restored vernal pools.

4.4.4 Vegetation

Given that the restored pools have been designed to have hydrology typical of vernal pools in the Central Valley, the target plant species for the habitat is the typical suite of plants typically associated with this habitat type. The pools are expected to be dominated by species such as slender popcorn-flower (*Plagiobothrys stipitatus*), annual hairgrass (*Deschampsia danthonoides*), Downingia (*Downingia* species), and Vasey's coyote-thistle (*Eryngium vaseyi*).

4.4.5 Wildlife Habitat

Wildlife species which have been observed within the annual grassland habitat include western meadowlark (*Sturnella neglecta*), horned lark (*Eremophila alpestris*), western kingbird (*Tyrannus verticalis*), black-tailed jackrabbit (*Lepus californicus*), western yellow-bellied racer (*Coluber constrictor*), gopher snake (*Pituophis catenifer*), and western fence lizard (*Sceloporus occidentalis*). The annual grassland also provides foraging habitat for raptors including northern harrier (*Circus cyaneus*), red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*), and American kestrel (*Falco sparverius*). As a result of the restoration, there will be an increase in wetland habitat. This in turn, will result in an increase in wintering waterfowl and in migrant shorebird usage. The restoration will result in an increase in vernal pool fairy shrimp occurrences at the site.

4.5 Success Criteria and Monitoring

The purpose of success monitoring is to determine if the overall goal of vernal pool restoration is being accomplished and to develop and implement corrective measures, if necessary. The following outlines the monitoring methodology to be implemented at the YSP, the criteria by which successful restoration will be judged, and the duration of the

monitoring period. Both restored and historic (reference) pools will be monitored. Please see Figure 7-*Reference Pool Locations* for pools that will be used as reference.

4.5.1 Success Criteria – Vernal Pools

The success of the restoration efforts will be evaluated on the basis of the following criteria:

Table 2. Vernal Pool Success Criteria

Hydrology	Vegetation
1) The maximum depth of the constructed vernal pools will not be greater than 24 inches;	1) The aerial coverage of vegetation for 90% of the constructed vernal pools must be equal to or greater than 85%, and the aerial coverage of vegetation for the remaining 10% of the constructed vernal pools must be 50-80%;
2) 95% the vernal pool acreage must be saturated or inundated for a period sufficient to support appropriate vernal pool plant species.	2) At least 10 species shall be present;
	3) The percentage of the relative cover attributable to native vernal pool species shall be as follows: 80% of the pools shall attain greater than 70% relative native cover and the remaining 20% shall attain between 70% and 45% relative native cover.*
	4) All dominant species (those with a Braun-Blanquet cover scale of 3 or greater) will be "vernal pool indicators", "vernal pool associates", or vernal pool generalists that occur in the on-site reference pools.**

* ECORP Consulting, Inc. 2004. Preliminary Assessment of the Effects of Habitat and Landscape Variables on Vernal Pool Ecosystems. Draft Technical Report prepared for Placer County, April 2004. 114 pgs.

**"Vernal pool indicators" and "vernal pool associates" as defined in the California Department of Fish and Game's list: *Catalog of Plant Species Known to be Associated with Vernal Pools* (CDFG 1997) or as species present in other "reference pools." "Reference wetlands" will, at a minimum, consist of preserved pools within the YSP. If access is available, it is at the discretion of the biologist conducting the monitoring to include other natural vernal pools that occur on similar soil types in the immediate vicinity.

4.5.2 Success Criteria - Vernal Pool Occupancy

As this restoration is intended to contribute to the recovery and future survival of listed vernal pool invertebrates, a success criteria for occupancy of the restored vernal pools by listed vernal pool invertebrates has been set: five percent of the total number of restored vernal pools will support listed vernal pool invertebrates over the ten year monitoring period. A pool must only be occupied once during the ten-year monitoring period to be considered occupied.

The calculation for this percentage will be as follows:

$$\% \text{ Occupancy} = \frac{\text{total \# of unique restored vernal pools supporting listed vernal pool invertebrates as of the current monitoring year}}{\text{total \# restored vernal pools}}$$

This percentage was based on a review of wet season survey data available to ECORP Consulting, Inc. for other large scale vernal pool creation/restoration projects as well as wet season survey data from naturally existing pools. Several smaller creation/restoration projects were also reviewed. The different restoration/creation projects employed different types/methods of innoculum collection. Based on the success of those projects and their method of innoculum collection, a minimum five percent occupancy rate is expected to be achieved with the Yankee Slough restoration.

4.5.3 Monitoring Methods

The following outlines the methods for monitoring the restored vernal pools. Please reference Tables 3 and 4 for a monitoring schedule and number of pools to be monitored each year.

4.5.3.1 Hydrology

The purpose of hydrologic monitoring is to determine if the restored vernal pools are inundated for periods sufficient to support appropriate biota. In order to monitor the hydrology of the restored vernal pools, the maximum pool depth will be measured at twice (during wet season surveys for vernal pool branchiopods) during period of maximum inundation, usually during December through February.

In addition, aerial photographs of the YSP site will be taken twice annually. Once during the peak period of inundation, typically during January or February and then again when the vernal pool plants are flowering, typically between April and June. Such aerial photographs give an excellent overview of the project and its micro-watershed. Aerial photographs can help identify area that warrant additional attention during subsequent field visits. In particular, aerial

photographs will be used to help identify: 1) areas that do not pond water, 2) areas that are ponding late in the season, and 3) off-site activities that may be affecting hydrologic function within the YSP. In addition, these photos can be used to estimate actual pool area for the constructed wetlands.

4.5.3.2 Vernal Pool Branchiopods

Restored and reference vernal pools will be sampled twice during each monitoring year, once during the early rainy season and once during the later part of the rainy season. Both restored vernal pools, and reference pools, will be sampled to provide data regarding the presence of vernal pool branchiopods. Surveys will be conducted in compliance with USFWS guidelines regarding sampling for potentially occurring threatened or endangered branchiopods (e.g., fairy shrimp and tadpole shrimp), although the two-week sampling protocol will not be followed. The vernal pools will be sampled by pulling a "D-frame" aquatic dip-net (20 x 24 mesh/inch) through them. Three dip-net passes, each approximately 3 meters in length, will be made through each sampled pool. Sampled areas will include the deepest portion of the pool, the pool edge, and an area located between the pool center and pool edge. During each pass, the face of the dip-net will be undulated up and down, intermittently touching the pool bottom, in order to sample various strata within the water column of the wetland. Special-status vernal pool branchiopod crustaceans will be identified to generic/species level (when possible) in the field and released unharmed. Adult specimens may periodically be retained as voucher specimens. The percent occupancy will be calculated as described in 4.5.2.

4.5.3.3 Vegetation

Field surveys of monitored restored vernal pools and reference pools will be conducted each spring during peak flowering periods. Timing of floristic surveys will be adjusted according to yearly rainfall and site specific conditions. Data collected from each monitored pool will include an estimate of percent aerial vegetative cover, a detailed species list, and an estimate of the absolute cover of each species. A cumulative vascular plant species list will then be generated for each wetland. Data collected from each monitored wetland will include an estimate of percent aerial vegetative cover, a cumulative species list, and an estimate of the relative cover of each species using the modified Braun-Blanquet cover estimate scale (0=<1%, 1=1-5%, 2=6-25%, 3=26-50%, 4=51-75%, and 5=76-100%). A cumulative plant species list will then be generated for each wetland.

4.5.3.4 Photo Documentation

As described under hydrology, aerial photos of the site will be taken twice annually. In addition, a minimum of 11 permanent photo points have been established at the YSP (Figure 8 – *Photo Point Locations*). Photos will be taken

from these points to document both pre- and post-restoration conditions. These points have been selected because they will be easy to locate both before and after restoration activities. They are intended to provide a photographic history of both preserved and restored areas within the YSP. During the first year following restoration, additional photo points may be established, if desired.

4.5.3.5 General Preserve Monitoring

During the detailed monitoring of the restored vernal pools, biologists will monitor non-native (pest) plant populations, grazing regime, and thatch accumulation. These topics will be covered in the annual monitoring report.

4.5.4 Monitoring Schedule

Monitoring will be conducted for ten years. The monitoring period will begin with the first rainy season following the restoration activities. See Tables 3 and 4, for an outline of the monitoring schedule by monitoring year. Monitoring will be extended beyond the ten-year period only for those vernal pools that are not meeting success criteria.

Table 3. Yankee Slough Vernal Pool Restoration Monitoring Schedule - Years 1-5

RESTORED AND REFERENCE VERNAL POOLS	Hydrology	Invertebrates	Vegetation	Photo Documentation	General Preserve Monitoring
First Year	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - 20*% of the Restored Pools and all of the Reference Pools	None	Yes	Yes
Second Year	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - 20*% of the Restored Pools and all of the Reference Pools	None	Yes	Yes
Third Year	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - All Restored Pools informally monitored by an experienced biologist/botanist. Pools that appear to be functioning poorly will be considered for remediation. Remediation, if implemented, will occur during Summer of the third year.	Yes	Yes - Meet with grazing contractor
Fourth Year	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - 50% of the Restored Pools will be floristically monitored. All of the Reference Pools will be floristically monitored.	Yes	Yes - Meet with grazing contractor
Fifth Year	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - The second 50% of the Restored Pools will be floristically monitored. All of the Reference Pools will be floristically monitored.	Yes	Yes - Meet with grazing contractor

* The 20% of Restored Pools that are monitored for hydrology and listed vernal pool invertebrates will be the same in each individual year, however in the first through fifth years a different 20% will be chosen, such that in the fifth year all pools will have been monitored once.

Table 4. Yankee Slough Vernal Pool Restoration Monitoring Schedule - Years 6-10

RESTORED AND REFERENCE VERNAL POOLS	Hydrology	Invertebrates	Vegetation	Photo Documentation	General Preserve Monitoring
Sixth Year	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - 20*% of the Restored Pools and all of the Reference Pools	None	Yes	Yes - Meet with grazing contractor
Seventh Year	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - 20*% of the Restored Pools and all of the Reference Pools	None	Yes	Yes - Meet with grazing contractor
Eighth Year	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - All Restored Pools that do not meet the hydrology and vegetation success criteria in the fifth year will be monitored. All Reference Pools will be monitored.	Yes	Yes - Meet with grazing contractor
Ninth Year	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - All Restored Pools that do not meet the hydrology and vegetation success criteria in the eighth year will be monitored. All Reference Pools will be monitored.	Yes	Yes - Meet with grazing contractor
Tenth Year	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - 20*% of the Restored Pools and all of the Reference Pools	Yes - All Restored Pools and Reference Pools will be monitored.	Yes	Yes - Meet with grazing contractor

* Monitoring for hydrology and listed vernal pool invertebrates will occur again, just as it occurred in years 1-5. For example, the same 20% that were monitored in the first year will be monitored in the sixth year and the same 20% that were monitored in the second year will be monitored in the seventh year, and so on. Thus, at the end of the tenth year each pool will have been monitored twice.

5.0 IMPLEMENTATION PLAN

5.1 Site Preparation

5.1.1 Grading Implementation

In general, vernal pools shall be restored to a variety of depths, ranging from 12 to 24 inches of water, and each pool shall have an undulating bottom to maximize microtopographic diversity. This will be accomplished through the use of necessary heavy equipment.

5.1.2 Soil Treatment and Disposal

Innoculum (seed bearing soil) will be collected from the impact site (Westpark/Fiddyment Ranch project site). For those vernal pools at the impact site that are permitted for fill, the top 2 inches of seed bearing soil will be collected, transported to the YSP, and stockpiled. This innoculum will be distributed in the newly restored vernal pools. While there is expected to be a significant amount innoculum collected from the pools at the impact site, a second method for collecting innoculum is proposed as part of this restoration plan. Leveled fields that have been left fallow at the Preserve are partially wetland habitat. Of these areas, some are dominated by vernal pool species. To supplement the innoculum collected at the impact site, areas dominated by vernal pool vegetation will be identified by a biologist and will be mechanically vacuumed then distributed in newly restored pools.

The additional excavated material from the restored pools at the YSP will be redistributed over the site to create elevational variances in site topography (primarily in the leveled fields) and in upland areas away from the existing wetlands. Any spoil material from the restoration, which is redistributed over the site, will be hydroseeded or drill seeded with a native seed mix.

In addition, all disturbed upland areas at the site will be revegetated by replacing previously scrapped upland soil and complying with the storm water pollution plan. Specific attention will be given to the haul routes. A biologist will assess all haul route areas for compaction and determine if the haul routes need to be reconditioned using a spiked tooth harrow or comparable equipment prior to final revegetation.

5.1.3 Pest Plant Removal

No pest plant removal is expected to be needed prior to the restoration effort. Please see Section 6.3 for post restoration pest plant maintenance.

5.1.4 Cultural Resources

One resource is located well within a buffer area and will not to be disturbed. It will be pinflagged for additional protection. It is recommended that should any previously unidentified prehistoric or historic archaeological resource be encountered during the course of project activities, all work in that area shall halt, and a qualified professional archaeologist shall be notified immediately so that the resource value may be assessed as soon as possible. Under such circumstances, a reasonable effort should be made to avoid, minimize or mitigate adverse effects to such properties.

All project personnel should be informed about the potential archaeological resources and procedures to follow if a discovery is made. The following is a brief list of prehistoric and historic resources that could be discovered during project activities. Prehistoric resources that may be identified include, but are not limited to, concentrations of stone tools and flakes made from obsidian, chert, basalt, and other materials; milling remains such as bedrock mortars, portable mortars, pestles or manos, or dark stained soil from the remains of organic material from food processing. Historic resources that may be identified, but are not limited to, include house foundations, wells, privy's, machine or hand soldered cans, and colored bottle glass fragments. All of the resources both prehistoric and historic are considered significant until determined otherwise.

5.1.5 Construction Monitor

A biological monitor will be present, as needed, for construction activities, innoculum collection, and re-seeding of disturbed areas.

5.1.6 Implementation Schedule

Implementation will begin spring/summer 2005 and will be completed summer/fall 2005.

6.0 MAINTENANCE DURING MONITORING PERIOD

6.1 Maintenance Activities

In addition to the specific success monitoring schedule and activities outlined in this plan, general maintenance monitoring will occur annually during the habitat monitoring. The goal of these inspections will be to ensure the YSP is maintained in good condition. Inspections will be performed by qualified personnel who will assess potential maintenance issues such as altered hydrology, fencing integrity, invasion of exotic species, organic thatch accumulation, grazing impacts, erosion problems, and/or trash accumulation.

After the monitoring period has ended, the YSP will be maintained and monitored according the *Operations and Management Plan for the Yankee Slough Preserve*, which has been prepared by ECORP Consulting, Inc. under separate cover.

6.2 Grazing

The property may be grazed starting in the third fall (i.e., two years) after restoration has taken place, to provide for both fire control, weed abatement, and thatch management. This should be postponed if the vegetation in the restored vernal pools has not reached a moderate cover value, as grazing will reduce cover through trampling and feeding. Grazing will be managed for the benefit of native flora. Currently the YSP is being grazed in conjunction with the remaining portion of the Yankee Slough property. Approximately, 30 cow-calf pairs are currently run on the overall property and extra feed is left at the end of the winter grazing season. Preliminary research presented by Barry (1996) at the "Conference of the Ecology, Conservation and Management of Vernal Pool Ecosystems" indicates the removal of livestock from vernal pool landscapes results in both the invasion of exotic annual species and the reduction in species diversity within and around vernal pools. The same grazing program is expected to be implemented after the restoration takes place. Grazing within the YSP will begin roughly after November 1 and will continue until around May 1 of the following year. The monitoring biologists, in conjunction with the grazing contractor, may use discretion in determining when the appropriate time for removal of the herd is desirable. In general, removal time should coincide with the upland grasses turning brown and the reduction in the water available to the herd, since this is when the animals are most likely to directly effect the vernal pools (Sugnet and Associates 1997). The appropriate removal time will vary annually according to site specific rainfall and weather conditions. The animals can be returned to the pasture later in the summer to graze on the remaining dry matter, since they will not be likely to concentrate in the pools once they dry out.

6.3 Pest Plant Species Control

A component of the post-restoration maintenance and monitoring effort will be to assess the revegetation of the disturbed upland areas, with particular attention given to minimizing the spread of yellow star-thistle (*Centaurea solstitialis*). Currently, yellow star-thistle is present in small patches at the site, however, disturbed soil provides the ideal substrate for the species to spread. If the grading operation results in small populations of star-thistle that can realistically removed by hand, then hand removal will be used. Although use of herbicides is not desirable, if larger populations become established, the herbicides *Roundup* (or generic) and *Transline* (or generic) will be utilized to control the growth of star-thistle until hand removal is again practical. Each herbicide will not be used more than three years in a row. If other herbicides are proposed for use, Corps and Service approval will be obtained. Grazing will also be used after vegetation becomes established in the restored areas to minimize the invasion of star-thistle.

6.4 Maintenance Schedule

The general maintenance monitoring will occur annually during the habitat monitoring. Maintenance actions such as fence repairs, trash removal, erosion control measures, or changes in grazing practices will be addressed promptly by Conservation Resources.

6.5 Party Responsible for Maintenance During the Monitoring Period

Mr. Chris Vrame
President
Conservation Resources
3600 American River Drive., Suite 105
Sacramento, CA 95864
Phone: (916) 974-3355
Fax: (916) 974-3390

7.0 MONITORING REPORTS

7.1 As-Built Conditions

If any significant deviations from the approved mitigation plan occur during the restoration implementation, an as-built report will be submitted to the Service and the Corps within 6 weeks of restoration completion. This as-built will consist of a set of the wetland construction plans with the changes clearly marked in red ink. In addition, a "habitat as-built" will be submitted with the first year's monitoring report utilizing either GPS technology or aerial photography to indicate the restored acreage of vernal pools and the hydrologic functionality of the restored habitat.

7.2 Annual Reports

Monitoring reports will be prepared and submitted for each of the 10 monitoring years by December 31st of each monitoring year. The report will refer to the Corps regulatory branch number for the Westpark/Fiddyment Ranch project, which is 200200666 and the Service file number which is 1-1-03-F-0013. The reports will be sent to the attention of Chief, Sacramento Valley Office, Regulatory Branch, at the Corps and Branch Chief, Endangered Species Branch, Sacramento Field Office, at the Service. Monitoring reports shall include:

1. A map showing the YSP including wetland locations, location of various monitoring activities, and photo points;
2. Hydrology, vegetation, and photographic monitoring results as described above;
3. An assessment of the monitoring results against the established success criteria and a calculation of the percent occupancy of listed vernal pool invertebrates;
4. A description of the overall site condition and any management actions taken during that year; and
5. Any recommended management actions to be done within the YSP (if necessary, a contingency plan (as described below) will be prepared).

8.0 POTENTIAL CONTINGENCY MEASURES

8.1 Initiating Procedures

If monitoring indicates that a subset of the restored vernal pools are not moving toward meeting their hydrology or floristic success criteria, Conservation Resources shall prepare an analysis of the cause or causes of failure, and if deemed necessary by the Corps and the Service, propose remedial action for approval. If monitoring shows that the project is not progressing toward the five percent occupancy of restored vernal pools by listed vernal pool invertebrates, Conservation Resources will meet with the Service to determine if it is appropriate to implement the remediation options listed under 8.2. If the mitigation has not met the success criteria, at the end of the ten year monitoring period. Conservation Resources monitoring obligations continue until the Corps and the Service give final project confirmation.

8.2 Remediation and Contingency Plan

In the event that a subset of the restored wetlands do not function and do not appear that they will meet established success criteria for hydrology or floristics, a remediation plan will be developed. The plan will identify those measures (e.g., re-grading or reseeding, etc.) appropriate to remediate the situation. If such remediation measures are implemented during the first five years of the ten-year monitoring period, no extension of the initial monitoring period will occur. If such remediation measures are implemented in years six through ten, then monitoring of the remediated pools will be extended, but only for the remediated areas until they meet their success criteria or some other action is taken to replace the non-functioning habitat.

In the event that remediation is needed to reach the five percent listed vernal pool invertebrate occupancy success criteria, the following methods have been approved by the Service. Prior to implementation of remediation efforts that involve the use of preserved vernal pools at the Westpark/Fiddyment Ranch Preserve or preserved vernal pools at the Yankee Slough site as donor pools for innoculum, the Service must be notified. Notification will be made thirty days prior to the initiation of work and will be sent to the Branch Chief of the Endangered Species Branch, Sacramento field office.

There are three sets of vernal pools that may act as donor pools if additional innoculum is needed to meet the five percent occupancy success criteria: restored vernal pools at the Yankee Slough site found during monitoring to support listed species, preserved vernal pools at the Yankee Slough site found to support listed species, and preserved vernal pools at the on-site Westpark/Fiddyment Ranch preserve found to support listed species.

Collection of innoculum in these pools will be achieved through mechanically/mowing vacuuming no more than seventy-five percent (75%) of each selected pool. The innoculum will only be collected in summer or fall when

the pool and the surrounding uplands are completely dry. The innoculum will then be stored in a dry place until the first rains of fall. When the ground is damp, the innoculum will be spread evenly along the bottom of the pools selected to receive innoculum. Fall and winter rains will keep the innoculum damp until the pools become inundated so that the wind will not blow it away.

9.0 COMPLETION OF MITIGATION RESPONSIBILITIES

9.1 Notification

Conservation Resources will notify the Corps and the Service when submitting the final monitoring report that it is their understanding that the final success criteria and target occupancy of listed vernal pool invertebrates have been met.

9.2 Agency Confirmation

Following receipt of the report, the Service and the Corps may require a site visit to confirm the completion of the mitigation monitoring. At the end of the ten-year monitoring period for the restored vernal pools, monitoring will cease if the project is found by the Service and the Corps to be in substantial compliance with established success criteria and occupancy percentage for listed vernal pool invertebrates. Once the initial success monitoring period is complete, all of the provisions of the *Operations and Management Plan for the Yankee Slough Preserve* will be implemented for long-term management of the site.

10.0 REFERENCES

Barry, S. 1996. Managing the Sacramento Valley Vernal Pool Landscape to Sustain the Native Flora. Pp. 236-240. In Ecology, conservation, and management of vernal pool ecosystems – proceedings from a 1996 conference. C.W. Witham, E.T. Baulder, D. Belk, W.R. Ferren Jr., and R. Ornduff (editors). California Native Plant Society, Sacramento, CA.

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Rogers, J. H. 1980. *Soil Survey of Placer County, California, Western Part*. United States Department of Agriculture, Soil Conservation Service, Washington, DC.

U.S. Department of the Interior, U.S. Fish and Wildlife Service. 1996. *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a) (1) (A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods*, April 19, 1996.

U. S. Department of the Interior, Geological Survey. 1992. *Roseville, California* Quadrangle, Placer County. 7.5 Minute Series Topographic. U. S. Geological Survey. Denver, Colorado.

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Wagner *et. al.* 1981. Geologic Map of California. Sacramento Sheet. Department of Conservation. Map.

