United States Army Corps of Engineers

PLACER VINEYARDS SPECIFIC PLAN

Draft Environmental Impact Statement

USACE Action ID: SPK-1999-00737

Volume II - Appendix 1.0 through 3.3

U.S. Army Corps of Engineers
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DRAFT ENVIRONMENTAL IMPACT STATEMENT

Placer Vineyards Specific Plan

USACE Action ID: SPK-1999-00737

Volume II – Appendix 1.0 through 3.3

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APPENDIX 1.0

Scoping Summary Report and Draft General Permit

Scoping Summary Report

U.S. Army Corps of Engineers—Placer Vineyards Specific Plan EIS

DRAFT SUMMARY SCOPING REPORT

INTRODUCTION

This document is a scoping report in support of an Environmental Impact Statement (EIS) being prepared for the Placer Vineyards Specific Plan (PVSP) project. The US Army Corps of Engineers (USACE), Sacramento District is the federal lead agency under NEPA.

Proposed Action

The 5,230-acre (2,116-hectare) PVSP area is located in the southwest portion of unincorporated Placer County, approximately 15 miles (24 kilometers) north of Sacramento, and southwest of the City of Roseville (**Figure 1**).

The PVSP includes development of the 5,230-acre (2,116-hectare) site with a mix of land uses, predominantly residential use with some commercial and office uses, public and quasi-public uses, parks, and open space, and the infrastructure improvements to support these uses. The USACE has received 22 Department of the Army (DA) permit applications to develop up to 3,746 acres (1,516 hectares) of land within the PVSP area and an application for the development of backbone infrastructure. The owners of the remaining properties (comprising 505 acres [204 hectares] within the PVSP area outside of the Special Planning Area (SPA) and 979 acres [396 hectares] within the SPA) are not applying for DA permits at this time. However, for purposes of the EIS, the Proposed Action encompasses the development of the entire PVSP site consistent with the footprint of the County-approved PVSP. The proposed land use plan under the PVSP is shown on **Figure 2**.

The federal action currently under analysis is the review and approval of Section 404 permits that, if approved, would allow the Applicants to fill approximately 108.2 acres[1] of jurisdictional waters of the United States in conjunction with the development of a large-scale, mixed-use master-planned community on the project site in unincorporated Placer County.

1 Includes about 104 acres of impact on-site on properties for which permit applications have been filed and from the on-site backbone infrastructure, and 4.2 acres of impact off-site associated with off-site infrastructure improvements.

Permits and Approvals

Permits and approvals required to construct and operate the Proposed Action are summarized below.

Federal Approvals

- Clean Water Act Section 404 permits, including 22 individual permits and a Regional General Permit for the infrastructure improvements, from the USACE.
- Endangered Species Act, Section 7 consultation and authorization from USFWS.
- National Historic Preservation Act, Section 106 compliance and concurrence by the State Historic Preservation Office.

State Approvals

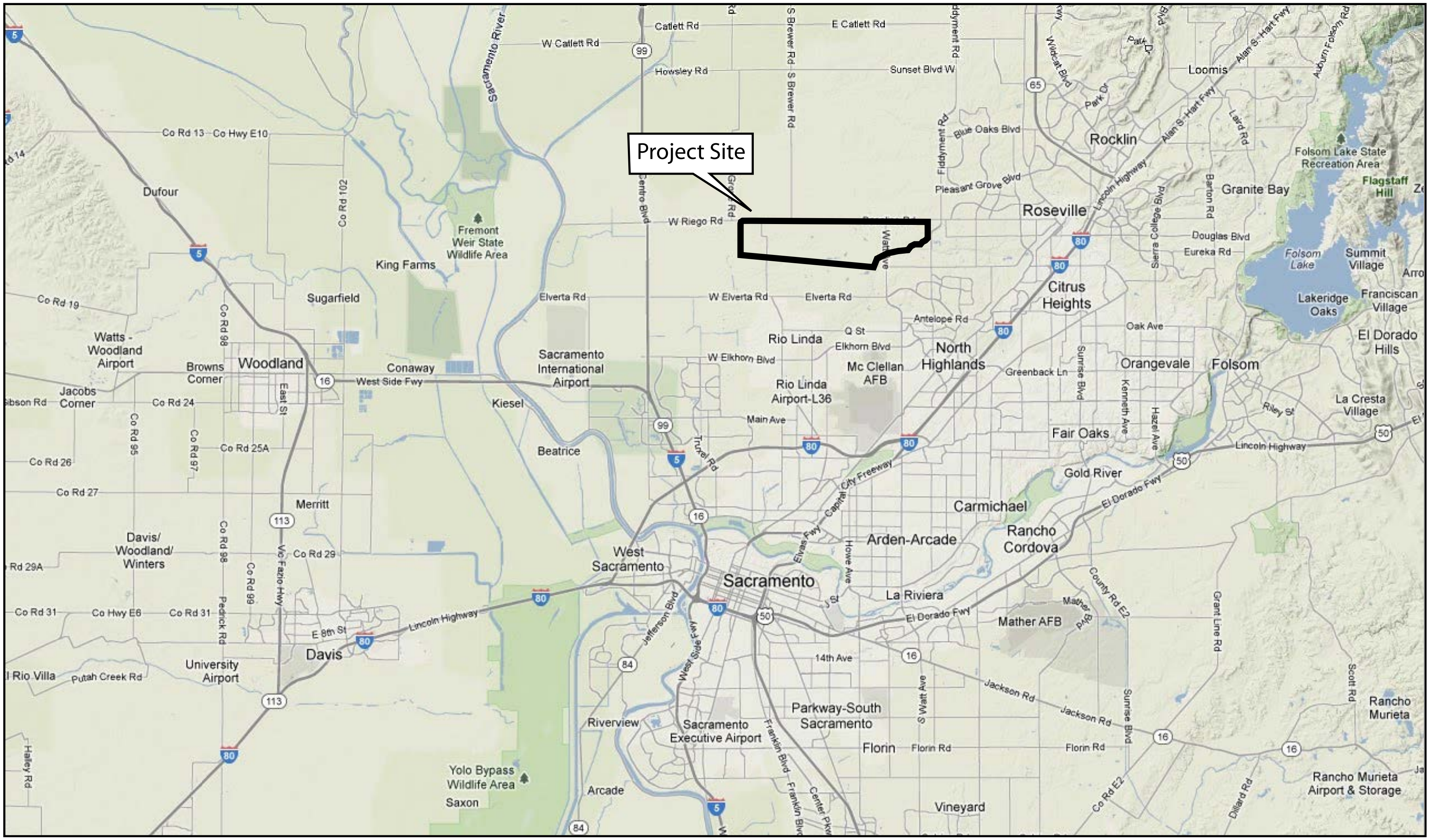
- Clean Water Act, Section 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board (CVRWQCB).
- A Clean Water Act, Section 402 National Pollutant Discharge Elimination System (NPDES) permit from CVRWQCB.
- A Master Reclamation permit for recycled water delivery and use from CVRWQCB.
- A California Endangered Species Act/California Fish and Game Code Section 2081 take authorization from the California Department of Fish and Wildlife (CDFW).
- A California Fish and Game Code Section 1602 Streambed Alteration Agreement from CDFW.

Local Approvals

- Reorganization (Annexation/Detachments) for service area boundary adjustments and/or service contracts by Placer County Local Agency Formation Commission (LAFCO) and Placer County Sewer Maintenance District.
- Approval of school district boundary changes by Grant Joint High School District, Center Unified School District, Elverta Joint School District, and Placer County Board of Education.

Alternatives

In addition to the Proposed Action, several alternatives have been developed for analysis at an equivalent level of detail pursuant to NEPA. These alternatives include:



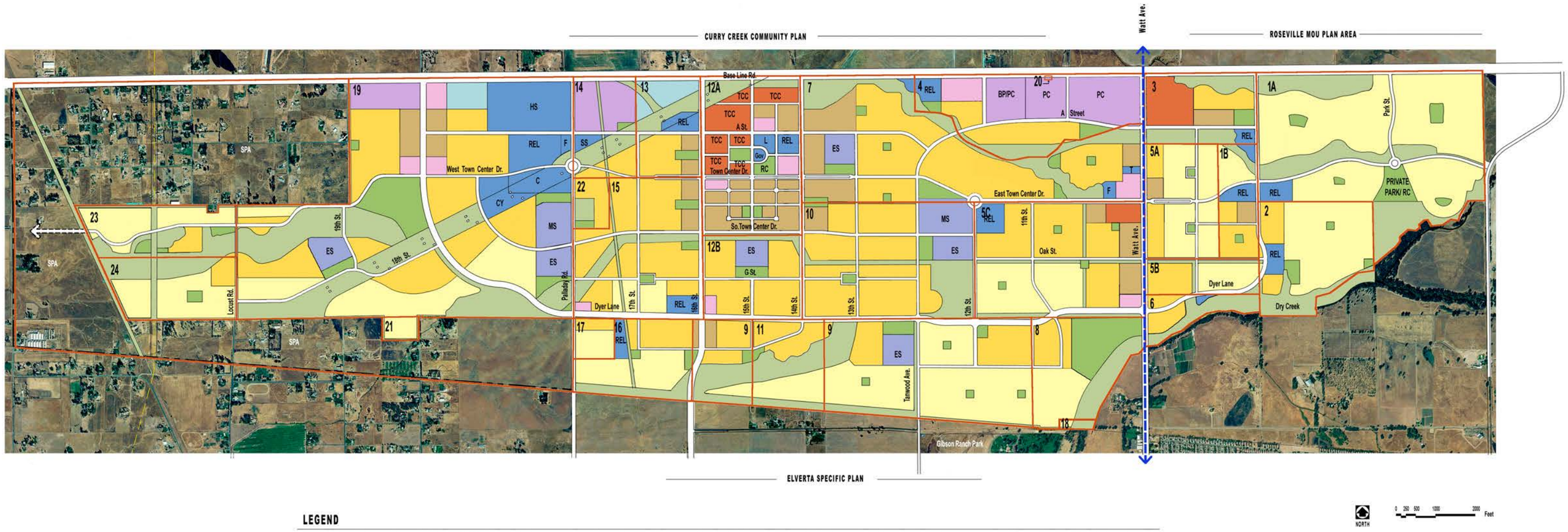
NOT TO SCALE

SOURCE: Google Maps – 2012

FIGURE **1**

Regional Location

1090-002•01/12



SOURCE: County of Placer – 2007

FIGURE **2**

Proposed Action – Base Plan Scenario Land Use Plan

1090-002•01/12

No Action Alternative

Under the No Action Alternative, the project site would be developed in a manner that avoids activities in jurisdictional waters of the United States, including wetlands, thereby avoiding the need for the USACE approvals under Section 404 of the Clean Water Act. However, local approvals from the County and the state would still be required.

Alternative 1

Alternative 1 involves an alternative land use plan that would avoid wetlands on Property 1B, a 56-acre (23-hectare) property located in the eastern portion of the project site.

Alternative 2

Alternative 2 involves an alternative land use plan that would modify the proposed land uses and provide additional avoidance of wetlands on the 101-acre (41-hectare) Property 3 which is located in the northeastern portion of the project site.

Alternative 3

Alternative 3 involves an alternative land use plan that would avoid a large cluster of wetlands (totaling approximately 4 acres [2 hectares] of jurisdictional wetlands) on Property 16, a 94-acre (38-hectare) property located in the southwestern portion of the project site.

Alternative 4

Alternative 4 involves an alternative land use plan to provide additional wetland avoidance (totaling 0.13 acre [0.05 hectare] of jurisdictional wetlands) on Property 17, a 20-acre (8-hectare) property in the southwestern portion of the project site.

Alternative 5

Alternative 5 involves an alternative land use plan that would avoid a large cluster of wetlands totaling approximately 4.5 acres (1.8 hectares) on Property 23, a 93-acre (38-acre) property located in the western portion of the project site.

Combined Alternatives 1 through 5

Combined Alternatives 1 through 5 would involve a land use plan that would be the same as the Proposed Action for all properties that make up the site except Properties 1B, 3, 16, 17, and 23

where the land use plans presented under Alternatives 1 through 5 would be implemented. As a result filling of an additional 9.2 acres (3.7 hectares) of wetlands on Properties 1B, 3, 16, 17, and 23 would be avoided.

2.0 NOTICING

Notice of Intent

In compliance with requirements set forth in NEPA, USACE prepared a Notice of Intent (NOI) describing the intent to prepare an EIS under the authority of Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. The NOI described the Proposed Action, potential wetland impacts, and mitigation strategies. The NOI included information about the scoping meeting times and locations, the information regarding the Applicants, and contact information for submitting contacts. The NOI was posted in the Federal Register, the United States Government's official noticing and reporting publication, on March 13, 2007. The official 30 day comment period for the NOI was March 13, 2007 to April 12, 2007.

Two scoping meetings were held at 3:00 PM and 6:00 PM on March 28, 2007, at the Placer County Community Development Resource Center, Planning Commission Hearing Room, 3091 County Center Drive, in the City of Auburn. Representatives from the USACE and the Applicants were in attendance. No comments on the scope of the EIS were received at the scoping meetings.

3.0 PUBLIC FEEDBACK

This section of the report summarizes the comments provided by the public and agencies during the scoping process. This summary is based on both written and verbal comments that were received during the public scoping period. Seven comment letters were received from the public and agencies regarding this EIS during the scoping period, as listed below in **Table 1, Index to Comments**.

Table 1
Index to Comments

Letter Date	Agency/Individuals
Federal/State Agencies	
May 1, 2007	U.S. Environmental Protection Agency - Alexis Strauss
May 8, 2007	U.S. Fish and Wildlife Service - Ken Sanchez California Department of Fish and Game - Sandra Morey National Marine Fisheries Service - Maria Rea
May 31, 2007	U.S. Environmental Protection Agency - Wayne Nastri
April 11, 2007	U.S. Environmental Protection Agency- Summer Allen
Organizations	
May 11, 2007	Sierra Club - Terry Davis
May 12, 2007	California Native Plant Society - Carol Witham
May 12, 2007	Defenders of Wildlife - Kim Delfino
Individuals	
March 22, 2007	Landowner - Esther McCoy

There were a number of environmental concerns raised during the public scoping process. The majority of comments were concerned with impacts of the Proposed Action related to filling wetlands. Some commenters expressed concerns about wildlife habitat and plant species affected by filling wetlands. Comments were also concerned with the range of alternatives to the Proposed Action evaluated in the Draft EIS. **Table 2, Comment Matrix** summarizes the comments by letter.

Table 2
Comment Matrix

Issue	Comment
Alexis Strauss, U.S. Environmental Protection Agency	
Project Description	The Guidance requires the applicant to clearly demonstrate that the "preferred" alternative is the Least Environmentally Damaging Practicable Alternative (LEDPA) that achieves the overall project purpose (40 CFR 230). The project does not appear to comply with the Clean Water Act (CWA) Section 404(b)(1) Guidelines' (Guidelines) requirements for avoidance and minimization (40 CFR 230.10).
Biological Resources	Regulated waters cover only 4% of the project site, so it seems reasonable that a practicable project alternative can be developed that avoids all or nearly all on-site waters. The low acreage of on-site waters and the magnitude of proposed fill could be explored by the applicants to avoid direct discharges of fill material to waters. The magnitude of proposed fill to valuable aquatic resources is unacceptable considering that jurisdictional waters cover such a small percentage of the site. It appears reasonable that a practicable project alternative could be developed to avoid all or nearly all of the on-site waters.
Coordination	The applicants should coordinate with Placer County officials who are developing the Placer County Conservation Plan (PCCP).
Biological Resources	***Aquatic Resources of National Importance*** The vernal pool complexes on the site appear to serve an important role in the conservation and development strategy for western Placer County. Vernal pool complexes on the project site are considered to be aquatic resources of national importance (ARNI). The project may have substantial and unacceptable impacts to ARNI. Therefore, EPA recommends denial of the project as currently proposed.
Biological Resources	***Substantial and Unacceptable Impacts*** The proposal to forego avoidance and fill 82.3% of on-site vernal pools and 66% of on-site aquatic resources is unacceptable given that all or nearly all of the waters could be avoided by realigning the 700 acres of planned open space.
Biological Resources	***Alternatives*** The alternatives analysis should evaluate alternatives that fully avoid fill, avoid placement of fill in vernal pool complexes on the western portion of the site, and provide for conservation consistent with the conservation footprint options being considered in the PCCP process. Greater consideration should be given to on-site alternatives that optimize avoidance of aquatic resources.

Issue	Comment
Impact Analysis	***Impact Assessment*** The alternatives analysis must evaluate direct, secondary, and cumulative impacts for on- and off-site alternatives for the proposed project.
Biological Resources	***LEDPA*** The project does not appear to be the least environmentally damaging practicable alternative (LEDPA) due to the low acreage of on-site waters avoided and the magnitude of proposed fill. It seems practicable and reasonable to avoid all or nearly all of the on-site waters.
Biological Resources	**Significant Degradation – 40 CFR 230.10(c)** The project may cause or contribute to significant degradation of on-site aquatic resources because discharging fill material into approximately 80 acres of special aquatic sites will smother and kill aquatic life, permanently destroy unique habitat, and subsequently reduce on-site ecosystem diversity, productivity, and stability.
Biological Resources	**Minimization – 40 CFR 230.10(d)** Failure to adequately offset project impacts is grounds for denial of the permit application and it is not clear that the applicants are able to compensate for proposed project impacts. There are limited compensatory mitigation opportunities in Placer County to compensate for the unavoidable impacts of pending projects. Local mitigation is strongly preferable to address unavoidable project impacts. The applicants must take all appropriate and practicable steps to avoid and minimize impacts to special aquatic sites and other jurisdictional waters to reduce the need for compensatory mitigation.
Biological Resources	Uplands contained within the proposed open space mitigation site are not appropriate compensation for impacts to waters of the U.S.
Ken Sanchez, U.S. Fish and Wildlife Service	
Sandra Morey, California Department of Fish and Game	
Maria Rea, National Marine Fisheries Service	
Biological Resources	The agencies recommend that the DEIS analyze and discuss all reasonably foreseeable direct and indirect project-related impacts on biological resources due to project implementation. Focus particularly on the presence of and potential habitats for all state and federally listed species and species of concern, as well as adjacent habitats outside of the project area. In addition, address the direct, indirect, and cumulative project impacts to these species and their respective habitats.

Issue	Comment
Biological Resources	The agencies recommend that the DEIS identify and discuss feasible compensation measures to address all reasonably foreseeable project-related impacts on biological resources. This must include identification of measures that compensate, avoid, minimize, or otherwise offset all projects impacts on special status species and critical habitat. Discuss off-site mitigation through acquisition of existing natural habitats, restoration of former natural habitats to a condition sufficient for compensation, and creation of natural habitats
Biological Resources	The agencies recommend that the DEIS identify all off-site lands to be utilized as compensation for project impacts, including a comprehensive discussion of the ecological values within identified parcels. The lands to be used as compensation for project actions are recommended to be obtained in fee title and that easements not be considered as the primary acquisition tool.
Project Description	The DEIS should identify off-site infrastructure improvements required as part of the project and evaluate the potential impacts of those improvements. The DEIS should identify and analyze compensation measures to avoid, substantially lessen, of offset all foreseeable direct and indirect impacts to biological resources.
Biological Resources	The DEIS should evaluate the contribution of the project to habitat fragmentation and population isolation of plants and animals. The DEIS should identify and analyze compensation measures to avoid, substantially lessen, of offset all foreseeable direct and indirect impacts.
Biological Resources	The DEIS should analyze projects impacts to winter migratory birds, particularly waterfowl of the Pacific Flyway, and describe measures to avoid impacts.
Biological Resources	Off-site compensation areas must be adequately sized, appropriately configured, and biologically justified in meeting the standard no net loss of value and function of wetland resources and to adequately offset project impacts on federally listed invertebrates. Compensation must not be solely justified based on any actual or suggested requirement of Placer County.
Alternatives	The DEIS should include alternative design scenarios, both on- and off-site, for the proposed project that will achieve most of the project objectives, and avoid or substantially lessen the project-related impacts on biological resources.
Alternatives	The DEIS should include an alternative design that reduces overall project impact by the exclusion of development from the western third of the project area and by avoidance of areas with extensive vernal pool and grassland resources.

Issue	Comment
Hydrology and Water Quality	The DEIS should fully disclose issues related to direct, indirect, and cumulative impacts to water quality. Maintain a continuous riparian conservation corridor along Dry Creek. Incorporate LIDS and delineate water quality infrastructure to resolve impacts to water quality. The DEIS should consider effects to listed fish species and habitat from associated wastewater treatment facilities and operations for the project.
Biological Resources	The DEIS should consider effects to listed fish species and habitat from water supply to the project. Diversion of freshwater inflows from the Sacramento and American Rivers to provide water for Placer Vineyards may negatively affect several listed fish species and their designated critical habitat, specifically delta smelt (*Hypomesus transpacificus*), winter-run Chinook salmon (*Oncorhynchus tshawytscha)*, Central Valley spring-run Chinook salmon (*0. tshawytscha*), Central Valley steelhead (*O. mykiss*), and North American green sturgeon (*Acipenser medirostris*).
Biological Resources	Wetland function and value of avoided wetland systems should be evaluated with full consideration to watershed fragmentation and impacts to the micro-watershed level. The analysis should include modifications to water and soil chemistry and to the frequency and duration of inundation. Implications of watershed fragmentation to listed invertebrates should also be evaluated. Analyze the ability of avoided wetland systems to function through time considering adjacency of human use and the inability to properly manage avoided areas. Discuss the feasibility of continuing management activities such as controlled burning or regulated livestock grazing as a means to manage and retain full ecological values through time of any wetland areas. Evaluate and discuss the degree to which on-site open space areas will ecologically function and thus serve to perform a long-term conservation benefit.
Biological Resources	The DEIS should include a comprehensive analysis of all species that may be impacted, including Conservancy fairy shrimp (*Branchinecta conservatio*).
Wayne Nastri , U.S. Environmental Protection Agency	
Biological Resources	Based on the understanding that changes in the project proposal and supporting information are not expected in the immediate future, the project as currently proposed, will have a substantial and unacceptable impact on ARNI.
Summer Allen, U.S. Environmental Protection Agency	
Project Description	***Least Environmentally Damaging Practicable Alternative*** The DEIS should include a reasonable range of on-site and off-site project alternatives. The range of alternatives considered in the DEIS must include the LEDPA if a CWA permit is to be granted at the end of the process.

Issue	Comment
Biological Resources	Alternatives information should include a full avoidance (no fill) alternative and alternatives that focus development on the eastern two-thirds of the site and avoid the vernal pools on the western portion of the site consistent with alternatives considered for the PCCP conservation footprint.
Project Description/Alternatives	***Alternatives Analysis*** The DEIS should include a clear description of the basic project purpose and need, project alternatives, potential impacts to the environment, and mitigation for these impacts. Particular attention should focus on an evaluation of the environmental impacts of the proposal and alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options for the decision maker and the public.
Project Description/Alternatives	Temporary and permanent impacts to aquatic resources resulting from each element of the project design should be differentiated and clearly presented. The LEDPA should be identified by comparing the totality of direct, secondary, and cumulative impacts associated with each practicable alternative.
Project Description Biological Resources Hydrology and Water Quality	***Impact Assessment*** The alternatives analysis in the DEIS should estimate, evaluate, and compare direct, secondary, and cumulative impacts for a set of on- and off-site project alternatives. All direct and cumulative impacts associated with the multiple elements of the project design should be addressed, with particular attention paid to the impacts related to downstream and upstream water sources, flooding potential, water quality, and aquatic habitat. The DEIS should include a description of the methods used to estimate temporary and permanent direct impacts, secondary effects (indirect impacts), and cumulative impacts.
Hydrology and Water Quality	***Water Quality and Minimization*** The DEIS should discuss whether or not the applicants are considering the use of LIDS, specifically identify which LIDS will be used and where, and describe how these measures will minimize impacts to water quality resulting from project development.

Issue	Comment
Biological Resources	***Mitigation*** The DEIS should clearly identify suitable compensatory mitigation areas for impacted aquatic resources, both within the project site and in the project vicinity. Information regarding the distribution and extent of waters on the compensatory sites should be included in the DEIS and submitted to the resources agencies. The legal mechanism that will be used to protect the mitigation area into perpetuity should be identified. Long-term management measures for the mitigation areas should be identified to address issues such as invasive species, approved uses, and human disturbances. Mitigation strategies for indirect and cumulative impacts should be identified with appropriate implementing parties.
Air Quality	***Air Quality*** The DEIS should address the feasibility of implementing additional air quality-related mitigation to reduce emissions of diesel particulate matter (DPM) and other pollutants from construction. The DEIS should address the feasibility of a Construction Emissions Mitigation Plan (CEMP). EPA recommends that the following measures be incorporated into the CEMP. Equipment should: • not idle for more than ten minutes; • not be altered to increase engine horsepower; • include particulate traps, oxidation catalysts and other suitable control devices on all construction equipment used at the construction site; • use ultra-low sulfur diesel fuel with sulfur content of 15 parts per million (ppm) or less or other suitable alternative diesel fuel, unless fuel cannot be reasonably procured in the geographic area; • be tuned to the engine manufacturer's specifications in accordance with a defined maintenance schedule. The CEMP should also establish work limitations such as minimizing trips, and providing staging areas for trucks located away from sensitive receptors through appropriate polices and implementation measures.

Issue	Comment
Environmental Justice	***Environmental Justice***
	The DEIS should describe the measures taken by the USACE to fully analyze the environmental effects of the proposed Federal action on low-income or minority communities, and present opportunities for affected communities to provide input into the NEPA process.
	The DEIS should address whether mitigation for localized air impacts was developed in consultation with potentially affected communities.
General	***Incorporation by Reference***
	If references to the Environmental Impact Report (EIR) or other documents are used, the DEIS should provide a summary of critical issues, assumptions, and decisions complete enough to stand alone.
Terry Davis, Sierra Club	
Biological Resources	Any section 404 permit must provide vernal pool avoidance and mitigation based on preserving biologically functional vernal pool complexes, not merely wetted areas.
Biological Resources	Vernal pool mitigation must be consistent with species recovery. About 3,000 acres of PVSP is in the Vernal Pool Recovery Plan Core Area for this unit. Recovery guidelines call for the avoidance of 85% of existing resources. Therefore, the DEIS must examine a project alternative that avoids 85% of on-site existing resources.
Biological Resources	The DEIS must examine the cumulative impacts to vernal pool wetland habitat. Based on the amount of urban development proposed for western Placer County, these projects are likely to impact thousands of acres of vernal pool complexes.
Biological Resources	Given the potential cumulative loss of large acreages of vernal pool complexes in western Placer County, and the fact that PVSP could develop roughly 50% of the site while avoiding all the existing vernal pool acreage, the DEIS should examine a project design that would provide 100% avoidance alternative.
Biological Resources	If the proposed project design is to be retained, off-site mitigation must be consistent with the Vernal Pool Recovery Plan. Off-site mitigation should include preserving existing vernal pool complexes at a ratio of 5.6 to 1, consistent with 85% preservation of remaining vernal pool complexes in the recovery unit.

Issue	Comment
Biological Resources	Any acreage provided as off-site mitigation for the loss of vernal pool complexes must be evaluated in light of criteria that have been articulated by the resource agencies and biological consultants in conjunction with the development of the PCCP. Criteria for mitigation property include: • Are parcels contiguous with one another or contiguous with other preserves? • Are they of high quality? (existing vernal pool complexes, degree of disturbance) • What is the shape? (long narrow parcels not generally as desirable as more square) • Internal fragmentation: agriculture/habitat; native/non-native; disturbed/undisturbed. • Type of land between nearest preserve (agricultural, rural subdivisions, urban?) • Ability to manage: What is the degree of incompatibility with adjacent land uses? • Is the parcel in the VP Recovery Plan Core Area?
Biological Resources	Off-site mitigation through the creation of vernal pools should not be acceptable. The creation of vernal pool complexes is unproven in terms of biological function. Also the creation of additional vernal pools in existing vernal pool complexes is also unproven biologically.
Biological Resources	Additional biological surveys are needed. The PVSP Final EIR indicates that complete surveys have not been done. The recent discovery in Placer County of Conservancy fairy shrimp, federally listed as endangered, makes exhaustive surveys absolutely necessary. The Recovery Plan for the species calls for 100% avoidance of take.
Carol Witham, California Native Plant Society	
Biological Resources	This level of loss of wetlands and waters of the U.S. on the project site is unacceptable from an endangered species recovery perspective.
Biological Resources	The project, as proposed, does not appear to meet the LEDPA test required by the Guidelines. A thorough range of viable alternatives should be analyzed including those that would provide either on-site avoidance of waters/wetlands and/or off-site mitigation at ratios appropriate to meet the goals of the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon.
Biological Resources	The proposed Conceptual Conservation Strategy and an appropriate range of alternatives to it must be analyzed in the EIS. All environmental impacts of the proposed Conceptual Conservation Strategy must be assessed and analyzed concurrently with the proposed project in order to fully disclose the full scope of the proposed action.

Issue	Comment
Biological Resources	The rare plant surveys conducted appear to be entirely inadequate. Many annual vernal pool plant species have not been evident or have occurred in extremely low numbers, even in documented locations, for the past couple of years because of unusual weather patterns. Additional surveys for these species must be conducted in order to properly assess impacts to listed and special-status biota.
Kim Delfino, Defenders of Wildlife	
Biological Resources	**Recovery Standard Must be Satisfied** The Recovery Criteria identified in the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon should be rigorously complied with. The USACE must ensure that the terms of the Section 404 permit, if granted, assures that the proposed project must protect the applicable percentages of vernal pool habitat and species occurrences as identified by the recovery plan.
Biological Resources	The project, as proposed, does not come close to meeting the recovery plan criteria for any of the listed vernal pool species. The proposed project should protect 85% of vernal pool grasslands.
Biological Resources	**Environmental Surveys Must be Conducted** The environmental surveys conducted have been sporadic and mostly conducted during winter, with very few spring surveys. In particular, additional surveys are required since the discovery of the Conservancy fairy shrimp. Additional spring surveys of vernal pool grasslands should be required.
Project Description	**Avoidance and Minimization of Impacts** The USACE should analyze project alternatives in which the project design leaves the landscape largely unfragmented. Where fragmentation occurs, impacts should be minimized by avoiding leaving blocks of "protected" areas with long edges.
Biological Resources	**Mitigation** There are three major concerns with the proposed mitigation for this project, amount of mitigation, kind of mitigation, and creation of vernal pools for mitigation. Currently the project does not protect enough of the vernal pool grasslands. The USACE should require mitigation that is both equal in kind and amount of area lost. In addition, the Service is moving away from the artificial creation of vernal pools since there is no evidence that artificial pools retain their vernal pool plants over a long period of time.

Issue	Comment
Esther McCoy, Landowner	
General	How can any request be approved that will subsequently dump dredged or fill material into such a large body of water? Is this by any chance Dry Creek that flows south into Rio Linda from the North?
Hydrology and Water Quality	If this 102.7 acres is an active flowing creek, could dredged or fill material possibly raise the water level to such an extent that flooding could be expected in Rio Linda during raining seasons?
General	The dredged or fill material could be taken to a landfill to create a small "Trashmore Mountain" for a public park.

Placer Vineyards Specific Plan Infrastructure
Placer County, California

EFFECTIVE DATE: <<DATE>>

EXPIRATION DATE: <<DATE>>

ISSUING OFFICE: U.S. Army Corps of Engineers, Sacramento District

ACTION ID: SPK-1999-00737

PURPOSE: The purpose of the RGP is to provide a simple and expeditious means of providing Section 404 authorization for the construction of certain backbone infrastructure within the Placer Vineyards Specific Plan (PVSP). The PVSP required backbone infrastructure is described on Exhibit A, attached hereto (the "backbone infrastructure"). The backbone infrastructure is expected to be built in phases over thirty years as development proceeds under the PVSP. It is comprised of improvements to existing roadways and intersections, proposed routes for new major roadways, portions of pedestrian/bicycle trails, water transmission lines and storage tanks (both potable and recycled), stormwater management and conveyance systems, and sewer trunk lines, force mains, and lift stations. Because the PVSP includes approximately 27 separately-owned properties upon which independent development projects may be constructed in accordance with individual permits that may be issued by the Corps (22 of which have individual permit applications pending before the Corps), and it is not presently known which of these applicants will be designated to construct which segment or phase of the backbone infrastructure, this RGP will allow any such designated applicant to secure Section 404 permit coverage for that segment or phase of the backbone infrastructure he or she is required to construct. This RGP will ensure that (i) construction occurs in a coordinated manner; (ii) impacts to aquatic resources will be mitigated to the Corps' standards; and (iii) no more than minimal cumulative impacts will occur as a result of such activities.

LOCATION: This RGP is restricted to the PVSP project area, plus those areas in which an out-of-plan area component of the backbone infrastructure will be constructed. The 5,230-acre PVSP is located in the southwestern portion of unincorporated Placer County, approximately 15 miles (24 kilometers) north of Sacramento, and southwest of the City of Roseville (see Figure 1).

AUTHORITY: This RGP authorizes activities within the PVSP project area incidental to construction of the backbone infrastructure that involve discharges of dredged or fill material into waters of the U.S. under Section 404 of the Clean Water Act.

ACTIVITIES AUTHORIZED BY THIS REGIONAL GENERAL PERMIT: This RGP authorizes specific structures and work identified as elements of the backbone infrastructure associated with the

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PVSP project. This RGP does not authorize any work other than that identified as a component of the backbone infrastructure and does not authorize any changes in the scope or nature of that backbone infrastructure. The structures and work authorized by this RGP are shown on the attached drawings.

TERMS OF AUTHORIZATION:

1. Applying for RGP Authorization: Prior to commencing work on a proposed segment of backbone infrastructure requiring authorization by the RGP, applicants seeking such authorization shall notify the Corps in accordance with RGP general condition number 14 (Notification). If the Corps determines that the work does comply with the terms and conditions of the RGP, the Corps will notify the applicant of such within 45 days of receipt of a complete application.

   If the work would involve potential impacts to federally-listed branchiopods, upon receiving a complete notification the Corps will request the USFWS to append the work to the programmatic biological opinion. In such cases, authorization under this RGP will not be granted by the Corps until the USFWS has appended the infrastructure segment(s) to the programmatic biological opinion.

2. Impact Limitations for Waters of the U.S.: The impacts to waters of the U.S. resulting from construction of each segment of backbone infrastructure shall not exceed the impacts authorized for said infrastructure segments in each of the individual permits issued for the PVSP project.

3. After-the-fact Projects: This RGP may not be used to authorize activities that were constructed without the required authorization of a Department of the Army permit.

4. Special Conditions: The Corps may add special conditions to an authorization to ensure the activity complies with the terms and conditions of the RGP, and/or that adverse impacts on the aquatic environment or other aspects of the public interest are individually and cumulatively minimal.

5. Activity Completion: Any activity authorized by the Corps under the RGP must be completed within three (3) years of the date it is authorized. The "authorization date" is the date the Corps verifies in writing that the activity meets the terms and conditions of the RGP. The Corps will, on a case-by-case basis, review requests for time extensions if the permittee fails to complete the activity within three years. A time extension would be considered a reverification and would be subject to review and approval policies in effect at the time of review.

6. Discretionary Authority: The Corps has the discretion to suspend, modify, or revoke authorizations under this RGP. This discretionary authority may be used by the Corps to also further condition or restrict the applicability of the RGP for cases in which it has concerns associated with the Clean Water Act Section 404(b)(1) Guidelines, or regarding any public interest factor. Should the Corps determine that a proposed activity may have more than minimal individual or cumulative adverse impacts to aquatic resources or otherwise be contrary to the public interest, the Corps will modify the authorization to reduce or eliminate those

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adverse effects, or notify the applicant that the proposed activity is not authorized by the RGP and provide instructions on how to seek authorization under an individual permit. The Corps may restore authorization under the RGP at any time it determines that the reason for asserting discretionary authority has been resolved or satisfied by a condition, project modification, or new information. The Corps may also use its discretionary authority to modify, suspend, or revoke this RGP at any time.

7. Expiration of RGP. This RGP is valid for five (5) years from the date of issuance (or reissuance). At least sixty (60) calendar days prior to the expiration date of this RGP, the Corps will issue a public notice with an opportunity for public comment, describing the reasons for reissuing the RGP, reissuing the RGP with modifications, or not reissuing the RGP for another five years. The Corps may extend the RGP for six months beyond the expiration date if it is unable to reissue the RGP due to unresolved issues. If the Corps has not reissued or extended the RGP by the expiration date, the RGP will no longer be valid. This RGP, or any specific authorizations granted under this RGP, may also be modified, suspended or revoked by the Corps at any time deemed necessary. In such instance, the Corps will issue a public notice concerning the action.

GENERAL CONDITIONS:

The following conditions apply to all work authorized by this RGP.

1. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must suspend work within 100 feet of any discovered resource(s) and immediately notify this office of what you have found. The Corps 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.

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 or sell the property associated with this permit. You may make a good faith transfer to a third party. If you sell the property associated with this permit, you must obtain the signature and mailing address of the new owner in the space provided and forward a copy of the permit to the Corps to validate the transfer of this authorization. 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. Fill material must be clean and free of contaminants and noxious plants. Fresh cement or concrete is not allowed in waters unless it is placed in sealed forms. Unsuitable fill material includes, but is not limited to, vehicle bodies, farm machinery, appliances and other metal objects, asphalt, biodegradable construction debris and tires, concrete with exposed rebar.

4. No activity is authorized under this RGP if the activity is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for listing under the ESA,

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or which will destroy or adversely modify critical habitat of such species, unless such impacts to critical habitat have been authorized by the USFWS. The attached USFWS programmatic biological opinion (BO) No. _____ dated _____ contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with the incidental take authorization for this RGP. Authorization under this RGP is conditional upon your compliance with all the mandatory terms and conditions associated with the incidental take statement included in the attached BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with the incidental take statement in the BO, where take of a listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with this RGP. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA. The permittee must comply with all conditions of this BO, including those ascribed to the Corps.

5. All activities authorized under this RGP shall be conducted in compliance with that certain Programmatic Agreement between the Corps, the California Office of Historic Preservation and the Advisory Council on Historic Preservation regarding the Placer Vineyards Specific Plan Project, dated _____, 201X. In addition, pursuant to Section 5097.98 of the State Public Resources Code, and Section 7050.5 of the State Health and Safety Code, in the event of the discovery of human remains, the County Coroner shall be immediately notified. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains.

6. Section 401 water quality certification is required for all activities to be authorized by this RGP. The Central Valley Regional Water Quality Control Board (CVRWQCB) has issued a programmatic water quality certification for the activities authorized by this RGP. Each permittee must submit a notice of intent (NOI) to the CVRWQCB and receive its approval to construct the infrastructure under the programmatic water quality certification prior to beginning work in waters of the United States authorized by this RGP.

7. Best Management Practices (BMPs) must be employed during construction and in project design to protect water quality and minimize impacts of stormwater runoff on aquatic resources. BMPs should be appropriately located in or adjacent to waters of the U.S. (e.g., siltcurtains). The applicant shall employ the following BMPs, as appropriate and feasible, in designing and constructing the project.

    a. Minimization of new impervious surfaces in project design (through practices such as reducing road widths);
    b. Structural measures that provide water quality and quantity control, such as vegetated natural buffers, grassed swales, infiltration trenches, level spreaders and channel grade controls;
    c. Structural measures that provide quantity control and conveyance;
    d. Construction BMPs such as matting and filter fencing, or other barrier methods to intercept/capture sediment;
    e. Low impact development (LID) BMPs.

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8. No activity may substantially disrupt the necessary life cycle movement of aquatic species indigenous to the water body, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water.

9. Road crossings shall be designed to maintain the pre-construction bankfull width of the stream and ensure fish passage, as well as accommodate reasonably foreseeable wildlife passage and expected high flows. This shall be accomplished by:

    a. Employing bridge designs that span the stream or river;
    b. Utilizing pier or pile supported structures, and/or;
    c. Utilizing large bottomless culverts with a natural streambed, where the substrate and streamflow conditions approximate existing channel conditions.

10. Work occurring within waters of the U.S., including wetlands, must utilize equipment with a ground bearing weight of 5 pounds per square inch or less or must work from mats or foundation pads.

11. Utility lines shall not adversely alter existing hydrology, including the draining of wetlands. In wetland areas, structures such as cut-off walls shall be used within utility trenches to ensure that the trench through which the utility line is installed does not drain waters of the U.S. Clay blocks, bentonite or other suitable material shall be used to seal the trench to prevent the utility line from draining waters of the U.S., including wetlands.

12. Temporary fills shall be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas shall be re-vegetated with native and/or naturalized species common in the adjacent grasslands upon completion of the work.

13. Mitigation for impacts to waters of the U.S. must be accomplished as follows:

    a. Where the mitigation involves the purchase of credits from an approved mitigation bank or in-lieu fee program, the number and type of credits required by the Corps' authorization must be purchased and proof of purchase provided to the Corps prior to commencing the activity authorized by the RGP.
    b. If the permittee elects to use permittee-sponsored mitigation, the mitigation and monitoring plan for the permittee-sponsored mitigation must be prepared, submitted to, and approved by the Corps prior to receiving authorization under this RGP, and construction of the compensatory mitigation must begin concurrently with or in advance of construction of the infrastructure segment(s) authorized by this RGP and must be completed within 90 days.

14. The applicant shall provide written notification requesting authorization under this RGP prior to commencing work. The Corps' receipt of the complete notification is the date when the Corps receives all required notification information from the applicant (listed below). Written notification shall include all of the following:

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a. A letter signed by the applicant requesting authorization under the RGP including the specific segment(s) of backbone infrastructure to be constructed and the area (in square feet and acres) of waters of the U.S. that will be impacted.
b. The estimated start and completion date for the infrastructure segments to be constructed.
c. A vicinity map showing the infrastructure segments to be constructed in relation to the overall PVSP project and a plan drawing(s) showing the infrastructure segment(s) relative to existing waters of the U.S. Where the infrastructure would involve a crossing of waters of the U.S., the applicant will also include a cross-section drawing depicting the crossing relative to existing waters of the U.S.
d. A tabulation of the direct and indirect effects (both permanent and temporary) associated with the infrastructure segment(s).
e. A compensatory mitigation proposal. If the applicant proposes permittee-responsible mitigation, the notification will need to include a draft mitigation and monitoring plan in accordance with the current Sacramento District or South Pacific Division Mitigation and Monitoring Guidelines. If the applicant proposes to purchase credits from a Corps approved mitigation bank or in-lieu fee program, the notification shall identify the proposed bank, and type and number of credits.
f. A narrative discussion of the BMPs utilized to minimize impacts to waters of the U.S.

15. The permittee must submit a report to the Corps within 30 days of completion of the work authorized by this RGP. The completion report will contain the following:

a. The Department of the Army permit number.
b. A plan view drawing of the location of the authorized work footprint (as shown on the permit drawings) with an overlay of the work as constructed in the same scale as the attached permit drawings. The drawing should show all "earth disturbance," wetland impacts, structures, and the boundaries of any on-site and/or off-site mitigation or avoidance areas. The drawings shall contain, at a minimum, 1-foot topographic contours of the entire site.
c. Ground and aerial photographs of the completed work. The cameral positions and view-angles of the ground photographs shall be identified on a map, aerial photograph, or project drawing.
d. A description and list of all deviations between the work as authorized by this permit and the work as constructed. Clearly indicate on the as-built drawings the location of any deviations that have been listed.

16. The permittee must allow representatives from the Corps to inspect the authorized activity and any compensatory mitigation areas at any time deemed necessary to ensure that the work is being or has been accomplished in accordance with the terms and conditions of this RGP.

17. The permittee is responsible for all work authorized by this RGP and ensuring that all contractors and workers are made aware and adhere to the terms and conditions of the Corps' authorization. The permittee shall ensure that a copy of the RGP, authorization and associated drawings are available for quick reference at the project site until all construction activities are completed.

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18. The permitttee shall employ a wetland scientist to continuously monitor construction activities in the vicinity of waters of the U.S. to ensure against unauthorized activity during construction. The monitor shall be on-site during all construction activities within 100-feet of preserved or avoided waters of the U.S., and for all work within preserve areas. If unauthorized impacts occur, the biological monitor shall immediately stop work and notify the Corps.

LIMITATIONS AND RESTRICTIONS:

1. The Corps has authority to determine if an activity complies with the terms and conditions of the RGP.

2. This RGP does not obviate the need to obtain other Federal, state, or local permits, approvals, or authorizations required by law.

3. This RGP does not grant any property rights or exclusive privileges.

4. This RGP does not authorize any injury to the property or rights of others.

5. This RGP does not authorize interference with any existing or proposed Federal project.

CONTACTS AND ADDITIONAL INFORMATION:
For additional information, about RGP XX, please contact the U.S. Army Corps of Engineers, Sacramento District at the address below, phone number (916) 557-5250.

ATTACHMENTS:

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

_____ _____

Michael S. Jewell Date
Chief, Regulatory Division
Sacramento District

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Exhibit A – PVSP Backbone Infrastructure

Included in this permit application are improvements to existing roadways and intersections, proposed routes for new major roadways, portions of pedestrian/bicycle trails, water transmission lines and storage tanks (both potable and recycled), stormwater management and conveyance systems, and sewer trunk lines, force mains, and lift stations. These improvements are illustrated on Figures 2a and 2b. It is assumed that, where feasible, utility lines will be placed within existing roadways or other disturbed areas, so as to minimize environmental impacts. In some instances, though, the facilities may have to be placed outside existing roads and thus could disturb unpaved areas.

With respect to all of the infrastructure elements, the area to be disturbed (as well as adjacent areas, where appropriate) will be fully analyzed for impacts to biological, cultural, and other resources. In order to assess wetland impacts, where infrastructure elements are to be located on participating properties within the Plan Area, wetland delineations have been utilized. Regarding infrastructure elements that are to be constructed outside of participating properties (where rights-of-entry have not yet been secured), wetland mapping has been conducted from review and interpretation of available aerial photography. It is anticipated that prior to permit issuance, wetland delineation and verification will be completed. A composite map depicting all wetlands within areas that may be impacted is provided as Figures 3a and 3b. Smaller scale exhibits (i.e., 1”= 300’) are provided as appendices (A-E) to this application.

Regarding assessment of wetland impacts associated with infrastructure improvements, any wetland that might also be considered habitat for federally-listed aquatic invertebrates (i.e., vernal pools, isolated seasonal wetlands, seasonal wetland swales, and drainage swales) that would experience any impact under the development scenario, has been considered to be completely impacted (i.e., the entire area has been counted as impacted). Where such wetlands are large enough that they extend more than 250 feet from the estimated point of direct impact, only that portion within 250 feet has been considered as directly impacted or “filled.” For wetland types that are not considered to be habitat for federally-listed aquatic invertebrates (e.g., perennial marsh, seasonal marsh, intermittent drainage, ephemeral drainage), no additional area (beyond the anticipated area of disturbance) has been included in the area estimates.

There are two options with respect to sewerage for the western portion of the Plan Area (i.e., Sacramento Regional Sewer or Dry Creek Wastewater Treatment Plant). In addition, there are two options with respect to secondary water supply (i.e., Placer County Water Agency connection at PFE and Cook Riolo Road or Placer County Water Agency connection at Antelope Road and Walerga Road). Finally, there are two different impact scenarios resulting from the three alternatives for reaching the Dry Creek Wastewater Treatment Plant from PFE Road. Because of these options, six different impact scenarios are possible. Each is described below, and illustrated in Figures 6a-6f, respectively (below). The most likely impact scenario (impact scenario 3) has been incorporated into this application, and the impact estimate reported in Block 22 of the application form.

Roads and Trails

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The transportation improvements covered in this permit application provide for a full range of transportation modes, allowing for the safe and efficient movement of people and goods throughout the Specific Plan area. The circulation network is designed to accommodate the

Figure 2A - Infrastructure Map 1
Figure 2b - Infrastructure Map 2
Figure 3a - Wetland Map 1
Figure 3b - Wetland Map 2
expected Specific Plan area traffic and to provide logical connections and extensions of pedestrian, bikeway and transit facilities.

Roads

Please refer to Figures 2a and 2b for illustrations of the improvements discussed below. Baseline Road (existing) parallels and describes the entire northern boundary of the Specific Plan area. In order to provide for increased traffic flows, initially, Placer County requires that the existing two-lane road be widened to provide for two eastbound and two westbound lanes (and ultimately 3 lanes in each direction). The ultimate widening is anticipated in this application. Between Walerga Road and Brewer Road, the initial widening will be accomplished on the south side of the existing roadway (within the Specific Plan Area), but in order to avoid impacts to existing rural residential housing, between Brewer Road and East Natomas Road, the road will be widened on both sides. (Just west of the Specific Plan area, Baseline Road enters Sutter County and its name changes to Riego Road.) Required Baseline/Riego Road improvements also include seven (7) intersections, at:

A. Riego Road and East Natomas Road (located in Sutter County)

B. Riego Road and Pleasant Grove Road (northbound, located in Sutter County)

C. Baseline Road and Pleasant Grove Road (southbound, located in Placer and Sutter Counties)

D. Baseline Road and Elder Street (southbound, located in Placer County)

E. Baseline Road and Locust Road (located in Placer and Sutter Counties)

F. Baseline Road and Newton Road (southbound, located in Placer County)

G. Baseline Road and Brewer Road (located in Placer County)

Watt Avenue (existing) runs north-south through the eastern portion of the Specific Plan area. In order to provide for increased traffic flows, Placer County requires that the existing two-lane road be widened to provide for two northbound and two southbound lanes (and ultimately 3 lanes in each direction). This initial widening is to extend from Baseline Road (at the northern boundary of the Specific Plan area) southward to the Specific Plan area boundary at Dry Creek, then approximately 2500 feet more, terminating in Sacramento County near the intersection of Watt Avenue and Pepperidge Drive. The ultimate widening is anticipated in this application. The road widening will be accomplished on both sides of the existing pavement for approximately 2100 feet south from Baseline

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Road. At that point, the alignment will be shifted westward in order to minimize impacts to existing rural residential housing. The existing crossing of Watt Avenue over Dry Creek will also require improvement. The existing Watt Avenue bridge will be removed and replaced by a new structure (or structures) which would carry three lanes northbound and three lanes southbound. It is anticipated that a bridge (or bridges) utilizing in-stream concrete pilings would be required to effect this improvement. At present, bridge design has not been completed. For the purposes of this application, we are assuming that the entire footprint depicted within jurisdictional waters would be directly impacted (i.e, 0.328 acres). South of Dry Creek, the alignment will shift back toward the east so that the required road widening will be accomplished on both sides of the existing road.

Several major roadways are important to traffic circulation within and throughout the Specific Plan area, and thus, are considered common infrastructure elements. These are Dyer Lane, 16th Street, and 18th Avenue, Locust Road, and Palladay Road. Existing Dyer Lane (a two-lane roadway) would be widened to four lanes and would extend toward the west from its existing intersection with Watt Avenue. Along that extension, in order to minimize impacts to heritage oak trees lining the existing roadway, the alignment will be shifted at key locations. For the first approximately 1500 feet, widening would be accomplished on the north side, then the alignment would be shifted to the south (so that widening would occur on the side of the existing roadway). This alignment would be extended due west for approximately 3150 feet. New pavement would be extended due west from the point where existing Dyer Lane intersects Tanwood Road (approximately 0.9 miles west of the intersection of Dyer Lane with Watt Avenue). At that point, the alignment would be shifted to the north again, and extended for approximately 1.36 miles. Further to the west, where Dyer would enter Ownership Unit No. 19, it would begin a broad-radius curve to eventually run north-south, and terminate at a new intersection with Baseline Road. Dyer Lane (new pavement) would also be extended approximately 500 feet to the east from its intersection with Watt Avenue.

Sixteenth Street would be a four-lane, north-south linkage between Dyer Lane and Baseline Road located between Ownership Unit Nos. 12A and 12B to the east, and Ownership Units 13 and 15 to the west. 18th Avenue would be a new a two-lane wide spur extending west from Dyer Lane, across Ownership Unit No. 19 to intersect with the existing Locust Road. The shoulders of Locust Road (existing) are proposed to be improved on both sides. In order to provide appropriate access to/from a fire station to be located in the eastern portion of Ownership Unit No. 19, a new road is proposed to be constructed between Palladay Road and West Dyer Lane (east-west, across Ownership Unit No. 19).

Pedestrian/Bicycle Trails

A multi-use trail system will provide pedestrian and bicycle linkage throughout the plan area. Typically, these are 8-12 foot wide paved trails. For the purposes of this infrastructure application, only those trails occurring within open space areas use and which would result in impacts to “waters” have been incorporated into the request for authorization. Wetland and other “waters” impacts accruing to trails within lotting plans areas have been assigned to those applications.

Potable Water Supply

Please refer to Figures 2a and 2b for illustrations of the improvements discussed below. The Specific Plan area is within the service area of the Placer County Water Agency (PCWA). PCWA has determined that it has sufficient water rights to meet the projected demand of projects likely to develop

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in western Placer County through 2030, including the proposed Placer Vineyards Specific Plan. The Specific Plan area is proposed to receive water service from various sources on an initial and long term basis. Some of these are included in this infrastructure permit application. Development of new infrastructure to use these water supplies will be necessary. The long-term water supply would be drawn from the Sacramento River at a new multi-party pump station, treatment plant, and transmission pipeline.

The initial water supply under this application will be implemented with surface water from the American River. It consists of water from PCWA's unused American River water supply, diverted at PCWA's new permanent American River Pump Station, conveyed and treated at the existing Foothill Water Treatment Plant, and delivered through PCWA's existing transmission pipeline system to the vicinity of Industrial Avenue. A booster pump and storage tank currently under construction would allow PCWA to introduce its water into the City of Roseville pipeline system. Under an existing agreement with the City of Roseville, PCWA can convey water through the City's pipeline system to a location near Baseline Road and Fiddyment Road. Extensions of this pipeline westerly in Baseline Road would deliver an initial water supply to Placer Vineyards. The on-site distribution system would be made up of a transmission main located in Baseline Road that would provide water to the entire Specific Plan area. A grid of 12-inch and 16-inch mains located alongside the arterial and collector road system would be connected to the transmission line in Baseline Road and distribute water to the developments within the Specific Plan area. A total of 15-20 million gallons of storage would be provided by five water storage reservoirs and booster pump station sites, located throughout the Specific Plan area at the following locations:

1. East of Watt Avenue, within Ownership Unit Nos. 1B and 3,

2. South of Baseline Road, within Ownership Unit Nos. 4 and 7,

3. South of West Dyer Lane, within Ownership Unit No. 9,

4. West of Palladay Road, within Ownership Unit No. 19, and

5. West of Palladay Road, within Ownership Unit No. 19.

It is anticipated that water storage facilities would be composed of above-ground concrete or steel tanks with a capacity of approximately three to five million gallons of storage at each location. The tanks would be circular and would be either 130 feet in diameter and 30 feet in height, or 150 feet in diameter and 24 feet in height. Four (4) of the planned water storage tanks are adjacent to infrastructure roadways, and the supply lines leading to those tanks would be installed at the same time as the road improvements. Thus, the majority of the impacts accruing to the potable water transmission network would be limited to the footprints of the five storage tank sites and the stub lines necessary to connect them to the transmission lines within the plan area roadways. The supply line leading to Tank No. 1 (see list above) would require overland installation from Baseline Road south within the alignment of a future roadway that would be subject to permitting by the involved individual property owners involved. The impacts associated with the water line installation (only) are requested in this application.

Options for Secondary Potable Water Supply

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A secondary water supply could be made available if the Sacramento River project has not begun delivery of water when the initial supply, as described above, has been fully utilized. It consists of use of a portion (6000 acre feet per year [AFA] of the 29,000 acre-feet of PCWA Middle Fork American River water currently contracted to Sacramento Suburban Water District (SSWD, formerly Northridge Water District). The supply would be diverted from Folsom Lake, treated at Sidney N. Peterson Water Treatment Plant (owned and operated by the San Juan Water District), and conveyed to the Specific Plan area via existing pipelines.

In this case, potable water could be supplied to the plan area by connecting to an existing cooperative transmission pipeline at the intersection of PFE Road and Cook-Riolo Road (i.e., Option "A"). This water line (network) would then extend from Cook-Riolo Road westward within PFE Road to its intersection with Watt Avenue, then northward within Watt Avenue to five (5) points within the Specific Plan area. This water line would be installed at the same time that a forced main sewer trunk would be constructed within the pavement of PFE Road (see discussion below). Installation of this water line is anticipated to have no impacts over and above those that would be experienced with the installation of the sewer line.

Alternatively, the secondary potable water supply may come from the San Juan/Sacramento Suburban cooperative transmission pipeline that currently terminates near the intersection of Antelope Road and Walerga Road (i.e., Option "B"). In this case, a new transmission line would be constructed (within the pavement) from that point westward along Antelope Road to, and then north within, Watt Avenue to those same points within the plan area (i.e., at the potable water storage tanks). Road improvements to Watt Avenue are anticipated to extend southward into Sacramento County to approximately the intersection of Watt Avenue and Pepperidge Drive, thus impacts of the water transmission network unique to this alternative would include those impacts potentially experienced between that intersection and the terminus of the existing San Juan/Sacramento Suburban cooperative transmission line near the intersection of Antelope Road and Walerga Road.

Recycled Water Supply

Please refer to Figures 2a and 2b for illustrations of the improvements discussed below. The project proposes to provide recycled water to the Plan Area for use in parks, schools, publicly landscaped areas, and the landscaping associated with commercial, business, and professional and uses. The use of recycled water offsets potable water demand and is an important component of the overall water supply strategy. This would be supplied from the Dry Creek Wastewater Treatment Plant, and eventually from the Pleasant Grove Wastewater Treatment Plant. Initially, a connection will be made to an existing 24-inch gravity recycled water line constructed as part of the Dry Creek West Placer Community Facilities District #1. The pipeline currently terminates south of Dry Creek on the east side of Walerga Road. The line will be extended in a northerly direction along (and within the pavement of) Walerga Road to Baseline Road, where it will be turned west (within the pavement and/or landscape corridor) to the project site. From Baseline Road, the line will be extended south within Watt Avenue, then west within Dyer Lane to the site of the recycled water storage tank on the south side of Dyer Lane within Ownership Unit No. 17. Impacts associated with this element of the infrastructure are anticipated to include only those potential impacts resulting from the footprint of the storage tank site and the stub line necessary to connect it to the transmission line within Dyer Lane.

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Sanitary Sewer

Please refer to Figures 2a and 2b for illustrations of the improvements discussed below. There are two options for long-term strategies with respect to providing sewer service to the entire Plan Area. They involve using a planned connection to the Sacramento Regional Wastewater Treatment Plant (SRWWTP) or the Dry Creek Wastewater Treatment Plant (DCWWTP). Under either option, the easternmost 890 acres of the Specific Plan area would be serviced by the DCWWTP because the area is already included in the 1996 Roseville Regional Wastewater Treatment Service Area Sewer Master Plan. The required conveyance facilities have been partially constructed with the first phase of the Dry Creek/Western Placer Community Facilities District (CDF) project. A pump station and force main near Walerga Road and north of PFE Road have been designed to accept wastewater from the Specific Plan area for conveyance to the DCWWTP. This would be accomplished by using a utility corridor to connect to the DCWWTP that extends from the eastern portion of the Specific Plan area southerly across Dry Creek, then along the south side of Dry Creek to an existing sewer force main east of Walerga Road. This alignment would overland approximately 0.75 miles south from its point of origin to Dry Creek, where "bore and jack" technology would be used to implement the required crossing (thus avoiding impacts), then west and south (paralleling Dry Creek) approximately 3000 feet to a proposed lift station. From that lift station, a new forced main would convey wastewater approximately 10,125 feet (1.9 miles, paralleling Dry Creek) to a point where it would intersect an existing forced main approximately 1400 feet east of Walerga Road.

Options for Sewer Service

The western portion of the Specific Plan area could be sewered at the Sacramento Regional Sanitation District south of Sacramento (i.e., Option "A"). Under this option, in order to transport wastewater to this location, the applicants would construct a gravity trunk sewer line from the western portion of the Specific Plan area (beginning at a point on Ownership Unit No. 19). The alignment would be directed south within the pavement of Locust Road (and then Elwyn Avenue) approximately 9850 feet (1.9 miles) to the intersection of Elwyn Avenue and Elverta Road, where it would turn west and proceed within the pavement of Elverta Road approximately 2440 feet to its intersection with El Rio Avenue. The majority of the approximately 3300 foot-long north-south segment between Elverta Road and "U" Street would be overland, then the line would be placed within the pavement of West 6th Street, extending another 7690 feet southward to its intersection with Elkhorn Boulevard where it would join a segment of the Upper Northwest Interceptor.

Another option (i.e., Option "B") for long-term sewer service is to connect the entire Specific Plan area to the Dry Creek Wastewater Treatment Plant (DCWWTP), which is owned and operated by the City of Roseville on behalf of the Joint Powers Authority (JPA) (known as the South Placer Wastewater Authority) consisting of Placer County, the City of Roseville, and South Placer Municipal Utility District. The amount of capacity available at this facility has been the subject of a recent analysis by the City of Roseville. If the DCWWTP is utilized by the entire Specific Plan area, the conveyance system to deliver wastewater to the DCWWTP would include construction of a gravity system delivering wastewater to the western end of the Specific Plan area, a lift station with adequate emergency storage, and a force main to pump wastewater back easterly to the DCWWTP. The sewer connection corridor would extend from the lift station to be situated near the west end of the Specific Plan area (on Ownership Unit No. 19) northward approximately 200 feet overland, then easterly approximately 3950 feet overland to the new proposed alignment of West Dyer Lane. At this point the

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forced main sewer line would be placed within the pavement of West Dyer Lane and proceed east to Watt Avenue, then south within Watt Avenue. The required crossing of Dry Creek would be implemented using "bore and jack" technology to avoid impacts, and the line would then proceed easterly along the alignment of PFE Road and northerly to the plant by way of one of three alternative alignments. The primary proposed alignment (A) would proceed northerly to the plant at Hilltop Circle, just east of the City of Roseville Corporation Yard. An alternative alignment (B) would be approximately 375 feet to the east, at the eastern boundary of the Corporation Yard. A third alternative (C) would leave PFE Road northerly at Cook Riolo Road, turning easterly to the DCWWTP just north of Dry Creek. Under any of these three scenarios, the required crossing of Dry Creek to reach the treatment plant on the north bank would be accomplished using "bore and jack" technology in order to avoid impacts.

Drainage, Flood Control and the On-Site Avoidance/Open Space System

Please refer to Figures 2a and 2b for illustrations of the improvements discussed below. The Specific Plan includes a system for the management of stormwater runoff, and establishes guidelines for management of urban runoff and the control of erosion and sedimentation through the design of drainage systems and land use regulations. The specific plan minimizes potential water quality impacts by preserving drainageways in existing locations and establishing detention basins to contain and filter storm water runoff. Open space area estimates herein are approximate, based upon visual estimations of length and "average" corridor width.

The onsite project drainage would be designed to provide water quality treatment of runoff from paved and other developed areas prior to release into the swales and streams. This treatment will consist of the following:

1. Directing some of the flow to sheet discharge onto grassy areas or open space.

2. The installations of "Fossil Filter" or equivalent petroleum absorbing insert assemblies in the project drop inlets.

3. The placement of water quality interceptor devices.

4. The placement of water quality sediment basins within detention facilities and channels.

5. Use of rock-lined ditches below pipe outlets.

The Specific Plan area is within three major drainage sheds: Curry Creek, Dry Creek, and the Upper Natomas East Main Drainage Canal (NEMDC), now known as Steelhead Creek. According to the Specific Plan and the Master Project Drainage Study, the drainage system has been designed to accommodate peak flow rates resulting from additional impervious surfaces and proposed drainage modifications. Development of the project will require additional attenuation at several locations, including within the existing floodplain and flood control channels upstream of proposed culvert facilities. Detention basins and water quality treatment basins will be provided to optimize water quality. Pending final design, and where appropriate opportunities are identified within constructed and/or enhanced drainageways, wetlands may be constructed to increase biological function. Where appropriate, riparian plantings may be used to augment these habitats. Additionally, flood control

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facilities will preserve areas where sensitive resources exist, such as wetlands. The Drainage Study includes provisions to maintain the hydrology of sensitive areas by preserving the mean annual and peak flow rates through them.

In order to preserve the integrity of the avoidance areas within the Plan Area, it will be necessary that Plan Area development not adversely impact mean annual and peak annual type events. Meaning, increases in flow rates for these events should not be allowed within the unaltered swales. Additionally, where seasonal wetlands are identified, nuisance waters from non-storm discharges will need to be diverted to the flood control facilities so as to not affect the seasonal nature of the existing features.

In order to accomplish the above criteria, special structures will need to be used in the drainage system to divert excess floodwaters to the flood control channels, or to divert nuisance waters away from the existing swales. In any case, project drainage will be treated for water quality prior to discharge to an existing or proposed flood control channel. Initial design concepts of the structures are shown in Figures 4a and 4b.

Based on the hydraulic function of the proposed project improvements, the following generalizations may be used in preliminary design of the systems:

- Based upon preliminary design work, when the difference in elevation between the existing wetland invert and the surface elevation of the future streets is less than 7 feet, pumping or a design standard modification may be necessary to maintain mean annual flow rates. The design standard modification relates to the Placer County standard which does not permit pressure flow in the 10-year design event. When the difference is less than roughly 7 feet, in order to prevent submergence of the storm drainage system in the 10-year event it would need to be constructed so shallow it would conflict with other utilities, and minimum pipe slopes cannot be obtained. Minimum pipe slopes must be maintained, and conflicts with other utilities must be avoided. As a result, in some cases the storm drain will be constructed to a depth where flows cannot gravity to the wetland areas directly, and pumps may be necessary. In other cases, where the storm drain minimum slopes can be maintained, it may be necessary to request a design standard exception to permit a portion of the trunk storm drainage system, upstream of the diversion structure, to flow under pressure in the 10-year event.

- The gate or stop log system between the wetland discharge and the stormwater quality discharge should be removable to permit maintenance flushing of sediment out of the system. Also, it may be possible to design this gate on a float system, to permit flood event flows (in excess of mean annual) to pass directly through to the next chamber, such that sediment and debris will not collect in the backwater upstream of the wetland diversion weir.

- Where the pipe system invert is above the invert of the wetlands, the diversion to wetlands component should be placed downstream of the water quality device.

Figure 4a Plummer Design 1
Figure 4b Plummer Design 2

- Where the pipe system invert is below the invert of the wetlands, a separate stormwater quality device would be necessary on the wetland feeder system.

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Flood control channels within the Specific Plan area will consist of newly constructed channel systems and parallel flood control channels where avoidance areas are to be maintained in a natural state. These facilities would generally follow or be placed along the natural drainage courses within the project. Utilizing detention basins for the developed condition, stormwater runoff from the Specific Plan area will be reduced consistent with the requirements of the Placer County Flood Control and Water Conservation District (Flood Control District). The flooding limits would be confined within the channels and existing floodplain areas, generally providing 3 feet of freeboard above the 100-year floodplain to adjacent proposed structures. The channels would be excavated below the existing grades, and daylight at the downstream end to natural grades at the project limits. A meandering, naturalized low flow channel would be constructed throughout to confine the conveyance of year round nuisance waters.

In addition to providing detention storage to mitigate the increased rate of runoff, an additional storage component has been added in the detention areas to provide retention of flow volumes for a period of time to allow downstream volumes to drain from the shed. A combination of detention/retention basins will be used in each drainage shed, except Dry Creek, to mitigate the impact of the project stormwater runoff. The Specific Plan includes open space corridors to convey stormwater flows, and all development is planned to occur outside of these corridors to provide 100-year protection to all residences. Pending final design of infrastructure elements (and lotting plans where adjacent), some grading within the open space areas may be required (although no additional wetland fill is anticipated). In order to follow the discussion below, it may be helpful to refer to Figure 5, which outlines the watersheds discussed.

Curry Creek (Shed CUS)

Beginning at the upstream (i.e., eastern) end of the Specific Plan Area, Curry Creek enters the project, crossing Baseline Road in the northeast area of the project. Curry Creek then parallels Baseline Road, and crosses back to the north. The project proposes to excavate overbank areas (i.e., areas where the natural creek can spill floodwaters) at Curry Creek adjacent to Baseline Road, north of the existing channel, and adjacent to the development areas, south of the existing channel. Important natural resource areas would be avoided. The excavation of these overbank areas will enhance the conveyance capacity of the system for Flood Control, and provided additional 100-year floodplain storage within the creek to mitigate development peak flow impacts. The open space corridor associated with Curry Creek and the drainage improvements in this area measures approximately 4505 feet long by an approximate average width of approximately 336 feet, containing approximately 35 acres.

Steelhead Creek Tributary (Shed EMA)

The EMA tributary of Steelhead Creek is the northern most tributary of Steelhead Creek. The tributaries headwaters originate within the project boundaries, south of Curry Creek. The EMA tributary generally conveys runoff in a westerly then northwesterly direction, exiting the project

Figure 5. Regional Watersheds Map

across Baseline Road, near the existing power line corridor. Within this watercourse, the project proposes to reconstruct and enhance sections of the existing swale. Other sections of

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the swale will have new flood control channels added which parallel the existing channel which would be kept intact.

Infrastructure drainage elements include an enhanced channel extending west from Ownership Unit #1A, essentially defining the boundary between Ownership Unit Nos. 4 and 7, and terminating at a large detention pond at the west end of Ownership Unit 12A (at the southeast corner of Baseline Road and 16th Street, see Figures 2a and 2b). The open space corridor associated with this drainage shed would be approximately 2.9 miles long with an approximate average width of approximately 345 feet, containing approximately 123 acres. The existing drainage from the southeastern portion of this watershed, originating near the southeast corner of Ownership Unit #7 would remain in its natural state (although it is currently largely supplied by irrigation runoff). This tributary is approximately 1636 feet long and supports riparian vegetation (at its extreme upstream end). This portion of the system would be left intact and in open space with an average corridor width of approximately 439 feet (thus containing an estimated 16 acres).

Steelhead Creek Tributary (Shed EMB)

The EMB tributary of Steelhead Creek headwaters also originate within the Special Planning Area of the project in the northwest area of the project. The EMB tributary will not be altered by the project.

Steelhead Creek Tributary (Shed EMC)

The EMC tributary of Steelhead Creek headwaters originate within the Central and western areas of the project. The existing EMC tributary seasonal wetland swales will be supplemented for Flood Control purposes with parallel channels to the western project boundary. The open space associated with this drainage area would be approximately 6500 feet long with a visually estimated average width of approximately 721 feet (thus containing an estimated 118 acres). At its widest point, this corridor would be approximately 1100 feet wide.

Steelhead Creek Tributary (Shed EMD)

The EMD tributary of Steelhead Creek headwaters originate near the southwest boundary of the project. Onsite the runoff from the tributary areas to this system will be collected and conveyed to the project boundary by a pipe system. The offsite system will not be altered.

Steelhead Creek Tributary (Shed EME)

The EME tributary of Steelhead Creek is completely offsite and downstream of the project. The project will not modify any function of this system.

Steelhead Creek Tributary (Shed EMF)

The EMF tributary of Steelhead Creek headwaters originate in the eastern and central areas of the project. There are two tributaries to this system which exit the project at two different points along the southern boundary. The northern tributary exits the project in the western third of the southern boundary. The northern tributary will include modifications to the existing channels including,

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complete relocation and reconstruction in the upper reaches, and parallel added flood control channel in the lower reaches where the avoidance strategy is planned for the existing creek areas. The southern tributary of EMF exits the southern boundary of the project at roughly the midpoint of the project. Channel improvements planned for the southern tributary include new parallel flood control channels, and avoidance and some new channels will be created along the southern boundary of the project. The southern and northern tributaries of EMF join south of the project. The open space associated with the southernmost portion of this system (Shed EMFS) spans a distance of approximately 2.1 miles with an approximate average width of approximately 196 feet (thus containing an estimated 50 acres). It is joined by a tributary system with which the associated open space would be approximately 4108 feet long by 610 feet wide (thus containing approximately 58 acres). More centrally located within the plan area (shed EMFN) there would be a relocated and enhanced channel which would span approximately 1.1 miles, terminating at Palladay Road. Average width for this reach would be approximately 188 feet (thus containing approximately 25 acres of open space). Downstream of Palladay Road, with the exception of a road crossing for West Dyer Lane, the existing creek system (which supports scrub riparian vegetation) would be left intact. The open space associated with this reach is estimated at approximately 3200 feet long by 536 feet wide (thus containing approximately 39 acres).

Steelhead Creek Tributary (Shed EMG)

The EMG tributary of Steelhead Creek originates in the southeastern third of the project. The runoff from the project would be collected in storm drain pipes and discharge to a detention basin upstream of the project boundary. Flows exiting the basin will be discharged into the existing drainage swale.

Dry Creek

Dry Creek bounds the southeastern area of the project. Water in Dry Creek passes adjacent to the project in a southwesterly direction. Dry Creek will not be altered by the project. Stormwater quality basins and treatment measures will be placed at the drainage system outfalls upstream of their discharge into Dry Creek.

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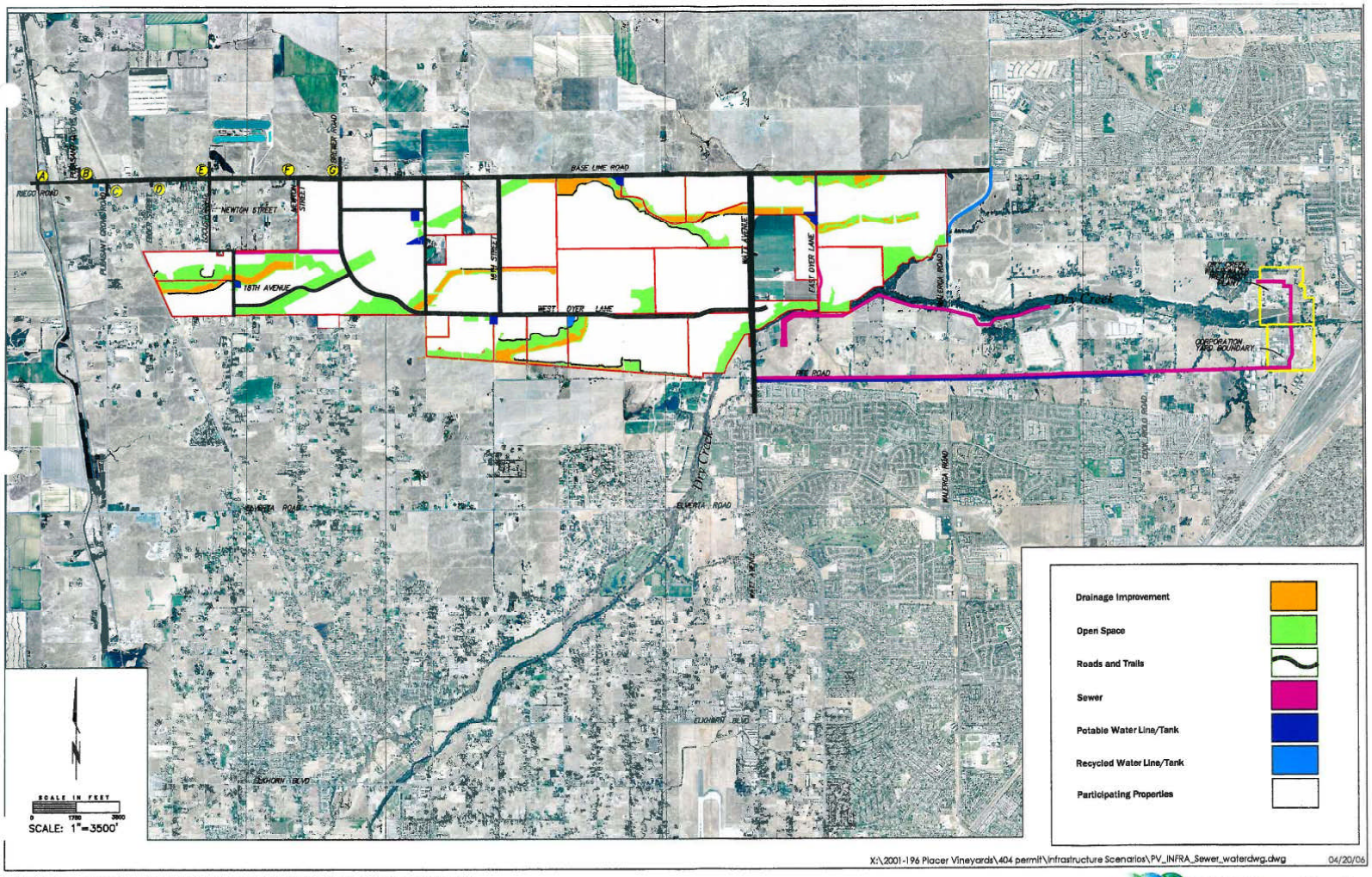


Figure 6c. Infrastructure Elements, Impact Scenario 3 (Most Likely)

2001-196 PLACER VINEYARDS

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 1 PVSP Infrastructure Elements

APPENDIX 2.0

Proposed Action and Alternatives Documentation

Technical Memorandum: Alternatives Development and Screening

U.S. Army Corps of Engineers—Placer Vineyards Specific Plan EIS

TECHNICAL MEMORANDUM: ALTERNATIVES DEVELOPMENT AND SCREENING

OCTOBER 14, 2011

This memorandum summarizes the development and screening of alternatives for the Placer Vineyards Specific Plan EIS prepared by the U.S. Army Corps of Engineers (USACE). The Placer Vineyards Specific Plan (PVSP) is a proposal to develop a large-scale, regional mixed-use residential project on a site in southwestern Placer County.

The federal action currently under analysis is the review and approval of the Department of Army (DA) permits under Section 404 of the Clean Water Act, which if approved would allow the Applicants to fill approximately 119 acres[1] of jurisdictional waters of the United States in conjunction with the development of a large-scale, regional mixed-use residential project. The PVSP includes development of a 5,230-acre (2,116-hectare) site with a mix of land uses, predominantly residential use with some commercial and office uses, public and quasi-public uses, parks, and open space, and the infrastructure improvements to support these uses. The USACE has 22 active permit applications to develop up to 3,746 acres (1,516 hectares) of land within the PVSP area and an application for the development of backbone infrastructure. The owners of the remaining properties (comprising 505 acres [204 hectares] within the PVSP area outside of the Special Planning Area (SPA) and 979 acres [396 hectares] within the SPA) are not applying for DA permits at this time. However, for purposes of the EIS, the Proposed Action encompasses the development of the entire PVSP site consistent with the footprint of the County-approved PVSP.

Under the Council on Environmental Quality's (CEQ's) National Environmental Protection Act (NEPA) Implementing Regulations, comparative analysis of the environmental impacts associated with a proposed project and the identified alternatives serves to define the issues and provide decision makers with a clear basis for a "choice among options" (40 CFR 1502.14). An EIS is therefore required to consider alternatives. Consideration is limited to alternatives that are feasible, which is defined for NEPA purposes as meaning those that would meet the project's purpose and need and are capable of being carried out in the context of technical, economic, environmental, and other factors. The range (the number and nature) of alternatives to be considered is governed by the rule of reason—that is, an EIS is not required to consider all possible alternatives, only those

[1] This includes about 115 acres of jurisdictional waters on the PVSP site and about 4.2 acres off-site in conjunction with the construction of off-site infrastructure improvements.

that are necessary to permit a reasoned choice. Once a range of possible alternatives has been identified, a set of screening criteria may be used to "screen" the alternatives and narrow down the range of alternatives to those that will be carried forward for EIS analysis. If alternatives have been identified but eliminated from detailed consideration, the EIS must briefly discuss the reasons why they were not carried forward (40 CFR 1502.14[a]).

To establish the range of alternatives for this project, the USACE first developed the project's purpose and need statement. Next, the USACE identified a broad range of potential alternatives. Finally, the USACE evaluated the potential alternatives against screening criteria based on the aspects of feasibility identified under NEPA—technical, economic, and environmental—to focus consideration on alternatives that meet NEPA stipulations for feasibility. In order to integrate this analysis with the Section 404(b)(1) alternatives analysis, screening criteria that were used in the analysis were also based on the practicability criteria under 404(b)(1) – technology, logistics, and cost. This approach ensures that a site is screened out only if it is both infeasible under NEPA and impracticable under Section 404(b)(1) and a potential least environmentally damaging practicable alternative (LEDPA) is not eliminated from further analysis for reasons exclusive to NEPA.

1.0 PURPOSE AND NEED AND DESCRIPTION OF THE PROPOSED ACTION

1.1 Background

Following the adoption of the West Placer Community Plan (WPCP) in 1990, Placer County identified the remaining area to the west of the WPCP as appropriate for urban development. In its 1994 General Plan, the County noted that this area could develop following adoption and implementation of a comprehensive Specific Plan, and the County amended the boundaries of the Dry Creek/West Placer Community Plan to include this land.

Consistent with the direction provided by the Placer County 1994 General Plan, the Applicants sponsored the preparation of a specific plan for this area. In July 2007, the County Board of Supervisors approved the Placer Vineyards Specific Plan (PVSP) and certified the PVSP Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act. The purpose of the PVSP was to comprehensively plan the development of the remaining unplanned area in southwestern Placer County for the establishment of a new residential community that not only included residential and commercial uses but also other public uses, including a mixed-use Town Center that provided for civic and community activities, uses that are necessary for a fully integrated and viable community. The PVSP covers an area of 5,230 acres in the southwestern portion of the County.

In May 2006, the Placer Vineyards Owners' Group (Applicants) submitted 24 applications to the USACE under Section 404 of the Clean Water Act for the development of backbone infrastructure and the development of several properties within the PVSP (participating properties). Since then, one application has been withdrawn and there are now a total of 22 applications for the development of 22 properties with the Plan area and a permit application for the development of backbone infrastructure. While the overall PVSP area is 5,230 acres, the acreage proposed for development at this time and for which permit applications have been filed is 3,744 acres; of the remaining 1,486 acres, about 970 acres are designated as a Special Planning Area and about 516 acres are non-participating properties (i.e., properties for which land use planning has been completed by Placer County but no Section 404 permit applications has been filed with the USACE).

1.2 Project Purpose

According to the USACE and the Applicants, the project purpose is:

> *to construct a large-scale regional mixed-use residential project in western Placer County*

1.3 Project Need

The Applicants' stated need for the Proposed Action is described as follows.

> *The project is proposed as a large scale residential community because the primary purpose of the Project is to accommodate projected population growth in Placer County and provide a coordinated development envelope consisting of residential, commercial, recreational, public/quasi-public land uses, required infrastructure and open space to accommodate a population range of approximately 30,000 to 50,000 persons. The project is intended to assist in meeting the region's future needs for residential opportunities through comprehensive planning.*

The primary purpose of the project is to accommodate projected population growth in Placer County and provide a coordinated development envelope consisting of residential, commercial, recreational, public/quasi-public land uses, required infrastructure, and open space to accommodate a population of approximately 30,000 persons. The project is intended to assist in meeting the region's future needs for residential opportunities through comprehensive planning.

The project is proposed as a mixed-use community with adequate employment-generating non-residential uses in order to provide a balance of jobs, housing, and other amenities. The commercial component of this community is important and necessary so that the County has sufficient tax revenues to provide services to the project. A large-scale residential-only development would not

be fiscally sustainable because the tax revenue from property taxes alone would be insufficient to provide the needed County services (Hausrath 2006). This is especially the case for the project site and its vicinity in western Placer County where a high proportion of the property tax revenues go to the local school district and the County share is relatively small. In addition, there are no nearby existing retail centers to serve the Placer Vineyards area, so early development of a commercial center is important from a service standpoint as well as for fiscal reasons.

Given the proposed size of the regional residential community, the project is proposed with a mixed use Town Center and other public/quasi-public uses such as a government center, fire station, library, police station, and a cemetery, uses that would be proposed only in the context of a new community or new town. The Town Center component of the project would consist of a mixture of specialty retail tenants focusing on a pedestrian environment with smaller specialty retail stores, restaurants, and service providers that would generally serve only the Placer Vineyards community market area with unique shopping opportunities. The Town Center would not have large format retailers that require significant parking and demand locations adjacent to major arterials in order to serve the greater market area beyond the PVSP area.

Placer County identified this area for urban development (PVSP EIR 2007). This was based on a number of important planning factors, including that (1) the cities and areas surrounding the Plan area are experiencing rapid growth in jobs, creating the need for additional housing in southwestern Placer County; (2) the area is contiguous to existing urban development to the south (Sacramento County) and new development to the north (Roseville); and (3) the region is planning improvements to the transportation network that could accommodate the level of growth associated with the Specific Plan; and (4) the Plan area is better suited to concentrated new growth than other locations, as it would create less sprawl. For purposes of this EIS, western Placer County is defined as the portion of Placer County west of Interstate 80 (I-80) and State Route 65.

1.4 Proposed Action (Applicants' Proposed Project)

The Placer Vineyards Development Project is a proposal to develop a large-scale, regional, mixed-use residential project in southwestern Placer County.

The project site is flanked to the east by existing development within the Dry Creek Community Plan area, to the north by Baseline Road and undeveloped land further north of the roadway, and to the south by existing rural residential development in Sacramento County, and to the west by undeveloped agricultural lands in Sutter County. Baseline Road, Sutter County line, and Sacramento County line makes the site's northern, western and southern boundaries respectively.

The approximately 5,230-acre PVSP area includes some parcels that are either already developed and therefore not part of the project or are not included in the proposed development project for other reasons. The Proposed Action would entail development of about 3,744 acres with a mix of land uses, including 2,005 acres of residential uses, for a total of 11,010 residential units at buildout; approximately 278 acres of commercial and mixed uses including 579 residential units; 291 acres of quasi-public (public facilities/services, religious facilities, schools) land uses; and 1,169 acres of parks, open space, arterials and collectors. If the area under open space (675 acres) is excluded, the project's development footprint would be 3,069 acres. Development of the master-planned community envisioned under the Placer Vineyards Development Project would be a long-term undertaking; construction is expected to begin in 2013 and, depending on market conditions, would be completed in 20 or 30 years.

There are approximately 176.7 acres of waters of the U.S. within the project site. Of this acreage, the Proposed Action will result in on-site impacts to approximately 115 acres. The Proposed Action would affect another 4.2 acres of wetlands off-site. The remaining 61.7 acres of wetlands will be preserved.

2.0 DEVELOPMENT OF OFF-SITE ALTERNATIVES

The USACE has determined that the project purpose and need could be satisfied by a similar project elsewhere in western Placer County. Therefore, alternatives development identified other sites in western Placer County where such a project could reasonably be developed.

2.1 Potential Alternate Sites

2.1.1 Definition of Study Area

As a first step the study area for off-site alternatives was defined. Based on the project purpose as identified by the USACE, the geographic area examined for alternate sites was limited to western Placer County, which is defined as the area bound by Interstate 80 (I-80) and State Route 65 (SR 65) to the east, Sacramento County line to the south, and Sutter County line to the west and the north.

2.1.2 Size of the Alternate Site

Within the defined study area, the next task was to identify areas offering relatively large tracts of contiguous undeveloped or sparsely developed land, appropriate to support development of a large-scale, mixed-use regional residential community. To assist with the identification of the sites, a minimum site size was established by the USACE.

In order to meet the project purpose to create a "regional" residential community, the proposed project would develop a new town with a town center and public/quasi-public uses such as a government center, fire station, library, police station, and a cemetery. Based on data regarding large-scale master-planned communities that were approved in Placer County (jurisdictions of Roseville, Lincoln, Rocklin and unincorporated Placer County), the proposed project is the largest locally approved development, while the smallest approved large-scale development was 909 acres. However, the proposed project is the only example of a large-scale *regional* mixed-use residential project in western Placer County and is the only example of a project in the County that would establish a self-sufficient new town that includes not only residential and commercial land uses but also public and quasi-public land uses necessary to serve the town's population.

The USACE examined other projects proposed in the Central Valley with town centers (see **Table 1, Central Valley New Town Projects,** below). Of the three such projects that were identified, the smallest of the new town proposals with town centers and urban amenities was a community of 2,766 acres (1,119 hectares).

