
***FINAL TECHNICAL APPENDICES
VOLUME I***

***NORTH VINEYARD STATION
SPECIFIC PLAN
ENVIRONMENTAL IMPACT REPORT***

- ***NOISE ANALYSIS***
- ***BIOTIC RESOURCES***
- ***ARBORIST REPORTS***
- ***CULTURAL RESOURCES***

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*Sacramento County
Department of Environmental
Review and Assessment*

FEBRUARY 1998



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VOLUME I
FINAL TECHNICAL APPENDICES
NORTH VINEYARD STATION SPECIFIC PLAN

Technical Appendices Volume I for the North Vineyard Station Specific Plan EIR contains the following technical studies: Noise Analysis, Biotic Resources (both on and off site), Arborist Reports and Cultural Resources (both on and off site). Please note that the transportation analysis and supplemental transportation analysis have been combined and reproduced as Final Technical Appendices Volume III under separate cover.

These technical studies were prepared by consultants with expertise in the appropriate area. The Law Offices of George E. Phillips served as the coordinator for this work. All phases of the technical study work have been monitored by the Sacramento County Planning Department. Scoping of all technical issues and report review has been conducted by county staff of the Planning Department, the Transportation Division and the Department of Environmental Review and Assessment.

Technical issues were identified during the early scoping process. Administrative drafts of each technical study was prepared by consultants and reviewed by County staff. Revisions were made as needed. The technical studies contained herein are a result of this process.

Please note: Participating property owners have changed since the technical studies were originally conducted. These studies contain technical data for some properties that are no longer considered participating properties however, the technical data is not affected by these changes. The Specific Plan Proponents for the project now include: Winncrest Homes, US Home, Florin Investors, and Cal Maple Development. The Saca Properties, Morvai and East Bradshaw Gerber Associates are no longer participating owners. For a map of the current participating properties see Plate PRF-A in the Preface of the Final EIR.

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APPENDIX A

NOTE: The Transportation Analysis and the Supplemental Transportation Analysis have been combined and reproduced as the Final Technical Appendices Volume III under separate cover.

APPENDIX B

NVSSP FEIR: Final Technical Appendices Vol. I

ENVIRONMENTAL NOISE ANALYSIS

NORTH VINEYARD STATION SPECIFIC PLAN

Sacramento County, California

Prepared For

North Vineyard Station Property Owners
c/o Phillips & Sandberg Attorneys
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December 4, 1996

Prepared By

Brown-Buntin Associates, Inc.
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BBA

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PROJECT DESCRIPTION:**Location**

The North Vineyard Station Specific Plan consists of approximately 1147 acres located in the south central unincorporated portion of Sacramento County. The project site is bounded by Florin Road to the north, Gerber Road to the south and Vineyard Road to the east. Currently, lands within the project boundaries are dominated by agriculture and residential-agricultural uses.

Preferred Plan

The preferred plan includes approximately 6,339 residential dwelling units and other land uses as summarized in Table 1.

TABLE I SUMMARY OF NORTH VINEYARD STATION LAND USES
Single Family Residential
Multi Family Residential
Business/Professional
Commercial
Open Space
Schools
Parks

NOISE-RELATED ISSUES

Major noise sources which may potentially affect the project site include roadway traffic on Florin Road, Gerber Road, Vineyard Road and Bradshaw Road, railroad line activities on the Central California Traction Railroad, aircraft operations at Mather Airport, and proposed new commercial facilities.

CRITERIA:**Sacramento County Noise Element:**

The Sacramento County Noise Element establishes land use compatibility criteria for various land uses affected by transportation-related and nontransportation noise sources.

The Sacramento County Noise Element establishes a land use compatibility criterion of 60 dB L_{dn} ¹ for exterior noise levels in the outdoor activity areas of residential developments affected by transportation-related noise sources. This standard is intended to provide an acceptable noise environment for outdoor activities. An exterior noise level of up to 65 dB L_{dn} is allowed only after a practical application of the best available noise-reduction technology is included in the design. In addition, an interior noise level criterion of 45 dB L_{dn} is applied to residential land uses with windows and doors closed. The intent of this standard is to provide a suitable environment for indoor communication.

The Sacramento County Noise Element also establishes exterior noise level performance standards for residential areas affected by nontransportation noise sources. Table II shows the performance standards recommended by the Sacramento County Noise Element.

TABLE II NOISE LEVEL PERFORMANCE STANDARDS FOR RESIDENTIAL AREAS AFFECTED BY NONTRANSPORTATION NOISE		
Statistical Noise Level Descriptor	Exterior Noise Level Standard	
	Daytime (7am-10pm)	Nighttime (10pm-7am)
L_{50}	50 dB	45 dB
L_{max}	70 dB	65 dB

Based upon the Sacramento County Noise Element, the compatibility of proposed nonresidential uses exposed to transportation noise sources shall be evaluated by comparison to Figure 1 and Table III.

¹ For an explanation of these terms, see Appendix A: "Acoustical Terminology"

FIGURE 1

FEASIBILITY OF DEVELOPMENTS WITH RESPECT TO NOISE

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE L _{dn} OR CNEL, dB					
	55	60	65	70	75	80
RESIDENTIAL including AR-1 and AR-2	Acceptable	Acceptable	Conditionally Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable
AGRICULTURE/RESIDENTIAL 5 and 10 ACRES	Acceptable	Acceptable	Conditionally Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable
TRANSIENT LODGING - MOTELS, HOTELS	Acceptable	Acceptable	Conditionally Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES	Acceptable	Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable	Unacceptable
AUDITORIUMS, CONCERT HALLS, AMPHITHEATERS, SPORTS ARENAS	Acceptable	Acceptable	Conditionally Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable
PLAYGROUNDS, NEIGHBORHOOD PARKS	Acceptable	Acceptable	Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES	Acceptable	Acceptable	Acceptable	Acceptable	Conditionally Acceptable	Unacceptable
OFFICE BUILDINGS, COMMERCIAL AND PROFESSIONAL	Acceptable	Acceptable	Conditionally Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable
INDUSTRIAL, MANUFACTURING, UTILITIES, AGRICULTURE	Acceptable	Acceptable	Acceptable	Conditionally Acceptable	Conditionally Acceptable	Unacceptable

INTERPRETATION



ACCEPTABLE

Specified land use is satisfactory. No noise mitigation measures are required.



CONDITIONALLY ACCEPTABLE

Use should be permitted only after careful study and inclusion of protective measures as needed for intended use and to satisfy the policies of the Noise Element.



UNACCEPTABLE

Development is usually not feasible in accordance with the the Noise Element. Use is prohibited.

TABLE III	
ACCEPTABLE NOISE LEVELS IN UNOCCUPIED ROOMS	
AFFECTED BY TRANSPORTATION NOISE	
Location	Average Sound Level, dB ¹
Radio studios, recording studios	25-30
Concert halls, large auditoriums	30-35
Motion picture theaters	40-45
Conference rooms, small offices	40-45
Public offices (large), banks, stores	45-50
Restaurants, cafeterias	45-55
Libraries	40-45
Music rooms	30-35
Theaters (speech)	30-35
Churches	35-40
Classrooms	35-45
Hospitals	40-45
Court rooms	40-45

¹ L_{eq} during worst case hour when in use.