LIST OF FIGURES

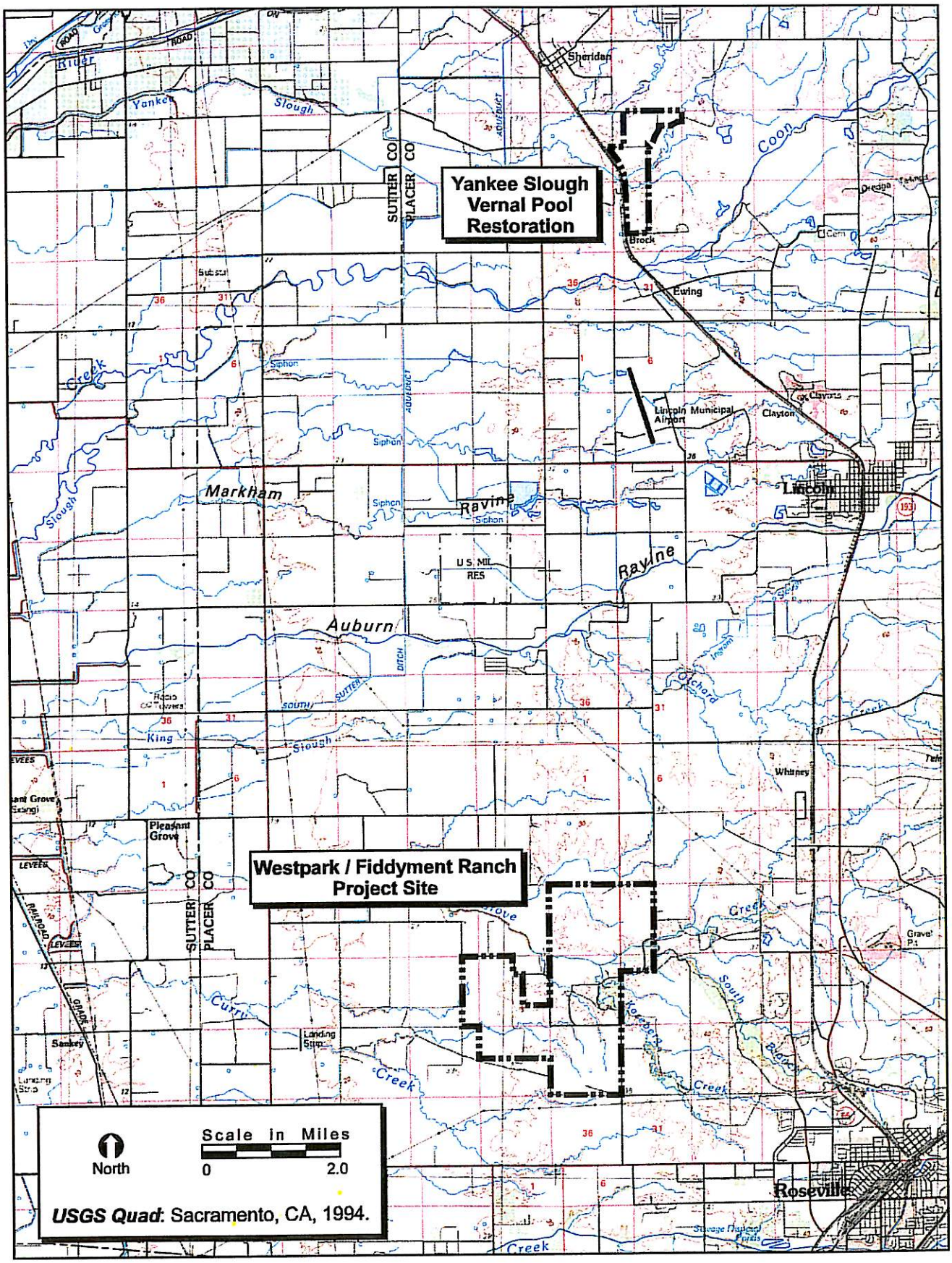

FIGURE 1. Project and Mitigation Sites and Vicinity

2003-170 Yankee Slough Restoration

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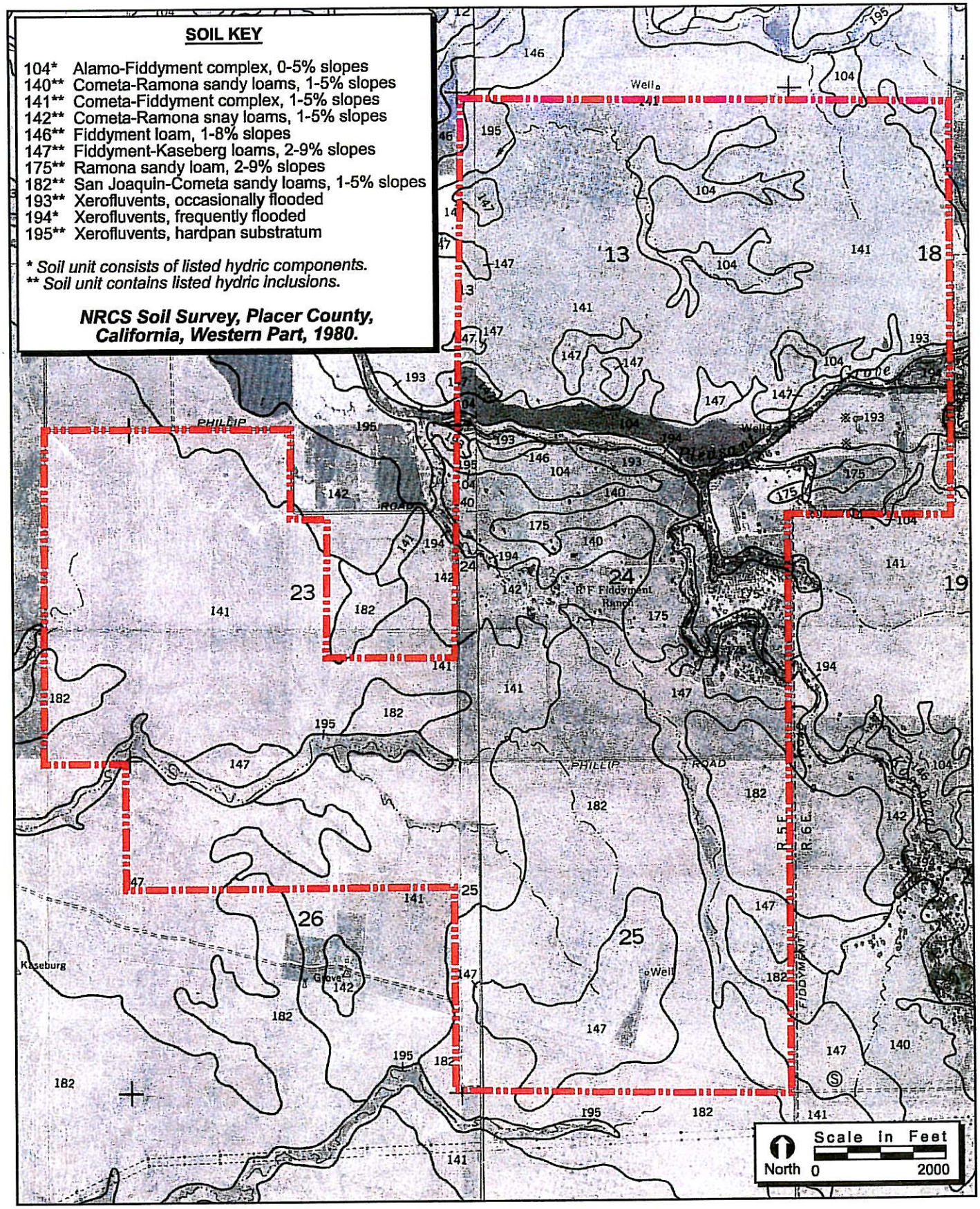

FIGURE 2. Project Site NRCS Soil Types

2003-170 Yankee Slough Restoration

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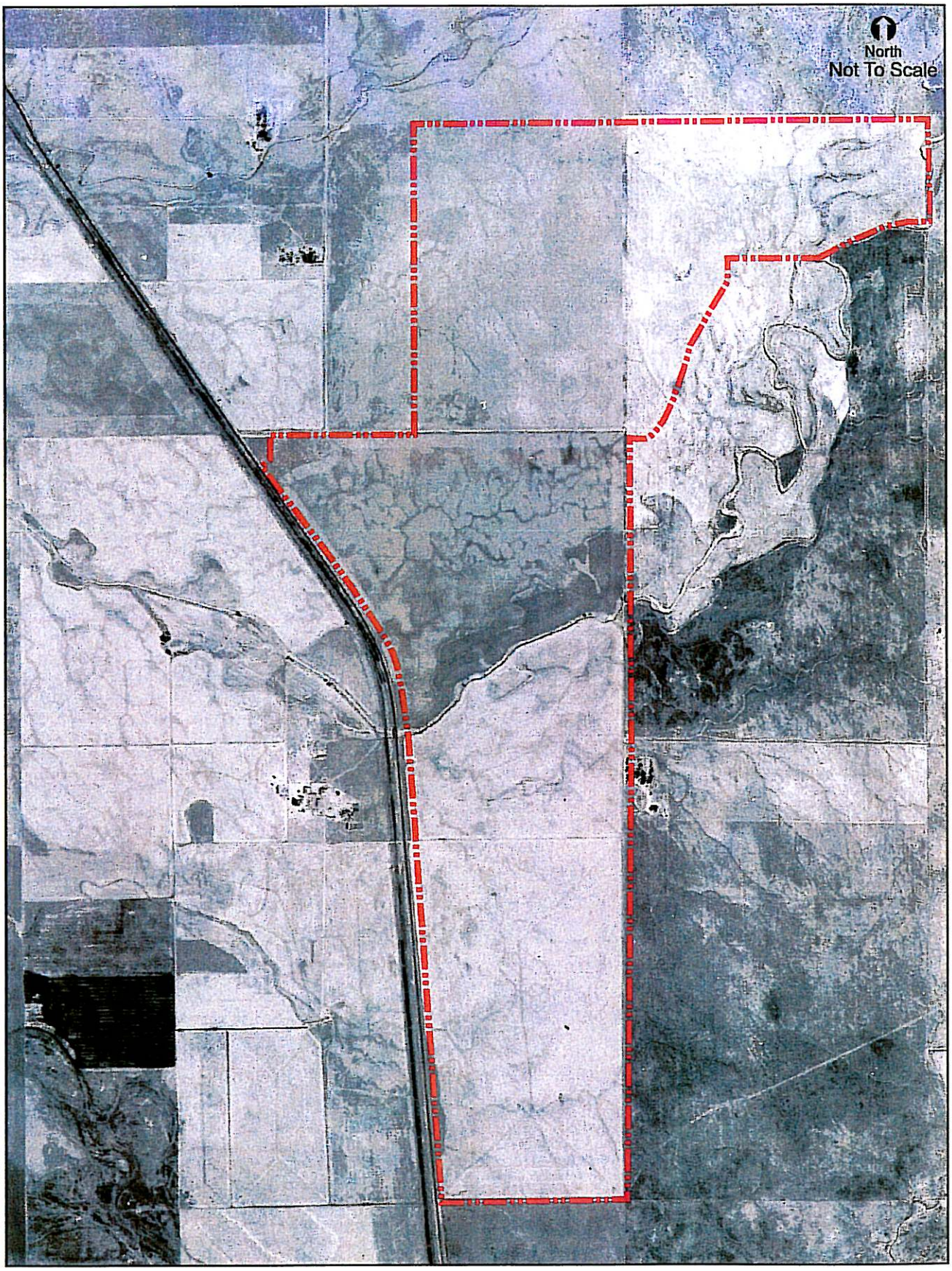

FIGURE 3. Mitigation Site Historic Aerial - 1937

2003-170 Yankee Slough Restoration

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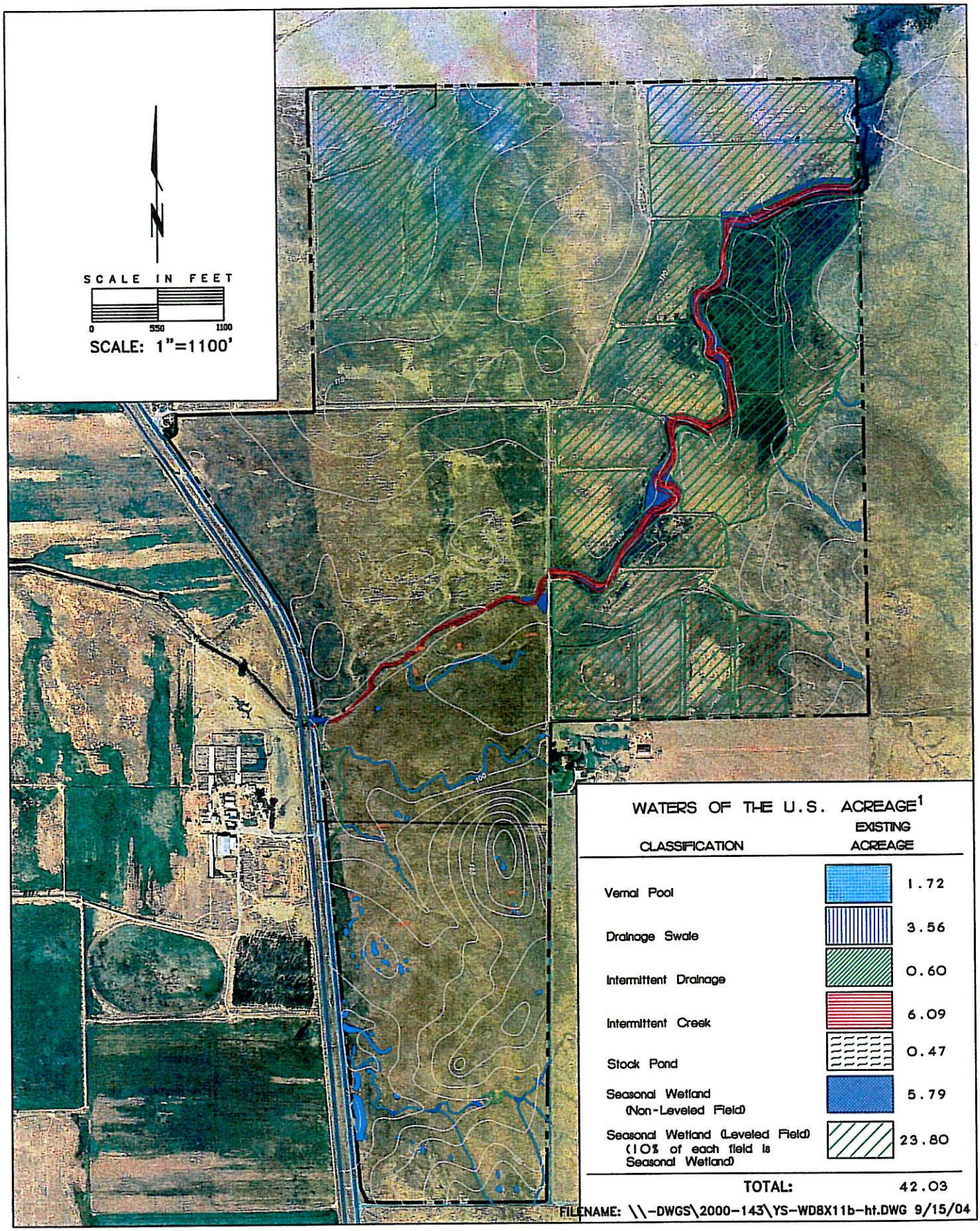

FIGURE 4. Wetland Delineation

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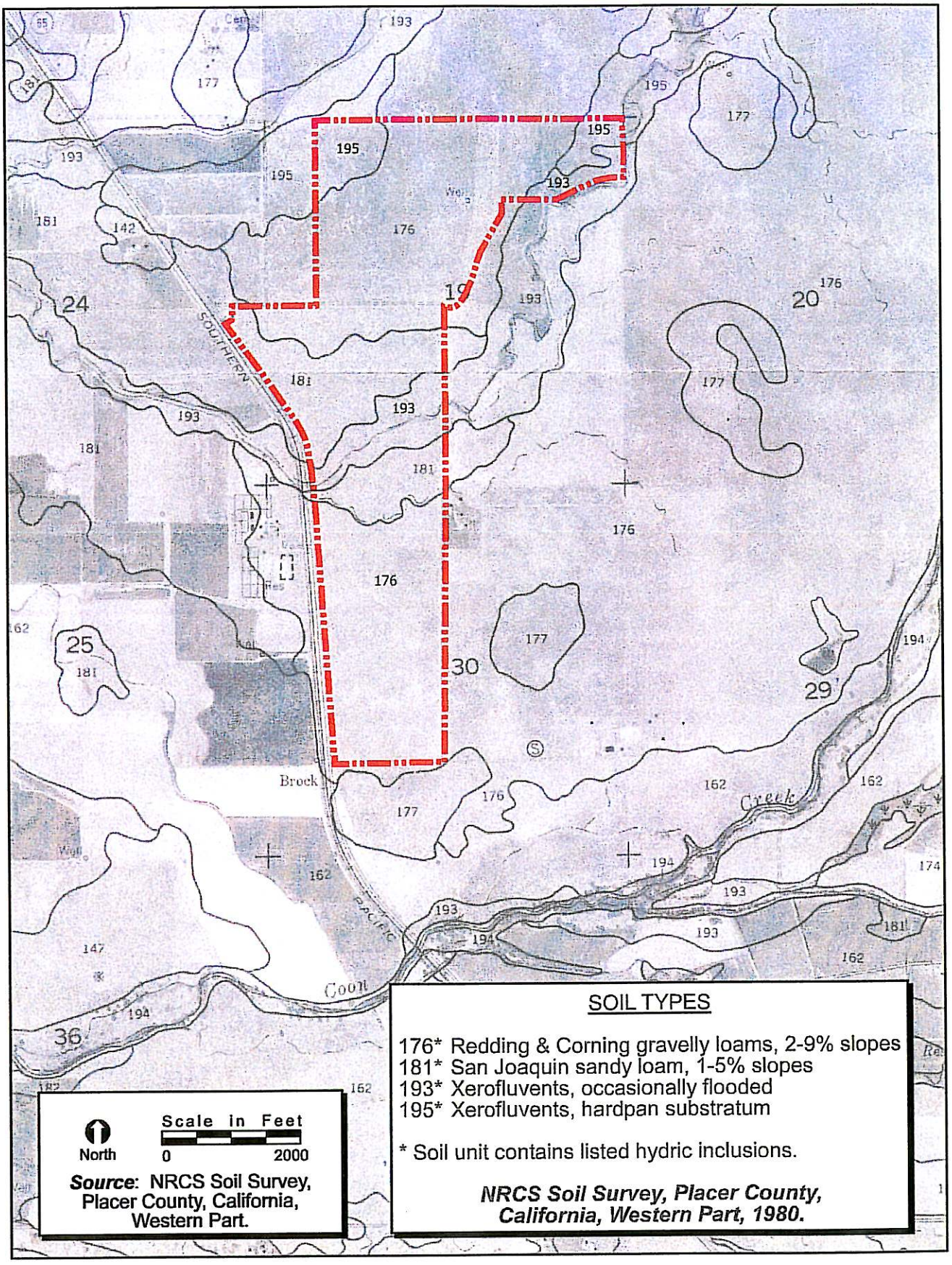

FIGURE 5. Mitigation Site NRCS Soil Types

2003-170 Yankee Slough Restoration

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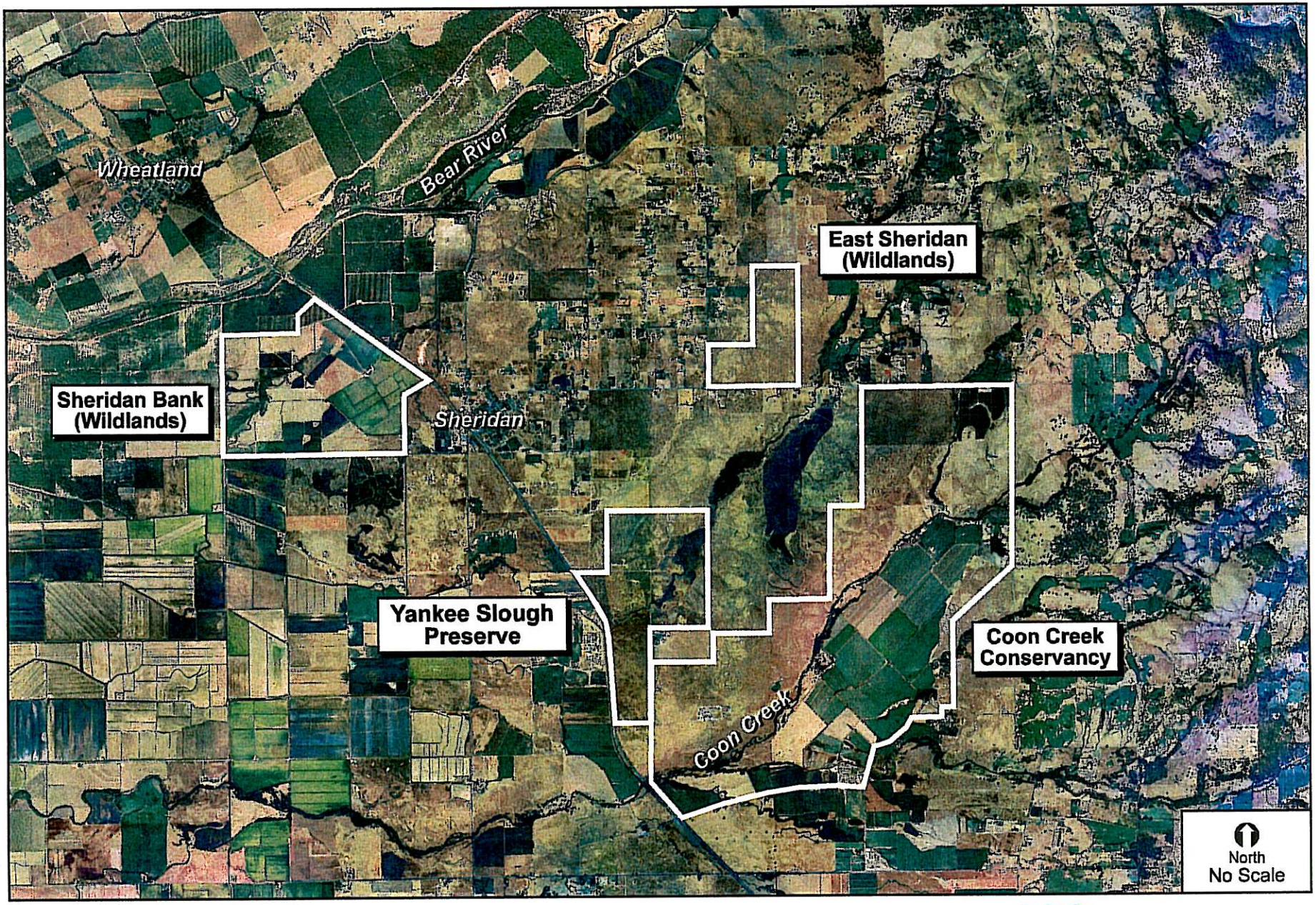