Table 1
Central Valley New Town Projects

Name	Acreage	Residential Population	Land Uses
Sutter Pointe	7,528	43,000	A new town with a mix of land uses, including employment centers, many different housing types, retail shopping villages, recreation amenities, schools, community services, supporting on-and off site infrastructure, roadway improvements, open space, and various public uses including a town center
Mountain House	4,784	46,818	A self-sufficient community with a mixed-use Town Center that provides for civic and community activities, in addition to residential and commercial uses.
University Community	2,766	31,000	A residential community (including a town center, schools, and other amenities) to support UC Merced.

Based on these examples, the smallest size for a mixed-use regional community/new town is approximately 2,766 acres, which is smaller than the size of the PVSP.

In view of the above, the minimum size of the alternate site would need to be about 2,700 acres. In addition, as noted earlier, although the PVSP encompasses 5,230 acres, approximately 970 acres are within the SPA, an area that is expected to remaining substantially in its current condition. Of the remaining 4,260 acres, approximately 698 acres would be placed in open space and about 3,562 acres will be developed. Based on this number, the USACE determined that the minimum

size of the alternative site to develop the Proposed Action is approximately 2,400 acres which is about two-thirds the size of the area proposed for development under the PVSP. This land area would need to be generally contiguous land that is undeveloped or sparsely developed.

2.1.3 Identification of Potential Alternative Sites

Next, the study area was examined to identify all lands that are known not to be available for development. These include the following types of lands:

1. Parcels that are either existing or proposed mitigation sites, mitigation banks, preserves, or otherwise protected from development.

2. Parcels that are proposed for development by other developers/entities for which there are active proposals either with the USACE or with the cities of Roseville or Lincoln, or with Placer County. These include the Sierra Vista SP site (including the Westbrook project site), the Creekview SP site, and the Fiddyment Ranch site.

3. Parcels for which information was available to the USACE that those parcels are not available for purchase.

Figure 1 shows all of the land areas that are known to not be available for purchase by the Applicants. The figure also shows areas that are available and are considered candidate areas for the development of the Proposed Action. These candidate areas are outlined in **Figure 2** and labeled as Site 1- Lincoln Village 4, Site 2- Lincoln Villages 5-6, Site 3- Placer Ranch-Northeast site, Site 4 - Northwest, and Site 5 - Southwest.

Figure 2 also shows another large area in the northwestern portion of the study area (west of Sites 1 and 2, and north of Site 4 in unincorporated Placer County) that is potentially available for development. This area was not considered a candidate area as it is distant from existing development in Placer County, and is not identified for development in any of the regional plans. Furthermore, this area is sparsely populated and is not served by existing or planned roadways. As a result, this area is unlikely to be able to support the commercial component of the Proposed Action, and would therefore not meet the project purpose and need. There are other small pockets of land shown on **Figure 2** that are potentially available for development. However, as the graphic shows, each of these areas is substantially less than the minimum acreage that is needed in order to develop a large-scale mixed-use regional residential community that meets the project's purpose and need.

Each of the five candidate areas/sites is described below.

Site 1: Lincoln Village 4

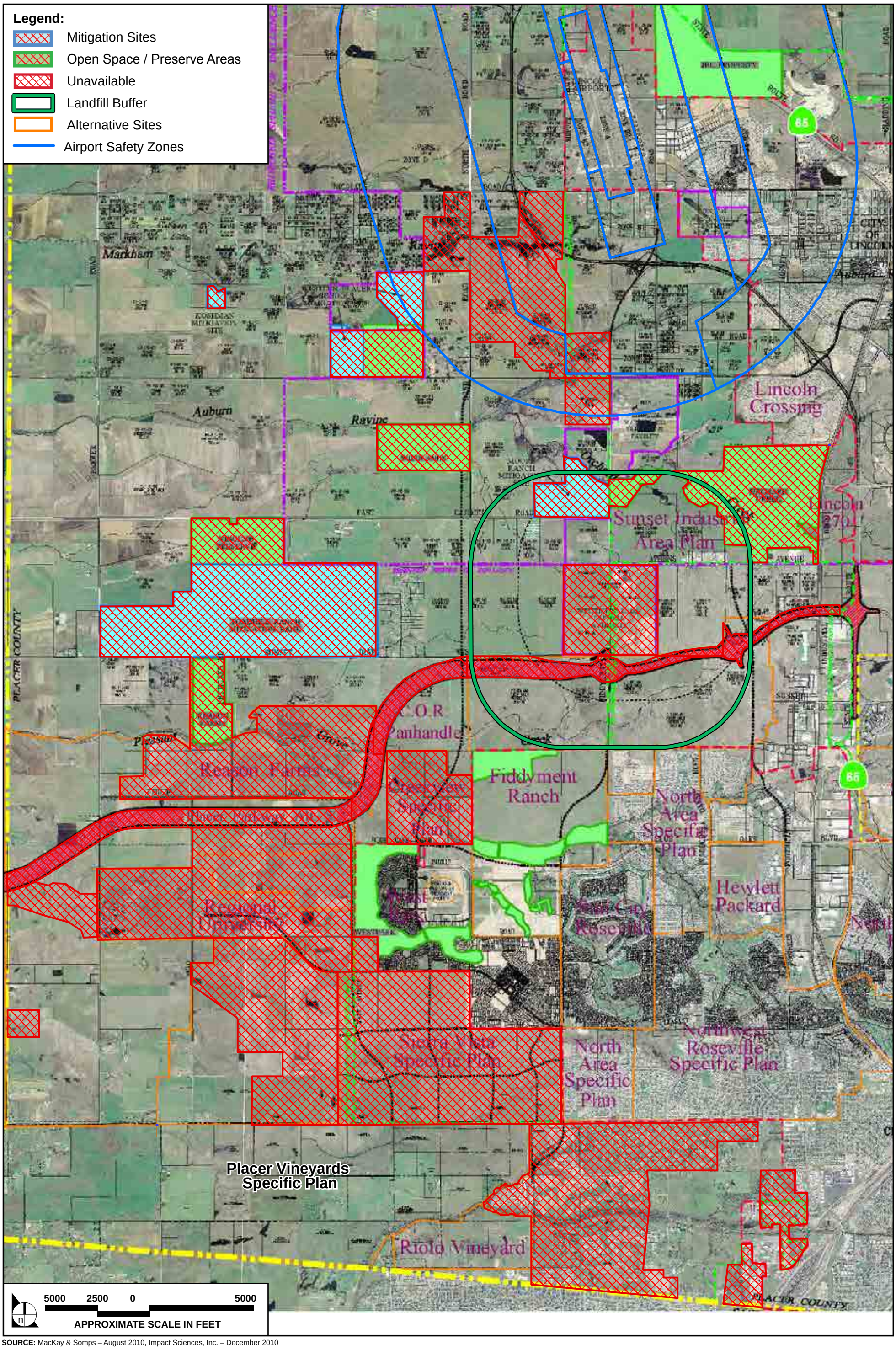
The Lincoln Village 4 site is one of several "village" areas designated in the City of Lincoln General Plan. It is located within the City of Lincoln's sphere of influence, immediately south of the Placer County–Sutter County boundary. The Lincoln General Plan calls for the area to be primarily residential. The Village 4 site comprises approximately 2,598 acres, including over 800 acres dedicated to wetland mitigation for impacts of the SR 65 Bypass Project. There are no active or dormant proposals at this time for the development of any portion of this site.

Site 2: Lincoln Villages 5-6

Site 2 is made up of a portion of Lincoln Village 5 and all of Lincoln Village 6. The total area of the site is approximately 3,025 acres. Both villages are designated in the Lincoln General Plan for development as a "suburban village." The site includes Auburn Ravine, Orchard Creek, and a buffer surrounding the City of Lincoln's Wastewater Treatment Plant and the Western Regional Sanitary Landfill. There are no active or dormant proposals at this time to develop any portion of this site.

Site 3: Placer Ranch SP-Northeast

This candidate site combines Placer Ranch SP site (2,250 acres) with lands to the west, including the Brookfield site (1,350 acres) and an approximately 584-acre area north of Reason Farms, for a total area of about 4,184 acres. The central portion of the site is within the County-defined Western Regional Landfill buffer area, within which development is restricted to non-residential uses. The site has previously been proposed for development of 6,793 residential dwelling units, 527 acres of business park and light industrial uses, 150 acres of office, 99 acres of commercial uses and a 300-acre branch campus for the California State University, Sacramento. A development application was submitted to the City of Roseville in 2007, but the project has been on hold since early 2008. The project is not approved at this time.



SOURCE: MacKay & Somps – August 2010, Impact Sciences, Inc. – December 2010

FIGURE **1**

Land Available for Off-Site Alternatives

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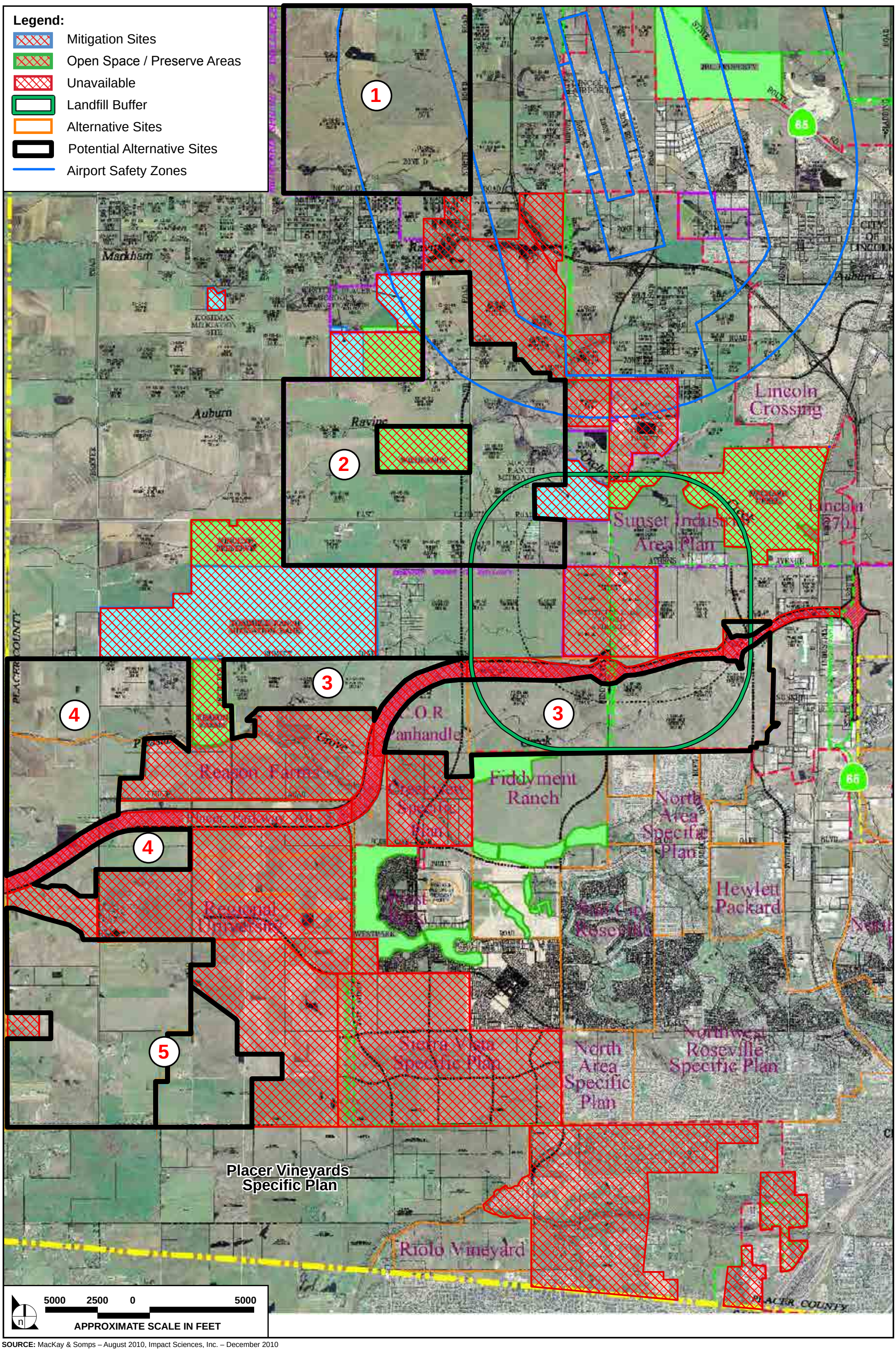

SOURCE: MacKay & Somps – August 2010, Impact Sciences, Inc. – December 2010

FIGURE **2**

Potential Alternative Sites

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The Brookfield portion of the site is located between the Placer Ranch SP area to the east and Reason Farms to the west. The future alignment of Placer Parkway cuts across the northwest portion of the Brookfield site, reducing the area available for development to about 1,300 acres. Previously there was a proposal to develop about 2,700 homes on this site, but that project is currently on hold.[2]

The western portion of Site 3 comprises approximately 584 acres bounded by Reason Farms to the west and south, by Sunset Boulevard to the north, and by the proposed Brookfield project site to the east. This site has not previously been proposed for development and there are no proposals at this time to develop it.

Site 4: Northwest Site

This is an approximately 2,416-acre site in unincorporated Placer County, bounded by Sunset Boulevard to the north, the Sutter County line to the west, the City of Roseville stormwater retention basin, and Reason Farms to the east, and Placer Parkway alignment to the south. This site has not previously been proposed for development and there are no proposals at this time to develop any portion of this site.

Site 5: Southwest Site

This is an approximately 2,400-acre site bounded by the extension of Sankey Road and the County-approved Regional University and Community SP Area to the north, the Sutter County line to the west, Baseline Road to the south, and the easterly portion of Curry Creek Community Plan area to the east. This site has not previously been proposed for development and there are no proposals at this time to develop any portion of this site.

2.2 Off-site Alternatives Screening

Screening of these five alternative sites was completed in two phases. In the first phase, the five potential sites identified above were evaluated under two criteria: (1) Biological Resource Sensitivity; and (2) Viability of Commercial Uses at Alternate Site. For each criterion, sites were evaluated as **Feasible**, **Conditionally Feasible**, or **Not Feasible**. Sites that received a Not Feasible rating for either criterion were eliminated from further consideration. Sites that remained in consideration following the first screening phase were then evaluated in a second screening phase under a third criterion, Feasibility of Acquiring Sufficient Acreage, which was rated on a binary basis (**Feasible** or **Not Feasible**). The following sections describe the two screening phases and the criteria in detail, and the results of the analysis.

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2 Pease, personal communication, May 27, 2010.

2.2.1 Phase 1 Screening Criteria and Results

The Phase 1 screening criteria for off-site alternatives were defined as follows.

- **Off-Site Alternative Criterion 1 – Biological Resources Sensitivity** evaluated the nature, extent, and quality of biological resources on the sites, with a particular focus on aquatic resources and special-status species. Sites with extensive, high-quality aquatic resources were rated as Not Feasible for this criterion unless those resources are already protected by conservation easements or other land use management mechanisms. Sites with substantial resources were rated as Conditionally Feasible. Sites with less extensive or more highly fragmented resources, and/or resources of lower quality, were rated as Feasible. Because detailed information (e.g., specific acreage of various sensitive habitat types) was not equally available for all of the potential alternate sites, evaluation under Criterion 1 was conducted in a generalized, non-quantitative manner, based on a reconnaissance-level evaluation of relative sensitivity.

- **Off-Site Alternative Criterion 2 – Viability of Commercial Uses at Alternative Site** evaluated the feasibility of developing the regional commercial component of the Proposed Action at the alternative site. An alternate site that includes a commercial center location with a population of at least 100,000 persons within 5 miles by 2040 would be considered Feasible under this criterion and a site with less than 100,000 persons within the 5-mile radius of the commercial center location by 2040 would be considered Infeasible. More information on how this criterion was developed and used is presented in **Appendix A**.

Table 1 shows the evaluation of the five potential sites under Criteria 1 and 2.

Table 1
Screening-Level Comparison of Potential Alternate Sites

Site	Criterion 1 Biological Resources Sensitivity	Criterion 2 Viability of Commercial Uses at Alternate Site
Lincoln Village 4 2,598 acres	This site is mostly open pasture with a large number of vernal pools/seasonal wetlands scattered over most of the property. Much of this area is in an existing vernal pool preserve and encumbered by a conservation easement. The wetlands are of high quality and are known to support listed vernal pool crustaceans. Trees are very sparse. The southern portion of the site contains a drainage that supports open water, marsh, and limited riparian habitat. Given the extensiveness and high quality of aquatic resources, as compared to the Proposed Action, the site is not feasible for further consideration. **Conclusion: Not Feasible**	The population data for the area surrounding this site has not been calculated as of June 13, 2011. Conservatively, the site is considered feasible with respect to this criterion. **Conclusion: Feasible**

Site	Criterion 1 Biological Resources Sensitivity	Criterion 2 Viability of Commercial Uses at Alternate Site
Lincoln Villages 5-6 3,025 acres	The majority of this site is rice lands but there are substantial areas of vernal pool grasslands. Vernal pool/seasonal wetlands are of moderate quality and listed crustaceans are likely. The wetlands are of moderate quality. Trees are abundant along Auburn Ravine, which flows through the northern portion. The most biologically valuable habitat is already protected within a conservation easement (Wildlands). The site would be feasible because the highest quality aquatic resources are already preserved and much of the remainder is in rice. **Conclusion: Feasible**	The population data for the area surrounding this site has not been calculated as of June 13, 2011. Conservatively, the site is considered feasible with respect to this criterion. **Conclusion: Feasible**
Placer Ranch - Northeast 3,056 acres	The Placer Ranch portion of the site is entirely annual grassland. It is mostly in a fallow state and there are very few structures or current uses. Vernal pools/seasonal wetlands are scattered throughout the site, more commonly associated with drainage ways. These are of moderate quality. Listed crustaceans are likely. There is almost no woody vegetation. A tributary (lacking riparian vegetation) to Pleasant Grove Creek flows through the site. The resources on this portion of the site are generally similar to the Proposed Action. The Brookfield portion of the site is entirely annual grassland. A wetland swale system arcs through the site from east to west, flowing out of an irrigated pasture. It is impounded, forming a narrow stock pond. The swale conveys irrigation runoff during the summer months. The property contains a considerable amount of vernal pools and seasonal wetlands, primarily associated with the drainage in the northern half and the clayey soils near the southern portion. These wetland habitats may support listed crustaceans. The western portion of the site is also primarily annual grassland with some areas of irrigated pasture. Vernal pools/seasonal wetlands are prevalent and scattered throughout most of the property. Most of the wetlands are of high quality and are relatively undisturbed. Listed crustaceans are known to occur in some areas of this site. Native trees occur along the drainages but are very sparse in the open areas. Pleasant Grove Creek flows through the southern portion of the site and supports an oak riparian woodland. This large grassland unit is less disturbed and the landform and its aquatic resources are of higher quality as compared to the Proposed Action. The site is therefore considered not feasible. **Conclusion: Not Feasible**	The population of the area within 5 mile radius of Placer Ranch (113,546 persons) is currently adequate to support one power center and two centers by 2040. However, a power center at this site is not considered feasible for a number of reasons. First, the Placer Ranch site is located within 5 miles of two highly developed established commercial areas in the Cities of Lincoln and Roseville where numerous power centers are already developed that would cut into the trade area of the Placer Ranch power center. Second, the Placer Parkway has yet to be developed. In the absence of a major thoroughfare, businesses within the power center(s) at the Placer Ranch -Northeast site would not receive any drive-by trips. Lastly, should a portion of the Placer Parkway be developed as part of the Placer Ranch alternative, power center businesses will choose to locate at its intersection/interchange with Route 65 than on the Placer Ranch-Northeast site because there will be more drive-by traffic and population to serve at that location. For all of these reasons, a power center would not be viable at this site until such time that additional residential uses establish to the west of the site. **Conclusion: Not Feasible**

Site	Criterion 1 Biological Resources Sensitivity	Criterion 2 Viability of Commercial Uses at Alternate Site
Northwest 2,416 acres	This site is approximately half rice lands. The remaining area is mostly dry pasture, including some that has been historically leveled but is currently fallow. The northeast portion of this site was in contour rice farmed but is currently fallow. Wetlands are forming behind the checks. The non-rice areas of this site (about half of the site) contain a high percentage of vernal pools/seasonal wetlands and wetland swales. Listed crustaceans are likely. Trees are confined to a few residences and the Pleasant Grove riparian corridor. The site would be feasible because aquatic resources are limited due to extensive agricultural land conversion and lack of a large natural resource component as compared to the Proposed Action site. **Conclusion: Conditionally Feasible**	The population within a 5-mile radius of the Northwest site was approximately 4,576 in 2009. This population is expected to increase to approximately 39,776 persons by 2025 and 41,327 persons by 2040, including the population associated with the Proposed Action. This population would at best support two grocery stores. It would not be large enough to support a power center within the Proposed Action's timeframe. **Conclusion: Not Feasible**
Southwest 2,400 acres	This site contains a high diversity of habitats and land uses. Rice lands, row crops, and various disking practices account for a variable landscape. There are numerous residences, including one with two water-ski lakes, which fragment the landscape. Fallow areas support a substantial amount of moderate quality vernal pool/seasonal wetlands. Listed crustaceans are likely. Trees are confined to residential areas and drainage ways. Curry Creek flows through the fallow and active contour rice in the northern area. The site would be feasible because the property is quite fragmented with variable land uses. The aquatic resources and watersheds are compromised compared to the Proposed Action site. **Conclusion: Conditionally Feasible**	The population within a 5-mile radius of the Southwest site was approximately 39,409 in 2009. This population is expected to increase to approximately 92,881 persons by 2025 and 106,236 persons by 2040, including the population associated with the Proposed Action. This population would be adequate to support a power center. **Conclusion: Feasible**

Table 2 below summarizes the results of the evaluation. "**F**" represents a rating of Feasible, "**C**" represents a rating of Conditionally Feasible, and "**N**" represents a rating of Not Feasible.

Table 2
Summary of Phase 1 Screening Evaluation of Alternate Sites

Site	Screening Criteria		Outcome
	1	2	
Site 1 - Lincoln Village 4	**N**	F	*Eliminated*
Site 2 - Lincoln Villages 5-6	F	F	Retained
Site 3 - Placer Ranch -Northeast	**N**	**N**	*Eliminated*
Site 4 - Northwest	C	**N**	*Eliminated*
Site 5 - Southwest	C	F	Retained

2.2.2 Phase 2 Screening Criteria and Results

The two sites that were not eliminated in Phase 1 screening were screened further using Criterion 3 which was defined as follows.

- **Off-site Alternative Criterion 3 – Feasibility of Acquiring Sufficient Acreage** evaluated the feasibility of acquiring title to the property through purchase, land exchange, or another mechanism. This was explored by the Applicants through direct landowner inquiries and independently verified by the USACE. Sites where sufficient contiguous acreage (approximately 2,400 acres, the minimum size to support a project like the PVSP) could not be acquired by the Applicants were eliminated from further consideration.

Site 2 - Lincoln Villages 5-6

Based on inquires made by the Applicants, there are approximately 1,676 acres of land available for purchase on the Lincoln Villages 5-6 site. This acreage is less than 2,400 acres which is the minimum acreage needed to develop a regional residential community similar to PVSP. Furthermore, as shown on **Figure 3**, the land available on the site is fragmented such that the development of a large-scale regional residential community would not be feasible**.** The parcels that make up the central portion of the site are unavailable for purchase by the Applicants, which leaves approximately 862 acres of available land in the northern portion of the site and approximately 813 acres of land in the southern portion of the site for development. Either area alone would not be of a sufficient size to accommodate a regional residential community.

Furthermore, the northern development area is fragmented by parcels of land not available for purchase and the Auburn Ravine floodplain, which further precludes development of a community in this area because the land would not be contiguous.

In addition, a substantial portion (300 acres) of the southern development area is within the 1-mile landfill buffer area of the Placer County landfill. Placer County General Plan policy prohibits the establishment of residential uses within this 1-mile buffer of the existing landfill and its approved expansion area; the policy allows the development of non-residential uses in this buffer zone. Considering the landfill buffer, only about 550 acres in the southern development area would be available for residential development. This would be substantially smaller than the approximately 1,200 – acre residential component proposed under the PVSP.

The commercial component of the proposed project comprises approximately 309 acres of land throughout the PVSP site. The commercial component of the PVSP could be developed within the 300-acre landfill buffer area on Site 2. However, the commercial component at this location would

not be viable because regional access to this commercial area would be compromised by existence of the landfill directly east of this area. Furthermore, the commercial area would not be located along a major regional roadway and therefore would not be able to draw customers from the broader region. In essence, a power center will likely not be viable at this location.

If conservatively, a land use plan were to be developed for all of the available land at this site, the various land uses could be distributed as shown in **Table 3,** below. Assuming no open space, the land use plan for this site would include approximately 1,100 acres of residential uses. Based on the average density from the PVSP, the alternative could accommodate about 15,477 residents. This population would not be large enough to constitute a self-sufficient town that would be provided a complete suite of community services.

Table 3
Summary of Land Uses on Alternative Sites

Land Uses	PVSP Area*	PVSP Percent of Total	Lincoln Villages 5-6	Southwest Site
Residential	2,383 acres	66%	1,100 acres	727 acres
Commercial Mixed Use	51 acres	1%	24 acres	16 acres
Commercial	258 acres	7%	119 acres	79 acres
Public Uses	397 acres	11%	183 acres	121 acres
Parks and Roads	542 acres	15%	250 acres	165 acres
Total**	3,631 acres	100%	1,676 acres	1,108 acres
Total Population at Buildout* **	**33,531 residents**		**15,477 residents**	**10,232 residents**

* *This acreage excludes the Special Planning Area but includes all of the NAPOTS. The totals are based on the PVSP numbers and are slightly different from the numbers reported elsewhere in this memorandum.*
** *Total excludes open space*
*** *Based on a density of 5.6 dwelling units per acre, and assumes 2.46 persons per household, based on the PVSP.*

For these reasons, the **Lincoln Villages 5-6** Alternative is not feasible under Criterion 3.

NOT TO SCALE

SOURCE: Impact Sciences, Inc., April 2013

FIGURE **3**

Land Potentially Available for Purchase on Lincoln Villages 5-6 Site

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Site 5 - Southwest

Based on enquires made by the Applicants, there are about 1,470 acres of land available for purchase on the Southwest site. This acreage is substantially less than the minimum acreage (2,400 acres) necessary to develop a regional residential community. Furthermore, a large-scale mixed-use residential development would not be feasible at this site for a number of reasons.

As shown on **Figure 4**, the land available on the site is fragmented such that the development on the available parcels would not be contiguous with other development. These isolated "islands" include the 80-acre parcel in the eastern portion of the site, several parcels on the northwest comprising 202 acres, and several parcels in the northeastern portion that comprise 80 acres. The total area of the noncontiguous parcels would be about 362 acres, which leaves approximately 1,108 acres[3] for development. This remaining area would be too small to accommodate a large-scale regional residential community.

The commercial land uses of the PVSP comprise approximately 309 acres and include Town Center Retail, Power Center Retail, and Neighborhood Center retail. These areas are designated at different locations along Baseline Road and the locations of the major commercial areas are spaced out to minimize competition among the on-site commercial uses. For this reason, the proposed locations for the Power Center and Neighborhood Commercial land uses are approximately 1 mile east of the proposed Town Center uses along Baseline Road. Under the Southwest Alternative, the commercial area would be approximately 94 acres, which would not be large enough to accommodate the range and scale of commercial uses proposed under the project. Even if a similar range of commercial uses were developed on the Southwest site, the commercial areas would need to be located on Baseline Road in order to provide the best access. Given the location of the available parcels on the Southwest site, the various commercial uses would be located almost adjacent to one another, as shown in **Figure 4**. The specialty retail stores in the Town Center would not be economically viable if they were to compete against big box stores located in the power center less than 0.5 mile away.

If conservatively a land use plan were to be developed for this site, assuming no open space, the various land uses would be distributed according to **Table 3** above. As shown, using the PVSP as a guide, approximately 727 acres of the site would be designated for residential uses. Based on the average density of the PVSP, the alternative could accommodate about 10,232 people. This

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3 This total includes a non-contiguous area in the western portion of the site. The island was included because it is located on Baseline Road so it would be accessible from other locations on the site.

population is not large enough to constitute a self-sufficient town that would be provided with a complete suite of community services.

Table 4 below summarizes the results of screening using Criterion 3.

Table 4
Summary of Phase 2 Screening Evaluation of Alternate Sites

Site	Criterion 3 Feasibility of Acquiring Sufficient Acreage	Outcome
Site 2 - Lincoln Villages 5-6	**N**	*Eliminated*
Site 5 - Southwest Site	**N**	*Eliminated*

2.3 Conclusion with Respect to Off-site Alternatives

Based on the screening process presented in this memorandum, the USACE has determined that none of the off-site alternatives is feasible and no off-site alternatives will be carried forward for the EIS analysis.

3.0 DEVELOPMENT OF ON-SITE ALTERNATIVES

This section presents the USACE process for selecting a reasonable range of on-site alternatives for further evaluation in the EIS. As a first step, the USACE considered alternatives that were developed by Placer County for the PVSP EIR and the alternatives included in the Section 404(b)(1) Alternatives Analysis prepared by the Applicants and evaluated whether they would meet the purpose and need for the Proposed Action. Having determined that none of those alternatives were feasible, the USACE conducted an analysis to identify areas on the project site where avoidance of wetlands would be most beneficial. Based on this analysis, the USACE developed additional on-site alternatives that would focus avoidance of wetlands in several locations on the project site.

NOT TO SCALE

C = Commercial R = Residential

SOURCE: Impact Sciences, Inc., April 2013

FIGURE **4**

Land Potentially Available for Purchase on Southwest Site

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3.1 Consideration and Evaluation of EIR and Section 404(b)(1) Alternatives

3.1.1 PVSP EIR Alternatives

- A total of six on-site alternatives, including five alternate development plans and a No Project (no development) alternative, were analyzed in the PVSP EIR (County of Placer 2007). The USACE determined that with the exception of the Blueprint alternative, none of the EIR alternatives are feasible alternatives for inclusion in the EIS for the following reasons. The EIR evaluated a No Project alternative, which involves no development of the PVSP area. The USACE found that this alternative would not meet the project's purpose and need because it would not provide for development of a large-scale residential mixed-use residential community. Therefore, the USACE concluded the No Project alternative is not feasible and will not be carried forward for evaluation in the EIS. (Note that the No Project alternative means that no development would occur on the project site whereas a No Action alternative considers a project constructed without triggering a Department of the Army permit (e.g., without the discharge of dredged or fill material into a water of the U.S.). The No Action alternative will be evaluated in the EIS, as required by NEPA.)

- The EIR evaluated a Rural Density alternative that would develop the PVSP area with about 500 single-family homes. The alternative would not meet the project's purpose and need as a development with about 500 single-family homes would not be considered a large-scale, regional, mixed-use residential community. Therefore, the USACE concluded this alternative is not feasible and will not be carried forward for evaluation in the EIS.

- The EIR evaluated a Redesigned Project alternative, which would place the Town Center towards center of the Specific Plan area, provide for rural buffers, and alter the roadway design. That alternative is no longer relevant because the Proposed Action now includes these features.

- The EIR evaluated a Reduced Density alternative which identified additional areas for avoidance and preservation in the Specific Plan area. Subsequent evaluation of the project site wetland resources (see more information on the California Rapid Assessment Method (CRAM) analysis below) revealed that some of the areas that were identified for avoidance under the Reduced Density alternative in fact do not contain higher-value wetland resources. With respect to other areas identified for avoidance under the Reduced Density alternative, the alternative has been superseded by alternatives proposed by the USACE that avoid or preserve these higher-value wetland resources. Therefore, the USACE concluded this alternative will not be carried forward for evaluation in the EIS.

- The Expanded Phase I alternative is no longer relevant because Placer County eliminated Phase I from the PVSP.

At the request of the Applicants, the USACE has agreed to include the Blueprint alternative as an additional scenario/variation of the Proposed Action in the EIS. As that alternative is already included in the EIS, this alternative was not carried forward for screening.

3.1.2 Applicants' 404(b)(1) Alternatives

The USACE also reviewed the on-site alternatives put forth by the Applicants in their Section 404(b)(1) alternatives analysis for the proposed project dated August 2008. The Applicants' 404(b)(1) alternatives analysis is on file with the USACE.

Seven alternatives (Alternatives A through G) were identified by the Applicants, including two alternatives that were identified based on consultation with the United States Environmental Protection Agency (USEPA). The seven alternatives include:

- **Alternative A**, which would develop the PVSP site in a manner that would preserve listed aquatic invertebrate habitat with a 250-foot buffer;
- **Alternative B,** which would develop the PVSP site while preserving aquatic invertebrate habitat predominantly in western and northeastern portions of project site;
- **Alternative C,** which would develop the PVSP site in a manner that avoids 85 percent of vernal pool resources;
- **Alternative D**, which would develop the PVSP site in a manner that avoids all development activities in jurisdictional waters of the U.S.;
- **Alternative E,** which would involve no development of the project site;
- **Alternative F,** which would develop the PVSP site in a manner that focuses avoidance of impacts to aquatic resources located predominantly in the western and northeastern portions of the site; and
- **Alternative G,** which consists of the development of the PVSP site in a manner that avoids impacts to aquatic resources located predominantly in the southern and northeastern portions of the project site.

Based on a preliminary review of these alternatives, the USACE eliminated **Alternative E,** No Development, because a "no-development" alternative would not meet the Proposed Action's basic purpose and need. In addition, because NEPA mandates the evaluation of a No Action alternative, **Alternative D** (which is the No Action alternative) will be carried forward into the EIS and therefore was not put through the screening process.

Alternatives **F** and **G** were included in the Applicants' 404(b)(1) alternatives analysis by the Applicants in response to USEPA comments on the NOI. However, these alternatives substantially reduce the acreage available for development on the site and do not consider the variable condition of aquatic resources on the site. The USACE, in consultation with USEPA, replaced Alternatives F and G with the focused avoidance alternatives (See Alternatives 1 through 5 in **Subsection 3.3**

below). These alternatives, like Alternatives F and G, reduce the project footprint, and increase the preserve area, but unlike Alternatives F and G, these alternatives focus preservation on locations with higher densities of aquatic resources, and on aquatic resources of greater quality relative to the aquatic resources on the site as whole, as measured by the CRAM analysis (see PVSP Draft EIS Appendix 2.0). These alternatives are an improvement over Alternatives F and G because they were developed based on consideration of the value of specific wetland complexes. This information was not available when Alternatives F and G were first proposed by the Applicants.

Therefore, three of the seven alternatives put forth in Applicants' 404(b)(1) alternatives submittal were carried forward for screening. The three alternatives included: Alternative A, which would preserve listed aquatic invertebrate habitat with a 250-foot (76-meter) buffer; Alternative B, which would preserve aquatic invertebrate habitat predominantly in western and northeastern portions of the project site; and Alternative C, which would avoid 85 percent of vernal pool resources on the PVSP site.

3.2 On-Site Alternatives Screening and Results

Screening of the three potential on-site alternatives was completed based on criteria derived from the project purpose and need and the ability of an alternative to avoid or reduce the impacts of the proposed project on wetland resources. For each criterion used in screening, alternatives were evaluated as **Feasible, Conditionally Feasible,** or **Not Feasible**. Alternatives that received a Not Feasible rating for any criterion were eliminated from further consideration.

In order to meet the project purpose to create a "regional" residential community, the proposed project would develop a new town with a town center and public/quasi-public uses such as a government center, fire station, library, police station, and a cemetery. Following basic planning principles, a residential community should also have access to neighborhood retail and commercial uses, and schools should be located in reasonable proximity to homes. The phrase, "functionally integrated manner master planned community" is used to describe the manner in which the residential community would function.

In order to meet the basic principle for a "regional" residential community, the proposed project provide sites for developing both a viable town center with specialty retailers and power centers for large-box retailers. As explained in **Appendix A,** the economic viability of the community depends on feasible commercial uses. Therefore, the USACE determined that to prevent competition between retailers, the project should provide for a minimum of 1 mile between feasible commercial sites.

In addition, based on data regarding large-scale master-planned communities, the USACE determined that the minimum size of the alternative site to develop a large scale, regional, mixed-use community is approximately 2,400 acres (**Subsection 2.1.2)**.

Based on the above, the following criterion was developed:

- **On-site Alternatives Criterion 1 – Functionally Integrated Mixed-Use Residential Project** - the ability for an alternative to develop a functionally integrated, large-scale, regional mixed-use residential community. This means that the alternative would need to meet basic planning principles for developing residential uses that are supported by and accessible to neighborhood retail, commercial, and public/quasi-public land uses, and that these uses would need to be reasonably contiguous to provide a sense of community. In order to meet the basic project purpose which is to develop a "regional" residential community, the alternative would need to provide sites for developing viable commercial uses, including a power center and a town center for specialty retailers. In addition, the residential community should be of a sufficient size to support a town center and other public/quasi-public uses. The size of the developed area would need to be approximately 2,400 acres at a minimum.

Each alternative was also examined as to whether its impacts on on-site wetlands would be greater or less than the wetland impacts of the Proposed Action. In addition, based on general conservation principles that preservation should occur in a contiguous manner to avoid fragmenting habitat and avoid secondary (indirect) impacts associated with fragmented habitat, each alternative was evaluated for the manner in which it would preserve on-site resources. Based on these concepts, Criterion 2 was developed as follows:

- **On-site Alternatives Criterion 2 – Aquatic Resources.** Alternatives that would result in fewer direct and indirect impacts on aquatic resources when compared to the Proposed Action and would preserve contiguous areas of habitat were considered Feasible. Alternatives that would have greater direct and indirect effects on aquatic resources than the Proposed Action or would result in a fragmented pattern of preservation were rated as Not Feasible.

The results of the evaluation relative to these two criteria are summarized below by alternative.

3.2.1 Alternative A – Vernal Pool Habitat and Preservation Alternative

Alternative A is designed so that listed aquatic invertebrate (fairy and/or tadpole shrimp) habitat is preserved with a 250-foot buffer. Due to the reduced area available for development (1,740 acres) as compared to the Proposed Action, this alternative would develop 6,431 units (compared to 13,731 units under the Proposed Action). Development on the PVSP site under this alternative would occur in a highly fragmented pattern as shown in **Figure 5**.

Alternative A would provide for only about half of the residential units included in the Proposed Action and would eliminate development of about half of the overall project developable acreage. As a result of the reduced number of residential units and the reduced acreage, public/quasi-public facilities would not be part of this alternative. The configuration of Alternative A would preclude development on many of the parcels because the developable areas on each of the parcels would be substantially reduced and fragmented. Consequently, the residential community would consist of disconnected and fragmented pockets of development. Because of the disconnected nature of the development, developable acreage well below 2,400 acres, and the loss of public/quasi-public facilities, Alternative A would not result in a large scale, mixed-use functionally integrated community. For these reasons, Alternative A is rated **Not Feasible** under Criterion 1.

Alternative A would result in the filling of 43.35 acres of wetlands, which is less than the approximately 115 acres that would be filled on site under the Proposed Action. The alternative would preserve 116.32 acres of wetlands (although it would indirectly impact 15.04 acres of 116.32 acres of avoided wetlands). However, as shown in **Figure 5**, the alternative would preserve the resources in fragmented, non-contiguous patches throughout the site. Alternative A would therefore be considered **Not Feasible** with respect to Criterion 2.

3.2.2 Alternative B – Minimization Alternative

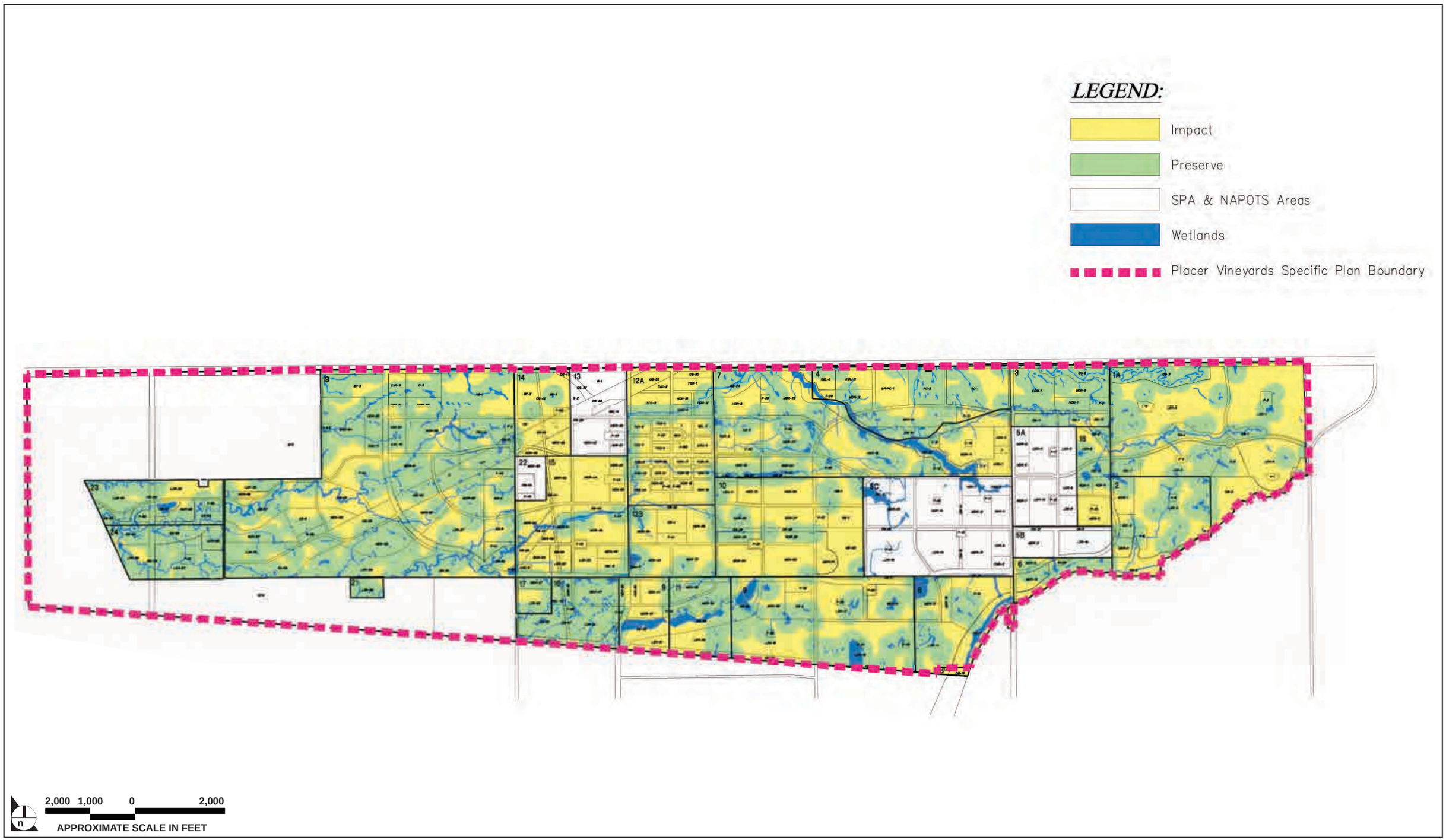
Alternative B would further avoid and minimize of impacts to aquatic resources, in comparison to the Proposed Action by preserving large areas in the northeastern, western, and southwestern portion of the site as open space. As shown in **Figure 6,** Alternative B would concentrate development in the central, southern, and eastern portions of the PVSP site and substantially reduce the developable area fronting on Baseline Road. As a result, about 1,736 acres of the PVSP site would be developed under this alternative. Based on the 1,736-acre estimate, Alternative B would develop 6,416 residential units (compared to 13,721 units under the Proposed Action).

While there would be large contiguous developable areas under this alternative, and these areas could be developed with the land uses required for a functionally integrated community, however, under this alternative, the total development area would be substantially less than 2,400 acres and there would be only a limited amount of developable land available along Baseline Road that could be developed with commercial uses (one or more power centers). As a result the Town Center would need to be located at a site that is further in the interior of the project site, distant from major arterials, and at an adequate distance from the power center. This would reduce the economic viability of the Town Center. Therefore, Alternative B is **Not Feasible** with respect to Criterion 1.

Alternative B would result in the filling of about 67.50 acres of wetlands and would avoid or preserve about 92.17 acres of wetlands (there would be indirect impacts to 20.62 acres of avoided wetlands). Since the avoided area is concentrated in the northwestern and western portion of the project site, the alternative would have contiguous preserved areas of drainages and wetlands. Therefore, Alternative B is **Feasible** with respect to Criterion 2.

3.2.3 Alternative C – 85 Percent Avoidance Alternative

Alternative C consists of 85 percent avoidance of "vernal pool" resources within the project site which are defined to include vernal pools, seasonal wetlands, drainage swales, and seasonal wetland swales. As shown in **Figure 7**, development under this alternative would be limited to one consolidated and contiguous area of about 1,173 acres in the center of the PVSP site. Based on the 1,173-acre estimate, Alternative C would develop approximately 4,335 residential units (compared to 13,721 units under the Proposed Action). There would be insufficient developable acreage for the development of employment generating uses and the developable area fronting on Baseline Road would be substantially reduced.



SOURCE: MacKay & Somps, 2008

FIGURE 5

Alternative A – Vernal Pool Habitat and Preservation Alternative

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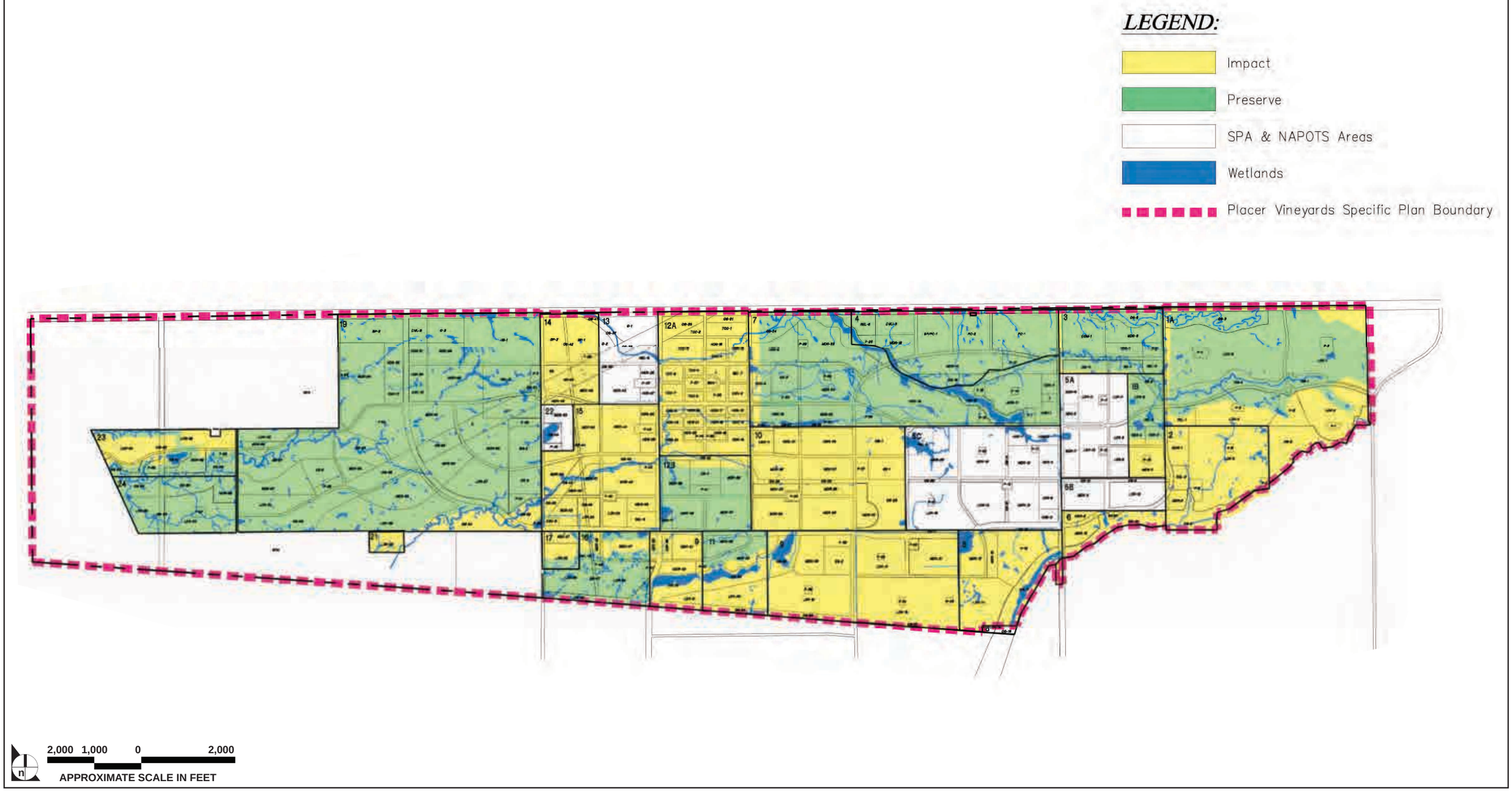

SOURCE: MacKay & Somps, 2008

FIGURE **6**

Alternative B – Minimization Alternative

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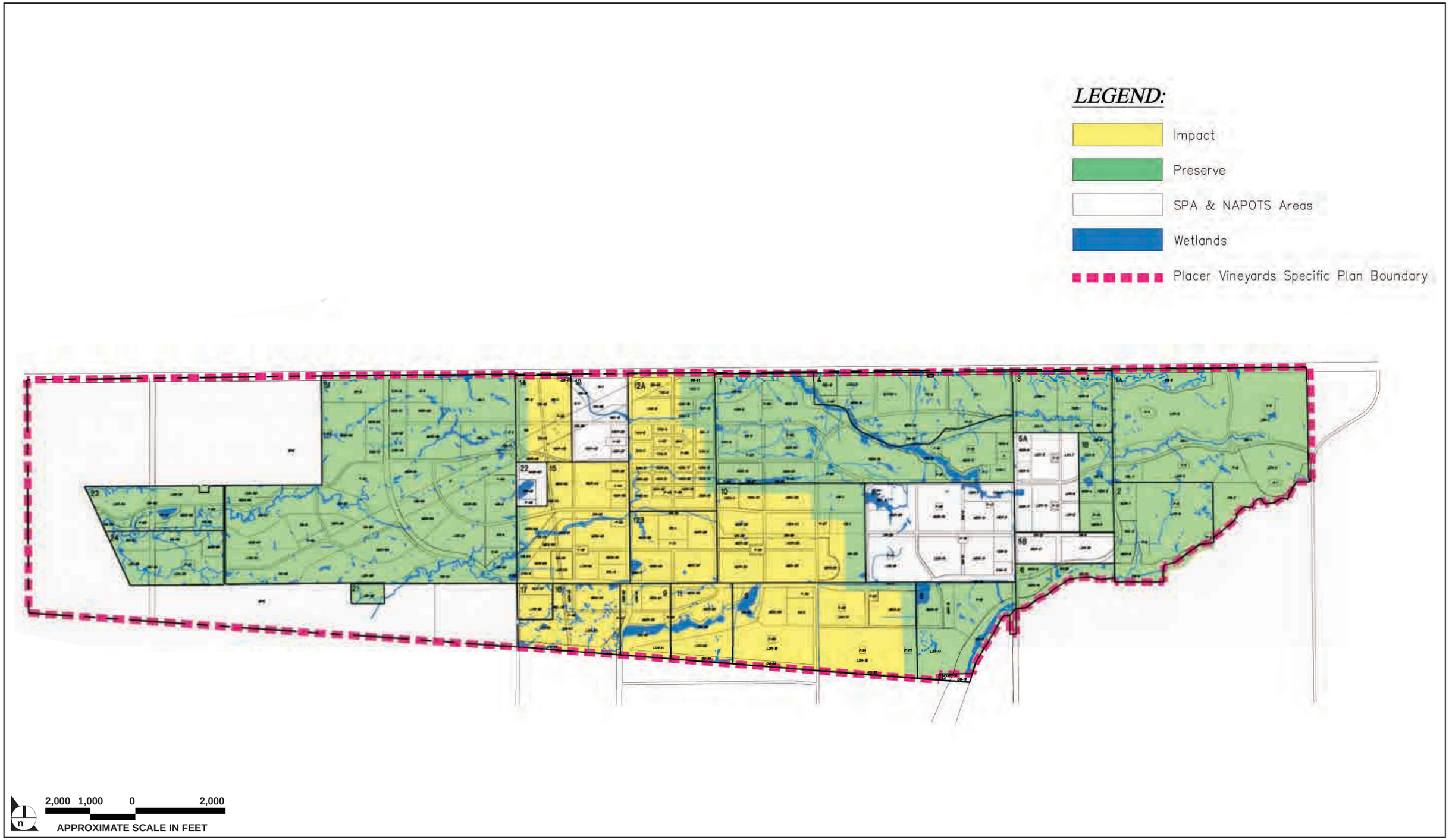

SOURCE: MacKay & Somps, 2008

FIGURE 7

Alternative C – 85 Percent Avoidance Alternative

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The developable area under Alternative C would be contiguous and would provide for a functionally integrated but substantially reduced project (1,173 acres which is substantially less than 2,400 acres). In addition, as with Alternative B above, under this alternative, only a limited amount of developable land is available along Baseline Road which would be occupied by the commercial uses, forcing the Town Center to be located at a site that is further in the interior of the project site and distant from major arterials. This would reduce the economic viability of the Town Center. Therefore, Alternative B is **Not Feasible** with respect to Criterion 1.

Alternative C would result in the filling of approximately 44.22 acres of wetlands and the avoidance or preservation of about 96 acres of wetlands (there would be indirect impacts to 19.03 acres of the avoided wetlands). Since the preserved areas would be contiguous to one another, and the total acreage preserved is greater than the Proposed Action, Alternative C would be **Feasible** with respect to Criterion 2.

Table 5
Summary of 404(b)(1) On-site Alternatives

Alternative	Developable Area (Acres)	Units	Population*** (residents)	Aquatic Impacts (Acres of Fill)
Proposed Action*	3,631**	13,721	33,531	115
Alternative A - Vernal Pool Habitat and Preservation Alternative	1,740	6,431	15,820	43.35
Alternative B - Minimization Alternative	1,736	6,416	15,784	67.5
Alternative C – 85 Percent Avoidance Alternative	1,173	4,335	10,665	44.22

* *Proposed Action in this table refers to the PVSP site excluding the Special Planning Area.*
** *Number excludes open space*
*** *Assumes 66% residential acres, 5.6 dwelling units per acre, and assumes 2.46 persons per household.*

Table 6 summarizes the results of this analysis. All three alternatives that were eliminated based on the screening.

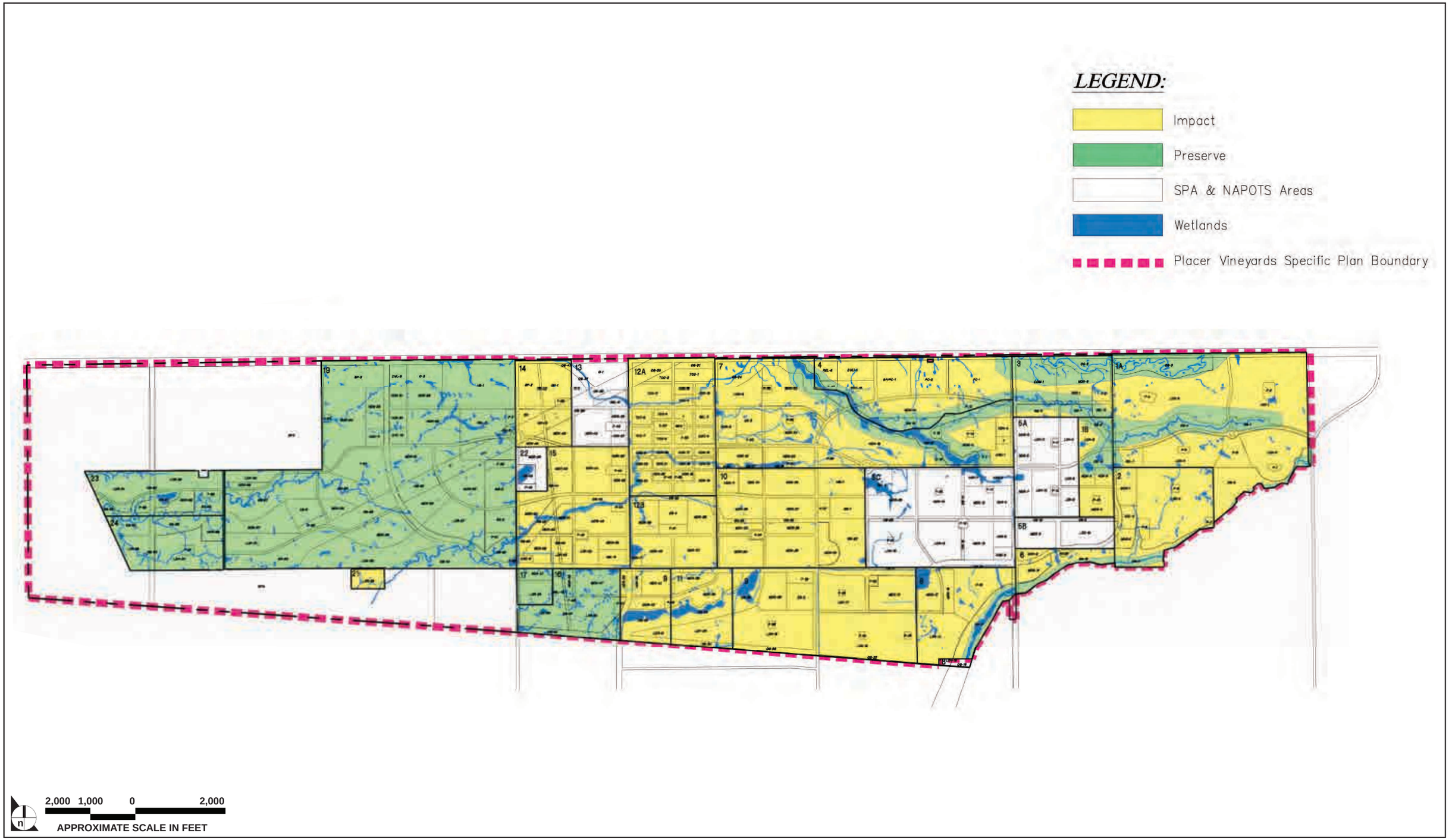
Table 6
Summary of Screening Evaluation of On-Site Alternatives

Site	Criterion 1 Functionally – Integrated Community	Criterion 2 Aquatic Resources	Outcome
Alternative A - Vernal Pool Habitat and Preservation Alternative	Not Feasible	Not Feasible	*Eliminated*
Alternative B - Minimization Alternative	Not Feasible	Feasible	*Eliminated*
Alternative C - 85% Avoidance Alternative	Not Feasible	Feasible	*Eliminated*

3.3 Development of New On-site Alternatives

Although some of the alternatives identified above would avoid more aquatic impacts as compared to the Proposed Action, the USACE determined that none of them were feasible based on the screening criteria discussed above and that additional on-site alternatives should be developed that would avoid or minimize impacts to aquatic resources in those portions of the project site where the resource is most valuable. In addition, the USACE determined that additional alternatives should be identified that may be considered practicable in accordance with Section 404(b)(1).

As a first step, the USACE examined Alternative F and Alternative G developed by the Applicants in response to comments from the USEPA. These alternatives would focus avoidance of impacts to aquatic resources in large areas of the project site while leaving the rest of the site available for contiguous development (see **Figures 8** and **9**). However, both alternatives substantially reduce the acreage available for development on the site and do not consider the variable condition of the aquatic resources on the PVSP site. Therefore, rather than carrying these alternatives forth, the USACE conducted a California Rapid Assessment Method (CRAM) analysis of the wetland resources on the PVSP site to identify areas where avoidance of wetlands would be most beneficial. Based on the results of the CRAM analysis, the USACE determined that most of the areas on the project site where higher quality wetlands are present would be protected from development under the Proposed Action because those wetlands are located within the areas identified as open space in the PVSP and therefore will not be filled. The USACE however identified four areas on the project site where the potential for further avoidance of wetlands should be evaluated. The potential avoidance sites are termed "study areas" in this memorandum and are shown as SA-1 through SA-4 on **Figure 10**. A series of focused avoidance alternatives was defined which included the development of the rest of the project site per the PVSP and additional avoidance of aquatic resources on five properties that make up the four study areas.



SOURCE: MacKay & Somps, 2008

FIGURE **8**

Alternative F – Focused Avoidance Alternative

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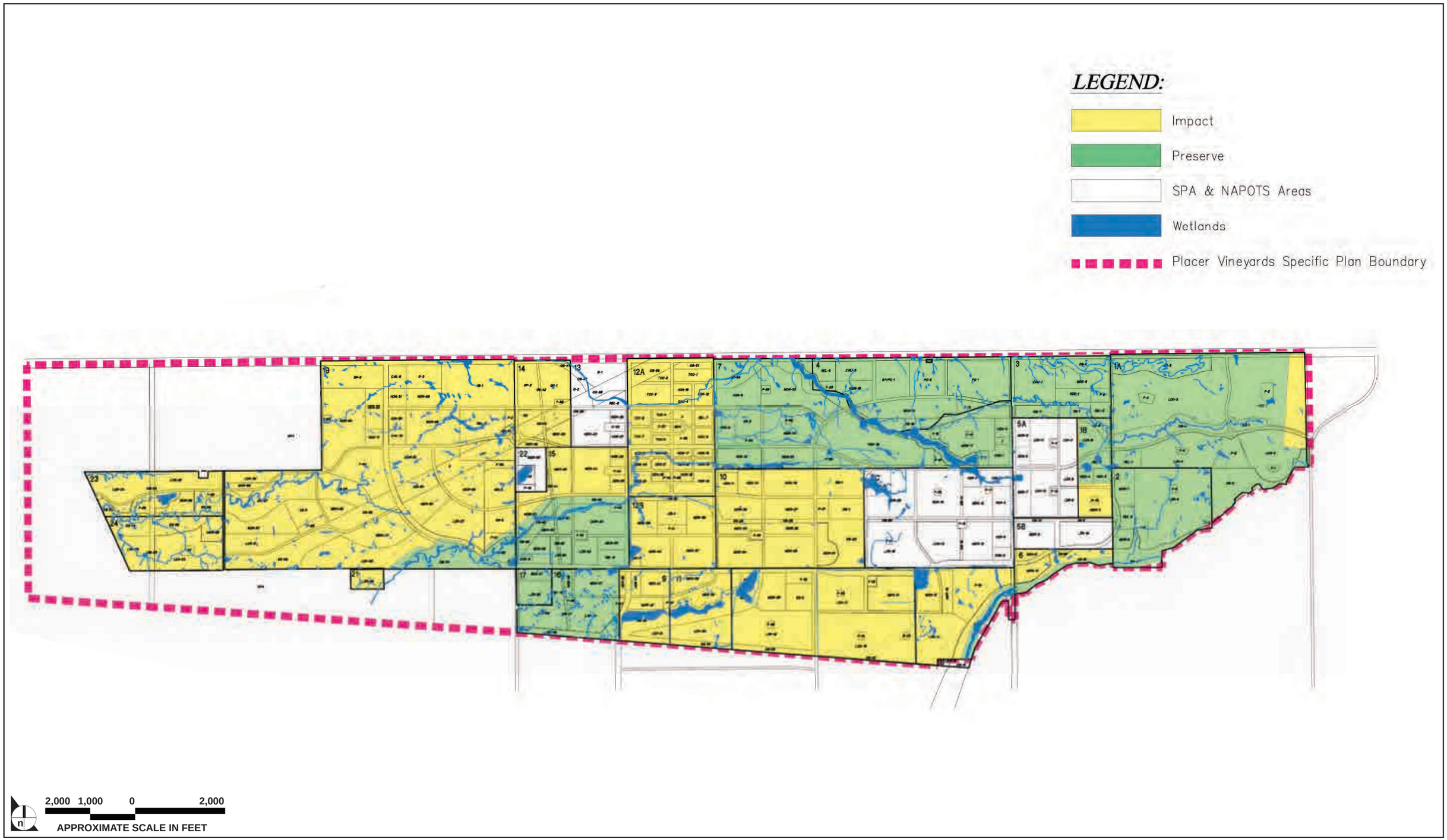

SOURCE: MacKay & Somps, 2008

FIGURE **9**

Alternative G – Focused Avoidance Alternative

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NOT TO SCALE

SOURCE: Impact Sciences, Inc., April 2013

FIGURE **10**

Avoidance Study Areas

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Applying the criteria from the screening process described above, the Focused Avoidance Alternatives would preserve only a limited additional area on the project site in open space when compared to the Proposed Action leaving more than 2,400 acres for development, and would allow for contiguous development of a mixed-use regional residential community. In addition, the Focused Avoidance Alternatives would avoid areas on the project site that contain high-functioning aquatic resources, based on the results of the CRAM analysis. The alternatives would avoid more impacts to aquatic resources when compared with the Proposed Action and the additional preserved areas would be contiguous with other preserved areas. For these reasons, the USACE determined that the Focused Avoidance Alternatives would be feasible with respect to the On-site Alternatives screening criteria 1 and 2.

3.4 Conclusion with respect to On-Site Alternatives

The Focused Avoidance Alternatives represent additional opportunities for further avoidance compared to the Proposed Action and they would avoid impacts to aquatic resources where the avoidance would be most beneficial. These alternatives reflect the latest iteration of on-site alternatives developed by the USACE and supersede previously considered alternatives. Based on the above, in addition to the Proposed Action, the following alternatives will be carried forth in the EIS for further evaluation:

- Focused Avoidance Alternatives 1 through 5
- No Action Alternative

APPENDIX A - COMMERCIAL COMPONENT/POWER CENTER ANALYSIS

The project purpose is to implement a large-scale mixed use, regional residential community. The types of commercial uses included in the Proposed Action range from neighborhood commercial uses such as grocery stores, to community commercial uses, including "power centers." The commercial component of the large-scale, mixed-use regional residential community is important and necessary so that the County has sufficient tax revenues to provide services to the project. A large-scale residential-only development would not be fiscally sustainable because the tax revenue from property taxes alone would be insufficient to provide the needed County services (Hausrath 2006). This is especially the case for the project site and its vicinity in western Placer County where a high proportion of the property tax revenues go to the local school district and the County share is small. In addition, there are no nearby existing retail centers to serve the Placer Vineyards area, so early development of a commercial center is important from a service standpoint as well as for fiscal reasons. In view of the importance of the regional commercial component to the fiscal viability of a mixed use, large-scale development, the USACE determined that viability of the regional commercial uses at the five alternate sites should be evaluated. To do this, the regional commercial component of the Proposed Action was examined to identify its minimum locational requirements for success.

The Proposed Action includes acreage along Baseline Road that is designated for regional commercial/community commercial uses, including power centers. It is anticipated that at least one and up to two power centers could be developed along Baseline Road under the Proposed Action. For purposes of screening alternative sites, it was determined by the USACE that the alternative sites should be evaluated for their feasibility to support at least one power center.

A typical power center is defined as a center dominated by several large anchors, including discount department stores, off-price stores, warehouse clubs, or "category killers," i.e., stores that offer tremendous selection in a particular merchandise category at low prices (ICSC 1999). A power center occupies at least 50 acres although some centers can be larger. The success of businesses in a power center depends on several factors but the minimum requirements are the availability of a minimum number of dwelling units or a minimum population within a reasonable distance of the power center, availability of good access, and the absence of other competing power centers. Trade area data for big box retail stores that anchor power centers indicates that for a discount department store with 100,000 to 120,000 square feet of space to be successful, there should be a population of at least 100,000 persons within a 5-mile radius or less of the location of the store and that there should be no existing competitors currently serving the vast majority of this population. For big box retail stores involving specialty goods such as electronics (i.e., a category killer), the

trade area for a 36,000-square-foot store must contain a population of at least 200,000 persons. A big box home improvement store must have a population of 75,000 to 100,000 residents within a 5-mile radius to be viable. Based on these data and considering the fact that the buildout of the Proposed Action is projected by 2030 under an aggressive growth scenario or by 2040 under a slower growth scenario, the following criterion was used to evaluate the alternate sites.

- **Criterion 2 – Viability of Commercial Uses at Alternative Site** which is the feasibility of developing the regional commercial component of the Proposed Action at the alternative site. An alternate site that includes a commercial center (power center) location with at least 100,000 persons within 5 miles by 2040 would be considered Feasible under this criterion and a site with less than 100,000 persons within the 5-mile radius of the commercial center (power center) location by 2040 would be considered Infeasible.

To evaluate the alternative sites relative to this criterion, as a first step, potential power center locations within each alternative site were identified. The identified locations were typically at a major intersection or along a major existing or future roadway. Where no roadways currently exist or are planned, the power center site was selected in that portion of the alternative site that was closest to the existing regional population.

Next using these power center sites as the center, an area within a 5-mile radius was defined and the existing and projected population within this area was estimated. The projected population was estimated using the average annual Placer County growth rate of 3.28 percent per year derived from SACOG projections.[4] **Table A, Population within 5-Mile Radius of Alternative Site Power Centers,** presents the existing and projected populations within 5 miles of the potential power center sites.

4 All of the off-site alternatives are in unincorporated Placer County and therefore the average population growth rate for the county was used to develop projections.

Table A
Population within 5-Mile Radius of Alternative Site Power Centers

Alternative Site	2009 Population	2040 Population	2040 Population plus Project
Lincoln Village 4	Not calculated	Not calculated	Not calculated
Lincoln Villages 5- 6	17,471	35,227	68,027
Placer Ranch-Northeast	113,546	211,585	244,385
Northwest	4,576	8,527	41,327
Southwest	39,409	73,436	106,236
Proposed Action*	89,636	180,735	210,735

* *Based on population for the Curry Creek Specific Plan site, which is located west of the best location for retail on the project site. These estimates are expected to underestimate the population surrounding the Proposed Action, and are therefore conservative for this analysis.*

Sites that would have a population of 100,000 persons or more within a 5-mile radius within the timeframe of the Proposed Action would be capable of supporting a power center, provided other competing power centers do not cut into the trade areas of these sites. As the table shows, two of the five sites would have adequate population in the surrounding area to support a power center.

DRAFT

California Rapid Assessment Method Assessment

For

Placer Vineyards

Placer County, California

15 March 2010

Prepared For:
Placer Vineyards Property Owners Group

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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1.0 INTRODUCTION

At the request of the Placer Vineyards Property Owners Group, ECORP Consulting, Inc. (ECORP) conducted a California Rapid Assessment Method (CRAM) assessment of the wetlands within the 5,230±-acre Placer Vineyards Specific Plan site in Placer County, California. The Placer Vineyards site is located in unincorporated southwestern Placer County, approximately 15 miles north of Sacramento. The Project area is bounded on the north by Baseline Road, on the south by the Sacramento/Placer County line, on the west by the Sutter/Placer County line, and Pleasant Grove Road, and on the east by Dry Creek and Walerga Road (Figure 1. *Placer Vineyards - Project Site and Vicinity*). East to west, the Project area spans approximately six miles. North to south, at its widest point, it spans approximately two miles. The Project site coincides with portions of Township 10 North, Range 4 East, Section 1, Township 10 North, Range 5 East, Sections 1-12, and Township 10 North, Range 6 East, Sections 6-10 of the "Citrus Heights, CA," "Rio Linda, CA," "Pleasant Grove, CA," and "Roseville, CA" 7.5-minute quadrangles (U.S. Department of the Interior, Geological Survey, photo revised 1992, 1981, 1992, and 1992, respectively). Coordinates for the approximate center of the Project site are 38° 45' 00" N and 121° 24' 30" W, and it is within the Lower American River Watershed (#18020111, U.S. Department of Interior, Geological Survey 1978). There are 23 separate parcels under different ownership that are part of the larger Placer Vineyards project (see Figure 1).

The purpose of the assessment is to document current wetland conditions prior to project implementation and to compare relative values of wetlands across the property. Wetlands were assessed using the latest versions of the CRAM User's Manual, Version 5.0.2 (Collins *et al.* 2008a) (User's Manual), CRAM for Wetlands, Vernal Pool Systems Field Book, Version 5.0.2 (Collins *et al.* 2008b) (CRAM VP Systems Field Book), and CRAM for Wetlands, Perennial Depressional Wetlands Field Book, Version 5.0.2 (Collins *et al.* 2008c) (CRAM Depressional Field Book).

2.0 METHODS

2.1 CRAM Methodology

The CRAM methodology assesses four attributes (i.e., buffer and landscape context, hydrology, physical structure, and biotic structure). These four attributes have been determined to be important for wetland function (e.g., water storage, groundwater discharge and flow, dissipation of energy, nutrient cycling, etc.), and all wetlands share these four attributes (Collins *et al.* 2008a). Each of the four attributes is further subdivided into distinct metrics, which are the measureable components of an attribute. The metrics are defined by narrative descriptive conditions that are assessed in the field and each narrative condition correlates to a numeric value. In general, the numeric values are lower for wetlands that have "less desirable" attributes; conversely, wetlands with "desirable" attributes are scored higher in a given metric. The numeric values contribute to an overall CRAM score, which indicates the overall condition of the wetlands (from 25 to 100). Table 1 outlines the metrics that are associated with each attribute.

Table 1 – CRAM Attributes and Metrics[1]

Attributes	Metrics
Buffer and Landscape Context	Landscape Connectivity
	Buffer
	Percentage of AA with Buffer
	Average Buffer Width
	Buffer Condition
Hydrology	Water Source
	Hydroperiod or Channel Stability
	Hydrological Connectivity
Physical Structure	Structural Patch Richness
	Topographic Complexity
Biotic Structure	Plant Community
	Number of Plant Layers Present or Native Species Richness (vernal pool systems only)
	Number of Co-dominant species
	Percent Invasion
	Horizontal Interspersion and Zonation
	Vertical Biotic Structure (individual depressional wetlands only)

[1] Table modified from Collins *et al.* 2008b and 2008c.

CRAM was developed as a methodology to conduct repeatable measurements of the same wetland or wetland system over time. These data can be used to monitor the progress of a restoration or mitigation site, to track changes in wetland function, or to detect "negative" influences to the wetland due to development or other stressors. As such, the data can also be used to compare wetlands to one another, based on their relative functions and values.

2.2 Assessment Areas

CRAM assessment areas (AA) on the property were identified based on local watershed characterisitics, topography, wetlands distribution, wetland size, proximity to other wetland systems, among other criteria. The AA is a wetland system, or portion of a wetland system to be assessed by CRAM. In order to be effective for future comparisons, the AA must remain constant over time.

A total of 54 AAs were analyzed (Figure 2. *CRAM Assessment Areas*). Fourteen AAs were comprised of vernal pool (VP) systems, 14 AAs were comprised of individual vernal pools, and 26 AAs were comprised of individual depressional wetland features. The 14 vernal pool systems AAs were assessed using the CRAM VP Systems Field Book. Individual depressional wetlands, which consisted of seasonal wetlands, ponds, freshwater marshes, and a seasonal marsh, were assessed using the CRAM Perennial Depressional Wetands Field Book. The Perennial Depressional Wetlands Field Book was not designed for assessing seasonal depressional wetlands. However, it is the only field book currently available for assessing individual depressional features. Individual vernal pools were assessed with the User's manual and with guidance and consultation from Mr. Paul Jones [U.S. Environmental Protection Agency (EPA)].

The Placer Vineyards CRAM Assessment Areas were developed as a result of detailed discussions and field meetings with Mr. Jones, U.S. Army Corps of Engineers (Corps) staff including Nancy Haley, Jinnah Benn, Kathy Norton, and Mike Finan, and U.S. Fish and Wildlife Service staff, including Terry Adelsbach and Michelle Tovare. Final approval of the Assessment Area map was received from Mr. Jones on 13 August 2009.

Due to budget and time constraints, not every wetland or wetland system on the property was assessed. Wetlands and wetland systems that were not assessed were those that were considered to be similar to other nearby wetlands (via aerial photograph interpretation), and therefore not provide any unique information. However, in instances during field surveys when these wetland systems were found to be different, additional AAs were established to incorporate these additional wetlands.

2.3 Field Data Collection

Following the methodology of the CRAM Field Books, each AA was assessed for buffer and landscape context, hydrology, physical structure, and biotic structure. The overall AA score was calculated following the field book guidelines, and copies of the CRAM scoring sheets and maps for each AA have been included in Attachment A.

Field surveys were conducted on 17, 18, 25, 26, 27 August and 8, 9 September 2009 by ECORP biologists Debra Sykes, Daria Snider, Eric Stitt, and Peter Balfour, and by Corps biologist Jinnah Benn. After approximately half of the AAs were analyzed, a review and field verification of the results to date and data collection methodology was conducted on 1 and 2 September 2009. Representatives from the EPA (Paul Jones), the Corps (Mike Finan, Jinnah Benn and Kathy Norton) and the U.S. Fish and Wildlife Service (Terry Adelsbach and Michelle Tovare) met with ECORP staff (Hal Freeman, Peter Balfour, Debra Sykes and Daria Snider) to discuss, analyze and ground truth the data. A site visit was conducted to familiarize all parties with the wetlands on-site and with the data collection methodology and results.

3.0 RESULTS

3.1 General Results

The scores for each of the attributes and the overall score for each AA are summarized in Table 2. The average AA score was 69.1, and total AA scores ranged from 50.80 (AA-38) to 80.7 (AA-49) (Figure 3. *Cram Assessment Areas and Overall Scores* and Attachment B. *CRAM Assessment Area Scores*).

Table 2 – Final Attribute Scores and Overall AA Scores

	Final Attribute Score				
Assessment Area	Buffer and Landscape	Hydrology	Physical Structure	Biotic Structure	Overall AA Score
1	84.0	100.0	50.0	80.6	78.6
2	80.8	83.3	72.9	77.1	78.5
3	71.5	91.7	62.5	91.7	79.3
4	84.0	100.0	25.0	29.2	59.6
5	68.3	83.3	60.4	68.8	70.2
6	55.6	91.7	37.5	52.1	59.2
7	55.8	100.0	50.0	64.6	67.6
8	47.9	91.7	45.8	72.9	64.6
9	64.1	100.0	25.0	75.0	66.0
10	55.8	100.0	66.7	66.7	72.3
11	59.0	100.0	37.5	44.4	60.2
12	55.8	100.0	58.3	70.8	71.2
13	64.1	100.0	37.5	54.2	63.9
14	55.8	100.0	62.5	66.7	71.2
15	71.5	91.7	62.5	72.2	74.5
16	55.8	91.7	56.3	45.8	62.4
17	68.3	100.0	50.0	79.2	74.4
18	84.0	91.7	25.0	66.7	66.8
19	80.8	100.0	66.7	75.0	80.6
20	93.3	83.3	60.4	64.6	75.4
21	71.5	100.0	25.0	36.1	58.2
22	59.0	91.7	75.0	87.5	78.3
23	71.5	100.0	50.0	79.2	75.2
24	84.0	91.7	50.0	87.5	78.3
25	59.0	100.0	37.5	61.1	64.4
26	68.3	100.0	25.0	77.8	67.8
27	84.0	100.0	50.0	87.5	80.4
28	84.0	100.0	25.0	72.2	70.3
29	59.0	83.3	37.5	69.4	62.3
30	71.5	100.0	37.5	44.4	63.4
31	59.0	100.0	25.0	61.1	61.3
32	59.0	91.7	25.0	52.8	57.1
33	59.0	100.0	37.5	80.6	69.3
34	59.0	83.3	50.0	66.7	64.8
35	71.5	100.0	25.0	52.8	62.3
36	84.0	100.0	25.0	61.1	67.5
37	59.0	100.0	25.0	69.4	63.4
38	55.8	50.0	25.0	72.2	50.8
39	68.3	100.0	25.0	61.1	63.6
40	68.3	58.3	50.0	80.6	64.3
41	71.5	100.0	50.0	75.0	74.1
42	71.5	100.0	62.5	69.4	75.9
43	68.3	100.0	25.0	72.2	66.4
44	71.5	100.0	62.5	75.0	77.3
45	59.0	100.0	62.5	77.8	74.8
46	68.3	100.0	62.5	83.3	78.5

Table 2 – Final Attribute Scores and Overall AA Scores (Continued)

	Final Attribute Score				
Assessment Area	Buffer and Landscape	Hydrology	Physical Structure	Biotic Structure	Overall AA Score
47	68.3	91.7	33.3	79.2	68.1
48	68.3	100.0	45.8	81.3	73.8
49	62.5	83.3	87.5	89.6	80.7
50	71.5	41.7	37.5	94.4	61.3
51	76.6	100.0	50.0	87.5	78.5
52	64.1	100.0	25.0	75.0	66.0
53	84.0	91.7	50.0	88.9	78.6
54	59.0	100.0	37.5	37.5	58.5

3.1.1 Overall CRAM Scores

The mean CRAM score for all AAs was 69.1 (*Figure 4. Overall CRAM Scores for All AAs*). In general, individual pool AAs and vernal pool system AAs scored higher than depressional wetland AAs. Of the depressional wetland AAs, the overall score for 8 AAs was at or above the mean and 18 AAs were below the mean (*Figure 5. Overall CRAM Scores for Depressional Wetland AAs*). Of the individual vernal pool AAs, 9 AAs were at or above the mean, and 5 AAs were below the mean (Figure 6. *Overall CRAM Scores for Individual Vernal Pool AAs*). Of the vernal pool system AAs, 9 had mean scores at or above the overall mean, and 5 AAs were below (Figure 7. *Overall CRAM Scores for Vernal Pool System AAs*).

3.1.1.1 Buffer and Landscape Context Attribute

The analysis of the buffer and landscape attribute involves the assessment of the quality and condition of the areas adjacent to the AA (Collins *et al.* 2008a). If the buffer is in relatively "good" condition, it may provide some protection to the AA from outside disturbances. On the other hand, if the buffer is in "bad" condition (e.g. developed or highly disturbed), the buffer may negatively influence the wetlands within the AA.

The average score for the buffer and landscape attribute of all AAs was 68.1, and the range for this attribute was 47.9 (AA-8) to 93.30 (AA-20) (Figures 8. *Buffer and Landscape Context Scores for All AAs*). Of the depressional wetland AAs, 15 had scores at or above the 68.1

average and 11 were below (Figure 9. *Buffer and Landscape Context Scores for Depressional Wetland AAs*). Among the individual vernal pool AAs, 10 were at or above the average and four were below (Figure 10. *Buffer and Landscape Context Scores for Individual Vernal Pool AAs*). Among the vernal pools system AAs, six were at or above the average of all AAs and eight were below (Figure 11. *Buffer and Landscape Context Scores for Vernal Pool System AAs*). The generally low buffer and landscape scores are attributed to several on-site factors that include historical or current agricultural land use throughout the site, the relatively low frequency and scattered distribution of wetlands, the absence of wetlands altogether over large portions of the site, the presence of rural residences throughout the project area, and the presence of paved and unpaved roadways.

3.1.1.2 Hydrology Attribute

The analysis of the hydrology attribute involves the assessment of the sources, quantities, and movements of water within the AA (Collins *et al.* 2008a). In particular, the hydrology attribute addresses how water enters and leaves the wetland (i.e. through natural means such as rainfall or through artificial means such as culverts and pumps). This attribute also takes into account the quantity and duration of water within the AA (Collins *et al.* 2008a).

The average score for the hydrology attribute of all AAs was 93.7, and the range for this attribute was 41.7 (AA-50) to 100 (multiple AAs) (Figures 12. *Hydrology Scores for All AAs*). Of the depressional wetland AAs, 17 had scores at or above the 93.7 average and nine were below (Figure 13. *Hydrology Scores for Depressional Wetland AAs*). Among the individual vernal pool AAs, 11 were at or above the average and three were below (Figure 14. *Hydrology Scores for Individual Vernal Pool AAs*). Among the vernal pools system AAs, six were at or above the average of all AAs and eight were below (Figure 15. *Hydrology Scores for Vernal Pool System AAs*).

Most of the AAs had similar scores for hydrology, ranging from 83.3 to 100 (see Figure 12). The similarity of the CRAM scores may be due to the relatively natural hydrologic patterns of inundation and dry-down throughout the site. The CRAM scores of three AAs, AA-38, AA-40, and AA-50, were the exception. These three AAs scored considerable lower for the hydrology

attribute (50.0, 58.3, and 41.7, respectively). All three of these features are marshes, and appear to be influenced by artificial water sources that include runoff from irrigated agricultural lands adjacent to the AA. The periodic influx of irrigation runoff, particularly during the dry season, has resulted in perennial emergent, and sometimes woody, wetland vegetation. It is likely that these wetland features (or portions of them) were historically seasonal in nature, given the topography of the area and surrounding vegetation communities.

3.1.1.3 Physical Structure Attribute

The analysis of the physical structure attribute involves the assessment of the spatial organization of living and non-living surfaces that provide habitat for flora and fauna (Collins *et al.* 2008a). In particular, this attribute looks at the complexity of the AA in terms of macro and micro topography and richness of physical surfaces such as soil cracks, animal burrows, or cobble within the AA (Collins *et al.* 2008a).

The average score for the physical structure attribute of all AAs was 45.0, and the range for this attribute was 25.0 (multiple AAs) to 87.5 (AA-49) (Figures 16. *Physical Structure Scores for All AAs*). Of the depressional wetland AAs, eight had scores at or above the 45.0 average and 18 were below (Figure 17. *Physical Structure Scores for Depressional Wetland AAs*). Among the individual vernal pool AAs, nine were at or above the average and five were below (Figure 18. *Physical Structure Scores for Individual Vernal Pool AAs*). Among the vernal pools system AAs, 12 were at or above the average of all AAs and two were below (Figure 19. *Physical Structure Scores for Vernal Pool System AAs*).

Scores for physical structure were generally low for the Placer Vineyards site as compared to the other attribute scores across the site. The low scores are probably the result of the limitations of the current CRAM methodology in that there is currently no CRAM module for seasonal depressional features. At this point, only the perennial depressional module exists, and the patch types used to assess the structural patch richness metric are not appropriate for seasonal features, especially seasonal wetlands such as those found within Placer Vineyards. As a result, only 31% the depressional wetland AAs scored above average for this attribute.

Another possible reason for low physical structure scores may be that the seasonal wetlands on-site are naturally very shallow. Seasonal wetlands are typically shallower than vernal pools. The physical complexity of a well-developed vernal pool does not typically exist for a seasonal wetland. Furthermore, agricultural practices such as discing or grazing may have a greater affect on shallower features than to deeper well-defined pools. For comparison, 86% of the vernal pool system AAs and 64% of the individual vernal pool AAs scored above average for this attribute.

3.1.1.4 Biotic Structure Attribute

The analysis of the biotic structure attribute involves the assessment of the role of plants within the AA. According to Collins *et al.* (2008a), plants influence the quantity, quality, and spatial distribution of water and sediment within wetlands. This attribute looks at the number of species, the percentage of invasion by non-native species, and the spatial distribution of plant layers within the AA.

The average score for the biotic structure attribute of all AAs was 69.7, and the range for this attribute was 29.2 (AA-4) to 94.4 (AA-50) (Figures 20. *Biotic Structure Scores for All AAs*). Of the depressional wetland AAs, 13 had scores above the 69.7 average and 13 were below (Figure 21. *Biotic Structure Scores for Depressional Wetland AAs*). Among the individual vernal pool AAs, 10 were at or above the average and four were below (Figure 22. *Biotic Structure Scores for Individual Vernal Pool AAs*). Among the vernal pools system AAs, seven were at or above the average of all AAs and seven were below (Figure 23. *Biotic Structure Scores for Vernal Pool System AAs*). Given the fact that field surveys were conducted in August and September (due to project timing constraints) values/scores for biotic structure are likely under represented. However, these scores still allow for relative comparisons.

The same methodology problem that exists for seasonal wetlands and the physical structure attribute is present within this attribute as well. The current Perennial Depressional module assesses the number of plant layers within the wetland. Seasonal wetlands will artificially score low for this attribute since they more closely resemble vernal pools than perennial seasonal wetlands. However, they also cannot be assessed with the Individual Vernal Pool module

because they would artificially score low due to a lack of plants species that represent vernal pools.