Subjective Reactions to Changes in Noise Levels:

Expected reactions to changes in ambient noise levels have been reported by Egan and others for persons who are exposed to noise sources that are quantified by metrics that define short-term exposure (e.g., hourly L_{eq} , L_{max} and L_n). These metrics are usually used to describe noise impacts due to industrial operations, machinery and other sources that are not associated with transportation. According to Egan and others, an increase of at least 3 dB is usually required before most people will perceive a change in noise levels, and an increase of 5 dB is required before the change will be clearly noticeable. The common practice has been to assume that a minimally perceptible increase of 3 dB represents a significant increase in ambient noise levels.

Table IV is based upon recommendations recently (August 1992) made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. Their recommendations are based upon

studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been assumed for this analysis that they are applicable to all sources of noise that are described in terms of cumulative noise exposure metrics such as the L_{dn} or CNEL. These metrics are generally applied to transportation noise sources, and define noise exposure in terms of average noise exposure during a 24-hour period with penalties added to noise that occurs during the nighttime or evening. L_{dn} or CNEL are often defined in terms of an average annual day, and are therefore quite different than the short-term noise level descriptors described above.

TABLE IV SIGNIFICANCE OF CHANGES IN CUMULATIVE NOISE EXPOSURE	
Ambient Noise Level Without Project (L_{dn} or CNEL)	Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

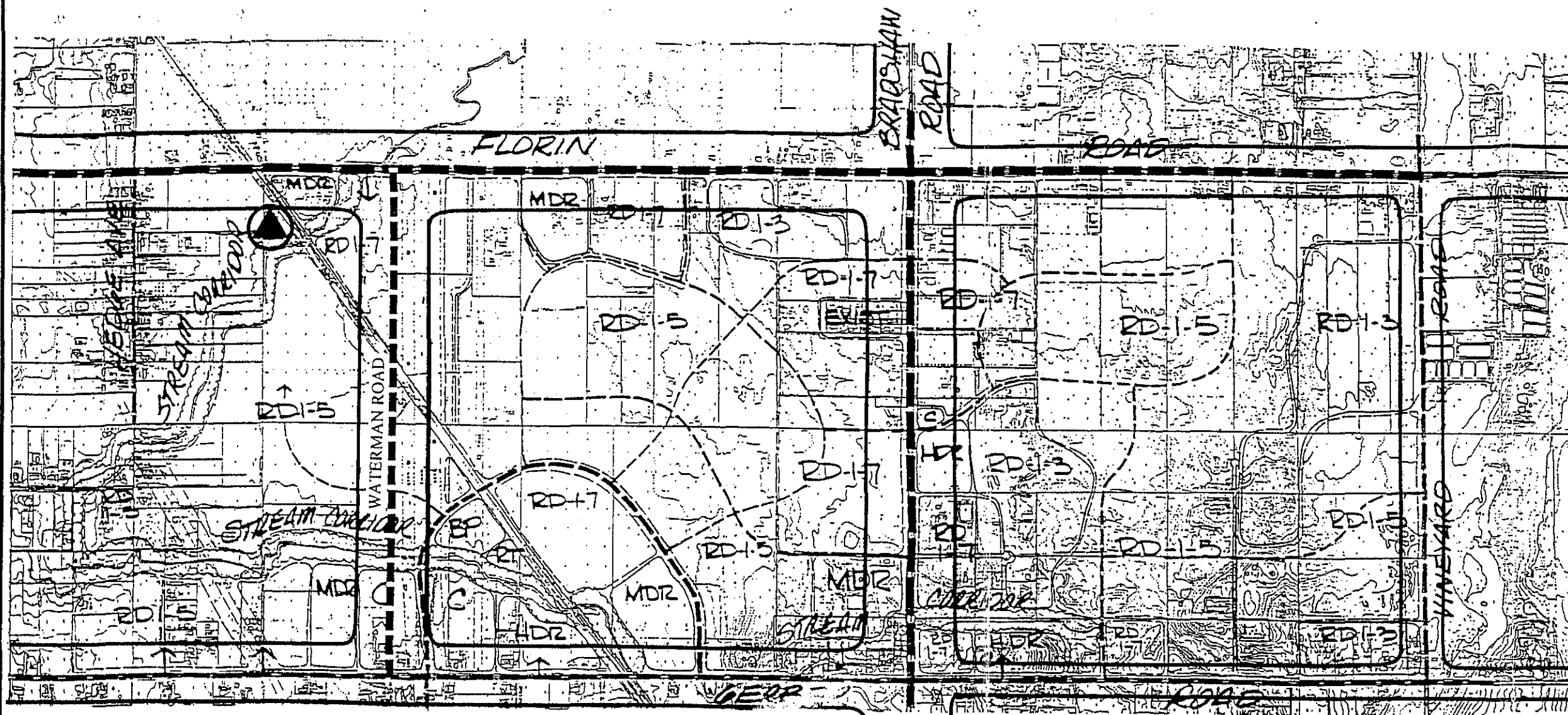
Source: Federal Interagency Committee on Noise (FICON), as applied by Brown-Buntin Associates, Inc.

SETTING

The existing ambient noise environment in the Plan Area is defined primarily by traffic on local roadways, railroad operations, and occasional overflights due to aircraft operations. The contributions from each of these noise sources to the overall ambient noise environment is described below.

Background Noise Environment:

BBA conducted continuous 24-hour noise level measurements on the project site on May 17-19, 1995 (See Figure 2). The intent of the noise level measurements were to determine typical hourly noise levels on the project site. This monitoring site was also used to evaluate typical noise events due to operations on the Central California Traction Railroad.



LAND USE SUMMARY

USE	DENSITY	ACRES	# UNITS
RD-1-3	2/ac	156 AC	312
RD-1-5	4.2/ac	649 AC	2920
RD-1-7	6/ac	251 AC	1506
MDR	10/ac	68 AC	680
HDZ	18/ac	29 AC	522
EXIST. RES	-	6 AC	13
			5953 UNITS
COMM'L		36 AC	DENSITY TEST
OFFICE (BP)		7 AC	
R.T.		2 AC	
PUBLIC USES		126 AC	
NON DEV.		250 AC	
TOTAL			1580 ACRES

FIGURE 2

NORTH VINEYARD STATION
PROJECT AREA



: Continuous 24-hour and Railroad Noise Monitoring Location

: 60 dB L_{dn} Roadway Noise Contours With Project

1" = Approximately 1300'

Equipment used for the noise level measurements included a Larson Davis Laboratories (LDL) Model 700B precision integrating sound level meter. The equipment was calibrated prior to use to ensure accuracy using an LDL Model CA250 acoustical calibrator.

Figures 3 and 4 graphically show the results of the noise level measurements for the two day period. During the 24-hour period from 2:00 p.m. on May 17, 1995 to 2:00 p.m. on May 18, 1995, there were three train operations which were measured. The measured L_{dn} during that period was 61.2 dB. During the 24-hour period from 2:00 p.m. on May 18, 1995 to 2:00 p.m. on May 19, 1995, there were two train operations which were measured. The measured L_{dn} during that period was 61.1 dB.