FIGURE 6. Regional Conservation Areas

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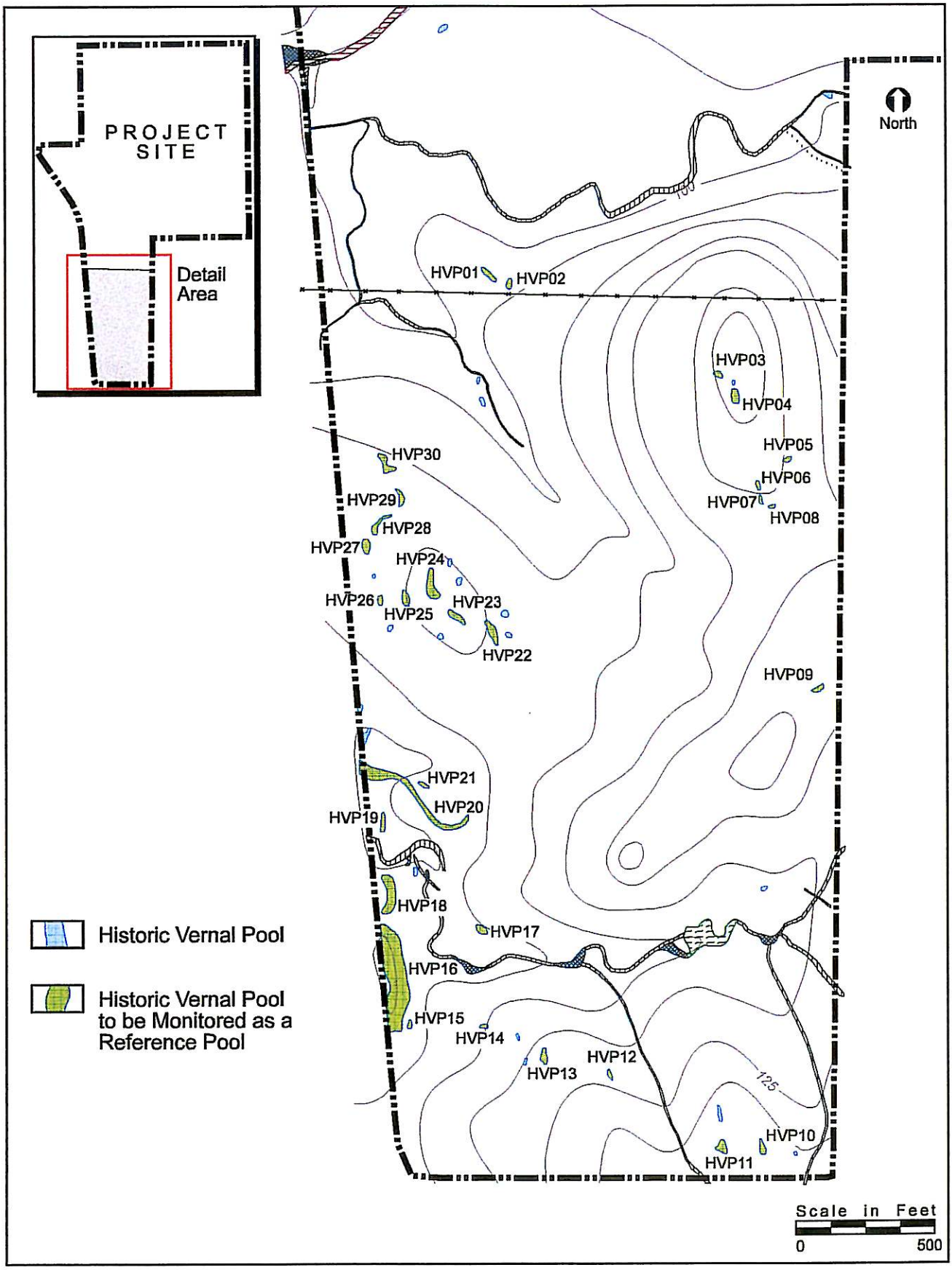

FIGURE 7. Reference Pool Locations

2003-170 Yankee Slough Restoration

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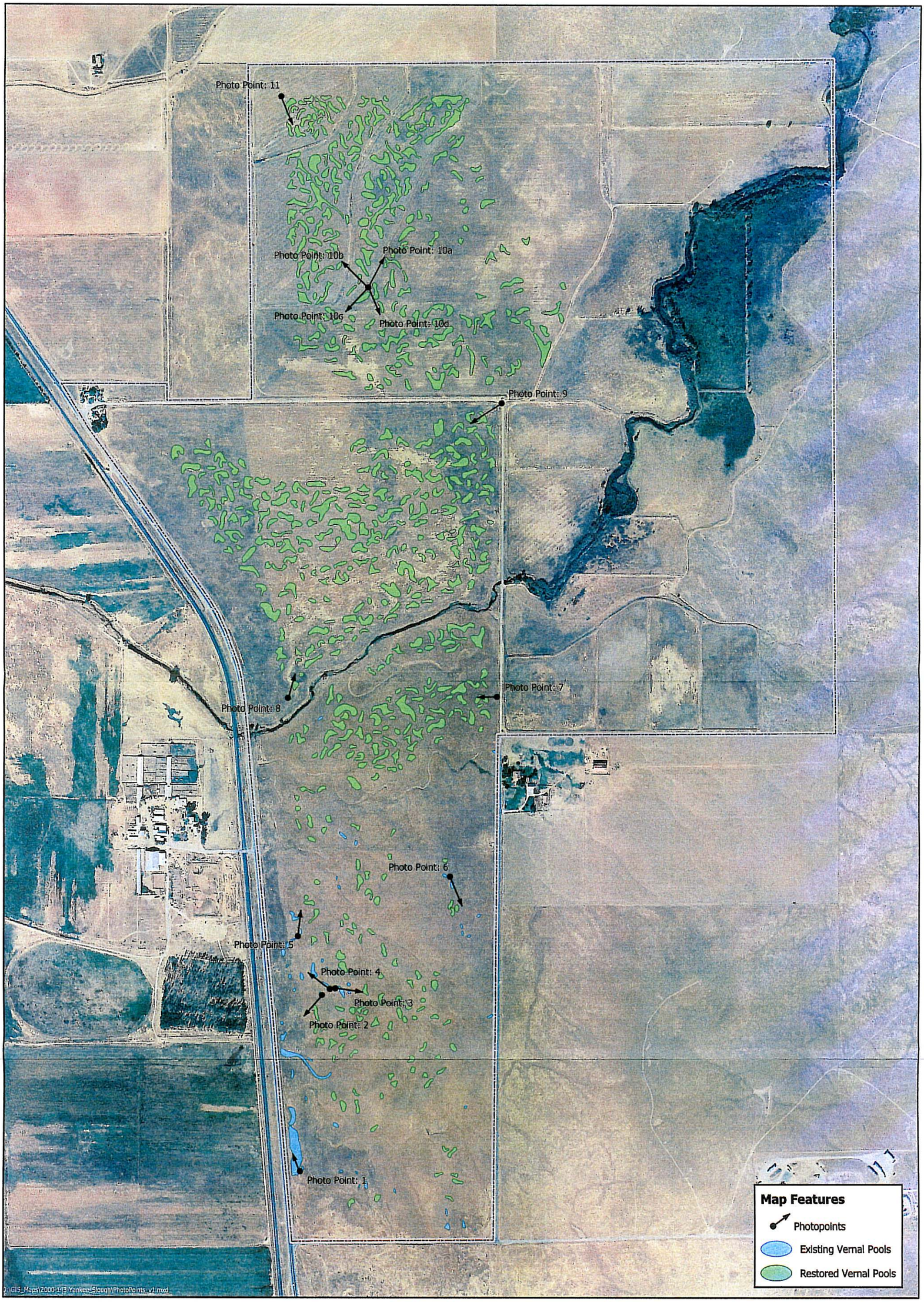

Figure 8 - Photo Point Locations

2003-170 Yankee Slough

1 inch equals 700 feet

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

LIST OF ATTACHMENTS

Attachment A – Biological Opinion

Attachment B – Department of the Army Permit (200200666)

Attachment C – Jurisdictional Delineation for the Westpark/Fiddyment Ranch Property

Attachment D – Vernal Pool Restoration Plan Set

Attachment E – Wetland Delineation Verification

ATTACHMENT A

Biological Opinion

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

IN REPLY REFER TO:
1-1-03-F-0013

NOV 20 2003

Mr. Tom Cavanaugh
Chief, Sacramento Valley Office
U. S. Army Corps of Engineers
1325 J Street, Room 1480
Sacramento, California 95814-2922

Subject: Formal Consultation on the proposed Westpark/Fiddyment Ranch Project (File 200200666), Placer County, California

Dear Mr. Cavanaugh:

This is in response to your October 21, 2002, letter requesting initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Westpark/Fiddyment Ranch project, Placer County, California. Your letter was received on October 23, 2002. The Service has reviewed the biological information submitted by your office describing the effects of the proposed project on the federally endangered vernal pool tadpole shrimp (*Lepidurus packardi*) and the threatened vernal pool fairy shrimp (*Branchinecta lynchi*) and its designated critical habitat. This response is in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*)(Act).

The Service has determined that the proposed Westpark/Fiddyment Ranch project is not likely to adversely affect the federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) or the threatened giant garter snake (*Thamnophis gigas*) because the habitat requirements associated with these species are not present within the proposed project area. The Service's effects determination does not extend to State listed or species of concern such as the Swainson's Hawk (*Buteo swainsonii*) or Burrowing Owl (*Athene cunicularia*), and the applicant is encouraged to seek consultation on potential impacts to these species with the California Department of Fish and Game. The applicant is also reminded that the proposed project should incorporate measures to conserve species protected under the Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755) as amended.

TAKE PRIDE IN AMERICA

The findings and recommendations in this consultation are based on: (1) Information provided regarding the Notice of Preparation of an Environmental Impact Report for the West Roseville Specific Plan, dated August 16, 2002; (2) information included in the Section 404 Individual Permit Application prepared by ECORP Consulting, dated July 10, 2002; (3) a document titled Supplemental Information for Initiation of Section 7 Consultation for Westpark/Fiddyment Ranch, dated September 17, 2002; (4) a letter dated January 21, 2003, that includes the Response to Service Request for Additional Information; (5) the Wetland Delineation for the Fiddyment Property revised in November 1998, and Placer 1600 Property revised in March 1999 by Gibson and Skordal, Wetland Consultants, Sacramento, California; (6) a letter received from Westpark Associates on August 11, 2003, outlining the proposed compensation measures for the proposed project; (7) additional correspondence and meetings between the Service, ECORP and the applicants; and (8) additional information in Service Files.

Consultation History

November 20, 2001. Meeting with representatives of the City of Roseville, Consultants (ECORP), Applicants (Signature Properties and Westpark Associates (Signature/Westpark)), National Oceanic and Atmospheric Administration-Fisheries, U.S. Army Corps of Engineers, California Department of Fish and Game (CDFG), and the Service to discuss the proposed project and agency concerns. The Service and CDFG commit to developing information regarding western Placer vernal pool conservation.

February 7, 2002. Meeting to present/discuss CDFG/Service strategy for dealing section 7 projects prior to NCCP/HCP development in Western Placer County.

March 28, 2002. Reason Farms site visit. Items discussed included design of retention basins, wetland resource compensation potential for site, potential for vernal pool creation for site. Service discussed pulling back of levee design, site may provide minor restoration potential for vernal pools, on-site creation at Reason Farms not suitable compensation for Roseville Specific Plan effects.

August 16, 2002. A Notice of Preparation (NOP) for the Environmental Impact Report (EIR) for the proposed West Roseville Specific Plan was sent out to the public for comment. We received the document on August 27, 2002.

September 16, 2002. We provided comments to the City of Roseville regarding the Notice of Preparation for the Environmental Impact Report for the West Roseville Specific Plan.

October 23, 2002. We received a request for formal section 7 consultation from the U.S. Army Corps of Engineers (Corps) regarding the proposed project. Along with the request was the permit application, biological assessment and supplemental information for initiation of Section 7 consultation provided by ECORP.

November 4, 2002. Meeting regarding West Roseville Specific Plan. Attending were City of Roseville, Consultants, Applicants, U.S. Army Corps of Engineers, Department of Fish and

Game, and the Service. Discussion involved revisions to plan, update on status of Draft EIR, off-site compensation. Service requested information regarding on-site detention basin.

November 22, 2002. We sent the Corp a letter outlining our concerns regarding the project and requested additional information in order to start consultation. We requested additional information regarding a description of how the proposed action may affect any listed species, a cumulative effects analysis, and a description of the compensation plan.

January 21, 2003. We received a letter from ECORP responding to our concerns on the proposed project. The requested information was not provided in ECORP's response letter.

January 30, 2003. Meeting with applicants, applicant's attorney (Mr. George Kammerer), Department of Fish and Game, and the Service. Items discussed were site description proposed development, wetland resources on-site, compensation options on-site and off-site

April 2, 2003. We received a letter from the applicant's attorney regarding the applicant's revised project description and minimization measures including several off-site conservation areas to compensate for loss of listed species habitat as a result of the proposed project.

April 8, 2003. Meeting to discuss project design, wetland resources on-site, impact and avoidance summary, on-site and off-site compensation components.

May 5, 2003. We received correspondence from the applicant regarding approval of the East Sheridan property and the potential need to compensate outside of Placer County.

May 13, 2003. Meeting to discuss on-site avoidance, review additional information provided, off-site compensation proposal.

May 19, 2003. We received a request from Mr. George Kammerer to provide them with a Draft Biological Opinion including Service proposed "reasonable and prudent alternatives" and measures.

June 3, 2003. Meeting to discuss revised on-site plan, wetland habitat impacted, off-site compensation.

June 6, 2003. We responded to the applicant regarding providing a Draft Biological Opinion for the project, informing the applicant that the proper procedures are for the Corps to request a draft and that they should contact the Corps to make such a request.

June 6, 2003. Ms. Lori Rinek, Mr. Ken Sanchez, and Mr. Arnold Roessler of the Service, Mr. Jeff Finn of the California Department of Fish and Game, Mr. Jim Stewart and Mr. Pete Balfour of ECORP made a site visit to the proposed Yankee Slough preserve.

June 9, 2003. We received a letter from the County of Sacramento requesting the Service to not accept projects in Placer County acquire off-site compensation in Sacramento County.

June 16, 2003. Meeting to discuss compensation alternatives and the Yankee Slough parcel and Swainson Hawk mitigation.

July 8, 2003. We received a letter from the applicant outlining the revised compensation plan and notification for purchasing portions of East Sheridan and Yankee Slough properties in Placer County.

July 8, 2003. We received a facsimile from Mr. Greg Bardini of Morton & Pitalo Inc. regarding the proposed retention basin to be constructed within a proposed vernal pool preserve area on the proposed project site.

July 10, 2003. We received a facsimile from Mr. John Tallman who provided copies of the proposed agreements for purchasing portions of the Sheridan East and Yankee Slough properties.

July 11, 2003. We received a letter from Ms. Kellie Berry of Wildlands Inc. regarding the East Sheridan preservation area and the resources available to the proposed development project.

July 14, 2003. We received a letter from the applicants regarding the on-site avoidance areas and their relationship to the preservation requirements of the project. The applicant believes that the on-site "preserves" should be included as part of their compensation package.

July 14, 2003. Meeting to discuss East Sheridan and Yankee Slough parcels, on-site detention basin issues, on-site preservation credit, indirect compensation requirements.

July 16, 2003. We sent a letter (Service File # 1-1-03-TA-2485) to Mr. Bill Falik of Westpark Associates regarding the July 10, 2003, proposed agreements with Wildlands Inc. and Conservation Resources Inc. for purchasing portions of the Sheridan East and Yankee Slough properties. We also notified the applicant that the issues regarding the detention basin are still outstanding.

July 18, 2003. We received a facsimile from Mr. Bill Falik of Westpark Associates regarding the proposed compensation for the detention basin and bike path within the on-site avoidance area. A revised project description was included in the package.

August 7, 2003. We received a revised project description from the applicant memorializing the compensation acreages as outlined in the Service's July 16. 2003, letter to the applicant.

August 11, 2003. We received a letter from Mr. Bill Falik of Westpark Associates regarding the proposed compensation for the entire development project.

BIOLOGICAL OPINION

Description of the Proposed Action

The proposed Westpark/Fiddyment Ranch Project is located in western Placer County, California, west of Fiddyment Road and north of Baseline Road. Pleasant Grove and Kaseberg Creeks traverse the property. The project site lies within portions of Sections 13, 22, 23, 24, 25, 26, & 27 of Township 11 North, Range 5 East, of the 'Pleasant Grove, California' and Section 18 and 19 of Township 11 North, Range 6 East, of the 'Roseville, California' U.S.G.S. quadrangle maps. The site has been used for livestock grazing and retains its natural topography and hydrology. The applicant, proposes to construct approximately 8,430 low, medium and high density housing units, with supporting infrastructure, numerous commercial facilities, schools, and parks on a 3,142 acre parcel. At issue are the adverse effects of the proposed residential and commercial development project on the endangered vernal pool tadpole shrimp and the threatened vernal pool fairy shrimp and its designated critical habitat.

The proposed project site contains 63.89 wetted acres of wetlands, including 33.91 wetted acres vernal pools and 8.05 wetted acres drainage swales considered habitat for listed vernal pool crustaceans. The area also includes approximately 3.92 wetted acres of seasonal wetlands, 0.62 wetted acres of emergent marsh, as well as the Pleasant Grove Creek and Kaseberg seasonal creek. Approximately 0.49 wetted acre of vernal pools within the proposed project area were directly affected as a result of the Pleasant Grove Waste Water Treatment Plant project (Service File 1-1-01-F-0034), and those effects will not be addressed further in this biological opinion.

The effects on wetland resources of the proposed project are outlined in Table 1 below.

Table 1. Wetland Resources on the Westpark/Fiddyment Ranch Project Area

Classification	Existing (acres)	Preserved	Avoided[1]	Direct	Indirect
Vernal Pools	33.91[2]	19.62	11.26	13.8	8.83
Swales	8.05	4.76	1.72	3.29	0.74
Total	41.96	24.38	12.98	17.09	9.57

[1] acreage within preserve areas not indirectly affected
[2] (0.49 acres under previous Service biological opinion for Pleasant Grove Waste Water Treatment Plant, 1-1-01-F-0034)

The applicant proposes to avoid approximately 699.3 acres of vernal pool grassland habitat, in four separate areas of the proposed project (see Attachment A); an approximately 132.7 acre preserve area at the northwest portion of the Fiddyment Ranch portion of the project; an approximately 162.5 acre preserve area along Pleasant Grove Creek, protecting mostly riparian habitat; an approximately 44.4 acre preserve area along the intermittent unnamed tributary to Pleasant Grove Creek: and 100' corridor along Kaseberg Creek which totals 14.7 acres; and a 345 acre preserve area along the western portion and extending to include numerous swales and

unnamed channels of the Westpark portion of the proposed development. Approximately 24.38 wetted acres of vernal pools and associated swales will be within the avoided areas. The proposed project's direct and indirect effects include 26.66 acres of vernal pool and vernal swale habitat (as outlined in letters dated July 18, 2003, and August 7, 2003, from Mr. Bill Falik). The applicant proposes to compensate for the loss or degradation of 26.66 acres of listed vernal pool crustacean habitat through the following compensation measures.

For Direct and Indirect Effects:

- The preservation component for vernal pools/swales would include preserving approximately 25.48 acres off-site at the Sheridan East property and 1.2 acres at the Yankee Slough property both in Placer County.

- The restoration component for vernal pool/swales would include restoring approximately 43.00 acres vernal pool grassland habitat at the off-site Yankee Slough property.

Additional measures include:

- No preservation credit will be given for the vernal pools/swales within the on-site avoidance areas.

- The Service shall approve the firm performing the restoration and related monitoring on the Yankee Slough property.

- Restoration can be phased to coincide with losses of habitat as a result of development phasing.

- Phase one of the restoration work is to start on the southern-most portion of the Yankee Slough property.

- Conservation Easement. Vernal pool habitat and associated upland habitat preserved on-site will be protected and managed in perpetuity through a Service-approved conservation easement, Service-approved management plan, and sufficient funds to manage and monitor the site in perpetuity in accordance with the management plan. Funding mechanisms for the maintenance and management may be phased to coincide with phased construction of the project. All maintenance and management obligations associated with this project at the off-site Sheridan East parcel and the Yankee Slough parcel shall be conducted by the respective owners as agreed through separate agreements by the applicant approved by the Service. The applicant has secured the endowment funds necessary for the maintenance and management of the Sheridan East and Yankee Slough parcels in perpetuity.

- Prior to ground-breaking, the applicant will provide the Service with verification that the necessary restoration and preservation acreages have been dedicated in a Service-approved preserve area.

Status of the Species

A final rule was published on September 19, 1994 (59 FR 48136), to list the vernal pool fairy shrimp as threatened and vernal pool tadpole shrimp as endangered under the Act. The final rule to designate critical habitat for 15 vernal pool species, including the vernal pool fairy shrimp and vernal pool tadpole shrimp, was published on August 6, 2003 (68 FR 46684). Further information on the life history and ecology of the vernal pol fairy shrimp and vernal pool tadpole shrimp may be found in the final listing rule, the final rule to designate critical habitat, Eng *et al.* (1990), Helm (1998), Simovich *et al.* (1992), and Volmar (2002). Vernal pool fairy shrimp are restricted to vernal pools, swales, and other seasonal wetlands in California and southern Oregon. Vernal pool tadpole shrimp are restricted to similar habitats in California's Central Valley and San Francisco Bay area.

Vernal pool fairy shrimp. Vernal pool fairy shrimp have delicate elongate bodies; large, stalked, compound eyes; no hard shell (i.e., no carapace); and 11 pairs of swimming legs. Typically less than 2.5 centimeters (cm) (1 inch) long, they swim or glide gracefully upside-down by means of complex, wavelike beating movements while feeding on algae, bacteria, protozoa, rotifers, and detritus. Female vernal pool fairy shrimp carry eggs in a pear-shaped, ventral brood sac until the eggs are either dropped or sink to the pool bottom with the female when she dies. Eggs which remain after pools dry are known as cysts and are able to withstand heat, cold, and prolonged desiccation. When pools refill in the same or subsequent seasons, some, but not all, of the cysts may hatch, resulting in a cyst bank in the soil that may include cysts from several breeding seasons (Donald 1983). Vernal pool fairy shrimp develop rapidly and may become sexually mature within two weeks after hatching (Gallagher 1996, Helm 1998). Such quick maturation permits fairy shrimp populations to persist in short-lived, shallow bodies of water (Simovich *et al.* 1992).

Vernal pool fairy shrimp inhabit alkaline pools, ephemeral drainages, rock outcrop pools, ditches, stream oxbows, stock ponds, vernal pools, vernal swales, and other seasonal wetlands (Helm 1998). Occupied habitats range in size from rock outcrop pools as small as one square meter to large vernal pools up to 4.5 hectares (12 acres); the potential ponding depth of occupied habitat ranges from 3 cm (1.2 inches) to 1.2 meters (48 inches). The vernal pool fairy shrimp has been collected from early December to early May.

All known occurrences of vernal pool fairy shrimp inhabit sites in California or southern Oregon. The geographic range of this species encompasses most of the Central Valley from Shasta County to Tulare County and the central coast range from northern Solano County to Santa Barbara County, California; additional disjunct occurrences have been identified in western Riverside County, California, and in Jackson County, Oregon near the city of Medford (CDFG 2000-2003, Helm 1998, Eriksen and Belk 1999, Volmar 2002, Service 1994, Service 2003).

Vernal pool fairy shrimp Critical Habitat
The proposed project lies within the Western Placer County Unit (Unit 12) for the vernal pool fairy shrimp designated on August 6, 2003 (68 FR 46684). This critical habitat unit is

approximately 32,134 acres in size and forms one of the remaining large vernal pool complex areas in the Southeastern Sacramento Valley vernal Pool Region (Keeler-Wolf *et al.* 1998). This unit contains occurrences of the vernal pool fairy shrimp and is considered essential for the conservation of the species. The majority of the lands within the unit are privately owned. Several conservation areas set-up to protect vernal pool habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp have been established within this unit.