Land-use practices appear to have a greater influence on the biotic structure attribute scores (Figure 24. *Scores for Biotic Structure by Land Use Types*). It appears that AAs located on dry farmed land tend to have lower biotic structure scores For example, 66% of the dry farmed AAs scored below average. AAs located on grazed lands tend to have higher biotic structure scores; 71% of the grazed AAs scored above average. Two AAs (AA-2 and AA-5) occur on two separate properties and therefore have two different land use types within the boundaries of the AA. The land use type for these AAs was classified by which type contributed to 50% or more of the AA area. No apparent trend exists for AAs that occur within fallow grasslands.

3.2 Individual Assessment Area Results

The following is a discussion of each AA and their CRAM scores for each of the properties within the Placer Vineyards site (see Figure 3). Several properties did not have any designated AAs because they did not currently support wetlands that were assessable (i.e. recent discing) or because the types of wetlands within that property were represented elsewhere within the Placer Vineyards site.

3.2.1 Fong

The Fong property is composed of heavily grazed grassland. Two depressional wetland AAs (AA-1 and AA-3) and a portion of two vernal pool system AAs (AA-2 and AA-5) are located on the Fong property. The two vernal pool systems will be discussed as part of the Capri property.

AA-1 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-1 is 78.6. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 50.0, and 80.6, respectively. All of these scores are higher than the average scores across the site. Metrics and sub-metrics contributing to lower scores are structural patch richness [(i.e. the number of different obvious types of physical surfaces or features that may

provide habitat for wetland species (Collins *et al.* 2008a)], and all three sub-metrics of the plant community composition metric.

AA-3 is a pond that was assessed as a depressional wetland. The overall AA score for AA-3 is 79.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 62.5, and 91.7, respectively. All of these scores are higher than the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity [i.e. the spatial association with other areas of aquatic resources (Collins *et al.* 2008)], structural patch richness, and the number of co-dominant species.

3.2.2 Capri

The Capri property is composed of dry farmed grassland. One individual vernal pool AA (AA-4) and the remaining portions of the vernal pool systems (AA-2 and AA-5) are located on the Capri property.

AA-4 is comprised of an individual vernal pool with an overall AA score of 59.6. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 25.0, and 29.2, respectively. All of these scores were lower than the average score across the site except for the buffer and landscape attribute. Metrics and sub-metrics contributing to the lower scores are structural patch richness, topographic complexity [i.e. micro- and macro-topographic relief (Collins *et al.* 2008a)], all three sub-metrics of the plant community composition metric, and horizontal interspersion and zonation [i.e. the variety of distinct plant communities or plant "zones" (Collins *et al.* 2008a)].

AA-2 is a vernal pool system that occurs on both the Capri and Fong properties. The overall AA score for AA-2 is 78.5. Scores for the buffer and landscape, physical structure and biotic structure attributes are 80.8, 72.9, and 77.1, respectively. All of these scores are higher than the average score across the site. Metrics and sub-metrics contributing to lower scores are topographic complexity and horizontal interspersion and zonation.

AA-5 is a vernal pool system that occurs on both the Capri and Fong properties. The overall AA score for AA-5 is 70.2. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 60.4, and 68.8, respectively. All of these scores are at or above the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, topographic complexity, vernal pool endemic richness, percentage of plant invasion, and horizontal interspersion and zonation.

3.2.3 PV 815

Land use on PV 815 is divided into two categories. The northern majority of the parcel, where AAs 7 and 11-16 are located, is dry farmed, and the southeastern corner of the parcel, where AAs 6, 8, and 10 are located, is fallow grassland that was historically disced. Seven vernal pool systems (AA-6, AA-7, AA-8, AA-10, AA-12, AA-14, and AA-16), two individual vernal pool AAs (AA-11 and AA-13), and one depressional wetland AA (AA-15) are located on the PV 815 property.

AA-6 is a vernal pool system with an overall AA score of 59.2. Scores for the buffer and landscape, physical structure and biotic structure attributes are 55.6, 37.5, and 52.1, respectively. The scores for these attributes are all lower than the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, buffer conditions [i.e. the condition of the buffer adjacent to the AA according to the extent and quality of its vegetation cover and substrate (Collins *et al.* 2008a)], structural patch richness, topographic complexity, vernal pool endemic richness, percentage of invasion, and horizontal interspersion and zonation.

AA-7 is a vernal pool system with an overall AA score of 67.6. Scores for the buffer and landscape, physical structure and biotic structure attributes are 55.8, 50.0, and 64.6, respectively. The scores are all lower than the average scores across the site except for the physical structure attribute. Metrics and sub-metrics contributing to the lower scores low score are landscape connectivity, structural patch richness, topographic complexity, vernal pool endemic richness, percentage of invasion, and horizontal interspersion and zonation.

AA-8 is a vernal pool system with an overall AA score of 64.6. Scores for the buffer and landscape, physical structure and biotic structure attributes are 47.9, 45.8, and 72.9, respectively. The overall AA score and the buffer and landscape score are lower then the average of these scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, buffer condition, structural patch richness, topographic complexity, vernal pool endemic richness, and horizontal interspersion and zonation.

AA-10 is a vernal pool system with an overall AA score of 72.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 55.8, 66.7, and 66.7, respectively. The buffer and landscape attribute score and biotic structure score were lower than the average scores for these attributes across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity sub-metric, topographic complexity, vernal pool endemic richness, and horizontal interspersion and zonation.

AA-12 is a vernal pool system with an overall AA score of 71.2. Scores for the buffer and landscape, physical structure and biotic structure attributes are 55.8, 58.3, and 70.8, respectively. All of the scores were above the average scores across the site except for the buffer and landscape attribute. Metrics and sub-metrics contributing to lower scores are landscape connectivity, topographic complexity, and vernal pool endemic richness.

AA-14 is a vernal pool system with an overall AA score of 71.2. Scores for the buffer and landscape, physical structure and biotic structure attributes are 55.8, 62.5, and 66.7, respectively. All of the scores were greater than the average scores across the site, except for the buffer and landscape attribute. Metrics and sub-metrics contributing to lower scores are landscape connectivity, topographic complexity, vernal pool endemic richness, and horizontal interspersion and zonation.

AA-16 is a vernal pool system with an overall AA score of 62.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 55.8, 56.3, and 45.8, respectively. All of the scores are higher than the average scores across the site except for the buffer and landscape attribute. Metrics and sub-metrics contributing to lower scores are

landscape connectivity, vernal pool endemic richness, percentage of invasion, and horizontal interspersion and zonation.

AA-11 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-11 is 60.2. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 37.5, and 44.4, respectively. All three attributes and the overall AA score are lower then the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, topographic complexity, all three sub-metrics of the plant community composition metric, and horizontal interspersion and zonation.

AA-13 is comprised of an individual vernal pool with an overall AA score of 63.9. Scores for the buffer and landscape, physical structure and biotic structure attributes are 64.1, 37.5, and 54.2, respectively. All three attributes and the overall AA score are lower than the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, buffer width [i.e. the width of the buffer that adjoins the AA and provides either protection or stress to the AA (Collins *et al.* 2008a)], structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

AA-15 is comprised of a freshwater marsh that was assessed as a depressional wetland. The overall AA score for AA-15 is 74.5. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 62.5, and 72.2, respectively. All three of these attributes and the overall AA score were higher than the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, and all three sub-metrics of the plant community composition metric.

3.2.4 Pan de Leon

The Pan de Leon property is composed of fallow grassland that was historically disced. Two individual vernal pool AAs (AA-9 and AA-51) and one depressional wetland AA (AA-52) are located on the Pan de Leon property.

AA-9 is comprised of an individual vernal pool with an overall AA score of 66.0. Scores for the buffer and landscape, physical structure and biotic structure attributes are 64.1, 25.0, and 66.0, respectively. All of the scores are lower than the average scores across the site. Metrics and sub-metrics contributing to the lower scores include landscape connectivity, buffer condition, structural patch richness, topographic complexity, and vernal pool endemic richness.
AA-51 is comprised of an individual vernal pool with an overall AA score of 78.5. Scores for the buffer and landscape, physical structure and biotic structure attributes are 76.6, 50.0, and 87.5, respectively. All three of these attributes and the overall score were higher than the average scores across the site. Metrics and sub-metrics contributing to a lower CRAM score were buffer condition, structural patch richness, and vernal pool endemic richness.

AA-52 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-52 is 66.0. Scores for the buffer and landscape, physical structure and biotic structure attributes are 64.1, 25, and 75.0, respectively. All of the scores were lower than the average scores across the site, except for the biotic structure score. Metrics and sub-metrics that contributed to the low scores were landscape connectivity, buffer condition, structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

3.2.5 DF 80

No AAs were assessed on this property.

3.2.6 PV 200

No AAs were assessed on this property.

3.2.7 Gulley 20

The Gully 20 property is composed of fallow grassland that was historically disced. One individual vernal pool AA (AA-18) and a small portion of a vernal pool system (AA-19) are located on the Gully 20 property. AA-19 will be discussed as part of the PV 88 property.

AA-18 is comprised of an individual vernal pool with an overall AA score of 66.8. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 25.0, and 66.7, respectively. The physical structure score, the biotic structure score and the overall AA score were lower than the average scores across the site. Metrics and sub-metrics contributing to the lower scores were structural patch richness, topographic complexity, and vernal pool endemic richness.

3.2.8 PV 88

The PV 88 property is composed of fallow grassland that does not appear to have been historically disced, or at least not in recent times. One vernal pool system (AA-20) and the remainder of AA-19 are located on the PV 88 property.

AA-20 is a vernal pool system with an overall AA of 75.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 93.3, 60.4, and 64.6, respectively. All of the scores except for the biotic structure attribute scored higher than the average scores across the site. Metrics and sub-metrics contributing to lower scores were vernal pool endemic richness and horizontal interspersion and zonation.

AA-19 is a vernal pool system that partially occurs on the Gully 20 property. The overall AA score for AA-19 is 80.6. Scores for the buffer and landscape, physical structure and biotic structure attributes are 80.8, 66.7, and 75.0, respectively. All of these scores are higher than the average score for these attributes across the site. Sub-metrics contributing to a slightly lower biotic structure score were vernal pool endemic richness and percentage of invasion.

3.2.9 PV 290 Parcel 1

The PV 290 Parcel 1 property is composed of heavily grazed grassland. One depressional wetland AA (AA-21) is located in the PV 290 Parcel 1 property.

AA-21 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-21 is 58.2. Scores for the buffer and landscape, physical structure and biotic structure

attributes are 71.5, 25.0, and 36.1, respectively. All of the score except for the landscape and buffer attribute were below the average of these scores across the site. Metrics and sub-metrics contributing to the lower scores were landscape connectivity, structural patch richness, topographic complexity, and all the metrics and sub-metrics of the biotic structure attribute.

3.2.10 PV 290 Parcel 2

The PV 290 Parcel 2 property is composed of heavily grazed grassland. Two individual vernal pool AAs (AA-22 and AA-23) are located on the PV 290 Parcel 2 property.

AA-22 is comprised of an individual vernal pool with an overall AA score of 78.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 75.0, and 87.5, respectively. Only the buffer and landscape attribute scored lower than average. Metrics and sub-metrics contributing to a lower score were landscape connectivity, structural patch richness, and vernal pool endemic richness.

AA-23 is comprised of an individual vernal pool with an overall AA score of 75.2. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 50.0, and 79.2, respectively. All of these scores are higher than the average scores for these attributes across the site. Metrics and sub-metrics contributing to lower scores were landscape connectivity and vernal pool endemic richness.

3.2.11 PV A(a)

No AAs were assessed on this property.

3.2.12 PGG Property

The PGG property is comprised of fallow grassland that was historically disced. Two depressional wetland AAs (AA-25 and AA-53) and one individual vernal pool AA (AA-24) are located on the PGG Property.

AA-25 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-25 is 64.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 37.5, and 61.1, respectively. All of the scores are lower than the average across the site. All of the metrics and sub-metrics for these attribures scored relatively low except for percent of buffer around the AA, average buffer width, and vertical biotic structure [i.e. the degree of overlap amongst plant layers (Collins *et al.* 2008a)].

AA-53 is a pond that was assessed as a depressional wetland. The overall AA score for AA-53 is 78.6. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 50.0, and 88.9, respectively. All of these scores are higher than the average across the site. Metrics and sub-metrics contributing to lower scores were structural patch richness and number of co-dominant species.

AA-24 is comprised of an individual vernal pool with an overall AA score of 78.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 50.0, and 87.5, respectively. All of these scores are higher than the average across the site. Metrics and sub-metrics contributing to lower scores were structural patch richness and vernal pool endemic richness.

3.2.13 PV 356

The PV 356 property is composed of fallow grassland that was historically disced. Two depressional wetland AAs (AA-26 and AA-28) and one individual vernal pool AA (AA-27) are located on the PV 356 property.

AA-26 is seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-26 is 67.8. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 25.0, and 77.8, respectively. Only the physical structure and overall AA score are below the average score across the site. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, number of plant layers, and percentage of invasion.

AA-28 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-28 is 70.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 25.0, and 72.2, respectively. The only attribute that scored lower than the average is physical structure. Metrics and sub-metrics contributing to the lower scores are structural patch richness, topographic complexity, number of co-dominant species, and percentage of invasion.

AA-27 is comprised of an individual vernal pool with an overall AA score of 80.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 50.0, and 87.5, respectively. All of the scores were higher than the average scores across the site. Metrics and sub-metrics contributing to lower scores are structural patch richness, and vernal pool plant endemics.

3.2.14 PV 239

The majority of the PV 239 property is composed of fallow grassland that was historically in rice production. A small portion in the southeastern corner is composed of oak woodland Two depressional wetland AAs (AA-29 and AA-31) are located on the PV 239 property. AA-29 is located within the fallow grassland and AA-31 is located within the oak woodland.

AA-29 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-29 is 62.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 37.5, and 69.4, respectively. All of the scores are below the average score across the site except for biotic structure which is equal to the average score for that attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

AA-31 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-31 is 61.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 25.0, and 61.1, respectively. All of these scores are below the average for these attributes across the site. Metrics and sub-metrics contributing to the lower scores are

landscape connectivity, structural patch richness, topographic complexity, all three sub-metrics of the plant community composition metric, and horizontal interspersion and zonation.

3.2.15 PV A(b)

The PV A(b) property is composed of fallow grassland that was historically disced. Three depressional wetland AAs (AA-30, AA-32, and AA-33) are located on the PV A(b) property.

AA-30 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-30 is 63.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 37.5, and 44.4, respectively. All of the scores were lower than the average scores across the site except for the buffer and landscape attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, all three sub-metrics of the plant community composition metric, and horizontal interspersion and zonation.

AA-32 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-32 is 57.1. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 25.0, and 52.8, respectively. All of the scores were lower than the average scores across the site. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, all three sub-metrics of the plant community composition metric, and horizontal interspersion and zonation.

AA-33 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-33 is 69.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 37.5, and 80.6, respectively. All of the scores were lower than the average scores across the site except for the biotic structure attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

3.2.16 PV 179A

No AAs were assessed on this property.

3.2.17 PV 179B

The PV 179B property is composed of fallow grassland that was historically disced. Two depressional wetland AAs (AA-36 and AA-37) and one individual vernal pool AA (AA-17) are located on this PV 179B property.

AA-36 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-36 is 67.5. Scores for the buffer and landscape, physical structure and biotic structure attributes are 84.0, 25.0, and 61.1, respectively. All of the scores were lower than the average scores across the site except for the buffer and landscape attribute. Metrics and sub-metrics contributing to the lower scores are structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

AA-37 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-37 is 63.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 25.0, and 69.4, respectively. All of the scores were lower than the average scores across the site except for the biotic structure attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

AA-17 is comprised of an individual vernal pool with an overall AA score of 74.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 50.0, and 79.2, respectively. All of the scores are above or at the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

3.2.18 PV B

The PV B property is composed of fallow grassland that was historically disced. Four depressional wetland AAs (AA-34, AA-35, AA-38, and AA-50) are located on the PV B property.

AA-34 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-34 is 64.8. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 50.0, and 66.7, respectively. All of the scores were lower than the average scores across the site except for the physical structure attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, all three sub-metrics of the plant community composition metric, and vertical biotic structure.

AA-35 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-35 is 62.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 25.0, and 52.8, respectively. All of the scores were lower than the average scores across the site except for the buffer and landscape attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, all three sub-metrics of the plant community composition metric, and horizontal interspersion and zonation.

AA-38 is a seasonal marsh that was assessed as a depressional wetland. The overall AA score for AA-38 is 50.8. This was the lowest overall AA score for all the AA in the Placer Vinearyds site. Scores for the buffer and landscape, physical structure and biotic structure attributes are 55.8, 25.0, and 72.2, respectively. All of the scores were lower than the average scores across the site except for the buffer and landscape attribute. The score for the hydrology attribute (50.0) also contributed to the low overall AA score for this AA. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, water source, hydroperiod, structural patch richness, topographic complexity, number of co-dominant species, and vertical biotic structure.

AA-50 is a freshwater marsh that was assessed as a depressional wetland. The overall AA score for AA-50 is 61.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 37.5, and 94.4, respectively. The only scores that are lower than average for these attributes are the physical structure score and the overall AA score. The score for the hydrology attribute (41.7) also contributed to the low overall AA score for this AA. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, all three metrics of the hydrology attribute, structural patch richness, and topographic complexity.

3.2.19 Watt x Baseline #3

The Watt x Baseline #3 property is composed of fallow grassland that was historically disced. One vernal pool system (AA-47) and a small portion of another vernal pool system (AA-48) are located on the Watt x Baseline #3 property. AA-48 will be discussed as part of the Doyle property.

AA-47 is vernal pool system with an overall AA score of 68.1. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 33.3, and 79.2, respectively. The only score that was below average is the physical structure attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, and vernal pool endemic richness.

3.2.20 PV C

The PV C property is composed of a fallow grassland that was historically disced. Two depressional wetland AAs (AA-39 and AA-40) and one individual vernal pool AA (AA-41) are located on the PV C property.

AA-39 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-39 is 63.6. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 25.0, and 61.1, respectively. All of the scores were lower than the average scores across the site except for the buffer and landscape attribute. Metrics and sub-metrics

contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, and all three sub-metrics of the plant community composition metric.

AA-40 is a freshwater marsh that was assessed as a depressional wetland. The overall AA score for AA-40 is 64.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 50.0, and 80.6, respectively. All of these scores are at or above the average scores for these attributes except for the overall AA score. The lower overall AA score is due to the low hydrology score (58.3) for this AA. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, hydroperiod, structural patch richness, and number of plant layers.

AA-41 is comprised of an individual vernal pool with an overall AA score of 74.1. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 50.0, and 75.0, respectively. All of the scores were higher than the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, vernal pool endemic richness and percentage of invasion.

3.2.21 Hodel

The Hodel property is composed of heavily grazed grassland. One individual vernal pool AA (AA-46) and a small portion of a vernal pool system (AA-48) are located on the Hodel property. AA-48 will be discussed as part of the Doyle property.

AA-46 is comprised of an individual vernal pool with an overall AA score of 78.5. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 62.5, and 83.3, respectively. All of the scores are at or above the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, vernal pool endemic richness, and percentage of invasion.

3.2.22 Doyle

The Doyle property is composed of fallow grassland that was historically disced. Two individual vernal pool AAs (AA-44 and AA-54), one depressional wetland AA (AA-45), one vernal pool system (AA-49) and the remainder of the vernal pool system AA-48 is located on the Doyle property.

AA-44 is comprised of an individual vernal pool with an overall AA score of 77.3. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 62.5, and 75.0, respectively. All of the scores are above the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, vernal pool endemic richness, and percentage of invasion.

AA-54 is comprised of an individual vernal pool with an overall AA score of 58.5. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 37.5, and 37.5, respectively. All of the scores are below the average scores across the site. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, topographic complexity, vernal pool endemic richness, percentage of invasion, and horizontal interspersion and zonation.

AA-45 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-45 is 74.8. Scores for the buffer and landscape, physical structure and biotic structure attributes are 59.0, 62.5, and 77.8, respectively. All of the scores are above the average scores across the site, except for the buffer and landscape attribute. Metrics and sub-metrics contributing to the lower scores are landscape connectivity, structural patch richness, and all three sub-metrics of the plant community composition metric.

AA-49 is a vernal pool system with an overall AA score of 80.7. This AA had the highest overall score throughout the entire site. Scores for the buffer and landscape, physical structure and biotic structure attributes are 62.5, 87.5, and 89.6, respectively. All of the scores are above the average scores across the site, except for the buffer and landscape attribute. The only metric that contributed to a lower score was landscape connectivity.

AA-48 is a vernal pool system that is partially on the Watt x Baseline #3, Hodel, and Doyle properties. The overall AA score for AA-48 is 73.8. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 45.8, and 81.3, respectively. All of the scores are at or above the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, topographic complexity, and vernal pool endemic richness.

3.2.23 Mourier 135

The Mourier 135 property is composed of fallow grassland that was historically disced. Two depressional wetland AAs (AA-42 and AA-43) are located on the Mourier 135 property.

AA-42 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-42 is 75.9. Scores for the buffer and landscape, physical structure and biotic structure attributes are 71.5, 62.5, and 69.4, respectively. All of the scores are at or above the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, vernal pool endemic richness, number of co-dominant species, and vertical biotic structure.

AA-43 is a seasonal wetland that was assessed as a depressional wetland. The overall AA score for AA-43 is 66.4. Scores for the buffer and landscape, physical structure and biotic structure attributes are 68.3, 25.0, and 66.4, respectively. All of the scores are at or below the average scores across the site. Metrics and sub-metrics contributing to lower scores are landscape connectivity, structural patch richness, topographic complexity, and all three sub-metrics for the plant community composition metric.

4.0 SUMMARY

ECORP conducted a CRAM assessment at the Placer Vineyards site in Placer County, California during August and September 2009. The CRAM assessment was conducted to document current (pre-project) conditions and compare relative values of wetlands across the property. ECORP biologists, with the assistance of staff from the Corps, EPA, and U.S. Fish and Wildlife Service,

collected field data related to four attributes identified by the CRAM methodology as important indicators of wetland conditions.

The scores for each of the attributes and the overall score for each AA are summarized in Table 2. The average AA score was 69.1, and total AA scores ranged from 50.80 (AA-38) to 80.7 (AA-49) (see Figure 3 and Attachment B).

On average, the depressional wetland AAs (comprised mostly of seasonal wetlands) scored lower than either of the other two AA types (vernal pool systems and individual vernal pools). This is likely due to several factors. First, agricultural practices may have a greater impact on shallower and topographically less-defined features. Second, there is currently no CRAM module to accurately assess seasonal depressional features that are not characterized as vernal pools.

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Figure 24. Scores for Biotic Structure by Land Use Type

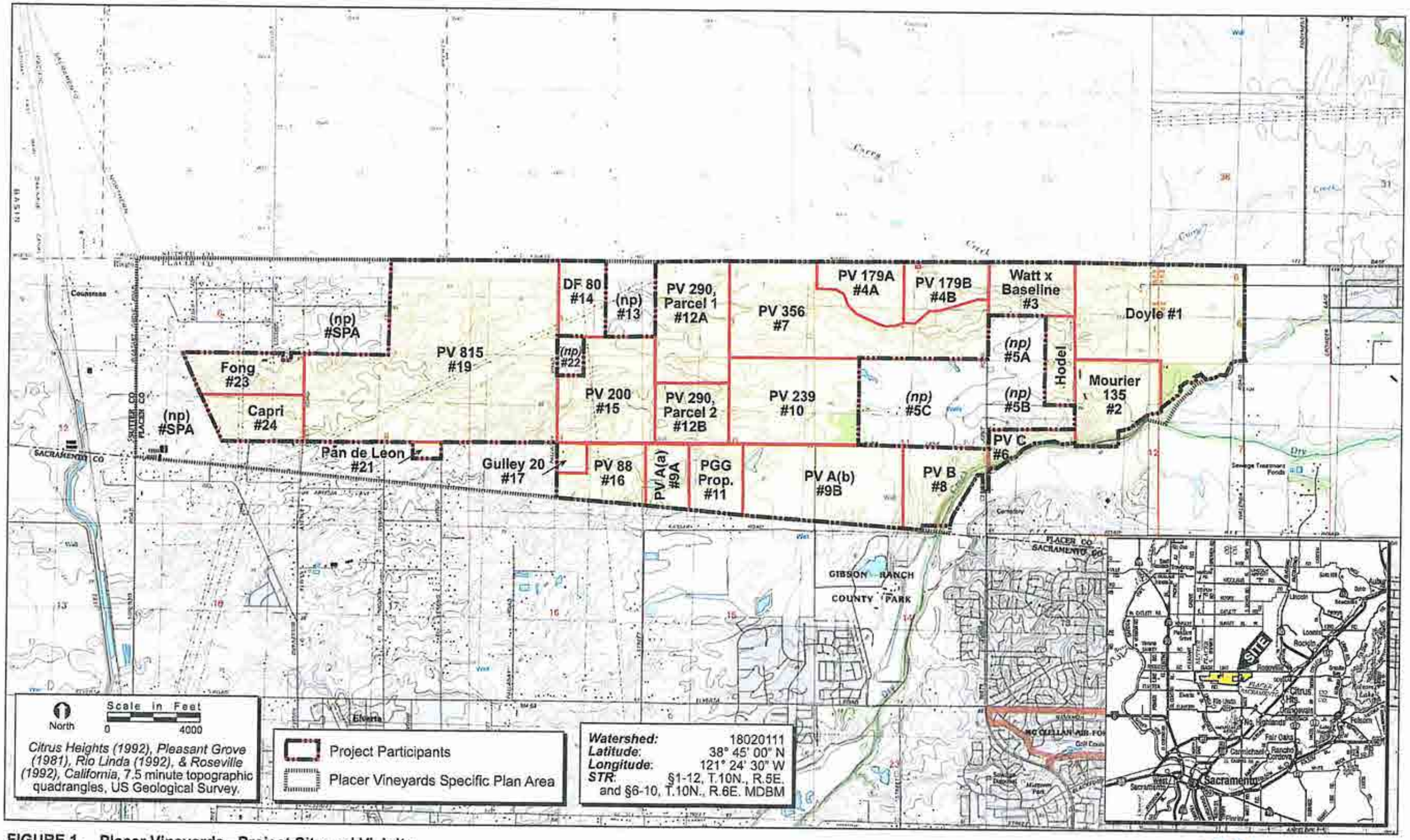

FIGURE 1. Placer Vineyards - Project Site and Vicinity

2001-196 Placer Vineyards

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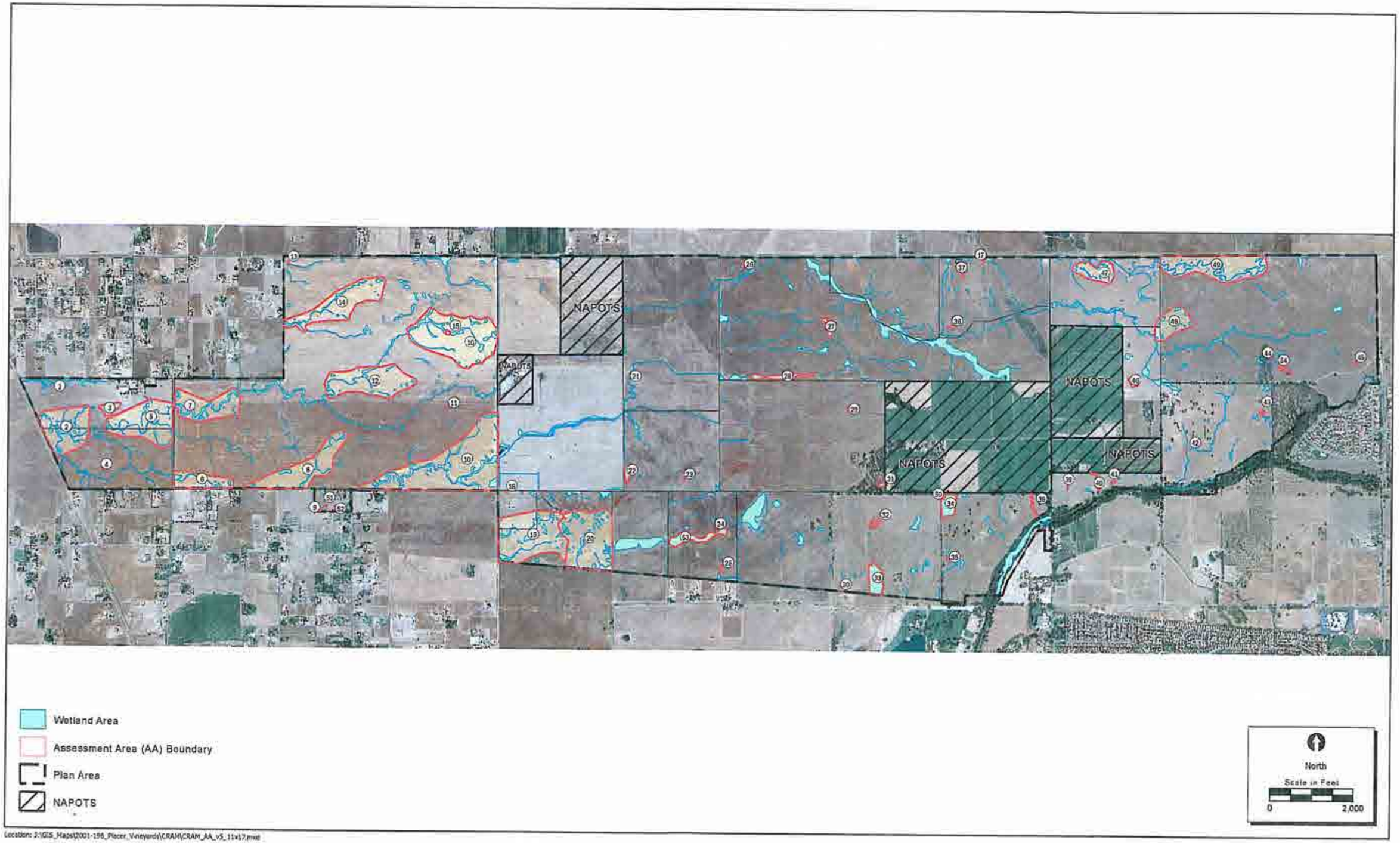

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Figure 2. CRAM Assessment Areas

2001-196 Placer Vineyard SP

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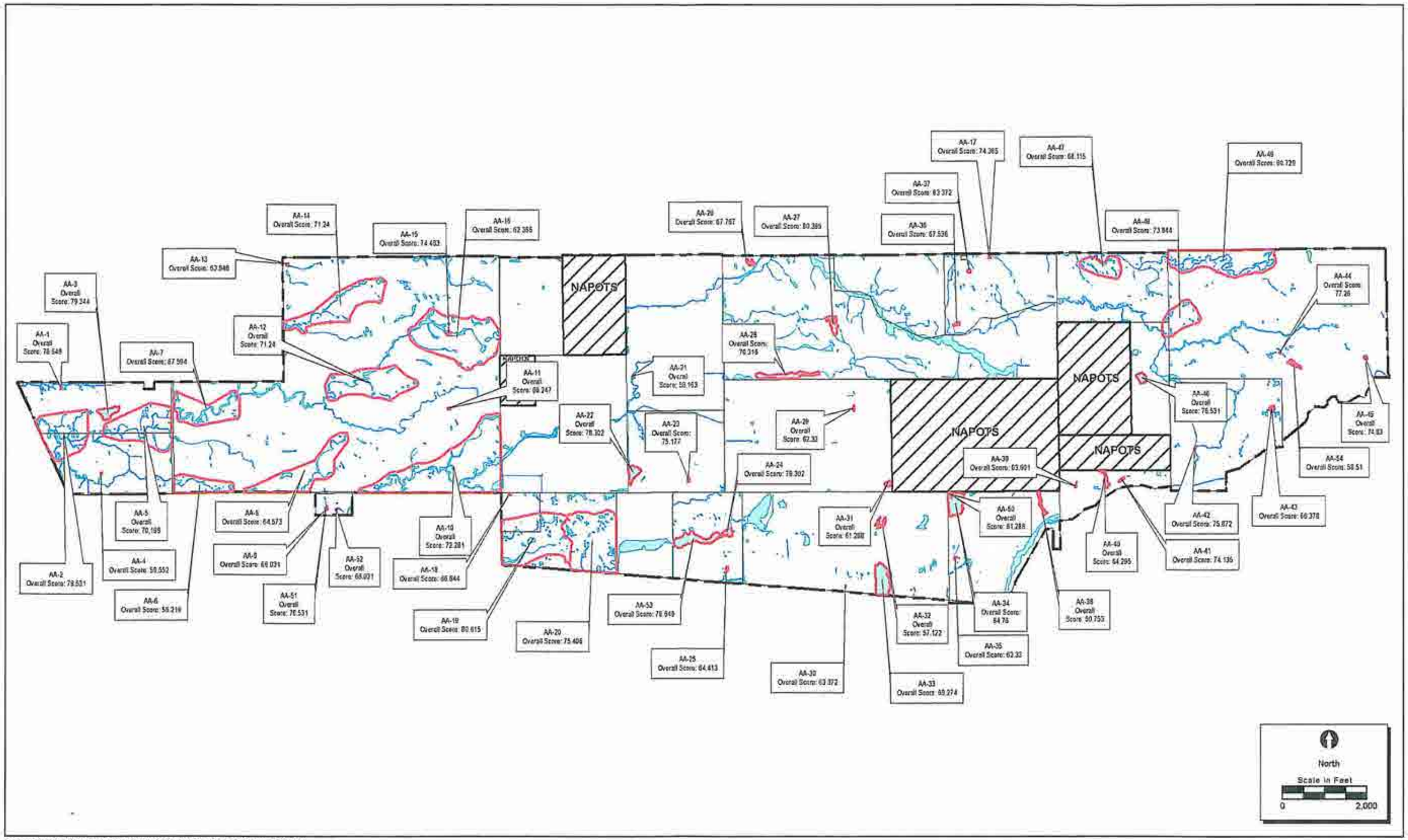

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Map Date: 2009-09-17

Figure 3. CRAM Assessment Areas and Overall Scores

2001-196 Placer Vineyard SP

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Figure 4. Overall CRAM Scores For All AAs

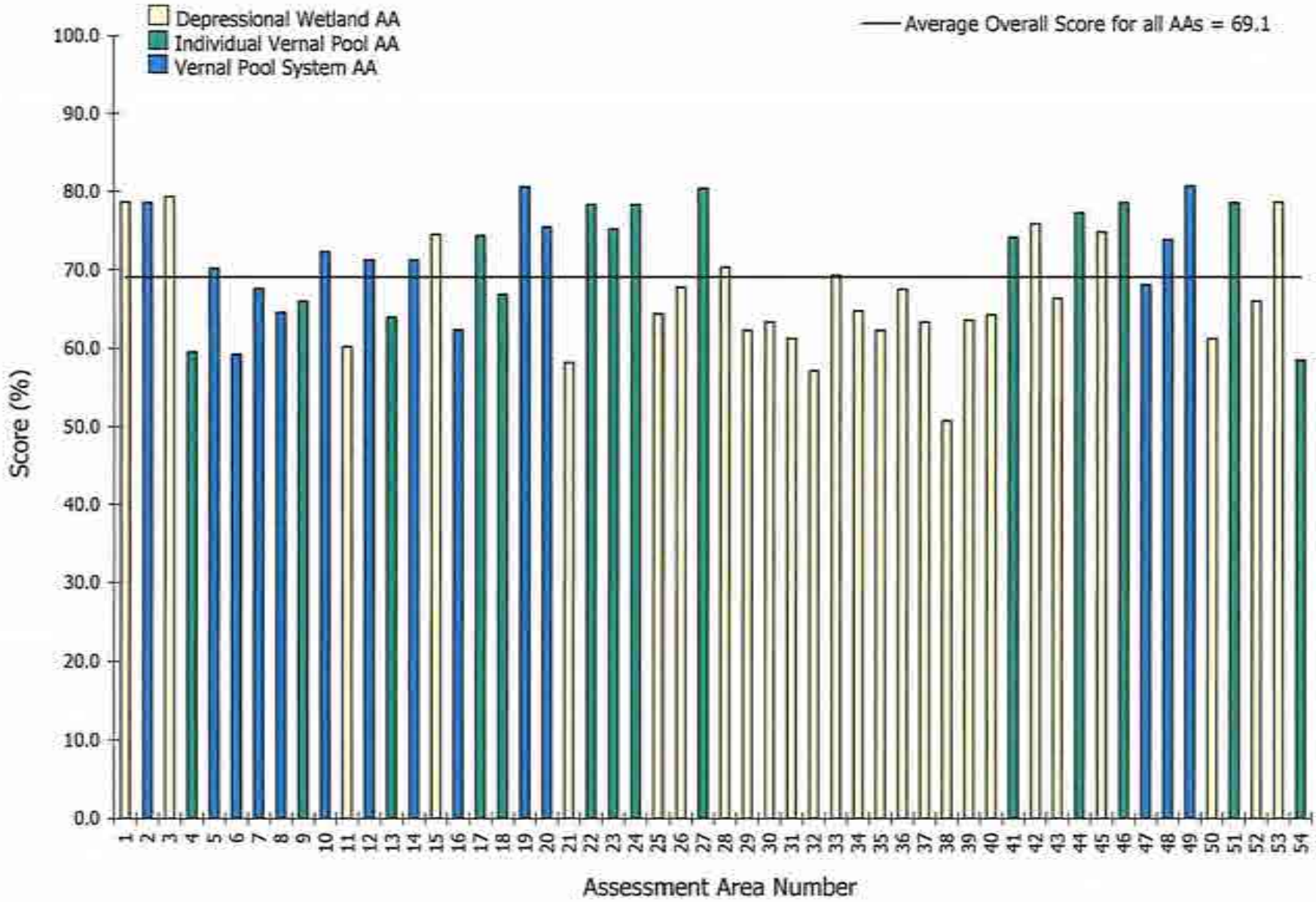
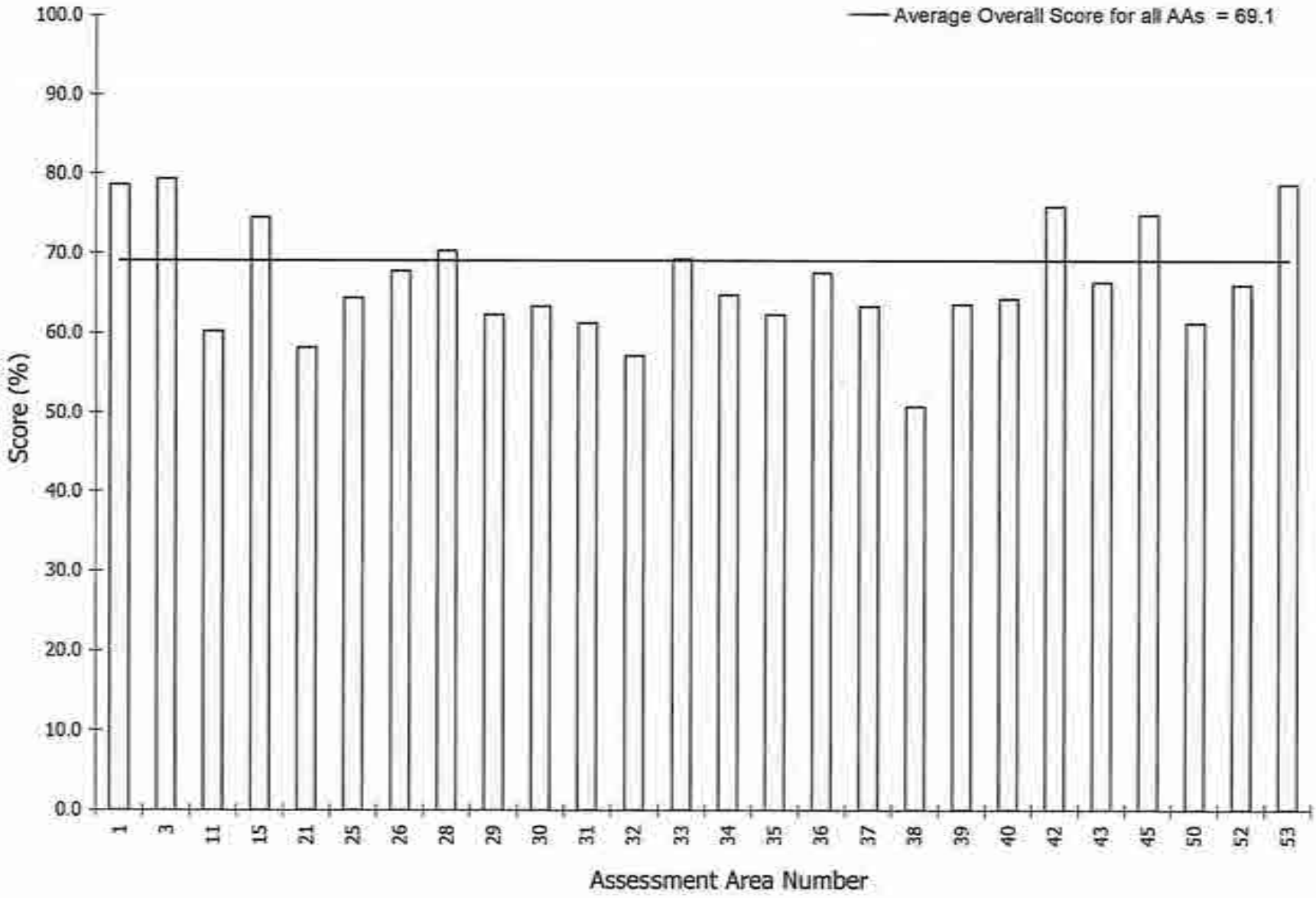
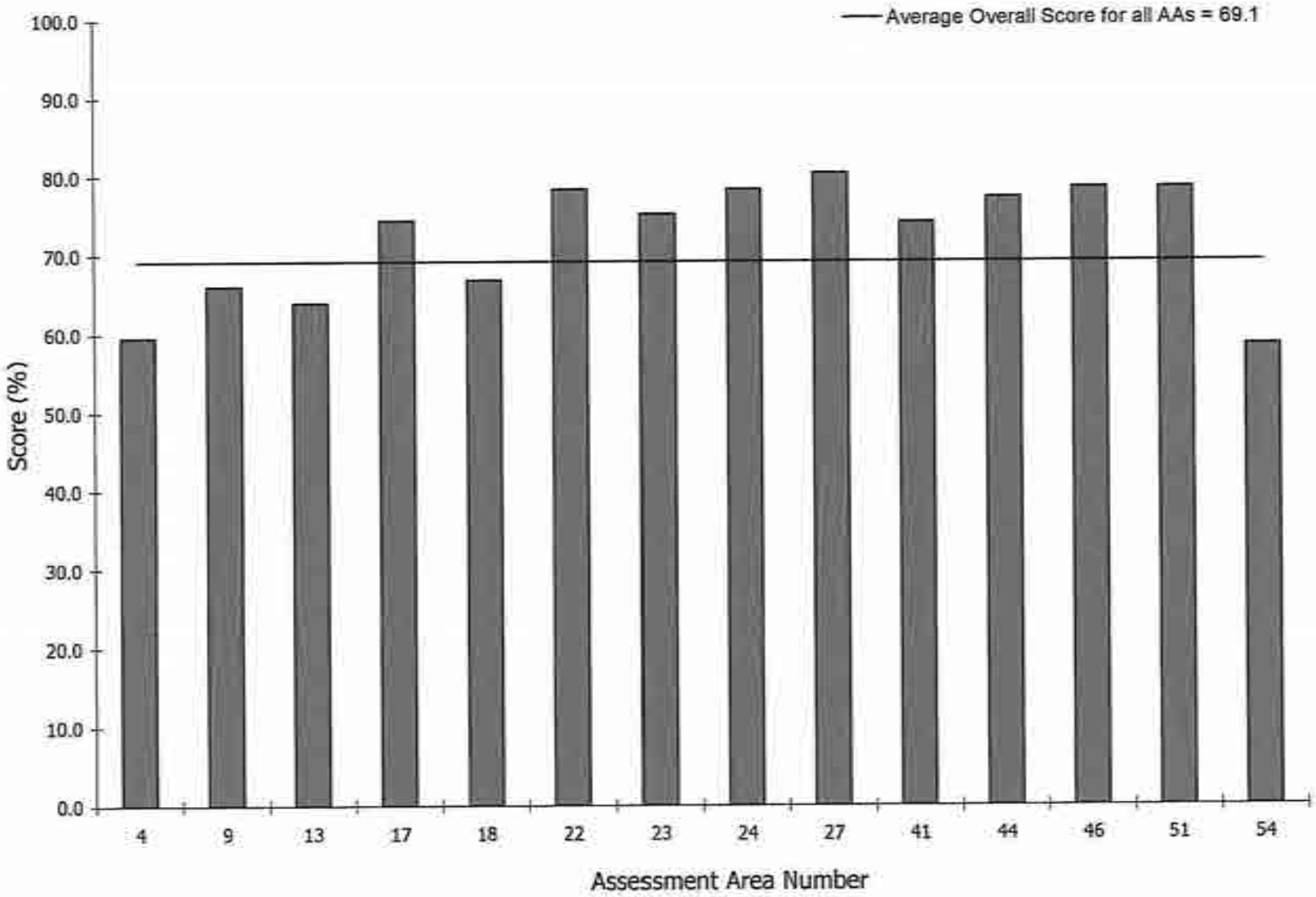


Figure 5. Overall CRAM Scores for Depressional Wetland AAs[1]



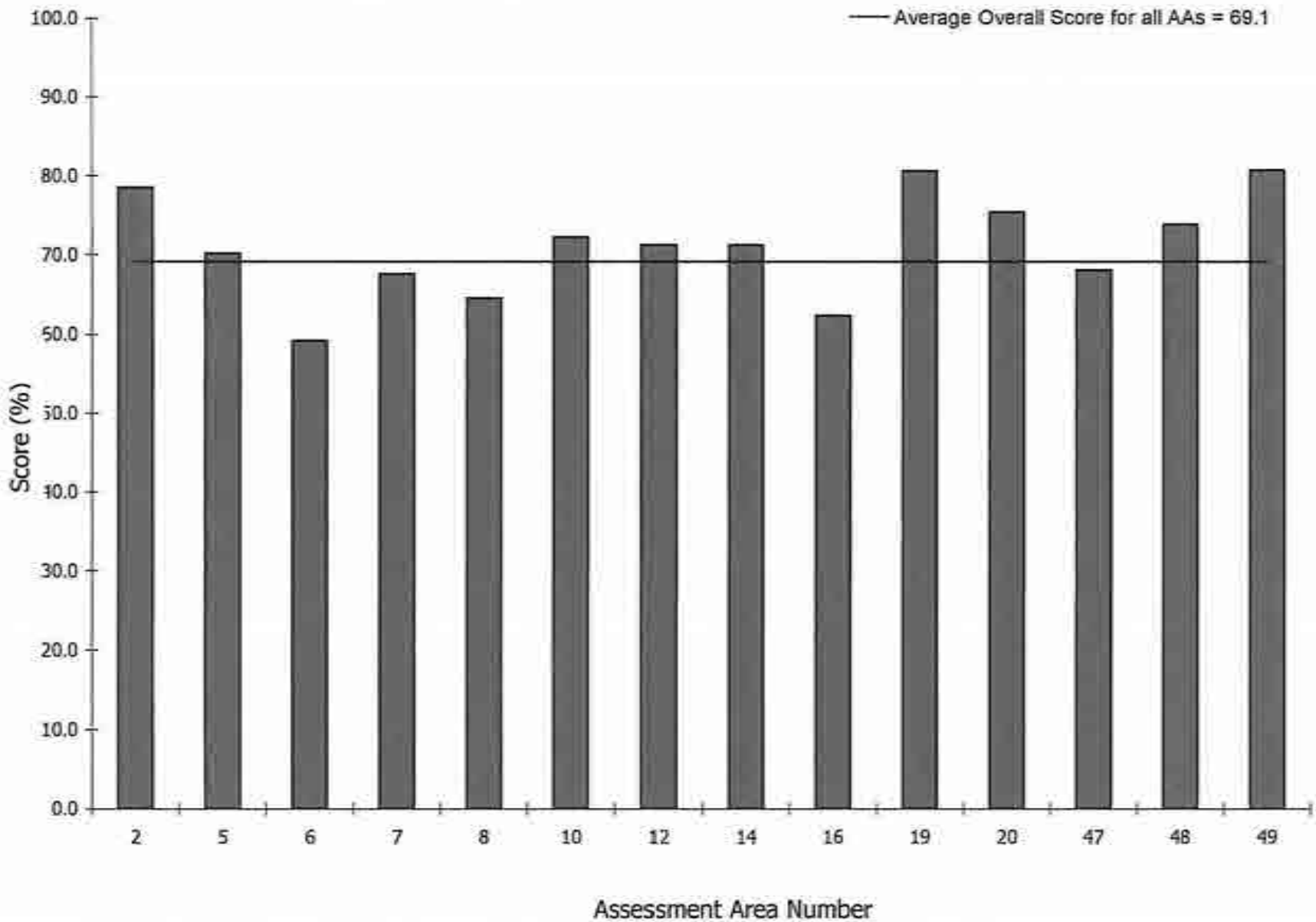
[1] The Depressional Wetland AA data represented on this graph is a subset of the data from Figure 4.

Figure 6. Overall CRAM Scores for Individual Vernal Pool AAs[1]



[1] The Individual Vernal Pool AA data represented on this graph is a subset of the data from Figure 4.

Figure 7. Overall CRAM Scores for Vernal Pool System AAs[1]



[1] The Vernal Pool System AA data represented on this graph is a subset of the data from Figure 4.

Figure 8. Buffer and Landscape Context Scores For All AAs

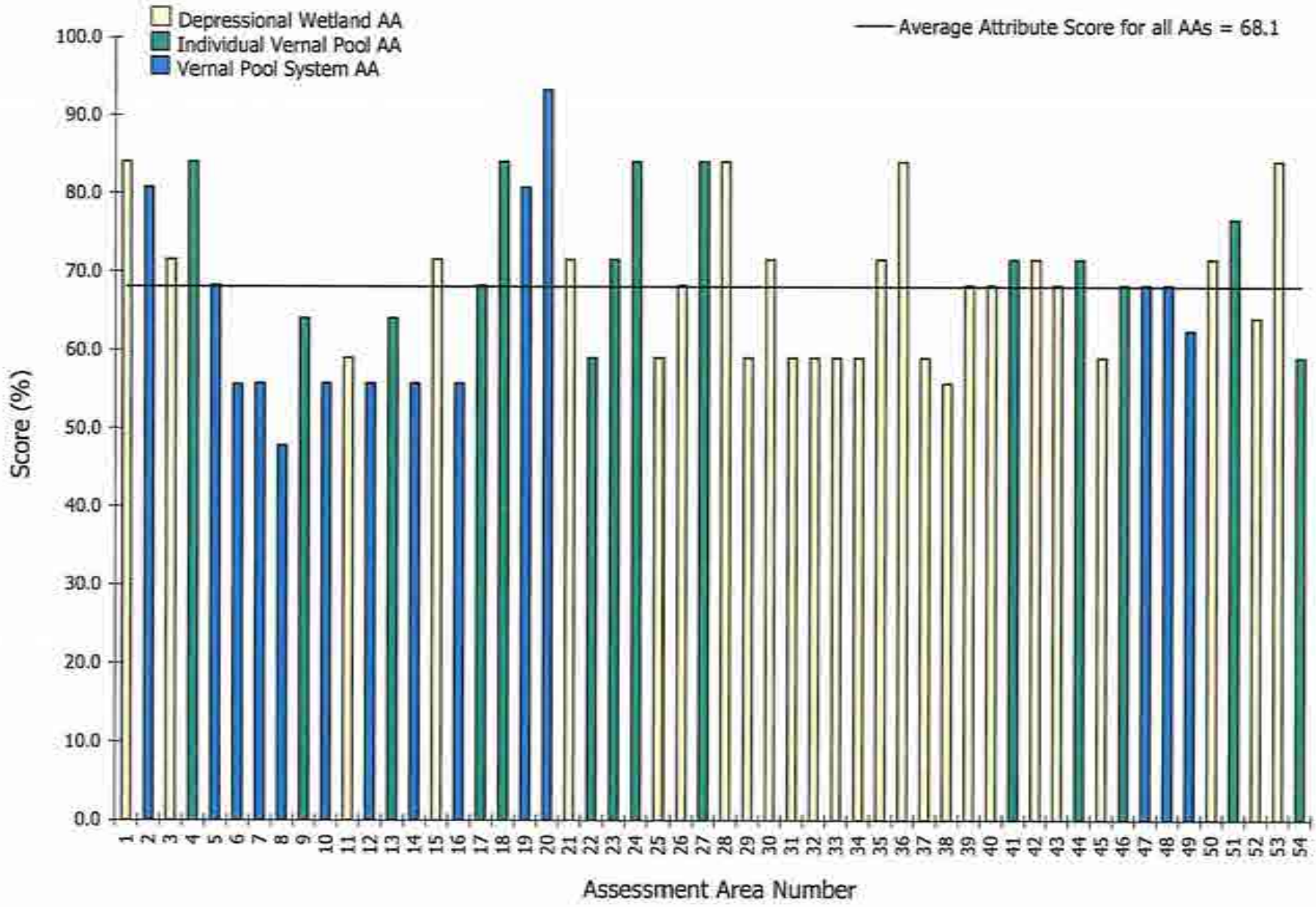
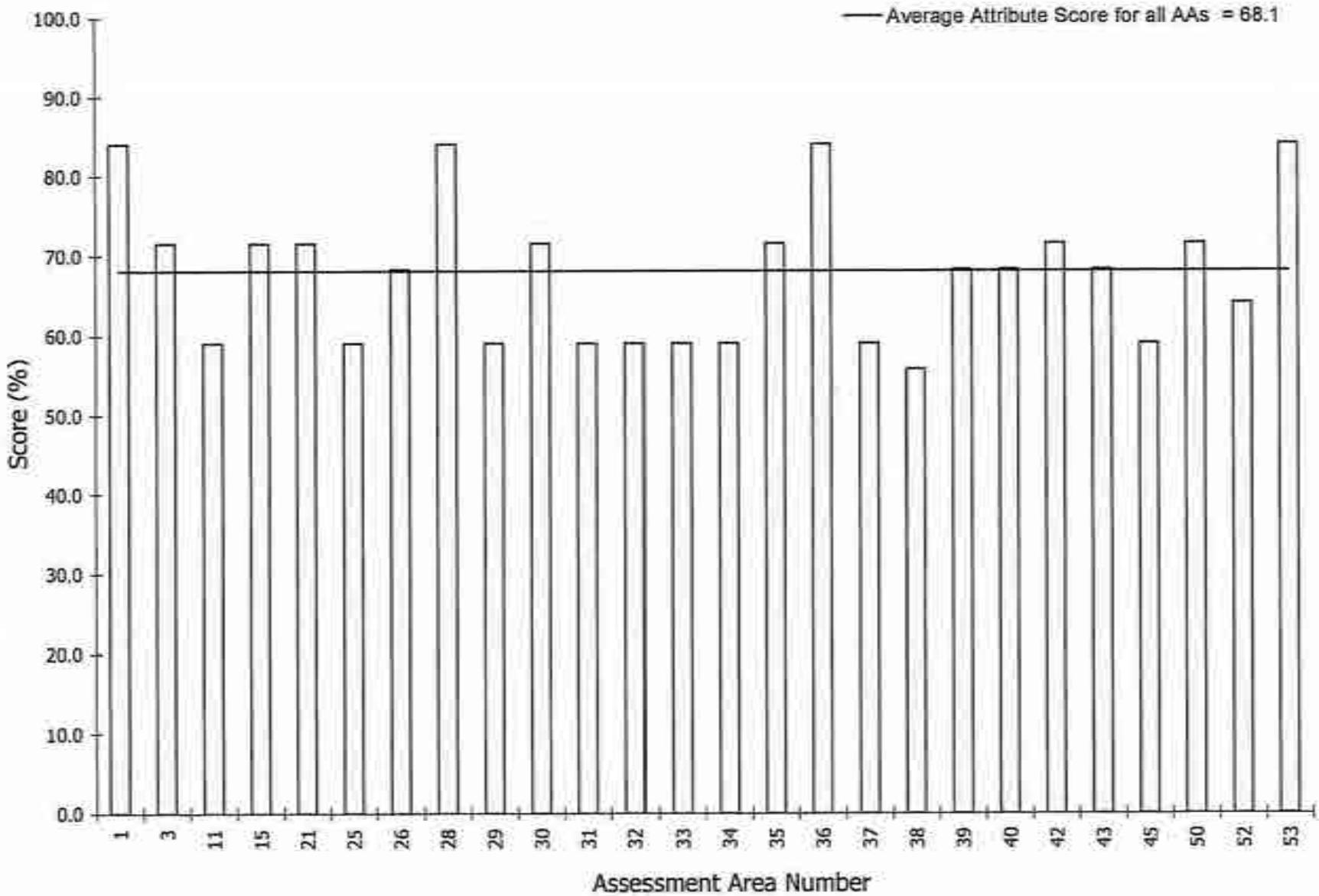
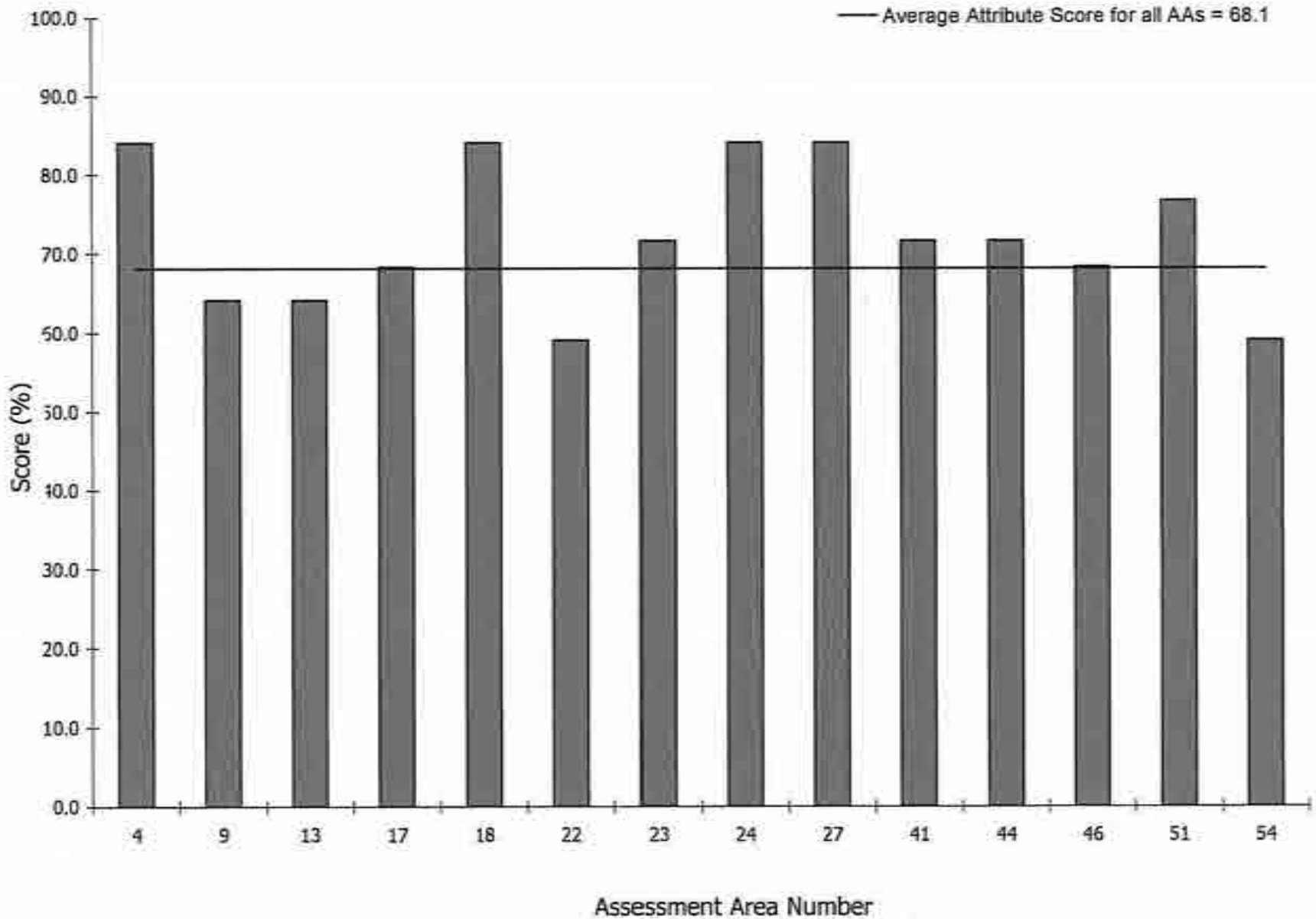


Figure 9. Buffer and Landscape Context Scores for Depressional Wetland AAs[1]



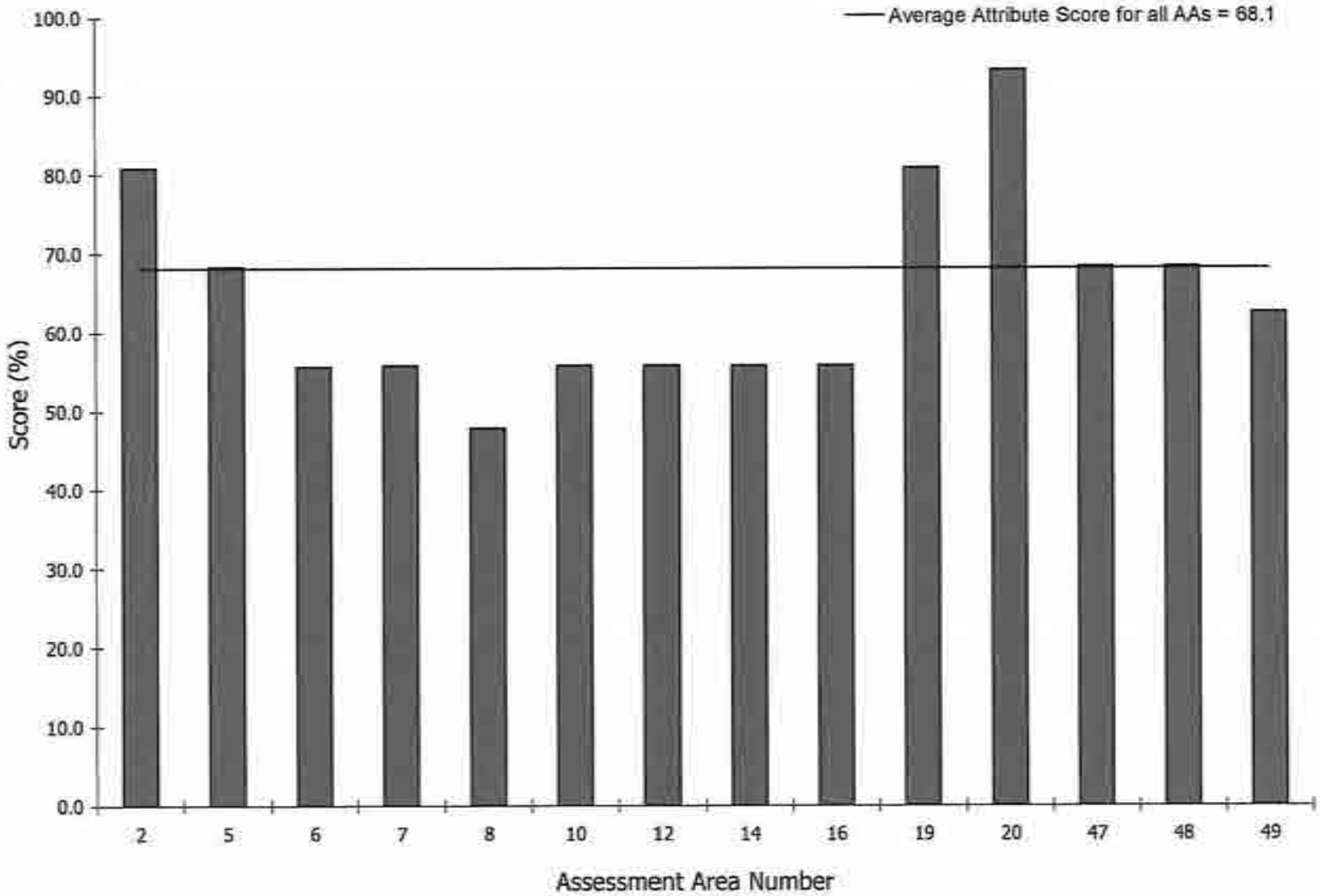
[1] The Depressional Wetland AA data represented on this graph is a subset of the data from Figure 8.

Figure 10. Buffer and Landscape Context Scores for Individual Vernal Pool AAs[1]



[1] The Individual Vernal Pool AA data represented on this graph is a subset of the data from Figure 8.

Figure 11. Buffer and Landscape Context Scores for Vernal Pool System AAs[1]



[1] The Vernal Pool System AA data represented on this graph is a subset of the data from Figure 8.

Figure 12. Hydrology Scores For All AAs

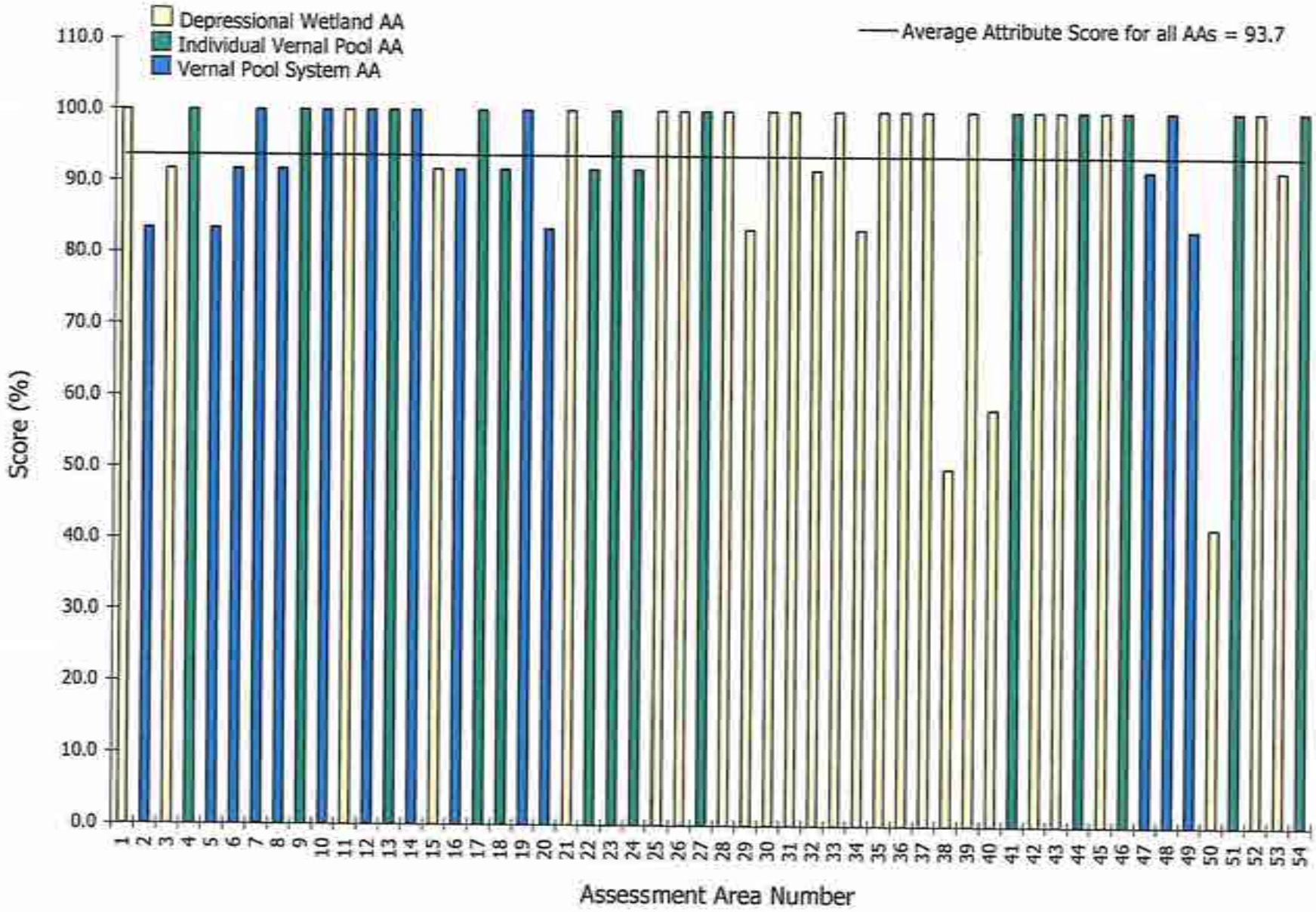
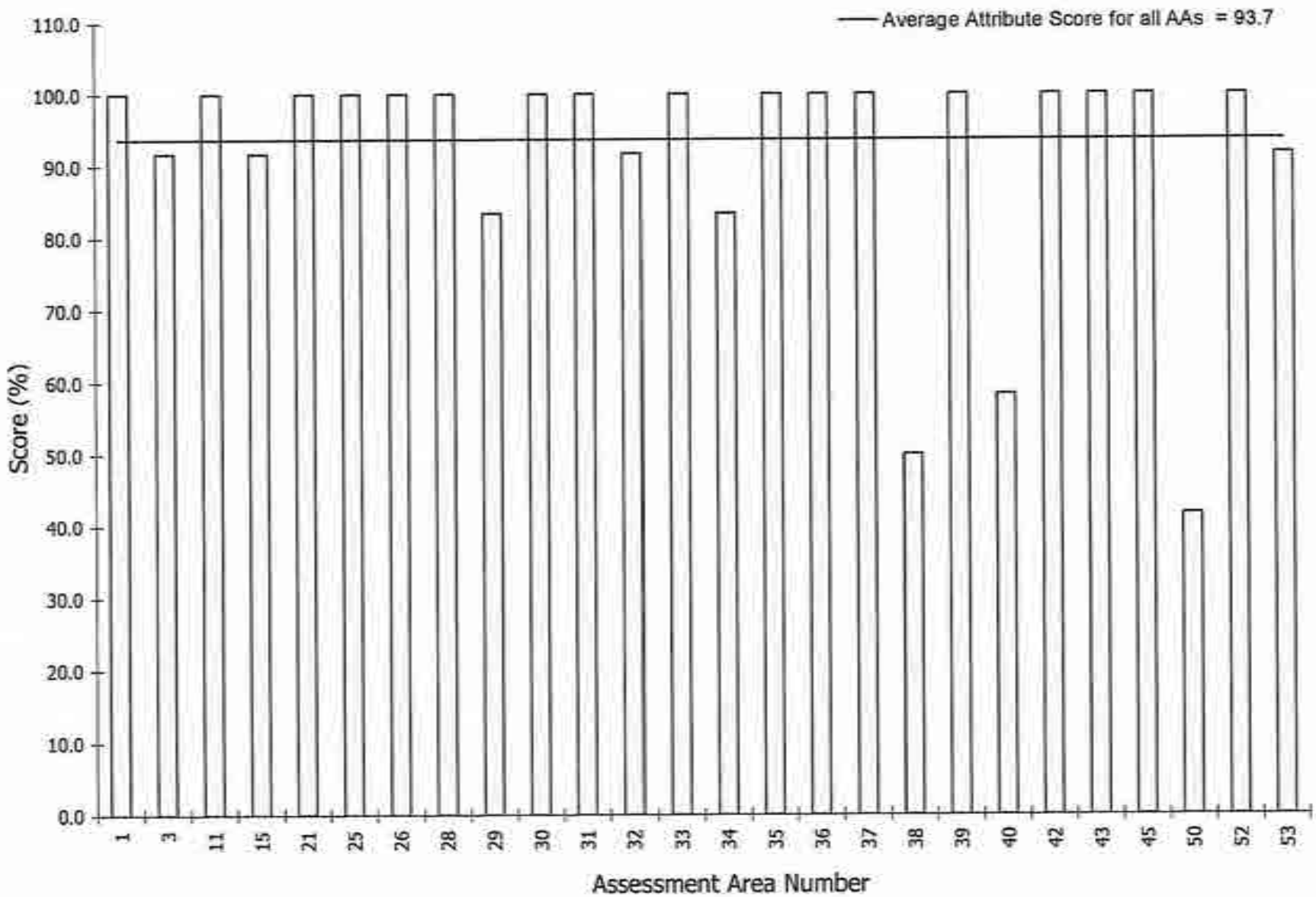
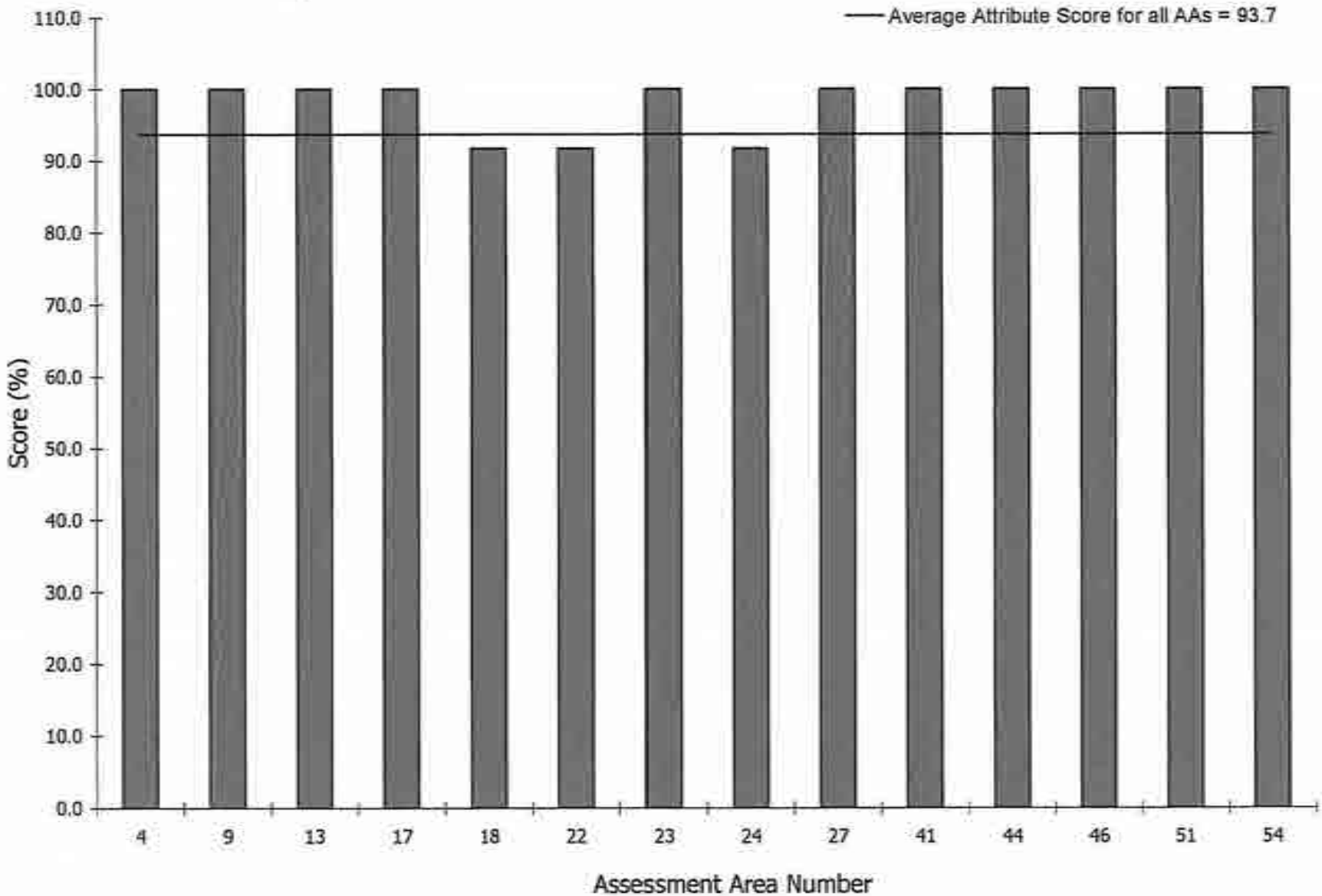


Figure 13. Hydrology Scores for Depressional Wetland AAs[1]



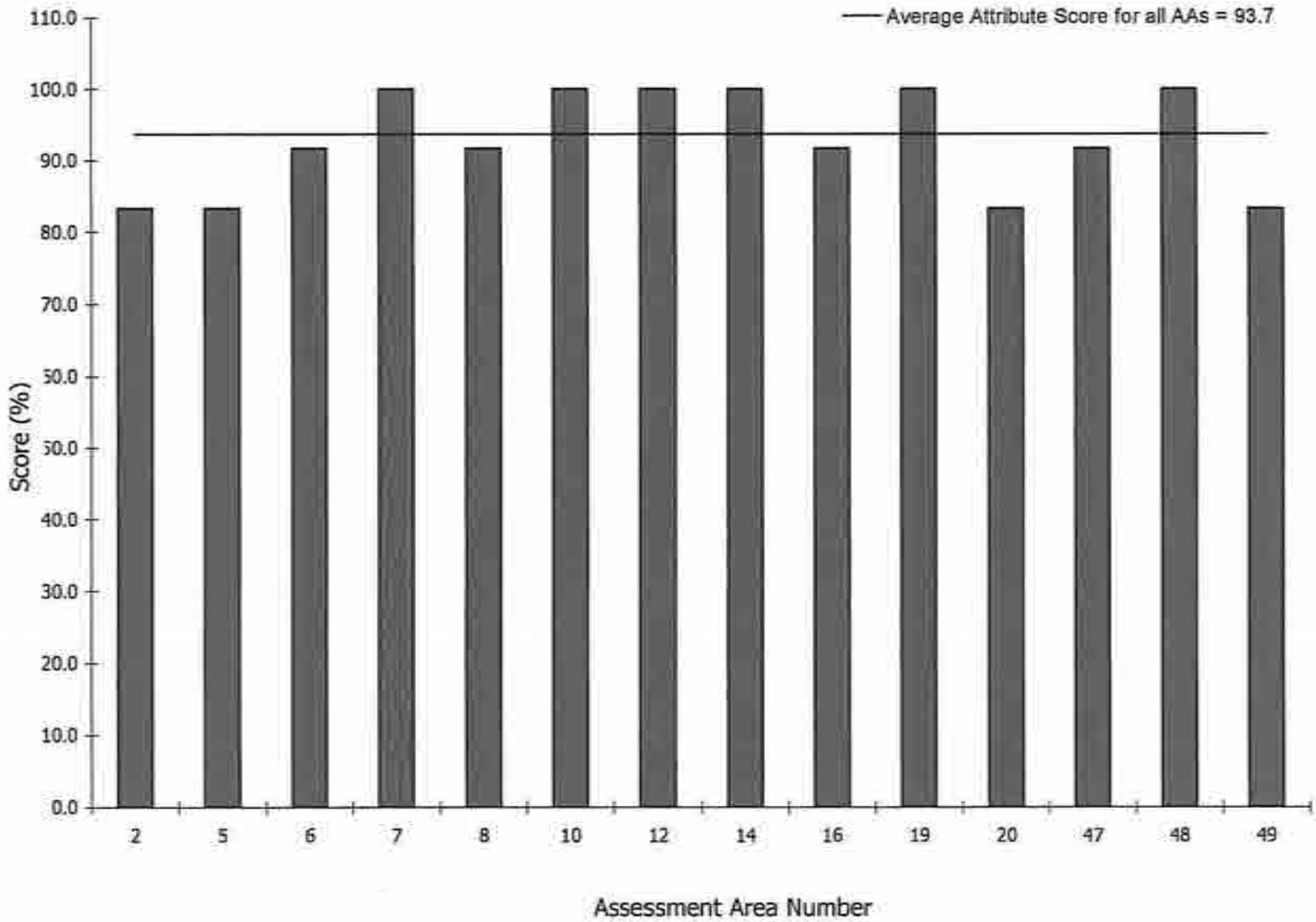
[1] The Depressional Wetland AA data represented on this graph is a subset of the data from Figure 12.

Figure 14. Hydrology Scores for Individual Vernal Pool AAs[1]



[1] The Individual Vernal Pool AA data represented on this graph is a subset of the data from Figure 12.

Figure 15. Hydrology Scores for Vernal Pool System AAs[1]



[1] The Vernal Pool System AA data represented on this graph is a subset of the data from Figure 12.

Figure 16. Physical Structure Scores For All AAs

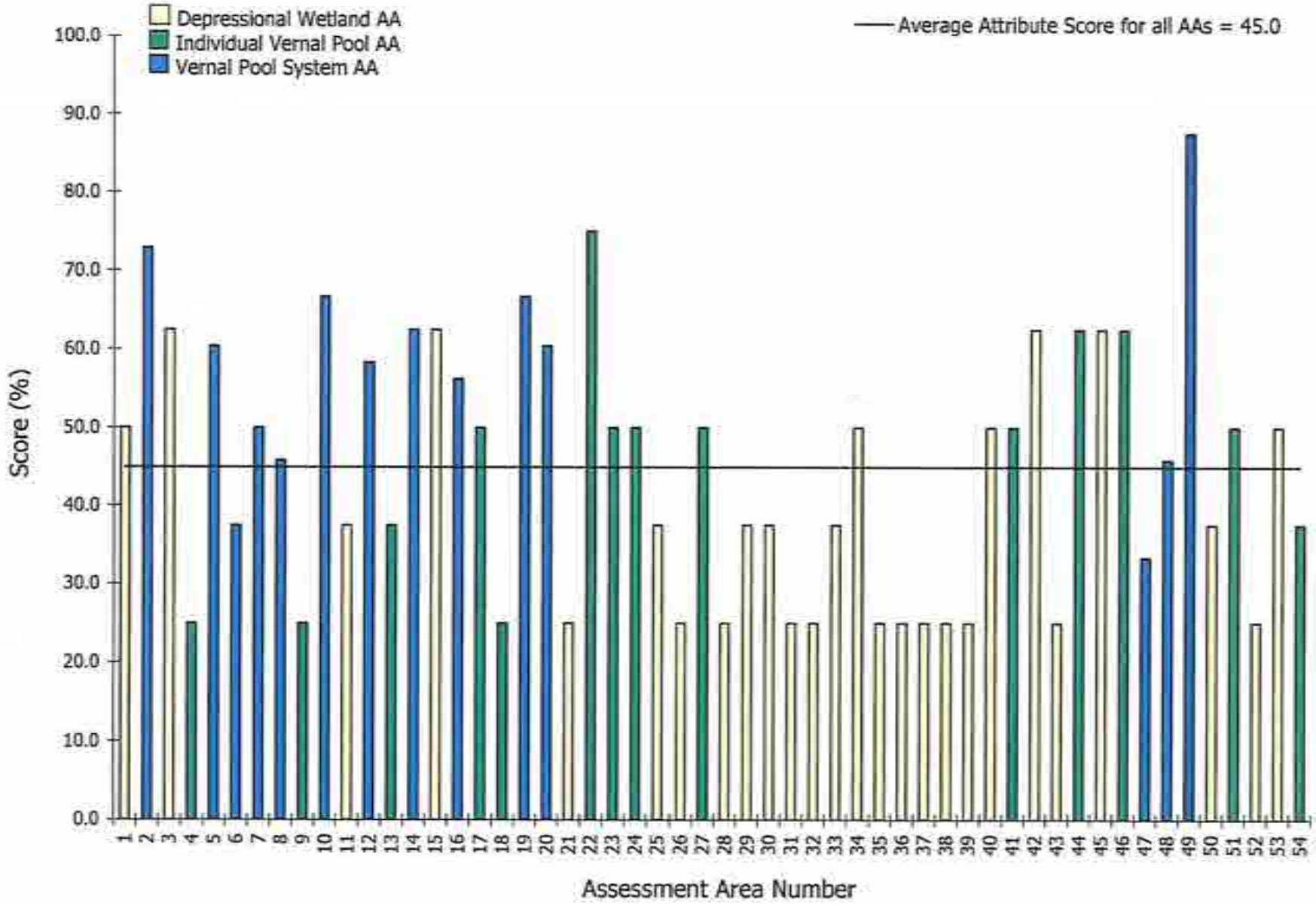
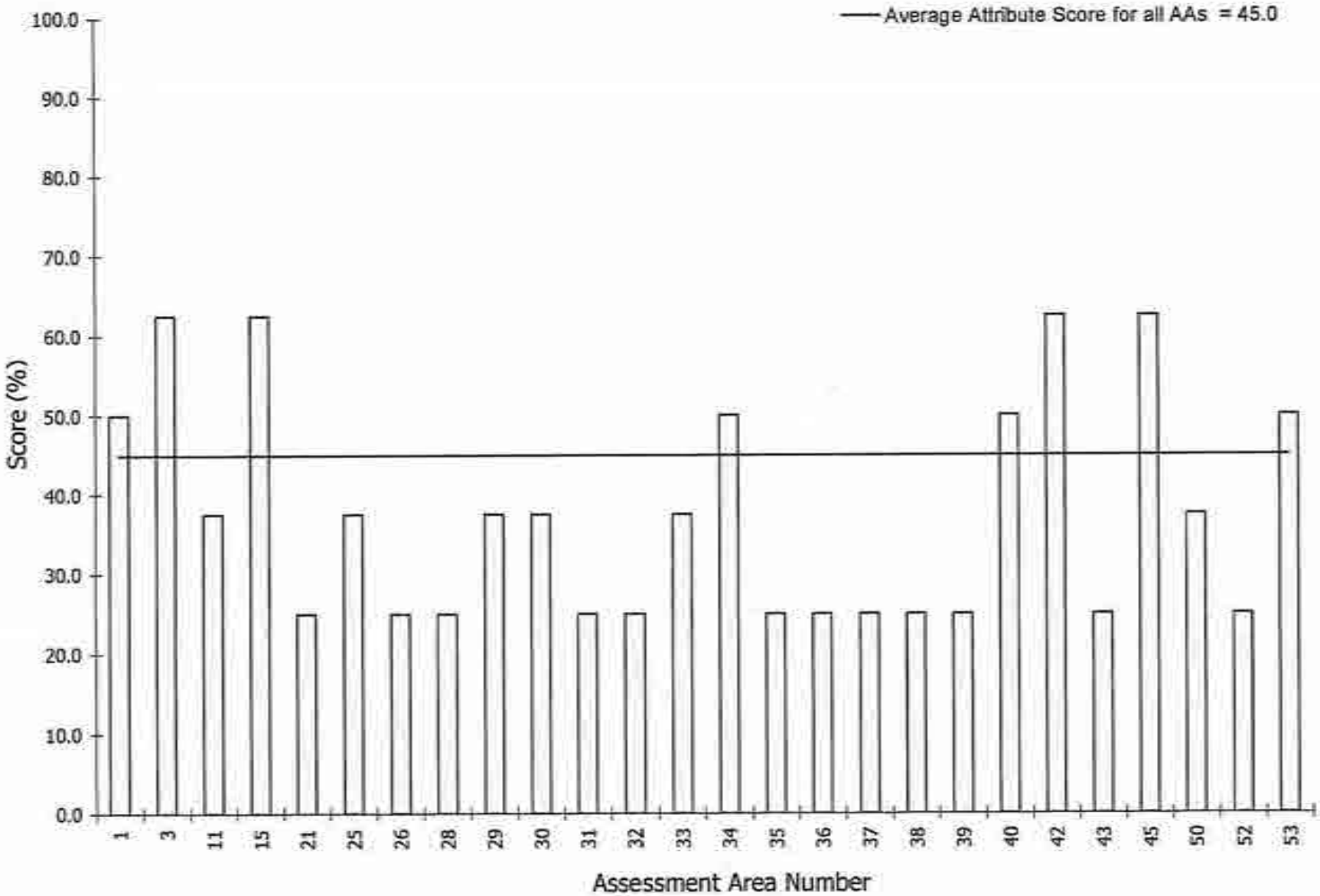
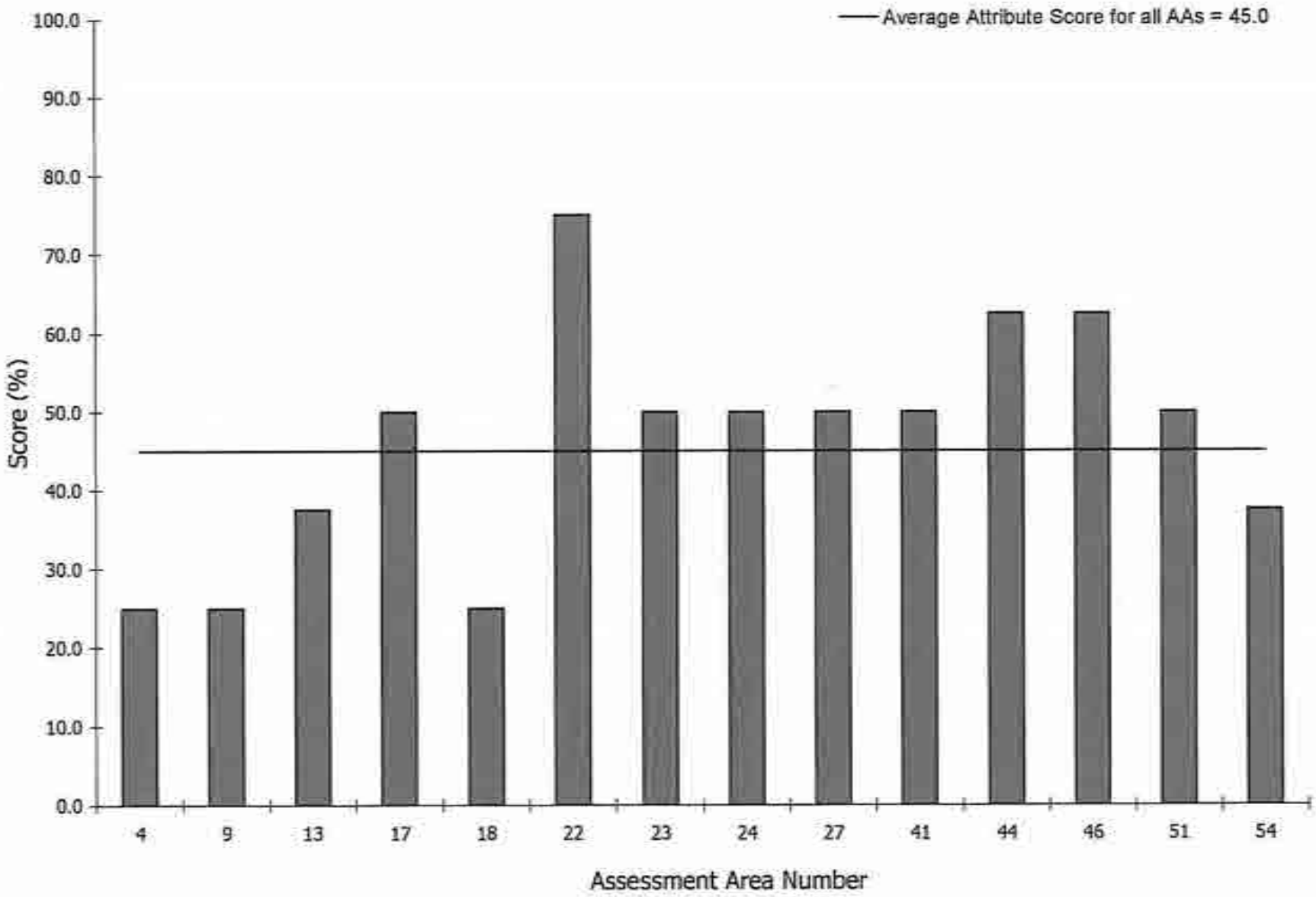


Figure 17. Physical Structure Scores for Depressional Wetland AAs[1]



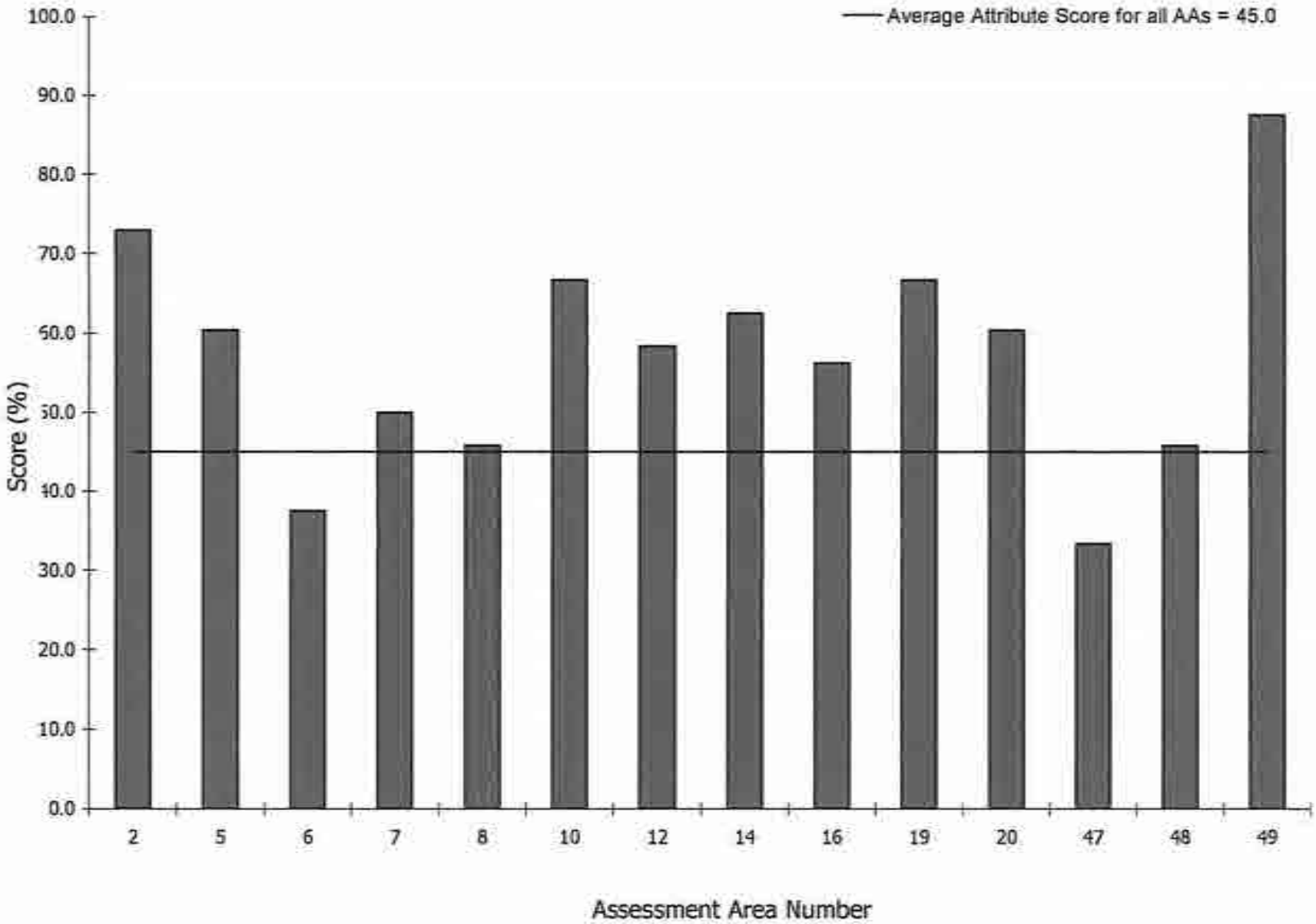
[1] The Depressional Wetland AA data represented on this graph is a subset of the data from Figure 16.