If the noise levels due to the train events for the two days during the measurement period are subtracted from the hourly average noise levels during which the train operations occurred, the calculated L_{dn} values for the two days are 53.3 dB (May 17-18, 1995) and 54.3 dB (May 18-19, 1995).

Existing Traffic:

Brown-Buntin Associates, Inc. (BBA) employs the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) for the prediction of traffic noise levels. The FHWA Model is the analytical method currently favored for traffic noise prediction by most state and local agencies, including the California Department of Transportation (Caltrans). The model is based upon the CALVENO noise emission factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is considered to be accurate within 1.5 dB. To predict L_{dn} values, it is necessary to determine the day/night distribution of traffic and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Existing traffic data for area roadways were obtained from Fehr & Peers Associates, traffic consultants. Other assumptions regarding day/night traffic distributions, speed and truck mix are based upon BBA file data and assumptions used in the Sacramento County Noise Element. Table V shows the distances to the existing 60 and 65 dB L_{dn} noise contours for each of the areas roadways, based upon the FHWA Model. Appendix B shows the FHWA Model inputs.

TABLE V			
EXISTING TRAFFIC NOISE LEVELS			
Roadway	L_{dn} , dB at 75'	Distance to L_{dn} Contour (feet)	
		60 dB	65 dB
Florin Road			
West of Watt Ave.	65.6	177	82
Watt Ave. to Bradshaw Rd.	62.6	112	52
Bradshaw Rd. to Excelsior Rd.	59.4	68	32
Gerber Road			
West of Elk Grove-Florin Rd.	66.7	208	97
Elk Grove-Florin Rd. to Bradshaw Rd.	63.0	120	56
Bradshaw Rd. to Excelsior Rd.	57.4	50	23
Bradshaw Road			
Calvine Rd. to Gerber Rd.	64.0	138	64
Gerber Rd. to Florin Rd.	65.6	178	82
Florin Rd. to Elder Creek Rd.	65.4	172	80
Elder Creek Rd. to S.R. 16	66.2	195	90
Vineyard Road			
Calvine Rd. to Gerber Rd.	54.3	31	15
Gerber Rd. to Florin Rd.	---	---	---
Elk Grove-Florin Road			
Calvine Rd. to Gerber Rd.	64.8	157	73
S. Watt Avenue			
Gerber Rd. to Florin Rd.	64.7	155	72
Florin Rd. to Elder Creek Rd.	65.4	172	80
Elder Creek Rd. to S.R. 16	67.8	248	115
Calvine Road			
West of Elk Grove-Florin Rd.	62.4	108	50
Elk Grove-Florin Rd. to Bradshaw Rd.	61.8	98	46
Bradshaw Rd. to Excelsior Rd.	59.1	66	30

Existing Railroad Noise

The Central California Traction Railroad tracks bisect the project site in a northwest/southeast direction. BBA conducted noise level measurements of train passbys on the project site from May 17-19, 1995 (See Figure 2 for location of the noise monitoring site). The noise level measurements were conducted at a distance of approximately 50 feet from the railroad tracks. The noise level measurements indicated that between 2 and 3 operations occur per day along the tracks. Table VI shows the results of the train operation noise level measurements.

TABLE VI 1995 RAILROAD OPERATION NOISE LEVELS at 50 Feet			
Time of Train Operation	Measured SEL, dB	Distance to L_{dn} Contours	
		60 dB	65 dB
May 17-18, 1995			
3:54 p.m.	109.0	52 feet	25 feet
8:10 p.m.	99.5		
8:47 p.m.	96.5		
May 18-19, 1995			
4:03 p.m.	109.0	47 feet	22 feet
5:18 p.m.	99.3		

Discussions with the Central California Traction Railroad staff indicate that in 1995 between 2 and 3 train operations occurred during a 24-hour period, which is supported by the noise measurement data. Currently up to 4 train operations may occur during a 24-hour period. Therefore, the current locations of the 60 dB and 65 dB L_{dn} railroad noise contours are estimated to be 78 feet and 36 feet respectively.

The staff also indicated that historically up to 8 train operations occurred during a 24-hour period, and that in the past five years traffic has doubled along the railroad line. There were no estimates of future operations along the railroad line.

Existing Aircraft Noise Levels

During the field review in the summer of 1995, no aircraft operations were noted as flying directly over the project site.

The Sacramento County staff indicated that future noise impacts due to Mather Airport were a concern at the project site. The new guiding document for determining potential future noise impacts associated with the Mather Airport is entitled: Mather Airport Comprehensive Land Use Plan Update, May 1996, Draft. Based upon this document, the project site is located outside of the 60 dB CNEL contour (See Figure 5). However, based upon the shape of the contours, aircraft from Mather Airport depart over the project site.

IMPACTS

This analysis provides a comparison of the Cumulative Without Project Alternative and the Cumulative With Project Alternative.

Future traffic Noise

BBA once again used the FHWA model to determine future traffic noise levels due to and upon the project site. Table VII shows the results of the traffic noise analysis for the two Alternatives.