In determining which areas to designate as critical habitat, the Service considers those physical and biological features that are essential to a species' conservation and that may require special management considerations or protection (50 CFR §424.12(b)). The Service is required to list the known primary constituent elements together with the critical habitat description. Such physical and biological features include, but are not limited to, the following:

(1) space for individual and population growth, and for normal behavior;

(2) food, water, air, light, minerals, or other nutritional or physiological requirements;

(3) cover or shelter;

(4) sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and

(5) generally, habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

In designating critical habitat for the vernal pool fairy shrimp, the Service identified the following primary constituent elements essential to the conservation of the species:

The first primary constituent element provides the aquatic environment required for cyst incubation and hatching, growth and maturation, reproduction, feeding, sheltering, and dispersal, and the appropriate periods of dessication for cyst dormancy and to eliminate predators such as bullfrogs, fish, and other aquatic predators that depend on year round inundation of wetland habitats to survive. We concluded that this element is essential to the conservation of vernal pool fairy shrimp because the species is ecologically dependent on seasonal fluctuations, such as absence or presence of water during specific times of the year, and duration of inundation (59 **FR** 48136).

The second primary constituent element is essential to maintain the aquatic phase of the vernal pool habitat. The entire vernal pool complex, including the pools, swales, and associated uplands, is essential to support the aquatic functions of the vernal pool habitat. Although the uplands are not actually occupied by vernal pool fairy shrimp, they nevertheless are essential to the conservation of vernal pool habitat and crustaceans because they maintain the aquatic phase of vernal pools and swales. Associated uplands are also essential to provide nutrients that form the basis of the vernal pool food chain, including a primary food source for the vernal pool crustaceans.

The areas designated as vernal pool critical habitat were based on CNDDB (2000-2003) occurrence data, vernal pool mapping, and the vernal pool regions outlined in the California Vernal Pool Assessment Preliminary Report (Keeler-Wolf *et al.* 1998). Placer County is considered within the Southeastern Sacramento Valley Vernal Pool Region. The vernal pool grasslands mapped by Holland (1998b) and Glazner (2001) were used to identify areas which contain the primary constituent elements for the species in Placer County. Site visits, species information, and aerial photography were used to further refine those areas which we consider essential to the conservation of the vernal pool fairy shrimp and to exclude those areas which no longer support the species. As a result of the mapping refinements, approximately 32,134 acres (12,854 hectares) are designated as critical habitat for the vernal pool fairy shrimp in Placer County. The critical habitat within Placer County represents approximately 4.3 percent of the total amount of critical habitat for the 15 vernal pool species in the final rule and approximately 7 percent of the critical habitat designated for the vernal pool fairy shrimp. The critical habitat in western Placer County also represents approximately 84 percent of the critical habitat designated in the Southeastern Sacramento Valley Vernal Pool Region (68 **FR** 46684).

Vernal pool tadpole shrimp. Vernal pool tadpole shrimp have large, shield-like carapaces approximately 1 inch (2.5 cm) long that covers most of their body; dorsal, compound eyes; and a pair of long cercopods, one on each side of a flat caudal plate, at the end of their last abdominal segment. Vernal pool tadpole shrimp are primarily bottom-dwelling animals that move with legs down while feeding on detritus and living organisms, including fairy shrimp and other invertebrates (Pennak 1989). Females deposit cysts (partially developed embryos encased in an egg-like structure) which settle on the pool bottom. Although some cysts may hatch quickly, others remain dormant to hatch during later rainy seasons (Ahl 1991). When winter rains refill inhabited wetlands, tadpole shrimp reestablish from dormant cysts and may become sexually mature within three to four weeks after hatching (Ahl 1991, Helm 1998). Reproductively mature adults may be present in pools until the habitats dry up in the spring (Ahl 1991, Gallagher 1996, Simovich *et al.* 1992).

Vernal pool tadpole shrimp inhabit alkaline pools, clay flats, ditches, freshwater marshes, stream oxbows, vernal lakes, vernal pools, vernal swales, and other seasonal wetlands (Helm 1998). Occupied habitats range in size from vernal pools as small as two square meters to large vernal lakes up to 36 hectares (89 acres); the potential ponding depth of occupied habitat ranges from 4 cm (1.5 inches) to 1.5 meters (59 inches). All known occurrences of vernal pool tadpole shrimp inhabit sites in California. The geographic range of this species encompasses most of (and particularly the eastern side of) the Central Valley from Shasta County to northern Tulare County and the central coast range from Solano County to Alameda County (Service 1994, CDFG 2003). Critical habitat was not designated or proposed for vernal pool tadpole shrimp in western Placer County.

The vernal pool fairy shrimp and tadpole shrimp are ecologically dependent on seasonal fluctuations in their habitat, such as absence or presence of water during specific times of the year, durations of inundation, and other environmental factors that include specific salinity, conductivity, dissolved solids, and pH levels. Water chemistry and soil parent material are two of the most important factors in determining plant and crustacean distribution in vernal pools

(Belk 1977, Holland and Dains 1990, King 1996, Simovich 1998). The genetic characteristics of vernal pool fairy shrimp and vernal pool tadpole shrimp, and the ecological conditions, such as watershed continuity, indicate that populations of these animals are defined by pool complexes rather than by individual vernal pools (Fugate 1992; Keeler-Wolf et al 1998; Service 1994, 2003). Therefore, the most accurate indication of the distribution and abundance of these species is the number of inhabited vernal pool complexes. Individual vernal pools occupied by these species are most appropriately referred to as subpopulations. The pools and, in some cases, pool complexes supporting these species are usually small. Anthropogenic and unforeseen natural catastrophic events such as long-term drought, non-native predators, off-road vehicles, pollution, berming, and urban development, threaten their extirpation at some sites.

Distribution

Vernal pool fairy shrimp. The vernal pool fairy shrimp is known from 33 occurrences extending from the Stillwater Plain in Shasta County through most of the length of the Central Valley to Pixley in Tulare County, and along the central coast range from northern Solano County to Pinnacles in San Benito County (Eng *et al.* 1990, Fugate 1992, Sugnet and Associates 1993). Five additional, disjunct populations exist: one near Soda Lake in San Luis Obispo County; one in the mountain grasslands of northern Santa Barbara County; one on the Santa Rosa Plateau in Riverside County, one near Rancho California in Riverside County, and a recently discovered population near Medford, Oregon. Three of these five isolated populations each contain only a single pool known to be occupied by the vernal pool fairy shrimp.

Vernal pool tadpole shrimp. The vernal pool tadpole shrimp is known from 19 occurrences in the Central Valley, ranging from east of Redding in Shasta County south to Fresno County, and from a single vernal pool complex located on the San Francisco Bay National Wildlife Refuge in Alameda County. It inhabits vernal pools containing clear to highly turbid water, ranging in size from 5 square meters (54 square feet) in the Mather Air Force Base area of Sacramento County, to the 36-hectare (89-acre) Olcott Lake at Jepson Prairie in Solano County.

Dispersal

The primary historic dispersal method for the vernal pool tadpole shrimp and vernal pool fairy shrimp may have been large-scale flooding resulting from winter and spring rains which allowed the animals to colonize different individual vernal pools and other vernal pool complexes. This dispersal mechanism may no longer function in some areas due to the construction of dams, levees, and other flood control measures, and widespread urbanization and agricultural conversion of lands within significant portions of the range of this species. Waterfowl and shorebirds are now considered the primary dispersal agents for vernal pool tadpole shrimp and vernal pool fairy shrimp (Simovich *et al.* 1992, Eriksen and Belk 1999). The eggs of these crustaceans are either ingested (Krapu 1974, Swanson *et al.* 1974, Driver 1981, Ahl 1991) and/or adhere to the legs and feathers where they are transported to new habitats.

Environmental Baseline

The main threat to listed vernal pool crustaceans is the loss of habitat associated with human activities, including urban/suburban development, water supply/flood control development, and conversion of natural lands to intensively farmed agricultural uses. Detrimental effects associated with these activities include the physical destruction of wetlands, adverse alteration of hydrology, introduction of toxic substances and insecticides/herbicides, introduction of non-native plants and animals, increased water run-off from residential and commercial development, and illegal dumping of residential materials. State and local laws and regulations do not protect listed vernal pool crustaceans, the other laws and regulations, including the Clean Water Act, have not effectively maintained habitat necessary to conserve and recover these species. Although developmental pressures continue, only a small fraction of vernal pool habitat is protected from the threat of destruction.

Holland (1978) estimated that about two thirds of the grasslands that once supported vernal pools in the Central Valley had been destroyed by 1973 with an associated loss of nearly 75 to over 95 percent of vernal pool habitat. In subsequent years, a substantial amount of the remaining habitat for vernal pool crustaceans has been destroyed with estimates of habitat loss ranging from two to three percent per year (Holland 1998a). Coe (1988) estimated that, between 1988 and 2008, 60 to 70 percent of the remaining vernal pools within the jurisdiction of the U.S. Army Corps of Engineers, Sacramento District would be lost to development.

Occurrences of listed vernal pool crustaceans are highly fragmented throughout their ranges due to the nature of vernal pool landscapes and the destruction of natural habitat by human activities. Such fragmentation results in small, isolated populations which may be more susceptible to extinction due to random demographic, genetic, and environmental events (Gilpin and Soule 1986; Goodman 1987 a,b; Noss *et al.* 2002). Furthermore, if localized extinctions occur in fragmented populations, the opportunity for recolonization of previously occupied habitat is reduced due to the geographic isolation of potential habitats from occupied sites (Noss *et al.* 2002).

Loss of Vernal Pool Habitat in the Southeastern Sacramento Valley Vernal Pool Region. Of the several thousand vernal pools that are located around Sacramento, Coe (1988) has suggested that perhaps 1,800 vernal pools will be impacted due to future development in western Placer County alone. Western Placer County is located in the Southeastern Sacramento Vernal Pool Region, one of 17 vernal pool regions in the State of California defined by the California Department of Fish and Game in the California Vernal Pool Assessment Preliminary Report (Keeler-Wolf *et al.* 1998). The regions were identified according to biological, geomorphological, and soils information. According to the report, "One of the primary assumptions is that these regions are ecologically distinct and that they encompass the full range of variability of vernal pools and species in the state" (Keeler-Wolf *et al.* 1998).

The Southeastern Sacramento Valley Vernal Pool Region contains almost 15% of the remaining vernal pool grasslands in the State of California, and supports 35% of the known occurrences of the vernal pool fairy shrimp documented in the California Natural Diversity Database. It is the

most threatened by development of the 17 regions. Of 155 projects authorized by the Service to take vernal pool fairy shrimp and vernal pool tadpole shrimp since the species were federally listed in 1994, almost 80% (121 projects) were located within the southeastern Sacramento Vernal Pool Region. These projects resulted in the loss of more than 37,500 acres of vernal pool grasslands, out of a total of almost 56,000 acres of uplands containing vernal pool fairy shrimp and vernal pool tadpole shrimp habitat. Close to 20,000 acres of vernal pool grassland habitats have been preserved through the Act since the listing of the vernal pool fairy shrimp and vernal pool tadpole shrimp, yet only 7,000 acres are contained within the Southeastern Sacramento Vernal Pool Region.

Development projects within western Placer County, including the Highland Reserve, Highland Reserve North, Sunset West, Stanford Ranch, Twelve Bridges, Sun City Lincoln Hills, and Stoneridge Specific Plan Area, (Olympus Oaks, Cavitt Ranch projects), have reduced the number of vernal pool complexes within the area. These developments and others within the region, have resulted in both direct and indirect effects to vernal pools, and have contributed to the loss of vernal pool fairy shrimp and vernal pool tadpole shrimp occurrences. Although the reduction of federally listed vernal pool crustacean populations has not been quantified, the acreage of lost habitat continues to grow. General and Specific Plans for the western Placer County area such as the proposed Placer Vineyards, Antonio Mountain Ranch, Three-D project, Whispering Springs, Placer Parkway, and State Route 165 bypass, as well as numerous other proposed housing, industrial, infrastructure, energy facilities, universities, hospitals, and other development projects in and around the city of Lincoln, Rocklin, Roseville and in Placer County have identified significant, unavoidable impacts to biological communities, including elimination of vernal pools, intermittent drainages and other seasonal wetlands. Despite these impacts, city and county governments continue to implement development projects within the area.

Vernal Pool Fairy Shrimp Critical Habitat. Approximately 467,148 acres of critical habitat has been designated for the vernal pool fairy shrimp throughout California and southern Oregon. Portions of the vernal pool wetlands and associated uplands which contain the necessary primary constituent elements within western Placer County have been designated as critical habitat unit 12 (32,134 acres) and are essential for the conservation of vernal pool fairy shrimp. The Placer County unit 12 represents one of the last remaining large vernal pool grassland landscapes in the Southeastern Sacramento Valley and plays an important part in providing connectivity between other vernal pool habitats further to the north and south. The primary dispersal agent for vernal pool fairy shrimp and other crustaceans is transport by waterfowl and other migratory birds. The loss and further fragmentation of existing vernal pool habitats lessens the chance that migratory birds will visit such habitats and as a result, the dispersal rate, colonization, and recolonization of listed vernal pool crustaceans into viable habitats would be affected. Vernal pool fairy shrimp critical habitat will be affected by the same development activities that destroy or alter other vernal pool or ephemeral wetland habitat and/or change the hydrologic patterns within the vernal pool complexes in California and Southern Oregon.

Effects of the Proposed Action

The proposed Westpark/Fiddyment Ranch project would eliminate one of the last remaining intact vernal pool grasslands complexes in western Placer County supporting occurrences of listed vernal pool crustaceans. The proposed project would directly or indirectly affect 26.66 acres of vernal pool habitat for the listed vernal pool crustaceans as follows: 1) result in the direct mortality of all listed vernal pool crustaceans inhabiting 17.09 acres of habitat and indirectly affecting 9.57 acres of habitat within the on-site preserve for listed vernal pool crustaceans; 2) eliminate or degrade over two thousand acres of intact vernal pool grassland supporting vernal pool fairy shrimp; 3) reduce and further fragment one of the largest remaining high quality areas of listed crustacean habitat within the Western Placer area and the Southern Sacramento Vernal Pool Region; and 4) increase construction-related and other human-related disturbances to the listed vernal pool crustaceans. The direct and indirect effects of the project would result in the loss or degradation of over 66 percent of the vernal pools and swales located on the Westpark/Fiddyment Ranch project site.

Direct Effects
The construction of the proposed Westpark/Fiddyment Ranch residential development will result in the direct loss of 17.09 acres of federally listed crustacean habitat, and the death of an unknown number of vernal pool fairy shrimp and vernal pool tadpole shrimp.

Indirect effects
Approximately 9.57 acres of vernal pool tadpole shrimp and vernal pool fairy shrimp habitat avoided on the project site would be adversely affected by the indirect effects of the project. Due to non-existent or inadequate buffers, these avoided pools would be vulnerable to the effects of the surrounding development, including the effects of proposed roads, crossings, a detention basin, bike trails, paths and access roads through the project area and the commercial, residential, school, and park land uses associated with the proposed project. Indirect effects associated with the proposed Westpark/Fiddyment Ranch project include erosion, changes in hydrology, human-related disturbance, degradation of the upland areas, and introduction of pollutants.

Changes in hydrology. The proposed Westpark/Fiddyment Ranch project is likely to alter the hydrology of the remaining vernal pool habitats on the project site. Although vernal pools are typically filled by rain water, vernal pool hydrology can be influenced by a variety of factors. Vernal pool hydrology can be directly altered when swale systems connected to vernal pools are dammed by physical barriers, such as roads and canals or other development. The project also includes creation of an earthen berm detention basin within the swale system within one of the vernal pool preserve areas. These activities will alter vernal pool hydrology both upstream and downstream of the barrier. These components of the proposed Westpark/Fiddyment Ranch project will disturb vernal pool hydrology by altering patterns of overland and subsurface flow.

The proposed project will involve construction of storm water drains and the coverage of land surfaces with concrete, asphalt, and irrigated landscaping. These aspects of the project likely will alter the duration, volume and frequency of surface flows through increased flooding and

runoff. The timing, frequency, and length of inundation of the vernal pool habitat are critical to the fairy shrimp and the vernal pool tadpole shrimp; any substantial hydrologic change in these factors will adversely affect the animals. Alterations in the water regime threaten the vernal pool crustaceans because they can result in: (1) insufficient wetting or premature pool dry-down before the life cycles of the species are completed; (2) flowing water that washes away the cyst bank; (3) altered vernal pool crustacean reproduction and longevity (Helm 1998); and (4) conversion of the vernal pool habitat to a marsh-dominated or a permanent aquatic community, leading to predation of vernal pool crustaceans from the introduction of bullfrogs and fish (Bauder 1986, 1987); and (5) altering the dry season by brief unnatural inundation which may result in premature cyst hatching or destruction.

Human-related disturbance. The proposed Westpark/Fiddyment Ranch development will increase human-related disturbance of vernal pool habitats on the project area. Waste materials from the residential development bordering the proposed on-site preserve areas would be deposited onto preserve area. Pedestrian trails are proposed to border and be within the on-site preserve areas. This access will increase impacts to the preserve from people's activities, including off-trail access, bicycle riding, pets, and trash dumping. De Weese (1998) found that the most frequently observed adverse impacts to vernal pools were human-related activities.

Pollutants. Toxic chemicals, such as petroleum products, pesticides, herbicides, fertilizers and soap, may wash into vernal pools during development of the Westpark/Fiddyment Ranch project area. Contamination of vernal pools from the Westpark/Fiddyment Ranch project area areas may injure or kill vernal pool crustaceans. Vernal pool crustaceans are highly sensitive to the chemistry of their vernal pool habitats (Belk 1977, Eng *et al.* 1990, Gonzalez *et al.* 1996). Vernal pools adjacent to existing developments may be contaminated from roadway contaminants in surface runoff (e.g., grease, oil, and heavy metals). Contamination also may result from increased discharge of contaminants such as fertilizers and pesticides into surface waters from landscaped residential areas (Petrovich 1990). Fertilizer contamination can lead to the eutrophication of vernal pools, which can kill vernal pool crustaceans by reducing the concentration of dissolved oxygen (Rogers 1998).

Habitat fragmentation. In addition to the direct and indirect loss of vernal pool crustacean habitat in this region, the Westpark/Fiddyment Ranch project will contribute to extensive habitat fragmentation of remaining vernal pool habitats in the local area. The proposed Westpark/Fiddyment Ranch project will increase the distance between areas of remaining habitat, thereby reducing the opportunity for recolonization and dispersal between populations of vernal pools crustaceans. Successful colonization may be fairly rare for vernal pool crustaceans (Simovich 1998). The effects of fragmentation in the Southeastern Sacramento Vernal Pool Region have been significant. Extant populations of vernal pool fairy shrimp are increasingly isolated and vulnerable to extirpation from chance events.

As stated earlier, individual vernal pools are unique micro-habitats (Belk 1977, Eng *et al.* 1990, Gonzalez *et al.* 1996, Holland and Griggs 1979, Holland and Dains 1990) based on water chemistry and soil parent material. The conservation of different vernal pool types maintains habitat diversity that promotes genetic diversity (Fugate 1992, King 1996, Fugate 1998, Noss *et*

al. 2002), and reduces the chance of losing disjunct populations of vernal pool fairy shrimp that are important for their genetic uniqueness (Simovich 1998, Platenkamp 1998). Loss of genetic diversity can have significant effects on a population's ability to respond to environmental

change over time (Frankel and Soule 1981). Species that are protected across their ranges have lower chances of extinction (e.g., Soule and Simberloff 1986, Noss *et al.* 1997, Noss *et al.* 1999).

Effects of the Proposed Minimization Measures

The project would maintain approximately 699.3 acres of open space on-site, in four separate preserve areas on the proposed project site; a 132.7 preserve area at the northwest portion of the Fiddyment Ranch portion of the project; a 162.5 preserve area along Pleasant Grove Creek, protecting mostly riparian habitat; a 44.4 acre preserve area along the intermittent unnamed tributary to Pleasant Grove Creek; a 100' corridor along Kaseberg Creek which totals 14.7 acres; and a 345 acre preserve area along the western portion and extending to include numerous swales and un-named channels of the Westpark portion of the proposed development. The four areas support approximately 19.62 acres of wetted vernal pools and 4.76 acres of vernal swales considered habitat for listed crustaceans. These on-site preserve areas would be fragmented from each other and be fragmented and isolated from other vernal pool habitats within the county. This fragmentation and isolation further disrupts and may preclude the long-term viability of the habitat on-site. As a result no reduction in compensation requirements will be granted by establishing these on-site preserve areas. A conservation easement will be recorded on the four preserve areas.

Preservation component. To minimize the loss of 26.66 acres of directly and indirectly affected vernal pools and swales, the applicant is preserving 25.48 acres of wetted vernal pool acres off-site on the Sheridan East parcel in Placer County. An additional 1.2 acres will be preserved at the Yankee Slough parcel in Placer County due to effects associated with the on-site detention basin.

Restoration component. To minimize the loss of 26.66 acres of directly and indirectly affected vernal pools and swales the applicant is restoring a total of 43.0 acres on the southern portion of Yankee Slough parcel in Placer County. The combination of on-site preserves and off-site preserves and restoration will assist in off-setting the loss of vernal pool crustacean habitat on-site and limit the indirect effects of the proposed Westpark/Fiddyment project.

Effects to Vernal Pool Fairy Shrimp Critical Habitat

Issuance of a permit for the proposed Westpark/Fiddyment project will result in loss of approximately 2,436 acres of the designated critical habitat unit 12 for vernal pool fairy shrimp. The loss represents 7.5 percent of the designated critical habitat unit 12 and approximately 0.5 percent of the total critical habitat designated for vernal pool fairy shrimp. The proposed project will preserve on-site approximately 706 gross acres of designated vernal pool fairy shrimp critical habitat. This represents approximately 22 percent of the critical habitat on-site. Since the publication of the proposed critical habitat rule on September 24, 2002 (67 **FR** 59884), and

final critical habitat rule on August 6, 2003 (68 FR 46684), we have received additional information regarding occurrences of vernal pool fairy shrimp in the Sheridan area in north western Placer County. The Sheridan area has been found to contain numerous occurrences of vernal pool fairy shrimp and the vernal pool grassland habitats within the Sheridan area has been less subject to development pressure and is less fragmented than habitats near Lincoln, Rocklin and Roseville. The off-site preservation components at Sheridan East and Yankee Slough assist in preserving large parcels of vernal pool habitat in this northwestern portion of Placer County and would off-set the loss of habitat on the proposed Westpark/Fiddyment site.

Cumulative Effects

Cumulative effects are those impacts of future State, Tribal, county, local agency, and private actions that are reasonably certain to occur. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

The proposed Westpark/Fiddyment Ranch project site is located in a region where future destruction of vernal pool habitat is anticipated. The Cities of Roseville, Rocklin, and Lincoln and the County of Placer continue to develop Specific and General Plan which do not adequately compensate for the loss of endangered species habitat. Such development will result in increased direct loss of federally listed vernal pool crustacean habitat. It will also contribute to the imperilment of existing vernal pools and seasonal wetlands throughout the area through alterations to local watersheds and disruption of natural flooding regimes.