Figure 18. Physical Structure Scores for Individual Vernal Pool AAs[1]



[1] The Individual Vernal Pool AA data represented on this graph is a subset of the data from Figure 16.

Figure 19. Physical Structure Scores for Vernal Pool System AAs[1]



[1] The Vernal Pool System AA data represented on this graph is a subset of the data from Figure 16.

Figure 20. Biotic Structure Scores For All AAs

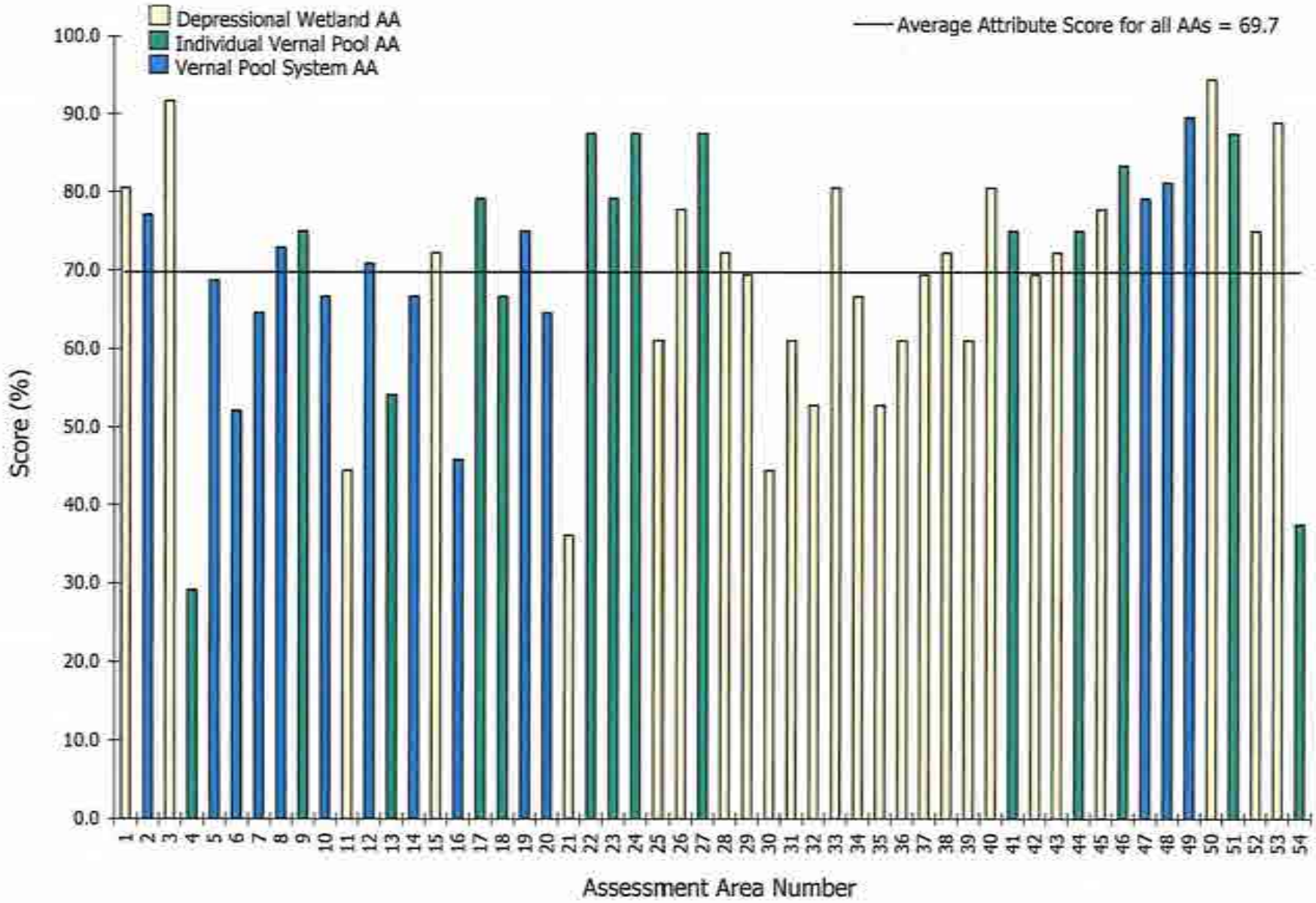
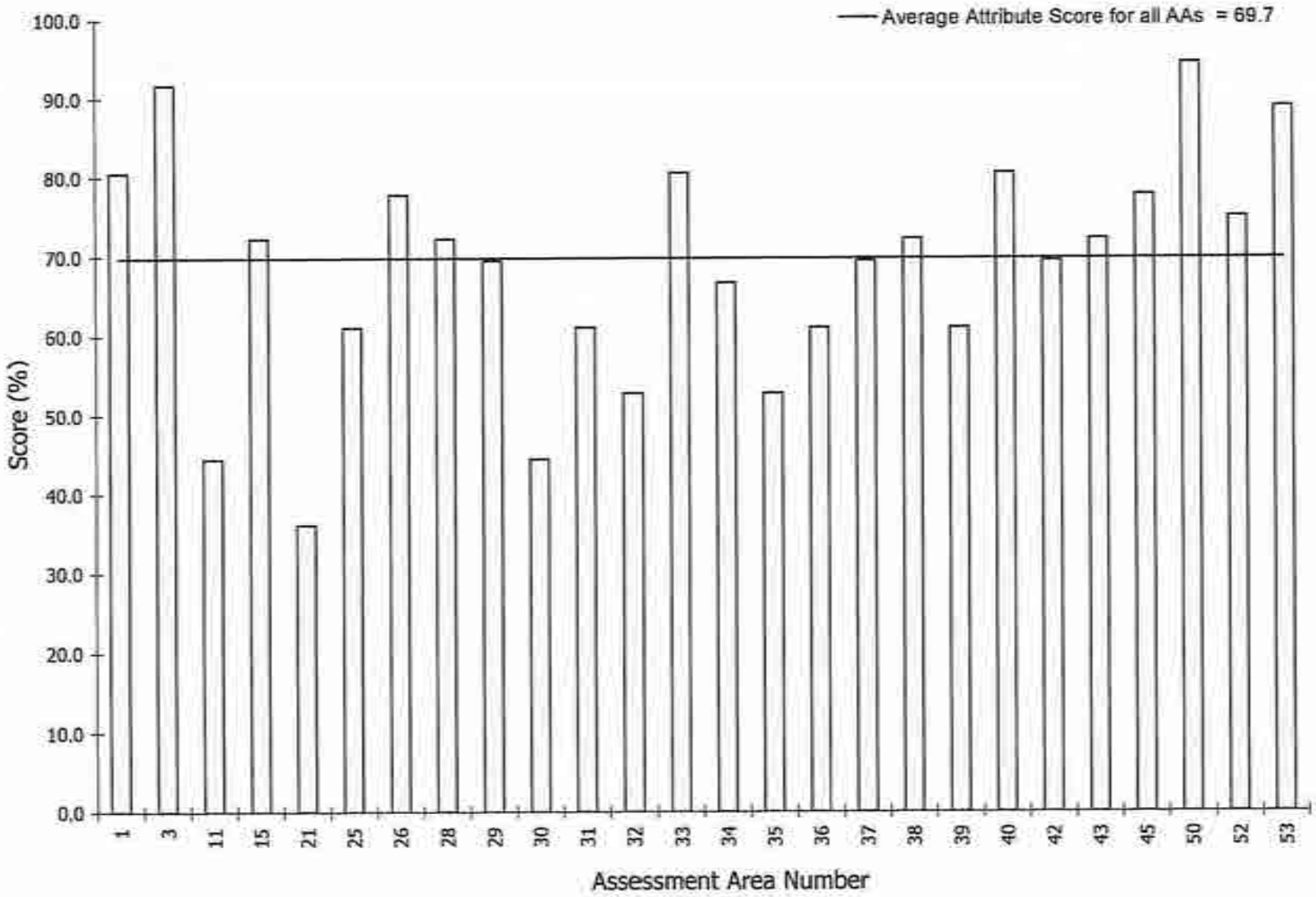
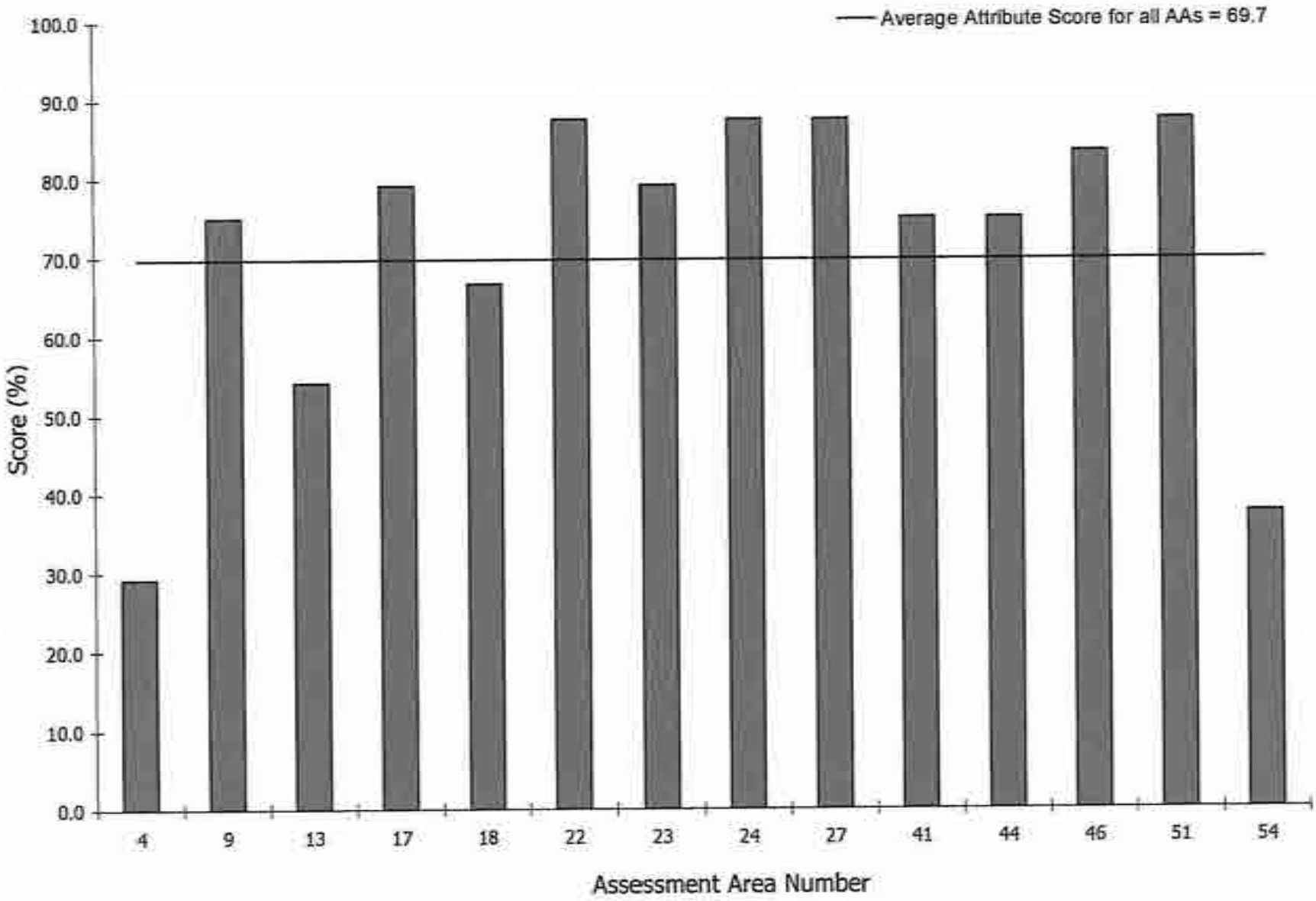


Figure 21. Biotic Structure Scores for Depressional Wetland AAs[1]



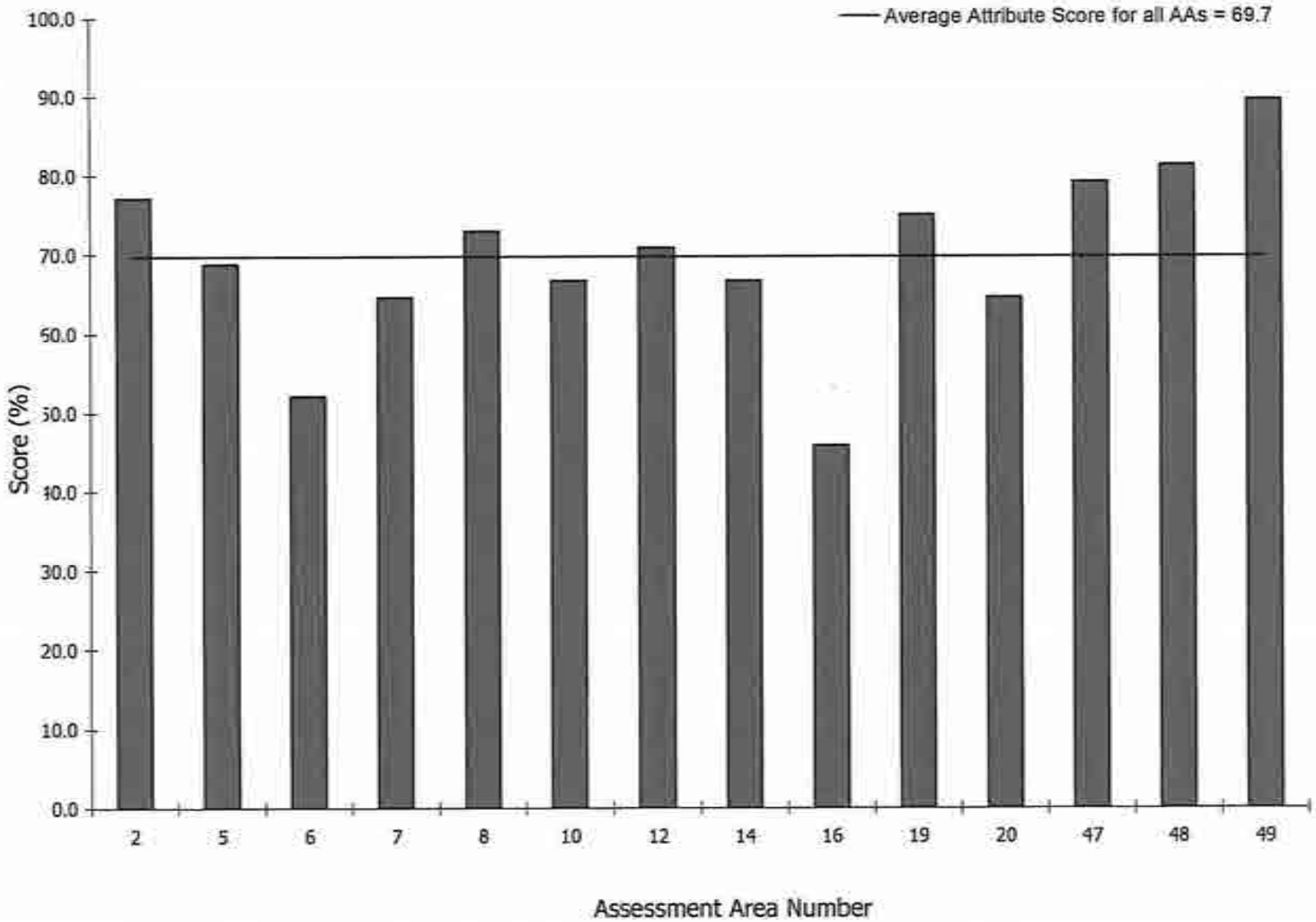
[1] The Depressional Wetland AA data represented on this graph is a subset of the data from Figure 20.

Figure 22. Biotic Structure Scores for Individual Vernal Pool AAs[1]



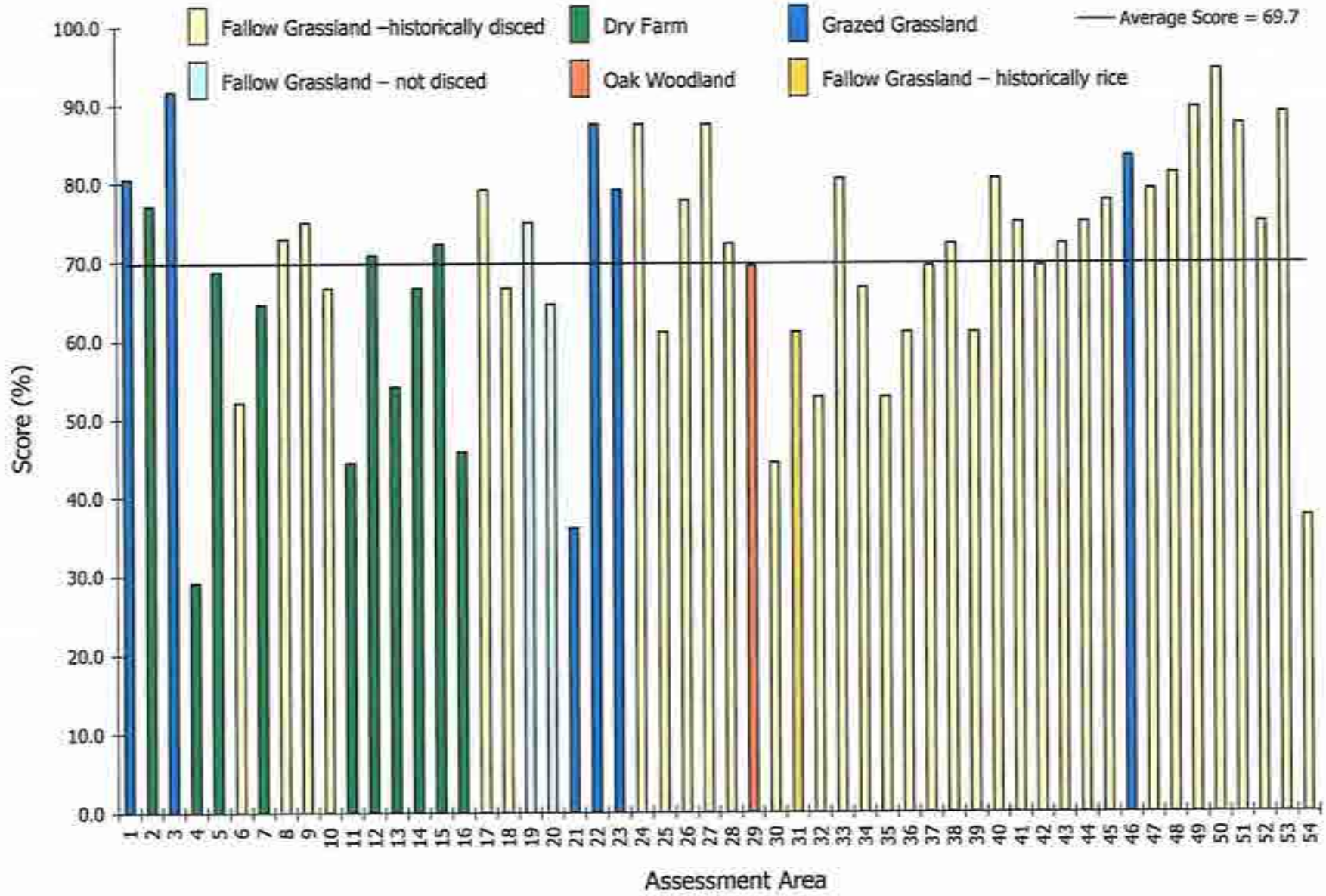
[1] The Individual Vernal Pool AA data represented on this graph is a subset of the data from Figure 20.

Figure 23. Biotic Structure Scores for Vernal Pool System AAs[1]



[1] The Vernal Pool System AA data represented on this graph is a subset of the data from Figure 20.

Figure 24. Scores for Biotic Structure by Land Use Type



LIST OF ATTACHMENTS

Attachment A – CRAM Scoring Sheets and Maps

Attachment B – CRAM Assessment Area Scores

ATTACHMENT A

CRAM Scoring Sheets and Maps

Basic Information Sheet: Seasonal Wetland

Your Name: Eric Stitt		
Assessment Area Name: 1		
Assessment No.		Date: 8/18/2009
Assessment Team Members for This AA		
Debra Sykes		
Jinnah Benn		
Eric Stitt		

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

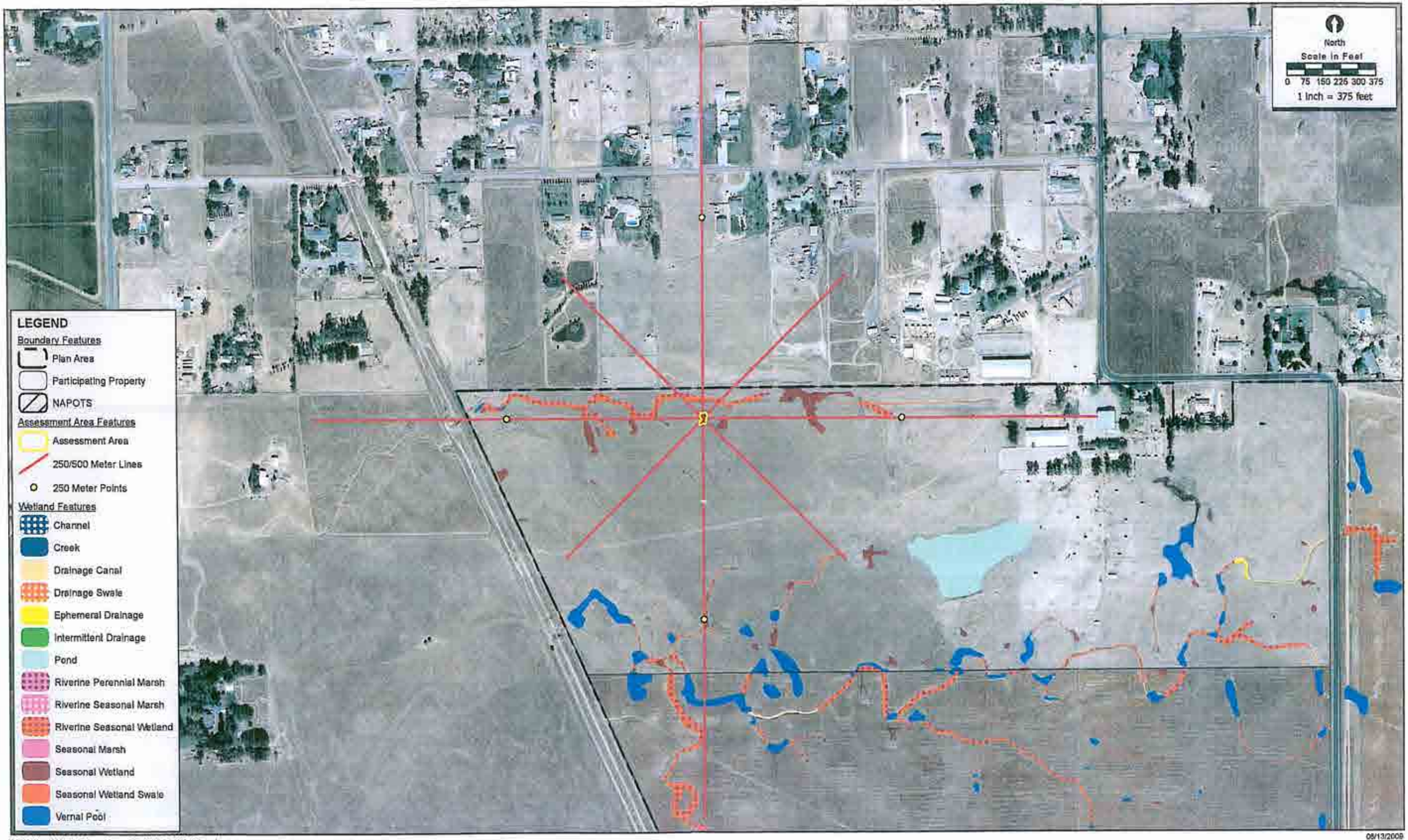
CRAM Scoring Sheet for Assessment Area 1

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	Final Attribute Score= (Raw Score/24) x 100	84
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				5		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				29	Final Attribute Score=(Raw Score/36) x 100	80.6
Overall AA Score (Average of four final attribute scores)						78.65

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 1	AA Type: Seasonal Wetland
Plant Layer: Medium	**Invasive Species?**
Lolium multiflorum	☑
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Eremocarpus setigerus	☐
Juncus bufonius	☐
Plagiobothrys stipitatus	☐



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CRAM Assessment Area 1

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider		
Assessment Area Name: 2		
Assessment No.		Date: 8/18/2009
Assessment Team Members for This AA		
Debra Sykes		
Jinnah Benn		
Eric Stitt		
Daria Snider		

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 2

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				19.39	Final Attribute Score= (Raw Score/24) x 100	80.8
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			B	9		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				30	Final Attribute Score= (Raw Score/36) x 100	83.3
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			B	9		
Topographic Complexity:				8.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				17.5	Final Attribute Score= (Raw Score/24) x 100	72.9
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	B	9				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				10		
Horizontal Interspersion and Zonation				8.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				18.5	Final Attribute Score=(Raw Score/24) x 100	77.1
Overall AA Score (Average of four final attribute scores)						78.53

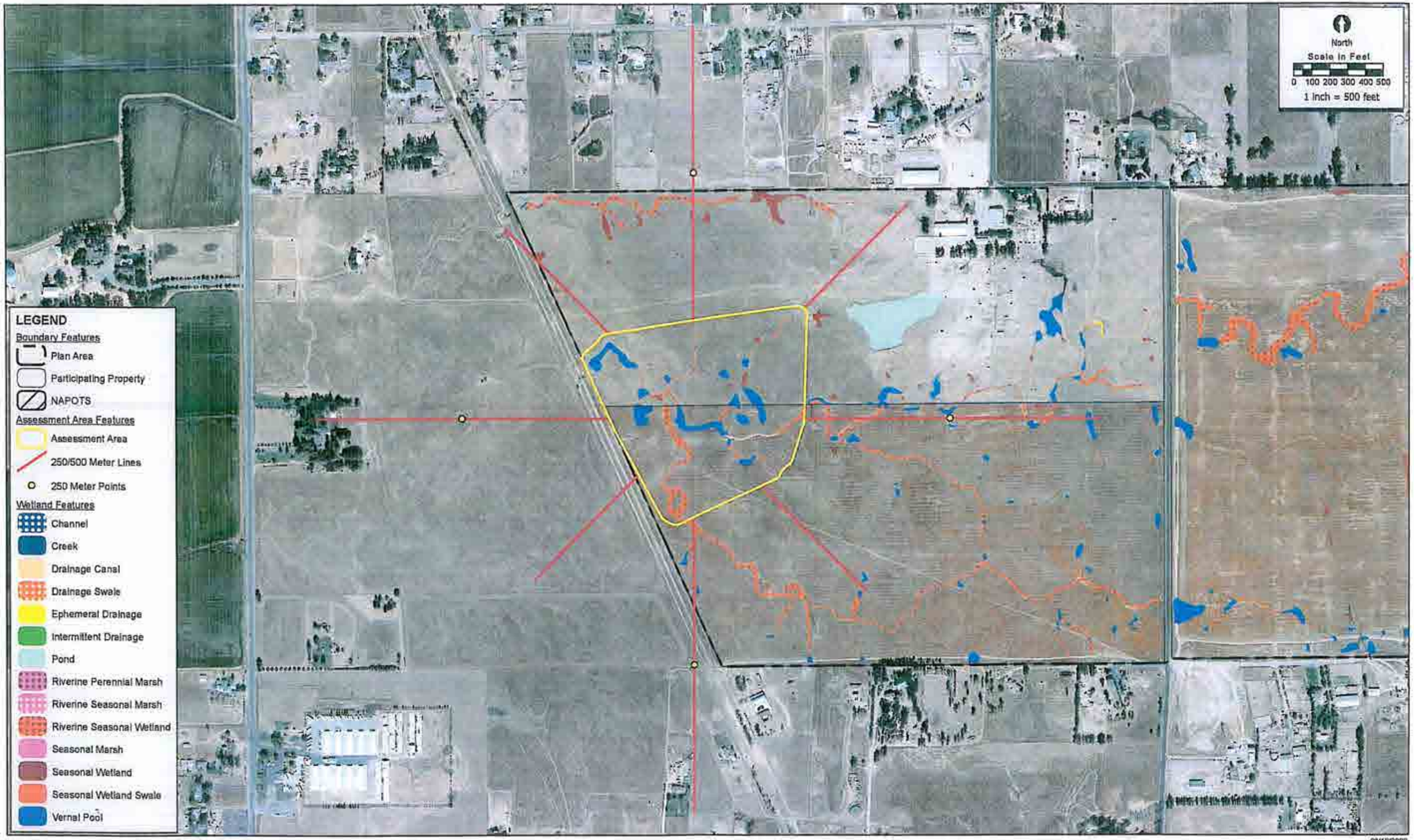
Co-dominant species richness for Vernal Pool System

Assessment Area Name: 2		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Polypogon monspeliensis	☑	☐
Lasthenia glabberima	☐	☑
Convolvulus arvensis	☐	☐
Hemizonia fitchii	☐	☐
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Hemizonia fitchii	☐	☐
Eremocarpus setigerus	☐	☐
Ranunculus bonariensis	☐	☑
Lolium multiflorum	☑	☐
Convolvulus arvensis	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Glyceria declinata	☑	☐
Ranunculus bonariensis	☐	☑
Eremocarpus setigerus	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Deschampsia danthenioides	☐	☑
Hordeum marinum	☑	☐
Hemizonia fitchii	☐	☐
Lolium multiflorum	☑	☐
Polypogon monspeliensis	☑	☐
Species List for Small pool 2	**Invasive Species**	**Endemic Species**
Polypogon monspeliensis	☑	☐
Lasthenia glabberima	☐	☑
Rumex crispus	☑	☐
Trifolium species	☐	☐

Co-dominant species richness for Vernal Pool System

Lolium multiflorum	☑	☐
Eremocarpus setigerus	☐	☐
Eryngium vaseyi	☐	☑
Hordeum marinum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Plagiobothrys undulatus	☐	☑
Eremocarpus setigerus	☐	☐
Lolium multiflorum	☑	☐
Glyceria declinata	☑	☐
Polypogon monspeliensis	☑	☐
Ranunculus bonariensis	☐	☑

Assessment Area 2	N
Total Invasive Species:	5
Total Endemic Species:	6
Total Other Species:	4
Total Number Unique Species:	15



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08/19/2009

CRAM Assessment Area 2

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Pond

Your Name: Eric Stitt		
Assessment Area Name: 3		
Assessment No.		Date: 8/18/2009
Assessment Team Members for This AA		
Daria Snider		
Debra Sykes		
Jinnah Benn		
Eric Stitt		

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Pond

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☑ saturated soil, but no surfacewater ☐ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☑ long-duration ☐ medium-duration ☐ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

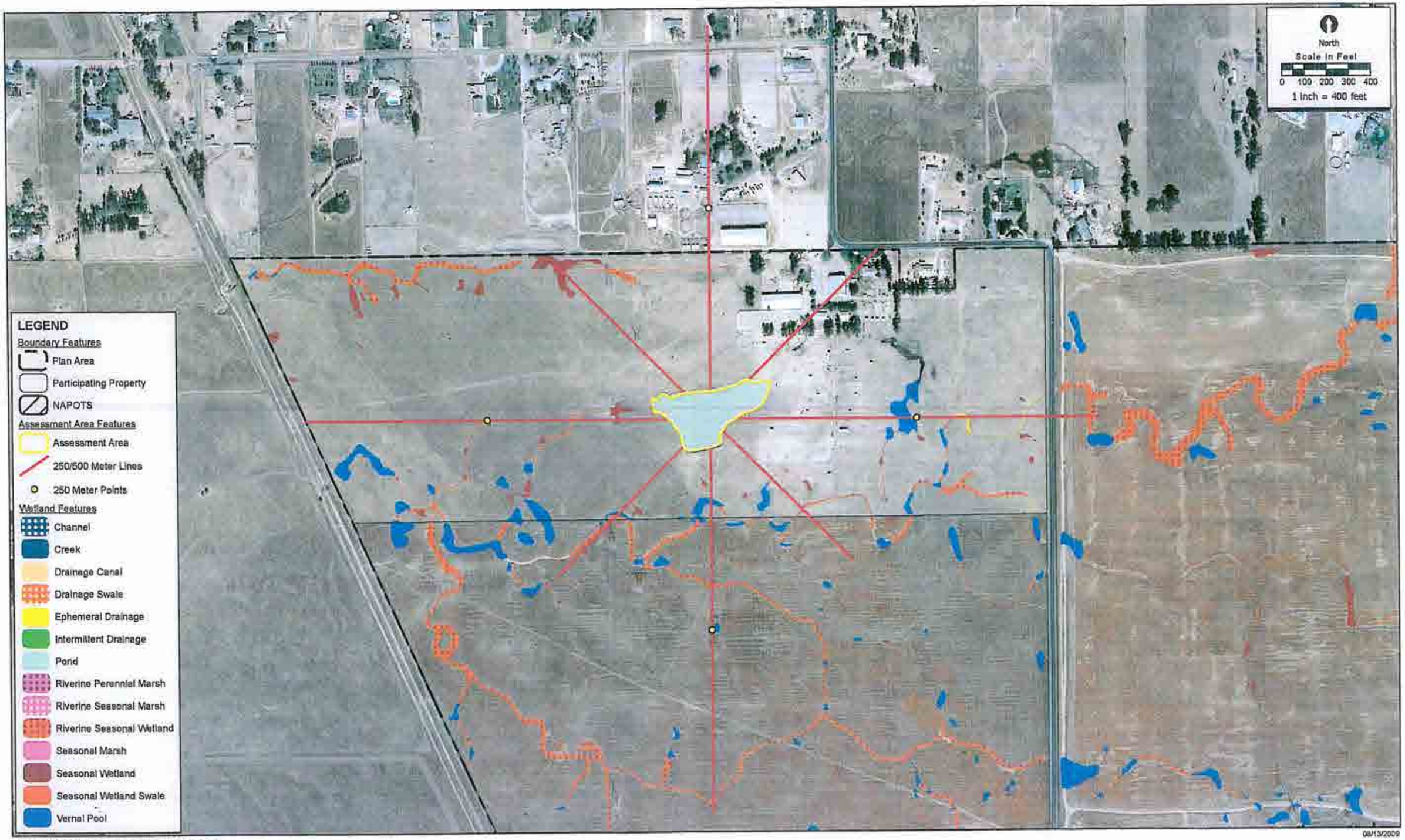
CRAM Scoring Sheet for Assessment Area 3

Depressional Wetland AA: Pond

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			C	6		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	B	9				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	A	12				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score=(Raw Score/36) x 100	91.7
Overall AA Score (Average of four final attribute scores)						79.35

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 3	**AA Type: Pond**
Plant Layer: Floating or Canopy-forming	**Invasive Species?**
Najas guadalupensis	☐
Plant Layer: Medium	**Invasive Species?**
Rumex crispus	☐
Plant Layer: Short	**Invasive Species?**
Polypogon monspeliensis	☑
Lasthenia glabberima	☐
Epilobium densiflorum	☐
Crypsis schoenoides	☐
Plagiobothrys stipitatus	☐
Eleocharis macrostachya	☐



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CRAM Assessment Area 3

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 4	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Eric Stitt	
Daria Snider	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 4

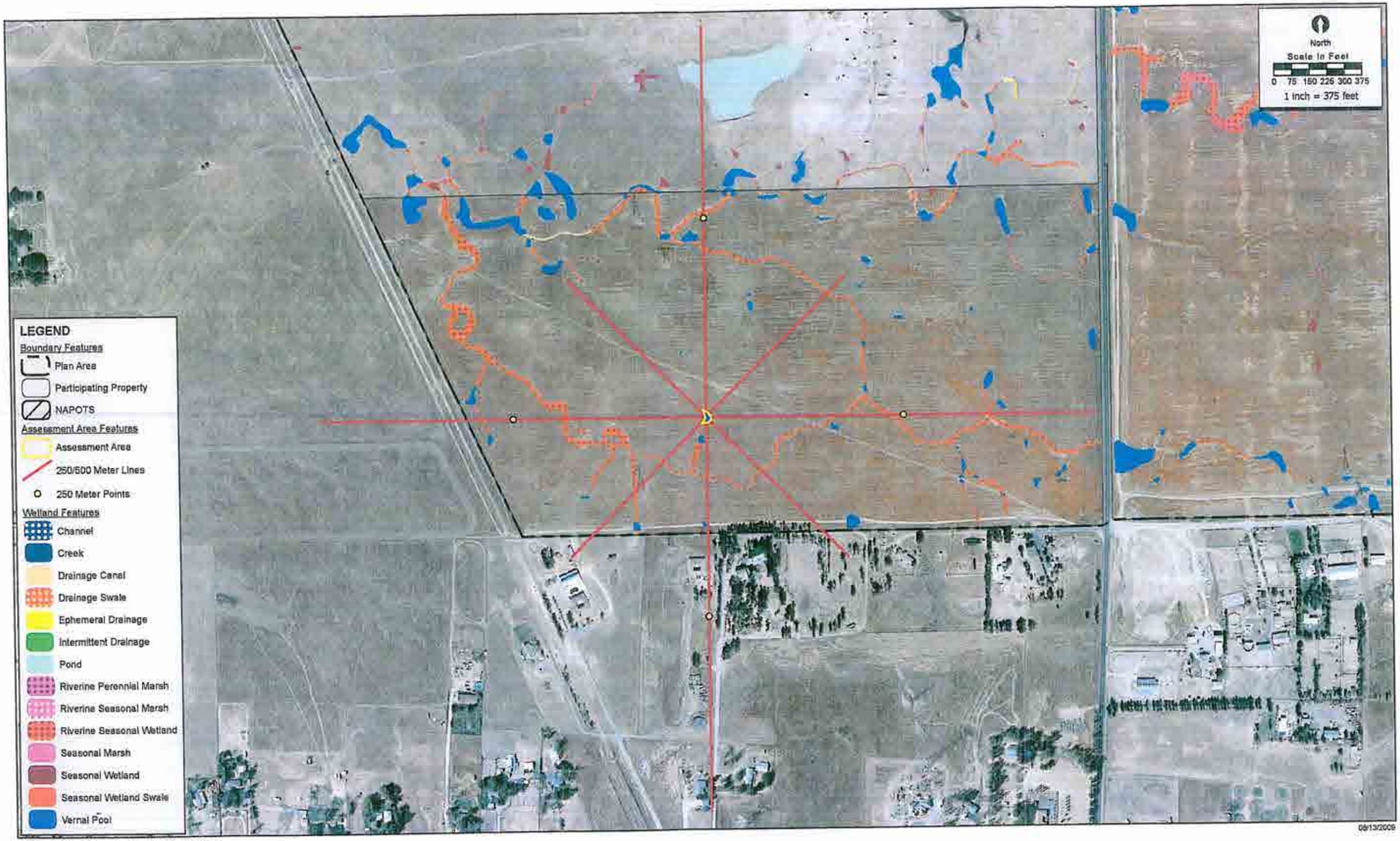
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	Final Attribute Score= (Raw Score/24) x 100	84
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			D	3		
Raw Attribute Score = sum of numeric scores:				7	Final Attribute Score=(Raw Score/24) x 100	29.2
Overall AA Score (Average of four final attribute scores)						59.55

Co-dominant species richness for Vernal Pool

Assessment Area Name: 4		
Species List for Vernal pool	**Invasive Species**	**Endemic Species**
Ranunculus bonariensis	☐	☑
Lolium multiflorum	☑	☐
Glyceria declinata	☑	☐

Assessment Area 4	N
Total Invasive Species:	**2**
Total Endemic Species:	**1**
Total Other Species:	**0**
Total Number Unique Species:	**3**



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CRAM Assessment Area 4

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 5	
Assessment No.	Date: 8/18/2009
Assessment Team Members for This AA	
Debra Sykes	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 5

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			B	9		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				30	Final Attribute Score= (Raw Score/36) x 100	83.3
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			B	9		
Topographic Complexity:				5.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				14.5	Final Attribute Score= (Raw Score/24) x 100	60.4
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation				8.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				16.5	Final Attribute Score=(Raw Score/24) x 100	68.8
Overall AA Score (Average of four final attribute scores)						70.2

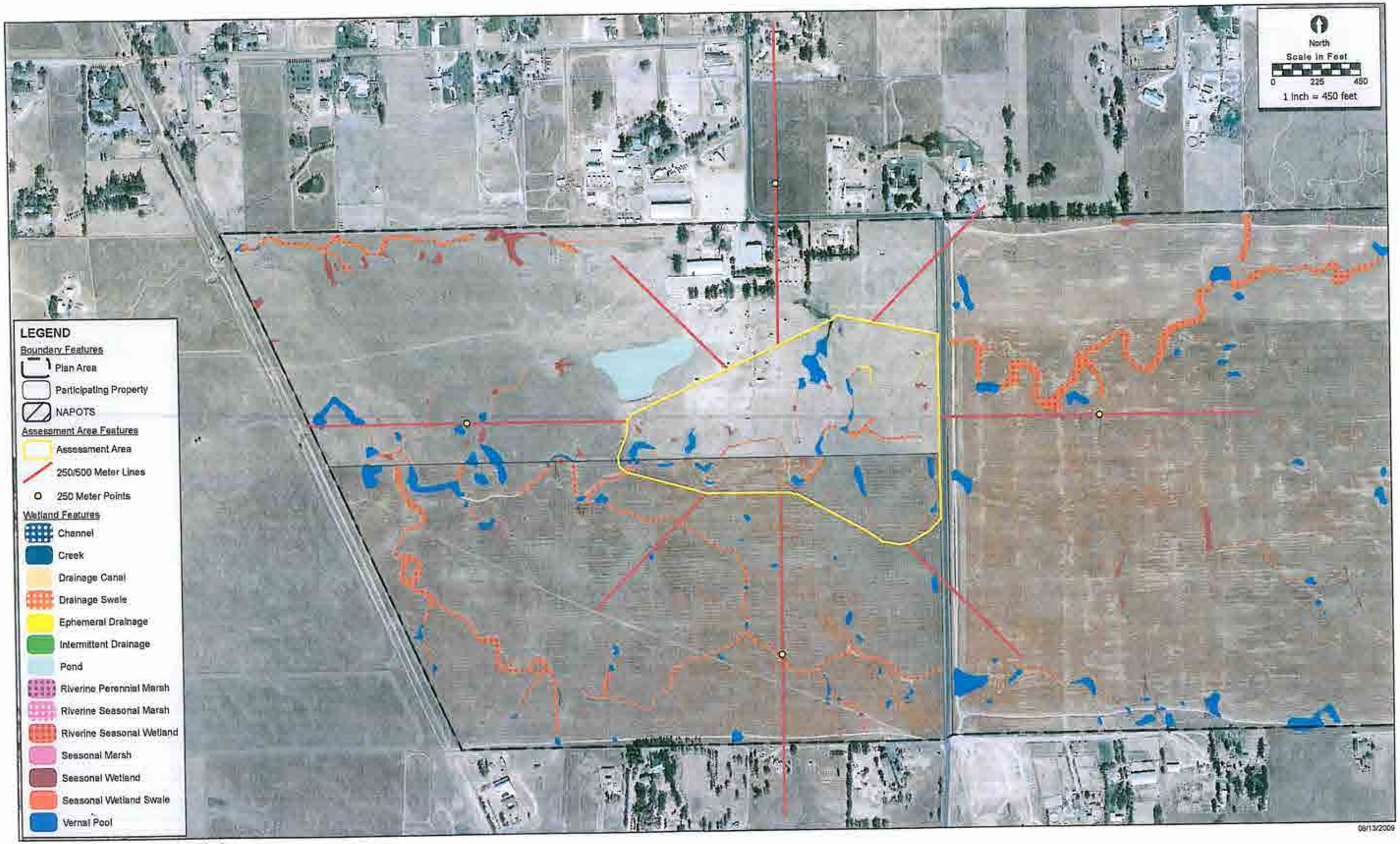
Co-dominant species richness for Vernal Pool System

Assessment Area Name: 5		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Rumex crispus	☑	☐
Lolium multiflorum	☑	☐
Lasthenia glabberima	☐	☑
Trifolium glomeratum	☐	☐
Polypogon monspeliensis	☑	☐
Hordeum marinum	☑	☐
Glyceria declinata	☑	☐
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Hemizonia fitchii	☐	☐
Polypogon monspeliensis	☑	☐
Eryngium vaseyi	☐	☑
Hordeum marinum	☑	☐
Psilocarphus brevissimus	☐	☑
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Ranunculus bonariensis	☐	☑
Hordeum marinum	☑	☐
Lolium multiflorum	☑	☐
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Convolvulus arvensis	☐	☐
Eryngium vaseyi	☐	☑
Lolium multiflorum	☑	☐
Lasthenia glabberima	☐	☑
Polypogon monspeliensis	☑	☐
Hemizonia fitchii	☐	☐
Hordeum marinum	☑	☐
Species List for Small pool 2	**Invasive Species**	**Endemic Species**
Ranunculus bonariensis	☐	☑

Co-dominant species richness for Vernal Pool System

Lolium multiflorum	☑	☐
Convolvulus arvensis	☐	☐
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐

Assessment Area 5	N
Total Invasive Species:	5
Total Endemic Species:	5
Total Other Species:	3
Total Number Unique Species:	13



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CRAM Assessment Area 5

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 6	
Assessment No.	Date: 8/27/2009
Assessment Team Members for This AA	
Daria Snider	
Peter Balfour	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 6

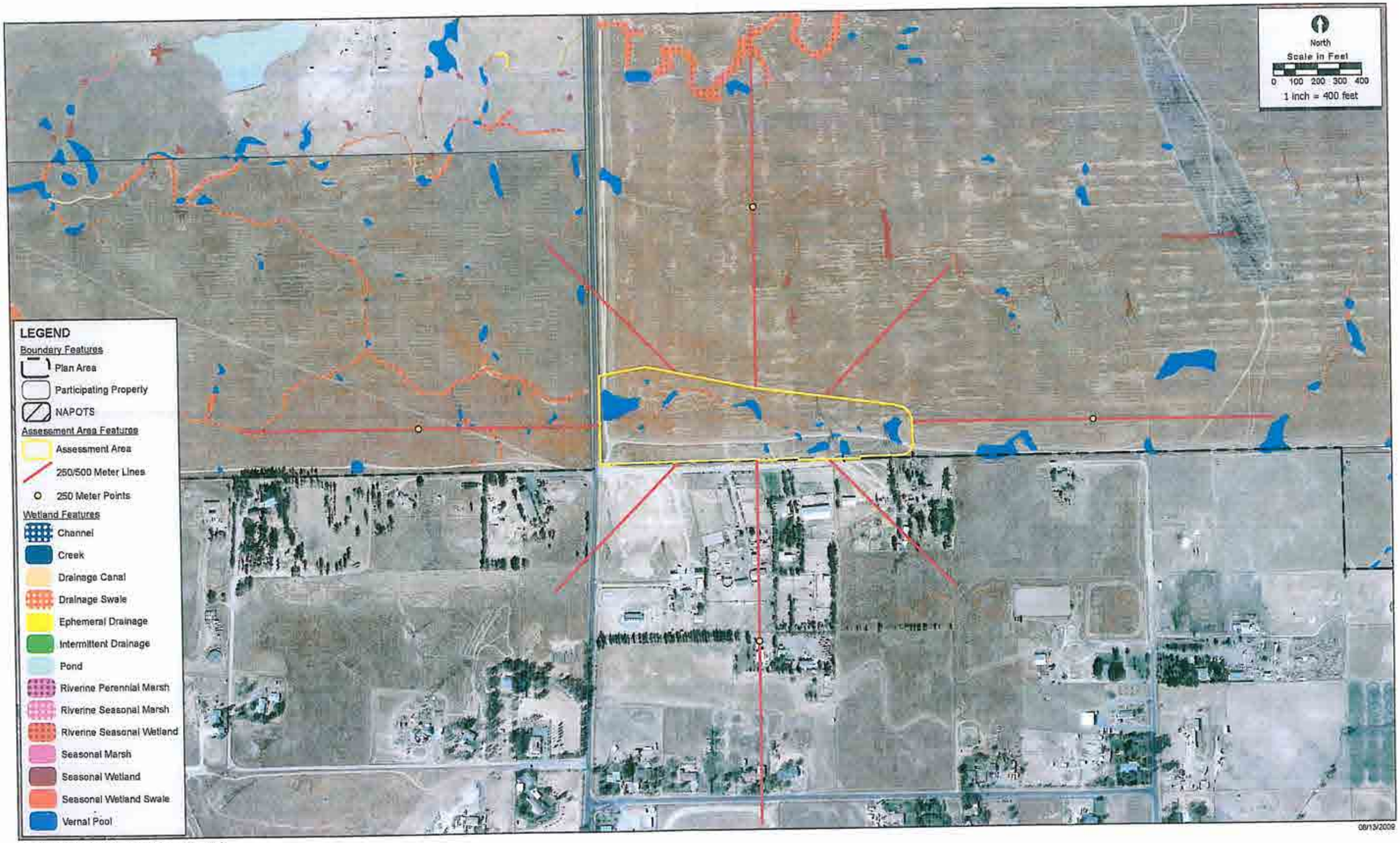
Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	B	9				
(C Submetric) Score for Buffer: Average Buffer Width	B	9				
(D Submetric) Score for Buffer: Buffer Condition	C	6				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				13.35	Final Attribute Score= (Raw Score/24) x 100	55.6
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:				6	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				5		
Horizontal Interspersion and Zonation				7.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				12.5	Final Attribute Score=(Raw Score/24) x 100	52.1
Overall AA Score (Average of four final attribute scores)						59.22

Co-dominant species richness for Vernal Pool System

Assessment Area Name: 6		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Hordeum marinum	☑	☐
Lolium multiflorum	☑	☐
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Species List for Small pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Polygonum arenastrum	☐	☐
Glyceria declinata	☑	☐
Lolium multiflorum	☑	☐

Assessment Area 6	N
Total Invasive Species:	3
Total Endemic Species:	1
Total Other Species:	1
Total Number Unique Species:	5



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CRAM Assessment Area 6

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 7	
Assessment No.	Date: 9/9/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 7

Vernal Pool System AA: Vernal Pool System

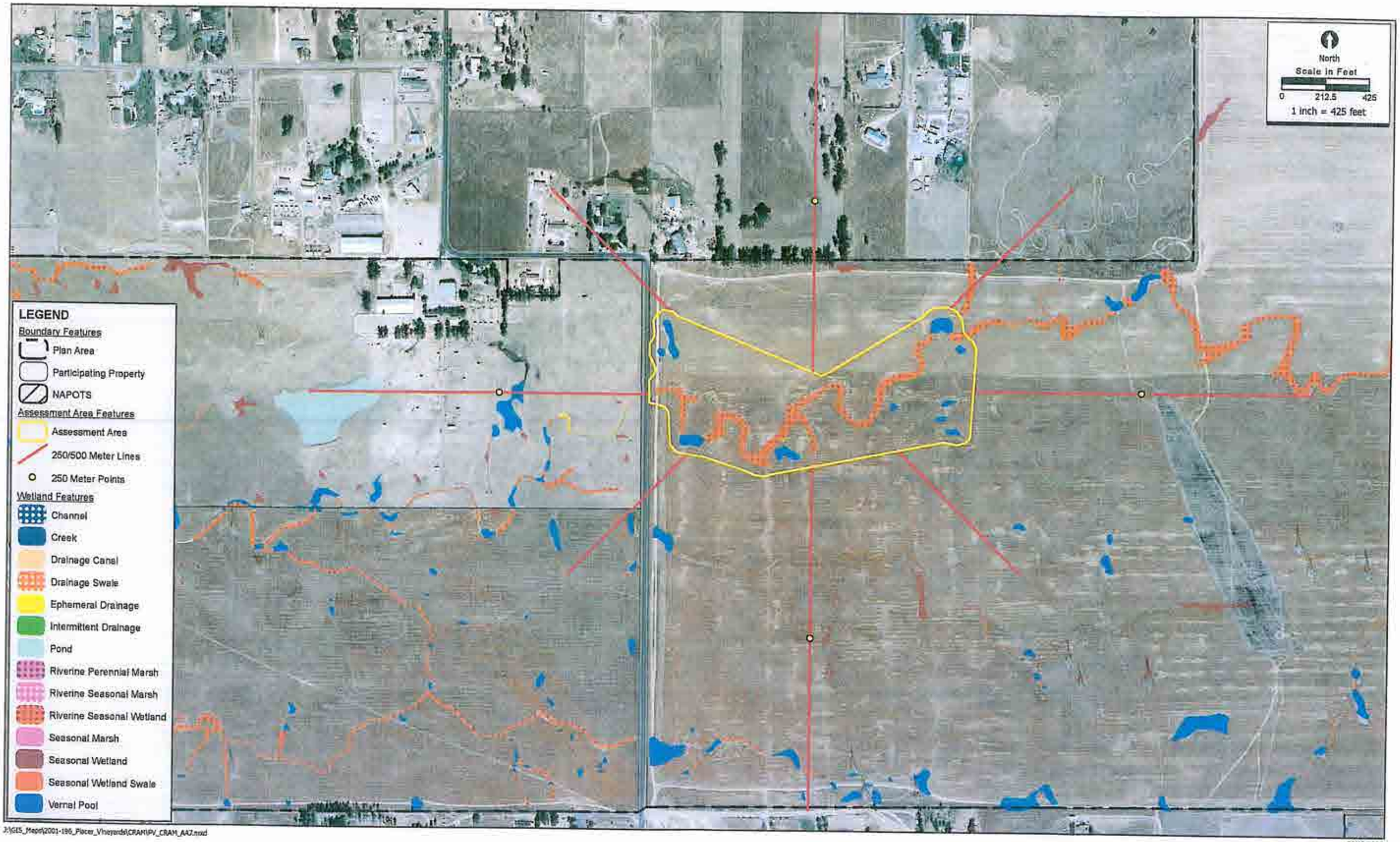
Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				13.39	Final Attribute Score= (Raw Score/24) x 100	55.8
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			C	6		
Topographic Complexity:				6	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation				7.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				15.5	Final Attribute Score=(Raw Score/24) x 100	64.6
Overall AA Score (Average of four final attribute scores)						67.6

Co-dominant species richness for Vernal Pool System

Assessment Area Name: 7		
Species List for Large Pool 1	**Invasive Species**	**Endemic Species**
Phalaris species	☐	☐
Glyceria declinata	☑	☐
Lolium multiflorum	☑	☐
Species List for Large Pool 2	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Lythrum hyssopifolium	☑	☐
Downingia species	☐	☑
Convolvulus arvensis	☐	☐
Glyceria declinata	☑	☐
Ranunculus bonariensis	☐	☑
Species List for Large Pool 3	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Ranunculus bonariensis	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Convolvulus arvensis	☐	☐
Lolium multiflorum	☑	☐
Species List for Small Pool 1	**Invasive Species**	**Endemic Species**
Convolvulus arvensis	☐	☐
Lolium multiflorum	☑	☐
Species List for Small Pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Convolvulus arvensis	☐	☐
Juncus bufonius	☐	☐
Species List for Small Pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Convolvulus arvensis	☐	☐

Co-dominant species richness for Vernal Pool System

Assessment Area 7	N
Total Invasive Species:	4
Total Endemic Species:	3
Total Other Species:	3
Total Number Unique Species:	10



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08/13/2009

CRAM Assessment Area 7

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 8	
Assessment No.	Date: 8/27/2009
Assessment Team Members for This AA	
Daria Snider	
Peter Balfour	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 8

Vernal Pool System AA: Vernal Pool System

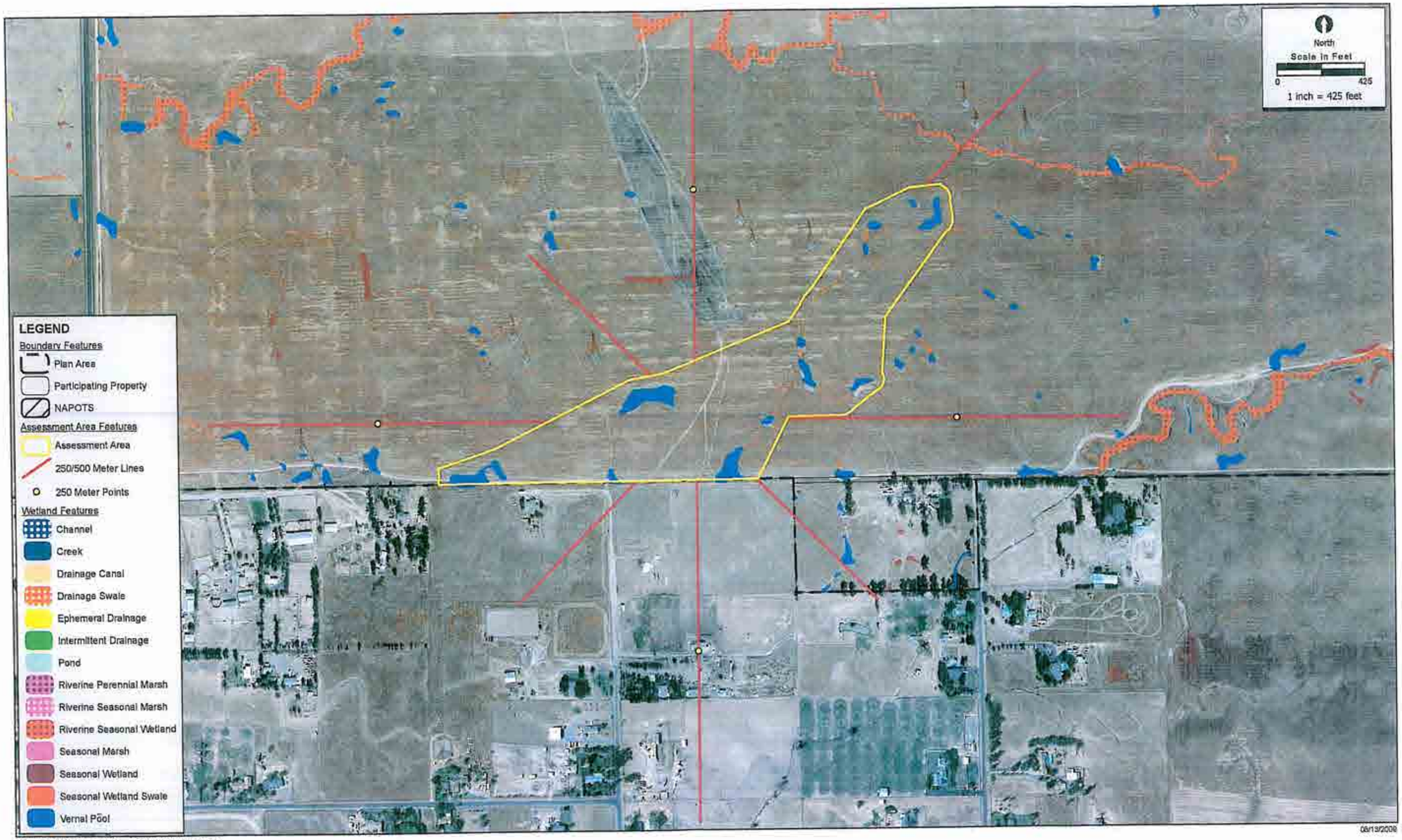
Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	C	6				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				11.49	Final Attribute Score= (Raw Score/24) x 100	47.9
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:				8	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				11	Final Attribute Score= (Raw Score/24) x 100	45.8
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation				8.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				17.5	Final Attribute Score=(Raw Score/24) x 100	72.9
Overall AA Score (Average of four final attribute scores)						64.57

Co-dominant species richness for Vernal Pool System

Assessment Area Name: 8		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Ranunculus bonariensis	☐	☑
Lolium multiflorum	☑	☐
Convolvulus arvensis	☐	☐
Lasthenia glabberima	☐	☑
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Eleocharis macrostachya	☐	☑
Lasthenia glabberima	☐	☑
Glyceria declinata	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Juncus bufonius	☐	☐
Lolium multiflorum	☑	☐
Phalaris minor	☐	☐
Hordeum marinum	☑	☐
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Species List for Small pool 2	**Invasive Species**	**Endemic Species**
Ranunculus bonariensis	☐	☑
Hordeum marinum	☑	☐
Lolium multiflorum	☑	☐
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Glyceria declinata	☑	☐
Ranunculus bonariensis	☐	☑
Hordeum marinum	☑	☐

Co-dominant species richness for Vernal Pool System

Assessment Area 8	N
Total Invasive Species:	3
Total Endemic Species:	4
Total Other Species:	3
Total Number Unique Species:	10



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CRAM Assessment Area 8

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 9	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 9

Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	B	9				
(D Submetric) Score for Buffer: Buffer Condition	C	6				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				15.39	Final Attribute Score= (Raw Score/24) x 100	64.1
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation			B	9		
Raw Attribute Score = sum of numeric scores:				18	Final Attribute Score=(Raw Score/24) x 100	75
Overall AA Score (Average of four final attribute scores)						66.03

Co-dominant species richness for Vernal Pool

Assessment Area Name: 9		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Deschampsia danthenioides	☐	☑
Gnaphalium palustre	☐	☐
Downingia species	☐	☑
Eremocarpus setigerus	☐	☐
Glyceria declinata	☑	☐
Lythrum hyssopifolium	☑	☐

Assessment Area 9	N
Total Invasive Species:	2
Total Endemic Species:	3
Total Other Species:	2
Total Number Unique Species:	7

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CRAM Assessment Area 9

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 10	
Assessment No.	Date: 9/8/2009
Assessment Team Members for This AA	
Peter Balfour	
Daria Snider	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 10

Vernal Pool System AA: Vernal Pool System

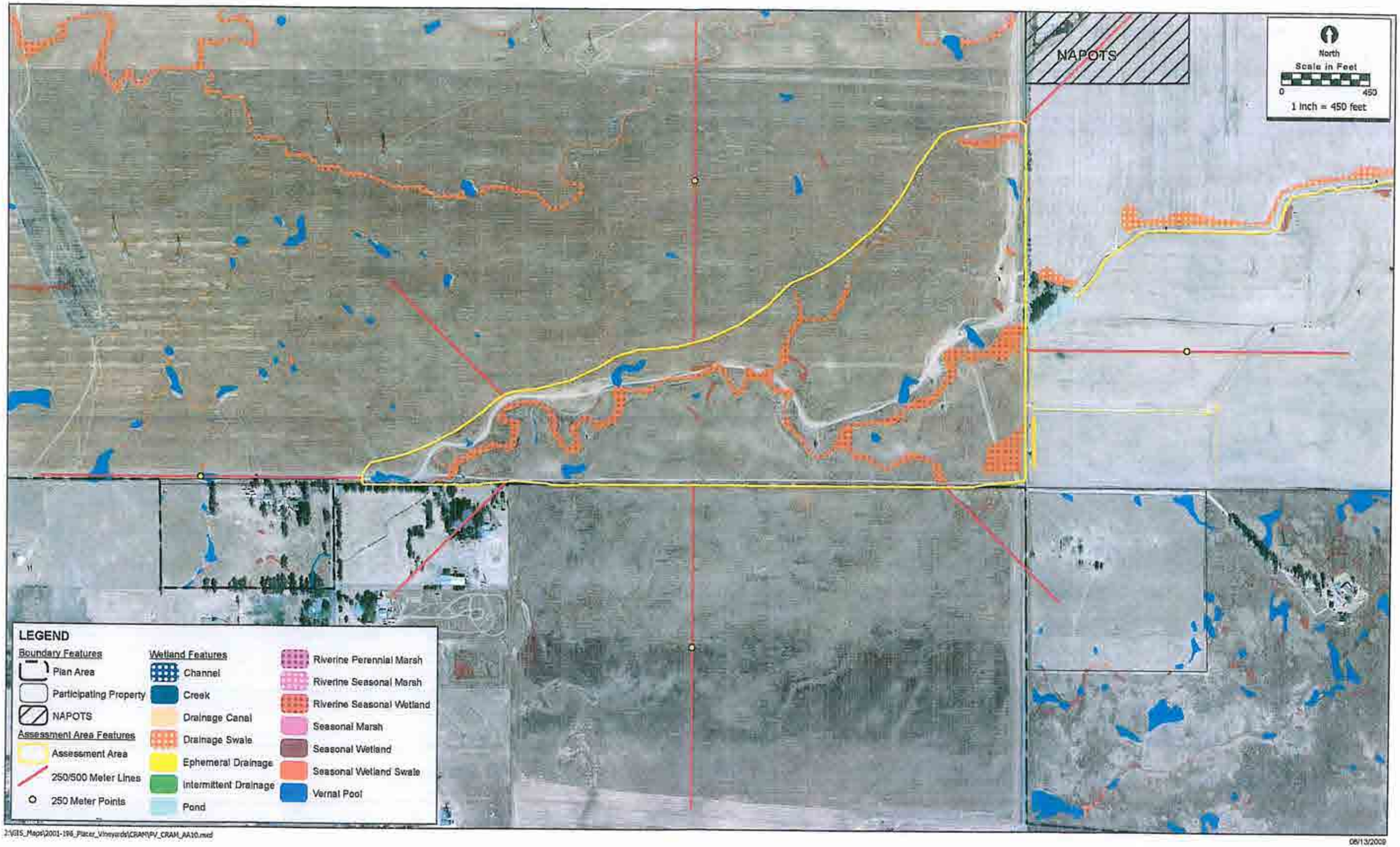
Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				13.39	Final Attribute Score= (Raw Score/24) x 100	55.8
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			B	9		
Topographic Complexity:				7	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				16	Final Attribute Score= (Raw Score/24) x 100	66.7
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation				7	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				16	Final Attribute Score=(Raw Score/24) x 100	66.7
Overall AA Score (Average of four final attribute scores)						72.3

Co-dominant species richness for Vernal Pool System

Assessment Area Name: 10		
Species List for Large Pool 1	**Invasive Species**	**Endemic Species**
Polygonum arenastrum	☐	☐
Lolium multiflorum	☑	☐
Lythrum hyssopifolium	☑	☐
Convolvulus arvensis	☐	☐
Juncus bufonius	☐	☐
Species List for Large Pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Convolvulus arvensis	☐	☐
Polygonum arenastrum	☐	☐
Deschampsia danthenioides	☐	☑
Species List for Large Pool 3	**Invasive Species**	**Endemic Species**
Polypogon monspeliensis	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Eryngium vaseyi	☐	☑
Lasthenia glabberima	☐	☑
Ranunculus bonariensis	☐	☑
Lolium multiflorum	☑	☐
Eremocarpus setigerus	☐	☐
Species List for Small Pool 1	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Species List for Small Pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Ranunculus bonariensis	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Hordeum marinum	☑	☐
Species List for Small Pool 3	**Invasive Species**	**Endemic Species**
Polygonum arenastrum	☐	☐
Lolium multiflorum	☑	☐
Convolvulus arvensis	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑

Co-dominant species richness for Vernal Pool System

Assessment Area 10	N
Total Invasive Species:	4
Total Endemic Species:	5
Total Other Species:	4
Total Number Unique Species:	13



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08/13/2009

CRAM Assessment Area 10

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider		
Assessment Area Name: 11		
Assessment No.		Date: 9/8/2009
Assessment Team Members for This AA		
Daria Snider		
Pete Balfour		

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

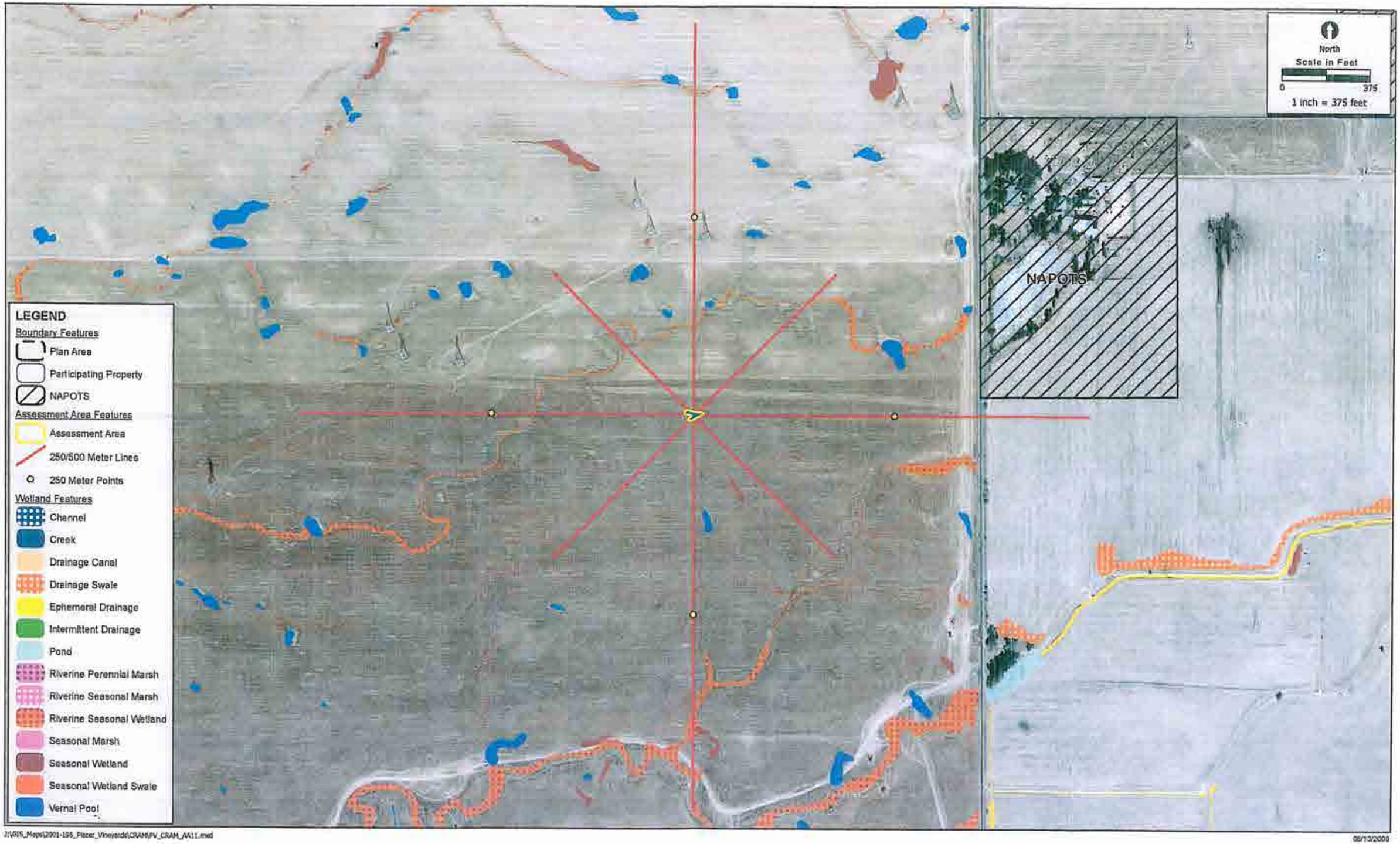
CRAM Scoring Sheet for Assessment Area 11

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			D	3		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				16	Final Attribute Score=(Raw Score/36) x 100	44.4
Overall AA Score (Average of four final attribute scores)						60.22

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 11	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Lolium multiflorum	☑
Hordeum marinum	☑



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CRAM Assessment Area 11

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 12	
Assessment No.	Date: 9/8/2009
Assessment Team Members for This AA	
Peter Balfour	
Daria Snider	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 12

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				13.39	Final Attribute Score= (Raw Score/24) x 100	55.8
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			B	9		
Topographic Complexity:				5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				14	Final Attribute Score= (Raw Score/24) x 100	58.3
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation				9	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				17	Final Attribute Score=(Raw Score/24) x 100	70.8
Overall AA Score (Average of four final attribute scores)						71.23

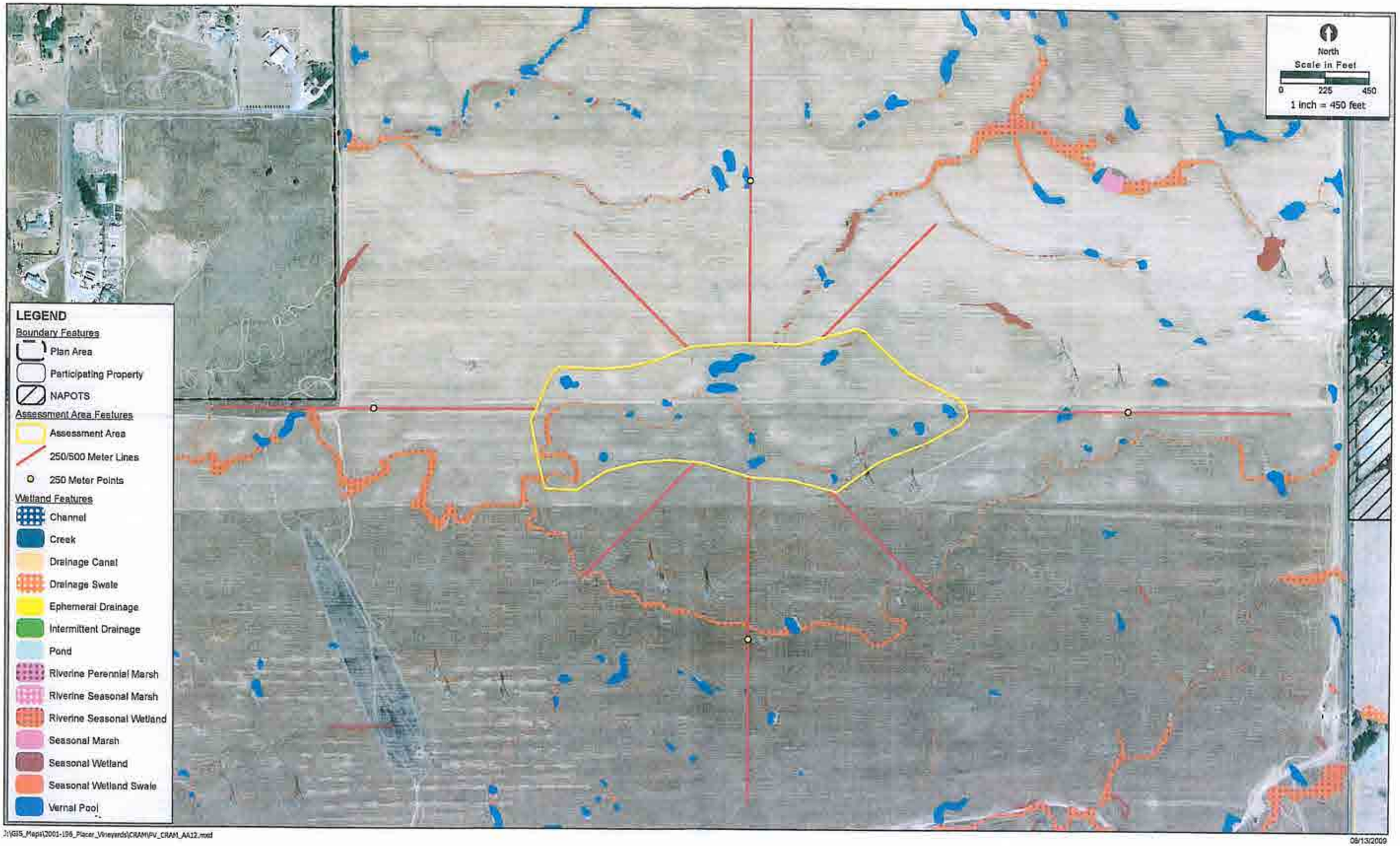
Co-dominant species richness for Vernal Pool System

Assessment Area Name: 12		
Species List for Large Pool 1	**Invasive Species**	**Endemic Species**
Juncus bufonius	☐	☐
Glyceria declinata	☑	☐
Ranunculus bonariensis	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Species List for Large Pool 2	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Glyceria declinata	☑	☐
Hemizonia fitchii	☐	☐
Convolvulus arvensis	☐	☐
Polypogon monspeliensis	☑	☐
Juncus bufonius	☐	☐
Species List for Large Pool 3	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Hemizonia fitchii	☐	☐
Juncus bufonius	☐	☐
Glyceria declinata	☑	☐
Lolium multiflorum	☑	☐
Species List for Small Pool 1	**Invasive Species**	**Endemic Species**
Phalaris species	☐	☐
Glyceria declinata	☑	☐
Ranunculus bonariensis	☐	☑
Briza minor	☐	☐
Lolium multiflorum	☑	☐
Species List for Small Pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Phalaris species	☐	☐
Hordeum marinum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑

Co-dominant species richness for Vernal Pool System

Spergularia arvensis	☐	☐
Species List for Small Pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Juncus bufonius	☐	☐
Phalaris species	☐	☐

Assessment Area 12	N
Total Invasive Species:	4
Total Endemic Species:	2
Total Other Species:	6
Total Number Unique Species:	12



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CRAM Assessment Area 12

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider		
Assessment Area Name: 13		
Assessment No.		Date: 9/9/2009
Assessment Team Members for This AA		
Daria Snider		
Eric Stitt		

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 13

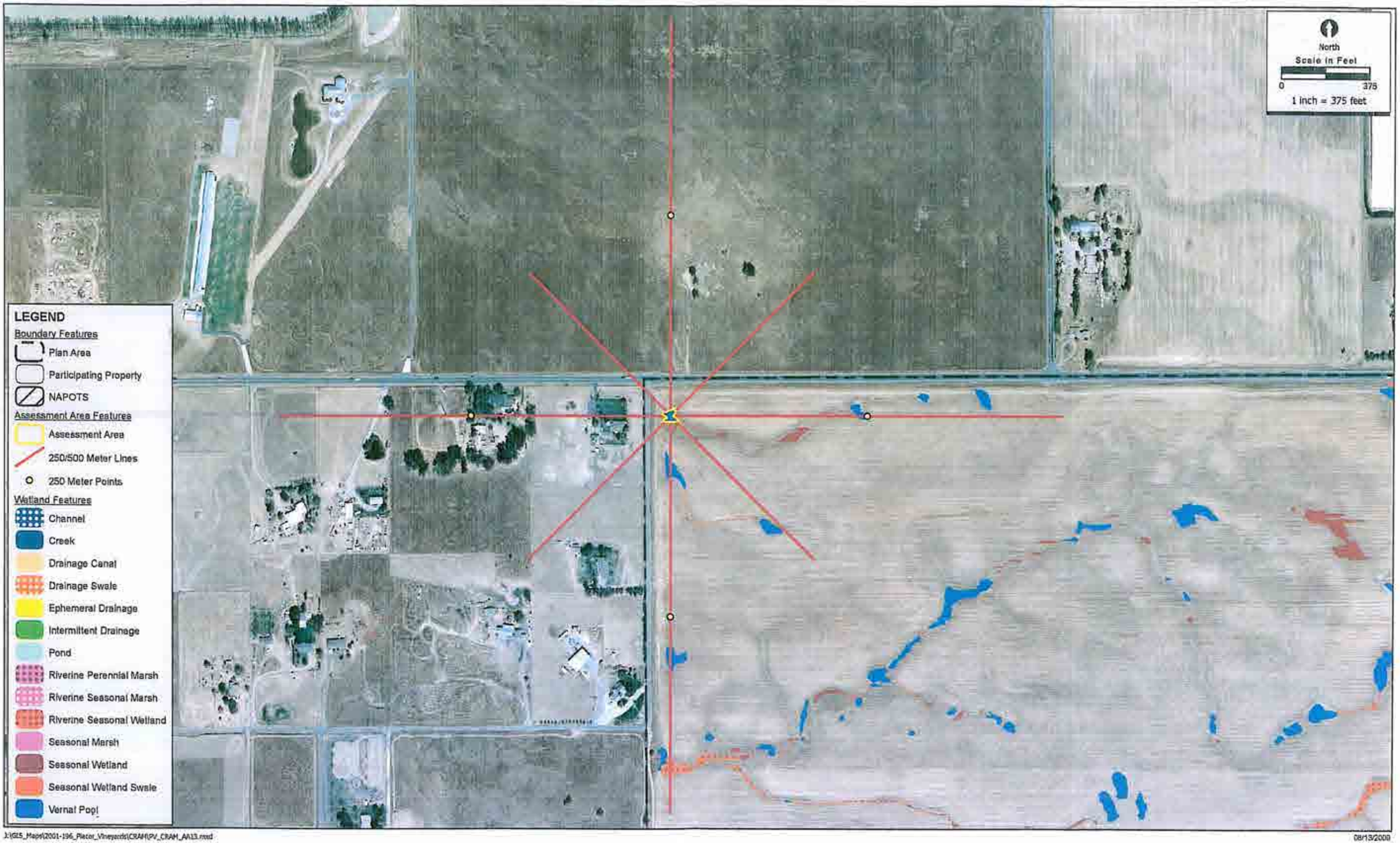
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	C	6				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				15.39	Final Attribute Score= (Raw Score/24) x 100	64.1
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			B	9		
Raw Attribute Score = sum of numeric scores:				13	Final Attribute Score=(Raw Score/24) x 100	54.2
Overall AA Score (Average of four final attribute scores)						63.95