FIGURE 3

Measured Hourly and Train Event Noise Levels

May 17-18, 1995

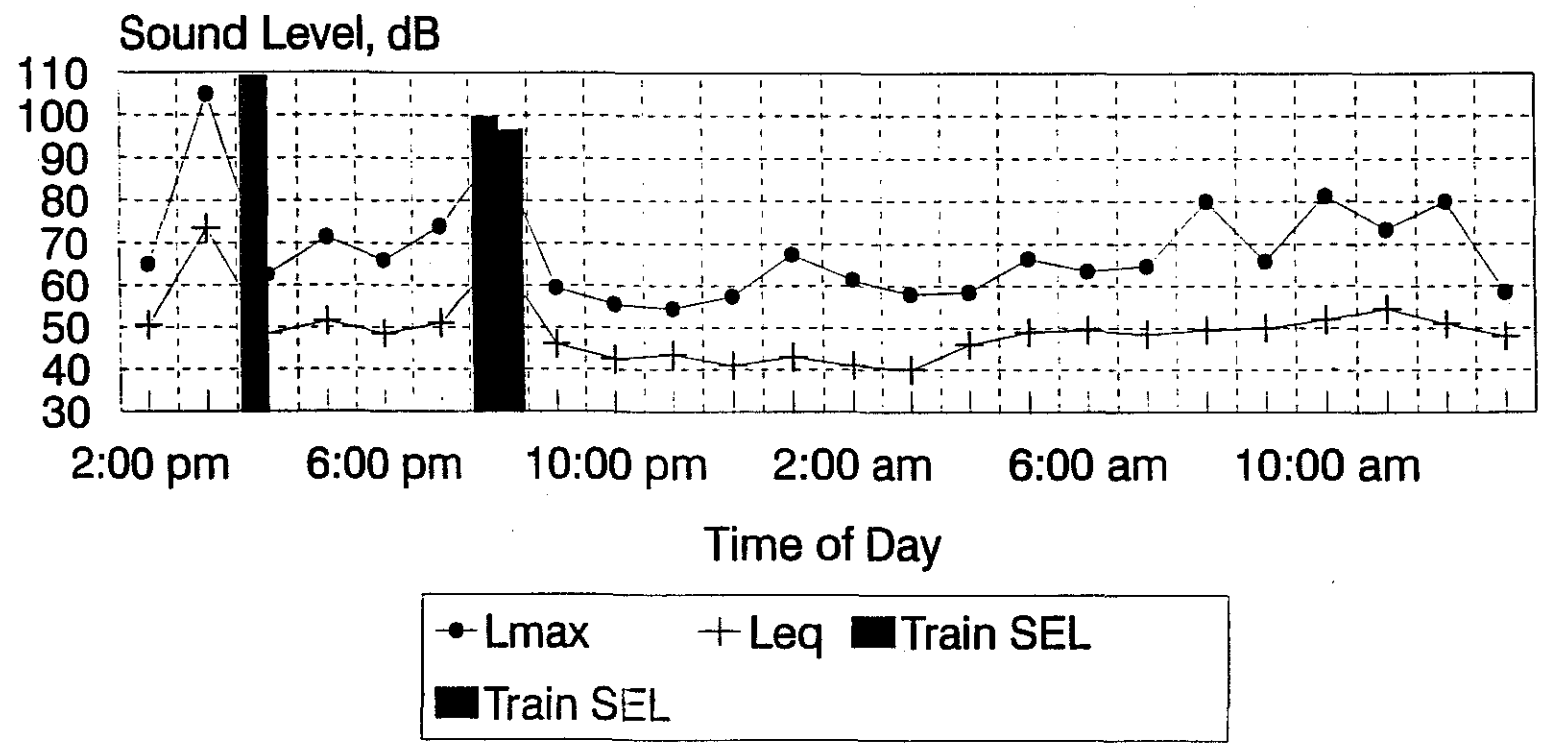


FIGURE 4

Measured Hourly and Train Event Noise Levels

May 18-19, 1995

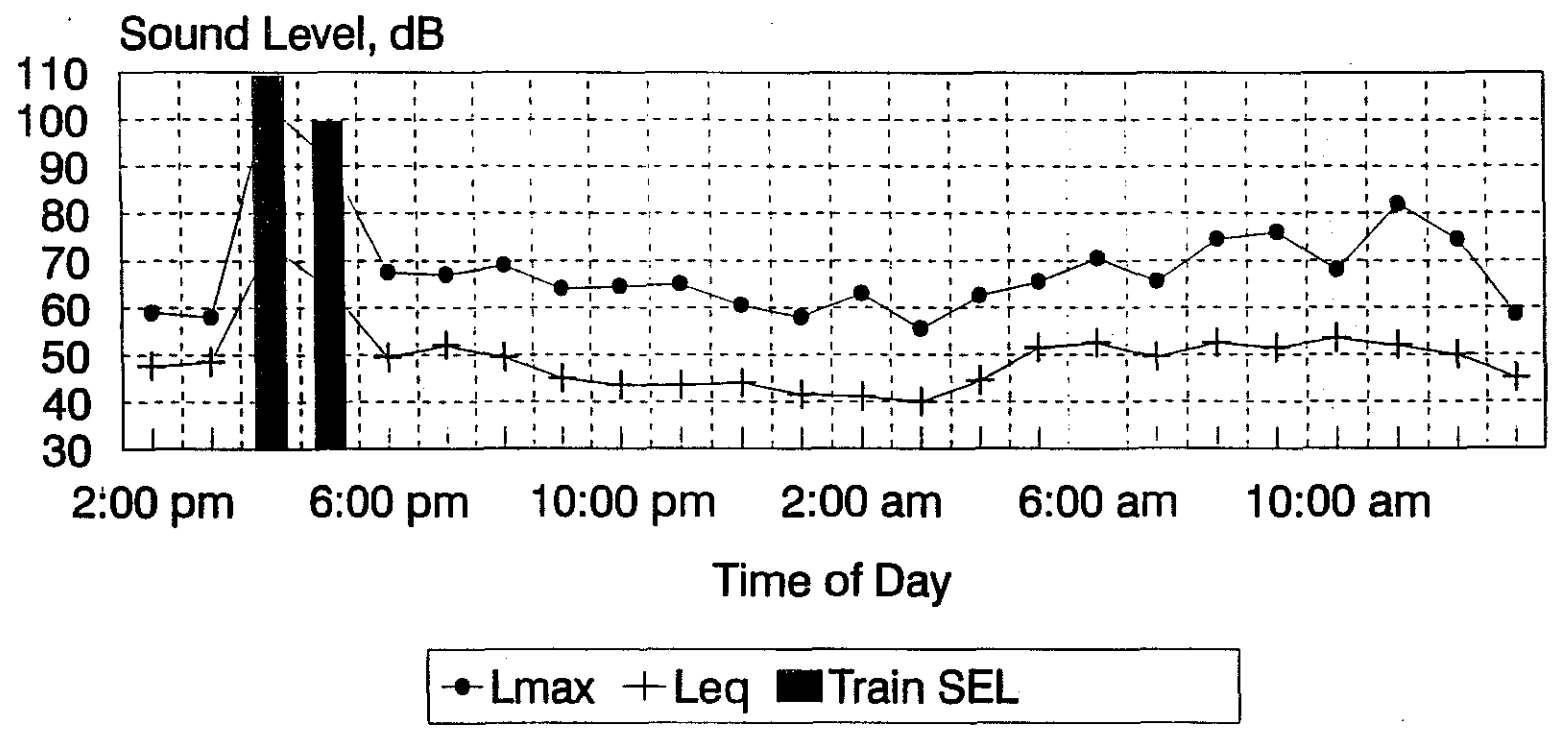
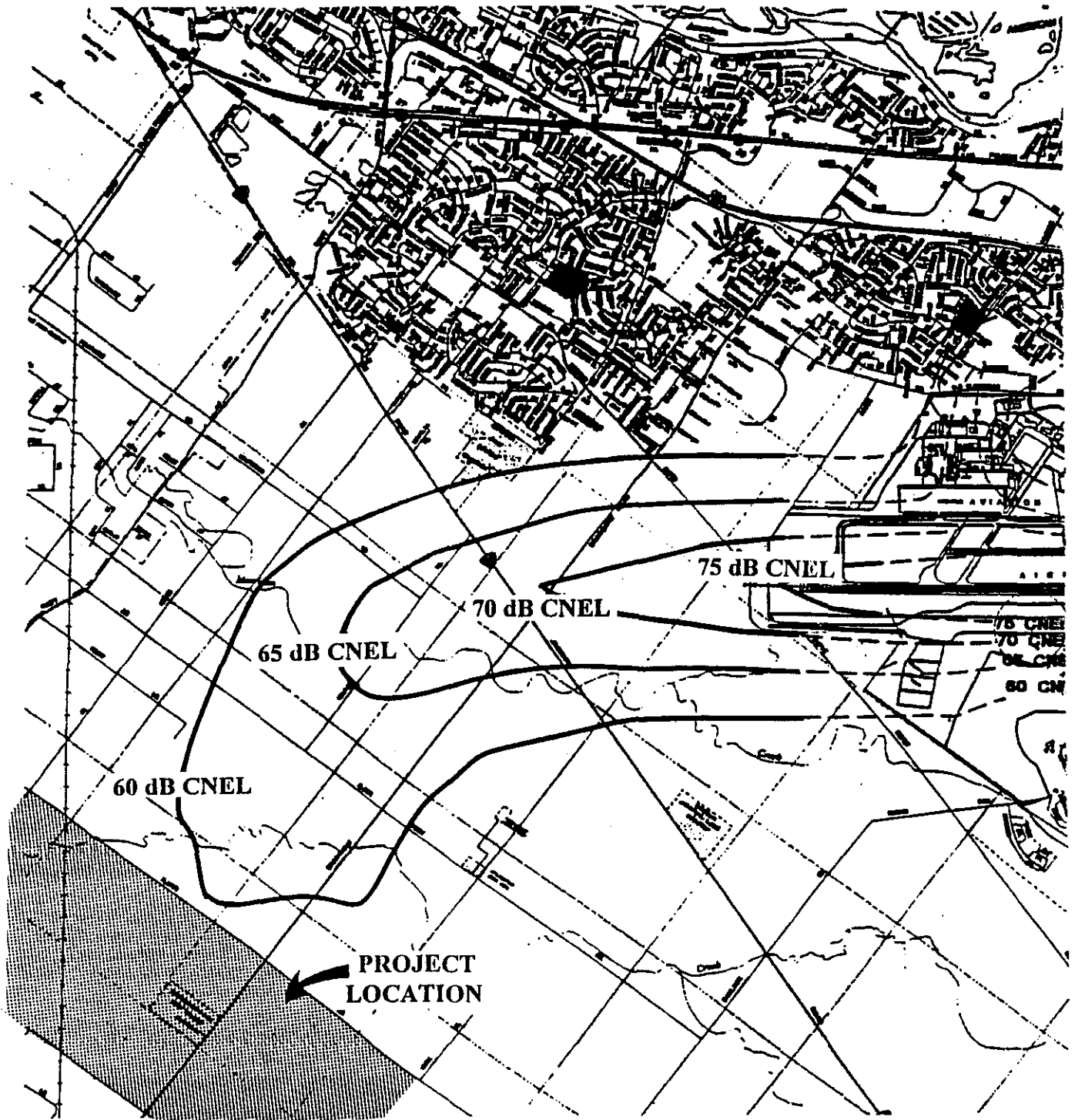