The Service is currently working with local jurisdictions to establish a more comprehensive vernal pool conservation strategy for the Southeastern Sacramento Vernal Pool Region. These efforts include the Placer County HCP, several city wide planning efforts, and the South Sacramento County HCP. These planning efforts are collectively aimed at establishing a regional preserve system that is configured and managed to provide for the long-term survival of a diversity of special status species including vernal pool crustacean species. However, projects impacting vernal pools continue to move forward prior to the development and adoption of these regional conservation plans, potentially precluding the ability for the regional plans to meet their conservation goals. The loss of the vernal pools on the proposed Westpark/Fiddyment Ranch project area would make it more difficult for vernal pool species to be adequately conserved under regional plans in western Placer County.

Because the vernal pool fairy shrimp and vernal pool tadpole shrimp are endemic to vernal pools in the Central Valley, coast ranges, and a limited number of sites in the transverse range and Santa Rosa plateau of California and southern Oregon, the Service anticipates that a wide range of activities will be determined to affect this species. Such activities include, but are not limited to: (1) urban development, (2) water projects, (3) flood control projects , (4) highway projects, (5) utility projects, (6) chemical contaminants, and, (7) conversion of vernal pools to agricultural use. Projects occurring adjacent to vernal pool complexes will indirectly affect vernal pool complexes and their associated upland areas.

Conclusion

After reviewing the current status of the vernal pool fairy shrimp and vernal pool tadpole shrimp, the environmental baseline for the area covered by this biological opinion, the effects of the proposed action, the effects of the minimization measures, and the cumulative effects, it is the Service's biological opinion that the adverse effects on the vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting the proposed Westpark/Fiddyment Ranch project site, as proposed, is not likely to jeopardize the continued existence of the vernal pool fairy shrimp and vernal pool tadpole shrimp. As stated above, the proposed project would affect approximately 26.66 wetted acres of vernal pool tadpole shrimp and vernal pool fairy shrimp habitat and 2,436 gross acres of vernal pool critical habitat. Due to the amount of on-site and off-site compensation within the vernal pool ecosystem within Placer County proposed for the project, we have determined that this project, although significant, would not represent an adverse modification of critical habitat for the species.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined by the Service as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any such conduct. The Service defines "harass" as an intentional or negligent act or omission that creates the likelihood of injury to a listed species 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. The Service defines harm to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), take that is incidental to and not intended as part of the agency action is not considered to be prohibited take provided such take complies with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary and must be implemented by the Corps so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of Take

The Service anticipates that implementation of the proposed action could result in incidental take of listed vernal pool crustaceans. The Service expects that direct take of individuals would be difficult to detect or quantify, because specimens are not easily seen, due to their small body

size. Due to the difficulty in quantifying the number of individuals that will be taken as a result of the proposed action, the Service is quantifying take incidental to the proposed action as the amount of habitat that will become unsuitable for listed vernal pool crustaceans as a result of the action. Therefore, the Service estimates that 17.09 acres of habitat for listed vernal pool crustaceans will be lost through direct habitat loss resulting from the proposed action. An additional 9.57 acres of habitat for listed vernal pool crustaceans will become degraded through indirect habitat loss resulting from the proposed action.

The Service has developed this Incidental Take Statement based on the premise that the reasonable and prudent measures will be implemented. Upon implementation of the following reasonable and prudent measures, incidental take associated with the construction of the proposed action on 17.09 acres of habitat directly affected and 9.57 acres of habitat indirectly affected for listed vernal pool crustaceans will become exempt from the prohibitions described under section 9 of the Act for direct and indirect impacts.

Effect of the Take

The Service has determined that this level of anticipated take is not likely to result in jeopardy to the vernal pool fairy shrimp, or vernal pool tadpole shrimp or result in adverse modification of critical habitat for the vernal pool fairy shrimp. Vernal pool tadpole shrimp critical habitat does not occur within the project area so no adverse modification is likely to occur as a result of this project.

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to conserve listed vernal pool crustaceans:

1. Minimize the impacts to federally listed vernal pool crustaceans resulting from habitat modification and habitat loss.

2. Vernal pool crustacean habitat will be managed and protected from adverse effects in perpetuity.

3. Minimize direct and indirect effects from project construction to federally listed vernal pool crustaceans.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must comply with the following terms and conditions. These measures are Terms and Conditions which implement the reasonable and prudent measures described above for the protection of listed vernal pool crustaceans. These terms and conditions are non-discretionary.

1. The following terms and conditions implement reasonable and prudent measure one (1):

   a. The applicant, its assigns, or successor shall obtain 26.68 wetted acres of vernal pool habitat for preservation (as outlined on page 6 above and in the August 7, 2003 letter from the applicant) from a Service-approved area in Placer County for effects to 26.66 acres of vernal pools and vernal pool swales.

   b. The applicant, its assigns, or successor shall restore approximately 43.00 acres of vernal pool and swale habitats for restoration from a Service-approved area in Placer County for effects to 26.66 acres of vernal pools and vernal pool swales. A Service-approved restoration plan shall be developed to restore the approximately 43.00 wetted acres of vernal pool crustacean habitat on the Yankee Slough parcel. The restoration efforts shall be focused on the southwestern portion of the property bordering Brock Road, Nader Road, State Route 65, and Yankee Slough. The plan will provide information on location, size, and density of vernal pool/swales proposed for the site. A post-construction compliance report prepared by the monitoring biologists shall be forwarded to the Sacramento Fish and Wildlife Office within 60 calendar days of the completion of construction activity.

   c. The applicant, its assigns, or successor shall preserve approximately 699.3 acres on-site within four designated preserve areas as outlined above (see page 4 above and Attachment A).

   d. Reasonable access to the preserves shall be allowed with a 24-hour notice by the Service, Corps, or California Department of Fish and Game, and/or other appropriate agencies or Service-approved personnel.

2. The following terms and conditions implement reasonable and prudent measure two (2):

   a. Off-site Preserves: Prior to ground breaking, the applicant, its assigns, or successor shall place a Service-approved conservation easement on the proposed off-site preservation and restoration sites to designate the areas as wetland preserves and for them to be managed in perpetuity as wetland and vernal pool preserves and for the protection of any listed species.

   b. On-site Preserves: Prior to ground breaking on each phase of the project, the applicant, its assigns, or successors shall place a Service-approved conservation easement on the proposed on-site preservation and restoration sites to designate the areas as wetland preserves and for them to be managed in perpetuity as wetland and vernal pool preserves and for the protection of any listed species.

   c. The conservation easements will be recorded with the appropriate county agency and run with the land (See Attachment B Draft Conservation Easement). All such habitat preserved for listed species shall be protected in perpetuity by the conservation

easement. All such vernal pool acres shall be protected from adverse effects and managed in perpetuity or until the Corps and the Service agree on a process to exchange such areas for credits within a Service-approved conservation banking system. The conservation easement shall be reviewed and approved by the Service prior to recording in the appropriate County Recorders Office(s). The conservation easement for off-site preserves shall be recorded within 120 days of the date of the issuance of the permit from the Corps. The conservation easement for the on-site preserves shall be recorded prior to ground breaking of each phase. A true copy of the recorded easement(s) shall be provided to the Service within 30 days after recordation. The easements shall include, but not be limited to, provisions and responsibilities of the permittee(s) for protection of the vernal pool preserves, including any anticipated future transfers of the easement or fee interest. The conservation easements shall specify the purposes for which they were established (i.e., to maintain in perpetuity the suitability of the vernal pool and swale ecosystem and associated watersheds and uplands within the preserves for federally listed vernal pool crustaceans). The easement shall be held by a third party approved by the Service. The documents shall include a list of prohibited activities inconsistent with the maintenance of the preserves and the suitability of the remaining federally listed vernal pool crustacean habitat and associated watershed.

d. The applicant shall transfer the on-site and off-site preserve and restoration areas to a Service-approved third party for perpetual management at the time of recording of the conservation easement.

e. The applicant shall establish a Service approved non-wasting funding mechanism to fully fund the maintenance, management and monitoring of the on-site and off-site preserve and restoration areas. Establishment of the fund may be phased to coincide with the development of the property and establishment of the preserves. The principal in the fund must generate sufficient revenue to cover the costs of activities including but not limited to alien plant species removal, maintenance of fencing, monitoring of vernal pools, and remediation of indirect effects in perpetuity. This endowment shall be made to a Service-approved entity prior to any groundbreaking. Specific actions covered under the endowment shall be addressed in the Management and Monitoring Plan (further described below). All maintenance and management obligations associated with this project at the off-site Sheridan East parcel and the Yankee Slough parcel shall be conducted by the respective owners as agreed through separate agreements by the applicant approved by the Service. The applicant has secured the endowment funds necessary for the maintenance and management of the Sheridan East and Yankee Slough parcels in perpetuity.

f. Prior to groundbreaking, a management and monitoring plan shall be formulated for the on-site and off-site preserve areas. The plan shall be approved by the Service, and shall include but not be limited to the following components: discussions of the management and maintenance in perpetuity of the wetland habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp within the on-site and off-site preserve

and restoration areas; discussions of runoff control and maintenance of hydrology of the aquatic habitat; provisions for management and maintenance in perpetuity of upland habitat within the on-site and off-site preserve and restoration areas; discussion of grazing strategies, alien species control, sedimentation, erosion, and controlled burning; provisions for creating a position for a preserve manager that would undertake the duties of implementing the management plan; provisions for a monitoring program to be set up and implemented by the preserve manager, with a monitoring report that addresses the ecological functions of the preserve including whether the preserves are adversely affected by adjacent development, and if the maintenance/management plans are successful.

3. The following terms and conditions implement reasonable and prudent measure three (3):

   a. A Worker Environmental Awareness Training Program for construction personnel shall be conducted before and during construction. The program shall provide workers with information on their responsibilities with regard to listed species and an overview of the life-history of the species and description of the preserve areas. Written documentation of the training shall be transmitted to the Sacramento Fish and Wildlife Office within 30 days of completion of training.

   b. Adequate high visibility fencing shall be placed around the on-site preserve areas to prevent encroachment of construction equipment and personnel into wetland preserves during project work activities. Such fencing shall be inspected and maintained daily until completion of the project.

   c. Runoff from dust control, and hazardous materials during construction activities shall be retained in the construction site and prevented from flowing into the on-site wetland preserves or permanent waterways. To control erosion during and after project implementation, the applicant shall implement best management practices, as identified by the appropriate Regional Water Quality Control Board. Erosion control measures and best management practices (BMP's) that prevent soil or sediment from entering the river shall be placed, monitored for effectiveness, and maintained throughout the construction operations. Construction adjacent to the preserve areas (within 250 feet) shall be limited generally to the periods within the dry season (May-September). Construction may occur outside this work window as long soil moisture levels allow access to the areas and the extended forecasts preclude the likelihood of precipitation.

   d. The Service-approved biologist shall have the authority to halt any action that might result in impacts to the preserve areas. If work is stopped due to construction activities within or affecting the preserve areas, the Service shall be notified immediately.

   e. All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 250 feet from any riparian habitat or water body or preserve area. The

applicant shall ensure contamination of habitat does not occur during such operations. All workers shall be informed of the importance of preventing spills and appropriate measures to take should a spill occur.

f. The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly demarcated, and these areas shall be outside of riparian and wetland areas.

g. Stockpiling of construction materials, portable equipment, vehicles and supplies, including chemicals, shall be restricted to the designated construction staging areas and exclusive of the riparian and wetlands avoidance areas. Refueling of construction equipment and vehicles within the floodplain shall occur only within designated areas not affecting the preserves. Any spills of hazardous materials shall be cleaned up immediately. Such spills shall be reported in the post-construction compliance reports.

h. Opportunity shall be given to third party individuals conducting vernal pool restoration efforts to collect innoculum from the vernal pools prior to fill and destruction. At least 90 days notice prior to the beginning of the wet season shall be given to the Service and appropriate wetland restoration contractors (Wildlands, ECORP, etc...). Construction activities shall not begin prior to opportunities to collect innoculum from vernal pools.

i. The Covenants, Conditions and Restrictions for the Westpark/Fiddyment Ranch Project residential development shall at a minimum include a description of the importance of protecting the listed species and habitats preserved at the project site and within the watershed; and a list of prohibited activities that are inconsistent with the maintenance of the suitability of the remaining vernal pool habitat and associated watershed, including, but not limited to: (i) a restriction that no vehicles (including but not limited to passenger vehicles, motorcycles, bicycles, and off-road recreational vehicles) shall be allowed or operated on the preserves by owners, renters, or lessees of any of the lots within the residential development, or by their family members or their guests, (ii) alteration of existing topography or any other alteration or uses for any purposes, including the exploration for, or development of mineral extraction; (iii) placement of any structures on any of the vernal pool preserves, (iv) dumping and/or burning of rubbish, garbage, or any other wastes or fill materials; (v) building of any roads or trails; (vi) killing, removal, alteration, or replacement of any existing native vegetation; (vii) placement of storm water drains or other diversion or alteration of water that would disturb the existing hydrologic characteristics of the preserves and associated watersheds; (viii) fire protection activities not required to protect existing structures; (ix) use of pesticides and herbicides within the preserves; and (x) actions that would degrade the quality of runoff from the project site.

j. Should any phasing of construction occur for the proposed project, those construction activities and disturbances shall not affect vernal pool crustacean habitat on the Westpark/Fiddyment project site.

k. Should the applicant not initiate the first phase of the construction outlined in the project description within 5 years of the date of this biological opinion, or not implement any subsequent phases within 3 years of the completion of any one phase, the terms and conditions of this biological opinion expire and the applicant and the Corps would need to reinitiate consultation regarding the remainder of the proposed project.

l. The applicant shall implement measures to conserve species covered under the Migratory Bird Treaty Act of 1918 as amended. Such measures include but are not limited to bird safe utility poles to reduce the likelihood of electrocution.

m. The applicant shall comply with the reporting requirements outlined below.

Reporting Requirements

The Service's Sacramento Fish and Wildlife Office shall be notified immediately by phone or fax and within three working days in writing of the finding of any dead listed species or any unanticipated harm to the species addressed in this biological opinion. The Service contact person for this is the Chief, Endangered Species Division at (916) 414-6600. The Service-approved biologist shall notify the Service immediately if listed vernal pool crustaceans are found on site and shall submit a report including date(s), location(s), habitat description, and any corrective measures taken to protect the listed species found. The Service-approved biologist shall submit locality information to the California Department of Fish & Game (CDFG), using completed California Native Species Field Survey Forms or their equivalent, no more than 90 calendar days after completing the last field visit of the project site. Each form shall have an accompanying scale map of the site such as a photocopy of a portion of the appropriate 7.5 minute U.S. Geological Survey map and shall provide at least the following information: township, range, and quarter section; name of the 7.5' or 15' quadrangle; dates (day, month, year) of field work; number of individuals and life stage (where appropriate) encountered; and a description of the habitat by community-vegetation type. Global Positioning System coordinates (Universal Transverse Mercator, North American Datum, Zone 10, meters) shall also be provided with any reporting requirements.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases.

1. The Corps should require the applicant to further avoid and minimize wetland and riparian impacts on the project site.

2. As recovery plans for listed crustacean species are developed, the Corps should assist the Service in their implementation.

3. The Corps should work with the Service to ensure that its wetland delineation techniques fully assess the impacts of proposed projects on listed crustacean species.

4. The Corps should conduct a study of cumulative loss of wetlands habitat, including habitat of listed crustaceans in western Placer County.

5. The Corps should incorporate into bidding documents any conservation measures outlined for vernal pools and vernal pool crustaceans when appropriate.

6. The Corps and the applicant should coordinate with the California Department of Fish and Game Officials on implementation of measures to minimize impacts to state listed species.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION - CLOSING STATEMENT

This concludes formal consultation with the Corps on the proposed Westpark/Fiddyment Ranch project. As provided for in 50 CFR Section 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law), and if (1) the amount or extent of incidental take is exceeded, as previously described, or the requirements under the Incidental Take section are not implemented; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent that was not considered in this opinion; (3) the proposed action is subsequently modified in a manner that causes an effect to listed species that was not considered in this opinion; and/or (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Please contact Arnold Roessler or Elizabeth Warne at (916) 414-6645, if you have any questions.

Sincerely,

Kenneth D. Sanchez
Acting Field Supervisor

cc:
ARD (ES), Portland, Oregon
Environmental Protection Agency, San Francisco, CA (Attn: Ms. Kathy Dadey)
CDFG, Region 2, Rancho Cordova, CA (Attn: Mr. Jeff Finn)
Westpark Associates, Roseville, CA (Attn: Mr. Bill Falik, John Murray)
Signature Properties, (Attn: Mr. Jim McKeehan)
ECORP Roseville, CA (Attn: Jim Stewart)
Hefner, Stark & Marios, Sacramento, CA (Attn: Mr. George Kammerer)

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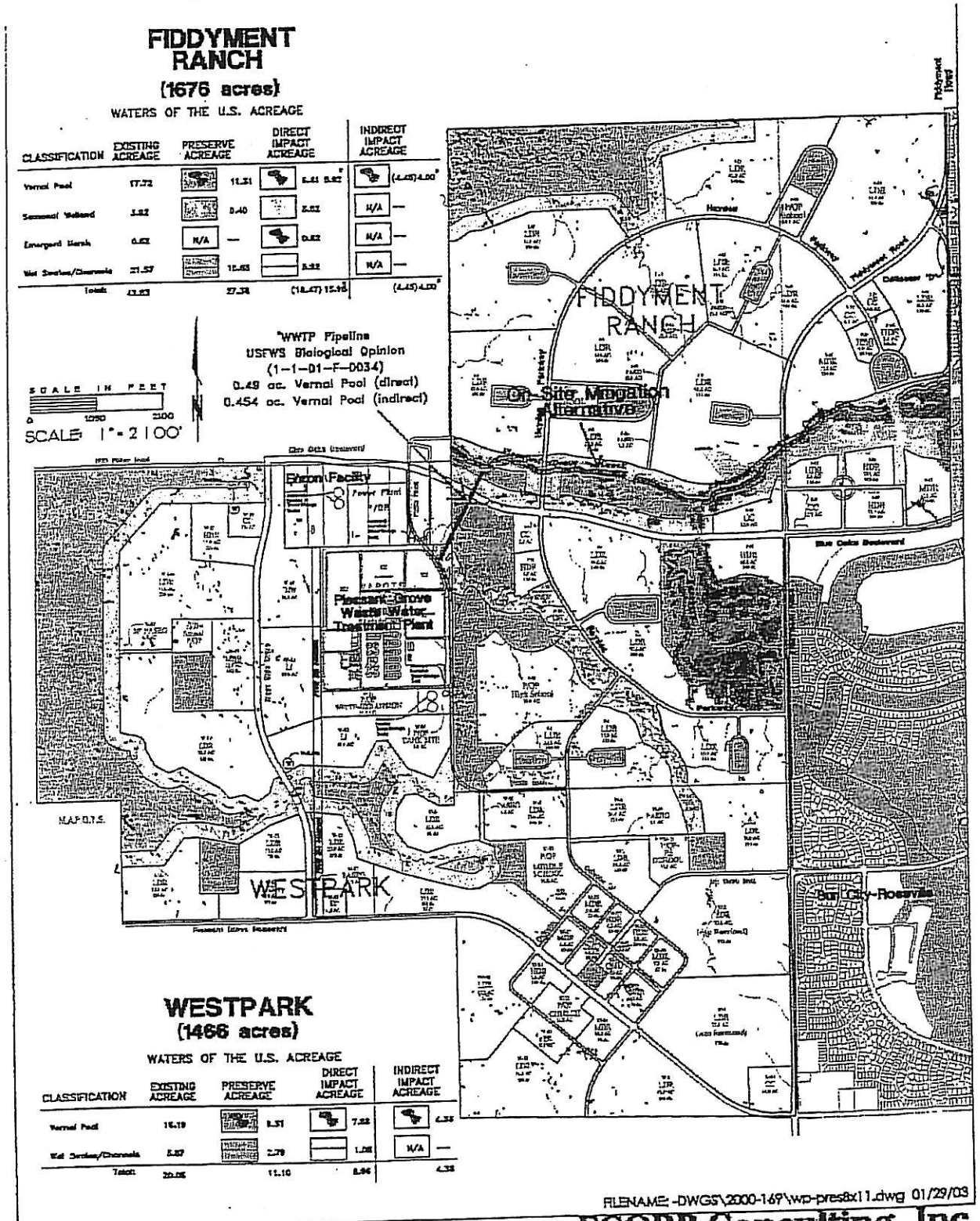
Attachment A: Proposed Westpark/Fiddyment Project



Wetland Preserve and Impact Plan

Westpark/Fiddyment Ranch

Attachment B: Sample Conservation Easement

RECORDING REQUESTED BY:)
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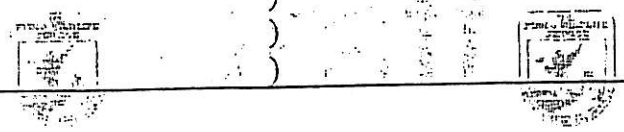

TEMPLATE

PERPETUAL CONSERVATION EASEMENT GRANT

THIS PERPETUAL CONSERVATION EASEMENT GRANT (this "**EASEMENT**") is made this _____ day of _____, by [name who the grantor is and include applicable category: e.g, a corporation, a partnership, a limited partnership, husband and wife] ("**GRANTOR**"), in favor of the [name of the entity; must be one that is recognized by § 815 of the California Civil Code] ("**GRANTEE**").

RECITALS

A. GRANTOR is [describe Grantor; is it a corporation, a partnership, limited partnership, Federal agency] and is the sole owner in fee simple of certain real property located in the County of [name county(s)], State of California, more particularly depicted on the map attached as Exhibit A hereto (the "**Protected Property**") (this map shows land subject to EASEMENT and separately shows land not subject to EASEMENT. The execution copy of the EASEMENT also shall have legal descriptions attached as Exhibit B); [the map and the legal description must match and portray the actual easement area] and

B. GRANTEE is a non-profit entity formed under the laws of the [State of California, District of Columbia, etc.] and is authorized to hold conservation easements under California Civil Code § 815 et seq.; and

C. SERVICE is the United States Fish and Wildlife Service within the United States Department of the Interior, which is authorized by Federal law to administer the Federal Endangered Species Act and other laws and regulations; and

D. The Protected Property possesses significant ecological and habitat values that benefit endangered, threatened, and other rare species (Collectively, "**Conservation Values**"). These

species and their habitats are of aesthetic, ecological, educational, historical, recreational, and scientific value to the people of California and the people of the United States. These values include [list habitats and plant and animal species; include both listed species, and those that are of special significance], and are of great importance to both GRANTOR and GRANTEE; and

E. Significant portions of the Property, consisting of approximately [##] acres, have been presently identified as being occupied by species of native plants and wildlife which GRANTOR and GRANTEE desire to conserve and protect; [if applicable: restore and/or enhance] [if applicable: pursuant to a Management Plan titled XXXXXXX, a memorandum of which is attached to this EASEMENT as Exhibit C, or record entire Management Plan if possible.]; and

F. GRANTOR intends to convey to GRANTEE the right to conserve and protect [if applicable: restore and/or enhance] the conservation values of the property in perpetuity; and

G. GRANTEE agrees by accepting this grant to honor the intentions of GRANTOR stated herein and to conserve and protect [if applicable: restore and/or enhance] in perpetuity the conservation values of the Protected Property in accordance with the terms of this EASEMENT [if applicable: and the Management Plan prepared for it]; and

H. This EASEMENT provides mitigation for certain impacts located in City of [XXX], County of [XXX], State of California, described in a [date of Biological Opinion/Habitat Conservation Plan] Federal Endangered Species Act [Biological Opinion/Habitat Conservation Plan] for [project name].