Co-dominant species richness for Vernal Pool

Assessment Area Name: 13		
Species List for Vernal Pool	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Glyceria declinata	☑	☐

Assessment Area 13	N
Total Invasive Species:	2
Total Endemic Species:	1
Total Other Species:	0
Total Number Unique Species:	3



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CRAM Assessment Area 13

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 14	
Assessment No.	Date: 9/9/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 14

Vernal Pool System AA: Vernal Pool System

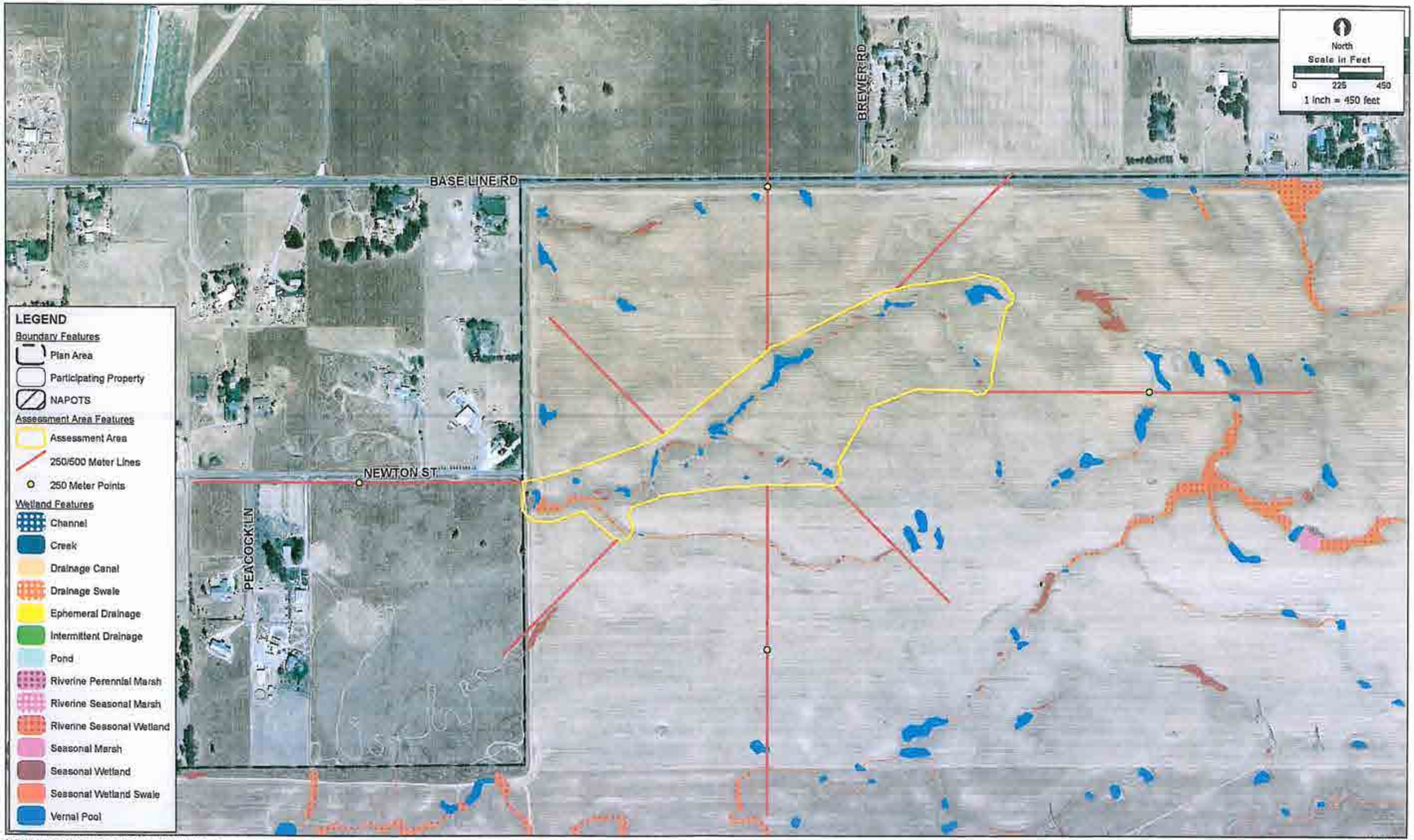
Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				13.39	Final Attribute Score= (Raw Score/24) x 100	55.8
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			B	9		
Topographic Complexity:				6	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation				8	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				16	Final Attribute Score=(Raw Score/24) x 100	66.7
Overall AA Score (Average of four final attribute scores)						71.25

Co-dominant species richness for Vernal Pool System

Assessment Area Name: 14		
Species List for Large Pool 1	**Invasive Species**	**Endemic Species**
Juncus bufonius	☐	☐
Spergularia arvensis	☐	☐
Hemizonia fitchii	☐	☐
Glyceria declinata	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Species List for Large Pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Juncus bufonius	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Glyceria declinata	☑	☐
Hemizonia fitchii	☐	☐
Phalaris species	☐	☐
Species List for Large Pool 3	**Invasive Species**	**Endemic Species**
Juncus bufonius	☐	☐
Hemizonia fitchii	☐	☐
Eremocarpus setigerus	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Species List for Small Pool 1	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Lolium multiflorum	☑	☐
Species List for Small Pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Briza minor	☐	☐
Juncus bufonius	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Species List for Small Pool 3	**Invasive Species**	**Endemic Species**
Leontodon taraxacoides	☐	☐
Lolium multiflorum	☑	☐

Co-dominant species richness for Vernal Pool System

Assessment Area 14	N
Total Invasive Species:	2
Total Endemic Species:	1
Total Other Species:	7
Total Number Unique Species:	10



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09/13/2009

CRAM Assessment Area 14

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Freshwater Marsh

Your Name: Daria Snider	
Assessment Area Name: 15	
Assessment No.	Date: 9/8/2009
Assessment Team Members for This AA	
Peter Balfour	
Daria Snider	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☑ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☐ other (specify):

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☑ medium-duration ☐ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

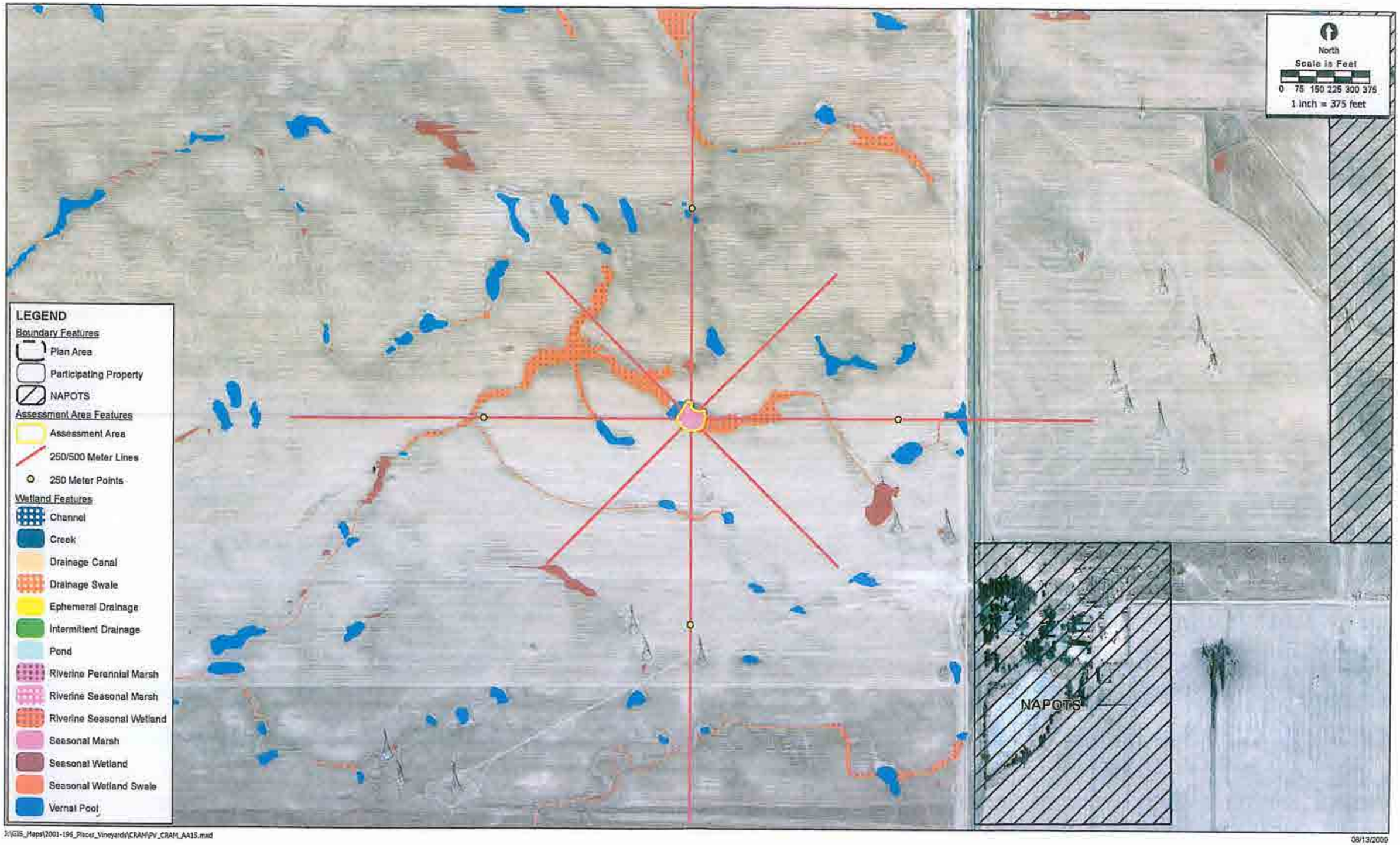
CRAM Scoring Sheet for Assessment Area 15

Depressional Wetland AA: Freshwater Marsh

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			A	12		
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				5		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				26	Final Attribute Score=(Raw Score/36) x 100	72.2
Overall AA Score (Average of four final attribute scores)						74.47

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 15	AA Type: Freshwater Marsh
Plant Layer: Short	**Invasive Species?**
Plagiobothrys stipitatus	☐
Gnaphalium luteo-album	☐
Eremocarpus setigerus	☐
Lolium multiflorum	☑
Polypogon monspeliensis	☑



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08/13/2009

CRAM Assessment Area 15

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 16	
Assessment No.	Date: 9/8/2009
Assessment Team Members for This AA	
Peter Balfour	
Daria Snider	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 16

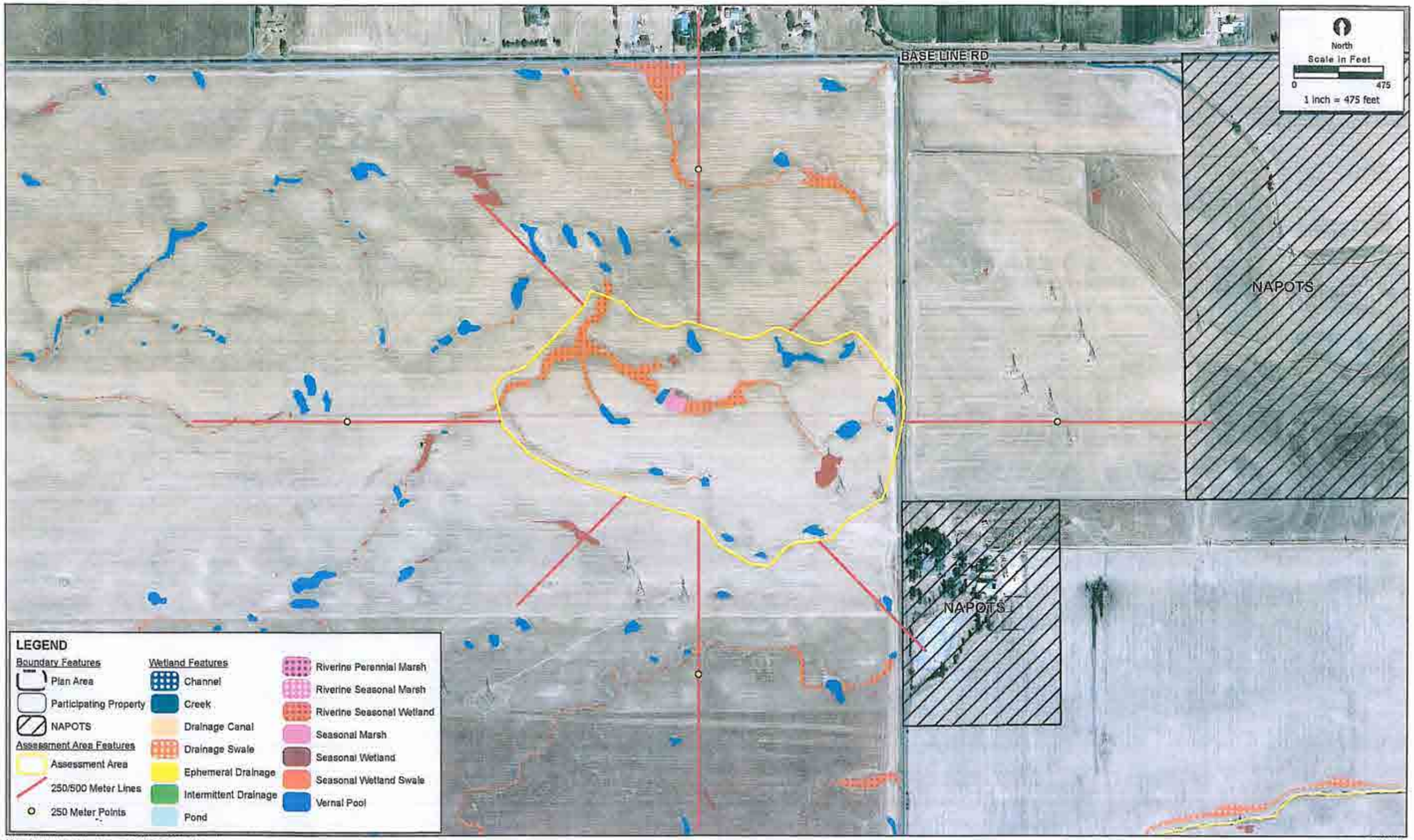
Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				13.39	Final Attribute Score= (Raw Score/24) x 100	55.8
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			B	9		
Topographic Complexity:				4.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				13.5	Final Attribute Score= (Raw Score/24) x 100	56.2
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				6		
Horizontal Interspersion and Zonation				5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				11	Final Attribute Score=(Raw Score/24) x 100	45.8
Overall AA Score (Average of four final attribute scores)						62.38

Co-dominant species richness for Vernal Pool System

Assessment Area Name: 16		
Species List for Large Pool 1	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Phalaris species	☐	☐
Glyceria declinata	☑	☐
Species List for Large Pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Glyceria declinata	☑	☐
Polypogon monspeliensis	☑	☐
Species List for Large Pool 3	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Lolium multiflorum	☑	☐
Species List for Small Pool 1	**Invasive Species**	**Endemic Species**
Spergularia arvensis	☐	☐
Lolium multiflorum	☑	☐
Leontodon taraxacoides	☐	☐
Species List for Small Pool 2	**Invasive Species**	**Endemic Species**
Glyceria declinata	☑	☐
Lolium multiflorum	☑	☐
Phalaris species	☐	☐
Species List for Small Pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Spergularia arvensis	☐	☐

Assessment Area 16	N
Total Invasive Species:	3
Total Endemic Species:	0
Total Other Species:	3
Total Number Unique Species:	6



CRAM Assessment Area 16

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Debra Sykes		
Assessment Area Name: 17		
Assessment No.		Date: 8/25/2009
Assessment Team Members for This AA		
Debra Sykes		
Jinnah Benn		

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 17

Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Intrusion	C	6				
Plant Community Composition: (Average of submetrics A-C)				7		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				19	Final Attribute Score=(Raw Score/24) x 100	79.2
Overall AA Score (Average of four final attribute scores)						74.38

Co-dominant species richness for Vernal Pool

Assessment Area Name: 17		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Eremocarpus setigerus	☐	☐
Glyceria declinata	☑	☐
Lythrum hyssopifolium	☑	☐
Ranunculus bonariensis	☐	☑
Deschampsia danthenioides	☐	☑
Leontodon taraxacoides	☐	☐
Lolium multiflorum	☑	☐

Assessment Area 17	N
Total Invasive Species:	**3**
Total Endemic Species:	**2**
Total Other Species:	**2**
Total Number Unique Species:	**7**

08/28/2009

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CRAM Assessment Area 17

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Debra Sykes	
Assessment Area Name: 18	
Assessment No.	Date: 8/18/2009
Assessment Team Members for This AA	
Eric Stitt	
Debra Sykes	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 18

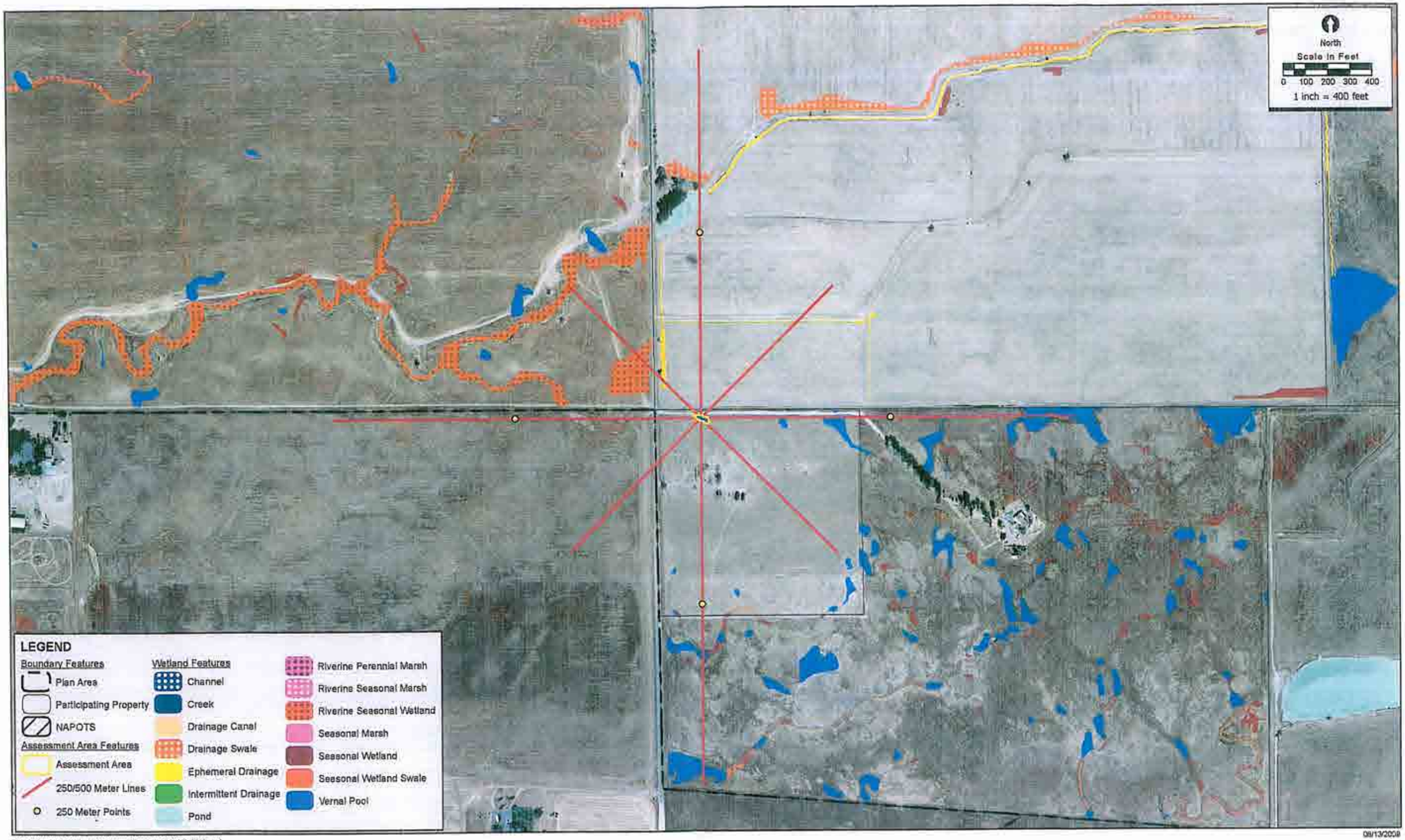
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	Final Attribute Score= (Raw Score/24) x 100	84
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				7		
Horizontal Interspersion and Zonation			B	9		
Raw Attribute Score = sum of numeric scores:				16	Final Attribute Score=(Raw Score/24) x 100	66.7
Overall AA Score (Average of four final attribute scores)						66.85

Co-dominant species richness for Vernal Pool

Assessment Area Name: 18		
Species List for Vernal Pool	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lythrum hyssopifolium	☑	☐
Eremocarpus setigerus	☐	☐
Hemizonia fitchii	☐	☐
Juncus bufonius	☐	☐
Polypogon monspeliensis	☑	☐

Assessment Area 18	N
Total Invasive Species:	**2**
Total Endemic Species:	**1**
Total Other Species:	**3**
Total Number Unique Species:	**6**



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CRAM Assessment Area 18

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Debra Sykes	
Assessment Area Name: 19	
Assessment No.	Date: 8/18/2009
Assessment Team Members for This AA	
Eric Stitt	
Debra Sykes	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 19

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context				Comments	
		Alpha	Numeric		
Landscape Connectivity (Metric A):		B	9		
Buffer (based on sub-metrics B-D)					
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12			
(C Submetric) Score for Buffer: Average Buffer Width	A	12			
(D Submetric) Score for Buffer: Buffer Condition	B	9			
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)			19.39	Final Attribute Score= (Raw Score/24) x 100	80.8
Attribute 2: Hydrology Attribute					
		Alpha	Numeric		
Water Source:		A	12		
Hydroperiod:		A	12		
Hydrologic Connectivity:		A	12		
Raw Attribute Score = sum of numeric scores:			36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute					
		Alpha	Numeric		
Structural Patch Richness:		B	9		
Topographic Complexity:			7	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:			16	Final Attribute Score= (Raw Score/24) x 100	66.7
Attribute 4: Biotic Structure Attribute					
Plant Community Composition (Based on sub-metrics A-C)					
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6			
Plant Community Submetric B: Number of Co-dominant species	A	12			
Plant Community Submetric C: Percent Invasion	C	6			
Plant Community Composition: (Average of submetrics A-C)			8		
Horizontal Interspersion and Zonation			10	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:			18	Final Attribute Score=(Raw Score/24) x 100	75
Overall AA Score (Average of four final attribute scores)					80.62

Co-dominant species richness for Vernal Pool System

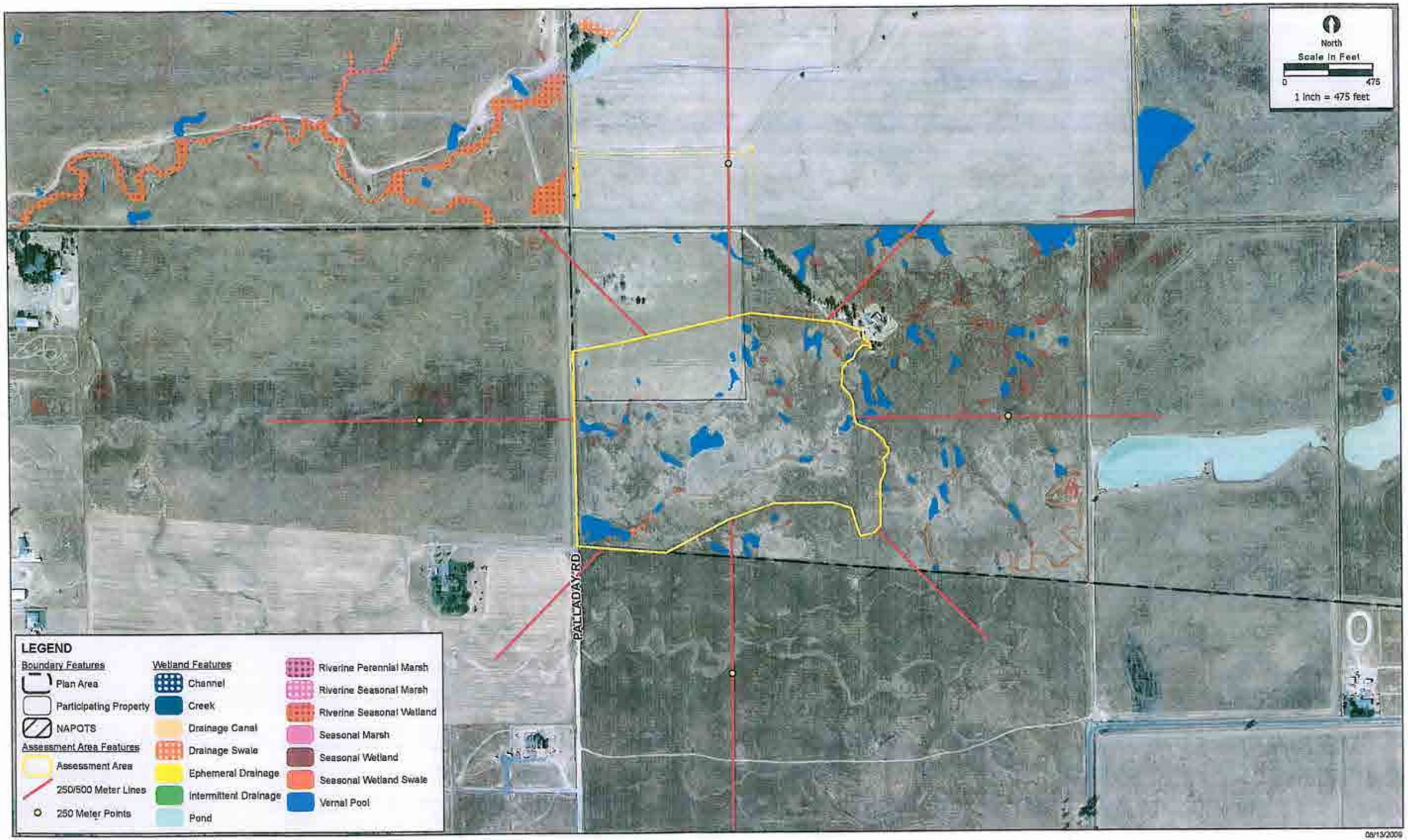
Assessment Area Name: 19

Species List for Large pool 1	Invasive Species	Endemic Species
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Leontodon taraxacoides	☐	☐
Eryngium vaseyi	☐	☑
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Polypogon monspeliensis	☑	☐
Lasthenia glabberima	☐	☑
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Phalaris species	☐	☐
Eryngium vaseyi	☐	☑
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Eryngium vaseyi	☐	☑
Phalaris species	☐	☐
Lasthenia glabberima	☐	☑
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Taeniatherum caput-medusae	☑	☐
Hemizonia fitchii	☐	☐
Bromus hordeaceus	☑	☐
Hordeum marinum	☑	☐
Vulpia bromoides	☐	☐
Species List for Small pool 2	**Invasive Species**	**Endemic Species**
Bromus hordeaceus	☑	☐
Hordeum marinum	☑	☐
Taeniatherum caput-medusae	☑	☐
Rumex crispus	☑	☐
Lolium multiflorum	☑	☐
Deschampsia danthenioides	☐	☑

Co-dominant species richness for Vernal Pool System

Species List for Small pool 3	Invasive Species	Endemic Species
Lasthenia glabberima	☐	☑
Rumex crispus	☑	☐
Lolium multiflorum	☑	☐
Bromus hordeaceus	☑	☐
Hordeum marinum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑

Assessment Area 19	N
Total Invasive Species:	6
Total Endemic Species:	4
Total Other Species:	4
Total Number Unique Species:	14



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CRAM Assessment Area 19

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 20	
Assessment No.	Date: 8/18/2009
Assessment Team Members for This AA	
Jinnah Benn	
Daria Snider	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 20

Vernal Pool System AA: Vernal Pool System

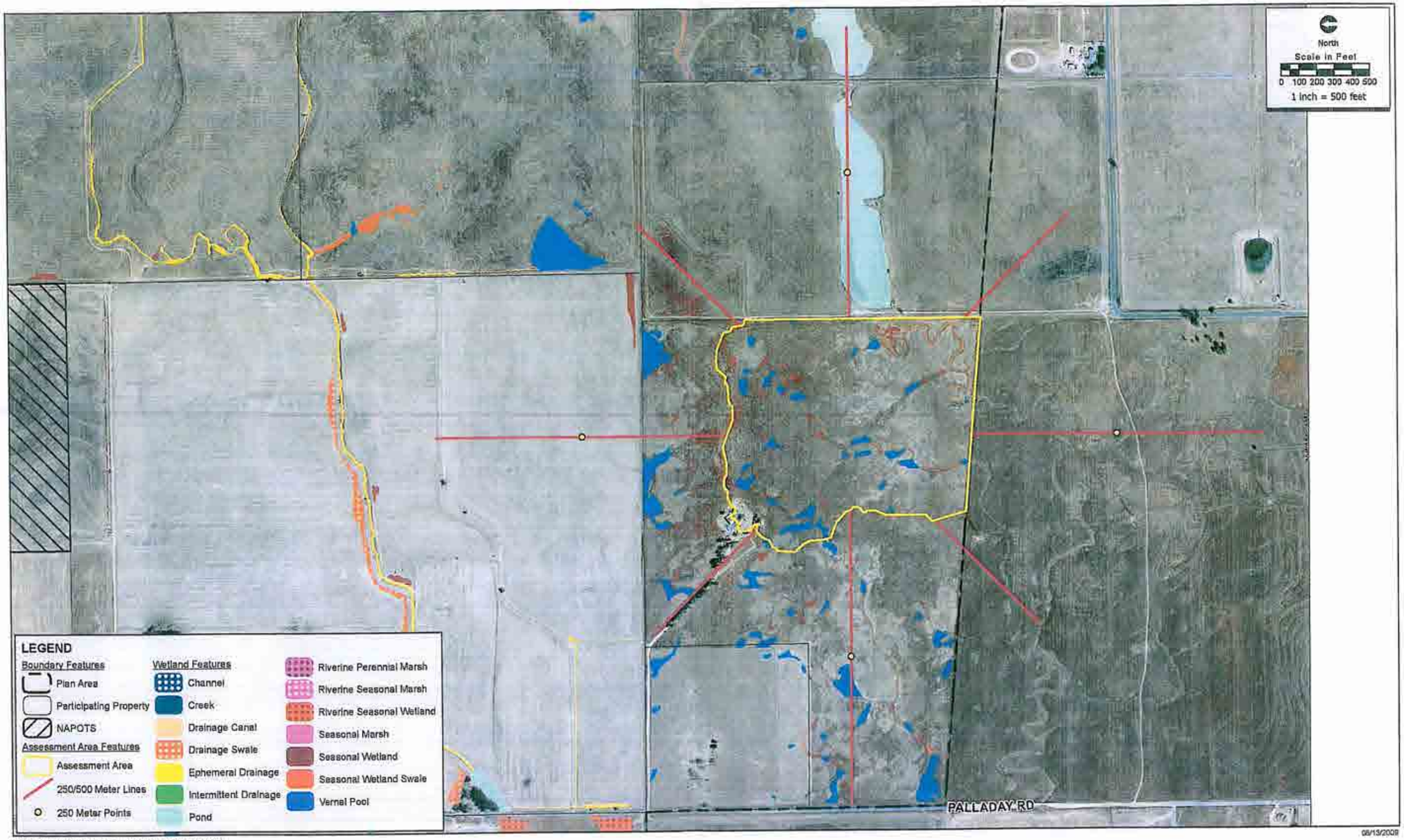
Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			A	12		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				22.39	Final Attribute Score= (Raw Score/24) x 100	93.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			B	9		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				30	Final Attribute Score= (Raw Score/36) x 100	83.3
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			B	9		
Topographic Complexity:				5.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				14.5	Final Attribute Score= (Raw Score/24) x 100	60.4
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation				7.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				15.5	Final Attribute Score=(Raw Score/24) x 100	64.6
Overall AA Score (Average of four final attribute scores)						75.4

Co-dominant species richness for Vernal Pool System

Assessment Area Name: 20		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Lasthenia glabberima	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Eleocharis macrostachya	☐	☑
Lasthenia glabberima	☐	☑
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Lasthenia glabberima	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Lasthenia glabberima	☐	☑
Lolium multiflorum	☑	☐
Eryngium vaseyi	☐	☑
Species List for Small pool 2	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lasthenia glabberima	☐	☑
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Lasthenia glabberima	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Hordeum marinum	☑	☐

Co-dominant species richness for Vernal Pool System

Assessment Area 20	N
Total Invasive Species:	2
Total Endemic Species:	4
Total Other Species:	0
Total Number Unique Species:	6



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CRAM Assessment Area 20

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Debra Sykes	
Assessment Area Name: 21	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

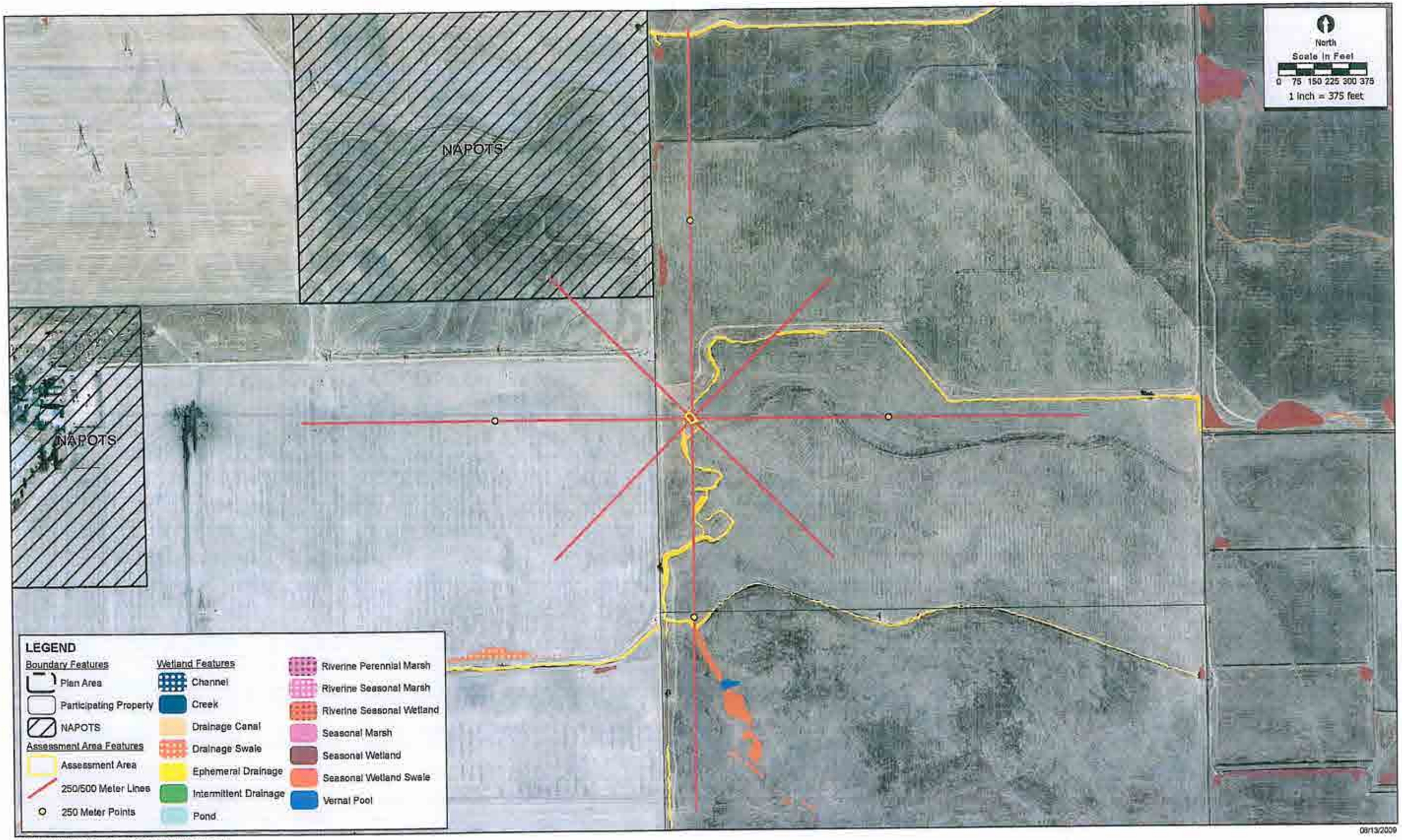
CRAM Scoring Sheet for Assessment Area 21

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			C	6		
Vertical Biotic Structure			D	3		
Raw Attribute Score = sum of numeric scores:				13	Final Attribute Score=(Raw Score/36) x 100	36.1
Overall AA Score (Average of four final attribute scores)						58.15

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 21	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Polypogon monspeliensis	☑
Polygonum arenastrum	☐



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CRAM Assessment Area 21

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 22	
Assessment No.	Date: 8/18/2009
Assessment Team Members for This AA	
Daria Snider	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 22

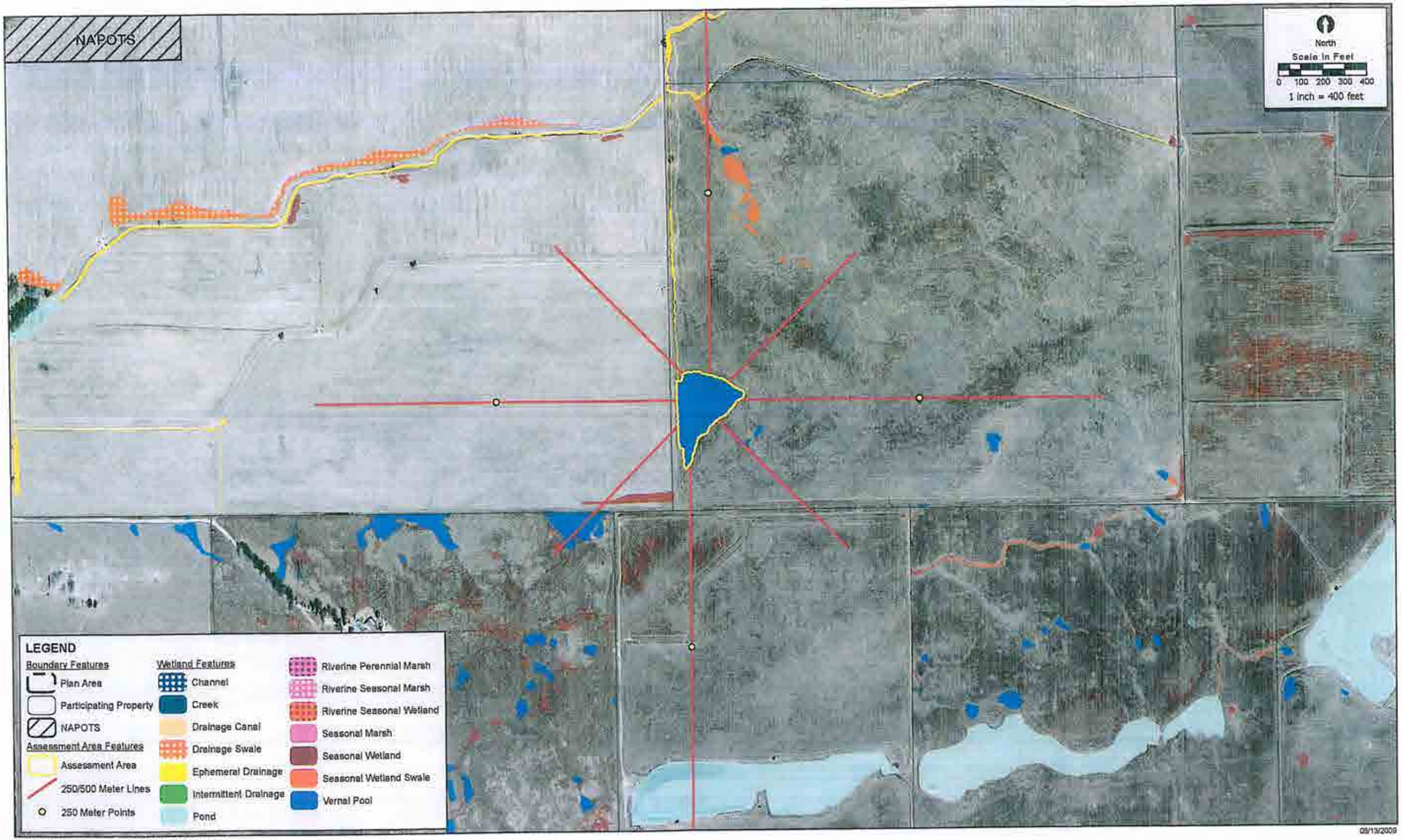
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			C	6		
Topographic Complexity:			A	12		
Raw Attribute Score = sum of numeric scores:				18	Final Attribute Score= (Raw Score/24) x 100	75
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				21	Final Attribute Score=(Raw Score/24) x 100	87.5
Overall AA Score (Average of four final attribute scores)						78.3

Co-dominant species richness for Vernal Pool

Assessment Area Name: 22		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Polypogon monspeliensis	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Eremocarpus setigerus	☐	☐
Hordeum marinum	☑	☐
Eleocharis acicularis	☐	☑
Lasthenia glabberima	☐	☑
Trichostema lanceolatum	☐	☐

Assessment Area 22	N
Total Invasive Species:	**2**
Total Endemic Species:	**3**
Total Other Species:	**2**
Total Number Unique Species:	**7**



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CRAM Assessment Area 22

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 23	
Assessment No.	Date: 8/18/2009
Assessment Team Members for This AA	
Daria Snider	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 23

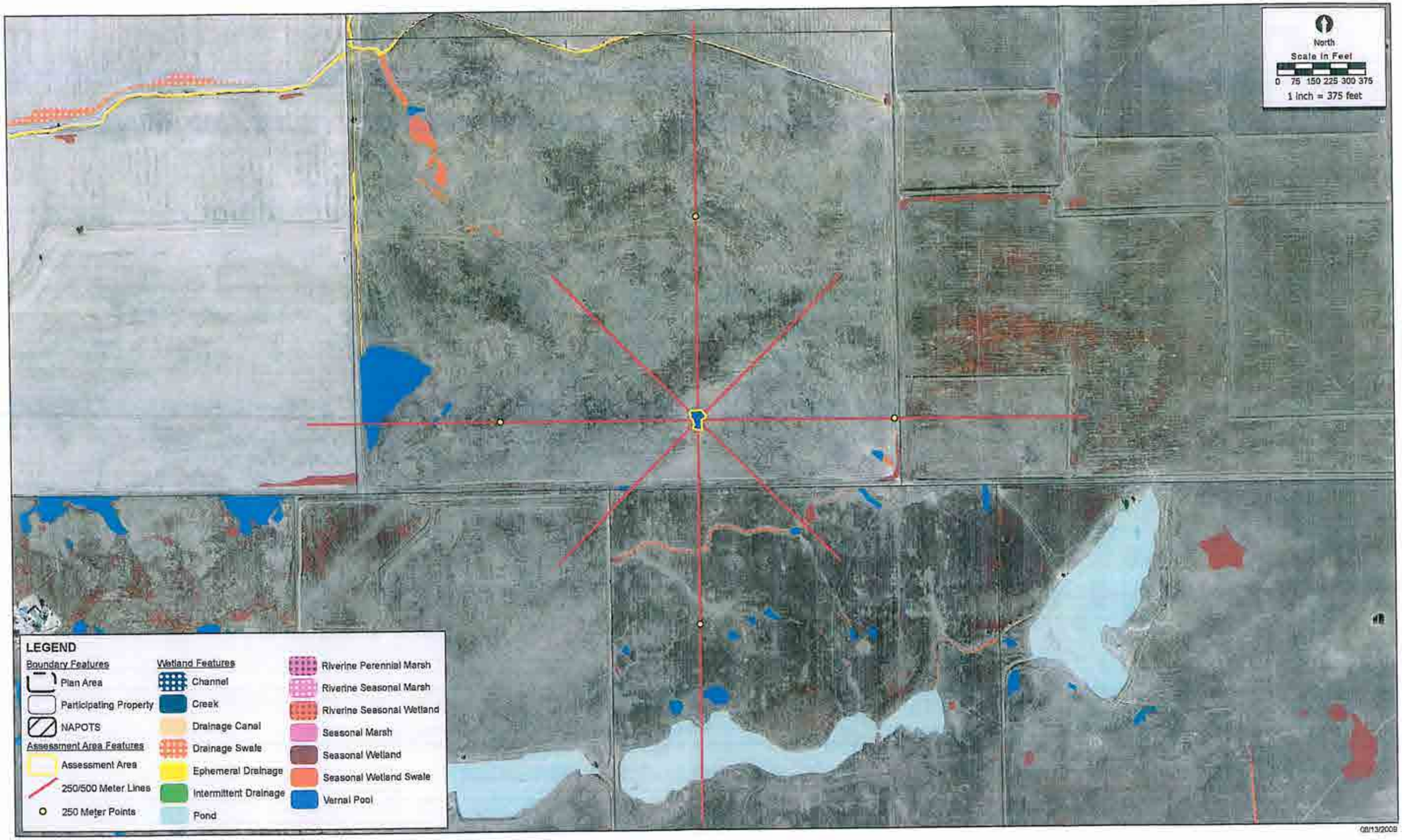
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				7		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				19	Final Attribute Score=(Raw Score/24) x 100	79.2
Overall AA Score (Average of four final attribute scores)						75.18

Co-dominant species richness for Vernal Pool

Assessment Area Name: 23		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Eremocarpus setigerus	☐	☐
Hordeum marinum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Hemizonia fitchii	☐	☐
Polygonum arenastrum	☐	☐

Assessment Area 23	N
Total Invasive Species:	**1**
Total Endemic Species:	**1**
Total Other Species:	**3**
Total Number Unique Species:	**5**



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CRAM Assessment Area 23

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 24	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 24

Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	Final Attribute Score= (Raw Score/24) x 100	84
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				21	Final Attribute Score=(Raw Score/24) x 100	87.5
Overall AA Score (Average of four final attribute scores)						78.3

Co-dominant species richness for Vernal Pool

Assessment Area Name: 24		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Polygonum arenastrum	☐	☐
Polypogon monspeliensis	☑	☐
Hemizonia fitchii	☐	☐
Lasthenia glabberima	☐	☑
Eremocarpus setigerus	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Eleocharis macrostachya	☐	☑

Assessment Area 24	N
Total Invasive Species:	**2**
Total Endemic Species:	**3**
Total Other Species:	**3**
Total Number Unique Species:	**8**

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CRAM Assessment Area 24

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 25	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

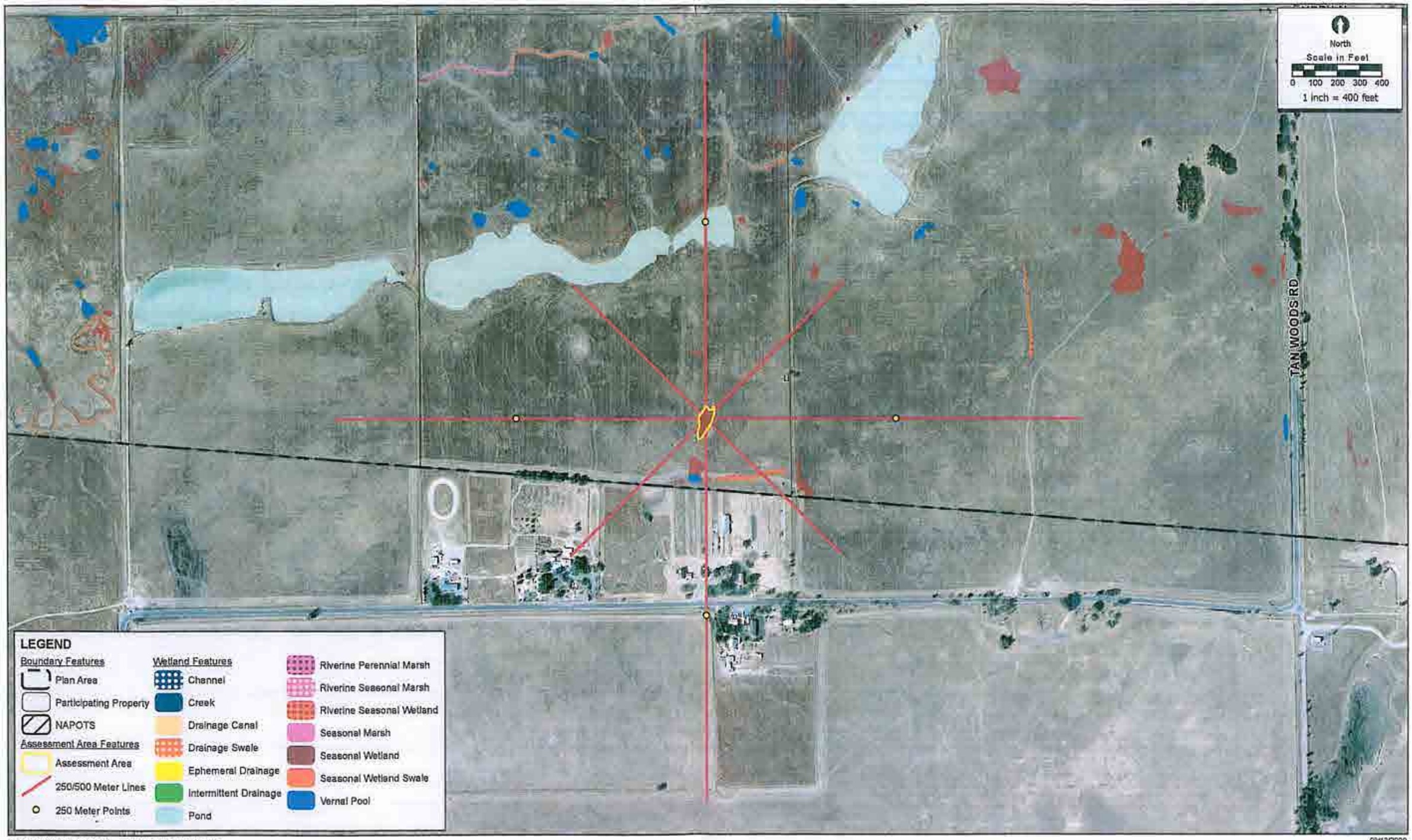
CRAM Scoring Sheet for Assessment Area 25

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			C	6		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				22	Final Attribute Score=(Raw Score/36) x 100	61.1
Overall AA Score (Average of four final attribute scores)						64.4

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 25	AA Type: Seasonal Wetland
Plant Layer: Medium	**Invasive Species?**
Lolium multiflorum	☑
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Bromus hordeaceus	☑
Phalaris paradoxa	☐



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08/13/2009

CRAM Assessment Area 25

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 26	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

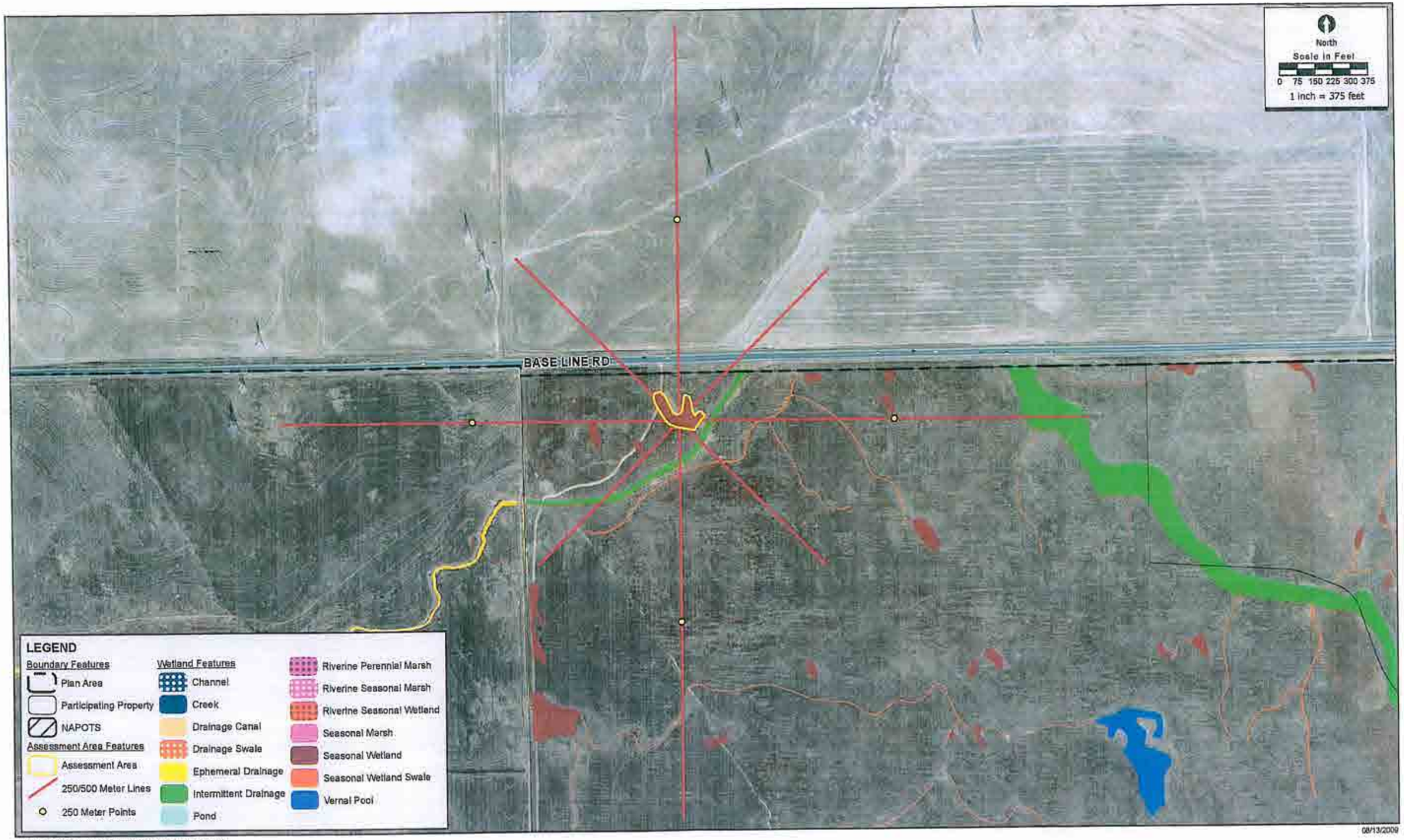
CRAM Scoring Sheet for Assessment Area 26

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C- Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				7		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				28	Final Attribute Score=(Raw Score/36) x 100	77.8
Overall AA Score (Average of four final attribute scores)						67.78

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 26	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Plagiobothrys stipitatus	☐
Convolvulus arvensis	☐
Eryngium vaseyi	☐
Gnaphalium palustre	☐
Sonchus oleraceus	☐
Lythrum hyssopifolium	☑
Glyceria declinata	☑
Lolium multiflorum	☑
Eremocarpus setigerus	☐



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CRAM Assessment Area 26

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Debra Sykes	
Assessment Area Name: 27	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 27

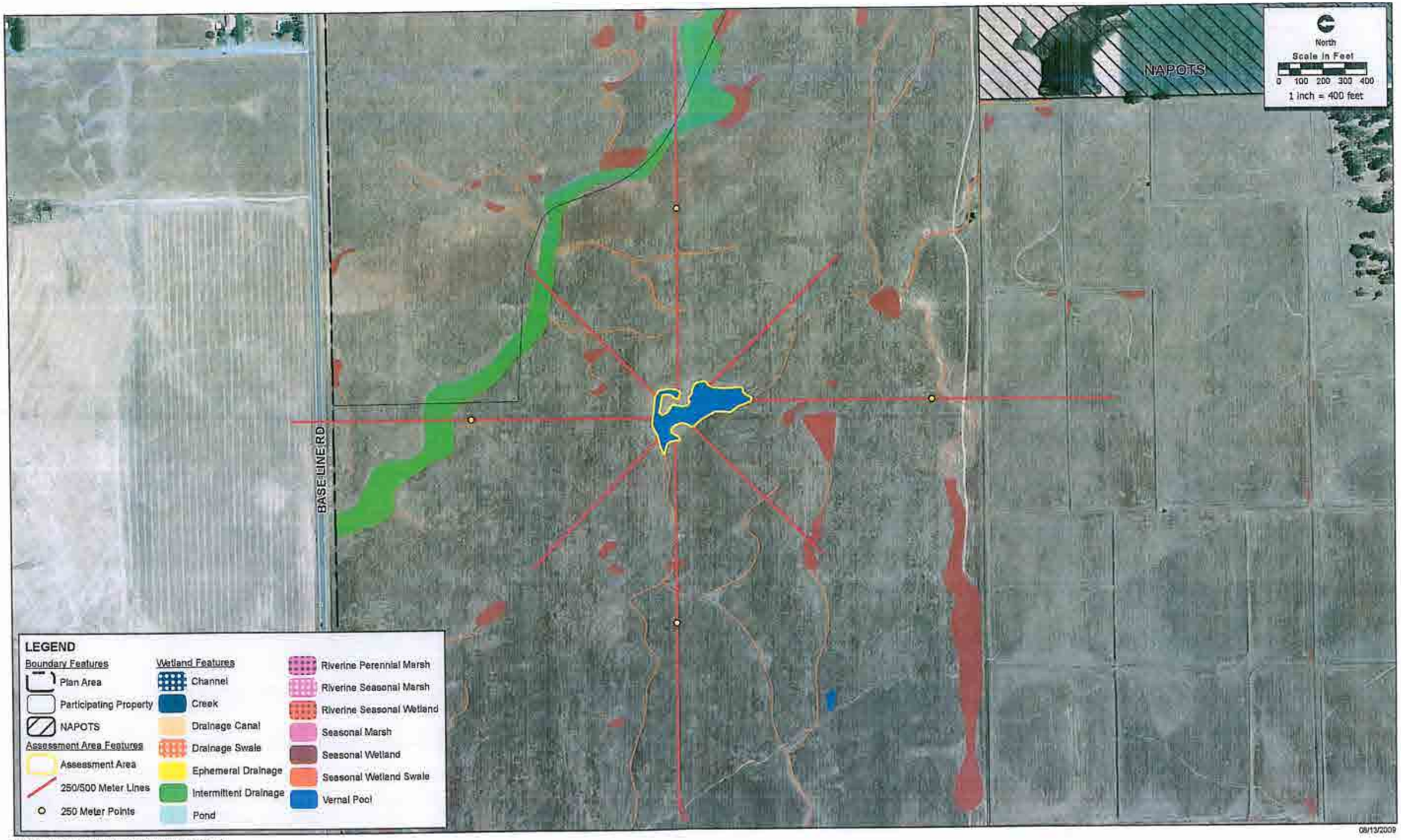
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	Final Attribute Score= (Raw Score/24) x 100	84
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				21	Final Attribute Score=(Raw Score/24) x 100	87.5
Overall AA Score (Average of four final attribute scores)						80.38

Co-dominant species richness for Vernal Pool

Assessment Area Name: 27		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Rumex crispus	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Eryngium vaseyi	☐	☑
Convolvulus arvensis	☐	☐
Erennocarpus setigerus	☐	☐
Phalaris species	☐	☐
Lasthenia glabberima	☐	☑
Lolium multiflorum	☑	☐

Assessment Area 27	N
Total Invasive Species:	2
Total Endemic Species:	3
Total Other Species:	3
Total Number Unique Species:	8



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CRAM Assessment Area 27

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Jinnah Benn	
Assessment Area Name: 28	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☑ yes ☐ no

Is the topographic basin of the wetland ☑ distinct **or** ☐ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

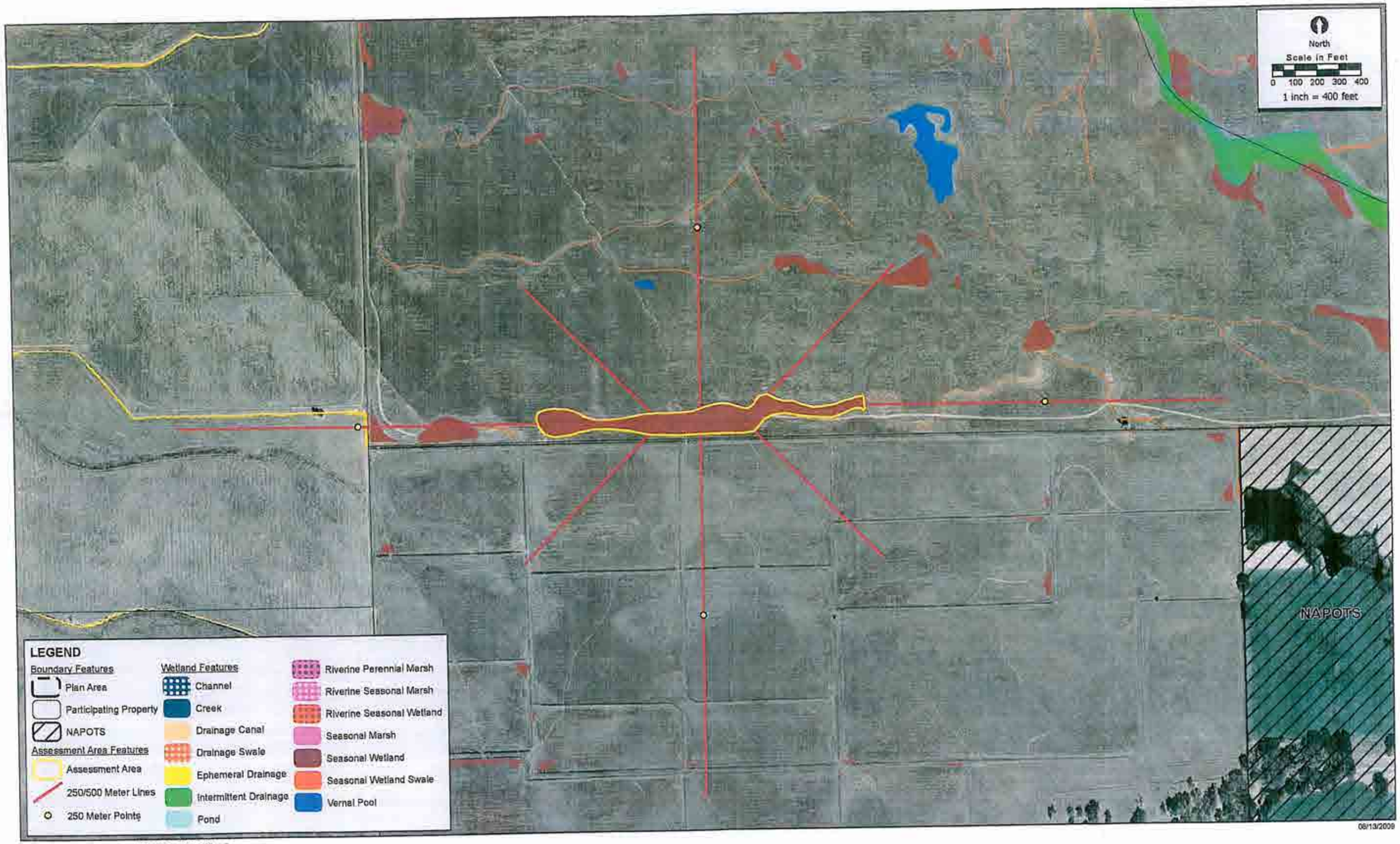
CRAM Scoring Sheet for Assessment Area 28

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	Final Attribute Score= (Raw Score/24) x 100	84
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	B	9				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				5		
Horizontal Interspersion and Zonation			B	9		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				26	Final Attribute Score=(Raw Score/36) x 100	72.2
Overall AA Score (Average of four final attribute scores)						70.3

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 28	AA Type: Seasonal Wetland
Plant Layer: Medium	**Invasive Species?**
Lolium multiflorum	☑
Lactuca serriola	☐
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Plant Layer: Tall	**Invasive Species?**
Lactuca serriola	☐



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CRAM Assessment Area 28

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 29	
Assessment No.	Date: 8/17/2009
Assessment Team Members for This AA	
Daria Snider	
Debra Sykes	
Jinnah Benn	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

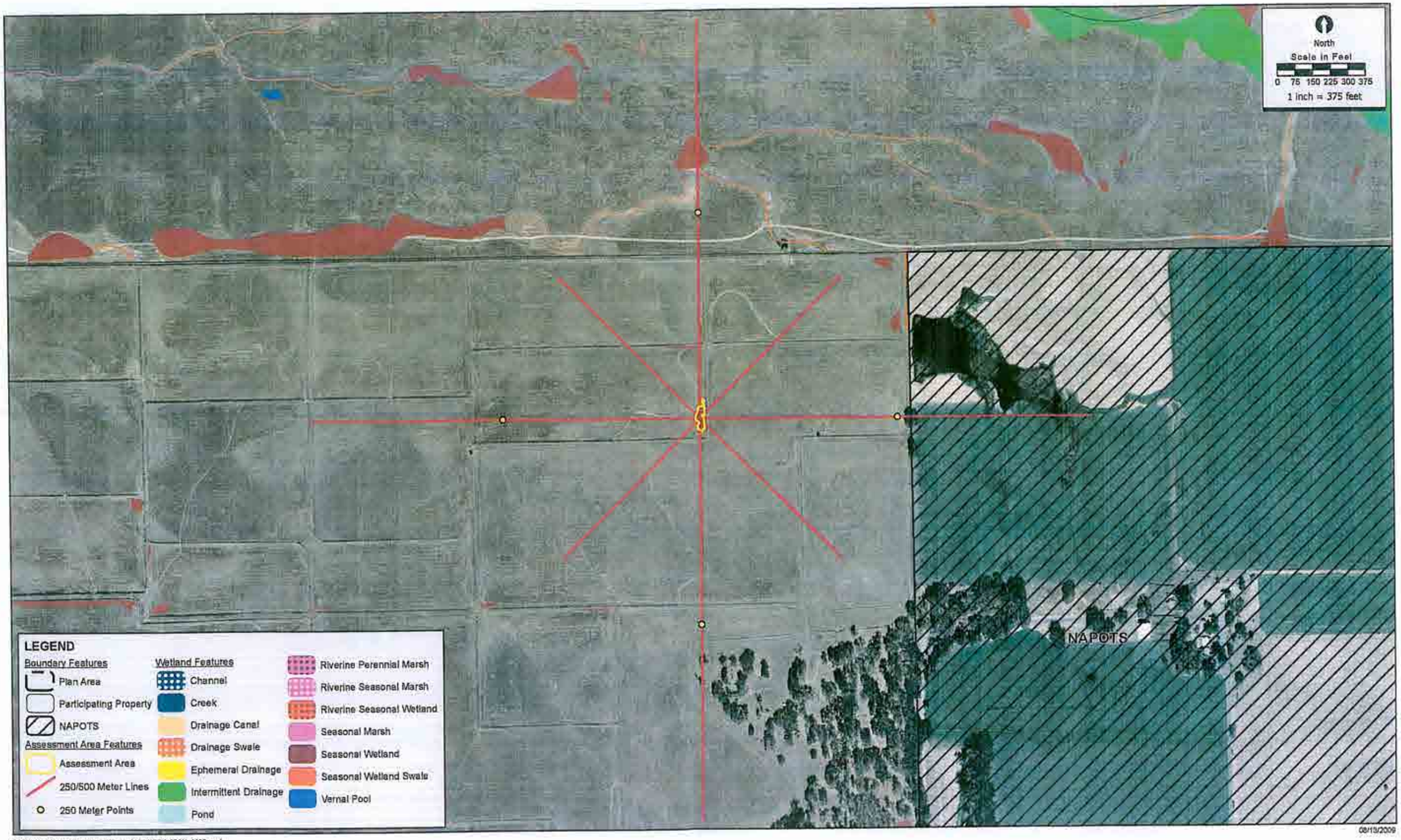
CRAM Scoring Sheet for Assessment Area 29

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width:	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			B	9		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				30	Final Attribute Score= (Raw Score/36) x 100	83.3
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			B	9		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				25	Final Attribute Score=(Raw Score/36) x 100	69.4
Overall AA Score (Average of four final attribute scores)						62.3

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 29	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Lolium multiflorum	☑
Hordeum marinum	☑



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CRAM Assessment Area 29

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 30	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

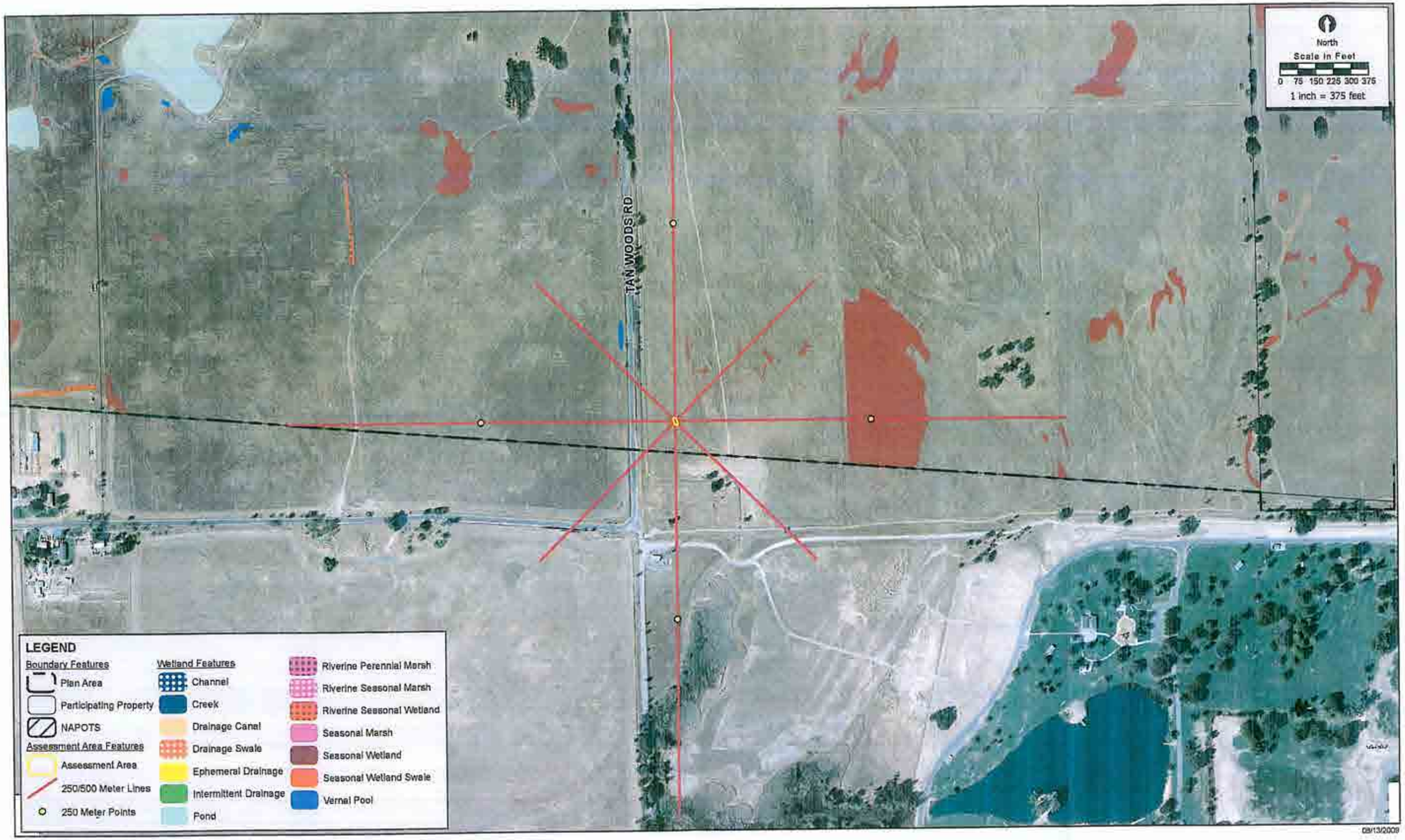
CRAM Scoring Sheet for Assessment Area 30

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			D	3		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				16	Final Attribute Score=(Raw Score/36) x 100	44.4
Overall AA Score (Average of four final attribute scores)						63.35

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 30	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Bromus hordeaceus	☑
Vulpia bromoides	☐



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CRAM Assessment Area 30

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 31	
Assessment No.	Date: 8/17/2009
Assessment Team Members for This AA	
Daria Snider	
Debra Sykes	
Jinnah Benn	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

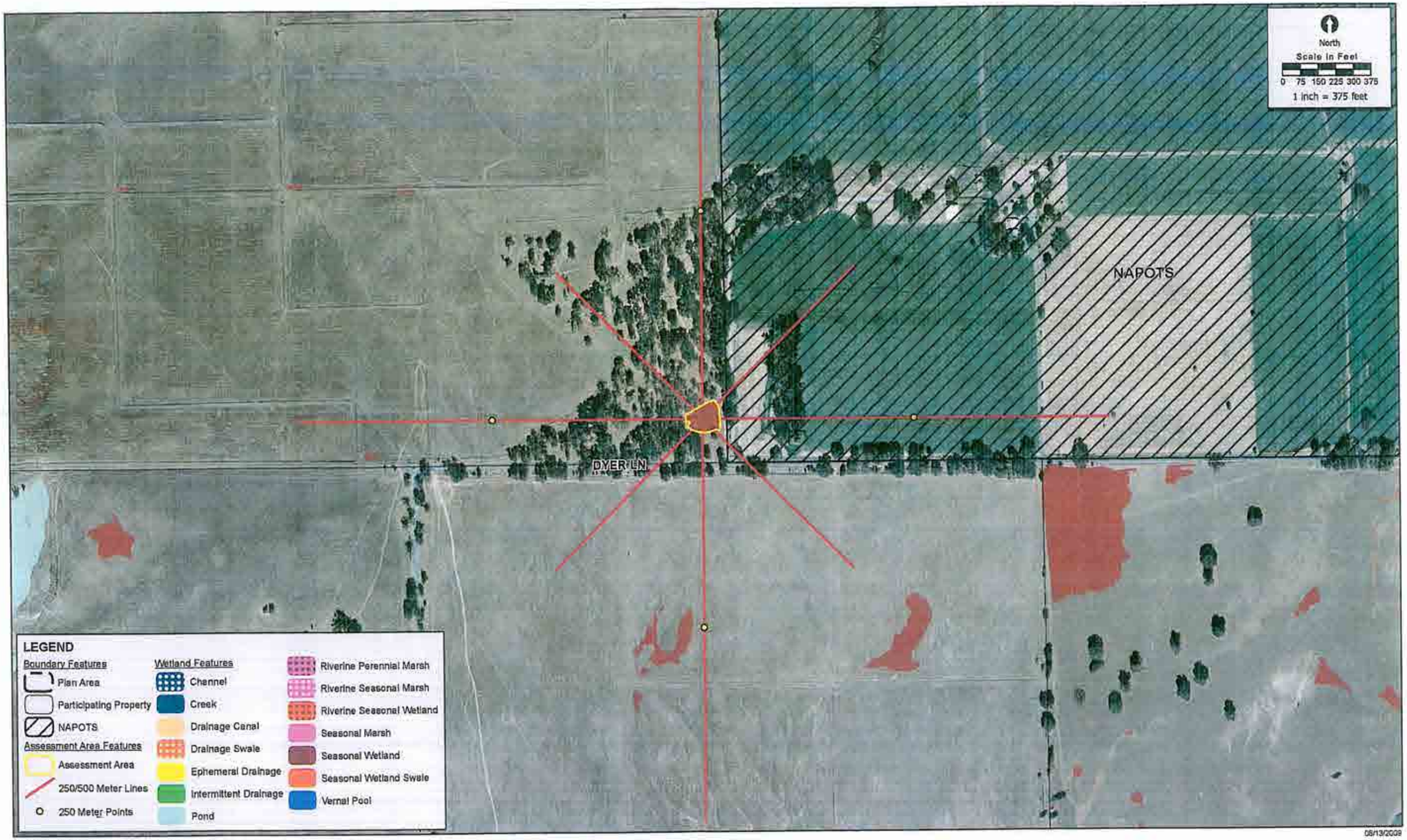
CRAM Scoring Sheet for Assessment Area 31

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			C	6		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				22	Final Attribute Score=(Raw Score/36) x 100	61.1
Overall AA Score (Average of four final attribute scores)						61.28

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 31	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Lolium multiflorum	☑
Hordeum marinum	☑
Eryngium vaseyi	☐



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CRAM Assessment Area 31

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 32	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

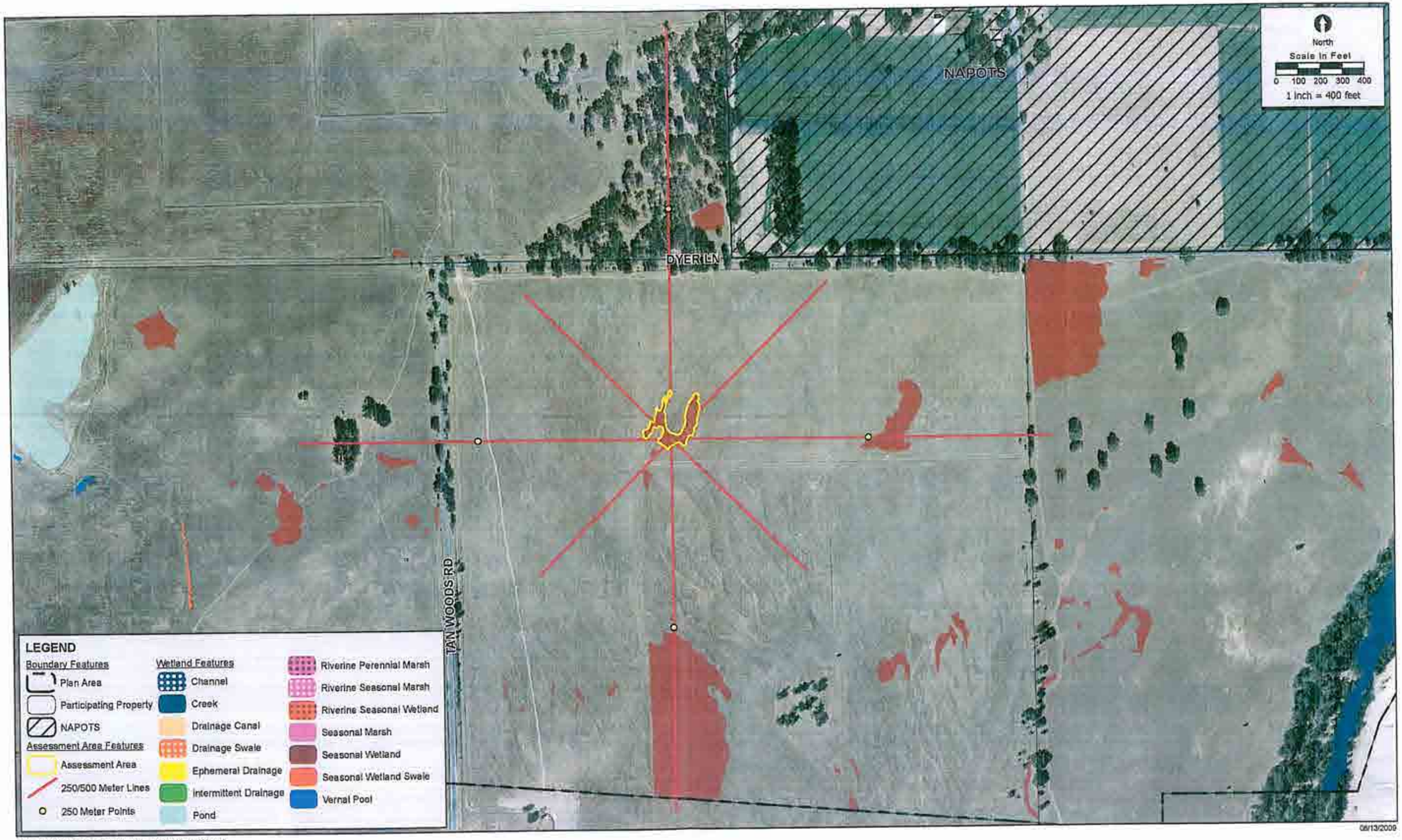
CRAM Scoring Sheet for Assessment Area 32

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			D	3		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				19	Final Attribute Score=(Raw Score/36) x 100	52.8
Overall AA Score (Average of four final attribute scores)						57.12

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 32	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Bromus hordeaceus	☑
Lolium multiflorum	☑



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CRAM Assessment Area 32

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 33	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

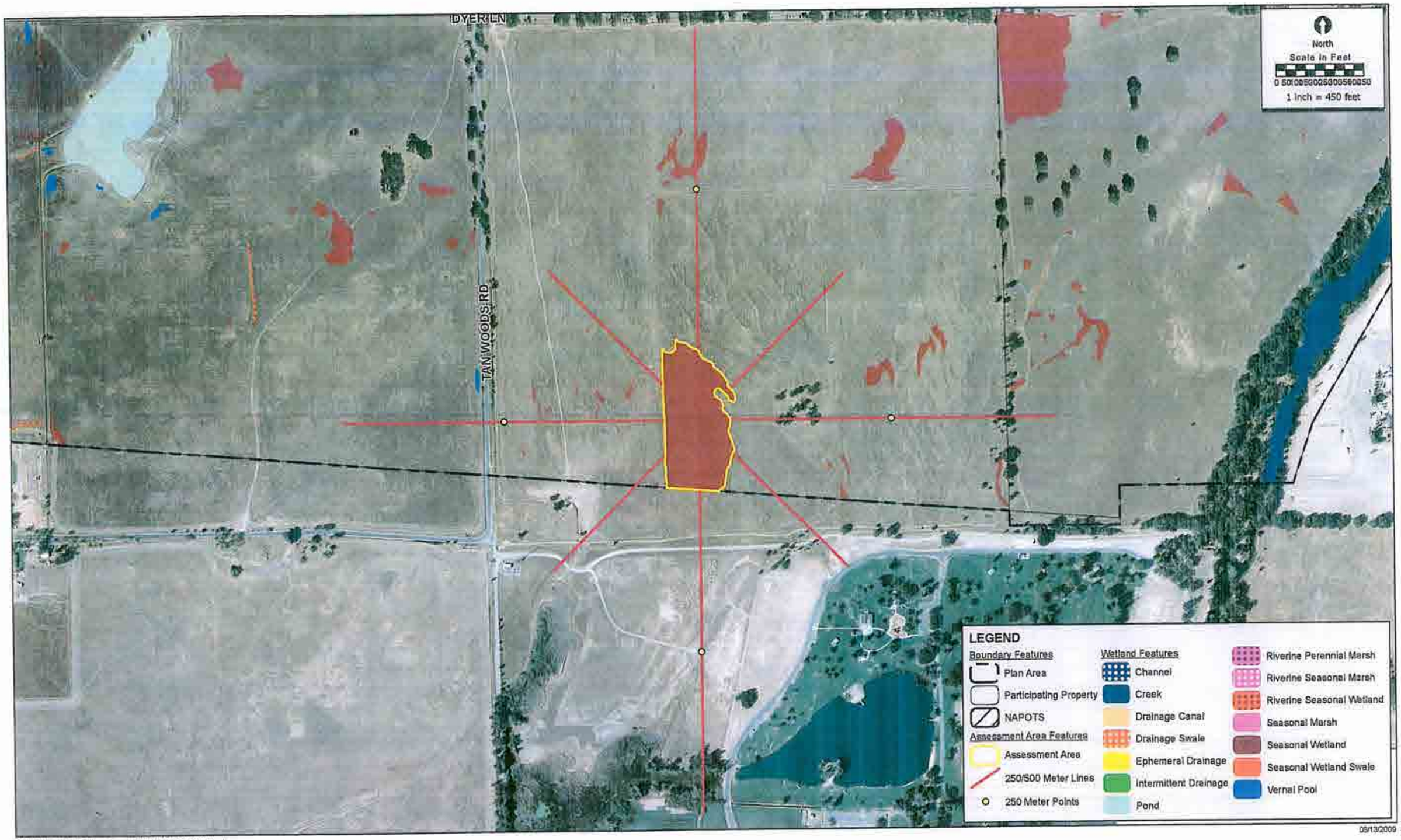
CRAM Scoring Sheet for Assessment Area 33

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				5		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				29	Final Attribute Score=(Raw Score/36) x 100	80.6
Overall AA Score (Average of four final attribute scores)						69.28

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 33	AA Type: Seasonal Wetland
Plant Layer: Medium	**Invasive Species?**
Rumex crispus	☐
Plant Layer: Short	**Invasive Species?**
Lolium multiflorum	☑
Hordeum marinum	☑
Bromus hordeaceus	☑
Bromus diandrus	☑
Vulpia myuros	☑



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CRAM Assessment Area 33

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Debra Sykes	
Assessment Area Name: 34	
Assessment No.	Date: 8/17/2009
Assessment Team Members for This AA	
Daria Snider	
Debra Sykes	
Jinnah Benn	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 34

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			B	9		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				30	Final Attribute Score= (Raw Score/36) x 100	83.3
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			C	6		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				6		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			C	6		
Raw Attribute Score = sum of numeric scores:				24	Final Attribute Score=(Raw Score/36) x 100	66.7
Overall AA Score (Average of four final attribute scores)						64.75

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 34	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Vulpia bromoides	☐
Erodium botrys	☐
Holocarpha virgata	☐
Bromus hordeaceus	☑
Lolium multiflorum	☑
Leontodon taraxacoides	☐

08/28/2009

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CRAM Assessment Area 34

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Jinnah Benn	
Assessment Area Name: 35	
Assessment No.	Date: 8/17/2009
Assessment Team Members for This AA	
Daria Snider	
Debra Sykes	
Jinnah Benn	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

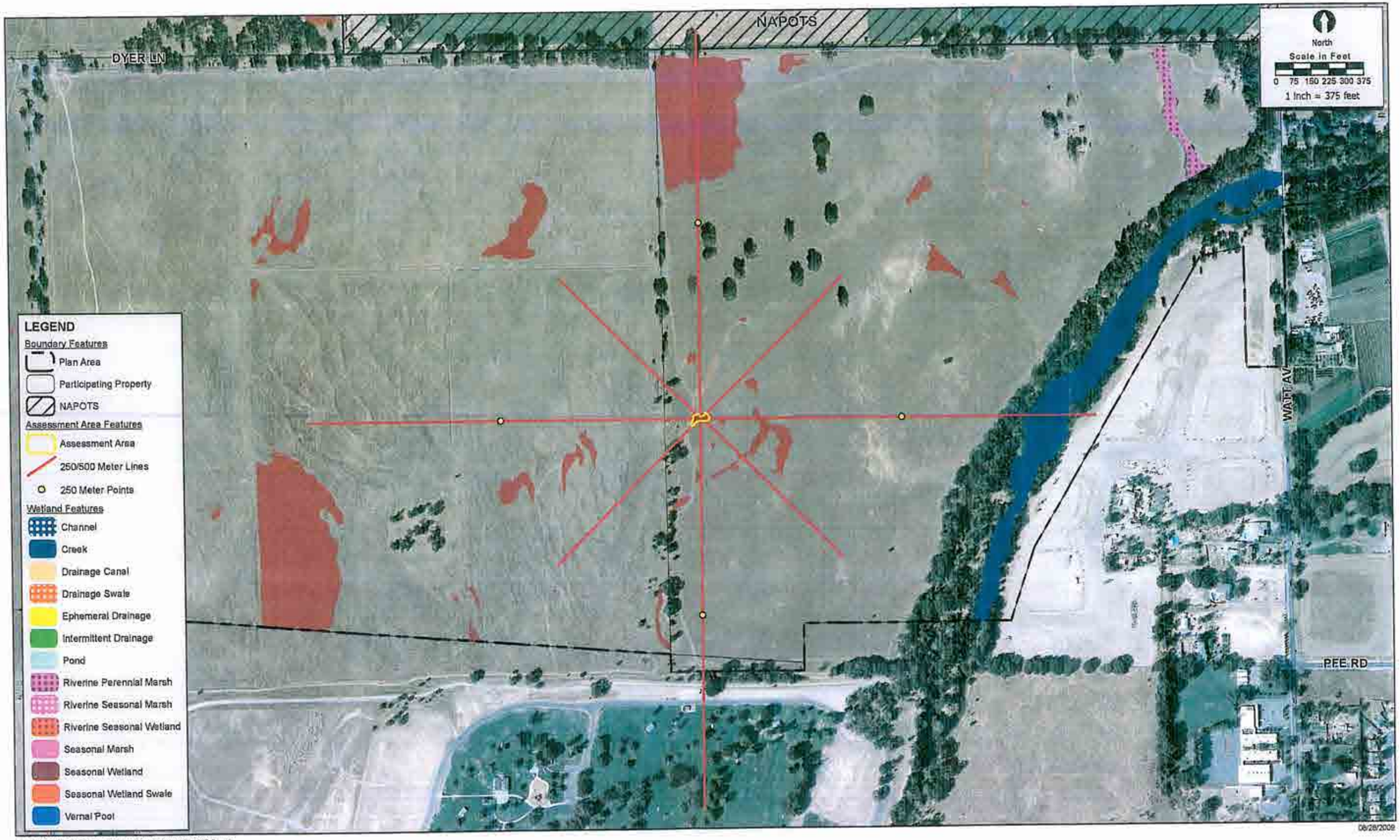
CRAM Scoring Sheet for Assessment Area 35