FIGURE 5
MATHER AIRPORT NOISE CONTOURS



SOURCE: Mather Airport Comprehensive Land Use Update, 1996



Traffic Noise

BBA used the FHWA noise barrier performance analysis methodology to determine the insertion loss and resulting noise level provided by different barrier heights at the first row of lots which face Florin Road, Gerber Road, Bradshaw Road, Vineyard Road and Waterman Road. Table IX shows the estimated barrier heights required to mitigate traffic noise levels at residential outdoor activity areas to less than 60 dB and 65 dB L_{dn} . This assumes a distance of 75 feet from the roadway centerline to the outdoor activity area.

TABLE IX		
APPROXIMATE BARRIER HEIGHTS REQUIRED TO ACHIEVE 60 dB L_{dn}		
Roadway	Barrier Height	L_{dn} , dB
Florin Road		
Watt Ave. to Bradshaw Rd.	6'	64.5
	10'	60.0
Bradshaw Rd. to. Vineyard Rd.	7'	59.7
Gerber Road		
Elk Grove-Florin Rd. to Bradshaw Rd.	6'	62.9
	9'	59.6
Bradshaw Rd. to Vineyard Rd.	6'	58.3
Bradshaw Road		
Gerber Rd. to Florin Rd.	6'	64.8
	11'	59.6
Vineyard Road		
Gerber Rd. to Florin Rd.	6'	59.5
Waterman Road		
Gerber Rd. to Florin Rd.	6'	63.1
	9'	59.8
This analysis assumes that the building pads are at the same grade as roadways. This analysis assumes that the outdoor activity areas are 75 feet from roadway centerlines. This analysis assumes that a minimum height to break line-of-site to automobiles tire noise is 6 feet.		

The approximate barrier heights shown in Table IX are assumed to be relative to building pad elevations. A detailed analysis of barrier heights should be conducted when grading plans and building pad elevations and locations have been provided.

Railroad Noise

BBA used a barrier profile analysis to determine appropriate barrier heights to reduce railroad noise levels to less than 60 dB L_{dn} . This analysis assumes a distance of 50 feet from the railroad track centerline to the outdoor activity area. This analysis assumes that the building pads are at the same grade as the railroad bed. Based upon the analysis, a barrier 8.5 feet in height would be required to reduce railroad noise levels to less than 60 dB L_{dn} .

Site Design:

Buildings can be placed on a project site to shield other structures or areas, to remove them from noise-impacted areas, and to prevent an increase in noise level caused by reflections. The use of one building to shield another can significantly reduce overall project noise control costs, particularly if the shielding structure is insensitive to noise. As an example, carports or garages can be used to form or complement a barrier shielding adjacent dwellings or an outdoor activity area. Similarly, one residential unit can be placed to shield another so that noise reduction measures are needed for only the building closest to the noise source. Placement of outdoor activity areas within the shielded portion of a building complex, such as a central courtyard, can be an effective method of providing a quiet retreat in an otherwise noisy environment. Patios or balconies should be placed on the side of a building opposite the noise source, and "wing walls" can be added to buildings or patios to help shield noise sensitive areas.

Acoustical Analyses

Roadway Noise

A detailed acoustical analysis will need to be conducted for residences located within the 60 dB L_{dn} roadway noise contours when grading plans and building pad elevations and locations have been provided. In addition, a detailed analysis of interior noise level at second floor facades of residences located inside of the 65 dB L_{dn} noise contours and not shielded by barriers should also be conducted. Interior noise level analyses cannot be conducted until floor plans, building elevations and facade construction details have been completed.

Railroad Noise

A detailed acoustical analysis will need to be conducted for residences located within the 60 dB L_{dn} railroad noise contours when grading plans and building pad elevations and locations have been provided.

Stationary Source Noise

Where commercial, business/professional, and school uses are located within close proximity to residential uses, there exists a potential for noise-related land use conflicts. It is not possible to determine the noise impacts at the Specific Plan stage. Potential noise sources and impacts will need to be identified and determined when specific uses are proposed within areas designated for commercial and business/professional use.

APPENDIX A ACOUSTICAL TERMINOLOGY

AMBIENT NOISE LEVEL: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

CNEL: Community Noise Equivalent Level. The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

DECIBEL, dB: A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

L_{dn} : Day-Night Average Sound Level. The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

L_{eq} : Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

Note: CNEL and L_{dn} represent daily levels of noise exposure averaged on an annual basis, while L_{eq} represents the average noise exposure for a shorter time period, typically one hour.

L_{max} : The maximum sound level recorded during a noise event.