Covenants, Terms, Conditions, and Restrictions

In consideration of the above and the mutual covenants, terms, conditions, and restrictions contained herein, and pursuant to the laws of California and California Civil Code section 815 et seq., GRANTOR hereby voluntarily grants and conveys to GRANTEE a perpetual conservation easement over the Protected Property of the nature and character and to the extent hereinafter set forth.

1. PURPOSE

It is the purpose of this EASEMENT to assure that the Protected Property will be retained forever in a natural and open space condition and to prevent any use of the Protected Property that will impair or interfere with the Conservation Values of the Protected Property. GRANTOR intends that this EASEMENT (i) will assure that the Protected Property will be used for such activities as are consistent with the conservation purposes of this EASEMENT, and if applicable: (ii) shall be implemented consistently with the Management Plan.

2. RIGHTS OF GRANTEE

To accomplish the purpose of this EASEMENT, the following rights are conveyed to GRANTEE by this EASEMENT:

(a) To conserve and protect, [if applicable: restore and enhance] the Protected Property.

[if applicable: in a manner consistent with the Management Plan].

(b) To enter upon and traverse all portions of the Property at all times in order to have access to the Protected Property and to monitor GRANTOR's compliance with and otherwise enforce the terms of this EASEMENT [if applicable: and to fulfill duties identified in the Management Plan]; provided that such entry shall not unreasonably impair or interfere with GRANTOR's use and quiet enjoyment of the Property or unreasonably disturb natural resources on the Property; and

(c) To prevent any activity on or use of the Protected Property that is inconsistent with the conservation purposes of this EASEMENT and to require the restoration of such areas or features of the Protected Property that may be damaged by any inconsistent activity or use.

(d) To conserve and protect all mineral, air, water rights, and ground water required to protect and to sustain the biological resources of the Protected Property [describe more specific types of water rights, use of wells, et al.].

3. PROHIBITED USES

Subject to the provisions of Paragraph 4 herein, any activity on or use of the Protected Property inconsistent with the conservation purposes of this EASEMENT is prohibited [if applicable: except as stated in the management plan]. Without limiting the generality of the foregoing, GRANTOR, its personal representative, heirs, assigns, agents, and potential future lessees are expressly prohibited from doing any of the following on Protected Property:

(a) Erecting of any building, billboard, or sign;

2. Grazing (except grazing provided for in the Management Plan) or use of off-road vehicles;

3. Planting, introduction or dispersal of non-native or exotic plant or animal species;

(d) Unseasonal watering, use of herbicides, rodenticides, mosquito abatement activities, or weed abatement activities, incompatible fire protection activities and any and all other uses which may adversely affect the purposes of this EASEMENT;

(e) Depositing of soil, trash, ashes, garbage, waste, bio-solids or any other material;

(f) Excavating, dredging or removing of loam, gravel, soil, rock, sand or other material;

(g) Otherwise altering the general topography of the Protected Property.

(h) Removing, destroying, or cutting of trees, shrubs, or other vegetation, except as required for [list exceptions:
(1) fire breaks, (2) maintenance of existing foot trails or roads, or (3) prevention or treatment of disease, others?]

(i) Granting use of the land to any third party for off-road vehicle use;

(j) Legally subdividing the Conservation Property, recording of a subdivision plan, partition, or any other division of the Conservation Property into two or more parcels;

(k) Paving or otherwise covering of the conservation Property with concrete, asphalt, or any other impervious paving material;

(l) Transferring any appurtenant water right required to maintain and restore the biological resources of the Conservation Property;

(m) Granting surface entry for the exploration or extraction of minerals without approval by the SERVICE; and

(n) [Others? All prohibited actions should be listed-- examples: pumping water, diverting

water, extracting oil, mining].

4. GRANTOR'S DUTIES

GRANTOR shall undertake all reasonable actions to prevent the unlawful entry and trespass by persons whose activities may degrade or harm the conservation values of the Protected Property. In addition, GRANTOR shall undertake all necessary actions to perfect GRANTEE's rights under section 2 of this EASEMENT, including, but not limited to, GRANTEE's water rights.

5. RESERVED RIGHTS

GRANTOR reserves to itself, and to its personal representative, heirs, successors, assigns, agents and present and potential future lessees, including, but not limited to, all rights accruing from its ownership of the Property, including the right to engage in or permit or invite others to engage in all uses of the Protected Property that are not expressly prohibited herein and are not inconsistent with the conservation purposes of this EASEMENT.

[Add this paragraph if applicable] This EASEMENT includes Waters consisting of (i) any riparian water rights appurtenant to the Protected Property, (ii) any appropriative water rights held by GRANTOR to the extent those rights are appurtenant to the Protected Property, (iii) any waters, the rights to which are secured under contract between the GRANTOR and any irrigation or water district, to the extent such waters are customarily applied to the Protected Property, and (iv) any water from wells that are in existence or may be constructed in the future on the Protected Property or on those lands described as excepted from the Protected Property in the legal description and that were historically used, by the GRANTOR to maintain the Protected Property in a flooded condition (Collectively, **"Easement Waters"**. The Easement Waters are limited to the amount of GRANTOR's water reasonably required to maintain the Conservation Values of the Protected Property.

6. REMEDIES

If GRANTEE, SERVICE or other interested parties determines that there is a violation of the terms of this EASEMENT or that a violation is threatened, such party shall give written notice to the other parties of such violation and demand corrective action sufficient to cure the violation and, where the violation involved injury to the Property resulting from any use or activity inconsistent with the purpose of this EASEMENT, to restore [if applicable: in accordance with the Management Plan] the portion of the Protected Property so injured. In any instance, measures to cure the violation shall be reviewed and approved by the SERVICE. If a party fails to cure a violation within sixty (60) days after receipt of notice thereof from the other party, or under circumstances where the violation cannot reasonably be cured within a sixty (60) day period, or fails to continue diligently to cure such violation until finally cured, the aggrieved party may bring an action at law or in equity in a court of competent jurisdiction to enforce the terms of this EASEMENT, to enjoin the violation, ex parte as necessary, by temporary or permanent injunction, to recover any damages to which it may be entitled for violation of the terms of this EASEMENT or injury to any conservation values protected by this EASEMENT, including damages for the loss of aesthetic, ecological, educational, historical, recreational or scientific values, and to require the restoration [if applicable: pursuant to the Management Plan]

of the Protected Property to the condition that existed prior to any such injury. If a party, in its good faith and reasonable discretion, determines that circumstances require immediate action to prevent or mitigate significant damage to the Conservation Values of the Protected Property, such party may pursue its remedies under this paragraph without prior notice to the other party or without waiting for the period provided for the cure to expire. Each party's rights under this paragraph apply equally in the event of either actual or threatened violations of the terms of this EASEMENT, and each party agrees that the other party's remedies at law for any violation of the terms of this EASEMENT are inadequate and that such party shall be entitled to the injunctive relief described in this paragraph, both prohibitive and mandatory, in addition to such other relief to which such party may be entitled, including specific performance of the terms of this EASEMENT, without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies. Each party's remedies described in this paragraph shall be cumulative and shall be in addition to all remedies now or hereafter existing at law or in equity. Furthermore, the provisions of California Civil Code section 815 et seq., are incorporated herein by this reference and this EASEMENT is made subject to all of the rights and remedies set forth therein. If at any time in the future GRANTOR or GRANTEE or any subsequent transferee or assignee uses or threatens to use such lands for purposes not in conformance with the provisions of this EASEMENT, or releases or abandons this EASEMENT in whole or in part, notwithstanding California Civil Code § 815 et seq., the California Attorney General, the United States through the SERVICE, or any entities organized for conservation purposes shall have standing as interested parties, and as third party beneficiaries in any proceeding affecting this EASEMENT.

(a) Costs of Enforcement. Reasonable costs incurred by any party enforcing the terms of this EASEMENT, including without limitation, costs of suit and attorneys fees, and any costs of restoration necessitated by a violation of the terms of this EASEMENT shall be borne by the breaching party. If a party prevails in any action to enforce the terms of this EASEMENT, such party's costs of suit including, without limitation, attorneys fees, shall be borne by the other party.

(b) GRANTEE's Discretion. Enforcement of the terms of this EASEMENT shall be at the discretion of GRANTEE, and any forbearance by GRANTEE to exercise its rights under this EASEMENT shall not be deemed or construed to be a waiver by GRANTEE of such term or of any subsequent breach of the same or any other term of this EASEMENT or of any of GRANTEE's rights under this EASEMENT. No delay or omission by GRANTEE in the exercise of any right or remedy upon any breach by GRANTOR shall impair such right or remedy or be construed as a waiver.

(c) Acts Beyond GRANTOR's Control. Nothing contained in this EASEMENT shall be construed to entitle GRANTEE to bring any action against GRANTOR for any injury to or change in the Property resulting from causes beyond GRANTOR's control, including, without limitation, fire, drought, flood, storm, and earth movement caused by an earthquake.

7. COSTS AND LIABILITIES

Except as set forth in this EASEMENT, or as otherwise agreed in writing between the parties hereto, GRANTOR retains all responsibilities related to the ownership, operation, upkeep, and maintenance of the Property.

(a) Taxes: GRANTOR shall pay before delinquency all taxes, assessments, fees, and

charges of whatever description levied on or assessed against the Protected Property by competent authority, including any taxes imposed upon, or incurred as a result of, this EASEMENT, and shall furnish GRANTEE with satisfactory evidence of payment upon request.

(b) Hold Harmless: [this provision varies upon needs of grantee] GRANTOR or its successor shall hold harmless, indemnify, and defend GRANTEE and its members, directors, officers, employees, agents and contractors and the heirs, personal representatives, successors, and assigns of each of them (collectively "Indemnified Parties") from and against all liabilities, penalties, costs, losses, damages, expense, causes of action, claims, demands, or judgments, including without limitation, reasonable attorney's fees, arising from or in any way connected with: (1) injury to or the death of any person, or physical damages to any property, resulting from any act, omission, condition or other matter occurring on the Protected Property, unless caused by the acts or omissions of any of the Indemnified Parties, and (2) the existence or administration of this EASEMENT.

8. ASSIGNMENT

This EASEMENT is transferable, but GRANTEE shall give GRANTOR and the SERVICE [anyone else] at least thirty (30) days prior written notice of the transfer. GRANTEE may assign its rights and obligations under this EASEMENT only to an organization that is 1) approved by the SERVICE [anyone else]; and, 2) a public agency or a qualified organization at the time of transfer under section 170(h) of the Internal Revenue Code of 1954, as amended (or any successor provision then applicable), and the applicable regulations promulgated thereunder; and, 3) authorized to acquire and hold conservation easements under California Civil Code section 815 et seq. (or any successor provision then applicable). As a condition of such assignment or transfer, the Assignee or Transferee shall agree in writing that the conservation purposes that this grant is intended to advance shall continue to be fulfilled [if applicable: and that the Management Plan will be followed] and notice of such restrictions shall be recorded in the county where the property is located. In the event of the termination of GRANTEE's existence, the rights and obligations of GRANTEE hereunder shall, by that fact itself, and without any further action on the part of any entity, be deemed assigned to [Identify Entity; not the SERVICE].

9. SUBSEQUENT TRANSFERS

GRANTOR agrees to incorporate the terms of this EASEMENT in any deed or other legal instrument by which GRANTOR divests itself of any interest in all or a portion of the Property, including, without limitation, a leasehold interest. GRANTOR further agrees to give written notice to GRANTEE and the SERVICE at least fifteen (15) days prior to the date of any property transfer. The failure of GRANTOR to perform any act required by this paragraph shall not impair the validity of this EASEMENT or limit its enforceability in any way.

10. ESTOPPEL CERTIFICATES

Upon request by GRANTOR, GRANTEE shall within fifteen (15) days execute and deliver to GRANTOR any document, including an estoppel certificate, which certifies GRANTOR's compliance with any obligation of GRANTOR contained in this EASEMENT and otherwise evidences the status of this EASEMENT as may be requested by GRANTOR.

11. NOTICES

Any notice, demand, request, consent, approval, or communication that the parties desire or is required to give to the others shall be in writing and either served personally or sent by first class mail, postage prepaid, addressed as follows:

To Grantor:

To Grantee:

To Service:

United States Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846
Attn: Field Supervisor

or to such other address or the attention of such other officer from time to time shall designate by written notice to the other.

12. RECORDATION

GRANTOR shall submit an original, signed and notarized Conservation Easement Grant to GRANTEE and GRANTEE shall promptly record this instrument [if applicable: in accordance with instructions for recordation contained in the biological opinion or HCP] in the official records of [County(s) where property is located], California and may re-record it at any time as may be required to preserve its rights in this EASEMENT.

13. FUNDING

_____GRANTOR has provided [describe funding mechanism for maintenance of easement in perpetuity and include as exhibits all agreements, e.g., declaration of trust] to GRANTEE [others that will be managing the easement] for the purposes of fulfilling all of GRANTOR's obligations long-term operations and maintenance of the EASEMENT [under the Management Plan/Habitat Conservation Plan/Biological Opinion]. Funding shall be transferred to the appropriate transferee or assignee if the EASEMENT is assigned or transferred.

14. ADDITIONAL EASEMENTS

_____GRANTOR shall not grant any additional easements, rights-of-way, or other interests in the Protected Property, other than a fee or leasehold interest, undivided interest or security interest (mortgage or deed of trust), or grant or otherwise transfer to any other person or entity or to other lands or otherwise abandon or relinquish any Waters associated with the Protected Property without the prior written authorization of GRANTEE given through the SERVICE. Such authorization will be given unless the SERVICE, among other things, determines that the proposed interest or transfer will interfere with the use of the Protected Property as habitat suitable for federally listed species or other federally protected species. This paragraph shall not

prohibit the transfer of a fee title or leasehold interest in the Protected Property that is subject to the terms of this EASEMENT. This paragraph shall also not prohibit the granting of future compatible utility easements, as authorized by the SERVICE.

15. GENERAL PROVISIONS

(a) Controlling Law. The interpretation and performance of this EASEMENT shall be governed by the laws of the State of California, the Federal Endangered Species Act, and other applicable Federal laws.

(b) Construction. Any general rule of construction to the contrary notwithstanding, this EASEMENT shall be construed in favor of the grant to effect the Conservation Purpose of this EASEMENT and the policy and purpose of California Civil Code section 815 et seq. If any provision in this instrument is found to be ambiguous, an interpretation consistent with the purposes of this EASEMENT that would render the provision valid shall be favored over any interpretation that would render it invalid.

(c) Severability. If any provision of this EASEMENT, or the application thereof to any person or circumstances, is found to be invalid, the remainder of the provisions of this EASEMENT, or the application of such provision to persons or circumstances other than those as to which it is found to be invalid, as the case may be, shall not be affected thereby.

(d) Entire Agreement. This instrument sets forth the entire agreement of the parties with respect to the EASEMENT and all exhibits and supersedes all prior discussions, negotiations, understandings, or agreements relating to the EASEMENT.

(e) No Forfeiture. Nothing contained herein will result in a forfeiture or reversion of GRANTOR's title in any respect.

(f) Successors. The covenants, terms, conditions, and restrictions of this EASEMENT shall be binding upon, and inure to the benefit of, the parties hereto and their respective personal representatives, heirs, successors, and assigns and shall continue as servitude running in perpetuity with the Property.

(g) Captions. The captions in this EASEMENT have been inserted solely for convenience of reference and are not a part of this EASEMENT and shall have no effect upon construction of interpretation.

(h) Counterparts. The parties may execute this instrument in two or more counterparts, which shall, in the aggregate, be signed by both parties; each counterpart shall be deemed an original instrument as against any party who has signed it. In the event of any disparity between the counterparts produced, the recorded counterpart shall be controlling.

(i) Third-Party Beneficiary: GRANTOR and GRANTEE acknowledge that the SERVICE is a third party beneficiary of this EASEMENT with the right of access to the EASEMENT property and the right to enforce all of the provisions of this EASEMENT.

IN WITNESS WHEREOF, GRANTOR and GRANTEE have entered into this EASEMENT the day and year first above written.

Grantor:_____
Entity

By:_____

Name

_____

Title

Grantee:_____

Entity

By: _____

Name

_____

Title

Draft

APPROVED AS TO FORM: [necessary when there are modifications made to the template]

_____

XXXX, Assistant Regional Solicitor
United States Department of the Interior
for U.S. Fish and Wildlife Service

Exhibit A
Conservation Easement Area

Exhibit B
Legal Description of Conservation Easement Area

Exhibit C
Management Plan

Exhibit D
Declaration of Trust

CC Addresses

California Department of Fish and Game
Attn: Jeff Finn
1701 Nimbus Road
Rancho Cordova, CA 95670

Environmental Protection Agency
Attn: Ms. Kathey Dadey
75 Hawthorne Street (WTR-3)
San Francisco, CA 94105

Draft

Westpark Associates
Attn: Mr. Bill Falik
2130 Professional Drive, Suite 240
Roseville, CA 95661

Westpark Associates
Attn: Mr. John Murray
2130 Professional Drive, Suite 240
Roseville, CA 95661

Signature Properties
Attn: Mr. Jim McKeehan
4670 Willow Road, Suite 200
Pleasanton, CA 94588

ECORP Inc.
Attn: Jim Stewart
2260 Douglas Blvd, Suite 160
Roseville, CA 95661

Hefner, Stark & Marios, Sacramento, CA
Attn: Mr. George Kammerer
2150 River Plaza Drive, Suite 450
Sacramento, CA 95833

Filename: 03F0013 Westpark_Fiddyment_VP.wpd

ATTACHMENT B

Department of the Army Permit (200200666)

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

October 27, 2004

Regulatory Branch (200200666)

John Murray
Chief Operating Officer
Westpark Associates
2130 Professional Drive, Suite 240
Roseville, California 95661

John Tallman
Director of Land Acquisitions
Signature Properties
1322 Blue Oaks Boulevard, Suite 100
Roseville, California 95678

Dear Mr. Murray and Mr. Tallman:

We are enclosing your copy of Department of the Army Permit 200200666. Please note you are only authorized to complete the work described in the permit.

If you sell the property associated with this permit, the terms and conditions of this permit will continue to be binding on the new owner. To validate the transfer of this permit, have the succeeding party sign the permit transfer section at the end of the permit and forward a copy to this office, along with their printed name, address, telephone number, and other contact information.

The time limit for completing the work is specified in General Condition 1. If the work will not be completed prior to that date, you may request a time extension. Your request for an extension must be received by this office for consideration at least 30 days before the time limit date.

Please refer to identification number 200200666 in any correspondence concerning this project. If you have any questions, please contact Tom Cavanaugh at our Sacramento Valley Office, 1325 J Street, Room 1480, Sacramento, California 95814-2922, email *Thomas.J.Cavanaugh@usace.army.mil*, or telephone 916-557-5261. You may also use our website: *www.spk.usace.army.mil/regulatory.html*.

Sincerely,

Michael S. Jewell
Chief, Central California/Nevada Section

Enclosure

DEPARTMENT OF THE ARMY PERMIT

Permittee:

John Murray
Chief Operating Officer, Westpark Associates
2130 Professional Drive, Suite 160
Roseville, California 95661

John Tallman
Director of Land Acquisitions
Signature Properties
1322 Blue Oaks Boulevard, Suite 100
Roseville, California 95678

Permit Number: 200200666

Issuing Office: U.S. Army Engineer District, Sacramento
Corps of Engineers
1325 "J" Street
Sacramento, California 95814-2922

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below. A notice of appeal options is enclosed.

Project Description:

To discharge fill material into 21.76 acres of waters of the United States to construct the West Roseville Specific Plan ("WRSP"). The WSRP area comprises approximately 3,160 acres, immediately adjacent to the western boundary of the City of Roseville. 1600 Placer Investors, L.P., dba Westpark Associates, owns approximately 1,484 acres in the plan area, and Signature Properties controls an additional 1,676 acres in the plan area.

The proposed West Roseville Specific Plan ("WRSP") area comprises approximately 3,160 acres, immediately adjacent to the western boundary of the City of Roseville. 1600 Placer Investors, L.P., dba Westpark Associates, owns approximately 1,484 acres in the plan area, and Signature Properties controls an additional 1,676 acres in the plan area.

The WRSP includes a total of approximately 8,430 proposed dwelling units on approximately 1,767 acres. Proposed land uses within the WRSP include a total of approximately 738 acres set aside in open space; 271 acres for dedication to parks; 151 acres of public/quasi-public uses; 33 acres of community/commercial uses; 20 acres of business professional uses; and 110 acres of light industrial and general industrial uses.
All work is to be completed in accordance with the attached plan(s).

Project Location:

The subject property is located within portions of Sections 13, 14, 22, 23, 24, 25, 26, and 27, of Township 11 North, and Range 5 East and Section 18 and 19 of Township 11 North, and Ranch 6 East of the Mount Diablo Baseline and Meridian as depicted on the "Roseville, California" 7.5 minute topographic quadrangle (U.S. Department of the Interior Geological Survey, 1967, revised 1992) and the "Pleasant Grove" 7.5 minute topographic quadrangle (U.S. Department of the Interior, Geological Survey, 1967, revised 1981). The subject property is located along and adjacent to the floodplain of Pleasant Grove creek at the confluence of Kaseberg and South Branch of Pleasant Grove Creek, northwest of Roseville. The eastern border of the parcel is defined by Fiddyment Road. The southwestern portion is drained by the heads of unnamed tributaries of Curry Creek.

The Westpark/Fiddyment Ranch includes fifteen parcels with the following Assessor's Parcel Numbers (APN's): 17-010-003, 17-010-009, 17-010-010, 17-010-020, 17-010-021, 17-010-034, 17-010-035, 17-010-036, 17-010-040, 17-011-001, 17-011-002, 17-011-003, 17-011-004, 17-011-005, 17-015-037.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on April 30, 2009. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The document, entitled "Section 404 Individual Permit Application – Westpark/Fiddyment Ranch (Placer County, California)" dated July 10, 2002, is incorporated by reference as a condition of this authorization except as modified by the following special conditions:

2. This Corps permit does not authorize you to take an endangered species, in particular the vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), or designated critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g., and Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with "incidental take" provisions with which you must comply). The enclosed Fish and Wildlife Service Biological Opinion (Number 1-1-03-F-0013, dated November 20, 2003), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. The permittee must comply with all conditions of this Biological Opinion, including those ascribed to the Corps.

3. You shall design and construct all crossings of waters of the United States to retain a natural substrate, and to accommodate all reasonably foreseeable wildlife passage and expected high flows. Specific detailed plans for these crossings shall be submitted to and approved by the Corps of Engineers prior to implementation.

4. You shall establish and maintain an approximately 738 acre on-site preserve containing 38.19 acres of avoided and preserved waters of the United States, as depicted on the exhibit entitled "Westpark/Fiddyment Ranch, Revised Preserve/Impact Plan", dated September 30, 2004, and as depicted in the "Operations and Management Plan for the West Roseville Specific Plan Open Space Preserve, dated October 1, 2004" (on-site Operations and Management Plan). The purpose of this preserve is to insure that functions and values of the aquatic environment are protected. To insure that the on-site preserve is properly managed, you shall fully implement the on-site Operations and Management Plan.

5. To minimize external disturbance to preserved waters of the United States, you shall establish a buffer, consisting of native upland vegetation, as depicted on the exhibit entitled "Westpark/Fiddyment Ranch, Revised Preserve/Impact Plan", dated September 30, 2004.