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			C	6		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				19	Final Attribute Score=(Raw Score/36) x 100	52.8
Overall AA Score (Average of four final attribute scores)						62.32

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 35	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Hemizonia fitchii	☐
Lolium multiflorum	☑
Hordeum marinum	☑
Leontodon taraxacoides	☐



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CRAM Assessment Area 35

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Debra Sykes	
Assessment Area Name: 36	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 36

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	Final Attribute Score= (Raw Score/24) x 100	84
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			B	9		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				22	Final Attribute Score=(Raw Score/36) x 100	61.1
Overall AA Score (Average of four final attribute scores)						67.53

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 36	AA Type: Seasonal Wetland
Plant Layer: Medium	**Invasive Species?**
Bromus hordeaceus	☑
Lolium multiflorum	☑
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Convolvulus arvensis	☐

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CRAM Assessment Area 36

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Debra Sykes	
Assessment Area Name: 37	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 37

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			B	9		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				25	Final Attribute Score=(Raw Score/36) x 100	69.4
Overall AA Score (Average of four final attribute scores)						63.35

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 37	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Lolium multiflorum	☑
Hordeum marinum	☑
Convolvulus arvensis	☐

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CRAM Assessment Area 37

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Marsh

Your Name: Jinnah Benn	
Assessment Area Name: 38	
Assessment No.	Date: 8/17/2009
Assessment Team Members for This AA	
Daria Snider	
Debra Sykes	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Marsh

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☑ medium-duration ☐ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☑ yes ☐ no

Is the topographic basin of the wetland ☑ distinct **or** ☐ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 38

Depressional Wetland AA: Seasonal Marsh

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				13.39	Final Attribute Score= (Raw Score/24) x 100	55.8
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			C	6		
Hydroperiod:			D	3		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				18	Final Attribute Score= (Raw Score/36) x 100	50
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	A	12				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			C	6		
Raw Attribute Score = sum of numeric scores:				26	Final Attribute Score=(Raw Score/36) x 100	72.2
Overall AA Score (Average of four final attribute scores)						50.75

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 38	AA Type: Seasonal Marsh
Plant Layer: Medium	**Invasive Species?**
Paspalum dilatatum	☐
Plant Layer: Short	**Invasive Species?**
Chenopodium ambrosioides	☐
Plant Layer: Tall	**Invasive Species?**
Rubus armeniacus	☑
Plant Layer: Very Tall	**Invasive Species?**
Populus fremontii	☐

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CRAM Assessment Area 38

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Jinnah Benn	
Assessment Area Name: 39	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 39

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			B	9		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				22	Final Attribute Score=(Raw Score/36) x 100	61.1
Overall AA Score (Average of four final attribute scores)						63.6

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 39	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Rumex pulcher	☐
Lolium multiflorum	☑

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CRAM Assessment Area 39

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Freshwater Marsh

Your Name: Jinnah Benn	
Assessment Area Name: 40	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☑ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☐ other (specify):

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☑ saturated soil, but no surfacewater ☐ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☑ long-duration ☐ medium-duration ☐ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☑ yes ☐ no

Is the topographic basin of the wetland ☑ distinct **or** ☐ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 40

Depressional Wetland AA: Freshwater Marsh

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			B	9		
Hydroperiod:			D	3		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				21	Final Attribute Score= (Raw Score/36) x 100	58.3
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				29	Final Attribute Score=(Raw Score/36) x 100	80.6
Overall AA Score (Average of four final attribute scores)						64.3

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 40	AA Type: Freshwater Marsh
Plant Layer: Medium	**Invasive Species?**
Juncus effusus	☐
Scirpus acutus	☐
Plant Layer: Short	**Invasive Species?**
Cynodon dactylon	☑
Xanthium strumarium	☐
Chenopodium ambrosioides	☐
Polygonum arenastrum	☐
Polypogon monspeliensis	☑
Eleocharis macrostachya	☐
Rumex crispus	☐

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CRAM Assessment Area 40

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Jinnah Benn	
Assessment Area Name: 41	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☑ yes ☐ no

Is the topographic basin of the wetland ☑ distinct **or** ☐ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 41

Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				6		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				18	Final Attribute Score=(Raw Score/24) x 100	75
Overall AA Score (Average of four final attribute scores)						74.12

Co-dominant species richness for Vernal Pool

Assessment Area Name: 41		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lasthenia glabberima	☐	☑
Lolium multiflorum	☑	☐
Hemizonia fitchii	☐	☐
Hordeum marinum	☑	☐

Assessment Area 41	N
Total Invasive Species:	**2**
Total Endemic Species:	**2**
Total Other Species:	**1**
Total Number Unique Species:	**5**

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CRAM Assessment Area 41

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Jinnah Benn	
Assessment Area Name: 42	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 42

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			A	12		
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				7		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			C	6		
Raw Attribute Score = sum of numeric scores:				25	Final Attribute Score=(Raw Score/36) x 100	69.4
Overall AA Score (Average of four final attribute scores)						75.85

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 42	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Vulpia bromoides	☐
Trifolium glomeratum	☐
Hemizonia fitchii	☐
Erodium botrys	☐
Plagiobothrys stipitatus	☐
Hordeum marinum	☑
Lolium multiflorum	☑
Polygonum arenastrum	☐

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CRAM Assessment Area 42

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 43	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☑ yes ☐ no

Is the topographic basin of the wetland ☑ distinct **or** ☐ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

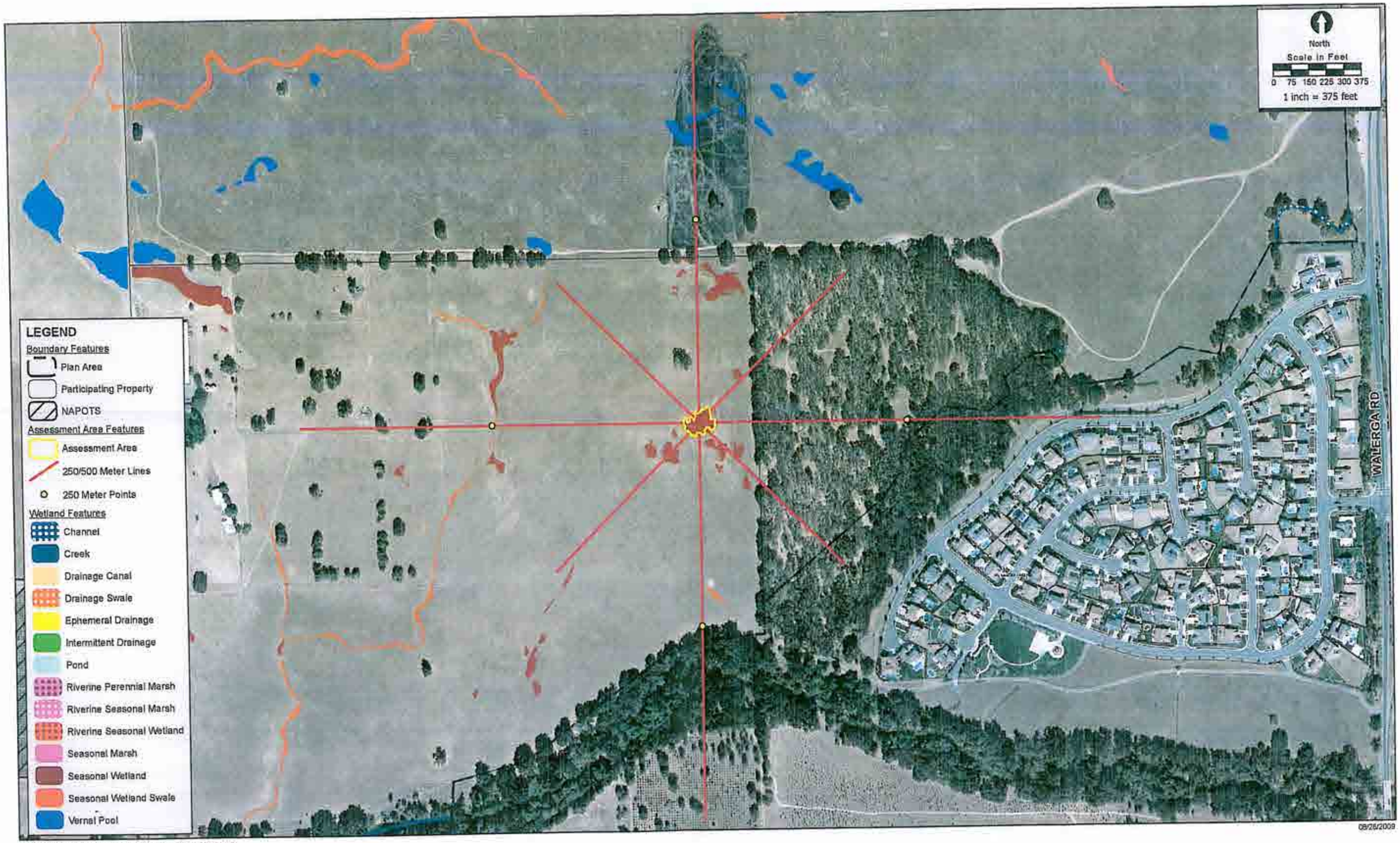
CRAM Scoring Sheet for Assessment Area 43

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				5		
Horizontal Interspersion and Zonation			B	9		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				26	Final Attribute Score=(Raw Score/36) x 100	72.2
Overall AA Score (Average of four final attribute scores)						66.38

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 43	AA Type: Seasonal Wetland
Plant Layer: Medium	**Invasive Species?**
Holocarpha virgata	☐
Lolium multiflorum	☑
Taeniatherum caput-medusae	☑
Plant Layer: Short	**Invasive Species?**
Vulpia bromoides	☐
Leontodon taraxacoides	☐
Bromus hordeaceus	☑
Hordeum marinum	☑



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CRAM Assessment Area 43

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 44	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Eric Stitt	
Daria Snider	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 44

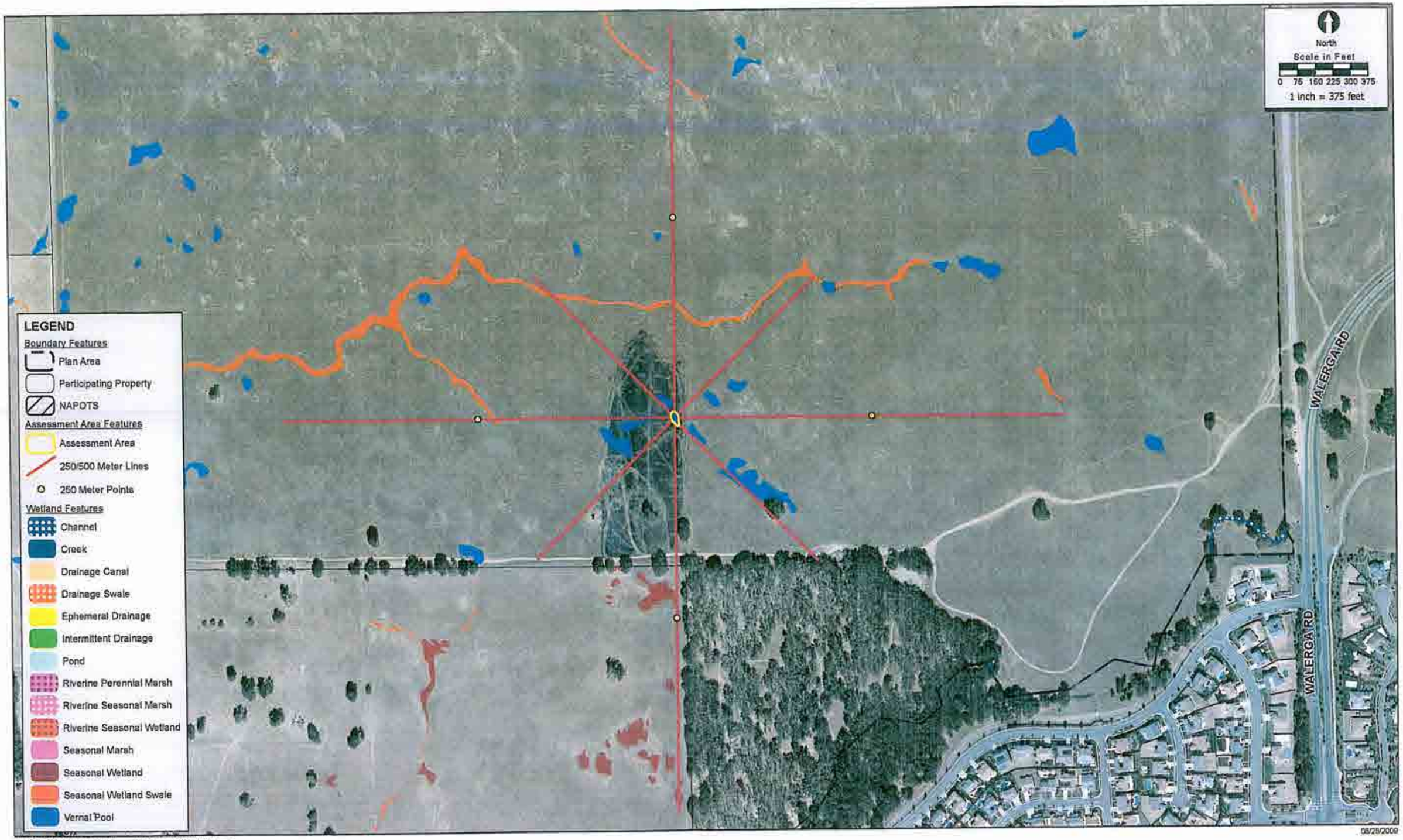
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			A	12		
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				6		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				18	Final Attribute Score=(Raw Score/24) x 100	75
Overall AA Score (Average of four final attribute scores)						77.25

Co-dominant species richness for Vernal Pool

Assessment Area Name: 44		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Polypogon monspeliensis	☑	☐
Leontodon taraxacoides	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Juncus bufonius	☐	☐
Lolium multiflorum	☑	☐

Assessment Area 44	N
Total Invasive Species:	2
Total Endemic Species:	1
Total Other Species:	2
Total Number Unique Species:	5



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CRAM Assessment Area 44

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 45	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

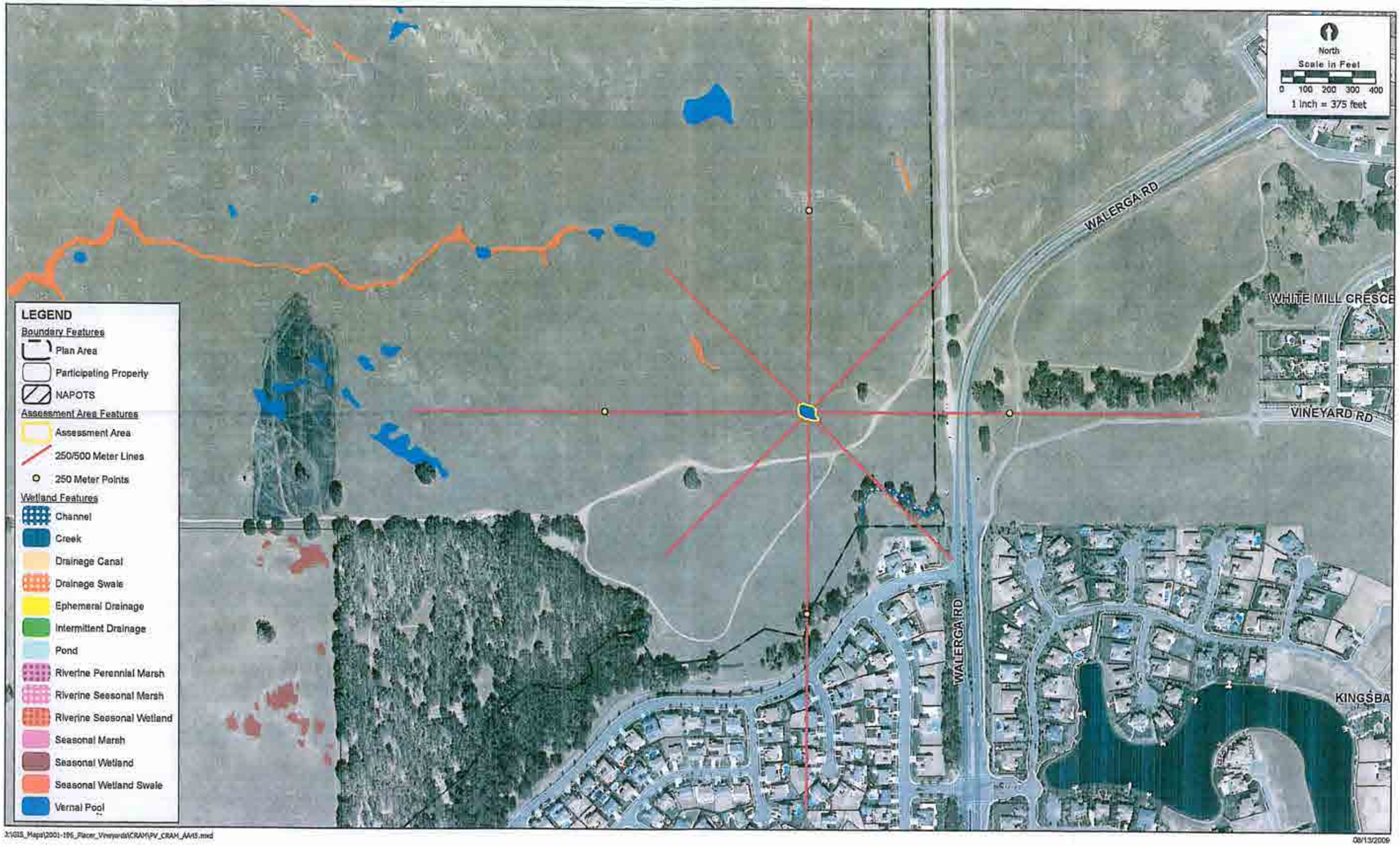
CRAM Scoring Sheet for Assessment Area 45

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			A	12		
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	D	3				
Plant Community Submetric C: Percent Invasion	D	3				
Plant Community Composition: (Average of submetrics A-C)				4		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				28	Final Attribute Score=(Raw Score/36) x 100	77.8
Overall AA Score (Average of four final attribute scores)						74.82

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 45	AA Type: Seasonal Wetland
Plant Layer: Medium	**Invasive Species?**
Lolium multiflorum	☑
Plant Layer: Short	**Invasive Species?**
Hordeum marinum	☑
Lasthenia glabberima	☐
Leontodon taraxacoides	☐



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CRAM Assessment Area 45

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Debra Sykes	
Assessment Area Name: 46	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Debra Sykes	
Jinnah Benn	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 46

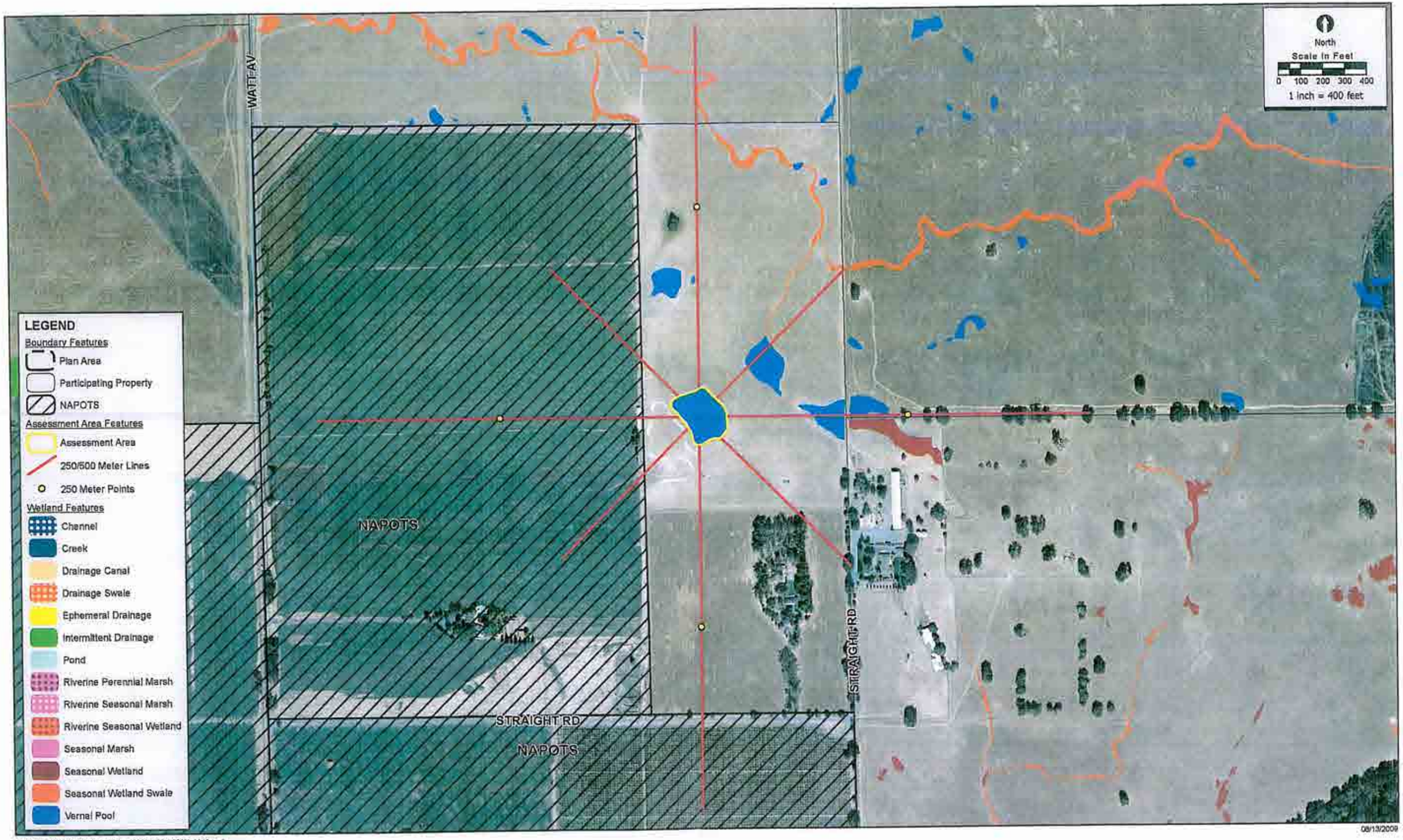
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			A	12		
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				20	Final Attribute Score=(Raw Score/24) x 100	83.3
Overall AA Score (Average of four final attribute scores)						78.53

Co-dominant species richness for Vernal Pool

Assessment Area Name: 46		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Polypogon monspeliensis	☑	☐
Eremocarpus setigerus	☐	☐
Hordeum marinum	☑	☐
Lolium multiflorum	☑	☐
Hemizonia fitchii	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Eryngium vaseyi	☐	☑
Navarretia leucocephala	☐	☑

Assessment Area 46	N
Total Invasive Species:	**3**
Total Endemic Species:	**3**
Total Other Species:	**2**
Total Number Unique Species:	**8**



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CRAM Assessment Area 46

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 47	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 47

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:				5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				8	Final Attribute Score= (Raw Score/24) x 100	33.3
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation				10	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				19	Final Attribute Score=(Raw Score/24) x 100	79.2
Overall AA Score (Average of four final attribute scores)						68.12

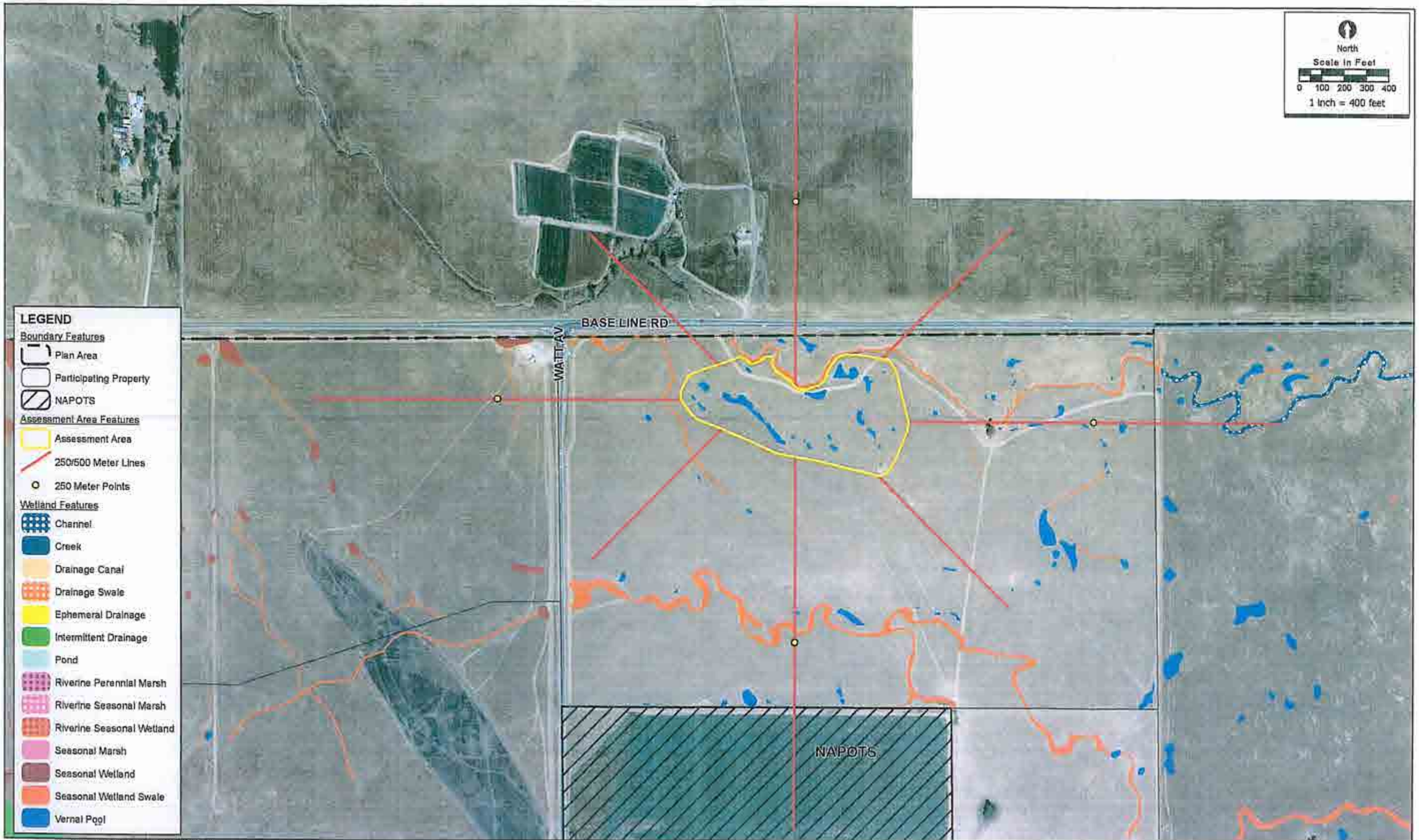
Co-dominant species richness for Vernal Pool System

Assessment Area Name: 47		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Hemizonia fitchii	☐	☐
Briza minor	☐	☐
Vulpia bromoides	☐	☐
Polypogon monspeliensis	☑	☐
Lolium multiflorum	☑	☐
Eryngium vaseyi	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Deschampsia danthenioides	☐	☑
Lasthenia glabberima	☐	☑
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Leontodon taraxacoides	☐	☐
Phalaris minor	☐	☐
Marsilea vestita	☐	☑
Hemizonia fitchii	☐	☐
Deschampsia danthenioides	☐	☑
Polypogon monspeliensis	☑	☐
Lolium multiflorum	☑	☐
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Phalaris minor	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Hemizonia fitchii	☐	☐
Leontodon taraxacoides	☐	☐
Lolium multiflorum	☑	☐
Holocarpha virgata	☐	☐
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Deschampsia danthenioides	☐	☑
Bromus hordeaceus	☑	☐
Erodium botrys	☐	☐
Briza minor	☐	☐
Species List for Small pool 2	**Invasive Species**	**Endemic Species**

Co-dominant species richness for Vernal Pool System

Deschampsia danthenioides	☐	☑
Lolium multiflorum	☑	☐
Leontodon taraxacoides	☐	☐
Bromus hordeaceus	☑	☐
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Hemizonia fitchii	☐	☐
Rumex pulcher	☐	☐
Polypogon monspeliensis	☑	☐
Lolium multiflorum	☑	☐

Assessment Area 47	N
Total Invasive Species:	3
Total Endemic Species:	5
Total Other Species:	8
Total Number Unique Species:	16



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08/13/2009

CRAM Assessment Area 47

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider	
Assessment Area Name: 48	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 48

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				16.39	Final Attribute Score= (Raw Score/24) x 100	68.3
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:				8	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				11	Final Attribute Score= (Raw Score/24) x 100	45.8
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation				10.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				19.5	Final Attribute Score=(Raw Score/24) x 100	81.2
Overall AA Score (Average of four final attribute scores)						73.82

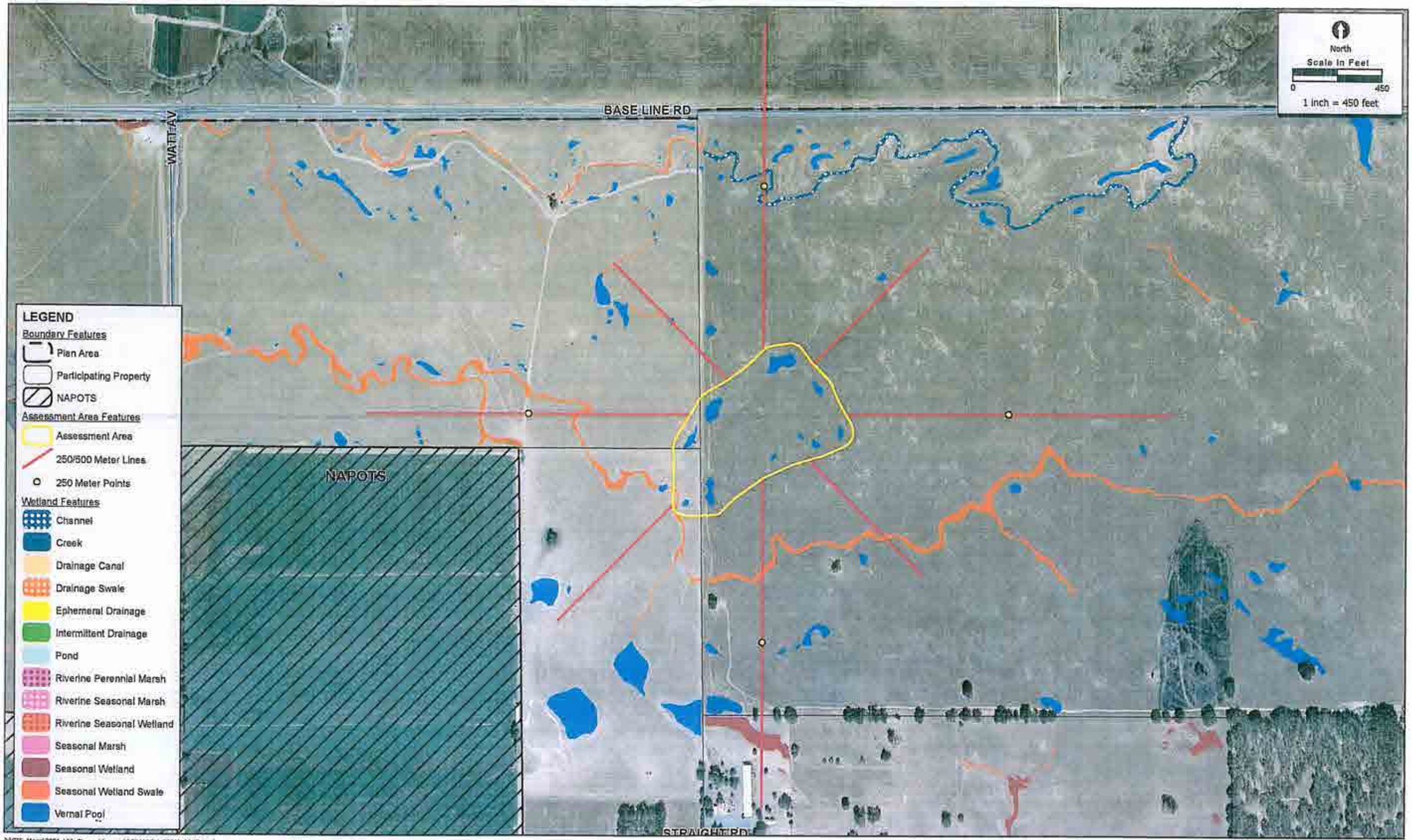
Co-dominant species richness for Vernal Pool System

Assessment Area Name: 48		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Hordeum marinum	☑	☐
Lasthenia glabberima	☐	☑
Hemizonia fitchii	☐	☐
Deschampsia danthenioides	☐	☑
Lolium multiflorum	☑	☐
Leontodon taraxacoides	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Phalaris minor	☐	☐
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Eremocarpus setigerus	☐	☐
Deschampsia danthenioides	☐	☑
Hemizonia fitchii	☐	☐
Vulpia bromoides	☐	☐
Ranunculus bonariensis	☐	☑
Leontodon taraxacoides	☐	☐
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Eremocarpus setigerus	☐	☐
Hordeum marinum	☑	☐
Lasthenia glabberima	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Eleocharis macrostachya	☐	☑
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Polypogon monspeliensis	☑	☐
Hordeum marinum	☑	☐
Species List for Small pool 2	**Invasive Species**	**Endemic Species**
Erodium botrys	☐	☐
Juncus bufonius	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐

Co-dominant species richness for Vernal Pool System

Hordeum marinum	☑	☐
Phalaris minor	☐	☐
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Hordeum marinum	☑	☐
Lolium multiflorum	☑	☐

Assessment Area 48	N
Total Invasive Species:	3
Total Endemic Species:	5
Total Other Species:	7
Total Number Unique Species:	15



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09/13/2009

CRAM Assessment Area 48

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool System

Your Name: Daria Snider		
Assessment Area Name: 49		
Assessment No.		Date: 8/17/2009
Assessment Team Members for This AA		
Debra Sykes		
Jinnah Benn		
Eric Stitt		
Daria Snider		

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool System

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☑ yes ☐ no

Is the topographic basin of the wetland ☑ distinct **or** ☐ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 49

Vernal Pool System AA: Vernal Pool System

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	B	9				
(C Submetric) Score for Buffer: Average Buffer Width	B	9				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Dx(BxC)^0.5)^0.5)				15	Final Attribute Score= (Raw Score/24) x 100	62.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			B	9		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				30	Final Attribute Score= (Raw Score/36) x 100	83.3
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			A	12		
Topographic Complexity:				9	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				21	Final Attribute Score= (Raw Score/24) x 100	87.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	B	9				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				10		
Horizontal Interspersion and Zonation				11.5	Average of 6 pools	
Raw Attribute Score = sum of numeric scores:				21.5	Final Attribute Score=(Raw Score/24) x 100	89.6
Overall AA Score (Average of four final attribute scores)						80.72

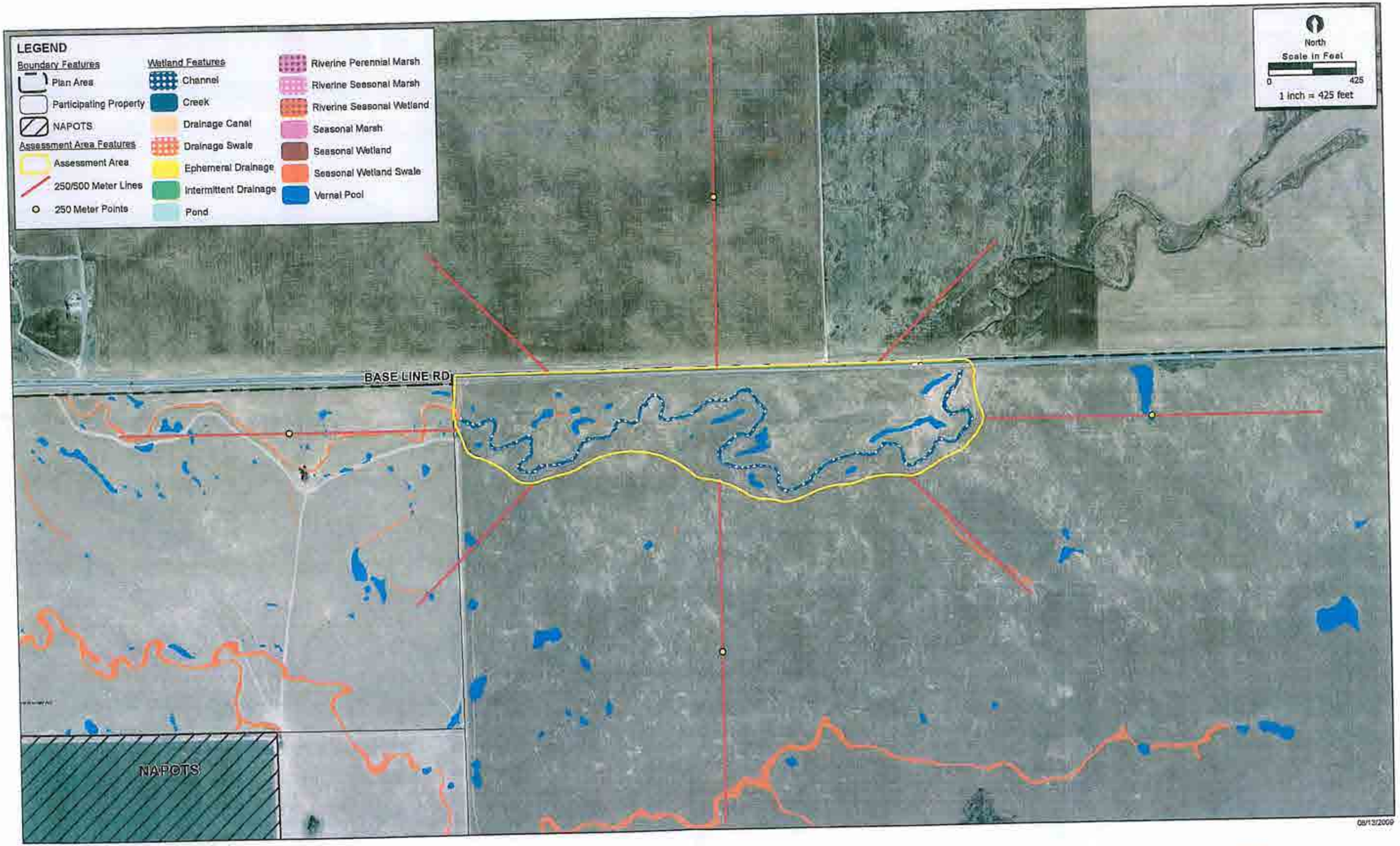
Co-dominant species richness for Vernal Pool System

Assessment Area Name: 49		
Species List for Large pool 1	**Invasive Species**	**Endemic Species**
Lolium multiflorum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Juncus bufonius	☐	☐
Trifolium campestre	☐	☐
Hemizonia fitchii	☐	☐
Leontodon taraxacoides	☐	☐
Deschampsia danthenioides	☐	☑
Species List for Large pool 2	**Invasive Species**	**Endemic Species**
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Downingia species	☐	☑
Gnaphalium palustre	☐	☐
Eremocarpus setigerus	☐	☐
Lythrum hyssopifolium	☑	☐
Glyceria declinata	☑	☐
Deschampsia danthenioides	☐	☑
Species List for Large pool 3	**Invasive Species**	**Endemic Species**
Crassula aquatica	☐	☑
Downingia species	☐	☑
Lolium multiflorum	☑	☐
Eryngium vaseyi	☐	☑
Gnaphalium palustre	☐	☐
Mollugo verticillata	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Deschampsia danthenioides	☐	☑
Eremocarpus setigerus	☐	☐
Species List for Small pool 1	**Invasive Species**	**Endemic Species**
Eremocarpus setigerus	☐	☐
Lolium multiflorum	☑	☐
Eryngium vaseyi	☐	☑
Ranunculus bonariensis	☐	☑
Deschampsia danthenioides	☐	☑

Co-dominant species richness for Vernal Pool System

Species List for Small pool 2	Invasive Species	Endemic Species
Leontodon taraxacoides	☐	☐
Deschampsia danthenioides	☐	☑
Lolium multiflorum	☑	☐
Species List for Small pool 3	**Invasive Species**	**Endemic Species**
Leontodon taraxacoides	☐	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Lolium multiflorum	☑	☐
Deschampsia danthenioides	☐	☑
Vulpia bromoides	☐	☐

Assessment Area 49	N
Total Invasive Species:	3
Total Endemic Species:	6
Total Other Species:	8
Total Number Unique Species:	17



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CRAM Assessment Area 49

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Freshwater Marsh

Your Name: Daria Snider	
Assessment Area Name: 50	
Assessment No.	Date: 8/17/2009
Assessment Team Members for This AA	
Daria Snider	
Debra Sykes	
Jinnah Benn	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☑ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☐ other (specify):

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☐ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☑ long-duration ☐ medium-duration ☐ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 50

Depressional Wetland AA: Freshwater Marsh

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				17.17	Final Attribute Score= (Raw Score/24) x 100	71.5
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			C	6		
Hydroperiod:			D	3		
Hydrologic Connectivity:			C	6		
Raw Attribute Score = sum of numeric scores:				15	Final Attribute Score= (Raw Score/36) x 100	41.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	A	12				
Plant Community Submetric B: Number of Co-dominant species	B	9				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				10		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				34	Final Attribute Score=(Raw Score/36) x 100	94.4
Overall AA Score (Average of four final attribute scores)						61.28

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 50	AA Type: Freshwater Marsh
Plant Layer: Medium	**Invasive Species?**
Leptochloa fascicularis	☐
Polygonum sp.	☐
Echinochloa crus-galli	☐
Plant Layer: Short	**Invasive Species?**
Cynodon dactylon	☑
Cyperus eragrostis	☐
Polypogon monspeliensis	☑
Plant Layer: Tall	**Invasive Species?**
Paspalum dilatatum	☐
Echinochloa crus-galli	☐
Plant Layer: Very Tall	**Invasive Species?**
Quercus lobata	☐
Salix goodingii	☐
Quercus wislizenii	☐

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CRAM Assessment Area 50

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 51	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 51

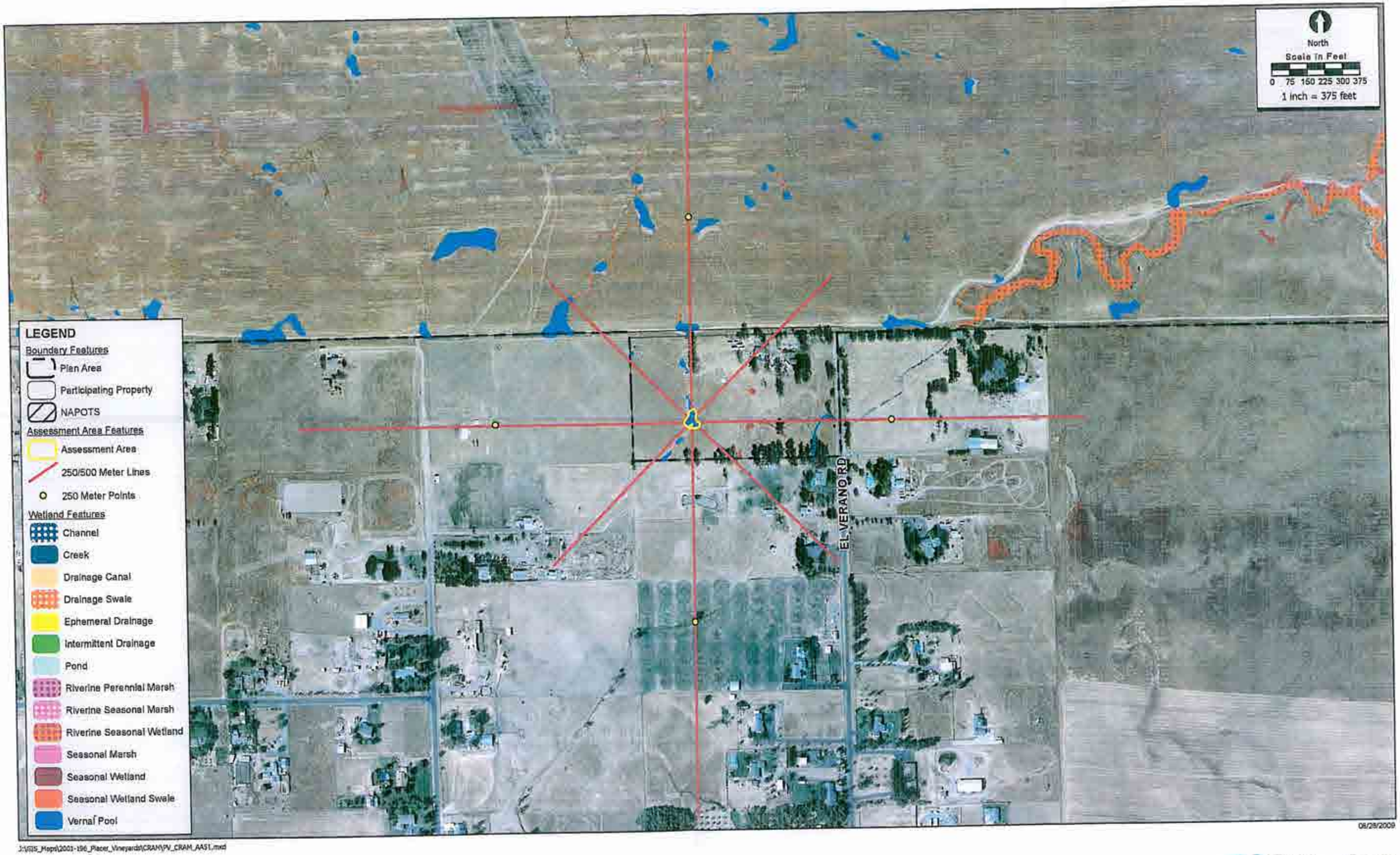
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	B	9				
(D Submetric) Score for Buffer: Buffer Condition	C	6				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				18.39	Final Attribute Score= (Raw Score/24) x 100	76.6
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	C	6				
Plant Community Submetric B: Number of Co-dominant species	A	12				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				9		
Horizontal Interspersion and Zonation			A	12		
Raw Attribute Score = sum of numeric scores:				21	Final Attribute Score=(Raw Score/24) x 100	87.5
Overall AA Score (Average of four final attribute scores)						78.53

Co-dominant species richness for Vernal Pool

Assessment Area Name: 51		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Eryngium vaseyi	☐	☑
Glyceria declinata	☑	☐
Polypogon monspeliensis	☑	☐
Deschampsia danthenioides	☐	☑
Vulpia bromoides	☐	☐
Eleocharis macrostachya	☐	☑
Plagiobothrys stipitatus ssp. micranthus	☐	☑
Anthemis cotula	☐	☐

Assessment Area 51	N
Total Invasive Species:	2
Total Endemic Species:	4
Total Other Species:	2
Total Number Unique Species:	8



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CRAM Assessment Area 51

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Seasonal Wetland

Your Name: Daria Snider	
Assessment Area Name: 52	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Seasonal Wetland

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

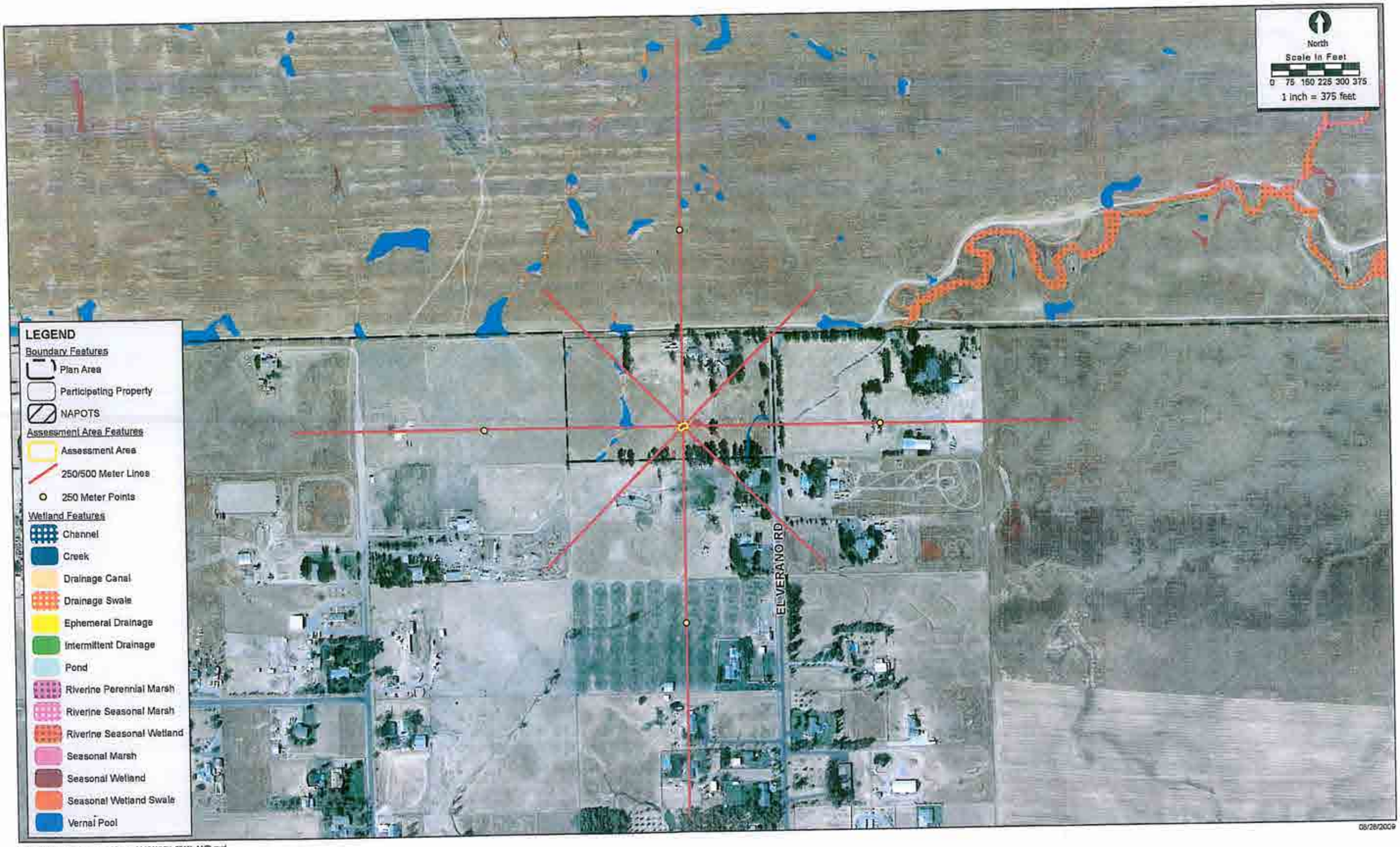
CRAM Scoring Sheet for Assessment Area 52

Depressional Wetland AA: Seasonal Wetland

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			C	6		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	B	9				
(D Submetric) Score for Buffer: Buffer Condition	C	6				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				15.39	Final Attribute Score= (Raw Score/24) x 100	64.1
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			D	3		
Raw Attribute Score = sum of numeric scores:				6	Final Attribute Score= (Raw Score/24) x 100	25
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	C	6				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	C	6				
Plant Community Composition: (Average of submetrics A-C)				6		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			B	9		
Raw Attribute Score = sum of numeric scores:				27	Final Attribute Score=(Raw Score/36) x 100	75
Overall AA Score (Average of four final attribute scores)						66.03

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 52	AA Type: Seasonal Wetland
Plant Layer: Short	**Invasive Species?**
Poa annua	☐
Lolium multiflorum	☑
Hordeum marinum	☑
Cynodon dactylon	☑
Holocarpha virgata	☐
Vulpia bromoides	☐
Anthemis cotula	☐



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CRAM Assessment Area 52

2001-196 Placer Vineyards

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Basic Information Sheet: Pond

Your Name: Daria Snider	
Assessment Area Name: 53	
Assessment No.	Date: 8/25/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Pond

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☑ medium-duration ☐ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 53

Depressional Wetland AA: Pond

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			B	9		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				20.17	Final Attribute Score= (Raw Score/24) x 100	84
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			B	9		
Raw Attribute Score = sum of numeric scores:				33	Final Attribute Score= (Raw Score/36) x 100	91.7
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			B	9		
Raw Attribute Score = sum of numeric scores:				12	Final Attribute Score= (Raw Score/24) x 100	50
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Number of Plant Layers	B	9				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				8		
Horizontal Interspersion and Zonation			A	12		
Vertical Biotic Structure			A	12		
Raw Attribute Score = sum of numeric scores:				32	Final Attribute Score=(Raw Score/36) x 100	88.9
Overall AA Score (Average of four final attribute scores)						78.65

Co-dominant species richness for Depressional Wetlands

Assessment Area Name: 53	AA Type: Pond
Plant Layer: Medium	**Invasive Species?**
Centaurea solstitialis	☑
Plant Layer: Short	**Invasive Species?**
Plagiobothrys stipitatus	☐
Eleocharis macrostachya	☐
Crypsis schoenoides	☐
Gnaphalium palustre	☐
Echinodorus berteroi	☐
Polypogon monspeliensis	☑
Plant Layer: Tall	**Invasive Species?**
Scirpus acutus	☐

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CRAM Assessment Area 53

2001-196 Placer Vineyards

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Basic Information Sheet: Vernal Pool

Your Name: Daria Snider	
Assessment Area Name: 54	
Assessment No.	Date: 8/26/2009
Assessment Team Members for This AA	
Daria Snider	
Eric Stitt	

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☑ Other

Which best describes the type of depressional wetland?

☐ freshwater marsh ☐ alkaline marsh ☐ alkali flat ☑ Vernal Pool

Which best describes the hydrologic state of the wetland at the time of assessment?

☐ ponded/inudated ☐ saturated soil, but no surfacewater ☑ dry

What is the apparent hydrologic regime of the wetland?

Long-duration depressional wetlands are defined as supporting surface water for > 9 months of the year (in > 5 out of 10 years.) Medium-duration depressional wetlands are defined as supporting surface water for between 4 and 9 months of the year. Short-duration wetlands possess surface water between 2 weeks and 4 months of the year.

☐ long-duration ☐ medium-duration ☑ short-duration

Does your wetland connect with the floodplain of a nearby stream? ☐ yes ☑ no

Is the topographic basin of the wetland ☐ distinct **or** ☑ indistinct

An indistinct, such as vernal pool complexes and large wet meadows, which may be intricately interspersed with uplands or seemingly homogeneous over very large areas, topographic basin is one that lacks obvious boundaries between wetland and upland. Examples of such features are seasonal, depressional wetlands in very low-gradient landscapes.

CRAM Scoring Sheet for Assessment Area 54

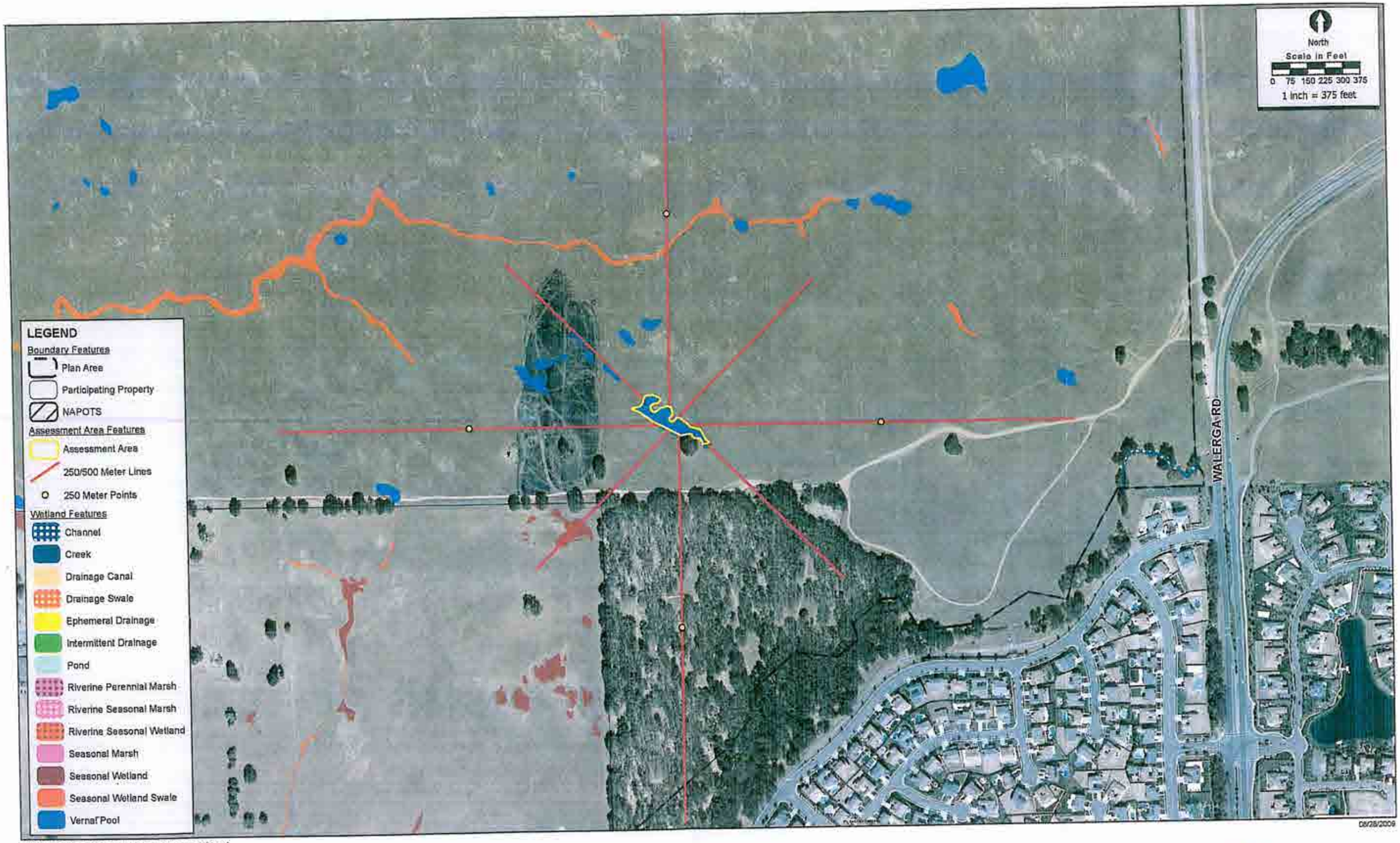
Individual Vernal Pool AA: Vernal Pool

Attribute 1: Buffer and Landscape Context					Comments	
			Alpha	Numeric		
Landscape Connectivity (Metric A):			D	3		
Buffer (based on sub-metrics B-D)						
(B Submetric) Score for Buffer: Percent of AA with Buffer	A	12				
(C Submetric) Score for Buffer: Average Buffer Width	A	12				
(D Submetric) Score for Buffer: Buffer Condition	B	9				
Raw Attribute Score = sum A+(Bx(CxD)^0.5)^0.5)				14.17	Final Attribute Score= (Raw Score/24) x 100	59
Attribute 2: Hydrology Attribute						
			Alpha	Numeric		
Water Source:			A	12		
Hydroperiod:			A	12		
Hydrologic Connectivity:			A	12		
Raw Attribute Score = sum of numeric scores:				36	Final Attribute Score= (Raw Score/36) x 100	100
Attribute 3: Physical Structure Attribute						
			Alpha	Numeric		
Structural Patch Richness:			D	3		
Topographic Complexity:			C	6		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score= (Raw Score/24) x 100	37.5
Attribute 4: Biotic Structure Attribute						
Plant Community Composition (Based on sub-metrics A-C)						
Plant Community Submetric A: Vernal Pool Endemics Richness	D	3				
Plant Community Submetric B: Number of Co-dominant species	C	6				
Plant Community Submetric C: Percent Invasion	B	9				
Plant Community Composition: (Average of submetrics A-C)				6		
Horizontal Interspersion and Zonation			D	3		
Raw Attribute Score = sum of numeric scores:				9	Final Attribute Score=(Raw Score/24) x 100	37.5
Overall AA Score (Average of four final attribute scores)						58.5

Co-dominant species richness for Vernal Pool

Assessment Area Name: 54		
Species List for vernal pool	**Invasive Species**	**Endemic Species**
Lasthenia glabberima	☐	☑
Lolium multiflorum	☑	☐
Plagiobothrys stipitatus ssp. micranthus	☐	☑

Assessment Area 54	N
Total Invasive Species:	1
Total Endemic Species:	2
Total Other Species:	0
Total Number Unique Species:	3



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CRAM Assessment Area 54

2001-196 Placer Vineyards

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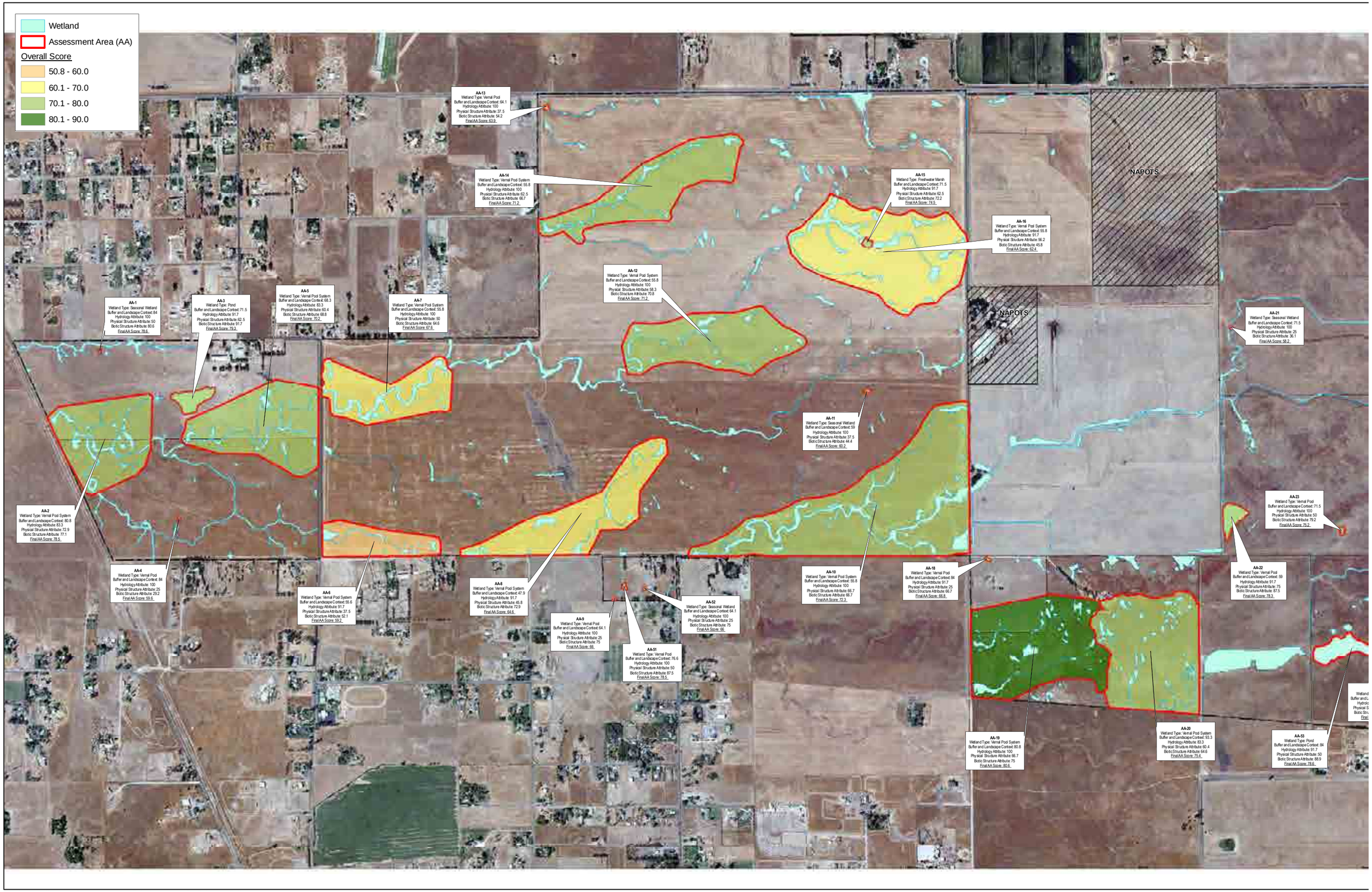
ATTACHMENT B

CRAM Assessment Area Scores



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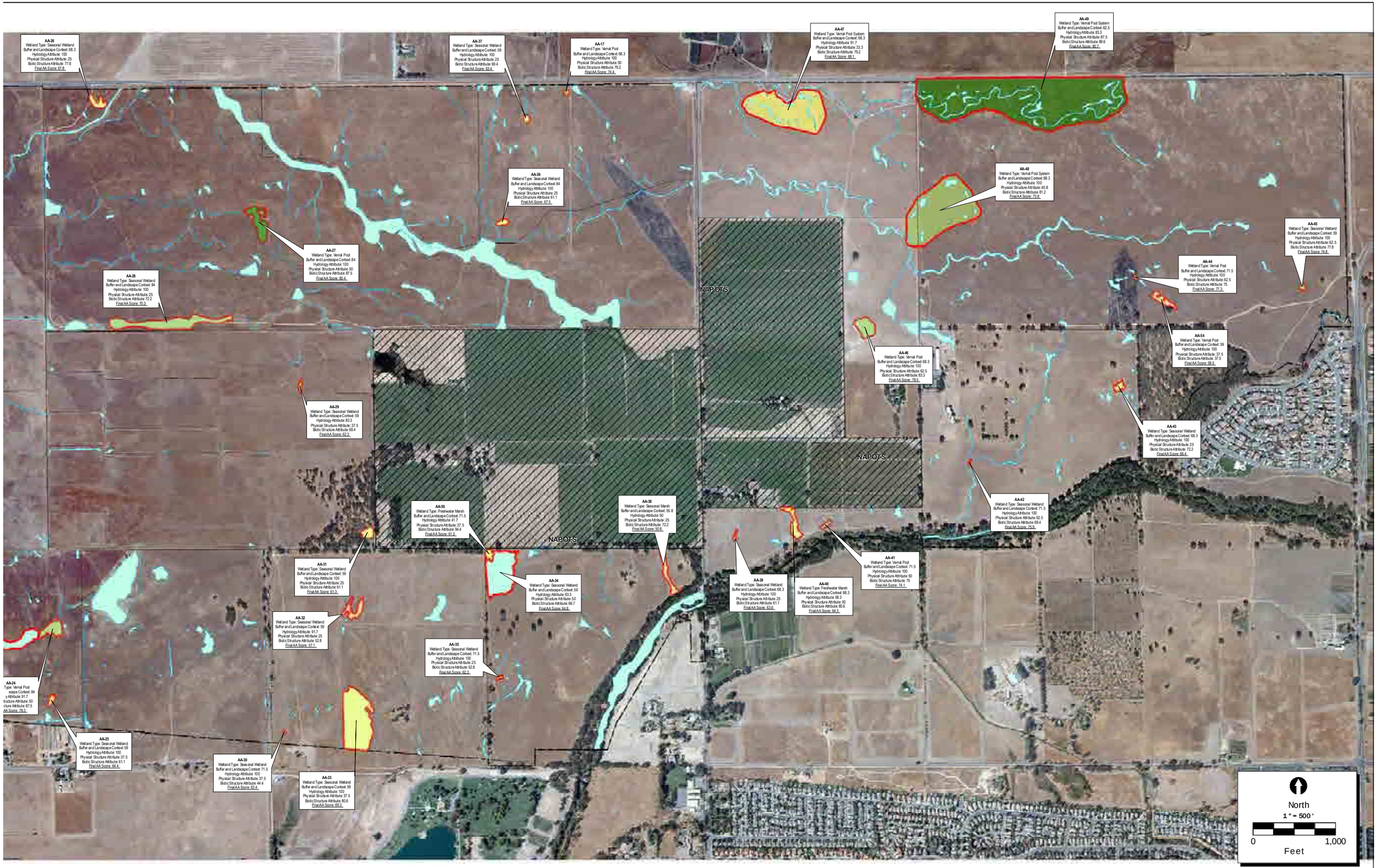
Attachment B. CRAM Assessment Area Scores

2001-196 Placer Vineyards



Map Date: 09/28/2009

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Status of Water Supply Improvement Projects

Current Status of Initial and Long Term Water Supply for the Proposed Action

In planning for the future, the Placer County Water Agency (PCWA) identifies water supplies intended to serve full build-out of the local jurisdictions in its service area. In order to meet this objective over the next 20 years or more, PCWA will not only have to continue to rely on its existing water supplies, but will also have to fund and build the infrastructure needed to bring an additional supply on-line: the so-called Sacramento River project, which would divert, treat, and deliver water previously anticipated to be diverted from the American River. Notably, PCWA has the water rights and/or contract rights needed for its Sacramento River project; it just needs to get various regulatory approvals and to build diversion, treatment, and delivery infrastructure.

Although PCWA's Urban Water Management Plan and Integrated Water Resources Plan anticipate serving all approved development in the agency's service area as shown in various adopted city and county General Plans, PCWA nevertheless provides water to new development on a first come, first served basis, making water available to developing areas only as they near the point of physically constructing new water-consuming development. In practice, this means that PCWA will not assign any particular major water supply (such as its "Middle Fork Project" water treated at the existing American River Pump Station) to any one particular specific plan area such as Placer Vineyards. Rather, newly developing areas, in effect, compete with one another for currently available water and then continue to compete with one another for subsequent supplies as the infrastructure associated with those new supplies comes on line. Thus, although the American River Pump Station (ARPS) supply – a total of 35,500 acre feet per annually (afa) – might be sufficient to serve all of Placer Vineyards in the absence of competing development projects, in reality that supply will be used not only by Placer Vineyards, but also by other major developing areas served by PCWA.

In its 2007 Second Partially Recirculated Revised Draft EIR (SPRRDEIR), Placer County assumed that Placer Vineyards would consume up to approximately 6,000 acre feet annually ("afa") from the ARPS before a Sacramento River water supply became available. (SPRRDEIR, p. 4.3-4.) This ARPS water – approximately 17 percent of the total amount diverted by the ARPS – would initially be delivered to Placer Vineyards through an existing east-west pipeline coming to the project's eastern border through the City of Roseville after being treated at PCWA's existing Foothill Treatment Plant. As of 2007, that pipeline had a total unused capacity of 8.15 million gallons per day (mgd), not all of which would be reserved for Placer Vineyards. When that remaining capacity was fully utilized by Placer Vineyards and other projects (e.g., the Dry Creek Community

Plan, the Regional University Specific Plan, and others), an alternative route for delivery to the project site would come down from the north in new pipelines emanating from PCWA's planned Ophir Treatment Plant. These pipelines would be funded and built in part by anticipated development to the north of Placer Vineyards (e.g., the Regional University Specific Plan). The SPRRDEIR, written before the recent major economic downturn, assumed that the City of Roseville pipeline would be able to supply Placer Vineyards for the first four or five years of projected development (2,000 to 2,500 residential units). (*Id.*, pp. 4.3-6 and 4.3-7 [Table 4.3.5-1].) At that point, the alternative delivery system (the northerly pipeline from the Ophir plant) was expected to be ready to deliver the remainder of the 6,000 afa of ARPS water assumed to be consumed by Placer Vineyards. Since the "Base Plan" version of the project was projected to consume a total of approximately 11,500 afa of potable water at full-build-out,[1] the SPRRDEIR assumed that approximately 52 percent of Placer Vineyards – approximately 7,360 units – could be developed before this 6,000 afa of available ARPS water was consumed. Thus, if the City of Roseville pipeline were able to supply the first 2,500 units, the alternative pipeline system could have served an additional 4,860 units.

PCWA completed the design and construction drawings for the building of a new 30 million gallons per day (mgd) Water Treatment Plant near Ohpir using the supply from the American River. All necessary permits were obtained to permit construction. Just before the project was to be advertised for bids, however, PCWA decided not to proceed at the current time due to the slow-down in the economy and the reduced number of requests for water connections. PCWA currently does not anticipate construction of this water treatment plant until 2022, a date that reflects its most recent forecasts of growth and the need for additional treatment capacity. If demand warrants starting sooner, the construction plans are complete and renewal of necessary permits could be pursued allowing construction to begin upon completion of that process. In order to deliver water to Placer Vineyards from this source, construction of an additional conveyance pipeline would be necessary. Since completion of the water treatment plant has not begun and the

[1] The Blueprint Alternative, in contrast to the Base Plan, was predicted to require a total of 14,453 afa of potable water, an increase of 2,953 afa over what the Base Plan would require. (Revised Draft EIR, vol. 3, pp. 6-139 – 6-140.) Notably, however, per capita use would be less under the Blueprint Plan than under the Base Plan, as is evident from the fact that a nearly 50 percent increase in residential units would only create an approximate 20 percent increase in potable water demand. (*Id.*, p. 6-141.)

demand for new water connections has been greatly reduced, PCWA has not yet begun the design work for this additional pipeline. Notably, though, since 2007, when County completed the SPRRDEIR, very little, if any, of the conveyance capacity through the Roseville system has been consumed.

The SPRRDEIR also identified a "secondary initial surface water supply" that could provide up to 6,000 afa of PCWA's Middle for American River water currently under contract to the Sacramento Suburban Water District, which has a contract for up to 29,000 afa from that PCWA source. This secondary initial supply might be needed if the Placer Vineyards project uses all of the approximately 6,000 afa of water available to it from the ARPS supply prior to the time when the long-term water supply from the Sacramento River becomes available. This supply would be diverted from Folsom Lake, treated by the San Juan Water District at its Sidney N. Peterson Water Treatment Plant, and conveyed to the project site by a Cooperative Transmission Pipeline that currently ends near Antelope and Walerga Roads. Because this supply has not been actively pursued in recent years, the water it could yield would only become available after one of the agencies involved – either PCWA, the San Juan Water District, or the Sacramento Suburban Water District – completes environmental review under CEQA and the multiple parties involved, including the Placer Vineyards landowners, finalize the negotiations needed to reach the agreements needed for the water to flow. Assuming that these regulatory and legal steps can be completed as contemplated and that the full 6,000 afa discussed in the SPRRDEIR become available, this supply, added to the ARPS supply described earlier, would bring the total amount of American River water available to Placer Vineyards to approximately 12,000 afa, which is more than the 11,500 afa needed for full build-out. These two combined supplies, then, would be sufficient for build-out of the entire project. PCWA would be free, however, to substitute Sacramento River water for some of this American River water if PCWA determined that such a reallocation better optimized its entire system.

As of 2007, PCWA and the County expected the Sacramento River water supply project to be in place and ready to deliver water by approximately 2016. (SPRRDEIR, p. 4.3-9.) In the aftermath of the recent recession, however, that target date has been moved back to a date uncertain, perhaps as late as the 2020s. PCWA will only recommence the process of completing environmental review and permitting, as well as construction, when the real estate market in western Placer County has returned to a point where the need for Sacramento River water is sufficiently imminent that PCWA can confidently assume that

hookup fees from new development will suffice to reimburse PCWA for its up-front costs associated with developing and building the new diversion.

As noted above, it is possible that Placer Vineyards could fully build out even without the Sacramento River supply, provided that the project is successful in obtaining 6,00 afa from PCWA's ARPS supply and another 6,000 afa from the secondary initial supply described above. Even if all 12,000 afa of these two supplies are not forthcoming, however, this change in PCWA's timing with respect to the Sacramento River supply should not adversely affect the build-out of Placer Vineyards. This is because, just as PCWA had to adjust its time frame for pursuing its Sacramento River project, so too have the proponents of Placer Vineyards had to adjust the period in which build-out is predicted. Whereas the SPRRDEIR assumed build-out by approximately 2025, more recent predictions envision build-out occurring as late as 2040. PCWA will monitor the pace of build-out of all development occurring in its service area, and will recommence in earnest its efforts to bring the Sacramento River project to fruition sufficiently in advance of the demand for Sacramento River water to ensure the avoidance of any temporary water hookup moratorium.

PLACER VINEYARDS MITIGATION STRATEGY

NOVEMBER 2012

I. Overview of Open Space, Agricultural Land and Biological Resource Mitigation Strategy

The Placer Vineyards Specific Plan (the "Plan or "Plan Area") is a very large plan encompassing many properties under separate and distinct ownership that will be developed independently over a period of decades in association with numerous individual Clean Water Act permitting actions. Current ownership includes a diverse mix of participating and non-participating developers, investors, and farmers, including many who are unlikely to be involved in the physical development of the property. The cumulative development of property within the Plan provides a substantial portion of the long-term residential and employment growth envisioned for unincorporated Placer County in both the County's General Plan and SACOG's Sustainable Communities Strategy. Accordingly, mitigation planning for Placer Vineyards is an important component of long-term conservation planning for both Placer County and the Sacramento Region.

This Mitigation Strategy was developed in consultation with Placer County, SACOG, the Sierra Club and the Audubon Society to mitigate for the development of individual properties within the Plan Area in a manner that will also be cumulatively effective and supportive of long-term conservation planning goals. The Mitigation Strategy reflects the best available science regarding the aquatic resources and associated habitat known to exist in the Plan Area and Southwest Placer County, including biological information and conservation strategies developed in conjunction with the proposed Placer County Conservation Plan (PCCP). However, any such information utilized from the PCCP planning effort has been carefully reviewed and adapted for the specific purpose of providing effective mitigation that meets all applicable regulatory requirements for development of Placer Vineyards in the absence of an adopted PCCP. At the same time, the proposed Mitigation Strategy is also intended to provide a relatively seamless transition in the event that the proposed PCCP, County in-lieu fee, or other similar conservation plan is adopted during the build-out of the Plan Area.

The cumulative development of the Placer Vineyards Specific Plan is expected to result in substantial, irreversible conversion of the existing natural and semi-natural landscape to urban and suburban use. Although elements of the existing landscape show varying degrees of disturbance and are no longer functioning as a natural ecosystem, the mosaic of open lands in the Plan area cumulatively provides habitat and connectivity for several species. Even loss of intensively farmed land will diminish these regional values.

Most of the natural communities represented in the Plan Area require large contiguous and intact habitat to retain maximum biological function. Avoidance of small patches of

communities such as vernal pool grassland may result in short-term avoidance of take of species present, but is generally inconsistent with long-term maintenance of stable species populations due to multiple factors such as reduced population size, loss of contributing hydrology, edge effects, increased non-native species, lack of management oversight, inability to implement management activities due to adjacent land uses, etc. (Placer County 2011). Similarly, compatible agriculture that is important for long-term management of preserved lands is best served by large contiguous blocks of land that can minimize edge effects from surrounding urbanization. For this reason, impacts to agricultural land and biological resources at the natural community level are addressed by designating large areas for conservation outside of the area planned for future growth. Lands designated for conservation through this mitigation measure (the "open space, agricultural land and biological resource mitigation strategy," "mitigation strategy," or "strategy") will include substantial amounts of agricultural land and habitat for affected species, as well as natural communities important for maintaining regional biological diversity. Land designated for conservation will be acquired from willing sellers in fee title and/or protected through establishment of conservation easements.

This strategy mitigates for irreversible land conversion through permanent conservation of large tracts of land with similar land cover, habitat, and agricultural value strategically located off-site in the area described on attached Figure A-1 (the "Reserve Acquisition Area" or "RAA"). The RAA was selected in collaboration with Placer County, SACOG, Sierra Club and Audubon based upon the best available information as the area with the greatest opportunity to create a regionally important expanse of private and public land that will continue to support aquatic functions and meet species needs in the long term with minimal edge effect and fragmentation from urbanization. The mitigation obligations set forth in this Mitigation Strategy are intended to meet all regulatory requirements while, to the greatest extent possible, advancing effective long-term conservation planning. This approach to conservation of agricultural land, wetlands and habitat complements efforts to avoid and/or minimize impacts on-site for key components of the aquatic system, rare habitat, and individual species and is strongly encouraged by the responsible local planning agencies and environmental stakeholders.

The Reserve Acquisition Area where land will be preserved under this mitigation measure is largely comprised of "Important Farmland," as defined by the State of California Department of Conservation. Most of this land is designated Farmland of Local Importance or Grazing. Many ongoing agricultural activities are consistent with, and essential to, the protection and enhancement of the natural communities that are supported by this land. Accordingly, ongoing agricultural use will be an integral component of the long-term management of preserved lands. The required conservation easements recorded on such lands will specifically encourage compatible agricultural use. As a result, the land preserved under this mitigation measure will also preserve opportunity for agricultural use, thus mitigating for the impacts of lost agricultural land and open space within the Project site, in addition to mitigating for impacts on vernal pool complexes and other ecological features.

The grassland vernal pool land type is mitigated by any grassland without regard to wetted area density. Actual wetted area is accounted for by the separate requirement for wetland mitigation. The wetland mitigation described below can only be carried out if in

fact much of the grassland acquired to mitigate land conversion does in fact have a high density of preserved and restored vernal pool. Thus, application of the two measures – land area and wetland area – will jointly provide for conservation of wetland-dependent natural communities. The intent here is to approach the mitigation needs of the Plan through a more holistic approach that better responds to the regional landscape. This approach is similar to the landscape-level approach developed in connection with the PCCP effort, which places emphasis on the value of these resources as an ecosystem, rather than as individual features, while still addressing regulatory requirements for no net loss. As such, this approach reflects the best available scientific evidence relative to the mitigation of wetland impacts in Southwest Placer County. Given the large acreage of the Placer Vineyards Plan Area and the broad impact assumptions that require preservation of large amounts of vernal pool grassland regardless of the wetland density of impacted sites, this approach will ensure acquisition of significant portions of the RAA.

Under this strategy, mitigation to minimize impacts to natural and semi-natural communities falls into three categories:

1. **Mitigation Ratios for Land Cover**. Off-site mitigation is accomplished mainly through mitigation ratios requiring conservation or restoration of a set amount of land calculated as a proportion of land cover conversion or "take." The term "land cover take" as used herein means the conversion of natural or semi-natural lands to urban or suburban use.

2. **Mitigation Ratios for Wetland Area**. Because of their particular regulatory status and their biological importance, wetlands are accounted for separately through mitigation ratios requiring preservation and restoration or creation of a set amount of wetted area calculated as a proportion of wetland "take." It is intended that all of the wetted area mitigation along with all associated upland will be counted towards mitigation required for land cover "take." Likewise, all wetted acres contained within land cover mitigation shall be counted towards wetted area mitigation.

3. **Site Specific Avoidance and Minimization**. Protection of existing resources on site is accomplished through specific avoidance, restoration, and enhancement measures incorporated into the Specific Plan. In addition, separate mitigation measures will be implemented to avoid or minimize on-site impacts to individual species.

The areas included in the RAA, described above, are similar to those targeted for conservation in the proposed PCCP (Figure 5-3). The intent of this mitigation strategy is to contribute towards a regionally-important expanse of contiguous private and public land that will continue to support important aquatic functions, meet species needs in the long term and aid recovery objectives for a broad variety of species, including those targeted for conservation by the County's Biological Working Group (stakeholder group formed by the County to analyze biological information and make recommendations for the conservation strategy of the PCCP) and included in the proposed PCCP (Table 1

below). This regional approach to conservation of agricultural land, wetlands and habitat complements efforts to avoid and/or minimize impacts on site for key components of the aquatic system, rare habitat, and individual species.

Regardless of whether the PCCP is adopted, this Mitigation Plan represents the most sound approach towards mitigation of a very large plan area such as Placer Vineyards. However, the Mitigation Plan has the added benefit of being compatible with the Conservation Strategy being proposed for the PCCP. Thus, if the PCCP is adopted during the build-out of Placer Vineyards, development projects within the Specific Plan may fulfill mitigation requirements by compliance with the terms of the adopted PCCP in lieu of this mitigation strategy, creating a relatively seamless transition. Such compliance shall constitute sufficient mitigation that will obviate the need to comply with the measures herein.

Table 1 – PCCP Covered Species Expected to Benefit from Vernal Pool Grassland Complex and Grassland Conservation

Vernal Pool Species	Grassland Species
Vernal pool fairy shrimp	Swainson's hawk
Vernal pool tadpole shrimp	American peregrine falcon
Conservancy fairy shrimp	Western burrowing owl
Western spadefoot	Loggerhead shrike
Bogg's Lake hedge-hyssop	Northern harrier
Dwarf downingia	Ferrunginous hawk
Legenere	Grasshopper sparrow
Ahart's dwarf rush	Tricolored blackbird
Red Bluff dwarf rush	Western spadefoot

This measure is intended to be compatible with all required state and federal permits related to land conversion, or other regulated activity within habitat covered by state or federal jurisdiction specifically including Federal Clean Water Act Section 404 permits, federal Endangered Species Act Section 7 "incidental take statements," state Endangered Species Act compliance, state "stream bed alteration agreements" and state certification under Clean Water Act Section 401. Any and all conservation, restoration, enhancement, and creation of land cover, natural communities, and wetland features required by any state or federal permitting agency, either in conformity with this strategy or in addition to

it, shall be fully credited towards the obligations of this mitigation strategy, regardless of whether such mitigation is achieved through the acquisition of land and/or conservation easements or through the purchase of credits from an approved mitigation bank.

In order to preserve land for agriculture, compatible agricultural use that supports and enhances wildlife value is encouraged on lands conserved under this measure. The goal of conservation easements on farmlands will be to maintain viable agricultural operations while also meeting the biological objectives of this mitigation measure.

This mitigation strategy shall serve as mitigation for all land conversion impacts, specifically including impacts to vernal pools and other wetlands, vernal pool grasslands, grasslands, Swainson's hawk foraging habitat, agricultural land, and open space. No additional mitigation shall be required for these impacts. This strategy shall not apply to the Special Planning Area (SPA) where no urban development is proposed.

II. Land Cover Mitigation

A. Mitigation Ratio

For every 1.0 acres of land cover taken, 1.35 acres of land will be conserved. The take area shall be calculated to the nearest one-tenth (0.1) acre. The total amount of required acreage will be automatically reduced by any and all off-site conservation or mitigation land required by any permitting agency, specifically including upland areas required in association with wetland mitigation, whether acquired through mitigation bank credits or other means.

B. Calculation of Land Cover Take

All land within the Specific Plan (not including the SPA area) is included in the calculation of take, with the exception of land that will be maintained in or restored to a natural or semi-natural condition as required by the County and/or any state or federal permitting agency. Figure A-2 and Table A-3 show the take area and take calculation by property based upon the proposed land use and avoidance required for compliance with County standards through adoption of the Specific Plan, prior to consideration of any additional avoidance that may be required by a permitting agency. For purposes of this mitigation measure, the take acreage may only be reduced below that shown on Figure A-2 and Table A-3 to the extent that additional avoidance is required by the County and/or any state or federal permitting agency. Similarly, the take acreage and corresponding mitigation requirements will be increased to the extent that the County and the state and federal permitting agencies allow future development of any area not included in the take calculations as shown in Figure A-2 and Table A-3.

C. Mitigation Land Criteria

Land conserved under this measure shall, to the fullest extent feasible, be located within the Reserve Acquisition Area (Figure A-1).