L_n : The sound level exceeded "n" percent of the time during a sample interval. L_{10} equals the level exceeded 10 percent of the time (L_{90} , L_{50} , etc.)


 The logo consists of the letters "BBA" in a bold, sans-serif font, enclosed within a rounded rectangular border. A short horizontal line extends from the right side of the border.

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ACOUSTICAL TERMINOLOGY

- NOISE EXPOSURE CONTOURS:** Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and L_{dn} contours are frequently utilized to describe community exposure to noise.
- SEL OR SENEL:** Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure level for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.
- SOUND LEVEL:** The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

APPENDIX B

WA Model RD-77-108: Brown-Buntin Associates, Inc.
 Ivenko Emission Curves Run Date: 12-03-1996
 Object Number: 95-250 Run Time: 10:57:25
 Area: Existing
 Street Site

PUT DATA SUMMARY:

Segment	ADT	Day%	Even%	Nite%	%MT	%HT	Speed	Distance	Offset
1	13300	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
2	6740	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
3	3200	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
4	17000	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
5	7400	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
6	2000	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
7	9150	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
8	13400	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
9	12730	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
10	15390	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
11	1000	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
12	1	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
13	11170	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
14	10890	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
15	12730	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
16	22100	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
17	6350	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
18	5500	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
19	3000	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0

IWA Model RD-77-108: Brown-Buntin Associates, Inc.
 plveno Emission Curves Run Date: 12-03-1996
 roject Number: 95-250 Run Time: 14:58:42
 ear: Cumulative No Project
 oft Site

INPUT DATA SUMMARY:

egment	ADT	Day%	Eve%	Nite%	%MT	%HT	Speed	Distance	Offset
1	38800	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
2	37700	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
3	15000	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
4	27900	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
5	24800	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
6	9400	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
7	40100	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
8	43200	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
9	51600	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
10	51200	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
11	8300	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
12	13000	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
13	38100	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
14	50300	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
15	49800	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
16	47300	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
17	45800	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
18	37500	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
19	14600	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
20	28400	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
21	29900	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0

WA Model RD-77-108: Brown-Buntin Associates, Inc.
 Ivenno Emission Curves Run Date: 12-03-1996
 Project Number: 95-250 Run Time: 15:01:02
 Location: Cumulative Plus Project
 Street Site

INPUT DATA SUMMARY:

Segment	ADT	Day%	Eve%	Nite%	%MT	%HT	Speed	Distance	Offset
1	46100	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
2	43600	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
3	18700	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
4	31600	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
5	30000	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
6	10600	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
7	43000	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
8	46600	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
9	58500	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
10	53500	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
11	10000	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
12	14000	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
13	46700	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
14	53000	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
15	50400	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
16	48900	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
17	46600	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
18	38200	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
19	15000	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
20	28700	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0
21	31900	87.0	0.0	13.0	2.5	1.0	45.0	75.0	0.0

TABLE VII CUMULATIVE TRAFFIC NOISE LEVELS						
Roadway	Without Project	With Project	Distance to L_{dn} Contour (feet)			
			Without Project		With Project	
	L_{dn} dB at 75'		60 dB	65 dB	60 dB	65 dB
Florin Road						
West of Watt Ave.	70.2	71.0	361	168	405	188
Watt Ave. to Bradshaw Rd.	70.1	70.7	354	164	390	181
Bradshaw Rd. to Excelsior Rd.	66.1	67.1	192	89	222	103
Gerber Road						
West of Elk Grove-Florin Rd.	68.8	69.3	290	134	315	146
Elk Grove-Florin Rd. to Bradshaw Rd.	68.3	69.1	268	124	304	141
Bradshaw Rd. to Vineyard Rd.	64.1	64.6	140	65	152	71
Bradshaw Road						
Calvine Rd. to Gerber Rd.	70.4	70.7	369	171	387	179
Gerber Rd. to Florin Rd.	70.7	71.0	388	180	408	189
Florin Rd. to Elder Creek Rd.	71.5	72.0	436	203	475	220
Elder Creek Rd. to S.R. 16	71.4	71.6	434	202	447	208
Vineyard Road						
Calvine Rd. to Gerber Rd.	63.5	64.3	129	60	146	68
Gerber Rd. to Florin Rd.	65.5	65.8	174	81	183	85
Elk Grove-Florin Road						
Calvine Rd. to Gerber Rd.	70.2	71.0	357	166	408	190
S. Watt Avenue						
Gerber Rd. to Florin Rd.	71.4	71.6	429	199	444	206
Florin Rd. to Elder Creek Rd.	71.3	71.4	426	198	430	199
Elder Creek Rd. to S.R. 16	71.1	71.2	412	191	421	195
Calvine Road						
West of Elk Grove-Florin Rd.	71.0	71.0	403	187	408	189
Elk Grove-Florin Rd. to Bradshaw Rd.	70.1	70.2	353	164	357	166
Bradshaw Rd. to Vineyard Rd.	66.0	66.1	188	87	192	89
Waterman Road						
Calvine Rd. to Gerber Rd.	68.9	68.9	293	136	295	137
Gerber Rd. to Florin Rd.	69.1	69.4	303	141	317	147

The locations of the 60 dB L_{dn} traffic noise contours for the Cumulative Plus Project Alternative are shown on Figure 2. Noise contours shown on Figure 2 are only for roadways which affect the project site. Based upon this analysis, portions of the project site which include residential uses will be exposed to traffic noise levels in excess of 60 dB L_{dn} .

In addition, future cumulative traffic noise levels at residences adjacent to major roadways in the general area of the project are expected to exceed the 60 dB L_{dn} exterior noise level criterion for both the Cumulative Without Project and the Cumulative Plus Project Alternatives.

Based upon Table VII, traffic noise levels due to the project are expected to increase future cumulative noise levels between 0 and 1.0 dB L_{dn} . This would not be a significant increase based upon Table IV.

Railroad Noise Levels

It is difficult to estimate the future train operation noise levels along the Central California Traction Railroad track. As stated earlier in this report, the staff at the Central California Traction Railroad indicated that historically up to 8 train operations occurred during a 24-hour period, and that in the past five years traffic has doubled along the railroad line. There were no estimates of future operations along the railroad line.

For the purposes of this report, it is assumed that 8 train operations will occur along the track. Table VIII shows the predicted distances to the future railroad operation noise contours.

TABLE VIII FUTURE RAILROAD NOISE LEVELS	
Distance to L_{dn} Contours	
60 dB	65 dB
124 feet	57 feet

Based upon Table VIII and the proposed land use plan, some residential uses could be exposed to railroad noise levels in excess of the Sacramento County exterior noise level criterion of 60 dB L_{dn} .

Mather Airport Aircraft Noise Levels

Based upon the new guiding document for determining potential future noise impacts associated with the Mather Airport which is entitled: Mather Airport Comprehensive Land Use Plan Update, May 1996, Draft, it is not anticipated that the project site will be exposed to aircraft noise levels in excess of the 60 dB CNEL criterion.