6. Prior to initiating any activity authorized by this permit, you shall, to insure long-term viability of the on-site mitigation, preservation, and avoidance areas:

a. Establish the funding as described in the on-site Operations and Management Plan, to provide for maintenance and monitoring of on-site preservation and avoidance areas.

b. Designate an appropriate conservation-oriented third party entity to function as preserve manager and to hold the required on-site conservation easements.

c. Record the permanent conservation easements, version dated October 1, 2004, over the entire area of all on-site preserve parcels within Phase 1 of the project, maintaining them as wetland preserve and wildlife habitat in perpetuity.

d. Record permanent conservation easements, version dated October 1, 2004 over each of the remaining on-site preserve parcels in the project, except that area defined as the 50 foot buffer, maintaining these areas as wetland preserve and wildlife habitat in perpetuity.

e. Provide copies of the recorded documents to the Corps of Engineers prior to the start of

construction of any of the activities authorized by this permit.

7. Prior to the initiation of work each in each of the remaining phases, you shall record permanent conservation easements over the 50 foot buffers in that phase, maintaining these areas as wetland preserve and wildlife habitat in perpetuity. The language of these easements shall be the same as that approved in Special Condition 6(c).

8. To protect the integrity of the on-site preserve, the Yankee Slough Preserve, and the East Sheridan Mitigation Area and avoid unanticipated future impacts to these areas, no roads, utility lines, trails, benches, equipment or fuel storage, grading, firebreaks, mowing, grazing, planting, discing, pesticide use, burning, or other structures or activities shall be constructed or occur within these areas without specific, advance written approval from the Corps of Engineers unless already described or depicted in the approved management plans for these areas.

9. Prior to initiating construction of the authorized project, you shall:

a. Show proof that funds have been obligated for the construction of required mitigation and the encumbrance of the restoration area at the Yankee Slough Preserve and East Sheridan Vernal Pool Mitigation Area.

b. Record the permanent conservation easements, version dated October 1, 2004, over the Yankee Slough Preserve, and the conservation easement, version dated October 4, 2004, over the East Sheridan Vernal Pool Mitigation Area to the California Rangeland Trust maintaining these areas as wetland preserve and wildlife habitat in perpetuity.

c. Establish fully-funded endowments to provide for maintenance and monitoring of the Yankee Slough Preserve and the East Sheridan Vernal Pool Mitigation Area.

10. To mitigate for the loss of 21.76 acres of waters of the United States and indirect effects to 10.24 acres of waters of the United States, you shall:

a. Construct 43.00 acres of vernal pool habitat within the Yankee Slough Preserve and preserve 1.2 acres of vernal pool habitat at Yankee Slough Preserve, as proposed.

b. Preserve 25.48 acres of vernal pool habitat within the East Sheridan Vernal Pool Mitigation Area, as proposed.

c. Construct 7.07 acres of seasonal wetland/perennial wetland habitat on-site, for which you shall develop a final comprehensive mitigation and monitoring plan, which must be submitted to the Army Corps of Engineers prior to December 31, 2004, and must be approved by the Corps of Engineers in writing. The plan shall include mitigation location and design drawings, vegetation plans, and final success criteria, presented in the format of the most current version of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines. The purpose of this requirement is to insure replacement of functions and values of the aquatic environment that would be lost through project implementation. Construction of the on-site mitigation shall be completed no later than December 31, 2005.

d. Construct 8.0 acres of seasonal wetland habitat at the Yankee Slough property to compensate for the loss of seasonal wetlands within the vernal pool creation area. You shall develop a final comprehensive mitigation and monitoring plan for the 8.0 acres of seasonal wetland habitat at the Yankee Slough property. This plan must be submitted to the Army Corps of Engineers by February 28, 2005 and must be approved in writing.

This plan shall include mitigation location and design drawings, vegetation plans, and success criteria, presented in the format of the most current version of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines. The Yankee Slough seasonal wetland mitigation shall be completed no later than December 31, 2005.

11. In no case shall initiation of the construction of compensatory mitigation be delayed beyond May 1, 2005. Construction of compensatory mitigation shall be completed no later than December 31, 2005.

12. To insure that mitigation is completed as required, you shall notify the district Engineer of the start date and the completion date of the mitigation construction, in writing and no later than ten (10) calendar days after each date.

13. To provide a permanent record of the completed mitigation work, you shall provide two complete sets of as-builts of the completed work within the on-site and off-site mitigation, preservation, and avoidance areas to the Corps of Engineers. The as-builts shall indicate changes made from the original plans in indelible red ink. These as-builts shall be provided to this office no later than 60 days after the completion of construction of the mitigation wetlands.

14. To prevent unauthorized access and disturbance, you shall install fencing and appropriate signage around the entire perimeter of the on-site preserve as described in the on-site Operations and Management Plan and install barbed wire fencing around the Yankee Slough Preserve and the East Sheridan Vernal Pool Mitigation Area. All fencing surrounding mitigation, preservation, avoidance, and buffer areas shall allow unrestricted visibility of these areas to discourage vandalism or disposing of trash or other debris in these areas.

15. You must allow representatives from the Corps of Engineers to inspect the authorized activity and all mitigation, preservation, and avoidance areas at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

16. To assure success of the mitigation for impacts to waters of the United States, you shall monitor each compensatory mitigation area for five years or until the success criteria described in each approved mitigation plan are met, whichever is greater. Each monitoring period shall commence upon completion of the construction of each portion of the mitigation. Additionally, continued success of all mitigation wetlands, without human intervention, must be demonstrated for three consecutive years, once the success criteria have been met. The mitigation plan will not be deemed successful until this criterion has been met.

17. You shall submit monitoring reports to this office for each year of the five-year monitoring period for the on-site wetland creation and Yankee Slough restoration, and for each additional year, if remediation is required. You shall submit an additional monitoring report at the end of the three-year period, demonstrating continued success of the mitigation program without human intervention. The monitoring reports will be submitted to this office by December 31 of each year.

18. To insure that the Yankee Slough Preserve and East Sheridan Vernal Pool Mitigation Area are properly managed, you shall fully implement the "Operations and Management Plan for the Yankee Slough Preserve, dated October 1, 2004" and the ("East Sheridan Vernal Pool Preserve Habitat Development and Management Plan" – October 6, 2003), including annual reporting requirements.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(✓) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant.

Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Permittee

10·25·04
Date

Permittee

10-25-04
Date

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Michael S. Jewell, Chief,
Central California/Nevada Section
(For the District Engineer)

27 OCT 04
Date

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

Transferee

Date

Original CWA Section 404 Application, dated 10 July 2002

CLASSIFICATION	EXISTING ACREAGE	PRESERVE ACREAGE	IMPACT ACREAGE	INDIRECT IMPACT ACREAGE
Vernal Pool	33.91[5]	18.80	14.62[3]	10.31
Wet Swales/Channel	25.44[1]	17.48	7.96[3]	--
Seasonal Wetland	3.92[2]	2.56	1.36	--
Emergent Marsh	0.62	--	0.62	--
Total:	63.89	38.84	24.56	10.31

Revised CWA Section 404 Wetland Impact/Preserve

	Existing	Direct Impact	Indirect Impact	On-Site Preserve	On-Site Mitigation	Compensation Yankee Slough	Compensation East Sheridan
Vernal Pool	33.42[5]	13.34[3]	9.50	20.08	--	1.2 acres preserved / 43.00 restored	25.48 preserved
Vernal Swale	8.05[1]	3.29[3]	0.74	4.76	--	--	--
Wet Swales/Channel	17.39[1]	4.17[3]	--	13.22	--	--	--
Seasonal Wetland	0.47[2]	0.34	--	0.13	7.07[4]	--	--
Emergent Marsh	0.62	0.62	--	--	--	--	--
Total:	59.95	21.76	10.24	38.19	7.07[4]	44.20	25.48

1) During Section 7 consultation, vernal swales were broken out from wet swales/channel, 8.05+17.39=25.44
2) Seasonal wetland acreage present was reduced after re-delineation
3) Impacts were minimized per EPA and Corps comments
4) Non-fairy shrimp impacts (5.442 acres), on-site created mitigation (7.07 acres), On-Site Mitigation: 5.13(a) + 0.312(b) + 1.63(c) = 7.07 [(a) Revised acreage per new delineation; (b) Portion of remnant wetland in open space; (c) 1.30 temporal loss compensation]
5) Existing VP acreage now 0.49 less due to fill under Roseville Wastewater Treatment Plant permit (i.e. pools no longer exist) (Service File #1-1-01-F-0034)

20020066 1 of 6

ATTACHMENT C

Jurisdictional Delineation for the Westpark/Fiddyment Ranch Property

WD-0160

JURISDICTIONAL DELINEATION

FIDDYMENT PROPERTY

PLACER COUNTY, CALIFORNIA

SEPTEMBER 1998
Revised
November 1998

Prepared For:

SIGNATURES PROPERTIES
8854 Greenback Lane, Suite 4
Orangevale, California 95662

Prepared By:

GIBSON & SKORDAL
Wetland Consultants
2277 Fair Oaks Blvd., Suite 395
Sacramento, California 95825

OBJECTIVE

The purpose of this study was to delineate all waters of the United States including wetlands existing in the study area that are subject to the provisions of Section 404 of the Clean Water Act.

LOCATION

The study area is an approximately 1,667-acre parcel located northwest of the intersection of Phillips Road and Fiddyment Road in Placer County, California (Sections 13, 18, 19 and 24, Township 11 North, Range 6 East). Figure 1 is a vicinity map showing the location of the study area.

METHODS AND MATERIALS

Field studies were conducted on August 18 - 20, 1998 for the purpose of delineating and mapping all waters of the United States including wetlands present in the study area. The "**Corps of Engineers Wetlands Delineation Manual**"[1] was used as the standard for determining whether specific areas are wetlands subject to the Clean Water Act. Corps of Engineers' regulations (33 CFR 328) were used to determine the presence of waters of the United States, other than wetlands. The "**National List of Plant Species That Occur In Wetlands: California (Region O)**"[2] was used to determine the status of observed plants as wetland indicator species.

The boundaries of all waters including wetlands were mapped in the field onto 1" = 200' scale infra-red aerial photographs of the study area flown on April 21, 1995. Area of jurisdictional waters was determined by both digital planimeter and field measurements. Detailed data on vegetation, soils, and hydrology characteristics were taken in the field. Data sheets which document the basis for determining which areas are upland or wetland were completed for representative locations and are provided in Appendix A. Appendix B provides a partial list of plant species observed in the study area including their status as wetland indicators.

The Corps of Engineers conducted a field verification of the delineation on October 29, 1998. As a result, minor additions were made and are reflected in this report.

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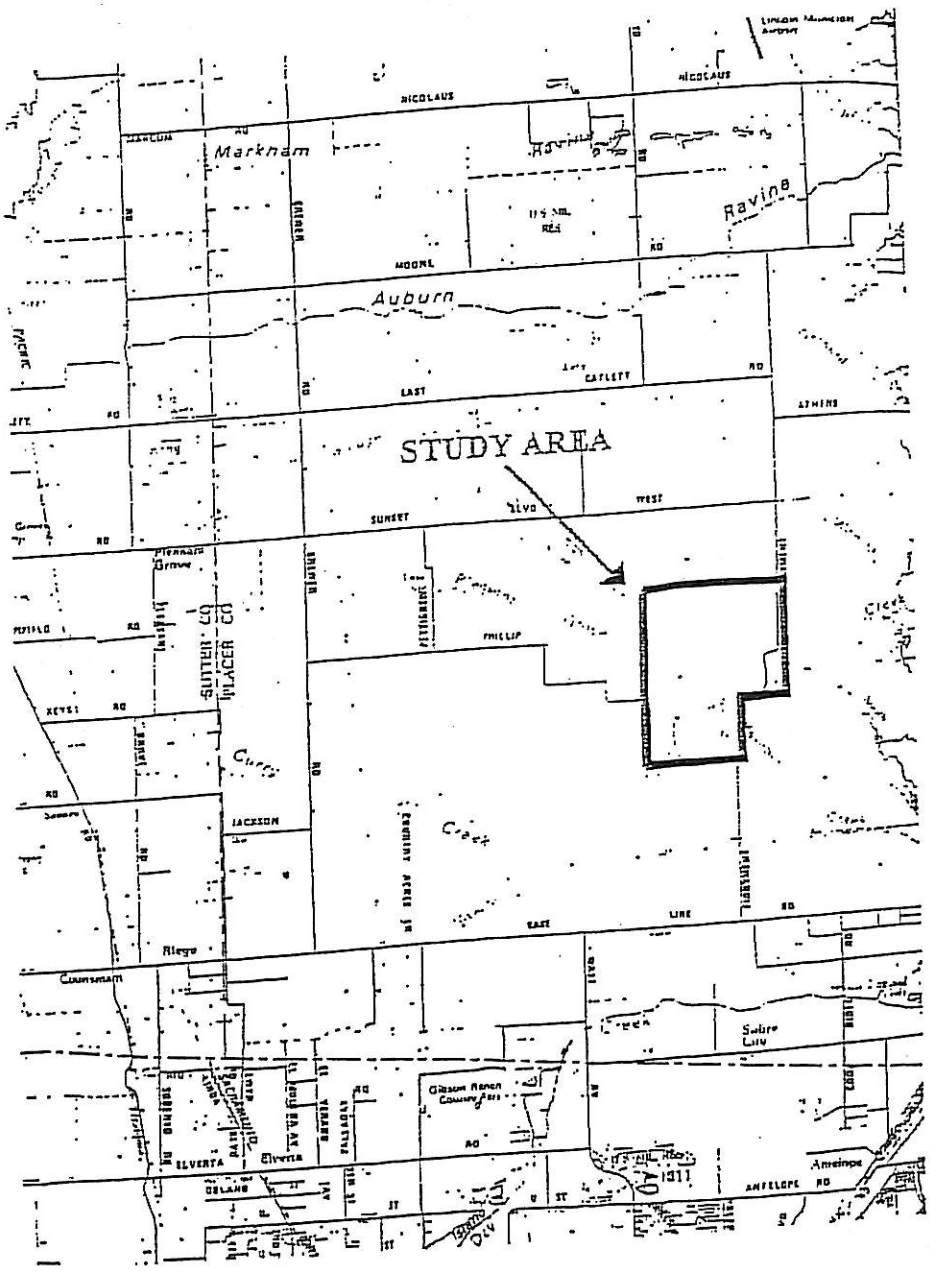
[1] Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual." Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

[2] Reed, P.B. 1988. National List of Plant Species That Occur In Wetlands: California (Region O). Biological Report 88 (26.10) May 1988. National Ecology Research Center, National Wetlands Inventory, U.S. Fish and Wildlife Service, St. Petersburg, Florida.

FIGURE 1

VICINITY MAP



GENERAL SITE CONDITIONS

The study is bordered by Phillips Road to the south and southwest, Fiddyment Road to the east, and undeveloped grasslands to the north and northwest. The study area includes portions of the historic R.F. Fiddyment Ranch. Past land uses include crop cultivation, orchards, and cattle grazing. Remnants of old sprinkler irrigation and ditch irrigation systems are evident throughout the site. A majority of the study area is undeveloped land with the exception of several home sites, out-structures, and a pistachio orchard operation located on the eastern side of the property.

Topographically, the study area consists of gently undulating terrain characterized by ridgelines, swales and drainageways, and flat terraces. Several large drainages bisect the study area. Pleasant Grove Creek, a perennial stream, flows west across the center of the study area. Kaseberg Creek, an intermittent stream, flows north across the southeast corner of the study area before draining into Pleasant Grove Creek.

Primary upland habitats include non-native annual grassland and riparian oak woodland. A majority of the study area is annual grassland dominated by soft chess (*Bromus mollis*), medusa-head (*Taeniatherum caput-medusae*), star thistle (*Centaurea solstitialis*), and tarweed (*Holocarpha virgata*). Other common species include spikeweed (*Hemizonia sp.*), rip gut brome (*Bromus diandrus*), hairy hawkbit (*Leontodon leysseri*), little quaking grass (*Briza minor*), nitgrass (*Gastridium ventricosum*), and bur clover (*Medicago sp.*).

The riparian oak woodland habitat occurs primarily in association with Pleasant Grove Creek and Kaseberg Creek. Both of these creeks have steep banks and well defined channels in the study area, and the riparian woodland habitat does not generally extend below the ordinary high water mark. Typical overstory includes valley oak (*Quercus lobata*), interior live oak (*Quercus wislizenii*), and blue oak (*Quercus douglasii*). Understory is characterized by soft chess, star thistle, dog tail (*Cynosurus echinatus*), blue vervain (*Verbena hastata*), mustard (*Brassica sp.*), and English plantain (*Plantago lanceolata*).

Mapped soils in the study area consist of Alamo-Fiddyment complex, 0 to 5 percent slopes; Cometa sandy loam, 1 to 5 percent slopes; Cometa-Fiddyment complex, 1 to 5 percent slopes; Cometa-Ramona sandy loams, 1 to 5 percent slopes; Fiddyment loam, 1 to 8 percent slopes; Ramona sandy loam, 2 to 9 percent slopes; San Joaquin-Cometa sandy loams, 1 to 5 percent slopes; Xerofluvents, occasionally flooded; Xerofluvents, frequently flooded; and Xerofluvents, hardpan substratum.

A majority of these soil types are hardpan or claypan loamy soils that are well drained. Alamo-Fiddyment complex has inclusions of Alamo clay which are poorly drained. Xerofluvents are mapped along and adjacent to the creeks and drainageways in the study area.

FINDINGS

We identified a total of approximately 43.83 acres of jurisdictional waters including vernal pools, wet swales, seasonal wetlands, emergent marsh and channel/emergent wetland. Table 1 below gives the area of jurisdictional waters by type.

TABLE 1

AREA OF JURISDICTIONAL WATERS

Type of Waters	Area (Acres)
Vernal Pools	17.72 AC.
Wet Swales	5.00 AC.
Seasonal Wetlands	3.92 AC.
Emergent Marsh	0.62 AC.
Channels	16.57 AC.
Total:	43.83 AC.

Jurisdictional waters including wetlands are shown on the delineation maps (Map 1 - 3) provided in Appendix C. The following is a brief summary of each of these waters/wetlands.

Vernal Pools

Vernal pools in the study area typically occur in well defined depressions underlayed by tight compact soils. Hydrologically, these depressions pond surface water for long durations during the winter and early spring months, but they tend to draw down and desiccate with cessation of winter rains and warming temperatures later in the spring. Wetland hydrology indicators observed in the field include heavy algae matting, oxidized rhizospheres on live roots in the upper surface, and placement within a well defined basin occurring over tight restrictive soils. Additionally, we considered the presence and/or absence of deep hoof marks as a secondary hydrology indicator. Soils were generally dark grayish brown (10YR 4/2) loams and/or clay loams with mottles.

Vernal pools present in the study area can be categorized into shallow and deep pools based on a range of ponding depth and duration. Typically, the deeper vernal pools are dominated by

obligate wetland (OBL) and facultative wetland (FACW) vernal pool species including coyote thistle (*Eryngium vaseyi*), slender popcorn flower (*Plagiobothrys stipitatus*), Carter's buttercup (*Ranunculus alveolatus*), and manna grass (*Glyceria declinata*). Common associate species in the deeper pools include smooth goldfields (*Lasthenia glaberrima*), vernal pool mint (*Pogogyne zizyphoroides*), wooly marbles (*Psilocarphus brevissimus*), white-headed navarretia (*Navarretia leucocephala*), cleistogamous spike primrose (*Boisduvalia cleistogama*), least spikerush (*Eleocharis acicularis*), creeping spikerush (*Eleocharis macrostachya*), downingia (*Downingia sp.*), bractless hedge-hyssop (*Gratiola ebracteata*), american pillwort (*Pilularia americana*), and annual rabbit-foot grass (*Polypogon monspeliensis*).

By contrast, the shallow vernal pools are dominated by Mediterranean rye (*Hordeum hystrix*), perennial rye (*Lolium perenne*), and slender popcorn flower. Hairy hawkbit is a common associate in these shallow pools, but generally not a dominant.

The adjacent upland grassland community was defined by the dominance of non-hydrophyic plants, the absence of wetland hydrology indicators, and/or the absence of hydric soils. Those shallow depressions which were dominated by hairy hawkbit but which lacked other wetland dominants and wetland associate species were typically not considered wetlands. These non-wetlands typically support a number of upland species including tarweed, soft chess, and medusa head.

Seasonal Wet Swales

Wet swales in the study area occur in broad linear depressions which transport seasonal runoff and sheet flow, and as such, sustain saturated soil conditions for a portion of the growing season. Typically, these areas do not appreciably pond surface water. Soils are typically dark grayish brown (10YR 4/2) loams and silt loams with mottles at or near the surface. Wetland hydrology indicators observed include placement within a well defined linear depression, oxidized rhizopheres on live roots in the upper profile, algae matting, and deep hoof marks left by cattle.

Vegetation in the swales is dominated by perennial rye grass, coyote thistle and Mediterranean rye. Common associate species include Carter's buttercup, tarweed, spikeweed, purple loosestrife (*Lythrum hyssopifolia*), vernal pool mint, toad rush (*Juncus bufonius*), white-headed navarretia, hairy hawkbit, and little quaking grass.

The adjacent upland community was marked by an absence of hydrophytic vegetation and a lack of wetland hydrology and/or hydric soils indicators. It is important to note that tarweed was a common associate species in many of the wet swales identified in the study area. However, in those swales where tarweed was a dominant species and the associate species were facultative

species or drier, and given the lack of supporting wetland hydrology and hydric soils indicators, we considered these swale features as non-wetland.

Other Seasonal Wetlands

We identified a number of seasonal wetlands which occur within shallow depressions but which are not dominated by and do not sustain characteristic vernal pool vegetation. Typically these areas were characterized by a mix of wetland vegetation including perennial ryegrass, Mediterranean rye, postrate knotweed (*Polygonum aviculare*), annual rabbit-foot grass, curly dock (*Rumex crispus*), clustered dock (*Rumex conglomeratus*), purple loosestrife, tall flatsedge (*Cyperus eragrostis*), and spikeweed.

We also identified a large seasonal wetland (SW12) situated immediately north of Pleasant Grove Creek that is impounded by a berm. The wetland was artificially created by the construction of the berm for the purpose of creating seasonal waterfowl habitat for hunting. Water is diverted from the adjacent irrigation ditch to flood the wetland on a seasonal basis. It is unlikely that the wetland would continue to exist if the berm were removed and the seasonal flooding practices were terminated.

Emergent Marsh

Emergent marsh habitat in the study area occurs primarily within the riparian drainage corridor of Pleasant Grove Creek, and these areas are included within the mapping unit "channels" as shown on the delineation map. We did identify one isolated emergent marsh wetland which occurs in the central eastern part of the study area (EM1).

Typical marsh habitat in the study area is characterized by species including smartweed (*Polygonum sp.*), cattail (*Typha sp.*), dallis grass (*Paspalum dilatatum*), tall flatsedge (*Cyperus eragrostis*), floating primrose (*Ludwigia peploides*), and pennyroyal (*Mentha pulegium*). These areas are generally inundated and/or saturated for most if not all of the growing season. The isolated emergent marsh located near the southeastern corner is dominated by cattails.

Channels

Channels in the study area include several larger intermittent and/or perennial drainages which sustain flows throughout the rainy season well into the summer. Also present are a number of smaller ephemeral channels which generally only sustain flows following significant storm events and heavy rainfall periods. The ephemeral channels transport seasonal runoff from adjacent swales and slopes and they tend to dry up by late spring or early summer.