Impacts to annual grassland, vernal pool grassland, and pasture lands shall be mitigated on existing or restorable grassland (as identified in Figure A-4). All other land cover impacts may be mitigated on any natural or semi-natural land within the RAA, specifically including agricultural land. Vernal pool grassland is mitigated by any grassland without regard to wetted area density. Actual wetted area is accounted for by the separate requirement for wetland mitigation discussed below. The wetland mitigation described below can only be carried out if much of the grassland acquired to mitigate land conversion does in fact have a high density of preserved and restored vernal pool habitat. Application of the two measures – land area and wetland area – will jointly provide for conservation of wetland-dependent natural communities.

In general, the minimum area for a vernal pool conservation site is 200 acres if the site is not contiguous with other reserve lands. Sites of less than 200 acres may be allowed if it is determined that the proposed site has key strategic value for the County's overall conservation strategy or has especially high resource value that can be reasonably protected from edge effects. The area may consist of one or more properties. There is no minimum size for conservation sites that are adjacent to other reserve lands or the Stream System (as identified in Figure A-5). There is also no minimum size for conservation sites incorporating vernal pools that occur on Mehrten Formations. Mehrten vernal pools will only be excluded from consideration if it is determined that existing or future hydrologic, land use, or other characteristics threaten long-term viability.

The vast majority of land targeted for conservation in the RAA is suitable for agriculture and continued agricultural use will be encouraged by the conservation easements required under this mitigation measure. Accordingly, no additional agricultural mitigation will be required beyond the 1.35 to 1 requirement for the take of land cover noted above. Likewise, the land cover mitigation criteria is such that it will also provide suitable foraging habitat mitigation for Swainson's hawk. No additional land mitigation will be required beyond the 1.35 to 1 requirement for the take of land cover noted above for these impacts.

D. Conservation Easement / Management Plans

Conservation sites shall be subject to recorded conservation easements and management plans with an identified funding source for long-term management of conserved lands. The conservation easements and management plans are subject to approval and shall provide for the long-term maintenance of biological functions and values while, whenever feasible, also providing for compatible agricultural use.

E. Use of Mitigation Bank Credits or In-Lieu Fees

Project applicants may use credits from approved conservation or mitigation banks to meet all or a part of the conservation required by this strategy. Specifically, the uplands associated with any bank wetland preservation, restoration, enhancement or creation may be applied towards the Land Cover mitigation requirement provided that the uplands are subject to an appropriate conservation easement and the applicant can demonstrate that the approved mitigation credits include both wetland and upland land cover. Similarly, all or a part of the conservation required by this strategy may be met through an approved in-lieu fee, including both wetland and upland acreage acquired through the in-lieu fee program.

Mitigation and conservation banks must be approved. Credits can count toward mitigation obligations if the banks are consistent with the requirements of state and federal natural resource agencies. Any out-of-county bank must have a service area that extends into the Plan area.

F. Use of Excess Mitigation Assigned from Other Projects in Specific Plan

It is anticipated that, depending on the availability and relative parcel size of potential conservation sites, some projects within the Specific Plan may provide land cover mitigation in excess of the acreage required by this strategy. Excess mitigation may be freely assigned by private agreement between projects within the Specific Plan. Such assignment will be documented and tracked. Project applicants may apply excess mitigation assigned from other projects in the Specific Plan to meet all or a part of the land cover mitigation required by this measure provided proof of assignment can be provided.

G. Out-of-County Mitigation

A limited amount of out-of-county mitigation may be allowed that meets the biological intent of this mitigation strategy. In addition, credits from out-of-county conservation or mitigation banks may be accepted towards full or partial compliance with this measure, if the project is within the agency-approved service area for the credits. Such mitigation will be fully credited towards any mitigation required by this mitigation strategy.

In order to receive credit towards the obligations of this Mitigation Strategy, any conservation outside the RAA, including the purchase of credits from a mitigation bank, must adhere to the criteria, below:

It is intended that the main part of the Reserve System will be established within the RAA. There are several places outside the RAA where conservation management activities to improve watershed integrity would serve the mitigation strategy. Cooperative conservation actions in these areas could also benefit the reserve system by expanding the resource available for a reserve, increasing contiguous reserve size, or improving connectivity, particularly in a high priority watershed. Figure A-6 depicts the

location where acquisition and management of conservation could occur. Lands that may meet these needs are:

- Land along the Placer/Sutter County border, in particular, the lower portion of the Coon Creek and Auburn Ravine.
- Portions of the floodplain along the Bear River that is within the Coon Creek watershed within Sutter County.
- Lands contained within the levees of the Natomas East Main Drainage, Cross Canal, Pleasant Grove Creek Canal, and East Side Canal for conservation actions which improve fish passage and water quality for salmonids in Placer County.
- Mitigation and Conservation Banks approved by the Wildlife Agencies and/or the ACOE that contain the Plan area within the service boundary. Mitigation and Conservation Banks locations are not depicted on Figure A-6.

III. Wetland Mitigation

A. Overlap with Land Cover Mitigation

Because of their particular regulatory status and their biological importance, wetlands are accounted for separately through mitigation ratios requiring preservation and/or restoration of a set amount of wetted area calculated as a proportion of wetland take. These wetted acres, along with any upland area that is conserved in association with the wetted acres, are fully credited towards the required land cover mitigation. In other words, it is intended that all of the wetland mitigation will be counted towards land cover mitigation requirements. Likewise, all wetted acres contained within land cover mitigation shall be counted towards wetland mitigation.

B. Calculation of Wetland Take

Wetland take is calculated as all wetland area that falls in the Land Cover take area as defined in Section II.B. above.

In practice, certain wetland types are not easily distinguished and often intergrade. This mitigation strategy minimizes the effect of field interpretation by applying the same ratios for all wetland types and by allowing broad latitude for out-of-kind mitigation. For the purposes of applying mitigation requirements, the definition of vernal pool wetland habitat includes vernal pools and depressional areas within vernal swales, ephemeral drainages, and other seasonal wetlands.

Any wetland area required to be avoided, restored, and/or enhanced on site by the County and/or any permitting agency is automatically excluded from the take calculation.

Mitigation at the time of impact will be subject to a finding of baseline consistency with land cover conditions as of 2009/11 (based upon 2009 LIDR and 2011 air photos). If the County suspects, based on inconsistency with this information or other similar information, that wetland area may have changed from baseline conditions, it may require that a baseline consistency analysis be prepared and submitted to the County for review and approval. The baseline consistency finding requires all of the following:

a. Property land uses are essentially the same property land uses present in 2009/11 as determined by available data.
b. There is no evidence that the property has been mass-graded without proper authorization.
c. The micro-topography and hydrology of the property are substantially unchanged from 2009/2011conditions.
d. Creeks, swales and other drainage in same location (within 100 feet).
e. At least 70 percent of ponded water and/or other wetlands are still present on the property.
f. The proportion of parcel area in a topographic depression (depressional index) has not been diminished by more than 20 percent from the 2009/2011 index.

The baseline consistency finding establishes a comparison of resources. A finding of non-consistency does not establish responsibility for changes to the land-cover type. Foreseeable changes such as drought, arson fire or flood may result in non-consistency. However, if an apparent significant change in baseline land-cover is detected, the changes will be reviewed to determine if baseline land-cover information was inaccurate in 2009/11 or if land-cover conditions have in fact changed significantly. If land-cover conditions have changed significantly, the baseline land-cover conditions will be used as the basis for determining these mitigation strategy requirements. If a mapping error occurred, then mitigation will be based on existing land cover type at the time the consistency finding was requested.

C. Mitigation Ratio: Preservation

For each 1.00 acres of vernal pool take, 1.00 acres of vernal pool will be preserved. For the purposes of both take and mitigation under this measure, vernal pools include seasonal depressional wetlands. For each 1.00 acres of take of any other wetland type, the preservation requirement may be met by preserving 1.00 acres of any wetland type without regard for in-kind mitigation. The preservation requirement for open water may be met through preservation of 1.00 acres of open water or any wetland type for each 1.00 acres of take. The total amount of required wetland preservation under this strategy will be automatically reduced by any and all wetland preservation required by any permitting agency. For the purposes of calculating the amount of preservation, the take calculation shall include any identifiable quantity of the resource affected.

D. Mitigation Ratio: Restoration, Enhancement and Creation

As indicated in Table 2 below, for each 1.00 acres of vernal pool take, 1.25 acres of compensatory wetlands will be restored, enhanced or created, including a minimum of 0.75 acres of vernal pool and no more than 0.50 acres of other wetlands. For the purposes of both take and mitigation under this strategy, vernal pools include seasonal depressional wetlands. For each 1.00 acres of take of any other wetland type, the compensatory restoration, enhancement and creation requirement may be met by restoring, enhancing and/or creating 1.25 acres of any wetland type without regard for in-kind mitigation. The compensatory requirement for open water may be met through restoration, enhancement or creation of 1.25 acres of open water or any wetland type for each 1.00 acres of take. The total amount of required compensatory wetland restoration, enhancement, or creation under this strategy may be reduced by wetland preservation required by a permitting agency greater than the wetland preservation amount required by this mitigation strategy. However, in no event shall the compensatory requirement be reduced to below 1.00 by excess preservation. For the purposes of calculating the amount of restoration, enhancement, or creation, the take calculation shall include any identifiable quantity of the resource affected.

In some circumstances, enhancement of existing wetland habitat may add greater wetland function and value to the aquatic system and conserved natural communities than restoration of previously existing or degraded features or creation of new wetland habitat. Consistent with the criteria below, enhancement may be allowed to apply towards the restoration requirement, provided that the enhanced features may not also be applied towards the preservation requirement. In limited circumstances, creation of new wetland features may also be appropriate and beneficial. If approved, created wetlands will apply towards the restoration requirement.

Restored, enhanced and created wetland habitat can help expand and link existing high quality vernal pool complexes that have been become fragmented in the landscape, losing some of their native community value.

Table 2. Mitigation Ratios for Impacts to Wetlands: Valley and Foothills

	Preservation Ratio	Restoration Ratio	Mitigation Community Type
Vernal pool (1)	1:1	1.25:1	Preservation: All vernal pool Restoration: 0.75 minimum vernal pool up to 0.50 may be any wetland
Open water	1:1	1.25:1	Open-water or any wetland type
Fresh emergent wetland	1:1	1.25:1	Any wetland (2)
Other seasonal wetland Spring and seep	1:1	1.25:1	Any wetland

1) Vernal pools include seasonal depressional wetland.
2) California Black rail habitat must be mitigated in-kind where it occurs.

E. Restoration

Vernal pool complexes have been degraded in western Placer County and throughout their range by direct disturbance, invasion of non-native species, or by alteration of hydrological patterns, primarily due to agricultural use. For many complexes, habitat restoration may be necessary to regain proper functioning of a vernal pool ecosystem (USFWS 2005). Furthermore, vernal pools and other wetlands will be restored and created to provide compensatory mitigation for take and to ensure no net loss of wetted area. The goal of restoration is to return natural wetland functions to areas where historic wetland landscapes and features have been converted or heavily degraded.

Vernal pool habitat will be restored where soils and hydrologic conditions will support long-term viability, natural topography can be reproduced and evidence indicates the historical presence of vernal pools. Restoration plans will use nearby, natural, high-quality pools as well as historical evidence as models. Restoration plans will consider the size and depth of pools to be constructed, hydrologic connections within complexes, depth from soil surface to hardpan, and upland area to pool-area ratios (USFWS 2005).

Restoration of previously disturbed vernal pool complexes is to be based on whether restoration is likely to increase vernal pool density (as measured in wetted-per-total acre) without exceeding the density present in 1937 aerial photos or other information approved by USFWS and/or CDFG and without harming existing vernal pools. Additional criteria will include whether or not sites occur outside of the Stream System, historically supported vernal pools (based on 1937 and 1938 aerial photos or other information approved by USFWS and/or CDFG), have hydrological conditions that ensure vernal pool complexes can be restored and protected in perpetuity, and have not been laser-leveled for agriculture or other uses.

Clearly defined objectives will be identified for all restoration projects. Success criteria will be established before each restoration plan is implemented. Monitoring of restored and created vernal pools in Placer County indicates that future restoration in the proposed locations has a high potential for success. It is essential that the Mitigation Strategy require an effective monitoring and adaptive management program in order to ensure the success of vernal pool restoration, enhancement and creation.

F. Enhancement

The goal of enhancement is to improve wetland functions and values in areas where they have been degraded, but not entirely lost. Although qualifying enhancement actions will be determined by the County on a case-by-case basis, they will be conducted to ameliorate the specific threats that occur on each site. Specific threats to vernal pool grasslands include modification to the duration of inundation and hydro-period due to changes in the hydrology of surface flows and perched groundwater flows; non-native vegetation (including annual grasses and noxious weeds); impacts from recreational use; impacts to water quality; non-native predators; and decreased pollination and dispersal of vernal pool species due to impacts to vernal pool uplands. Therefore, actions for maintaining and enhancing preserves with vernal pool grasslands may include restoration

of vernal pool topography; restoration of vernal pool isolation; re-introduction of vernal pool cysts, seeds and/or plants; restoring and enhancing vernal pool water quality; and invasive plant control.

G. Creation

Creation is generally considered more appropriate for other wetland types than for vernal pools. In some cases creation of wetland habitat may be necessary to mitigate for lost resources. Creation is the construction of wetland features where none have existed historically (as compared to restoration which can include the construction of wetland habitat in areas that historically contained wetlands).

Little data exists to assess the long-term success of the creation of vernal pools. Preliminary results indicate that some created vernal pools have vernal pool fairy shrimp, vernal pool tadpole shrimp and other invertebrates and plants native to vernal pools (De Weese 1998; EcoAnalysts 2009). Creation of vernal pools within a vernal pool complex of existing pools is not recommended by the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (USFWS 2005) because it may alter the hydrology of the existing pool system and may have an adverse effect on ground nesting bees and other upland plant and animal species. Therefore, the use of vernal pool creation as a strategy to mitigate for lost resources will be minimized. Rather, conservation efforts will focus on preservation and enhancement of existing high quality vernal pools, with restoration serving to supplement preservation to protect and restore vernal pool complexes at the levels of the landscape and local watershed and to mitigate for resources lost. Creation of vernal pools must be approved by the appropriate resource agencies to receive credit for mitigation under this measure. Vernal pool creation credits from an approved mitigation bank may apply towards this mitigation requirement. The bank must be acceptable and consistent with the requirements of state and federal natural resource agencies. Any out-of-county bank must include a service area that extends into the Placer Vineyards Specific Plan area.

H. Uplands and Buffer Requirements

Wetland preservation, restoration, enhancement and creation shall be accompanied by the associated uplands and hydrology necessary to sustain long-term viability in a natural or restored environmental setting. To minimize edge effects from adjacent urban and suburban land, vernal pools should be no closer than 250 feet from existing or planned urban or suburban development or located such that adequate hydrology can be maintained in the event of future development.

I. Conservation Easements / Management Plans

It is anticipated that most wetland preservation, restoration, enhancement and creation will be accomplished on land conserved to meet the land cover mitigation requirement and will be subject to the required conservation easements and management plans. However, if additional lands are conserved to meet the wetland mitigation requirement, the same requirements for conservation easements and management plans apply.

J. Use of Mitigation Bank Credits and In-Lieu Fee

Consistent with the requirements listed above, project applicants may use credits from approved conservation or mitigation banks or in-lieu fees to meet all or a part of the wetland mitigation required by this strategy.

K. Use of Excess Mitigation Assigned from Other Projects in Specific Plan

It is anticipated that, depending on the density of wetlands on land conserved to meet the land cover mitigation requirement, some projects within the Specific Plan may provide wetland mitigation in excess of the acreage required by this strategy. Excess mitigation may be freely assigned by private agreement between projects within the Specific Plan. Such assignment will be documented and tracked. Project applicants may apply excess mitigation assigned from other projects in the Specific Plan to meet all or a part of the wetland mitigation required by this strategy provided proof of assignment can be demonstrated.

L. Out-of-County Mitigation

A limited amount of out-of-county mitigation may be allowed that advances the conservation goals and meets the biological intent of this mitigation strategy. In addition, credits from out-of-county conservation or mitigation banks shall be accepted towards full or partial compliance with this strategy, if the project is within the agency-approved service area for the credits.

In order to receive credit towards the obligations of this mitigation strategy, any conservation outside the RAA, including the purchase of credits from a mitigation bank, must adhere to the criteria below.

It is intended that the main part of the Reserve System will be established within the RAA. There are several places outside the RAA where conservation management activities to improve watershed integrity would serve the mitigation strategy. Cooperative conservation actions in these areas could also benefit the reserve system by expanding the resource available for a reserve, increasing contiguous reserve size, or improving connectivity, particularly in a high priority watershed. Figure A-6 depicts the

location where acquisition and management of conservation could occur. Lands that may meet these needs are:

- Land along the Placer/Sutter County border, in particular, the lower portion of the Coon Creek and Auburn Ravine.

- Portions of the floodplain along the Bear River that is within the Coon Creek watershed within Sutter County.

- Lands contained within the levees of the Natomas East Main Drainage, Cross Canal, Pleasant Grove Creek Canal, and East Side Canal for conservation actions which improve fish passage and water quality for salmonids in Placer County.

- Mitigation and Conservation Banks approved by the Wildlife Agencies and/or the ACOE that contain the Plan area within the service boundary. Mitigation and Conservation Banks locations are not depicted on Figure A-6.

IV. Site Specific Avoidance and Minimization

The Specific Plan design incorporates measures for preserving and enhancing critical aquatic resources on-site. The Specific Plan Area incorporates a 709-acre open space area that restores historic habitat linkages and habitat quality through the Plan Area. Specific areas that exhibit habitat degradation through historic land use were identified and will be enhanced under the Specific Plan. Large contiguous areas that exhibited habitat integrity have been preserved with adequate buffers to protect aquatic function. The Specific Plan incorporates minimization and low-impact development strategies to minimize long-term habitat degradation within avoided open space areas. This Specific Plan level avoidance and minimization is reflected in Figure A-2. Additional on-site avoidance of habitat is not encouraged and is generally considered to be inconsistent with the core strategy of creating large-scale preserves located in areas that can be more readily linked and expanded to create a sustainable ecosystem at a landscape level.

APPENDIX 3.0

Placer Vineyards Specific Plan EIR Mitigation Measures

MITIGATION MEASURES

The following mitigation measures from the Placer Vineyards Specific Plan EIR were incorporated into the PVSP project by Placer County.

Land Use

4.1.6 A minimum 100-foot setback shall be maintained between structures intended for permanent residential habitation and the 115kV utility lines (as measured from the nearest utility line). Similarly, a setback of 150 feet shall be maintained for the substation and 230kV utility lines.

4.1-13a Comply with all applicable mitigation measures set forth in the Environmental Impact Report, City of Lincoln Wastewater Treatment and Reclamation Facility, certified by the City of Lincoln City Council on March 9, 1999 during construction and operation of the recycled water facility.

4.1-13b Prior to construction of any facilities not within the area assessed by the Environmental Impact Report, City of Lincoln Wastewater Treatment and Reclamation Facility, such as potential future downstream diversion structures, perform an initial study in accordance with CEQA to determine subsequent environmental assessment needs. This should include consideration of site-specific biological, wetland and cultural resource assessments.

4.1-13c Compliance with mitigation measures set forth in this Revised Draft EIR or similar measures proposed by the City of Lincoln designed to reduce impacts to visual quality, water quality, biological resources, soils, cultural resources, air quality, and the noise environment, including Mitigation Measures 4.2-6a, 4.2-6b, 4.3.4-1c, 4.3.4-2a, 4.3.4- 2b, 4.3.4-2c, 4.3.4-3a, 4.3.4-3b, 4.4-1a, 4.4-1b, 4.4-1c, 4.4-1d, 4.4-1e, 4.4-1f, 4.4-1g, 4.4-1h, 4.4-1i, 4.4-14, 4.4-15, 4.4-16, 4.4-17, 4.4-18, 4.4-20, 4.4-21, 4.4-22, 4.4-23, 4.4-24, 4.4-26, 4.4-27, 4.4-29, 4.4-30, 4.5-1a, 4.5-2, 4.5-4a, 4.4-5b, 4.6-2a, 4.6-2b, 4.6- 2c, 4.6-2d, 4.6-2e, 4.6-2f, 4.6-2g, 4-6-2h, 4.6-3a, 4.6-3b, 4.8-1a, 4.8-1b, 4.8-1c, 4.8-1d, 4.8-1e, 4.9-2, and 4.9-3.

4.1-14 Implement Mitigation Measure 4.4-1a as it pertains to open space.

Aesthetics

4.2-3 Water storage tanks shall be subject to review and approval pursuant to the County's Design Review process. In concert with Design Review, a landscaping plan that softens the visual appearance of the tanks from open space areas shall be submitted, and shall conform to the standards contained in the Placer County Landscape Design Guidelines Manual.

4.2-6a All areas containing natural vegetation or landscape material that are disturbed during utility line and roadway construction shall be revegetated upon completion of work utilizing plant materials similar to those disturbed. Revegetated areas shall be actively maintained until fully established, in accordance with the standards and provisions contained in the County's Landscape Design Guidelines.

4.2-6b All permanent utility line-related structures extending above ground shall be screened where feasible using a combination of berms, mounds, landscape material, decorative fencing/ walls, or other screening feature approved by the Placer County Development Review Committee, consistent with the Placer County Design Guidelines and the Placer County

Landscape Design Guidelines. In addition, any proposed roadway and utility pump station lighting shall be directed downward using cut-off fixtures to minimize lighting effects on adjacent areas and the night sky.

Hydrology, Water Resources, and Water Quality

4.3.2-1a New development applications shall be accompanied by a site-specific project drainage report that is consistent with the approved Master Project Drainage Study. The project drainage report shall be reviewed and approved by the Placer County Public Works Department during the Subsequent Conformity Review Process and prior to improvement plan approval for new development. The drainage report shall be prepared by a Registered Civil Engineer and shall be in conformance with the Placer County Storm Water Management Manual and Placer County Code. The project applicant shall be financially responsible for all stormwater drainage facility maintenance requirements. The project drainage report shall include, at a minimum, written text addressing existing conditions, the effects of project improvements, all appropriate calculations, a watershed map, potential increases in downstream flows and volumes, proposed on-site improvements, and drainage easements, if necessary, to accommodate flows from the site. The drainage report shall demonstrate compliance with all mitigation measures included in this Revised Draft EIR.

4.3.2-1b New development within the Specific Plan area shall reduce post-development stormwater runoff peak flows and volumes to pre-development levels for the 2-, 10-, 25- and 100-year storm events through the construction of regional retention and detention facilities for the Curry Creek and Steelhead Creek watersheds. Retention/detention facilities in the Steelhead Creek watershed shall incorporate gates, as described in the Master Project Drainage Study, to control flows during a Sankey Gap spill. A protocol shall be established by Placer County in cooperation with the Sacramento Area Flood Control District for monitoring of the Sankey Gap spill and for operation of the gates. Responsibility for the operation and maintenance of the gates shall be assumed by the County Service Area that will serve the Specific Plan area. Construction of regional retention and detention facilities shall be prior to or concurrent with the initial development of the Specific Plan area. Runoff from development within the Dry Creek watershed shall not be detained or retained. Retention and detention facilities shall be designed in accordance with the requirements of the Placer County Storm Water Management Manual that are in effect at the time of submittal, and to the satisfaction of the Department of Public Works. Retention and detention facilities shall be designed to be consistent with the Master Project Drainage Study for the Specific Plan.

4.3.2-1c Drainage facilities, for purposes of collecting runoff on individual lots, shall be designed in accordance with the requirements of the Placer County Storm Water Management Manual that are in effect at the time of submittal, to the satisfaction of the Department of Public Works. These facilities shall be constructed with subdivision improvements, and easements provided as required by the Department of Public Works. Maintenance of these facilities shall be provided by a new County Service Area (CSA), an expanded CSA #28, or other responsible entity.

4.3.2-1d The location, size and ownership of any canals in the Specific Plan area shall be described in the project drainage report and shown on improvement plans. The Department of Public Works shall be provided with a letter from the agency controlling the canal describing any restrictions, requirements, easements, etc. relative to project construction. Said letter shall be provided to the Department of Public Works prior to the approval of improvement plans.

4.3.2-1e New development in the Specific Plan area within the Dry Creek watershed shall be subject to the one-time payment of drainage improvement and flood control fees pursuant to the Dry Creek Watershed Interim Drainage Improvement Ordinance (Ref. Article 15.32, formerly Chapter 4, Subchapter 20, Placer County Code). The actual fees to be paid will be those in effect at the time the payment occurs.

4.3.2-1f New development in the Specific Plan area within the Dry Creek Watershed shall be subject to payment of annual drainage improvement and flood control fees pursuant to the Dry Creek Watershed Interim Drainage Improvement Ordinance (Ref. Article 15.32, formerly Chapter 4, Subchapter 20, Placer County Code). The applicant shall cause the subject property to become a participant in the existing Dry Creek Watershed County Service Area for purposes of collecting these annual special assessments.

4.3.2-1g New development shall not alter the post-development mitigated drainage shed boundaries identified in the Master Project Drainage Study in a way that would increase the peak flow runoff or runoff volume.

4.3.2-1h Prior to any improvement plan approval (including plans for backbone infrastructure), the Master Project Drainage Study shall be submitted to the Placer County Department of Public Works for review and approval. The Master Project Drainage Study shall be in conformance with the requirements of Section 5 of the Land Development Manual and the Placer County Storm Water Management Manual that are in effect at the time of submittal. The report shall be prepared by a Registered Civil Engineer and shall include all drainage elements outlined in this Revised Draft EIR. The drainage facilities shall be designed for future, fullydeveloped, unmitigated flows from upstream development. Regional detention and retention basis, regional water quality basins, as well as regional drainage channel improvements shall be incorporated with appropriate design information along with appropriate phasing information.

4.3.2-1i New development in the Specific Plan area within the Steelhead Creek (NEMDC) tributary shall be subject to payment of fair share stormwater volume mitigation fees to the County of Sacramento. The current fees range from $325.00 to $629.00 per acre. (Fee Schedule for Zone 11C) and are adjusted annually. The actual fees to be paid will be those in effect at the time the payment occurs. Prior to improvement plan approval, the applicant shall provide evidence to the Placer County Department of Public Works that the fees have been paid to Sacramento County.

4.3.2-2a New development applications shall be accompanied by a site-specific project drainage report that is consistent with the approved Master Project Drainage Study. The project drainage report shall be reviewed and approved by the Placer County Public Works Department during the Subsequent Conformity Review Process and prior to improvement plan approval for new development. The drainage report shall be prepared by a Registered Civil Engineer and shall be in conformance with the Placer County Storm Water Management Manual and Placer County Code. The project applicant shall be financially responsible for all stormwater drainage facility maintenance requirements. The project drainage report shall include, at a minimum, written text addressing existing conditions, the effects of project improvements, all appropriate calculations, a watershed map, potential increases in downstream flows and volumes, proposed on-site improvements, and drainage easements, if necessary, to accommodate flows from the site. The drainage report shall

demonstrate compliance with all mitigation measures included in this Revised Draft EIR and adopted by the Board of Supervisors.

4.3.2-2b New development within the Specific Plan area shall upsize any existing undersized culverts within the Specific Plan area conveying increased flows from the proposed development. All existing culverts conveying development flow shall be identified with pre- and post-development flow quantities and capacities. All culvert analysis (existing and upsized) shall be designed in conformance with the Placer County Storm Water Management Manual to accommodate the 2-, 10-, 25- and 100-year storms. Flow consideration for debris clogging and sediment transport shall be provided. In addition to the 100-year event, 200-year events shall be evaluated for potential impacts to collector roadways, detention pond failure and other life-safety impacts.

4.3.2-3a No grading or other disturbance shall occur within the post-project 100-year floodplain limit as identified in the Master Project Drainage Study except, as necessary to construct and maintain drainage improvements. The post-project 100- year floodplain shall be designated as a development setback line on improvement plans and final subdivision maps unless greater setbacks are required by other mitigation measures or conditions of approval.

4.3.2-3b New development applications shall be accompanied by a site-specific project drainage report that is consistent with the approved Master Project Drainage Study. The project drainage report shall be reviewed and approved by the Placer County Public Works Department during the Subsequent Conformity Review Process and prior to improvement plan approval for new development. The drainage report shall be prepared by a Registered Civil Engineer and shall be in conformance with the Placer County Storm Water Management Manual and Placer County Code. The project applicant shall be financially responsible for all stormwater drainage facility maintenance requirements. The project drainage report shall include, at a minimum, written text addressing existing conditions, the effects of project improvements, all appropriate calculations, a watershed map, potential increases in downstream flows and volumes, proposed on-site improvements, and drainage easements, if necessary, to accommodate flows from the site. The drainage report shall demonstrate compliance with all mitigation measures included in this Revised Draft EIR.

4.3.2-3c New development applications within the Specific Plan area shall identify the limits of existing and proposed floodplains in the site-specific project drainage report. Channel/swale construction and/or improvements with new development shall be designed in accordance with the Placer County Storm Water Management Manual and provide sufficient freeboard for the 100-year event and shall be identified with floodplain delineations.

4.3.2-3d The developer shall construct flood warning devices (e.g., rain gauges, stream gauges with radio transmitters) within floodplains as indicated in the Placer County Storm Water Management Manual and Placer County Code. The flood warning devices shall be shown on the improvement plans.

4.3.2-3e The Master Project Drainage Study shall demonstrate that the proposed development will not increase the 100-year floodplain water surface elevation.

4.3.2-3f The low dam, intake structure, pump and pipeline withdrawing water from Dry Creek shall be removed in its entirety, and the streambed returned to a natural condition, at the time irrigation of existing pasture land located within Property Group #5 of the Specific Plan area ceases. Upon removal of the dam, an effective combination of erosion and sediment control

shall be implemented which may include measures such as covering exposed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation or permanent seeding. In addition, best management practices (BMPs) shall be implemented during construction to reduce or eliminate sedimentation and reduce erosion in result of dam removal activities. BMPs may include sediment control practices such as filtration devices and barriers (e.g. fiber rolls, straw bale barriers and gravel inlet filters) and/or settling devices (e.g. sediment traps or basins). BMPs shall be developed in accordance with applicable federal, State and local agencies. Additionally, the dam removal shall be done in accord with all applicable federal, State and local requirements and/or permit conditions existing at the time of removal. Prior to removal of the structure, a drainage report shall be prepared demonstrating that the removal of the structure will not adversely increase flows downstream.

4.3.2-11a Prior to any development pursuant to the Specific Plan within the Dry Creek Drainage Shed, the developer shall submit to the Placer County Department of Public Works project-specific drainage reports, calculations and plans addressing up-gradient and project flows within the Dry Creek drainage shed for review and approval. Placer County Storm Water Management Manual and the Placer County Code require developments to not cause adverse impacts to upstream or downstream properties.

4.3.2-11b The Master Project Drainage Study and project-specific drainage reports shall design for conveyance of future, fully-developed, unmitigated flows from upstream development outside of the Specific Plan area.

4.3.3-8a Municipal wells constructed for purposes of a backup groundwater supply for development under the Specific Plan shall not be constructed within 800 feet of any existing private well.

4.3.3-8b Prior to operation of any municipal wells constructed for purposes of a backup groundwater supply for development under the Placer Vineyards Specific Plan, the developer/applicant shall construct groundwater monitoring wells to monitor the impacts of the operation of the municipal wells on local groundwater elevations and any groundwater contaminant movement. The number, location and design of said monitoring wells shall be subject to the approval of PCWA.

4.3.3-8c To address potential scenarios in which, despite best efforts to avoid well failure, any of the existing wells in the area fails as a result of the pumping for development under the Specific Plan, the owners of failed wells, upon submission of proof of such failure, shall be compensated through a well insurance program funded through development within the Specific Plan area. No small lot tentative map shall be approved until the developer, working with PCWA, puts in place a legal and financial mechanism for funding a Placer Vineyards Well Insurance Program, to be administered by PCWA, to insure against failure for up to an estimated replacement cost to be determined. Said Well Insurance Program shall include payment of a fee at the issuance of a building permit. Such fee shall be determined based on the number of private wells eligible for the program (existing wells within a two-mile radius of each municipal well to be constructed) multiplied by the cost of a typical residential well construction (to be determined) and divided by the total number of equivalent dwelling units (edu) in the Specific Plan area. Additional components of the Well Insurance Program will be developed prior to approval of the first small lot tentative subdivision map.

4.3.3-9 Prior to installation of any municipal wells for purposes of a backup groundwater supply for development under the Specific Plan, the County, in consultation with PCWA and CDFG,

shall determine the appropriate separation distances between wells and nearby surface water bodies. In no case shall these municipal wells be constructed within 800 feet of the Dry Creek riparian corridor, or any other on-site area where established riparian vegetation is observed.

4.3.3-10 Pumps required for any municipal wells for purposes of a backup groundwater supply for development under the Specific Plan shall be located within soundattenuating acoustical shelters to reduce generated noise levels below noise thresholds established by the Placer County General Plan Noise Element for the affected sensitive receptors.

4.3.4-1a Prior to submission of applications for new development within the Specific Plan area, the precise location and preliminary design of the regional water quality detention/sedimentation basins, as described in the Master Project Drainage Study shall be submitted to Placer County for review and approval. This plan shall also include the method or methods for funding the long-term maintenance of regional water quality maintenance measures. Finally, the plan shall also include sanctions available to enforce the implementation and maintenance of measures, should measures fail or not be maintained over time.

4.3.4-1b Plans for construction of backbone infrastructure shall include construction of regional basins in sequence and location determined by the Master Project Drainage Study required by Mitigation Measure 4.3.4-1a.

4.3.4-1c Plans for construction of backbone infrastructure shall include SWPP plans prepared in conformance with the requirements of Mitigation Measure 4.5-4b.

4.3.4-1d Prior to improvement plan approval for new development other than that for backbone improvements, each applicant shall include site specific plans for accomplishment of long-term reductions in water quality impacts. The applicant shall also propose a method of financing the long-term maintenance of such facilities, such as a County Service Area or the expansion of CSA #28, in conformance with Mitigation Measure 4.3.4-1a. Such plans shall conform to all mitigation measures set forth in this Revised Draft EIR and adopted by the Board of Supervisors.

4.3.4-1e New development shall submit a site-specific BMP plan showing the on-site locations and effectiveness of the BMP facilities proposed for long-term water quality impact reduction during the Subsequent Conformity Review process and prior to improvement plan approval. Storm drain inlet cleaning shall occur semi-annually (at a minimum) and parking lots shall include the installation of oil/sand/grit separators or as otherwise approved by the Placer County Department of Public Works. The plan shall include a method for financing the long-term maintenance of the proposed facilities and BMPs. The plan shall conform to the Master Project Drainage Study required by Mitigation Measure 4.3.4-1a and the California Stormwater Quality Association Stormwater Best Management Practice Handbook for Construction and New Development/Redevelopment (or other similar source approved by the Department of Public Works). BMPs shall reflect improvements in techniques and opportunities made available over time and shall also reflect site-specific limitations. The County shall make the final determination as to the appropriate BMPS for each project.

4.3.4-1f Storm drainage from all new development impervious surfaces (including roadways) shall be collected and routed through specially designed catch basins, vaults, filters, etc. for entrapment of sediment, debris and oils/greases as approved by the Placer County Department of Public Works. Maintenance of these facilities shall be provided by the project

owners/permittees unless and until a County Service Area is created and said facilities are accepted by the County for maintenance. Contractual evidence of a monthly parking lot sweeping and vacuuming and catch basin cleaning program shall be provided to the Placer County Department of Public Works upon request. Prior to improvement plan or final subdivision map approval, easements shall be created and offered for dedication to the County for maintenance and access to these facilities in anticipation of possible County maintenance.

4.3.4-1g New development (including roadways) within the Specific Plan area shall design water quality treatment facilities (BMPs) such that the treatment of runoff occurs, at a minimum, before discharge into any receiving waters, or as otherwise determined by the Placer County Department of Public Works.

4.3.4-2a Projects with ground disturbance exceeding one acre that are subject to construction stormwater quality permits of the NPDES program shall obtain such permits from the SRWQCB and shall provide the Placer County Department of Public Works evidence of a State-issued Waste Discharge Identification (WDID) number of filing of a Notice of Intent and fees prior to start of construction.

4.3.4-2b During the Subsequent Conformity Review Process and prior to improvement plan approval, new development projects shall submit to the Placer County Department of Public Works, for review and approval, an erosion control plan consistent with the County's Grading, Erosion and Sediment Control Ordinance (reference pages 4-3-9 through 4-3-12). The erosion control plan shall indicate that proper control of siltation, sedimentation and other pollutants will be implemented per NPDES permit requirements and County ordinance standards. The plan shall address storm drainage during construction and proposed BMPs to reduce erosion and water quality degradation. All on-site drainage facilities shall be constructed to County specifications. BMPs shall be implemented throughout the construction process.

4.3.4-2c All BMPs for water quality protection, source control, and treatment control shall be developed in accordance with the California Stormwater Quality Association Stormwater Best Management Practice Handbook for Construction and New Development/Redevelopment (or other similar source approved by the Department of Public Works) for the applicable type of development and/or improvement. Provisions shall be included for long-term maintenance of BMPs.

4.3.4-3a New development applications shall be accompanied by a site-specific project drainage report that is consistent with the approved Master Project Drainage Study. The project drainage report shall be reviewed and approved by the Placer County Department of Public Works during the Subsequent Conformity Review Process and prior to improvement plan approval for new development. The drainage report shall be prepared by a Registered Civil Engineer and shall be in conformance with the Placer County Storm Water Management Manual and Placer County Code. The project applicant shall be financially responsible for all stormwater drainage facility maintenance requirements. The project drainage report shall include, at a minimum, written text addressing existing conditions, the effects of project improvements, all appropriate calculations, a watershed map, potential increases in downstream flows and volumes, proposed on-site improvements, and drainage easements, if necessary, to accommodate flows from the site. The drainage report shall demonstrate compliance with all mitigation measures included in this Revised Draft EIR.

4.3.4-3b New development shall submit a revegetation plan for disturbed swale and channel areas and banks to the Placer County Department of Public Works for review and approval. The revegetation plan shall be designed to minimize erosion potential while emphasizing use of native or endemic species. The plan shall include provision for regular watering between April 1 and October 1 to ensure continuous coverage of 95% of disturbed areas and survival of species during the first year.

4.3.4-4 All existing groundwater wells within the Specific Plan area shall be abandoned and sealed in accordance with Placer County Environmental Health Division standards upon abandonment of use, prior to any project-related construction activity within one hundred feet of any affected well. Wells that will remain within the SPA or other adjoining areas that are within 100 feet of active development within the Specific Plan area shall, where landowner permission is granted, be inspected and, if found to be improperly sealed, properly sealed, or destroyed and replaced, in accordance with Placer County Environmental Health Division Standards. Seals, inspections, and well destruction and construction shall be at the expense of the Specific Plan area developer.

4.3.4-7a Prior to approval of improvement plans for improvement projects of one acre or greater, the developer/project proponent shall submit a Storm Water Pollution Prevention Plan (SWPP), obtain from the SWRCB a General Construction Activity Stormwater Permit under the NPDES and comply with all requirements of the permit to minimize pollution of stormwater discharges during construction activities.

4.3.4-7b Prior to construction of any off-site infrastructure within Placer County, the project developer/project proponent shall submit to the Placer County Department of Public Works, for review and approval, an erosion control plan consistent with the County's Grading, Erosion and Sediment Control Ordinance (reference pages 4-3-9 through 4- 3-12). The erosion control plan shall indicate that proper control of siltation, sedimentation and other pollutants will be implemented per NPDES permit requirements and County ordinance standards. The plan shall address storm drainage during construction and proposed BMPs to reduce erosion and water quality degradation. All on-site drainage facilities shall be constructed to Placer County specifications. BMPs shall be implemented throughout the construction process. The developer shall comply with all similar requirements within other affected jurisdictions.

4.3.4-7c BMPs for construction shall be developed in accordance with the California Stormwater Quality Association Stormwater Best Management Practice Handbook for Construction and New Development/Redevelopment (or other similar source approved by the County Department of Public Works.

4.3.4-9a Install advanced treatment facilities (DCWWTP Master Plan EIR Mitigation Measure 7-2).

4.3.4-9b Institute metals source controls/pre-treatment (DCWWTP Master Plan EIR Mitigation Measure 7-3).

4.3.4-9c Install cooling towers if necessary (DCWWTP Master Plan EIR Mitigation Measure 7-4).

Biological Resources

4.4-1a The following criteria shall be applied in accordance with the Mitigation Strategy to the conversion of open space, including cultivated agricultural land, to urban uses within the Specific Plan area. This measure shall not apply to the Special Planning Area (SPA) where no urban development is proposed:

Open Space/Agricultural Land Mitigation: One acre of open space will be preserved within Placer County for each acre of open space impacted within the Specific Plan area. This is to be accomplished through the approval and implementation of a series of Open Space Mitigation and Management Plans that address the management of a specific property to be preserved for mitigation of lost open space, agricultural land, and habitat (each, a "mitigation property" or "preserve site" and collectively, "mitigation lands" or "preserve lands"). Open Space Mitigation and Management Plans for individual preserve sites shall accompany each proposed development project, or group of projects, within the Specific Plan area. For the purposes of assessing impacts associated with a specific development project, "open space" impacts shall include all land proposed to be developed for urban uses. For purposes of mitigation for the specific development project, the term "open space" shall include any and all undeveloped land proposed to be preserved or otherwise required by any governmental agency to be preserved for any reason, specifically including all lands preserved for habitat or agricultural mitigation as set forth below and lands in agricultural use. No additional agricultural mitigation is required beyond the 1:1 open space requirement noted above, as long as a substantial portion, as determined by the Planning Director, in consultation with the County Agricultural Commissioner, of the mitigation lands acquired are: (1) in agricultural production, or have the potential to support agriculture, (2) are undeveloped and have an NRCS soils classification of the same or greater value than lands being affected within the Specific Plan property at issue, , or (3) are undeveloped and have the same or higher value CDC categorization than lands being affected within the Specific Plan property at issue. In-kind mitigation is not required for agricultural land developed within the Specific Plan area.

Initial Core Preserve Area: To address the fragmentation of open space in the Specific Plan area, the applicant shall establish a core preserve area of approximately one thousand acres, or minimum 200-acre areas will be added to an existing preserve that is at least one thousand acres. This initial core preserve area shall be established with approval of the first final map (excluding large-lot final maps that do not result in any disturbance of existing natural conditions), and shall include acreage to mitigate loss due to backbone infrastructure installation. The establishment of a core preserve area will partially mitigate for fragmentation of the Specific Plan area and loss of agricultural land and biological function and value associated with the installation of infrastructure and site development. To the extent feasible and appropriate, the core preserve shall be surrounded by lands designated as Agriculture within the Placer County General Plan. Preserve lands shall be suitable for mitigation of project impacts and shall be evaluated for this purpose by Placer County. Each proposal for a preserve project pursuant to the Specific Plan shall provide sufficient detail to allow for adequate County review of site characteristics, potential values and the long-term integrity of each proposed mitigation site. The County shall also consider the terms of any existing or proposed conservation easements on properties within the proposed preserve areas. Proposals for preserve lands to be encumbered with easements or purchased in fee shall include adaptive management strategies allowing for appropriate management modifications and access for monitoring.

Subsequent Projects: Subsequent Specific Plan projects (not including backbone infrastructure) shall mitigate through the establishment of preserve areas that, to the extent feasible and appropriate, are located adjacent to the core preserve or are associated with other existing preserve sites currently under easement or fee title for purposes of wildlife conservation and are surrounded by lands designated as Agriculture within the Placer

County General Plan or are in areas deemed acceptable by the County Board of Supervisors. Future preserve sites, if not contiguous to an existing designated open space area or a preserve 200 acres or greater in size, shall be a minimum of 200 acres or greater in size. After the establishment of the core preserve area, such land dedication need not include more land than is necessary to mitigate for open space and habitat impacts associated with entitlements being sought at that time. In determining whether it is feasible and appropriate to require that mitigation lands for subsequent Specific Plan projects be consistent with the criteria stated above, the County shall take into consideration both the overall objectives of the proposed PCCP and the realities of the agricultural real estate market in south Placer County. Habitat and open space areas available in the real estate market for purchase, either in fee or through conservation easements, do not necessarily occur in contiguous pieces. Existing high quality habitat and open space areas themselves are not always contiguous with each other, as they have often been separated and disrupted by long-standing agricultural practices or roads and other structures or landscape features.

4.4-1b Habitat Mitigation: Applicants for projects developed under the Specific Plan shall obtain applicable permits from the state and federal resource agencies, as needed. Land preserved to meet the habitat mitigation requirements of this Mitigation Measure and/or any additional habitat mitigation that is required by any governmental agency for any development project undertaken pursuant to the Specific Plan shall be counted towards the required "open space" mitigation set forth in Mitigation Measure 4.4-1, provided that the mitigation land is within Placer County. Preservation of mitigation land may occur through a permanent conservation easement, fee title, or purchase of mitigation credits satisfactory to Placer County.

Applicants for projects developed under the Specific Plan are required to satisfy the Placer County General Plan "no net loss of wetlands" standard in connection with proposed development that impacts aquatic resources. To satisfy the "no net loss of wetlands" standard, the applicants shall include a preservation component and a variety of wetland enhancement, restoration and creation activities that are to be conducted on lands preserved. The measures that follow describe ratios to be achieved to provide for preservation, restoration, creation, and enhancement to offset impacts to wetland (nonvernal pool) impacts, vernal pool impacts, and riparian impacts as shown in Table 4.4- 12.

Wetland (Non-Vernal Pool) Impacts: Impacts to "waters of the United States" (not including vernal pools) and other non-jurisdictional wetlands identified in the Placer County General Plan will be mitigated to provide "no net loss" through avoidance, minimization and/or compensatory mitigation techniques. Buffers of such off-site mitigation lands will be consistent with requirements of the PCCP as ultimately adopted by the County to the extent that the PCCP is adopted prior to the acquisition of preserve sites and to the extent feasible. Both the wetland and upland components of all wetland mitigation lands shall be credited towards open space mitigation requirements and uplands shall count as wetland buffers when appropriate. To minimize indirect effects to the preserve site, the County may impose measures such as controlling and redirecting runoff from adjoining properties or the construction or removal of fences.

Vernal Pool Habitat Impacts: Impacts to vernal pool (fairy shrimp and tadpole shrimp) habitat will be mitigated through preservation or restoration of acreage based on each acre directly impacted (see Table 4.4-12 for mitigation ratios). In this context, restoration is intended to be construction of vernal pools at densities within the range of historical levels as identified on 1937 aerial photos, or other valid historical evidence, for the proposed preserve

site to be restored. Required ratios are set forth in Table 4.4- 12. Buffers of such off-site mitigation lands will be consistent with requirements of the PCCP as ultimately adopted by the County to the extent that the PCCP is adopted prior to the acquisition of preserve sites, and to the extent feasible. Both the wetland and upland components of all wetland mitigation lands shall be credited towards open space mitigation requirements and uplands shall count as wetland buffers when appropriate. To minimize indirect effects to the preserve site, the County may impose measures such as controlling and redirecting runoff from adjoining properties or the construction or removal of fences.

The re-creation/restoration of pools must include adequate upland areas to maintain the value of the vernal pools. Additional acreage may be required to address impacts to non-vernal pool type wetlands that function as habitat for federally-listed species, and indirect impacts to similar avoided habitat. The total required acreage shall be determined by the County, except for determinations regarding purely federal obligations, which shall be made by federal agencies working with project applicants. As an alternative, once the Placer County Conservation Plan (PCCP) is adopted, project applicants may participate in the PCCP, which is intended to provide for adequate mitigation of vernal pool habitat.

Riparian Impacts: For each riparian tree removed, one 15-gallon tree, one deepot-40 seedling for each inch, and three 1-gallon shrubs will be planted within existing riparian or improved drainage corridors in the Specific Plan area.

Oak Tree Impacts: For each oak tree greater than six inches DBH that is removed, one 15-gallon planting, one deepot-40 seedling for each inch removed and three 1-gallon shrubs will be planted. De minimus impacts to areas containing oak trees, not including actual tree removal, associated with passive trail use shall not be considered an impact requiring mitigation.

Swainson's Hawk Foraging Impacts: Swainson's hawk foraging habitat shall be mitigated according to California Department of Fish and Game Guidelines: one acre for each acre lost within one mile of a nest, 0.75 acre for each acre lost within one to five miles of a nest, and 0.5 acre lost within five to ten miles of a nest, unless otherwise addressed through the PCCP. Additionally, the applicant shall be required to obtain a CESA take permit for any nest tree that may be removed as part of any proposed construction under the Specific Plan. Additional mitigation measures for the loss of active nest trees shall include planting of suitable nest trees at a 15:1 ratio on suitable foraging habitat areas within west Placer County.

4.4-1c Out-of-County Habitat Mitigation: Out-of-County habitat mitigation shall only be used when, as determined by the County, such lands are of equal or of higher value than those in the Specific Plan area.

4.4-1d "Out-of-Kind" Habitat Mitigation: "Out-of-kind" habitat mitigation shall only be used as mitigation for loss of a particular habitat type after approval by the County. "Out-of-kind" mitigation may be appropriate where the mitigation lands include areas with a mosaic of riparian habitat, creek corridors, flood plains and upland areas, where an assemblage of vernal pool complexes in fallow or grazed lands is in close proximity to such riparian habitat, or where the County deems that the "out-of-kind" mitigation lands contain other unique or desirable characteristics that provide a comparable level of open space and habitat mitigation. Any "out-of-kind" mitigation that is allowed by the County shall be described in an approved Open Space Mitigation and Management Plan.

4.4-1e Funding for Mitigation Land Acquisition (or Easement Establishment) and Monitoring and Maintenance: Funding for mitigation land acquisition (or easement establishment) and monitoring and maintenance may be financed, if acceptable to the County, through a Mello-Roos CFD or other funding mechanism similar to the funding mechanism used to fund Specific Plan infrastructure construction. The specific funding plan, including a method for preserve acquisitions and for long-term preserve management, shall be described in an approved Open Space Mitigation and Management Plan.

4.4-1f Excess Open Space and/or Habitat: Excess open space and/or habitat (after taking into account habitat mitigation requirements stated above) within mitigation lands acquired for the mitigation of impacts associated with an approved development project within the Specific Plan area may be used to mitigate for subsequent development projects within the Specific Plan area. Transfer of excess open space and habitat shall be accomplished through a private cost sharing agreement.

4.4-1g Phasing of Mitigation: Implementation of Open Space Mitigation and Management Plans shall occur commensurate with each development project or set of projects developed under the Specific Plan. In order to ensure that Open Space Mitigation and Management Plans are fully implemented, the applicant shall demonstrate compliance to the County prior to improvement plan approval, recordation of a final subdivision map, (not including a large-lot final map that results in no disturbance of any existing natural condition), or as a condition of issuance of a project-level discretionary approval for non-residential land uses that do not require a tentative subdivision map, as well as prior to development of any off-site infrastructure project associated with the Specific Plan. Each Open Space Mitigation and Management Plan shall identify the specific mitigation lands that will be necessary to fully mitigate impacts to habitat and special status species, and shall demonstrate control of said property by option, fee title, permanent conservation easement or mitigation credits to the satisfaction of the County and state and federal agencies to the extent required by applicable state or federal permits. The Plan shall also identify the necessary funding mechanism for the long-term maintenance and management of the mitigation lands or acquisition of required habitat credits shall be identified in the Open Space Mitigation and Management Plans, and a specific maintenance and management plan shall be included for perpetual conservation of the mitigation lands, along with provisions for adaptive management.

4.4-1h Dedication of Mitigation Lands for Placer Vineyards Specific Plan Projects: The mitigation lands necessary to mitigate for the impacts of developing a project within the Specific Plan area, as well as developing an off-site infrastructure project associated with the Specific Plan, shall be dedicated to the County (or other County approved entity) prior to approval of improvement plans, recordation of the first final map (excluding large-lot final subdivision maps that do not result in any disturbance of existing natural condition), or as a condition of issuance of a project-level discretionary approval for non-residential land uses that do not require a tentative subdivision map. The administering entity shall hold, as grantee, all conservation easements acquired for the mitigation lands or fee title for those lands acquired in fee.

4.4-1i Placer County Conservation Plan: As previously described, at the time of the release of this Revised Draft EIR, Placer County was preparing a Natural Community Conservation Plan, a Habitat Conservation Plan Programmatic Section 404/401 Compliance and a Master Streambed Alteration Agreement to comply with the state and federal Endangered Species Acts. Collectively, this planning effort is known as the Placer County Conservation Plan

(PCCP). Once the approved PCCP is in place, open space and biological resource mitigation measures shall be implemented in such a manner as to be consistent with the PCCP.

4.4-1j Preserves for Agricultural or Open Space Mitigation Only: As an alternative to the establishment of preserves that mitigate for one or more biological resources in addition to mitigating for lost open space and agricultural lands, applicants for individual projects within the Specific Plan area may instead establish preserves intended only to mitigate for loss of open space or agricultural lands without a complementary wetland, Swainson's hawk or other significant biological mitigation purpose. In such cases, the preserve may occur in any portion of western Placer County so long as the preserve is within an area designated for agricultural or open space use on the Placer County General Plan. Such preserves are only required to meet the minimum 80 acre parcel size requirement for parcels in the Agricultural/Open Space land use category of the General Plan. In lieu of the above described measures, the Specific Plan or subsequent phases of the Specific Plan may fulfill mitigation requirements by compliance with the terms of the adopted PCCP. Such compliance, as determined by Placer County, shall constitute sufficient mitigation that will obviate the need to comply with this mitigation measure, to the extent that an affected agricultural and/or biological resource is addressed in the PCCP.

4.4-1k As a component of any Open Space Mitigation and Management Plan involving the enhancement, creation, or restoration of wetlands, including vernal pools, the applicant shall submit a wetland mitigation strategy that includes all of the following components:

- The location of the proposed wetland habitat restoration/creation site(s) and a detailed map showing the acreage, distribution, and location of the proposed wetland habitat restoration/creation site(s) and a detailed map showing the acreage, distribution, and type of wetlands to be created to ensure no net loss in wetland habitat acreage, values, and functions. The compensation wetlands shall be designed, at minimum, to meet or exceed the hydrophytic conditions and operating functions of the existing wetlands proposed for impact.
- A monitoring plan to assess whether the compensation wetlands are functioning as intended. Specific standards for assessing the performance of hydrologic, floral, and faunal parameters shall be proposed to determine success of the created wetlands. The monitoring plan shall specify the corrective measures/modifications to be implemented in the event that monitoring indicates that the performance standards are not being met.
- A maintenance plan for the wetland preservation/mitigation areas describing the measures to be implemented to assure that they are maintained as wetland habitat in perpetuity.
- During active construction periods, the installation of fencing around all existing wetlands that are within fifty feet of any haul route, spoil zone, stockpile zone, creation zone, or other construction area. The fencing shall be of high visibility material and limit access to the project site. Unless construction of specific structures requires it, fencing shall be placed no closer than 10 feet to the delineated, verified perimeter of existing wetlands.
- A qualified biological resources monitor, approved by the County, who shall monitor the sites daily to ensure compliance with identified mitigation for the duration of all the proposed activities.

- A survey of the wetland habitat restoration/creation site prepared by a qualified biologist no more than 30 days prior to the onset of construction to determine the presence or absence of nesting site for raptors or any federally-listed or state-listed endangered or threatened birds, unless it is determined that construction will occur outside of the breeding season for all species that are likely to occur on site or have been observed to be present. If active nesting sites are observed to be present, all state and federal guidelines pertaining to active nesting sites shall be strictly adhered to in consultation with a qualified biologist.
- Provision by the applicant of full access to the wetland habitat restoration/creation site to the County for the monitoring of construction activities and mitigation compliance. Access shall be granted during all construction activities and the County monitor may issue stop work orders if mitigation non-compliance is identified.
- Specified measures for the reuse or disposal of excavated material suitable for use at the project site. The plan shall minimize the elapsed time between excavation and reuse and should provide adequate stockpile coverage and protection from wind and water erosion during the entire storage period. If excavated material is unsuitable for reuse at the project site, the plan shall include specific information regarding the eventual reuse or disposal site, transportation method(s) for hauling material to such a site, disposal reuse management strategies, and a schedule for accomplishing reuse or disposal.
- A spill prevention and response plan prepared to the satisfaction of the County.
- A strategy for the revegetation of all disturbed areas, using the following methods: hydroseeding, drill seeding, or spreading of upland seed bearing soil. The method of revegetation shall be approved by a qualified wetland specialist and shall be prepared to the satisfaction of the County.
- The use of non-toxic soil stabilizers according to manufacturer's specifications to stabilize inactive construction area during the rainy season (October through April).
- Idling time restrictions for all construction vehicles of a maximum of 10 minutes. Additionally, the County may reduce or curtail construction during high ambient pollutant concentrations, including but not limited to, ceasing construction during peak-hour vehicular traffic on adjacent or nearby roadways. Additionally, all land clearing, grading, earth moving or excavation activities shall be suspended when winds exceed 20 mph.
- The covering of all inactive storage/stock piles.
- The covering, or the maintenance of two feet of freeboard, of all trucks hauling dirt, sand, soil, or other loose materials.
- An archaeologist and (if available) a representative of the United Auburn Indian Community of the Auburn Rancheria shall participate in the preconstruction meeting(s) to inform the participants of the sensitivity and location of any California Register-eligible sites in the vicinity of the grading or construction (Mitigation Measure 4.6-2e).
- In the event of the accidental discovery or recognition of human remains, there shall be no further grading, excavation or disturbance of the site or any nearby area reasonably expected to overlie adjacent human remains, until compliance with the provisions of

Section 15064.5(e)(1) and (2) of the CEQA Guidelines has occurred (Mitigation Measure 4.6-2a).

- If any artifacts or other indications of cultural resources 45 years old or older are found once ground-disturbing activities are underway, the find shall be immediately evaluated by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment to allow for implementation of avoidance measures or appropriate mitigation shall be made available, as provided in Section 15064.5 of the CEQA Guidelines. Work may continue on other parts of the site while historical or unique archaeological resource mitigation takes place (Mitigation Measure 4.6-2c).

4.4-2 Implement Mitigation Measure 4.4-1 as it pertains to vernal pools. Additional steps shall be taken as may be required through the state and federal permitting process for properties requiring more detailed resource identification prior to development, including: wetlands delineated and submitted to the USACE, habitat types mapped, and special-status species determined to be or potentially be within the Specific Plan area with protocol surveys conducted if required.

4.4-3 Prior to approval of grading/engineering plans for any property within the Specific Plan area, a focused survey for elderberry shrubs shall be conducted to determine the presence/absence of the shrubs. The survey shall be completed by a qualified biologist anytime throughout the year. If elderberry shrubs are found, locations of these occurrences shall be mapped. If these resources can be avoided, no further studies are required. However, if projects within the Plan area will likely adversely affect these shrubs, then a detailed mitigation/conservation plan that includes long-term strategies to ensure no net loss of VELB habitat shall be developed.

The replacement of elderberry shrubs required by this measure could be partially or entirely included within Mitigation Measure 4.4-1, to the extent that the mitigation area includes areas appropriate for elderberry shrubs and VELB.

4.4-4 Construction shall be designed to avoid impacts to potential habitat for western pond turtle, if feasible. If construction is required in areas of potential habitat, then a focused survey for this species shall be conducted prior to approval of engineering plans. The survey is required to determine the presence or absence of this species on the properties surveyed. If pond turtles are found on the properties surveyed, locations of these occurrences shall be mapped.

A detailed mitigation/conservation plan that provides for "no net loss" of individuals of the species or its habitat shall be developed upon confirming the presence of this species on the properties surveyed. If this species is not found on the properties surveyed, no further studies are necessary.

The replacement of western pond turtle habitat required by this measure could be partially or entirely included within Mitigation Measure 4.4-1, to the extent that the mitigation area includes areas appropriate for western pond turtle.

4.4-5 When construction is proposed during the burrowing owl breeding season (April-September), a focused survey for burrows shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify any active burrows. If active nests are found, no construction activities shall take place within five hundred feet of the nest until the young have fledged. Burrows that must be removed as a

result of Specific Plan implementation shall be removed during the non-breeding season (October to March). If no active nests are found during the focused survey, no further mitigation will be required.

If burrows are removed as a result of implementation and there is suitable habitat onsite, on-site passive relocation shall be required. Owls will be encouraged to move from occupied burrows to alternate natural or artificial burrows that are beyond 50 meters from the impact zone and that are within or contiguous to a minimum of 6.5 acres of foraging habitat for each pair of relocated owls. Relocation of owls should only be implemented during the non-breeding season. On-site habitat shall be preserved in a conservation easement and managed to promote burrowing owl use of the site.

If there is not suitable habitat on-site, off-site passive relocation shall be required. Offsite habitat must provide suitable burrowing owl habitat. Land shall be purchased and/or placed in a conservation easement in perpetuity and managed to maintain suitable habitat. Off-site mitigation shall use one of the following ratios:

1. Replacement of occupied habitat with occupied habitat: 1.5 times 6.6 (9.75) acres per pair or single bird.
2. Replacement of occupied habitat with habitat contiguous to currently occupied habitat: 2 times 6.5 (13.0) acres per pair or single bird.
3. Replacement of occupied habitat with suitable unoccupied habitat: 3 times 6.5 (19.5) acres per pair or single bird.

The replacement of burrowing owl habitat required by this measure could be partially or entirely included within Mitigation Measure 4.4-1, to the extent that the mitigation area includes areas appropriate for burrowing owl.

4.4-6 Implement Mitigation Measure 4.4-1 as it pertains to Swainson's hawk foraging habitat and nesting trees.

4.4-7 Prior to construction activities, a focused survey for non-raptor special status bird nests and/or nesting colonies shall be conducted by a qualified biologist within 30 days prior to the beginning of construction activities in order to identify active nests within the construction area. If active nests are found, no construction activities shall take place within five hundred feet of the nest and/or nesting colony until the young have fledged. The biologist shall consult with the CDFG, particularly with respect to vegetation removal as a result of project construction. If no active nests and/or nesting colonies are found during the focused survey, no further mitigation will be required.

This measure would ensure that nests and/or nesting colonies are avoided when active, so that eggs and young would be protected. Once the young have fledged their nests, the nests can be removed without harm to the birds.

4.4-8 When construction is proposed during the raptor breeding season (March to early September), a focused survey for raptor nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on-site. If active nests are found, no construction activities shall take place within five hundred feet of the nest until the young have fledged. Trees containing nests shall be removed during the non-breeding season (late September to March). If no active nests are found during the focused survey, no further mitigation will be required. This measure will

ensure that active nests are not moved or substantially disturbed during the breeding season, so that raptor eggs and young are not destroyed or abandoned as a result of construction.

4.4-9 Prior to construction, a qualified biologist shall survey any affected structures for evidence of bat roosts (e.g., bat guano). If roosts are found, they shall be removed in April, September or October in order to avoid the hibernation and maternity seasons. Appropriate exclusion methods will be used, as needed, during habitat removal.

The initial assessment will involve looking for bats or bat signs such as guano, urine staining, and culled food parts, and will identify those specific locations that represent potential habitat (i.e., which specific buildings, trees, bridges could support roosting bats). If no potential habitat is identified or no potential habitat will be affected (i.e., removed), no further measures are required.

Bat habitat can be removed with minimal impact to the resident bat population if it is done outside of the hibernation season (November through March) and outside of the maternity season (May through August). During the removal period, a roost exit survey shall be conducted prior to habitat removal. If bats are detected, standard humane exclusion methods shall be implemented (e.g., placing plastic over roost entrance areas such that bats can exit the roost but not return). Exclusion shall be conducted for two nights prior to habitat removal and habitat removal shall occur immediately following implementation of these exclusion measures. If there is a delay, then the exclusion measures shall be repeated. During the maternity season (May through August), habitat removal may occur following a roost exit survey that confirms no bats are present; however, if bats are detected they may not be excluded until the end of the maternity season. During the hibernation season (November through March), bats do not exit the roost, so exit surveys cannot be used to assess presence and removal shall be delayed to the end of this time period.

If bats must be excluded, the project proponent shall work with a qualified biologist to determine if any additional steps (such as installation of alternative roost habitat in the form of bat boxes) are appropriate for the particular habitat. Determination of these additional measures will depend on the species present and their specific ecological preferences/requirements. Other steps could include improvement of other avoided bat habitat or design of new project elements such as bridges to be "bat-friendly."

4.4-10a Implement Mitigation Measure 4.4-1 as it pertains to oak trees.

4.4-10b Trees that are not planned for removal shall be preserved and protected. These oak trees shall be preserved and avoided by implementation of the following measures:

- Trees that are not proposed for removal and that are within two hundred feet of grading activities shall be protectively fenced five feet beyond the dripline and root zone of each oak tree (as determined by a certified arborist). This fence, which is meant to prevent activities that result in soil compaction beneath the canopies or over the root zone, shall be maintained until all construction activities are completed. No vehicles, construction equipment, mobile offices, or materials shall be placed within this fenced area.
- Grade changes shall be minimized to the extent feasible within or adjacent to the drip line of existing trees. No soil surface removal greater than one foot in depth shall occur within the drip lines of oak trees to be preserved. No cuts shall occur within five feet of their trunks. No earthen fill greater than one foot deep shall be placed within the drip lines of preserved oak trees, or within five feet of their trunks.

- Paving shall not be placed in the drip lines of oak trees to be preserved.
- Underground utility line trenching shall be not be placed within the drip lines of oak trees to be preserved. If it is absolutely necessary to install underground utilities within the drip lines of oak trees, the trench shall either be bored or drilled, but not within five feet of the trunk.
- For trees that will be removed, the project applicant shall submit a tree survey map of oaks to be removed or disturbed during project construction. Within these impact areas, an inventory of the location, number and health of oaks shall be prepared by a certified arborist. A certified arborist shall also prepare a monitoring and management plan for each project disturbing or removing oak trees. The plan shall address planting techniques, proposed mitigation sites, monitoring requirements, management recommendations, and minimization and avoidance measures.
- Annual monitoring shall be included to ensure that an 80% survival rate is achieved over a five-year period. During monitoring, the following information shall be evaluated: average tree height, percent canopy cover, and percent survival. An oak tree mitigation and monitoring plan shall be submitted that includes a description of irrigation methods that will be used to ensure that saplings survive the first several years of growth. During the revegetation process, tree survival shall be maximized by using gopher cages, deer screens, regular maintenance, and replanting as needed. Monitoring reports shall be submitted to Placer County on an annual basis.

4.4-11a Since all potential jurisdictional waters of the U.S. will not be avoided in the Specific Plan design, the wetland delineation shall be finalized and the results shall be mapped and submitted to the Corps for verification through the section 404 permit process. Completion of the delineation will ensure precise acreage of various wetland types occurring in within properties surveyed.

4.4-11b Implement Mitigation Measure 4.4-1 as it pertains to non-vernal pool wetlands. For every acre of non-vernal pool wetland (jurisdictional or non-jurisdictional) lost directly to development, Mitigation Measure 4.4-1 requires replacement, re-creation, or restoration of the appropriate amount of acreage necessary to meet the no net loss standard. Assuming that the project will result in the direct loss of 29.7 acres of nonvernal pool complex habitat-type wetlands, Mitigation Measure 4.4-1 would require the preservation and/or replacement, re-creation or restoration of similar wetlands. Mitigation acreage amounts are reflected in Table 4.4-12 based on typical mitigation bank ratios. The total required acreage shall be determined by the County.

Additional steps shall be taken for properties that require more detailed resource identification prior to development, including: wetlands delineated and submitted to the USACE, habitat types mapped, and special-status species determined to be or potentially be within the Specific Plan area with protocol surveys conducted if required to the extent that development is proposed on these properties that may be subject to 404 permit and FESA requirements.

4.4-12a Prior to the issuance of a grading permit, a Streambed Alteration Agreement shall be obtained from CDFG, pursuant to Section 1600 et seq. of the California Fish and Game Code, for each stream crossing and any other activities affecting the bed, bank, or associated riparian vegetation of the stream. If required, the project applicant shall coordinate with

CDFG in developing appropriate mitigation, and shall abide by the conditions of any executed agreements. All stream crossings shall be performed using a "jack and bore" construction technique, unless otherwise specified by CDFG. Streambed Alteration Agreement measures to protect the channel bank of a stream from erosion and related effects of construction shall be included in all related construction contracts.

4.4-12b Implement Mitigation Measure 4.4-1 as it pertains to riparian habitat. Mitigation Measure 4.4-1 requires replacement of all riparian trees removed to accommodate development. New trees and shrubs must be planted within existing riparian areas or improved drainage corridors. The replacement ratios exceed 1:1 in order to ensure that over the long-term the value of new riparian habitat equals or exceeds the value of the habitat that was lost. As an alternative, once the Placer County Conservation Plan is adopted, project applicants may participate in the PCCP, to the extent that it provided adequate mitigation for impacts on riparian areas.

Additional steps shall be taken for properties that require more detailed resource identification prior to development, including: wetlands delineated and submitted to the USACE, habitat types mapped, and special-status species determined to be or potentially be within the Plan area with protocol surveys conducted if required.

4.4-13 If construction activities are proposed during the Loggerhead shrike breeding season (March to July), a focused survey for nesting pairs shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests within the construction area. If active nests are found, no construction activities shall take place within five hundred feet of the nesting colony until the young have fledged. Vegetation that must be removed as a result of construction shall be removed during the non-breeding season (March to July). If no active nests are found during the focused survey, no further mitigation will be required.

This measure would ensure that Loggerhead shrike nests are avoided when active, so that eggs and young would be protected. Once the birds have fledged, their nests can be removed without harm to the birds.

4.4-15 Installation of infrastructure within off-site infrastructure areas shall be designed to avoid impacts to potential special-status plant species habitat, if feasible. If special-status plant habitat cannot be avoided, then a mitigation/conservation plan shall be prepared and implemented. The plan shall include measures to ensure "no net loss" of special-status plant species habitat.

If installation of infrastructure is required in areas of potential habitat, then a focused rare plant survey for these species shall be conducted prior to approval of grading/engineering plans. The survey is required to determine the presence or absence of these species in these areas. The survey shall be completed by a qualified botanist during the appropriate peak blooming period for these species. If special-status plants are found, locations of these occurrences shall be mapped. A detailed mitigation/conservation plan that includes long-term strategies for the conservation of the species shall be developed upon confirming the presence of these species. The plan shall provide for preservation and restoration at ratios that would ensure "no net loss" of the affected plant habitat. If these species are not found, no further studies will be necessary.

The mitigation acreage required by this measure could be partially or entirely included within Mitigation Measure 4.4-1, to the extent that the mitigation area includes vernal pools that provide equal or greater habitat value for the affected special-status species plants.

Avoidance and/or loss of habitat for special-status plants outside of Placer County would be regulated by the USACE, CDFG, Sutter County, Sacramento County, and/or the City of Roseville, depending on the location of such plants and whether they are federal or state listed species. These jurisdictions can and should implement similar measures to ensure "no net loss" of special-status plant habitat.

4.4-16 Installation of off-site infrastructure shall be designed to avoid vernal pools, if feasible. If pools will be filled or degraded by off-site infrastructure areas, implement Mitigation Measure 4.4-2.

Under this mitigation, vernal pools in Placer County will need to be delineated if they fall within the off-site infrastructure areas and cannot be avoided. Consideration shall also be given to degradation of vernal pools that would be avoided, but that could be degraded due to construction and other activities (due to, for example, contaminants in runoff if a road is placed over the utility line). For vernal pools that would be filled or adversely affected, preservation, re-creation, replacement and/or restoration would be required at ratios that would ensure there would be "no net loss" of vernal pool habitat. See Mitigation Measure 4.4-2 for a more detailed discussion of the specific ratios.

The mitigation acreage required by this measure could be partially or entirely included within Mitigation Measure 4.4-1, to the extent that the mitigation area includes vernal pools similar in type and equal or greater in habitat value to those pools lost to the offsite infrastructure areas.

Avoidance and/or fill of vernal pools outside of Placer County will be regulated by the USACE, Sutter County, Sacramento County, and/or the City of Roseville, depending on the location and type of vernal pools that would be affected. Both federal policy (for jurisdictional wetlands), Sacramento County policy and Sutter County policy all call for "no net loss" of wetlands. These jurisdictions can and should implement measures similar to those provided in Mitigation Measure 4.4-1 to ensure "no net loss" of vernal pools.

4.4-17 Prior to approval of grading/engineering plans, a focused survey for elderberry shrubs shall be conducted to determine the presence/absence of the shrubs. The survey shall be completed by a qualified biologist anytime throughout the year. If elderberry shrubs are found, locations of these occurrences shall be mapped. If these resources can be avoided, no further studies are required. However, if projects within the off-site infrastructure areas will likely adversely affect these shrubs, then a detailed mitigation/conservation plan that includes long-term strategies to ensure "no net loss" of VELB habitat shall be developed.

The replacement of elderberry shrubs required by this measure could be partially or entirely included within Mitigation Measure 4.4-1, to the extent that the mitigation area includes areas appropriate for elderberry shrubs and VELB.

This measure would ensure "no net loss" of VELB habitat within Placer County. If elderberry shrubs are present in off-site infrastructure areas in Sutter County, Sacramento County, and/or the City of Roseville, these jurisdictions could also require measures to ensure "no net loss" of VELB habitat.

4.4-18 Implement Mitigation Measure 4.4-4, which requires that construction be designed to avoid impacts to potential habitat for western pond turtle, if feasible. If installation is required in areas of potential habitat, then a focused survey for this species shall be conducted prior to approval of engineering plans. The survey is required to determine the presence or absence of this species in the off-site infrastructure areas. If pond turtles are found in the off-site infrastructure areas, locations of these occurrences shall be mapped.

A detailed mitigation/conservation plan that provides for "no net loss" of individuals of the species or its habitat shall be developed upon confirming the presence of this species in the off-site infrastructure areas. If this species is not found in the off-site infrastructure areas, no further studies are necessary.

The replacement of western pond turtle habitat, if necessary, could be partially or entirely included within Mitigation Measure 4.4-1, to the extent that the mitigation area includes areas appropriate for western pond turtle. If western pond turtle is present in off-site infrastructure areas in Sutter County, Sacramento County, and/or the City of Roseville, these jurisdictions could also require measures to ensure "no net loss" of its habitat.

4.4-19 Implement Mitigation Measure 4.4-5, which requires nesting surveys prior to construction, so if burrowing owls establish nests in the off-site infrastructure areas, they would be detected. This measure also prohibits construction activities within five hundred feet of a nest, so that nesting owls would not be disturbed. Once the young have fledged, the nests can be removed, because the owls would then establish nests in a new area. Therefore, with implementation of this measure, the impact on nesting burrowing owls would be less than significant. Similar measures could be implemented by Sutter County, Sacramento County, and/or the City of Roseville, if needed, to protect nesting burrowing owls.

4.4-21 If installation of infrastructure is proposed in areas where identified non-raptor special status bird species may occur, a focused survey for non-raptor special-status bird nests and/or nesting colonies shall be conducted by a qualified biologist within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify nests within the construction area. If active nests and/or nesting colonies are found, no construction activities shall take place within five hundred feet of the nest and/or nesting colony until the young have fledged and the biologist has consulted with the CDFG, particularly with respect to vegetation removal as a result of installation of project infrastructure. If no active nests are found during the focused survey, no further mitigation will be required. This measure would ensure that bird nests are avoided when active, so that eggs and young would be protected. Once the birds have left their nests, the nests can be removed without harm to the birds. Similar measures could be implemented by Sutter County, Sacramento County, and/or the City of Roseville, if needed, to protect nesting non-raptor special status bird species.

4.4-22 Implement Mitigation Measure 4.4-8, which requires nesting surveys prior to construction, so if raptor nests are present in the off-site infrastructure areas, they will be detected. This measure also prohibits construction activities within five hundred feet of a nest, so that nesting raptors will not be disturbed. Once the young have fledged, the nests can be removed, because the raptors would then establish nests in a new area. Therefore, with implementation of this measure, the impact on nesting raptors would be less than significant. Similar measures could be implemented by Sutter County, Sacramento County and/or the City of Roseville, if needed, to protect nesting raptors.

4.4-23 Installation of off-site infrastructure shall be designed to avoid impacts to potential habitat for California horned lizard, if feasible. If installation is required in areas of potential habitat, a focused survey for this species shall be conducted prior to approval of engineering plans. The survey is required to determine the presence or absence of this species in the off-site infrastructure areas. If horned lizards are found in the off-site infrastructure areas, locations of these occurrences shall be mapped.

A detailed mitigation/conservation plan that provides for "no net loss" of individuals of the species or its habitat shall be developed upon confirming the presence of this species in the off-site infrastructure areas. If this species is not found in the off-site infrastructure areas, no further studies are necessary.

This measure would protect the California horned lizard, if present, from harm. Surveys of proposed impact areas shall be conducted during the active season for the lizard (generally April to October). During the spring, lizards are typically active during midday. During summer, activity transitions to morning and late afternoon.

The replacement of habitat, if necessary, could be partially or entirely included within Mitigation Measure 4.4-1, to the extent that the mitigation area includes areas appropriate for the affected habitat. If California horned lizard is present in off-site infrastructure areas in Sutter County, Sacramento County and/or the City of Roseville, these jurisdictions could also require measures to ensure "no net loss" of its habitat.

4.4-24 Prior to construction, a qualified biologist shall survey any affected structures for evidence of bat roosts (e.g., bat guano). If roosts are found, they shall be removed in April, September or October in order to avoid the hibernation and maternity seasons. Appropriate exclusion methods will be used, as needed, during habitat removal.

The initial assessment will involve looking for bats or bat sign such as guano, urine staining, and culled food parts and will identify those specific locations that represent potential habitat (e.g., which specific buildings, trees, bridges could support roosting bats). If no potential habitat is identified or no potential habitat will be impacted (i.e., removed), no further measures are required.

Bat habitat can be removed with minimal impact to the resident bat population if it is done outside of the hibernation season (November through March) and outside of the maternity season (May through August). During the removal period, a roost exit survey shall be conducted prior to habitat removal. If bats are detected, standard humane exclusion methods shall be implemented (e.g., placing plastic over roost entrance areas such that bats can exit the roost but not return). Exclusion shall be conducted for two nights prior to habitat removal and habitat removal shall occur immediately following implementation of these exclusion measures. If there is a delay, then the exclusion measures shall be repeated. During the maternity season (May through August), habitat removal may occur following a roost exit survey that confirms no bats are present; however, if bats are detected they may not be excluded until the end of the maternity season. During the hibernation season (November through March), bats do not exit the roost, so exit surveys cannot be used to assess presence and removal shall be delayed to the end of this time period.

If bats must be excluded, the project proponent shall work with a qualified biologist to determine if any additional steps (such as installation of alternative roost habitat in the form of bat boxes) are appropriate for the particular habitat. Determination of these additional

measures will depend on the species present and their specific ecological preferences/requirements. Other steps could include improvement of other avoided bat habitat or design of new project elements such as bridges to be "bat-friendly." Similar measures to those described in this mitigation measure could be used by Sutter County, Sacramento County, and/or the City of Roseville.

4.4-25 Implement Mitigation Measures 4.4-10a and 4.4-10b. Mitigation Measure 4.4-10a requires implementation of Mitigation Measure 4.4-1 as it pertains to oak woodland communities and individual oak trees. The applicant is to provide a tree survey map of all trees that would be removed or disturbed during construction of the off-site infrastructure areas. These trees shall be replaced as specified in Mitigation Measure 4.4-1. Replacement trees shall be monitored annually to ensure that the new oaks and oak woodland are successful. Mitigation Measure 4.4-10b specifies measures to be taken to protect remaining trees from damage during construction. Similar measures could be implemented by Sutter County, Sacramento County, and/or the City of Roseville, if needed to protect oak woodland and individual trees.

4.4-26 Infrastructure installations shall be redesigned to avoid impacts to wetlands, and other waters of the U.S., if feasible. If wetlands cannot be feasibly avoided, implement Mitigation Measures 4.4-2, which requires delineation of all wetlands that could not be avoided. Mitigation Measures 4.4-2 and 4.4-11 require preservation, re-creation, replacement and/or restoration of vernal pools and other wetlands that would be filled due to construction of off-site infrastructure areas. Successful restoration of vernal pools and other wetlands under Mitigation Measures 4.4-2 and 4.4-11 would result in more wetland acreage than would be lost to development. Sutter County, Sacramento County and/or the City of Roseville could require similar measures to ensure "no net loss" of wetlands.

The mitigation acreage required by these measures could be partially or entirely included within Mitigation Measure 4.4-1, to the extent that the mitigation area includes vernal pools similar in type and equal or greater in habitat value to those pools lost to the off-site infrastructure areas.

4.4-27 Implement Mitigation Measure 4.4-12, which requires a Streambed Alteration Agreement from CDFG whenever a road (bridge) or utility line would be constructed across a stream. The Agreement would include measures to protect the channel and bank of a stream from erosion and related effects of construction. The measure also requires that Mitigation Measure 4.4-1 be implemented as it pertains to riparian habitat. New trees and shrubs would be planted to replace those removed for development. The replacement ratios would exceed 1:1 in order to ensure that over the long-term the value of new riparian habitat equals or exceeds the value of the habitat that was lost. Any stream crossings proposed in Sutter County, Sacramento County, and/or the City of Roseville would also likely be required to obtain a Streambed Alteration Agreement.

4.4-28 All construction activity involving disturbance of habitat, shall be restricted to the period between May 1 and September 30. This is the active period for Giant Garter snake and direct mortality is lessened, because snakes are expected to actively move and avoid danger.

24-hours prior to construction activities, the project area shall be surveyed for Giant Garter snake. Survey of the project area shall be repeated if a lapse in construction activity of two weeks or greater has occurred. If a snake is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined

that the snake will not be harmed. Any incidental take and any sightings shall be reported to the USFWS immediately.

Movement of heavy equipment shall be confined to existing roadways to minimize habitat disturbance.

Construction personnel shall (to the extent practical) receive USFWS-approved worker environmental awareness training. This training instructs workers to recognize Giant Garter snakes and their habitat(s), and what to do if a Giant Garter snake is encountered during construction activities.

No plastic, monofilament, jute, or similar erosion control matting that could entangle snakes will be placed on a project site when working within 200 feet of snake aquatic or rice habitat. Substitutions include coconut coir matting, tactified hydroseeding compounds, or other material approved by the Wildlife Agencies.

Between April 15 and September 30, all irrigation ditches, canals, or other aquatic habitat shall be completely dewatered, with no puddle water remaining, for at least 15 consecutive days prior to the excavation or filling in of the dewatered habitat. Make sure dewatered habitat does not continue to support Giant Garter snake prey, which could detain or attract snakes into the area. If a site cannot be completely dewatered, netting and salvage of prey items may be necessary.

Confine clearing to the minimal area necessary to facilitate construction activities. Flag and designate avoided Giant Garter snake habitat within or adjacent to the project as Environmentally Sensitive Areas. This area shall be avoided by all construction personnel.

If a live Giant Garter snake is found during construction activities, immediately notify the USFWS and the project's manager. The manager shall do the following:

> <u>Stop construction in the vicinity of the snake. Monitor the snake and allow the snake to leave on its own. A monitor shall remain in the area for the remainder of the work day to make sure the snake is not harmed or if it leaves the site, does not return. Escape routes for Giant Garter snake should be determined in advance of construction and snakes should always be allowed to leave on their own. If a Giant Garter snake does not leave on its own within one working day, further consultation with USFWS is required.</u>

Fill or construction debris may be used by Giant Garter snake as an over-wintering site. Therefore, upon completion of construction activities, remove any temporary fill and construction debris. If this material is situated near undisturbed Giant Garter snake habitat and it is to be removed between October 1 and April 30, it shall be inspected by a qualified biologist to assure that Giant Garter snake are not using it as hibernaculae. Wherever feasible, restore disturbed areas to pre-project conditions. Restoration work may include such activities as replanting species removed.

4.4-29 If installation of infrastructure is proposed during the Loggerhead shrike breeding season (March to July), a focused survey for nesting pairs shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests within the construction area. If active nests are found, no construction activities shall take place within five hundred feet of the nesting colony until the young have fledged. Vegetation that must be removed as a result of installation shall be removed during the non-breeding season (March to July). If no active nests are found during the focused survey, no further mitigation will be required.

This measure would ensure that Loggerhead shrike nests are avoided when active, so that eggs and young would be protected. Once the birds have left their nests, the nests can be removed without harm to the birds. Similar measures could be implemented by Sutter County, Sacramento County, and/or the City of Roseville, if needed, to protect nesting tricolored blackbirds.

4.4-30a Implement Mitigation Measures 4.4-12a and 4.4-12b.

4.4-30b A qualified fish biologist shall be present on-site during any dewatering activities at construction sites to minimize impacts to special-status species (i.e., prevent stranding of special-status species). Individual fish collected during dewatering shall be identified and released in an uninterrupted waterway adjacent to the area of disturbance.

4.4-30c Chinook salmon and steelhead resources shall be protected from potential construction-related activities by adherence to a construction window, whereby construction activities would be precluded from October 15 through June 15. This window corresponds to the time when both adult and juvenile Chinook salmon and steelhead are expected to migrate through the area. Further measures to protect salmon resources include use of Best Management Practices (BMPs) to minimize and localize siltation and other water quality impacts and to provide for riparian restoration activities. Such BMPs may include the use of cofferdams and other structures during dewatering and construction activities. Water quality monitoring shall also be performed to ensure that state and federal water quality standards are met.

4.4-59 Implement Mitigation Measure 4.4-1 as well as Mitigation Measures 4.4-2, 4.4-4, 4.4-6, 4.4-10a, 4.4-11b, 4.4-11c, 4.4-12b, 4.4-14, 4.4-15, 4.4-17, 4.4-18, 4.4-19, 4.4-21, 4.4-22, 4.4-23, 4.4-24, 4.4-25, 4.4-26, 4.4-29, and 4.4-30.

Mitigation Measure 4.4-1 would reduce the magnitude of the Specific Plan contribution to the cumulative loss of biological habitat by requiring the off-site preservation of 3,520 acres of open space, most of which is likely to provide a mosaic of habitats similar to the Specific Plan area. The other measures identified above would further protect special-status plant and wildlife from harm by requiring appropriate habitat and/or nesting surveys, avoidance of habitat and/or nests, and compensation for loss of habitat. While individual members of special-status species would be protected from harm, and required off-site open space would not be developed, there would still be a net loss in land available for plant and wildlife habitat as a result of the Specific Plan. Therefore, this mitigation would reduce, but would not fully offset, the project's incremental contribution to the significant cumulative loss of biological habitat.

Geology, Soils, Minerals, and Paleontological Resources

4.5-1a New development within the Specific Plan area shall submit a geotechnical report prepared by a California Registered Civil or Geotechnical Engineer to the Department of Public Works for review prior to improvement plans approval. The report shall meet all relevant requirements of the most recently adopted version of the Uniform Building Code and make recommendations on the following:

- Road, pavement, and parking area design,
- Structural foundations, including retaining wall design (if applicable),
- Grading practices,

- Erosion/winterization,
- Special problems discovered on-site (i.e., groundwater, corrosiveness, expansive/unstable soils), and
- Slope stability.

If the geotechnical report indicates the presence of critically expansive or other soils problems which, if not corrected, would lead to structural defects, a certification of completion of the requirements of the report will be required for subdivisions and other entitlements, prior to issuance of building permits. The certification may be completed on a lot-by-lot basis, tract basis, or other defined project basis. This shall also be noted in the covenants, conditions and restrictions and on the information sheet filed with the final subdivision map(s). It shall be the responsibility of the developer to provide for engineering inspection and certification that earthwork has been performed in conformity with recommendations contained in the report.

4.5-1b For non-pad graded lots, prior to approval of improvement plans, a soil investigation of each lot in the subdivision produced by a California Registered Civil or Geotechnical Engineer shall be submitted to the Department of Public Works for review and approval (Sections 17953-17955 of the California Government Code). For pad-graded lots, prior to final acceptance of project improvements or consideration of early building permits, and after completion of pad grading for all lots, a soil investigation of each lot produced by a California Registered Civil or Geotechnical Engineer shall be submitted to the Department of Public Works for review and approval (Sections 17953-17955 of the Government Code).

The soil investigations shall include recommended corrective action to prevent structural damage to each proposed dwelling. In addition, any soil problems encountered on each specific lot, as well as the recommended corrective actions, shall be included in a Development Notebook.