On-Site Stationary Noise Sources

The Specific Plan does propose new commercial, business/professional and school uses. Where these uses are located within close proximity to residential uses, there exists a potential for noise-related land use conflicts. It is not possible to determine the noise impacts at the Specific Plan stage. Potential noise sources and impacts will need to be identified and determined when specific uses are proposed within areas designated for commercial and business/professional uses.

MITIGATION

Development of residential uses within the North Vineyard Specific Plan Area could be adversely affected by future traffic, railroad operations and new commercial, business/professional, and school use noise levels. The extent by which existing or future residential developments would be affected by these noise sources would depend on the proximity of the developments to the various noise sources. Residential development in close proximity to major roadways is expected to be significantly impacted by traffic noise. Some residential uses located within close proximity of the railroad track could also be adversely impacted by train operation noise. Future siting of commercial, business/professional, and school uses may also impact proposed nearby residential uses.

The following section provides recommendations for noise control. These recommendations may be employed to reduce traffic, railroad, and stationary source noise levels at the future noise sensitive development within the Specific Plan Area. Where noise sensitive land uses are proposed within the 60 dB L_{dn} future traffic or railroad operation noise contours, an acoustical analysis should be required so that noise mitigation measures are incorporated into the project design. The objectives of the mitigation measures are to ensure compliance with the Sacramento County noise standards and to protect noise sensitive developments from excessive noise levels.

Use of Setbacks:

Noise exposure may be reduced by increasing the distance between the noise source and receiving use. Setback areas can take the form of open space, frontage roads, recreational areas, storage yards, etc. The available noise attenuation from this technique is limited by the characteristics of the noise source, but is generally 4 to 6 dB per doubling of distance from the source. To fully mitigate traffic noise impacts to less than 60 dB L_{dn} at residential uses, setbacks consistent with Table VII would be required.

Use of Barriers:

Shielding by barriers can be obtained by placing walls, berms or other structures, such as buildings, between the noise source and the receiver. The effectiveness of a barrier depends upon blocking line-of-sight between the source and receiver, and is improved with increasing the distance the sound must travel to pass over the barrier as compared to a straight line from source to receiver. The difference between the distance over a barrier and a straight line between source and receiver is called the "path length difference," and is the basis for calculating barrier noise reduction.

Barrier effectiveness depends upon the relative heights of the source, barrier and receiver. In general, barriers are most effective when placed close to either the receiver or the source. An intermediate barrier location yields a smaller path length difference for a given increase in barrier height than does a location closer to either source or receiver.

For maximum effectiveness, barriers must be continuous and relatively airtight along their length and height. To ensure that sound transmission through the barrier is insignificant, barrier mass should be about 4 lbs./square foot, although a lesser mass may be acceptable if the barrier material provides sufficient transmission loss in the frequency range of concern. Satisfaction of the above criteria requires substantial and well-fitted barrier materials, placed to intercept line of sight to all significant noise sources. Earth, in the form of berms or the face of a depressed area, is also an effective barrier material.

Noise barriers could be effectively utilized to mitigate future traffic or railroad noise levels. Although, precise barrier heights cannot be determined until details of grading plans and pad locations are completed, approximate barrier heights can be determined using typical setbacks and roadway cross-sections provided by the project applicant.

Traffic Noise

BBA used the FHWA noise barrier performance analysis methodology to determine the insertion loss and resulting noise level provided by different barrier heights at the first row of lots which face Florin Road, Gerber Road, Bradshaw Road, Vineyard Road and Waterman Road. Table IX shows the estimated barrier heights required to mitigate traffic noise levels at residential outdoor activity areas to less than 60 dB and 65 dB L_{dn} . This assumes a distance of 75 feet from the roadway centerline to the outdoor activity area.

TABLE IX		
APPROXIMATE BARRIER HEIGHTS REQUIRED TO ACHIEVE 60 dB L_{dn}		
Roadway	Barrier Height	L_{dn}, dB
Florin Road		
Watt Ave. to Bradshaw Rd.	6'	64.5
	8'	62.3
	10'	60.0
Bradshaw Rd. to. Vineyard Rd.	6'	60.8
	7'	59.7
Gerber Road		
Elk Grove-Florin Rd. to Bradshaw Rd.	6'	62.9
	8'	60.6
	9'	59.6
Bradshaw Rd. to Vineyard Rd.	6'	58.3
Bradshaw Road		
Gerber Rd. to Florin Rd.	6'	64.8
	8'	62.6
	11'	59.6
Vineyard Road		
Gerber Rd. to Florin Rd.	6'	59.5
Waterman Road		
Gerber Rd. to Florin Rd.	6'	63.1
	8'	60.9
	9'	59.8
This analysis assumes that the building pads are at the same grade as roadways.		
This analysis assumes that the outdoor activity areas are 75 feet from roadway centerlines.		
This analysis assumes that a minimum height to break line-of-site to automobiles tire noise is 6 feet.		

The approximate barrier heights shown in Table IX are assumed to be relative to building pad elevations. A detailed analysis of barrier heights should be conducted when grading plans and building pad elevations and locations have been provided.

Railroad Noise

BBA used a barrier profile analysis to determine appropriate barrier heights to reduce railroad noise levels to less than 60 dB L_{dn} . This analysis assumes a distance of 50 feet from the railroad track centerline to the outdoor activity area. This analysis assumes that the building pads are at the same grade as the railroad bed. Based upon the analysis, a barrier 8.5 feet in height would be required to reduce railroad noise levels to less than 60 dB L_{dn} . However, a barrier 6 feet in height would result in a noise level of 61.9 dB L_{dn} , and a barrier 8 feet in height would result in a noise level of 60.2 dB L_{dn} .

Site Design:

Buildings can be placed on a project site to shield other structures or areas, to remove them from noise-impacted areas, and to prevent an increase in noise level caused by reflections. The use of one building to shield another can significantly reduce overall project noise control costs, particularly if the shielding structure is insensitive to noise. As an example, carports or garages can be used to form or complement a barrier shielding adjacent dwellings or an outdoor activity area. Similarly, one residential unit can be placed to shield another so that noise reduction measures are needed for only the building closest to the noise source. Placement of outdoor activity areas within the shielded portion of a building complex, such as a central courtyard, can be an effective method of providing a quiet retreat in an otherwise noisy environment. Patios or balconies should be placed on the side of a building opposite the noise source, and "wing walls" can be added to buildings or patios to help shield noise sensitive areas.

Acoustical Analyses

Roadway Noise

A detailed acoustical analysis will need to be conducted for residences located within the 60 dB L_{dn} roadway noise contours when grading plans and building pad elevations and locations have been provided. In addition, a detailed analysis of interior noise level at second floor facades of residences located inside of the 65 dB L_{dn} noise contours and not shielded by barriers should also be conducted. Interior noise level analyses cannot be conducted until floor plans, building elevations and facade construction details have been completed.

Railroad Noise

A detailed acoustical analysis will need to be conducted for residences located within the 60 dB L_{dn} railroad noise contours when grading plans and building pad elevations and locations have been provided.