Channels were identified based on the presence of a clear and defined bed and bank indicative of regular annual flows. Other indicators of channels included the absence of topsoil, lack of vegetation, and deposition of gravels, sands and/or pebbles.

As stated earlier, there are areas of emergent marsh and/or seasonal wetland habitat which occur below the ordinary high water mark (O.H.W.) of portions of Pleasant Grove Creek. Sparse willows (*Salix sp.*) and Fremont cottonwood (*Populus fremontii*) occur within the broader sections of the creek.

JURISDICTIONAL DELINEATION

PLACER 1600 PROPERTY

GERSON & SKORDAL
Wetland Consultants
3261 Fair Oaks Blvd., Suite 295
Sacramento, California 95825

OBJECTIVE

The purpose of this study was to delineate all waters of the United States including wetlands existing in the study area that are subject to the provisions of Section 404 of the Clean Water Act.

LOCATION

The study area is an approximately 1,500-acre parcel located south of Phillip Road and west of Fiddyment Road in Placer County, California (Sections 23, 25, and 26, Township 11 North, Range 5 East). Figure 1 is a vicinity map showing the location of the study area.

METHODS AND MATERIALS

Field studies were conducted on January 12-14, 1999 for the purpose of delineating and mapping all waters of the United States including wetlands present in the study area. The "**Corps of Engineers Wetlands Delineation Manual**"[1] was used as the standard for determining whether specific areas are wetlands subject to the Clean Water Act. Corps of Engineers' regulations (33 CFR 328) were used to determine the presence of waters of the United States, other than wetlands. The "**National List of Plant Species That Occur In Wetlands: California (Region O)**"[2] was used to determine the status of observed plants as wetland indicator species.

The boundaries of all waters including wetlands were mapped in the field onto three 1" = 200' scale infra-red aerial photographs of the study area flown on April 21, 1995. Area of jurisdictional waters was determined by both digital planimeter and field measurements. Detailed data on vegetation, soils, and hydrology characteristics were taken in the field. Data sheets which document the basis for determining which areas are upland or wetland were completed for representative locations and are provided in Appendix A.

GENERAL SITE CONDITIONS

The study area is bordered by Phillips Road to the north, Fiddyment Road to the east, and undeveloped grasslands to the south. Historically, the property has been farmed and graded for crop cultivation but in recent years it has been used for cattle grazing. Past agricultural related

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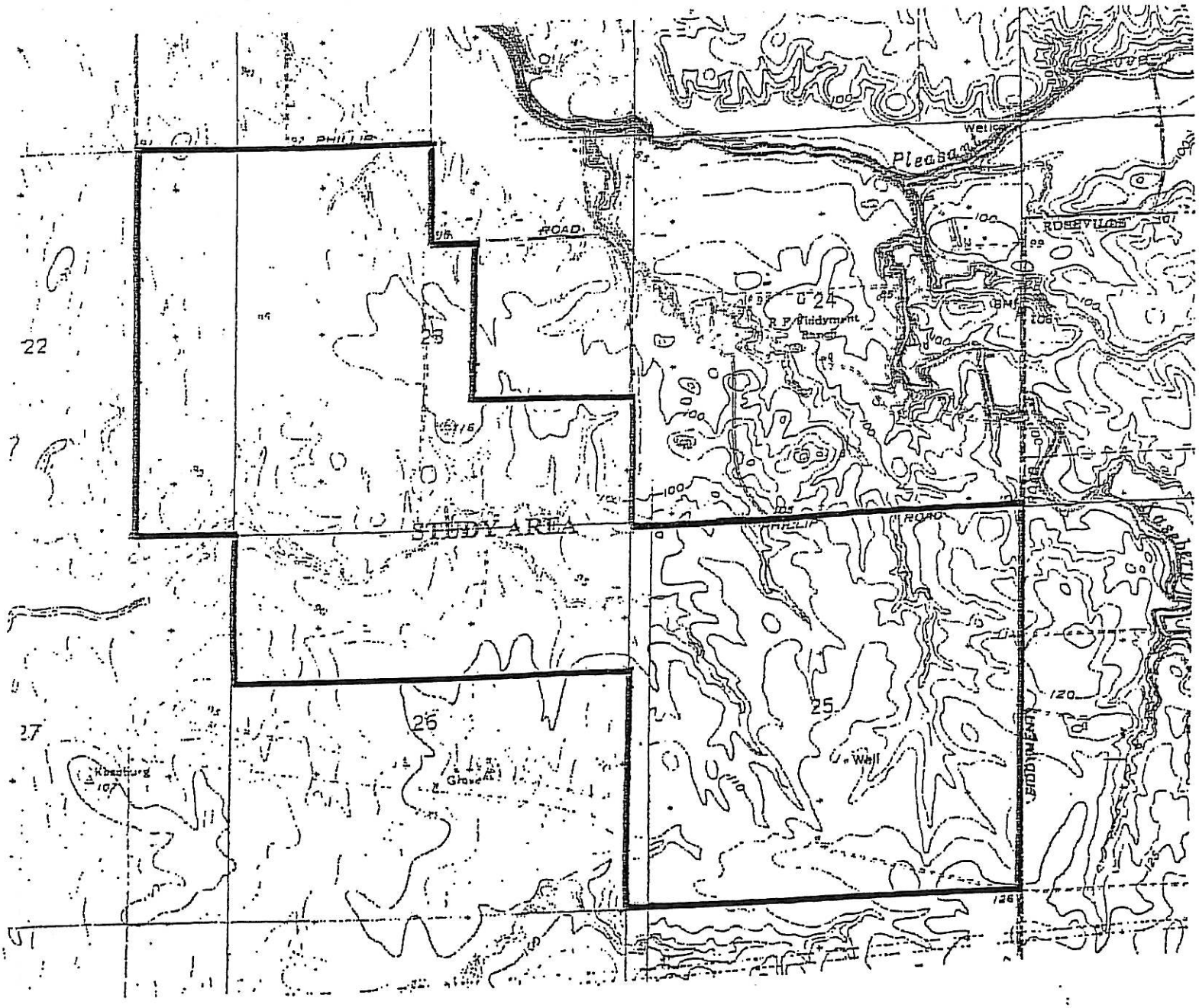
[1] Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual." Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

[2] Reed, P.B. 1988. National List of Plant Species That Occur In Wetlands: California (Region O). Biological Report 88 (26.10) May 1988. National Ecology Research Center, National Wetlands Inventory, U.S. Fish and Wildlife Service, St. Petersburg, Florida.

FIGURE 1

VICINITY MAP



Source: Pleasant Grove and Roseville, California
USGS 7.5 Minute Quadrangle Maps

grading and disking activities have significantly altered and impacted the natural landscape and wetland habitats.

Topography in the study area consists of flat to gently undulating terrain drained by several intermittent channels. One of these channels, situated in the southeast corner of the study area, flows north out of the study area and feeds into Pleasant Grove Creek. The remaining channels flow to the west and feed into Curry Creek outside the study area. In terms of habitat, a majority of the study area is non-native annual grassland dominated by soft chess (*Bromus mollis*), medusa-head (*Taeniatherum caput-medusae*), tarweed (*Holocarpha virgata*) and filaree (*Erodium* botrys). Other common species include star thistle (*Centaurea solstitialis*), spikeweed (*Hemizonia sp.*), rip gut brome (*Bromus diandrus*), hairy hawkbit (*Leontodon leysseri*), perennial rye grass (*Lolium perenne*), and knitgrass (*Gastridium ventricosum*).

Mapped soils in the study area consist of Cometa-Fiddyment complex, 1 to 5 percent slopes; Cometa-Ramona sandy loams, 1 to 5 percent slopes; Fiddyment-Kaseberg loam, 2 to 9 percent slopes; San Joaquin-Cometa sandy loams, 1 to 5 percent slopes; and Xerofluvents, hardpan substratum. A majority of these soil types are hardpan or claypan loamy soils that are well drained.

The dominant soil mapping unit in the southeast portion of the study area is San Joaquin-Cometa sandy loam, and the dominant soil mapping unit in the northwest portion is Cometa-Fiddyment complex. Xerofluvents are mapped along and adjacent to the creeks and drainageways in the study area. All of these soil types have hydric inclusions in drainageways and depressions, but none of them are listed as hydric. Figure 2 provides a soil map and mapping summary of the study area.

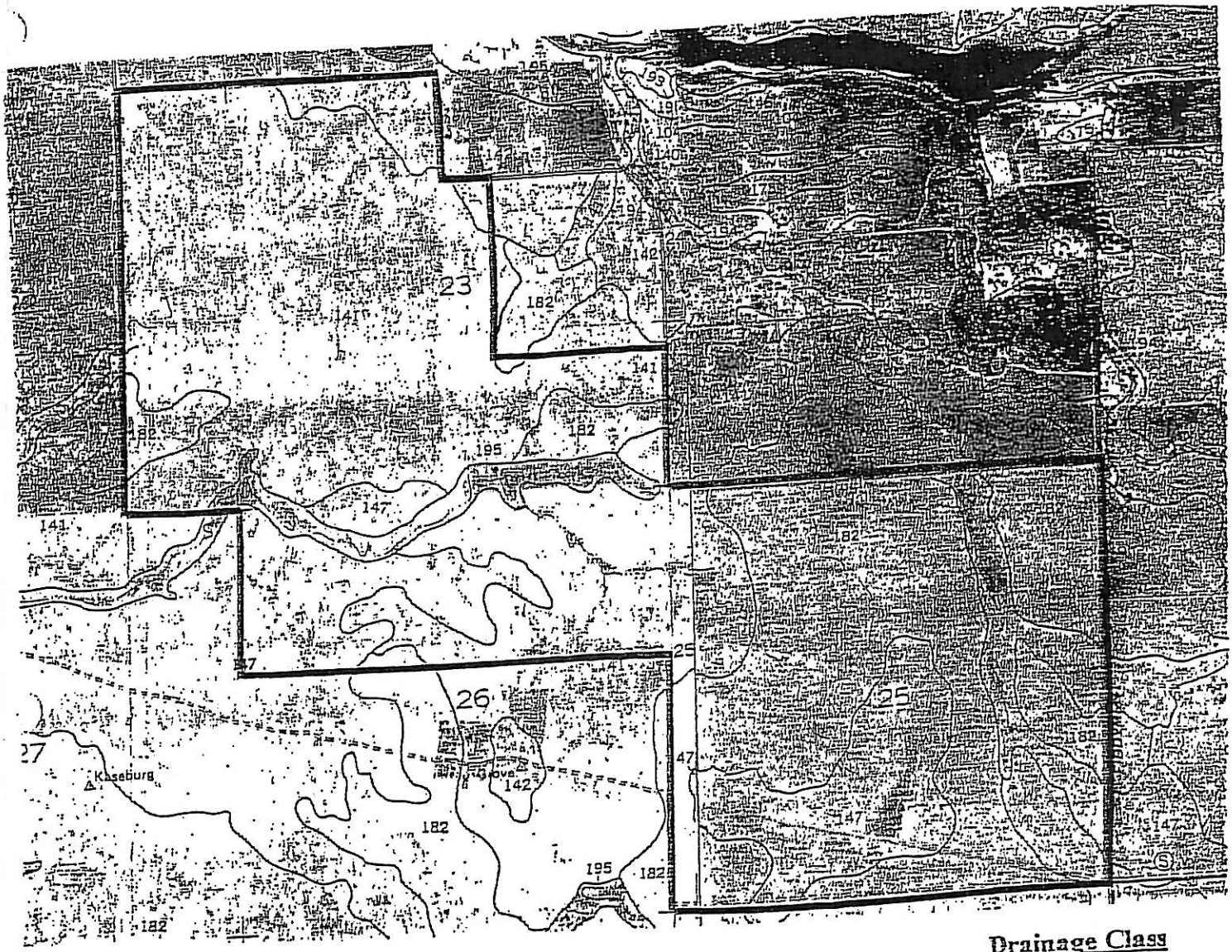
FINDINGS

We identified a total of approximately 20.06 acres of jurisdictional waters including 16.19 acres of vernal pools, 1.22 acres of wet swales, and 2.65 acres of channels. Jurisdictional waters including wetlands are shown on the delineation maps (Sheets 1-3) provided in Appendix B. Approximate average width estimations for wet swales and channels are depicted on the delineation maps.

Table 1 is a partial list of plant species observed in the study area including their status as wetland indicators. Given that field studies were conducted during the dormant winter months when many plant species are not yet visible, this plant list is not reflective of the full range of plant species which occupy the various wetland and non-wetland habitats in the study area. As noted previously in this report, past farming and grading activities in the study area have significantly

FIGURE 2

SOIL MAP



Unit No.	Soil Name	Classification	Drainage Class
141	Cometa Fiddyment Complex, 1-5% slopes	Typic Palexeralfs, Typic Durixeralfs	well drained
142	Cometa-Ramona sandy loams, 1-5% slopes	Typic Palexeralfs, Typic Haploxeralfs	well drained
147	Fiddyment-Kaseberg loams, 2-9% slopes	Typic Durixeralfs, Typic Durochrepts	well drained
182	San Joaquin-Cometa sandy loams, 1-5% slopes	Abruptic Durixeralfs, Typic Palexeralfs	somewhat poorly drained
195	Xerofluvents, hardpan substratum	Xerofluvents Thermic	

TABLE 1

PARTIAL LIST OF PLANTS OBSERVED ON THE PLACER 1600 PROPERTY AND THEIR STATUS AS WETLAND INDICATOR SPECIES

Scientific Name	Common Name	Status[1,2]
Agrostis avenacea	hairy flower bentgrass	FACW*
Aira caryophyllea	silver hairgrass	UPL
Anagallis arvensis	scarlet pimpernel	FAC
Anaphalis margaritacea	pearly everlasting	UPL
Aristida sp.	three-on	UPL
Avena fatua	wild oats	UPL
Boisduvalia cleistogama	cleistogamous spike-primrose	OBL
Briza minor	little quaking grass	FACW-
Brodiaea minor-nana	dwarf brodiaea	UPL
Brodiaea sp.	brodiaea	—
Bromus diandrus (B. rigidus)	rip-gut grass	UPL
Bromus mollis	soft chess	FACU-
Callitriche sp.	water-starwort	OBL
Centaurea solstitialis	yellow star-thistle	UPL
Cerastium viscosum	stock chickweed	UPL
Convolvulus arvensis	bindweed	UPL
Crypsis schoenoides	swamp timothy	OBL
Cyperus aristatus	awned flatsedge	OBL
Deschampsia danthonioides	purple hairgrass	FACW
Downingia sp.	downingia	OBL
Echinochloa crusgalli	barnyard grass	FACW
Eleocharis macrostachya	creeping spikerush	OBL
Eremocarpus setigerus	doveweed	UPL
Erodium botrys	filaree	UPL
Eryngium vaseyi	coyote thistle	FACW
Gastridium ventricosum	nitgrass	FACU
Geranium dissectum	cut-leaf geranium	UPL
Glyceria sp.	manna grass	OBL
Gratiola ebracteata	bractless hedge-hyssop	OBL
Hemizonia fitchii	Fitch's spikeweed	UPL
Hemizonia sp.	spikeweed	NI

[1]Reed, P.B. 1988. National List of Plant Species That Occur in Wetlands: California (Region 0). Biological Report 88(26.10) May 1988. National Ecology Research Center, National Wetlands Inventory, U.S. Fish and Wildlife Service, St. Petersburg, Fl.

[2]OBL = obligate; FACW = facultative wetland; FAC = facultative; FACU = Facultative upland; UPL = upland; and NI = no indicator.

Scientific Name	Common Name	Status
Holocarpha virgata	tarweed	UPL
Hordeum hystrix	Mediterranean barley	FAC
(H. geniculatum)		
Juncus bufonius	toad rush	FACW+
Lactuca serriola	prickly lettuce	FAC
Lastheria fremontii	Fremont's goldfields	OBL
Leontodon leysseri	hairy hawkbit	FACU
Lepidium nitidum	shining peppergrass	UPL
Lolium perenne	perennial ryegrass	FAC*
(L. multiflorum)		
Lupinus bicolor	two-color lupine	UPL
Lythrum hyssopifolia	loosestrife	FACW
Mentha pulegium	penny-royal	OBL
Navarretia leucocephala	white-headed Navarretia	OBL
Navarretia sp.	Navarretia	—
Paspalum dilatatum	dallis grass	FAC
Phalaris sp.	canary grass	—
Plagiobothrys stipitatus	slender popcorn flower	OBL
var. micranthus		
Plantago lanceolata	English plantain	FAC-
Poa annua	annual bluegrass	FACW-
Pogogyne zizyphoroides	vernal pool mint	OBL
Polygonum sp.	smartweed	—
Polypogon monspeliensis	annual rabbit-foot grass	FACW+
Psilocarphus brevissimus	wooly marbles	OBL
Quercus lobata	valley oak	FAC*
Ranunculus alveolatus	Carter's buttercup	OBL
(R. bonariensis var. trisepalus)		
Ranunculus muricatus	spiney-fruited buttercup	FACW+
Rumex crispus	curly dock	FACW-
Salix sp.	willow	—
Taeniatherum caput-medusae	medusa-head	UPL
Trichostema lanceolatum	vinegar weed	UPL
Trifolium variegatum	white-tip clover	FACW-

altered the natural landscapes and drainage patterns in the study area. Specifically, a number of swales and vernal pools have been impacted by farm related grading, disking and plowing. The following is a summary of each type of jurisdictional water/wetland identified in the study area.

Vernal Pools

We identified 583 vernal pools ranging in size from 80 square feet to approximately 29,000 square feet in area. Typical vernal pools in the study area occur in well defined depressions over tight compact soils. Hydrologically, these depressions pond surface water for long durations during the winter and early spring months, but they tend to draw down and desiccate with cessation of winter rains and warming temperatures later in the spring. Wetland hydrology indicators observed in the field include ponded and/or saturated soils, heavy algae matting or staining, oxidized rhizospheres on live roots in the upper surface, and placement within a well defined basin occurring over tight restrictive soils. Additionally, we considered the presence and/or absence of deep hoof marks as a secondary hydrology indicator. Soils observed in the deeper vernal pools are typically dark gray (10YR 4/1) loams, clay loams or silt loams with bright yellowish brown mottles.

Vernal pools in the study area range from shallow depth pools which pond water to depths of less than 6 inches to deep pools which may pond to depths of 12 to 14 inches or more. The deeper vernal pools support vernal pool vegetation dominated by coyote thistle (*Eryngium vaseyi*), creeping spikerush (*Eleocharis macrostachya*), Carter's buttercup (*Ranunculus alveolatus*), and slender popcorn flower (*Plagiobothrys stipitatus*). The shallow vernal pools support vegetation indicative of vernal pools and other seasonal wetlands including perennial rye grass, Mediterranean rye (*Hordeum hystrix*), spikeweed (*Hemizonia sp.*), and purple hairgrass (*Deschampsia danthonioides*). Other common associates in both shallow and deep vernal pools include bractless hedge-hyssop (*Gratiola ebracteata*), smooth goldfields (*Lasthenia fremontii*), wooly marbles (*Psilocarphus brevissimus*), white-headed navarretia (*Navarretia leucocephala*), purple loosestrife (*Lythrum* hyssopifolia), cleistogamous spike primrose (*Boisduvalia cleistogama*), and vernal pool mint (*Pogogyne zizyphoroides*).

The adjacent upland grassland community is defined by the dominance of non-hydrophyic plants, the absence of wetland hydrology indicators, and/or the absence of hydric soils indicators. In some areas, the vegetation community was dominated by FAC species but hydric soils indicators and wetland hydrology indicators were absent or lacking.

Seasonal Wet Swales

Wet swales in the study area occur in linear depressions which transport seasonal runoff and sheet flow, and as such, sustain saturated soil conditions for a portion of the growing season. Typically, these areas do not appreciably pond surface water. Indicators of wetland hydrology observed in wet swales include location within a defined linear depression overlaying tight restrictive soils and/or hardpan, oxidized rhizopheres on live roots in upper two inches of soil profile, algae matting, and deep hoof marks left by cattle. Soils range from dark grayish brown (10YR 4/2) to dark brown (10YR 3/2) loams and sandy loams with mottles.

Vegetation in the jurisdictional wet swales is characterized by Mediterranean barley, perennial rye grass, annual rabbit-foot grass (*Polypogon monspeliensis*), hairy flower bentgrass (*Agrostis avenacea*), loosestrife, toad rush (*Juncus bufonius*), Carter's buttercup, loosestrife, and spikeweed (*Hemizonia sp.*). We identified a number of wet swales which occur along the southeastern boundary adjacent to Fiddyment Road. These swales are influenced and sustained, at least in part, by seasonal runoff from the Sun City Roseville residential development situated to the east of Fiddyment Road.

There are a number of non-jurisdictional swale features which may carry seasonal runoff to some extent, but they do not sustain saturation for long duration sufficient to support dominant hydrophytic plant communities and/or they lack hydric soils and wetland hydrology indicators. Historically, some of these swales may have sustained wetland conditions but their hydrology has been significantly altered by past farming activities to the extent that they no longer function as wetlands. Vegetation in these non-jurisdictional swales is typically dominated by a mixture of FAC, FACU, and UPL species including perennial rye, Mediterranean barley, tarweed, soft chess, hairy hawkbit, and filaree.

Channels

Channels in the study area include ephemeral channels which sustain flows periodically through the heavy rainfall season from late December through the early spring, and smaller ephemeral channels which only sustain flows during and following major rainfall events.

Channels were identified based on the presence of a clear and defined bed and bank indicative of regular annual flows. Other indicators of channels included the absence of topsoil, lack of vegetation, and deposition of gravels, sands and/or pebbles. In mapping these channels in the field, we estimated average width from bank to bank for representative sections of each channel.

ATTACHMENT D

Vernal Pool Restoration Plan Set

ATTACHMENT E

Wetland Delineation Verification

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

May 23, 2001

Regulatory Branch (200100051)

Keith Kwan
Biologist, ECORP Consulting, Inc.
2260 Douglas Blvd., Suite 160
Roseville, California 95661-4209

Dear Mr. Kwan:

This letter concerns the delineation of waters of the United States, including wetlands, you have provided on behalf of Conservation Resources for the Yankee Slough Property. This property is located in Sections 19, 24, & 30, Township 13 North, Range 6 East, MDBM, Lincoln, Placer County, California.

We have reviewed and verified the April 12, 2001, revision of the map entitled, *Yankee Slough, Wetland Delineation*, which shows approximately 18.23 acres of waters of the United States, including wetlands, within the surveyed area. In order to expedite verification of your delineation, we are assuming that 10%, or 23.8 acres, of the rice fields and managed waterfowl areas shown on the map are wetlands. Therefore, there are a total of 42.03 acres of waters of the United States on the property. Since all of the waters on the property are adjacent to Yankee Slough, we consider them to be jurisdictional under Section 404 of the Clean Water Act. A Department of the Army permit is required prior to discharging dredged or fill materials into waters of the United States. Accordingly, a permit will be required prior to filling any of the waters present on the property. The type of permit required will depend on the type and amount of waters which would be lost or adversely modified by fill activities.

This verification is valid for five years from the date of this letter unless new information warrants revision of the determination before the expiration date. Please refer to identification number 200100051 in any correspondence concerning this project. If you have any questions, please write to Mr. William Ness, Room 1480 at the letterhead address, or telephone (916)557-5268.

Sincerely,

Tom Cavanaugh
Chief, Sacramento Valley Office

Copies Furnished:

David Martinez, Conservation Resources, 99 Home Center, 6235 Galena Drive, El Dorado, California 95623-4920