4.5-4a New development within the Specific Plan area shall prepare and submit to the Department of Public Works a preliminary grading and erosion control (winterization)/ground instability plan prepared by a California Registered Civil Engineer. Erosion and ground instability mitigation measures shall include conformance to the Uniform Building Code and Placer County grading ordinances. The preliminary grading plan shall include methods to control soil erosion and ground instability.

4.5-4b A Notice of Intent (NOI) and supporting documents shall be submitted to the State Water Resources Control Board (SWRCB). A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared for inclusion with the construction plans and for regulation of construction activities. The SWPPP shall include Best Management Practices (BMPs) which address source reduction and sediment capture and retention. BMPs shall be developed in accordance with the California Stormwater Quality Association <u>Stormwater Best Management Practices Handbook for Construction and New Development/Redevelopment</u> (or other similar source).

Uncemented silty soils are prone to erosion. According to requirements, as set forth in Section 402 (p) of the Clean Water Act as amended in 1987, and as administered by the SWRCB, erosion control measures (appropriate Best Management Practices) shall be implemented during construction which conform to the National Pollutant Discharge Elimination System, Storm Drain Standards, and local standards, consistent with Best Management Practices contained in the California Stormwater Quality Association

Stormwater Best Management Practices Handbook for Construction and New Development/Redevelopment (or other similar source).

4.5-4c The applicant shall prepare and submit improvement plans, specifications and cost estimates (per the requirements of Section II of the Land Development Manual [LDM] that are in effect at the time of submittal) to the Department of Public Works for review and approval for each new development phase within the Specific Plan. The plans shall show all conditions for each phase, as well as pertinent topographical features both on/and off-site. All existing and proposed utilities and easements, on-site and adjacent to the project, that could be affected by planned construction, shall be shown in the plans. All landscaping and irrigation facilities within sight distance areas at intersections, shall be included in the improvement plans. The applicant shall pay plan check and inspection fees. The cost of the above-noted landscape and irrigation facilities shall be included in the estimates used to determine these fees. It shall be the applicant's responsibility to obtain all required agency signatures on the plans and to secure department approvals. If the Design/Site Review process and/or Design Review Committee review is required as a condition of approval for the project, said review process shall be completed prior to submittal of improvement plans. Record drawings shall be prepared and signed by a California Registered Civil Engineer at the applicant's expense and shall be submitted to the Department of Public Works prior to acceptance by the County of site improvements.

4.5-4d All proposed grading, drainage improvements, and vegetation and tree removal shall be shown on the improvement plans and all work shall conform to provisions if the Placer County Grading Ordinance (Ref. Article 15.48, formerly Chapter 29, Placer County Code) that are in effect at the time of submittal. No grading, clearing, or tree disturbance shall occur until the improvement plans are approved and all temporary construction fencing has been installed and inspected by a member of the Design Review Committee. All cut/fill slopes shall be at 2:1 (horizontal:/vertical) unless a soils report supports a steeper slope and the Department of Public Works concurs with said recommendation.

The applicant shall revegetate all disturbed areas. Revegetation undertaken from April 1 to October 1 shall include regular watering to ensure adequate growth. A winterization plan shall be provided with project improvement plans. It is the applicant's responsibility to assure proper installation and maintenance of erosion control/winterization during project construction. Where soil stockpiling or borrow areas are to remain for more than one construction season, proper erosion control measures shall be applied as specified in the improvement plans/grading plans. Erosion control shall be provided where roadside drainage is off of the pavement, to the satisfaction of the Department of Public Works.

A letter of credit or cash deposit shall be submitted to the Department of Public Works in the amount of 110% of an approved engineer's estimate for winterization and permanent erosion control work prior to improvement plan approval to guarantee protection against erosion and improper grading practices. Upon the County's acceptance of improvements, and satisfactory completion of a one-year maintenance period, unused portions of said deposit shall be refunded to the project applicant or authorized agent.

If, at any time during construction, a field review by County personnel indicates a significant deviation from the proposed grading shown on the improvement plans, specifically with regard to slope heights, slope ratios, erosion control, winterization, tree disturbance, and/or pad elevations and configurations, the plans shall be reviewed by the Design Review

Committee/Department of Public Works for a determination of substantial conformance to the project approvals prior to any further work proceeding. Failure of the Design Review Committee/Department of Public Works to make a determination of substantial conformance may serve as grounds for appropriate punitive action by the appropriate hearing body, including the revocation of a site-specific project approval in extreme circumstances. In determining what constitutes appropriate punitive action in this context, the hearing body shall be guided by the penalty options set forth in Article 15.48 and Article 17.62 of the Placer County Code.

4.5-4e Stockpiling and/or vehicle staging areas shall be identified prior to any discretionary entitlement and shown on improvement plans and located as far as practical from existing dwellings and protected resources in the area.

4.5-4f New development with ground disturbance exceeding one acre that is subject to construction stormwater quality permit requirements of the National Pollutant Discharge Elimination System (NPDES) program shall obtain such permit from the State Regional Water Quality Control Board (SRWQCB) and shall provide to the Department of Public Works evidence of a state-issued Waste Discharge Identification (WDID) number or filing of a Notice of Intent and fees prior to start of construction.

4.5-5a Restore ground surface and topography.

4.5-5b Require soil stockpiling and disposal standards.

4.5-5c Prepare erosion and sedimentation control plan.

4.5-5d Implement recommendations of geotechnical report.

4.5-5e For the SRWTP, consult Division of Oil and Gas records prior to excavation, for excavation depths greater than five feet below the surface.

Cultural Resources

4.6-1 Prior to any ground-disturbing activity within five hundred feet of historical resources and unique archaeological resources,, archaeological surface inspections shall be completed to determine if each respective site still exists and, if so, archaeological test excavations shall be conducted to the extent necessary to determine if further mitigation is necessary. If determined to be necessary, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the archaeological resources, shall be prepared by a qualified professional archaeologist and adopted by the County prior to any excavation. The data recovery plan shall be deposited with the California Historical Resources Regional Information Center.

4.6-2a In the event of the accidental discovery or recognition of any human remains, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains, until compliance with the provisions of Section 15064.5 (e)(1) and (2) of the CEQA Guidelines has occurred.

4.6-2b If any artifacts or other indications of cultural resources 45 years old or older are found once ground-disturbing activities are underway, the find shall be immediately evaluated by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment to allow for implementation of avoidance measures or appropriate mitigation shall be made available, as provided in Section

15064.5 of the CEQA Guidelines. Work may continue on other parts of the project site while historical or unique archaeological resource mitigation takes place.

4.6-2c Prior to the issuance of any permits for construction, including demolition permits, for properties that have not been previously inspected by an archaeologist or previously inspected by an architectural historian, a qualified archaeologist and/or architectural historian, as appropriate, shall be retained to identify and evaluate any cultural resources, and determine if further mitigation, may be necessary, and recommend any such potential mitigation to the County for its consideration. The County will assess the feasibility of any proposed mitigation (e.g., avoidance of the historical resource) and impose the mitigation where feasible in light of Specific Plan policies and land use assumptions. The necessity of inspection by an architectural historian includes any buildings potentially eligible for the California Register of Historical Resources, but for which the identification and evaluation process (the filling out of Primary, Building and Location record forms distributed by the California Office of Historic Preservation) has not been completed.

4.6-2d An orange construction fencing shall be placed around the California Register-eligible sites located in open space, if construction, including trail and fire break building, is conducted within one hundred feet of the archaeological resource. Placement of the fencing must be done in consultation with an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric archaeology.

4.6-2e An archaeologist shall participate in the preconstruction meeting(s) to inform the participants of the sensitivity and location of any California Register-eligible sites in the vicinity of grading or construction.

4.6-2f Any California Register-eligible site located in the open space that will be within one hundred feet or closer to public access (e.g., road, trail or firebreak), public facility or private residence shall be enclosed with permanent fencing designed to help prevent trespass. Each enclosure shall be constructed with a locked gate. A sign at each enclosure shall explain site values, interpret site history (or prehistory), identify prohibited uses and warn of penalties for violations.

4.6-2g To help insure the long-term preservation of those California Register-eligible archaeological resources located in the open space, the CC&Rs shall include a clause that prohibits the collecting, digging or removal of any stone, artifact or other prehistoric or historic object from the open space.

4.6-2h If human remains are discovered, all work shall stop in the immediate vicinity of the find and the County Coroner must be notified, according to Section 7050.5 of the California Health and Safety Code. If the remains are Native American, the Coroner will notify the Native American Heritage Commission, which in turn will inform a most likely descendant. The descendant will then recommend to the landowner appropriate disposition of the remains and any grave goods.

4.6-3a Should paleontological resources be identified at a particular site, the project manager shall cease operation until a qualified professional can provide an evaluation. Mitigation shall be conducted as follows: 1. Identify and evaluate paleontologic resource by intense field survey where impacts are considered high; 2. Assess effects on identified sites; 3. Consult with the institutional/academic paleontologists conducting research investigations within the geological formations that are slated to be impacted; 4. Obtain comments from the

researchers; 5. Comply with researchers' recommendations to address any significant adverse effects where determined by the County to be feasible pursuant to Mitigation Measure 4.6-3b.

4.6-3b In considering any suggested mitigation proposed by the consulting paleontologist, County Planning Department Staff shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, Specific Plan policies and land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for paleontological resources is carried out.

4.6-5 Prior to any ground disturbing or demolition work for intersection improvements, road widenings and utilities construction, an on-the-ground inspection shall be conducted of the areas outside existing public rights-of-way by a qualified archaeologist and/or architectural historian, as appropriate. Such inspections will at a minimum include a field inspection, the recording on forms distributed by the California Office of Historic Preservation of any cultural resources 45 years old or older, an assessment of eligibility for the California Register of Historical Resources and qualification as a "unique archaeological resource," and a technical report that follows California Office of Historic Preservation guidelines for contents and format. The report shall contain any feasible mitigation measures to be implemented by the applicant. In some cases, an updated records search by the appropriate information center of the California Historical Resources Information System may be necessary if the proposed routes change or if there is more than a year delay between the present study (2005) and said field inspection(s).

4.6-6 Placer County shall coordinate with Roseville Public Cemetery District to facilitate the reinterrment of any burials affected by the Watt Avenue road widening prior to any physical disturbance of Cemetery frontage. Project applicants shall fully compensate the Cemetery and County for any costs incurred during the grave site testing and reinterrment process. 4.6-10 If the Off-Site Gravity Sewer Alternative "A" is selected, then disturbance of the California Register-eligible segment of CA-PLA-946-H, the Sacramento Northern Railroad grade, shall be avoided by using jack and bore construction techniques under the railroad grade for placement of the sewer line.

4.6-13a Halt work if cultural resources are discovered. If concentrations of prehistoric or historic period cultural materials are encountered, all work in the vicinity of the find(s) should halt until a qualified archaeologist is retained, evaluates the material, and makes recommendations for further action.

4.6-13b Halt work if human remains are encountered. If human remains are encountered, all work should stop in the vicinity of the bone and the County Coroner should be notified immediately. The procedures outlined in the CEQA Guidelines Section 15064.5(e) should be followed, if human burials are judged to be Native American origin.

4.6-13c Should any cultural resources, such as structural features, unusual amounts of bone, shell, artifacts, human remains, or architectural remains be encountered during any development activities, work shall be suspended and the Department of Environmental Review and Assessment (DERA) shall be immediately notified. At that time, DERA shall coordinate any necessary investigation of the find with appropriate specialists as needed. The SRCSD shall be required to implement any mitigation deemed necessary by DERA for the protection of cultural resources. In the event of discovery of human remains, all work is to stop and the County Coroner shall be immediately notified pursuant to Section 5097.97 of the California

Public Resources Code and Section 70950.5 of the California Health and Safety Code. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains.

4.6-14 Prior to any ground disturbing or demolition work for intersection improvements, road widenings and utilities construction, an updated records search through the California Historical Resources Information System shall be performed and on-the-ground inspection will be conducted by a qualified archaeologist and/or architectural historian, as appropriate. Such inspections will at a minimum include a field inspection, the recording on forms distributed by the California Office of Historic Preservation of any cultural resources 45 years old or older, an assessment of eligibility for the California Register of Historical Resources and qualification as a "unique archaeological resource," and a technical report that follows California Office of Historic Preservation guidelines for contents and format. The report shall contain any feasible mitigation measures to be implemented by the applicant.

Traffic

4.7-1 Prepare and implement construction traffic management plans for on-site and off-site construction activities for all development projects, including coordination with appropriate agencies, and implement a community relations program during construction period. The purpose of the construction traffic management plan is to minimize adverse Level of Service or neighborhood traffic impacts during the various phases of construction.

4.7-2a Developers of property within the Placer Vineyards Specific Plan area shall be responsible for the project's fair share of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation-related impacts, as identified in this traffic analysis, consistent with the policies and exceptions set forth in the Transportation and Circulation Element of the 1994 Placer County General Plan as amended. The project's contribution toward such improvements, which the County recognizes will not be sufficient to mitigate all transportation-related impacts to less than significant levels, may take any, or some combination, of the following forms:

1. Construction of roads and related facilities within and adjacent to the boundaries of the Specific Plan area, which may be subject to fee credits and/or reimbursement, coordinated by the County, from other fee-paying development projects with respect to roads or other facilities that would also serve fee-paying development projects other than Placer Vineyards;
2. Construction of roads and/or road improvements or other transportation facilities outside the boundaries of the Specific Plan area but within unincorporated Placer County, subject in some instances to future reimbursement, coordinated by the County, from other fee-paying development projects where the roads or improvements at issue would also serve fee-paying development projects other than Placer Vineyards;
3. The payment of impact fees to Placer County in amounts that constitute the Specific Plan's fair share contributions to the construction of transportation facilities to be built or improved within unincorporated Placer County, consistent with the County's CIP;
4. The payment of impact fees to the South Placer Regional Transportation Authority (SPRTA) in amounts that constitute the Project's fair share contribution to the construction of transportation facilities funded through fees collected by the SPRTA for Tier 1 and/or Tier 2 projects;

5. The payment of other adopted regional impact fees that would provide improvements to roadways, intersections and/or interchanges that are affected by multiple jurisdictions (e.g., Walerga/Fiddyment/Baseline);
6. The payment of impact fees to Placer County in amounts that constitute the Specific Plan's fair share contributions to the construction of transportation facilities and/or improvements within the City of Roseville, Sacramento County and/or Sutter County needed in whole or in part because of the Specific Plan, to be made available to the City of Roseville, Sacramento County, and/or Sutter County, if and when those jurisdictions and Placer County enter into an enforceable agreement consistent with Placer County General Plan Policy 3.A.15(c). At the time of issuance of building permits for individual development projects within the Specific Plan area, the County shall collect fair share fee payments for improvements or facilities addressed by its CIP as it exists at that time;
7. Developers of property within the Placer Vineyards Specific Plan area shall pay impact fees to Placer County in amounts that constitute the Specific Plan's fair share contributions to the construction of transportation facilities and/or improvements on federal or State highways or freeways needed in part because of the Specific Plan, to be made available to Caltrans if and when Caltrans and Placer County enter into an enforceable agreement consistent with State law and Placer County General Plan Policy 3.A.15; and
8. In pursuing a single agreement or multiple agreements with the City of Roseville, Sacramento County, Sutter County, and Caltrans, Placer County shall negotiate in good faith with these other jurisdictions to enter into fair and reasonable arrangements with the intention of achieving, within a reasonable time period after approval of the Placer Vineyards Specific Plan, commitments for the provision of adequate fair share mitigation payments from the Specific Plan for its out-of-jurisdiction traffic impacts and its impacts on federal and State freeways and highways.

4.7-2b Consistent with Mitigation Measure 4.7-2a, the proposed project shall contribute its fair share toward the widening of Walerga Road to four lanes from Baseline Road to PFE Road to provide LOS "A" (V/C 0.43).

4.7-3a Implement Mitigation Measure 4.7-2a.

4.7-3b Consistent with Mitigation Measure 4.7-2a, the proposed project shall contribute its fair share toward the following improvements:

i. Construct a second through lane on the southbound approach, a right turn lane to the eastbound approach and construct a second left turn lane on both the eastbound and westbound approaches to improve the intersection of Fiddyment Road and Baseline Road to LOS "C" (V/C 0.80) in the p.m. peak hour.

ii. Convert the southbound right turn lane into a free right turn lane, to improve the intersection of Fiddyment Road and Baseline Road to LOS "D" (V/C 0.87) in the a.m. peak hour.

iii. Construct a second through lane on both the northbound and southbound approaches, to improve the intersection of Walerga Road and PFE Road to LOS "B" (V/C 0.66) in the a.m. peak hour and LOS "D" (V/C 0.80) in the p.m. peak.

4.7-4a Implement Mitigation Measure 4.7-2a.

4.7-4b Consistent with Mitigation Measure 4.7-2a, the proposed project shall contribute fees toward the following improvements, which are part of the City of Roseville's 2020 CIP:

- A second through lane on the eastbound approach, to improve the intersection of Woodcreek Oaks Boulevard and Baseline Road to LOS "A" (V/C 0.57).
- A second left turn lane on both the northbound, southbound and westbound approaches, a third through lane to the northbound approach and fourth through lane to the southbound approach to improve the intersection of Foothills Boulevard and Baseline Road to LOS "C" (V/C 0.71).
- A second left turn lane on all of the approaches, a second through lane on both the northbound and southbound approaches, and a third through lane on the eastbound and westbound approaches to improve the intersection of Woodcreek Oaks Boulevard and Pleasant Grove Boulevard to LOS "A" (V/C 0.50).
- A second left turn lane on the westbound approach, a third left turn lane on the southbound approach, and second through lane on both the northbound and southbound approaches, to improve the intersection of Foothills Boulevard and Cirby Way to LOS "B" (V/C 0.70).
- Implement Mitigation Measure 4.7-3(b)(ii), which would result in LOS "C" (V/C 0.78) at the intersection of Fiddyment Road and Baseline Road using the Roseville methodology.

4.7-5a Implement Mitigation Measure 4.7-2a.

4.7-5b Consistent with Mitigation Measure 4.7-2a, the proposed project shall contribute its fair share toward the following improvements in Sacramento County:

1. Widen Watt Avenue to six lanes from the Placer County line to Elverta Road to provide LOS "D" (0.87).
2. Widen Watt Avenue to six lanes from Elverta Road to Antelope Road to provide LOS "C" (0.71).
3. Widen Watt Avenue to six lanes from Antelope Road to Elkhorn Boulevard to provide LOS "D" (0.90).
4. Widen Watt Avenue to six lanes from Elkhorn Boulevard to Don Julio Boulevard to provide LOS "D" (0.87).
5. Widen Elkhorn Boulevard to six lanes from Walerga Road to I-80 to provide LOS "E" (0.96)

4.7-6a Implement Mitigation Measure 4.7-2a.

4.7-6b Consistent with Mitigation Measure 4.7-2a, the proposed project shall contribute its fair share toward the following intersection improvements in Sacramento County:

1. Install a traffic signal to improve the intersection of Elwyn Avenue and Elverta Road to LOS "C" (V/C 0.74) in the a.m. peak hour and LOS "D" (V/C 0.82) in the p.m. peak hour.
2. Install a traffic signal to improve the intersection of 16th Street and Elverta Road to LOS "E" (V/C 0.90) in the a.m. peak hour and LOS "D" (V/C 0.87) in the p.m. peak hour.

3. Construct a second exclusive left turn lane on the southbound approach to improve the intersection of Watt Avenue and Antelope Road to LOS "E" (V/C 0.93) in the p.m. peak hour.
4. Construct a second exclusive right turn lane on the westbound approach to improve the intersection of Walerga Road and Elkhorn Boulevard to LOS "D" (V/C 0.87) in the p.m. peak hour.
5. Construct a third northbound through lane to improve the intersection of Watt Avenue and Don Julio Boulevard to LOS "D" (V/C 0.87) in the p.m. peak hour.
6. Construct a third northbound through lane to improve the intersection of Watt Avenue and Air Base Drive to LOS "C" (V/C 0.80) in the a.m. peak hour and LOS "D" (V/C 0.86) in the p.m. peak hour.
7. Construct a second westbound left turn lane to improve the intersection of Watt Avenue and Roseville Road to LOS "E" (V/C 0.92) in the p.m. peak hour.

4.7-8a Implement Mitigation Measure 4.7-2a.

4.7-8b Consistent with Mitigation Measure 4.7-2a, the proposed project shall contribute its fair share toward the following improvements in Sutter County:

1. Install a signal at the intersection of Riego Road and Natomas Road to provide LOS "A" (V/C ratio 0.60) in the a.m. peak and LOS "B" (V/C 0.62) in the p.m. peak.
2. Install a signal at the intersection of Riego Road and Pleasant Grove Road (North) to provide LOS "C" (V/C ratio 0.70) in the a.m. peak and LOS "B" (V/C 0.64) in the p.m. peak.
3. Install a signal at the intersection of Riego Road and Pleasant Grove Road (South) to provide LOS "C" (V/C ratio 0.77) in the a.m. peak and LOS "C" (V/C 0.74) in the p.m. peak.
4. At the intersection of Highway 99/77 and Riego Road, construct a third northbound and southbound through lane (2,000 to 3,000 feet long) to provide LOS "D" (V/C ration of 45.5 seconds) in the a.m. peak Or Construct the Highway 77/99 interchange at Riego Road.

4.7-9a Implement Mitigation Measure 4.7-2a.

4.7-9b Consistent with Mitigation Measure 4.7-2a, the proposed project shall contribute its fair share toward the following improvements:

1. Widen Hwy 65 to six lanes from Blue Oak Boulevard to Galleria Boulevard.
2. Widen Interstate 80 to ten lanes from Antelope Road to Riverside Avenue.
3. Widen Interstate 80 to eight lanes from Riverside Avenue to Douglas Boulevard.
4. Widen Business 80 to eight lanes from Fulton Avenue to Watt Avenue.
5. Consider construction of additional lanes on Interstate 80 from Auburn Boulevard to Madison Avenue, or other improvements.

4.7-10a A Community Service Area (CSA) shall be established to fund the cost of transit services listed in this section, and any related capital costs for buses, passenger amenities, and facilities.

4.7-10b Bus shelters shall be placed along major roadways at one-half-mile intervals serving Medium-Density, High-Density, Commercial and Office land use designations.

4.7-12 Implement Mitigation Measure 4.7-2a.

4.7-13a Implement Mitigation Measure 4.7-2a.

4.7-13b Consistent with Mitigation Measure 4.7-2a, the proposed project shall contribute its fair share toward the following improvements:

i. A third northbound and southbound through lane, a second eastbound and westbound through lane, a second northbound, an eastbound and westbound left turn lane and a free eastbound right turn lane to improve the intersection of Walerga Road and PFE Road to LOS "F" (V/C 1.19) in the p.m. peak hour.

ii. A third northbound and southbound through lane to improve the intersection of Walerga Road and Town Center Drive to LOS "B" (V/C ratio 0.61) in the a.m. peak hour and LOS "C" (V/C 0.73) in the p.m. peak hour

iii. Conversion of the northbound right turn lane into a free right turn lane to improve the intersection of Watt Avenue and Dyer Lane to LOS "E" (V/C 0.94) in the a.m. peak hour and LOS "F" (V/C 1.03) in the p.m. peak hour.

iv. Convert the northbound right turn lane into a free right turn lane to improve the intersection of East Dyer Lane and Baseline Road to LOS "E" (V/C 0.92) in the a.m. peak hour.

4.7-14a Implement Mitigation Measure 4.7-2a.

4.7-14b Consistent with Mitigation Measure 4.7-2a, the proposed project shall contribute its fair share toward construction of a third southbound and northbound through lanes to the intersection of Fiddyment Road and Baseline Road to improve operations from LOS "E" to LOS "D." 4.7-14c Consistent with Mitigation Measure 4.7-2a, participate in the City of Roseville ITS/TDM program on a fair share basis as determined by the County in consultation with the City of Roseville.

4.7-15a Implement Mitigation Measure 4.7-2a.

4.7-15b Consistent with Mitigation Measure 4.7-2a, the proposed project shall contribute its fair share toward the following improvements in Sacramento County:

1. Widen Watt Avenue to six lanes from the Placer County line to Antelope Road, to reduce the V/C from 1.75 to 1.17 (LOS "F").
2. Widen Watt Avenue to eight lanes from Antelope Road to Elkhorn Blvd, to provide LOS "E."
3. Widen Sorento Road to four lanes from the Placer County line to Elverta Road, to provide LOS "A."
4. Widen Elwyn Avenue to four lanes from the Placer County line to Elverta Road, to provide LOS "A."
5. Widen 16th Street to four lanes from the Placer County line to Elverta Road, to provide LOS "B."

6. Widen Dry Creek Road to four lanes from the U Street to Ascot Avenue, to provide LOS "C."

4.7-16a Implement Mitigation Measure 4.7-2a.

4.7-16b Consistent with Mitigation Measure 4.7-2a, the proposed project shall contribute its fair share toward the following improvements in Sacramento County:

1. Construct a second left turn lane on the eastbound approach to improve the intersection of Sorento Road and Elverta Road to LOS "F" conditions (V/C 1.11) during the a.m. peak hour.
2. Construct a second left turn lane on the eastbound approach to improve the intersection of Elwyn Avenue and Elverta Road to LOS "E" conditions (V/C 0.94) during the p.m. peak hour.
3. Construct a second left turn lane on the eastbound approach to improve the intersection of Palladay Road and Elverta Road to LOS "F" conditions (V/C 1.07) during the p.m. peak hour.
4. Construct a second through lane on the northbound and southbound approaches, and a right turn lane on the eastbound and westbound approaches to improve the intersection of 16th Street and Elverta Road to LOS "B" conditions (V/C 0.66) during the a.m. peak hour and to LOS "C" conditions (V/C 0.77) during the p.m. peak hour.
5. Construct a third through lane on the eastbound and westbound approaches at the Watt Avenue and Elverta Road intersection to provide LOS "F" conditions (V/C 1.11) during the p.m. peak hour.
6. Construct a third through lane on the northbound and southbound approaches at the Walerga Road and Elverta Road intersection to provide LOS "F" conditions (V/C 1.16) during the a.m. peak hour.
7. Construct a third through lane on the northbound and southbound approaches, and second left turn lane on the westbound approach at the Watt Avenue and Antelope Road intersection to provide LOS "C" (V/C 0.80) conditions during the p.m. peak hour.
8. Construct a second through lane on the northbound approach at the Dry Creek Road and Elkhorn Boulevard intersection to provide LOS "E" conditions (V/C 0.99) during the p.m. peak hour.
9. Construct a fourth through lane on the northbound and southbound approaches at the Watt Avenue and Elkhorn Boulevard intersection to provide LOS "E" (V/C 0.94) in the a.m. peak hour and LOS "F" conditions (V/C 1.14) during the p.m. peak hour.
10. Construct a second left turn lane and a second right turn lane on the westbound approach at the Walerga Road and Elkhorn Boulevard intersection to provide LOS "E" conditions (V/C 0.94) during the p.m. peak hour.
11. Construct a third through lane on the northbound approach and a second westbound right turn lane at the Watt Avenue and Air Base Drive intersection to provide LOS "E" conditions (V/C 0.91) during the p.m. peak hour.

12. Construct a second left turn lane on the westbound approach at the Watt Avenue and Roseville Road intersection to provide LOS "F" conditions (V/C 1.24) during the p.m. peak hour.

4.7-17a Implement Mitigation Measure 4.7-2a.

4.7-17b Consistent with Mitigation Measure 4.7-2a, the proposed project shall contribute its fair share toward the following improvements in Sutter County:

1. Widen Pleasant Grove Road to four lanes from Riego Road to the Sacramento County line.

4.7-18a Implement Mitigation Measure 4.7-2a.

4.7-18b Consistent with Mitigation Measure 4.7-2a, the proposed project shall contribute its fair share toward the following improvements in Sutter County:

i. Construct a second left turn lane on the southbound approach, to improve the intersection of Pleasant Grove Road (North) and Riego Road to LOS "D" (VC ratio 0.83) in the a.m. peak LOS "D" conditions (V/C 0.87) in the p.m. peak.

ii. Construct a second left turn lane on the northbound and westbound approaches, to improve the intersection of Pleasant Grove Road (South) and Riego Road to LOS "C" (VC ratio 0.78) in the a.m. peak LOS "D" conditions (V/C 0.87) in the p.m. peak.

4.7-19a Implement Mitigation Measure 4.7-2a.

4.7-19b Consistent with Mitigation Measure 4.7-2a, the proposed project shall contribute its fair share toward the following improvements on State highway.

1. Widen Hwy 70/99 to six lanes from Riego Road to Elkhorn Boulevard.
2. Widen Hwy 65 to six lanes from Blue Oak Boulevard to Galleria Boulevard.
3. Widen Interstate 80 to twelve lanes from Longview Drive to Watt Avenue.
4. Widen Interstate 80 to ten lanes from Antelope Road to Douglas Boulevard.
5. Consider construction of additional lanes on Interstate 80 from Auburn Boulevard to Madison Avenue or other improvements.

4.7-21 Placer County shall coordinate with the City of Roseville, Sacramento County, Sutter County and Caltrans to ensure that roadway improvements implemented in whole or in part as mitigation for the proposed project are designed to minimize impacts on existing and future roadways and intersections.

4.7-22 Implement the following or similar Mitigation Measures:

- 4.3.2-2a and b, which require site-specific drainage studies and measures to ensure that project flows can be accommodated by storm drainage infrastructure;
- 4.3.2-3e, which requires that new development demonstrate that there will be no increase in the water surface elevation of the 100-year flood plain;
- 4.4-15, -16, -17, -18, -20, -21, -22, -23, -24, -25, and -26, which require surveys for special status species and their habitat, habitat avoidance and compensation where needed, and protection of nesting raptors;

- 4.6-2a-h, requiring archaeological surveys and appropriate treatment of cultural resources encountered during construction;
- 4.9-3, which limits the hours during which noisy equipment can be used and requires effective mufflers;
- 4.9-4, which requires site-specific acoustical analyses during roadway design and noise attenuation features as needed; and
- 4.12-21a-f, which require Phase 1 Site Assessments to identify potential contamination, and specify how to handle potential hazards to minimize the risk of exposure.

6.7-15a Consistent with Mitigation Measure 4.7-2a, construct Watt Avenue to eight lanes (or a one-way couplet) from Antelope Road to Don Julio Boulevard, to provide LOS "D" (V/C 0.90).

Air Quality

4.8-1a Construction contractors shall be required to submit a construction emission/dust control plan for approval by the PCAPCD prior to any ground disturbance. At a minimum, this plan shall include the following measures:

- Water exposed earth surfaces as necessary to eliminate visible dust emissions (at least one water truck will be available for every three pieces of earthmoving equipment);
- Suspend grading operations when wind is sufficient to generate visible dust clouds;
- Pave, use gravel cover or spray a dust control agent on all haul roads;
- Wash down all earthmoving construction equipment daily, and wash down all haul trucks leaving the site;
- Cover all trucks delivering or exporting soil, sand, and other loose materials to ensure that all trucks hauling such materials maintain at least two feet of freeboard;
- Institute measures to reduce wind erosion when site preparation is completed;
- Install sandbags or other erosion control measures to prevent silt runoff onto public roadways;
- Provide graveled, paved or grass-covered areas for construction employee vehicle parking; and
- The site contractor shall retain a CARB certified individual to routinely perform Visible Emissions Evaluations (VEE) to ensure compliance with Rule 228, Fugitive Dust. Fugitive dust shall not exceed 40% opacity and shall not go beyond property boundaries at any time. The designee's duties shall include holiday and weekend periods when work may not be in progress.

Immediately following any mass grading phase, the following dust control measures shall be implemented:

- Apply soil stabilizers or commence reestablishing ground cover to construction areas within 96 hours of completing grading activities;
- Develop and implement a wind erosion monitoring program for areas which will remain inactive for extended periods; this program should at a minimum provide for weekly monitoring of inactive sites to assess the effectiveness of wind erosion controls.

4.8-1b Contractors shall be required to reduce NOx and ROG emissions by complying with the construction vehicle air pollutant control strategies developed by the PCAPCD. Contractors shall include in the construction contracts the following requirements or measures shown to equally effective:

- Construction equipment operators shall shut off equipment when not in use to avoid unnecessary idling. Generally, vehicle idling should be kept below 10 minutes.
- Contractor's construction equipment shall be properly maintained and in good working condition.
- The site contractor shall retain a CARB certified individual to routinely evaluate project related off-road and heavy duty on-road equipment emissions for compliance with Rule 202, Visible Emissions.
- The prime contractor shall ensure that emissions from all off-road diesel powered equipment used in the Specific Plan area do not exceed 40% opacity for more than three minutes in any one hour. Any equipment found to exceed the 40% opacity shall be repaired immediately, and the County of Placer and the PCAPCD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual results shall be submitted to the County of Placer and the PCAPCD throughout the duration of construction in the Specific Plan area, except that a monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The PCAPCD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supersede other PCAPCD or state rules or regulations.
- The prime contractor shall submit to the PCAPCD a comprehensive inventory (i.e. make, model, year, emission rating) of all heavy-duty off-road equipment (50 horsepower or greater) that will be used an aggregate of 40 hours or more for the construction project. PCAPCD personnel, with assistance from the California Air Resources Board, will conduct initial Visible Emissions Evaluations of all heavy duty equipment on the inventory list.

4.8-1c The project shall provide a plan, for approval by the Placer County Air Pollution Control District, demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used for any construction projects undertaken within the Specific Plan area over its planning lifetime, including owned, leased and subcontractor vehicles, will achieve a project-wide fleet-averaged 20% NOx reduction and 45% particulate reduction compared to the most recent annual CARB off-road construction fleet average for western Placer County. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. Contractors can access the Sacramento Metropolitan Air Quality Management District's web site to determine if their off-road fleet meets the requirements listed in this measure.

(See http://www.airquality.org/ceqa/Construction_Mitigation_Calculator.xls)

4.8-1d Construction contractors shall be required to use low-VOC architectural coatings and asphalt in compliance with District Rules and Regulations. Contractors shall also be required to fuel

stationary construction equipment with low-sulfur fuels, and use existing power sources (e.g., power poles) or clean fuel generators in place of temporary diesel power generators whenever feasible.

4.8-1e Construction contractors shall be required to provide management of construction traffic. Contractors shall include in the construction contracts the following requirements:

- Contractors shall provide temporary traffic control during all phases of construction activities to improve traffic flow (i.e. flag person);
- Contractors shall configure construction parking to minimize traffic interference;
- Contractors shall endeavor to schedule construction activities that affect traffic flow to off-peak hours (e.g. between 7:00 p.m. and 6:00 a.m. and between 10:00 a.m. and 3:00 p.m.);
- Contractors shall reroute construction traffic off congested streets; and
- Contractors shall provide dedicated turn lanes for movement of construction equipment on- and off-site.

4.8-3a The following guidelines shall be used by the County during review of future project-specific submittals for non-residential development within the Specific Plan area in order to reduce generation of air pollutants with intent that specified measures be required where feasible and appropriate:

- Include in all new parking lots tree plantings designed to result in 50% shading of parking lot surface areas within 15 years. Incorporated by reference in this measure are the City of Sacramento Parking Lot Tree Shading Design and Maintenance Guidelines dated June 17, 2003 (see EIR Appendix U). Also, see Specific Plan Policy 6.25;
- Equip HVAC units with a PremAir or similar catalyst system, if reasonably available and economically feasible at the time building permits are issued. Catalyst systems are considered feasible if the additional cost is less than 10% of the base HVAC unit cost;
- Install two 110/208 volt power outlets for every two loading docks;
- Promote passive solar building design and landscaping conducive to passive solar energy use (i.e., building orientation in a south to southwest direction where feasible, encouraging planting of deciduous trees on western sides of structures, landscaping with drought-resistant species, and including groundcovers rather than pavement to reduce heat reflection). Landscaping plans shall prohibit the use of liquidambar and eucalyptus trees that produce smog-forming compounds (high emission factors for isoprenes); and
- Implement the following, or equivalent measures, as determined by the County in consultation with the APCD:

  ◎ Establish building guidelines that encourage the use of low-absorptive coatings on all building surfaces and Energy Star roofing products on all roofs, if reasonably available and economically feasible, at the time building permits are issued;

  ◎ Establish paving guidelines that require businesses, if feasible, to pave all privately-owned parking areas with a substance with reflective attributes (albedo = 0.30 or better) similar to cement concrete. The use of a paving substance with reflective attributes

similar to concrete is considered feasible under this measure if the additional cost is less than 10% of the cost of applying a standard asphalt product; and

◎ Power all off-road equipment used at office, industrial, and commercial uses by the lowest-emission technology reasonably available at the time building permits are issued.

4.8-3b The following measures shall be used singularly or in combination to accomplish an overall reduction of 10 to 20% in residential energy consumption relative to the requirements of State of California Title 24:

- Use of air conditioning systems that that are more efficient than Title 24 requirements;
- Use of high-efficiency heating and other appliances, such as water heaters, cooking equipment, refrigerators, and furnaces;
- Installation of photovoltaic rooftop energy systems; and
- Establishment of tree-planting guidelines that require residents to plant trees to shade buildings primarily on the west and south sides of the buildings. Use of deciduous trees (to allow solar gain during the winter) and direct shading of air conditioning systems shall be included in the guidelines.

4.8-3c Promote a reduction in residential emissions through implementation of the following measure:

- Prohibit any wood-burning fireplaces, woodstoves, or similar wood-burning devices. Homes may be fitted with UL rated natural gas burning appliances if desired. This prohibition shall be included in any CC&Rs that are established.

4.8-3d For all projects, use the lowest-emitting architectural coatings during construction. When zero-VOC coatings are commercially available, they should be used. When only low-VOC coatings are available, they shall be used in lieu of higher-emitting formulations. Design review submittals shall include information concerning the coatings products proposed for use in the project.

4.8-3e Bicycle usage shall be promoted by requiring the following:

- All non-residential projects shall provide bicycle lockers and/or racks;
- All apartment complexes or condominiums without garages shall provide at least two Class I bicycle storage spaces per unit;
- Require residential neighborhoods to be interconnected, with easy access to commercial and recreational land uses. All neighborhoods shall have access to the Class I bicycle trails without having to travel on an arterial street. All schools and public parks (except neighborhood tot lots) shall be connected with a Class I bicycle trail through the open space and greenbelts;
- A pedestrian/bikeway (P/B) Master Plan shall be developed for the entire Specific Plan area. This master plan shall be consistent with the guidelines established in the Placer County Regional Bikeway Plan and in the Specific Plan; and
- As each residential phase is constructed, each subdivision shall install its share of the overall P/B network, and ensure that the layout of each residential phase does not interfere with completion of the overall P/B network. Residential areas adjacent to open space corridors shall provide reasonable access to the Class I P/B trails located in the

corridors. These Class I corridors shall provide linkages with the comprehensive network of other trails throughout the Specific Plan area. The P/B Master Plan shall provide linkages from all residential neighborhoods to all commercial areas. Non-vehicular access shall consist of a network of convenient linkages of Class I, II and III trails.

4.8-3f Transit usage and ride sharing shall be promoted by requiring participation in the development of a regional transit system at such time as a system is established and setasides of land for park-and ride facilities. Fair share participation may consist of dedication of right-of-way, easements, capital improvements, and/or other methods of participation deemed appropriate. In addition, future project design shall ensure that an adequate number of developers in the Specific Plan area provide reservations for future installations of bus turnouts and passenger benches and shelters, to be installed at such time as transit service is established and as demand and service routes warrant. The two transit centers shall be connected with the Class I bicycle trail. The Specific Plan shall provide for set-asides of land for two separate park-and-ride facilities. Construction of the park-and-ride facilities shall be phased over the buildout period of the project, with the first 50 spaces in place prior to issuance of the 3,000th residential building permit. Prior to issuance of the 6,000th residential building permit another 50 spaces shall be provided, followed by 50 more prior to the 9,000th residential building permit. Forty-three more spaces shall be provided prior to issuance of the 12,000 residential building permit for a total of 193 spaces to be constructed (equal to 0.1% of the anticipated daily trip generation of the project). A public transit development fee shall be required for all development projects. The amount of this fee shall be based upon the traffic generation potential of each project. A dial-a-ride transportation system shall be established to reduce individual vehicle trips and establish data for the eventual formation of a transit system within the Specific Plan area.

An Air Quality and Transportation System Management (TSM) Plan shall be prepared for the Specific Plan to implement all feasible means of reducing Specific Plan area emissions. This plan shall provide for eventual public transit and implementation of trip reduction strategies that coordinate with surrounding areas. A Transportation Management Association (TMA) shall be established that shall be funded by the developer and all businesses located within the Specific Plan area. The TSM plan shall be updated annually by TMA staff to demonstrate compliance with all air quality requirements, and to incorporate the latest state-of-the-art techniques and strategies to reduce emissions. Initially, the TMA shall provide each home and business with an information packet that will contain, at a minimum, the following information:

- Commute options: to inform Specific Plan area occupants of the alternative travel amenities provided, including ridesharing and public transit availability/schedules;
- Maps showing Specific Plan area pedestrian, bicycle, and equestrian paths to community centers, shopping areas, employment areas, schools, parks, and recreation areas;
- Instructions on how to use TMA services that will facilitate trip reduction opportunities; and
- Information regarding PCAPCD programs to reduce county-wide emissions.

4.8-3g All projects requiring issuance of residential and non-residential building permits shall participate in an off-site mitigation program coordinated through the PCAPCD to offset NOx and ROG emissions not mitigated through on-site measures.

The PCAPCD, on behalf of Placer County, will determine air quality mitigation fees using calculation methodology established in practice and routinely applied to other, similar, contemporaneous land use development projects. The off-site mitigation program, coordinated through the PCAPCD, is designed to offset the project's longterm ozone precursor emissions. Monetary incentives shall be provided to sources of air pollutant emissions within the project's general vicinity that are not required by law to reduce their emissions. Therefore, the reductions are real, quantifiable and implement provisions of the 1994 State Implementation Plan. The off-site mitigation program reduces emissions within the region that would not otherwise be eliminated and thereby "offsets" the project's increase to regional emissions.

4.8-3h School districts shall be encouraged to incorporate the following measures into the design, construction, and operation of elementary, middle and high school buildings and facilities: • Install bicycle lockers and racks at all appropriate locations;

- Post signage prohibiting the idling of diesel vehicles for longer than five minutes;
- Construct at least one bus stop at a convenient location to be used for either fixed route service within the Specific Plan area or commuter service;
- Provide a community notice board and information kiosk with information about community events, ride-sharing, and commute alternatives;
- Provide preferential parking for carpools and hybrid vehicles (vehicles with selfcharging electric engines); and
- Incorporate solar water heating systems and HVAC PremAir or similar catalyst systems in building design.

4.8-3i The following measures shall be incorporated into the design, construction, and operation of public park areas:

- The pedestrian/bikeway (P/B) master plan shall provide at least one Class I linkage to all school sites;
- Additional Class I and II linkages shall be provided so as to provide convenient access to/from the park sites;
- Install bicycle lockers and racks at all appropriate locations;
- Provide a community notice board and information kiosk with information about community events, ride-sharing, and commute alternatives;

4.8-3j Prohibit open burning throughout the Specific Plan area. Include this prohibition in any project CC&Rs that are established.

4.8-3k The County may substitute different air pollution control measures for individual projects, that are equally effective or superior to those proposed herein, as new technology and/or other feasible measures become available in the course of buildout of the Specific Plan area.

4.8.5 Notice shall be provided in the recorded Covenants, Codes and Restrictions of all lots created within 500 feet of the proposed lift station that there is the potential for odors to result from lift station operations and maintenance.

4.8-6a The operators shall obtain an Authority to Construct/NSR permit and a Permit to Operate from the air district with jurisdiction prior to addition and operation of new facilities.

4.8-6b Potential odor effects shall be mitigated by installing or maintaining existing odor control systems, including odor scrubbers or chemical addition, for all screening facilities and grit/primary sedimentation facilities.

4.8.6c The County shall ensure that notice is provided in the recorded Covenants, Codes and Restrictions of all lots created within 500 feet of the proposed lift stations that there is the potential for odors to result from lift station operations and maintenance.

Noise

4.9-2 When specific uses are proposed, they shall be reviewed for their potential to produce significant noise impacts and, as required, noise studies shall be conducted to determine the most effective and practical mitigation measures. Mitigation measures shall be applied to assure that new stationary sources do not exceed adopted noise standards. Mitigation measures shall be consistent with the Noise Element of the Placer County General Plan, including use of setbacks, barriers, and other standard noise mitigation measures.

4.9-3 The hours of operation of noise-producing equipment shall comply with Placer County's "Standard Construction Noise Condition of Approval." Effective mufflers shall be fitted to gas- and diesel- powered equipment to reduce noise levels as much as possible.

4.9-4 Site-specific acoustical analyses shall be conducted when actual roadway design and tentative subdivision map design are proposed and grading is established to determine setbacks and any other measures (e.g. berms, site design, location of structures, noise walls/barriers) required to reduce traffic noise to level that meet County and Specific Plan noise standards, and Specific Plan design standards.

Population, Employment, and Housing

No mitigation measures

Public Services

4.11.2-1 The staffing ratios contained in Table 4.11-1 shall be maintained for the Specific Plan area during all phases of development concurrent with demand. The applicants shall be required to establish a special benefit assessment district or other funding mechanism to assure adequate funding for the ongoing maintenance and operation of fire protection and related services, with funding responsibilities imposed on residential and commercial properties within the Specific Plan area, including the costs for services required to satisfy Placer County Fire Department staffing requirements set forth above. The funding mechanism shall be subject to the prior review and approval of Placer County, and shall be approved by the affected landowners prior to recordation of the first final subdivision map. It shall be maintained until such time as the County determines that property tax revenues are adequate to maintain the required staffing.

4.11.2-2a A minimum of two fire stations shall be provided to serve the Specific Plan area at buildout, which shall be fully funded and equipped (i.e., desks, computers, telephones, radio systems, beds, refrigerators and all other needs).

4.11.2-2b The western fire station shall be constructed and equipped, at a location approved by the Placer County Fire Department, prior to issuance of a certificate of occupancy for the first dwelling unit located west of Watt Avenue. This first station may initially be located in a temporary building or location; however, a permanent station shall be available for

occupancy within 18 months of issuance of the certificate of occupancy for the first dwelling unit located West of Watt Avenue. The eastern fire station shall be constructed and equipped, at a location approved by the Placer County Fire Department, prior to issuance of a building permit for the 5,000th dwelling unit.

4.11.2-2c Formation of a County Services Area (CSA), a Community Facilities District (CFD), or expansion of CSA #28, including a landowner-approved special tax of an adequate amount or other financing mechanism acceptable to the County, shall be required prior to recordation of the first final subdivision map to ensure that a funding mechanism for fire protection infrastructure and equipment is in place to provide adequate fire safety services in the Specific Plan area during all stages of development. Required fire stations shall be completed and fully staffed and equipped prior to the issuance of certificates of occupancy. Fire stations shall be located on sites readily accessible to service areas and final fire station locations shall be subject to approval by the Placer County Fire Department.

4.11.2-3a Development and subdivision design shall include adequate setbacks, as determined by the Placer County Fire Department, between open space/corridor areas and structures. Fire pre-suppression and suppression access easements to utility corridors and open space areas shall be required as part of the subdivision map process. Building envelopes or another method shall ensure separation of structures, and shall ensure access, as deemed appropriate by the Placer County Fire Department prior to approval of any tentative subdivision map.

4.11.2-3b A County Service Area (CSA), Community Facilities District (CFD), or Zone of Benefit under CSA #28, or other entity for sustainable park maintenance shall be formed for the Specific Plan area prior to recordation of the first final subdivision map. Funds for a fuels reduction program for open spaces and corridors shall be included in the financing arrangement by a vote of the landowners prior to recordation of the first final subdivision map. The maintenance entity shall establish and identify ongoing funding for a continuous maintenance program for vegetation (both wildland and landscaped) in any and all open space, vacant areas, and landscape trail, easement and corridor areas within the Specific Plan area prior to recordation of the first final subdivision map.

4.11.2-3c The developers shall fund a fire-safe plan for the subdivisions adjacent to wildland (natural, landscape, and corridor) areas. The fire-safe plan shall include a fuels management plan, and recommend building separations and distances from wildland areas, evacuation and access routes, fire safety zones and maintenance schedule prior to approval of tentative subdivision maps.

4.11.3-1 The staffing ratios contained in Table 4.11-2 shall be maintained for the Specific Plan area. The applicants shall be required to establish a special benefit assessment district or other funding mechanism to assure adequate funding for the ongoing maintenance and operation of law enforcement services, with funding responsibilities imposed on residential and commercial properties within the Specific Plan area, including the costs for services required to satisfy the staffing standards set forth above and General Plan standards now in existence or as later amended. The funding mechanism shall be subject to the prior review and approval of Placer County.

4.11.3-2a The project developer(s) shall comply with Placer County Policy 4.H.4, which requires that all future development either fund or develop law enforcement facilities. The project developer(s) shall dedicate land for development of a 19,000-square foot substation prior to recordation of the first final subdivision map. Said development shall be consistent with the

requirements of the County, the needs of the County Sheriff's Department and the County Facilities Services Department. Compliance with Policy 4.H.4 shall include formation of a County Service Area (CSA), Community Facilities District (CFD), or expansion of CSA #28 for the construction of an equipped Sheriff's substation prior to recordation of the first final subdivision map.

4.11.3-2b The project developer(s) shall enter into a Development Agreement with Placer County prior to recordation of the first final subdivision map for facilities, staffing, and the purchase and scheduled replacement of the number of equipped vehicles needed as determined by the Sheriff in the same frequency and manner currently used by the County in its patrol vehicle replacement program. All patrol vehicles shall include the necessary equipment to accomplish the mission of the Placer County Sheriff's Department or as otherwise required by the Sheriff.

4.11.3-3 Law enforcement personnel shall have access to and visibility of schools, parks and open spaces, pedestrian areas shall be well lighted and designed in such a manner as to maximize the safety of pedestrians, and buildings shall be designed and sited to provide a safe environment. Improvement plans submitted for review and approval by the Placer County Planning Department shall be accompanied by a written explanation regarding the manner in which the design of the improvements achieves compliance with these requirements.

4.11.5-1a Contractors shall be required to provide on-site separation of construction debris to assure a minimum 50% diversion of this material from the landfill.

4.11.5-1b Projects in the Specific Plan area shall contribute a fair share amount toward expansion of the MRF (including accommodation of a greenwaste program for Placer Vineyards) and landfill to the Western Placer Waste Management Authority. A mechanism for ensuring that this is implemented shall be described in the Development Agreement for the Specific Plan.

4.11.5-1c A source-separated greenwaste program shall be implemented within the Specific Plan area, subject to review and approval by the Western Placer Waste management Authority.

4.11.5-1d The Specific Plan proponents shall present a plan for County approval that meets the requirements of Placer County Code Section 8.16.080. The plan shall ensure the development and continuous operation and maintenance of recycling centers within the Specific Plan area. Recycling centers shall accept all types of recyclable waste, shall be fenced and screened from view, and shall be located in commercial or industrial areas dispersed throughout the Specific Plan area. The first recycling center shall be established upon issuance of the 1500th residential building permit.

4.11.6-1a Prior to recordation of any large-lot final subdivision map, all required steps shall be taken to initiate formation of a new County Service Area (CSA, or expansion of CSA #28. Major core backbone infrastructure as shown on Figure 3-17A or Figure 3-17B in Chapter Three of this Revised Draft EIR shall be in place prior to recordation of the first final small lot subdivision map. Other on-site collection and conveyance facilities shall be constructed as necessary to serve actual development (except as required in Mitigation Measure 4.11.6-1g).

4.11.6-1b All new commercial, industrial, institutional, and residential subdivisions in the Specific Plan area shall install collection systems and connect to a public wastewater system.

4.11.6-1c All new development in the Specific Plan area shall comply with General Plan Policy 4.D.2, which requires written certification from the service provider that either existing services are

available or needed improvements will be made prior to occupancy to meet wastewater demands of the Specific Plan.

4.11.6-1d Approval of the Specific Plan shall be premised on concurrent County approval of a financing plan that will provide for funding the necessary wastewater collection facilities needed to serve the Specific Plan area, and implemented through approval for formation of a County Service Area (CSA) or expansion of CSA #28 and a corresponding funding mechanism.

4.11.6-1e The Specific Plan proponents shall construct or participate financially in the construction of off-site wastewater conveyance capacity, including lift stations, to accommodate projected wastewater flows that would be generated by development of the Specific Plan.

4.11.6-1f Adequately sized on-site collection facilities, including lift stations, shall be installed for each subdivision in the Specific Plan area concurrent with road construction for individual subdivisions. A "backbone" conveyance system sufficient to serve each subdivision shall be installed prior to issuance of building permits for that subdivision.

4.11.6-1g The Sewer Master Plan shall be revised prior to submission of any wastewater--related improvement plans to include a detailed description of necessary lift station components on-site as well as off-site. The Master Plan shall include a plan for dealing with power and pump failure, and pump maintenance. The plan shall identify how necessary pumping capacity will be replicated in the event of pump failure or pump maintenance, and shall provide for on-site back-up power sufficient to run pumps and any odor scrubbers, in the event of power failure. Each lift station shall include a wastewater storage component in the form of an enclosed reservoir or tank sufficient to deal with temporary emergency conditions while backup systems are brought on line, in accordance with sizing standards utilized by the County Department of Facility Services.

4.11.6-2a Commitments from the wastewater treatment provider to receive anticipated flows from the Specific Plan area at the DCWWTP and/or the SRWTP shall be secured by Placer County prior to County approval of improvement plans for wastewater collection and transmission infrastructure. The County shall comply with General Plan Policy 4.D.2, which requires written certification from the service provider that either existing services are available or needed improvements will be made prior to occupancy to meet wastewater demands of the Specific Plan area.

4.11.6-2b Specific Plan proponents shall participate financially through connection fees and other financial mechanisms in the construction of additional wastewater treatment capacity sufficient to accommodate projected flows and treatment at the DCWWTP and/or the SRWTP. In addition, Specific Plan proponents shall prepare, or shall provide a fair share contribution toward the preparation of any additional CEQA analysis that may be required for plant modifications and/or expansions.

4.11.6-2c For each increment of new development within the Specific Plan area, the County shall confirm that all necessary permits (e.g., NPDES) are in place for either the DCWWTP or the SRWTP to discharge additional treated effluent in the amounts associated with the new development. This shall include a determination that development timing will not impede other development for which entitlements have been issued. The requirement for such a showing shall be made a condition of any small lot tentative map approval associated with the new development and shall be verified by the County prior to recordation any final map

associated with the new development. Where no small lot tentative map and final map are required prior to non-residential development having the potential to increase wastewater flows, the requirement for such verification, to be demonstrated no later than the time of issuance of building permits, shall be made a condition of approval of project-level discretionary approvals analogous to issuance of small-lot tentative maps.

4.11.6-3a Design of on- and off-site sewer pipelines shall have watertight joints and be in accordance with design standards adopted by Placer County in order to minimize the potential for accidental discharge.

4.11.6-3b Paved access shall be provided to all sewer system access points to allow for pipeline maintenance and repair.

4.11.6-6 Should expansion of the SRWTP treatment plant be pursued to serve the Specific Plan area, a Treatment Plant Master Plan Update will be needed and additional analysis of water quality impacts on the Sacramento River will be required in a cumulative context. This analysis shall be performed in a manner similar to and at the same level of detail as the analysis contained in the EIR for the current Master Plan, and shall be consistent with standards established by RWQCB and SRCSD. All recommendations of the analysis shall be implemented utilizing a fair share funding arrangement with Placer Vineyards project proponents.

4.11.7-1a Prior to approval of any small lot tentative subdivision map for a proposed residential project of more than five hundred dwelling units, the County shall comply with Government Code Section 66473.7. Prior to approval of any small lot tentative subdivision map for a proposed residential project of 500 or fewer units, the County need not comply with Section 66473.7, or formally consult with PCWA or other public water system, but shall nevertheless make a factual showing or impose conditions similar to those required by Section 66473.7 in order to ensure an adequate water supply for development authorized by the map. Prior to recordation of any final small lot subdivision map, or prior to County approval of any similar project-specific discretionary approval or entitlement required for nonresidential uses, the applicant shall demonstrate the availability of a long-term, reliable water supply from a public water system for the amount of development that would be authorized by the final subdivision map or project-specific discretionary nonresidential approval or entitlement. Such a demonstration shall consist of a written certification from the water service provider that either existing sources are available or that needed improvements will be in place prior to occupancy.

4.11.7-1b The Specific Plan proponents shall, comply with PCWA water conservation strategies as described in PCWA's Urban Water Management Plan.

4.11.7-1c Prior to approval of any small lot tentative subdivision map or similar project level discretionary approval for land uses that do not require a tentative subdivision map, the Placer County Water Agency (PCWA) shall perform an analysis of the remaining wheeling capacity in the City of Roseville's system. This analysis shall consider all of the previously committed demand to Morgan Creek, Placer Vineyards, Regional University or other projects within southwest Placer County that rely on water conveyed through City of Roseville facilities and/or pursuant to the wheeling agreement between the City of Roseville and PCWA, as amended from time to time. The analysis shall be submitted to both the County and the City of Roseville. The County shall confirm with PCWA that uncommitted capacity remains to wheel the required amount of PCWA-supplied water to the Specific Plan area prior to approval of discretionary actions. In the event sufficient uncommitted capacity does

not exist, the County shall not grant the proposed tentative subdivision map or other project level discretionary approval until the County determines that a water supply not dependent on water from PCWA that is wheeled thru the Roseville system becomes available for the area at issue.

4.11.8-3a Plans for site-specific recycled water storage facilities shall include provisions for emergency storage, including redundant in-ground storage ponds or enclosed tanks capable of holding one day peak demand for the area served. All recycled water storage ponds shall be bermed to prevent inflow from surface sources and shall not be located where a direct discharge to a drainage course or natural waterway could occur if the pond should experience a containment failure. All storage ponds for recycled water shall be fenced to restrict access and posted with warning signs to reduce the potential for direct human contact with recycled water.

4.11.8-3b The project applicants shall be responsible for completing the Engineering Report that is required to be submitted to the State for the production, distribution and use of recycled water. Recycled water shall not be used until the Engineering Report is approved by the State.

4.11.8-3c Adequate storage and pumping facilities must be provided prior to connection to the recycled water system.

4.11.9-1a The Master Project Drainage Study shall be incorporated as part of Specific Plan approval by reference or other similar means.

4.11.9-1b Individual project drainage reports consistent with the County's Stormwater Management Manual and Grading Ordinance shall be submitted for each development project, including installation of backbone infrastructure. Drainage reports shall identify the proposed detention/retention basins that will serve the new development area or submit an interim detention basin design with supporting calculations subject to approval by County staff.

4.11.9-1c Drainage reports for development projects within the Specific Plan area shall comply with the current permit requirements of the NPDES Phase II (Attachment 4).

4.11.9-1d The Master Project Drainage Study shall be submitted to the Placer County Department of Public Works and reviewed and approved by the Department of Public Works prior to the recordation of the first large lot tentative map.

4.11.9-1e Individual project drainage reports shall be consistent with the approved Master Project Drainage Study.

4.11.9-2 Prior to recordation of the first small lot final subdivision map in the Specific Plan area, a drainage service area under a new County Service Area (CSA), existing CSA #28, or a Community Facilities District (CFD) shall be established for the Specific Plan area in compliance with law. The CSA or CFD shall identify and establish ongoing funding for a continuous drainage facility maintenance program.

4.11.10-1a The Specific Plan applicants and subsequent developers shall work closely with PG&E and SMUD to ensure that development of electrical and natural gas infrastructure with the capacity to service the entire Specific Plan area is located and provided concurrently with roadway construction and in accordance with PUC regulations. The applicant(s) shall grant all necessary easements for installation of electrical and natural gas facilities, including utility easements along existing and future on-site major arterial roads for the development of area-

wide utility corridors. Coordination with SMUD and/or PG&E shall occur, and any required agreements shall be established prior to recordation of the first final subdivision map.

4.11.10-1b Implement Mitigation Measures 4.8-3a through 4.8-3g as set forth in Section 4.8 of this Revised Draft EIR.

4.11.10-2a All locations and continuous maintenance access points for natural gas and electrical infrastructure are to be clearly marked or noted on tentative subdivision maps. Dedicated easements for utility maintenance equipment shall be recorded prior to or concurrent with acceptance and recordation of final maps.

4.11.10-2b Clear, unrestricted access shall be maintained beneath existing transmission lines that traverse the Specific Plan area. This may include provision for unobstructed access to gates in proposed fences that may surround such uses as the County corporation yard. Any realignment of transmission line paths shall be negotiated with PG&E. Structures shall only be allowed in those areas that do not restrict access and meet the requirements of PG&E.

4.11.12-1a Formation of a County Service Area (CSA), Community Facilities District (CFD), or expansion of CSA #28, or other financing mechanism acceptable to the County shall be required prior to recordation of the first final small lot subdivision map to ensure that immediate funding for adequate library infrastructure consistent with County standards is in place. The Specific Plan developers shall enter into a Development Agreement to ensure a fair share contribution to adequate library facilities, and that such facilities are available prior to demonstrated need.

4.11.12-1b Completion of one or more branch libraries to provide a minimum of 0.4 square feet per capita, dedication of land, and stocking with books and other materials necessary for a functioning library with a minimum of 2.2 volumes per capita and otherwise meeting the standards of the Auburn-Placer County Library Long-Range Plan, including any subsequent amendments, shall occur concurrent with demand.

4.11.12-1c Project developers shall be required to establish a special benefit assessment district or other funding mechanism to ensure adequate funding of the Specific Plan's fair share for the ongoing operation and maintenance of library facilities. Such funding mechanism shall be established prior to recordation of the first final subdivision map to ensure that immediate funding for adequate library operations and maintenance is in place.

4.11.13-1 Project developers in the Specific Plan area shall comply with the requirements of the General Plan by dedication and improvement of a minimum of 174 acres of active parkland and 174 acres of passive parkland. Project developers shall be responsible for dedicating and fully developing parks and or portions thereof, concurrent with demand in accordance with County levels of service. The County may require oversizing of neighborhood and larger type recreation parks, trails and facilities on a subdivision basis when it is deemed necessary and practical to serve the needs of future residents. In such cases, the County will enter into reimbursement agreements whereby future developments will pay initial developers for oversizing.

Concurrent with the construction of the community parks, project developers shall construct a park maintenance building and yard and provide maintenance equipment. The design and building materials, location and quantity of equipment shall be subject to the approval of the Department of Facility Services.

All plans and specifications shall be approved by the Department of Facility Services and/or the managing agency prior to the recordation of each final small lot subdivision map. A procedure or agreement to govern the acquisition of parklands and completed park improvements acceptable to the County and/or managing agency, and in compliance with applicable General Plan standards and policies, shall be in place prior to recordation of the first final small lot subdivision map.

The specific park plans shall be submitted to the County for approval prior to the final decision as to the number and location of facilities.

4.11.13-3 Project developers shall cause a new County Service Area (CSA) or Community Facilities District (CFD) to be formed, or expand CSA #28 for sustainable park maintenance and recreation programs for the Specific Plan area prior to recordation of the first final small-lot subdivision map. A procedure or agreement to govern park maintenance and local recreation programs shall also be finalized prior to recordation of the first final small-lot subdivision map within the Specific Plan area. This entity would thus have the ability to participate in design, inspection and acceptance of facilities, and determination of appropriate funding levels necessary to maintain these facilities and operate recreational programs. A park maintenance special tax or special assessment with a provision for increases indexed to the CPI shall be approved by the landowners (voters) of the Specific Plan area, to be developed prior to recordation of the first final subdivision map in the Specific Plan area. An indexing formula for maintenance and operation of recreational facilities and programs shall be in place prior to recordation of the first final subdivision map.

4.11.13-4 As a condition of Specific Plan approval, proponents shall submit a phased schedule for providing community recreation facilities for approval by the County Parks Division. This phasing plan shall comply with County levels of service for parks and recreational facilities. Funding for construction, operation and maintenance of these improvements shall be provided in accordance with Mitigation Measures 4.11.13-1 and 4.11.13-3. 4.11.14-2 Project developers shall establish a special benefit assessment district or other funding mechanism to ensure fair share funding for the ongoing operation and maintenance of general County services serving the Specific Plan area. This funding mechanism shall be established prior to recordation of the first final small lot subdivision map in the Specific Plan area to ensure that immediate funding for adequate general County services is in place.

4.11.14-3 The Specific Plan proponents shall submit a phased schedule for providing the above described general government facilities for approval by the County Executive Office. Funding for construction, operation and maintenance of these improvements shall be provided in accordance with Mitigation Measure 4.11.14-2.

Hazards and Hazardous Materials

4.12-1 The two USTs shall be removed and soil samples shall be collected and analyzed. In the event soil or water contamination has occurred above regulatory clean-up thresholds, remediation shall be performed consistent with State and County regulations. All required remediation shall be completed prior to recordation of any final small lot subdivision map on Property #7 (now Properties #4 and #7).

4.12-2 If sampling during removal of the UST for the Hilltop site should confirm concentrations of potential motor oil and/or TPH diesel contamination at or above the level of concern, the site shall be remediated as described in Mitigation Measure 4.12- 1.

4.12-3 Prior to recordation of any final small lot subdivision map on Property #7 (now Property #4), the open well shall be abandoned/destroyed according to California Well Standards, California Department of Water Resources Bulletin 74-90 Section 23, and Placer County Environmental Health Services requirements.

4.12-4 Additional sampling shall be performed at the Dyer Lane and Tanwood Avenue area of illegal dumping. If test results show that the level of concern is exceeded, remediation shall be required to meet State and County regulations. All remediation shall be completed prior to recordation of any final small lot subdivision map on Property # 9.

4.12-5 Prior to recordation of any final small lot subdivision map on Property #9, unused wells on-site shall be destroyed according to California Well Standards, California Department of Water Resources Bulletin 74-90 Section 23, and according to Placer County Division of Environmental Health Services requirements.

4.12-6a Additional sampling shall be performed on sites #10-1 and #10-2. If test results show that regulatory clean-up thresholds are exceeded, remediation shall be required to meet State and County regulations. All remediation shall be completed prior to recordation of any final small lot subdivision map on Property #10.

4.12-6b Prior to recordation of any final maps on Property #10, unused wells on-site shall be destroyed according to California Well Standards, California Department of Water Resources Bulletin 74-90 Section 23, and according to Placer County Division of Environmental Health Services requirements.

4.12-7a Additional sampling shall be performed on sites #11-1 and #11-2. If test results show that levels of concern are exceeded, remediation shall be required to meet State and County regulations. All remediation shall be completed prior to recordation of any final small lot subdivision map on Property #11.

4.12-7b Prior to recordation of any final maps on Property #11, unused wells on-site shall be destroyed according to California Well Standards, California Department of Water Resources Bulletin 74-90 Section 23, and according to Placer County Division of Environmental Health Services requirements.

4.12-8 Disposal of refrigerators, tires, batteries and similar materials by licensed waste haulers at approved waste disposal facilities shall be completed prior to recordation of any final maps on Property #15A (now Property # 22).

4.12-9 Additional sampling shall be performed on sites #15-1, #15-2, #15-3, #15-4, #15-5, #15-6, #15-7, #15-8, #15-9, #15-10, #15-11, #15-12, and #15-13. If test results show that levels of concern, or regulatory clean-up thresholds are exceeded, remediation shall be required to meet State and County regulations. All remediation shall be completed prior to recordation of any final small lot subdivision map on Property #15A (now Property # 22).

4.12-10 Disposal of auto parts, debris, household waste and similar materials by licensed waste haulers at approved waste disposal facilities shall be completed prior to recordation of any final small lot subdivision map on Property #19.

4.12-11a Soil in the storage area and below the concrete slab in the workshop shall be inspected by a California Registered Environmental Assessor II for indications of impacts to soil at the time of the demolition of the site buildings and concrete slab. Recommendations for soil sampling and analysis shall be determined at that time. If sampling results show that regulatory clean-

up thresholds are exceeded, remediation shall be required to meet State and County regulations. All demolition and remediation shall be completed prior to recordation of any final small lot subdivision map on Property #20 (now Property #21).

4.12-11b Disposal of auto parts, debris, household waste and similar materials by licensed waste haulers at approved waste disposal facilities shall be completed prior to recordation of any final small lot subdivision map on Property #20 (now Property #21).

4.12-11c The in-service well shall be abandoned/destroyed according to California Well Standards, California Department of Water Resources Bulletin 74-90 Section 23, and Placer County Environmental Health Services (EHS) requirements upon discontinuation of use.

4.12-12a During construction, all grading shall be performed in a manner to prevent the occurrence of standing water or other areas suitable for breeding of mosquitoes and other vectors.

4.12-12b The Placer Mosquito Abatement District shall be granted access to perform vector control in all common areas including drainage, open space corridor and park areas in perpetuity. Such access shall be a condition of approval of all tentative maps approved within the Specific Plan area.

4.12-13 Site-specific evaluation by a California Registered Environmental Assessor II shall be conducted at each identified existing and former dwelling area to identify surface indications and locations of septic tanks or cesspools prior to demolition of existing residences. Identified septic tanks shall be destroyed according to Placer County Division of Environmental Health criteria prior to recordation of final small lot subdivision map for the affected property.

Surface conditions shall be evaluated by a California Registered Environmental Assessor II when the dwellings are vacated, and prior to demolition of the structures, regarding the possibility of previous site uses which may have included hazardous materials that could have been disposed of in on-site wastewater disposal systems.

Tank or cesspool destruction shall be monitored by a California Registered Environmental Assessor II regarding the likelihood of hazardous materials disposal in the systems. Any required remediation work shall be completed in accordance with State and County regulations prior to recordation of final small lot subdivision map for the affected property.

4.12-14a Surveys of structures that are planned for demolition (that were not surveyed in the Phase II ESA) during Specific Plan development shall be conducted by a Certified Asbestos Consultant licensed with the California Department of Occupational Safety and Health to determine if friable Regulated Asbestos Containing Materials or nonfriable asbestos containing materials are present within the structure demolition areas. Any regulated asbestos materials found in the investigated areas shall be removed and disposed of by a California licensed asbestos abatement contractor. All removal of asbestos material shall be completed prior to recordation of Final Maps for the affected property.

4.12-14b A California licensed asbestos abatement contractor shall be hired to remove the exterior wall shingles prior to demolition of the abandoned radio beacon structure on Property #7.

4.12-15 Prior to submittal of a small lot tentative subdivision map or plans for industrial/commercial development, properties not previously evaluated with a current Phase I Environmental Site Assessment may be required to complete a Phase I Environmental Site Assessment, as determined by Environmental Health Services. A Phase I Environmental Site Assessment shall be conducted by a qualified professional. If past commercial agricultural uses are

disclosed that could have resulted in persistent contamination, such as orchards or vineyards, then soil sampling shall be conducted within former commercial agriculture areas. In these instances, prior to setting conditions for subdivision or industrial/commercial development soil investigation shall be conducted according to guidelines developed by the California Department of Toxic Substances Control (DTSC) and contained in the DTSC August 2002 "Interim Guidance for Sampling Agricultural Fields for School Sites", or equivalent protocol. Sampling and site investigation shall be conducted by a California registered environmental professional, performed with oversight from Placer County Environmental Health Services, and with applicable permits.

As a result of soil investigation, a limited and confined area of contamination may be identified and found to be suitable for simple removal. If this is the case, remediation will be required to meet State and County regulations and be completed prior to recordation of the final small lot subdivision map or equivalent final Placer County approval for commercial/industrial projects.

As a result of soil investigation, unconfined and/or widespread residual concentrations of agricultural chemicals may be identified at levels where they individually or in combination meet or exceed US EPA, CalEPA Preliminary Remediation Goals, or equivalent screening levels, thereby indicating the need for risk assessment. Any indicated risk assessment shall be completed prior to improvement plans or equivalent approval. Risk assessments shall include a DTSC Preliminary Endangerment Assessment or no further action determination, or equivalent.

Any remedial action indicated by a risk assessment shall be completed and certified prior to recordation of the small lot tentative subdivision final map or equivalent final Placer County approval for commercial/industrial projects. Remediation shall include a DTSC Remedial Action Workplan, or equivalent, and can include a range of activities, including restrictions on use, soil excavation and disposal off-site, or encapsulation in appropriate areas away from sensitive receptors in the Specific Plan area.

4.12-16 Any unused well encountered during subsequent exploration or development of the Specific Plan area shall be destroyed according to California Well Standards, California Department of Water Resources Bulletin 74-90 Section 23, and according to Placer County Division of Environmental Health Services requirements.

4.12-17 Prior to submittal of a small lot tentative subdivision map or plans for industrial/commercial development, properties not previously evaluated with a current Phase I Environmental Site Assessment may be required to complete a Phase I Environmental Site Assessment, as determined by Environmental Health Services. A Phase I Environmental Site Assessment shall be conducted by a qualified professional. If past commercial uses are disclosed that could have resulted in persistent contamination then soil sampling shall be conducted within former commercial areas. In these instances, prior to setting conditions for subdivision or industrial/commercial development soil sampling shall be conducted according to guidelines developed by the California Department of Toxic Substances Control (DTSC) Phase II Environmental Site Assessment and/or Preliminary Endangerment Assessment with DTSC, or equivalent protocol. Sampling and site investigation shall be conducted by a California registered environmental professional, performed with oversight from Placer County Environmental Health Services, and with applicable permits.

As a result of soil investigation, a limited and confined area of contamination may be identified and found to be suitable for simple removal. If this is the case, remediation will be required to meet State and County regulations and be completed prior to recordation of the small lot tentative subdivision final map or equivalent final Placer County approval for commercial/industrial projects.

As a result of soil investigation, unconfined and/or widespread residual concentrations of chemicals or other contaminants maybe identified at levels where they individually or in combination meet or exceed US EPA, CalEPA Preliminary Remediation Goals, or equivalent screening levels, thereby indicating the need for risk assessment. Any indicated Risk Assessment shall be completed prior to improvement plans or equivalent approval. Risk assessments shall include a DTSC Preliminary Endangerment Assessment or no further action determination, or equivalent.

Any remedial action indicated by a risk assessment shall be completed and certified prior to recordation of the small lot tentative subdivision final map or equivalent final Placer County approval for commercial/industrial projects. Remediation shall include a DTSC Remedial Action Workplan, or equivalent, and can include a range of activities, including restrictions on use, soil excavation and disposal off-site, or encapsulation in appropriate areas away from sensitive receptors in the Specific Plan area.

4.12-19a The design of the substation shall implement no cost and low cost EMF reduction measures on new and upgraded transmission, substation, and distribution facilities. These measures shall reduce the magnetic field strength in the area by 15% or more at the fence line as compared to traditional installations.

4.12-19b PG&E proposes to prepare an EMF Field Management Plan that will specifically delineate the no-cost and low-cost EMF measures to be installed as part of the final engineering design for the substation. PG&E shall submit to the California Public Utilities Commission the EMF Field Management Plan for the project, prior to construction activity on the substation.

4.12-19c The site shall be graded to direct drainage to a pond that meets Federal Guidelines (40 Code of Federal Regulations, Part 112) for the facility so that, in the event a transformer becomes damaged and leaks oil, the oil would drain into the pond. The pond shall be designed to be impermeable and designed to contain 100% of the largest transformer oil volume plus 10% to contain rainwater and prevent discharge to surface water.

4.12-19d Storage batteries shall be located inside a dedicated metal-enclosed compartment in the switchgear.

4.12-19e Access to the site shall be restricted by fencing and warning signs posted to alert persons of the potential electrical hazards.

4.12-19f The power lines shall be designed in accordance with California Public Utilities Commission General Order 95 Guidelines for safe ground clearances that have been established to protect the public from electric shock.

4.12-19g The substation shall be fitted with an automated central alarm system that will immediately alert PG&E to any change in equipment condition.

4.12-21a Any USTs that are encountered during off-site utility line/roadway survey or construction, or wastewater treatment or storage facility construction shall be removed and soil samples shall be collected and analyzed. If a UST is subject to UST regulation, then a UST removal permit

from Environmental Health Services shall be obtained. In the event soil or water contamination has occurred above regulatory clean-up thresholds, remediation shall be performed consistent with State and County regulations.

4.12-21b Prior to any utility, roadway, or wastewater treatment or storage facility construction on properties not previously evaluated in a Phase I Environmental Site Assessment, a Phase I Environmental Site Assessment shall be conducted by a Registered Environmental Assessor. If contaminant concentrations are found to be at or above regulatory clean-up thresholds, the site shall undergo remediation in accordance with State and County standards.

4.12-21c Any unused well encountered during construction of off-site utilities, roadways, or wastewater treatment and storage facilities shall be destroyed according to California Well Standards, California Department of Water Resources Bulletin 74-90 Section 23, and local requirements.

4.12-21d Surveys of any structures that are planned for demolition during off-site utility line, roadway, or wastewater treatment or storage facility construction shall be conducted by a Certified Asbestos Consultant licensed with the California Department of Occupational Safety and Health to determine if friable Regulated Asbestos Containing Materials or non-friable asbestos containing materials are present within the structure demolition areas. Any regulated asbestos materials found in the investigated areas shall be removed and disposed of by a California licensed asbestos abatement contractor.

4.12-21e Site-specific evaluation by a California Registered Environmental Assessor II shall be conducted at each identified existing and former dwelling area that may be affected by off-site utility line, roadway, or wastewater treatment and storage facility construction to identify surface indications and locations of septic tanks or cesspools prior to demolition of existing residences. Identified septic tanks shall be destroyed under permit of either the County Environmental Health Services Division or the Public Works Department.. Surface conditions shall be evaluated by a California Registered Environmental Assessor II when the dwellings are vacated, and prior to demolition of the structures, regarding the possibility of previous site uses which may have included hazardous materials that could have been disposed of in on-site wastewater disposal systems. Tank or cesspool destruction shall be monitored by a California Registered Environmental Assessor II regarding the likelihood of hazardous materials disposal in the systems. Any required remediation work shall be completed in accordance with State and County regulations prior to recordation of final small lot subdivision maps for the affected property.

4.12-21f Disposal of auto parts, debris, household waste and similar materials by licensed waste haulers at approved waste disposal facilities shall be completed prior to any construction within off-site utility corridors.

Climate Change

4.13-1a Implement Mitigation Measure 4.8-3, establishing guidelines for County review of future project-specific submittals for non-residential development within the Specific Plan area in order to reduce generation of air pollutants.

4.13-1b Implement Mitigation Measure 4.8-3b, requiring implementation measures to accomplish an overall reduction of 10 to 20% in residential energy consumption relative to the requirements of Sate of California Title 24.

4.13-1c Implement Mitigation Measure 4.8-3c, promoting a reduction of residential emissions.

4.13-1d Implement Mitigation Measure 4.8-3e, requiring measures to promote bicycle usage.

4.13-1e Implement Mitigation Measure 4.8-3f, requiring measures to promote transit usage and ride sharing.

4.13-1h Implement Mitigation Measure 4.8-3h, encouraging school districts to incorporate energy saving measures into the design, construction, and operation of elementary, middle and high school buildings and facilities.

4.13-1i Implement Mitigation Measure 4.8-3i, requiring measures to promote bicycle use, ride sharing, and commute alternatives to be incorporated into the design, construction and operation of public park areas.

4.13-1j Implement Mitigation Measure 4.6-3j, prohibiting open burning throughout the Specific Plan Area and requiring this prohibition in any project CC&Rs that are established.

4.13-1k Implement Mitigation Measure 4.7-2a-b; 4.7-5a-b, 4.7-6a-b; 4.7-12; and 4.7-13a-b, 4.7-15a-b, 4.7-16a-b, 4.7-17a-b, 4.7-19a-b, mitigating traffic impacts (see Recirculated RDEIR, July 2006).

4.13-1l Implement mitigation measures 4.11.5-1a -4.11.5-1d, requiring waste diversion and recycling.

4.13-1m Placer County and the project applicant shall work together to publish and distribute an Energy Resource Conservation Guide describing measures individuals can take to increase energy efficiency and conservation. The applicant shall be responsible for funding the preparation of the Guide. The Energy Resource Conservation Guide shall be updated every 5 years and distributed at the public permit counter.

4.13-1n The project applicants shall pay for an initial installment of Light Emitting Diode (LED) traffic lights in all Specific Plan area traffic lights.

4.13-1o The project applicants and Placer County shall jointly develop a tree planting informational packet to help project area residents understand their options for planting trees that can absorb carbon dioxide.

4.13-1p Prioritized parking within commercial and retail areas shall be given to electric vehicles, hybrid vehicles, and alternative fuel vehicles.

APPENDIX 3.3

Air Quality Emissions Calculations

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Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: Z:\EBell\Placer Vineyards\Modeling\Construction GHG.urb924

Project Name: Placer Vineyards

Project Location: Placer County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2013 TOTALS (lbs/day unmitigated)	23,457.28	472.37	1,439.80	2.26	10,023.59	21.15	10,044.74	2,094.76	19.02	2,113.78
2013 TOTALS (lbs/day mitigated)	23,457.28	472.37	1,439.80	2.26	10,023.59	21.15	10,044.74	2,094.76	19.02	2,113.78

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	744.87	166.69	239.46	0.01	0.70	0.70

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	1,355.80	1,685.88	14,861.88	16.94	2,933.13	565.18

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SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	2,100.67	1,852.57	15,101.34	16.95	2,933.83	565.88

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Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: Z:\EBell\Placer Vineyards\Modeling\Construction Criteria Base Plan.urb924

Project Name: Placer Vineyards

Project Location: Placer County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total
Time Slice 1/1/2013-2/8/2013 Active Days: 29	7.95	64.40	35.58	0.00	512.61	3.08	515.69	107.06	2.84	109.89
Fine Grading 01/01/2013-02/11/2013	7.95	64.40	35.58	0.00	512.61	3.08	515.69	107.06	2.84	109.89
Fine Grading Dust	0.00	0.00	0.00	0.00	512.60	0.00	512.60	107.05	0.00	107.05
Fine Grading Off Road Diesel	7.90	64.32	33.96	0.00	0.00	3.08	3.08	0.00	2.83	2.83
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.08	1.62	0.00	0.01	0.01	0.02	0.00	0.00	0.01

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Time Slice 2/11/2013-2/11/2013 Active Days: 1	17.71	**116.00**	**129.07**	0.12	**513.16**	**6.48**	**519.64**	**107.25**	**5.93**	**113.18**
Asphalt 02/11/2013-05/11/2013	3.91	18.80	11.85	0.01	0.02	1.52	1.54	0.01	1.40	1.41
Paving Off-Gas	1.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.69	16.46	10.15	0.00	0.00	1.43	1.43	0.00	1.32	1.32
Paving On Road Diesel	0.16	2.30	0.79	0.00	0.02	0.08	0.10	0.01	0.08	0.08
Paving Worker Trips	0.03	0.05	0.90	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Building 02/11/2013-12/30/2013	5.85	32.80	81.64	0.11	0.52	1.87	2.40	0.19	1.70	1.89
Building Off Road Diesel	3.19	19.04	13.34	0.00	0.00	1.26	1.26	0.00	1.16	1.16
Building Vendor Trips	0.86	10.69	8.55	0.03	0.11	0.41	0.52	0.04	0.37	0.41
Building Worker Trips	1.80	3.07	59.75	0.08	0.41	0.20	0.62	0.15	0.16	0.31
Fine Grading 01/01/2013-02/11/2013	7.95	64.40	35.58	0.00	512.61	3.08	515.69	107.06	2.84	109.89
Fine Grading Dust	0.00	0.00	0.00	0.00	512.60	0.00	512.60	107.05	0.00	107.05
Fine Grading Off Road Diesel	7.90	64.32	33.96	0.00	0.00	3.08	3.08	0.00	2.83	2.83
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.08	1.62	0.00	0.01	0.01	0.02	0.00	0.00	0.01
Time Slice 2/12/2013-5/10/2013 Active Days: 64	9.75	51.60	93.49	0.12	0.55	3.39	3.94	0.19	3.10	3.29
Asphalt 02/11/2013-05/11/2013	3.91	18.80	11.85	0.01	0.02	1.52	1.54	0.01	1.40	1.41
Paving Off-Gas	1.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.69	16.46	10.15	0.00	0.00	1.43	1.43	0.00	1.32	1.32
Paving On Road Diesel	0.16	2.30	0.79	0.00	0.02	0.08	0.10	0.01	0.08	0.08
Paving Worker Trips	0.03	0.05	0.90	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Building 02/11/2013-12/30/2013	5.85	32.80	81.64	0.11	0.52	1.87	2.40	0.19	1.70	1.89
Building Off Road Diesel	3.19	19.04	13.34	0.00	0.00	1.26	1.26	0.00	1.16	1.16
Building Vendor Trips	0.86	10.69	8.55	0.03	0.11	0.41	0.52	0.04	0.37	0.41
Building Worker Trips	1.80	3.07	59.75	0.08	0.41	0.20	0.62	0.15	0.16	0.31

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Time Slice 5/13/2013-11/29/2013 Active Days: 145	5.85	32.80	81.64	0.11	0.52	1.87	2.40	0.19	1.70	1.89
Building 02/11/2013-12/30/2013	5.85	32.80	81.64	0.11	0.52	1.87	2.40	0.19	1.70	1.89
Building Off Road Diesel	3.19	19.04	13.34	0.00	0.00	1.26	1.26	0.00	1.16	1.16
Building Vendor Trips	0.86	10.69	8.55	0.03	0.11	0.41	0.52	0.04	0.37	0.41
Building Worker Trips	1.80	3.07	59.75	0.08	0.41	0.20	0.62	0.15	0.16	0.31
Time Slice 12/2/2013-12/30/2013 Active Days: 21	**1,306.09**	33.36	92.58	**0.13**	0.60	1.91	2.51	0.21	1.73	1.94
Building 02/11/2013-12/30/2013	5.85	32.80	81.64	0.11	0.52	1.87	2.40	0.19	1.70	1.89
Building Off Road Diesel	3.19	19.04	13.34	0.00	0.00	1.26	1.26	0.00	1.16	1.16
Building Vendor Trips	0.86	10.69	8.55	0.03	0.11	0.41	0.52	0.04	0.37	0.41
Building Worker Trips	1.80	3.07	59.75	0.08	0.41	0.20	0.62	0.15	0.16	0.31
Coating 12/01/2013-12/30/2013	1,300.25	0.56	10.94	0.02	0.08	0.04	0.11	0.03	0.03	0.06
Architectural Coating	1,299.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.33	0.56	10.94	0.02	0.08	0.04	0.11	0.03	0.03	0.06

Phase Assumptions

Phase: Fine Grading 1/1/2013 - 2/11/2013 - Default Fine Site Grading Description

Total Acres Disturbed: 102.52

Maximum Daily Acreage Disturbed: 25.63

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 2/11/2013 - 5/11/2013 - Default Paving Description

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Acres to be Paved: 25.63

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 2/11/2013 - 12/30/2013 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 12/1/2013 - 12/30/2013 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: Z:\EBell\Placer Vineyards\Modeling\Construction Criteria Blueprint.urb924

Project Name: Placer Vineyards

Project Location: Placer County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2013 TOTALS (lbs/day unmitigated)	2,052.35	140.92	176.09	0.20	780.68	7.48	788.17	163.17	6.85	170.01
2013 TOTALS (lbs/day mitigated)	2,052.35	140.92	176.09	0.20	404.90	7.48	412.38	84.69	6.85	91.53

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	74.83	14.39	28.53	0.00	0.10	0.10

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	107.66	132.32	1,172.24	1.33	230.36	44.41

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SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	182.49	146.71	1,200.77	1.33	230.46	44.51

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Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: Z:\EBell\Placer Vineyards\Modeling\Construction Criteria Base Plan.urb924

Project Name: Placer Vineyards

Project Location: Placer County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2013 TOTALS (lbs/day unmitigated)	1,306.09	116.00	129.07	0.13	513.16	6.48	519.64	107.25	5.93	113.18
2013 TOTALS (lbs/day mitigated)	1,306.09	116.00	129.07	0.13	266.14	6.48	272.61	55.66	5.93	61.59

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	42.19	9.40	23.52	0.00	0.08	0.08

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	75.31	93.65	825.62	0.93	162.95	31.39

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SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	117.50	103.05	849.14	0.93	163.03	31.47