APPENDIX C

NVSSP FEIR: Final Technical Appendices Vol. I

NORTH VINEYARD STATION SPECIFIC PLAN TECHNICAL APPENDIX: BIOTIC RESOURCES

Prepared for:

County of Sacramento

May 3, 1996

SUGNET & ASSOCIATES
ENVIRONMENTAL CONSULTANTS

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1. Plant and Animal Species Observed at North Vineyard Station Specific Plan Area
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3. Department of Energy Western Area Power Administration letter
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NORTH VINEYARD STATION SPECIFIC PLAN TECHNICAL APPENDIX: BIOTIC RESOURCES

BIOTIC RESOURCES INVENTORY

INTRODUCTION

The 1608±-acre North Vineyard Station Specific Plan area is located within Sacramento County and is bounded by Florin Road on the north, Gerber Road on the south, portions of Elder Creek on the West, and the property boundary in line with Vineyard Road on the East. The California Central Traction Line (railroad) bisects the Plan Area into two unequal portions. The Plan Area is included within portions of Sections 4, 5, and 6 of Township 7 North, Range 6 East, on the Elk Grove, California 7.5 minute U.S. Geological Survey quadrangle (Figure 1).

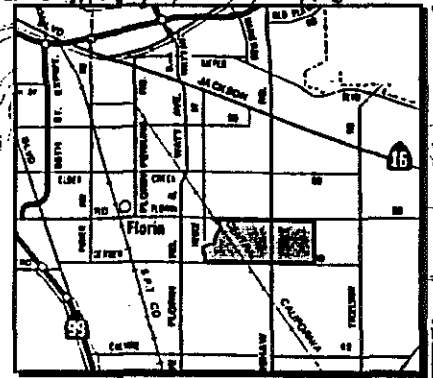
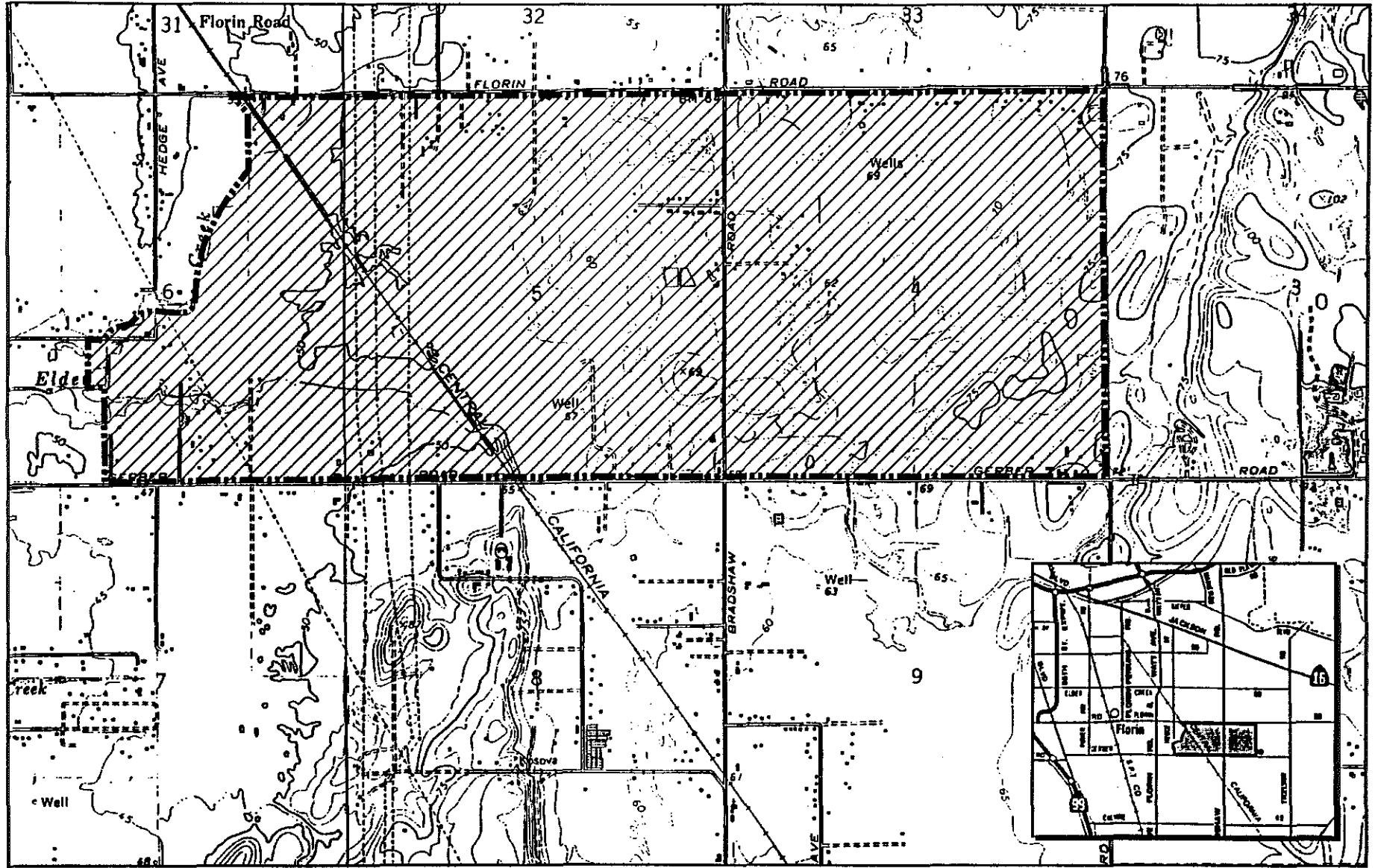
Biotic inventories were conducted in the Specific Plan area in accordance with General Plan Policies.

These surveys followed the methods set forth within the Sacramento County "Specific Plan Wetland Mitigation Plan Process Guidelines" (March 1994).

Sacramento County requires that wetland delineations include a description of habitat types and associated plant and animal species, special-status species determination, and habitat quality evaluation. The County recommends gathering information on wetland resources through the combined use of aerial or satellite imagery, historical data, and field verification.

The guidelines state that appropriate aerial photographs should be selected based on floral characteristics, prevailing weather conditions, time of year and day that the photos were taken, and photo availability. The County lists the Corps' near-infrared "false-color" imagery as a possible resource for information on wetland resources. Under the guidelines, the project applicant should investigate the existence of other environmental documents, wetland inventories, mitigation monitoring report programs, or Corps permit authorizations that have been developed for previous projects (if any are available that are judged to be applicable).

KB:88300 • North Vineyard Station

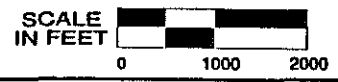


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PROJECT SITE AND VICINITY



FIGURE 1



The Specific Plan area was analyzed in accordance with the above policy to determine the presence or absence of special-status species as defined by the federal Endangered Species Act, California Endangered Species Act, and California Fish and Game Code.

The biotic resource inventory targeted three major goals:

- habitat characterization (including plant and animal inventory);
- delineation of jurisdictional waters of the U.S.; and
- special-status species determination.

Methods and results for each of these aspects are reported below.

METHODS: BIOTIC RESOURCES INVENTORY

- Habitat Characterization

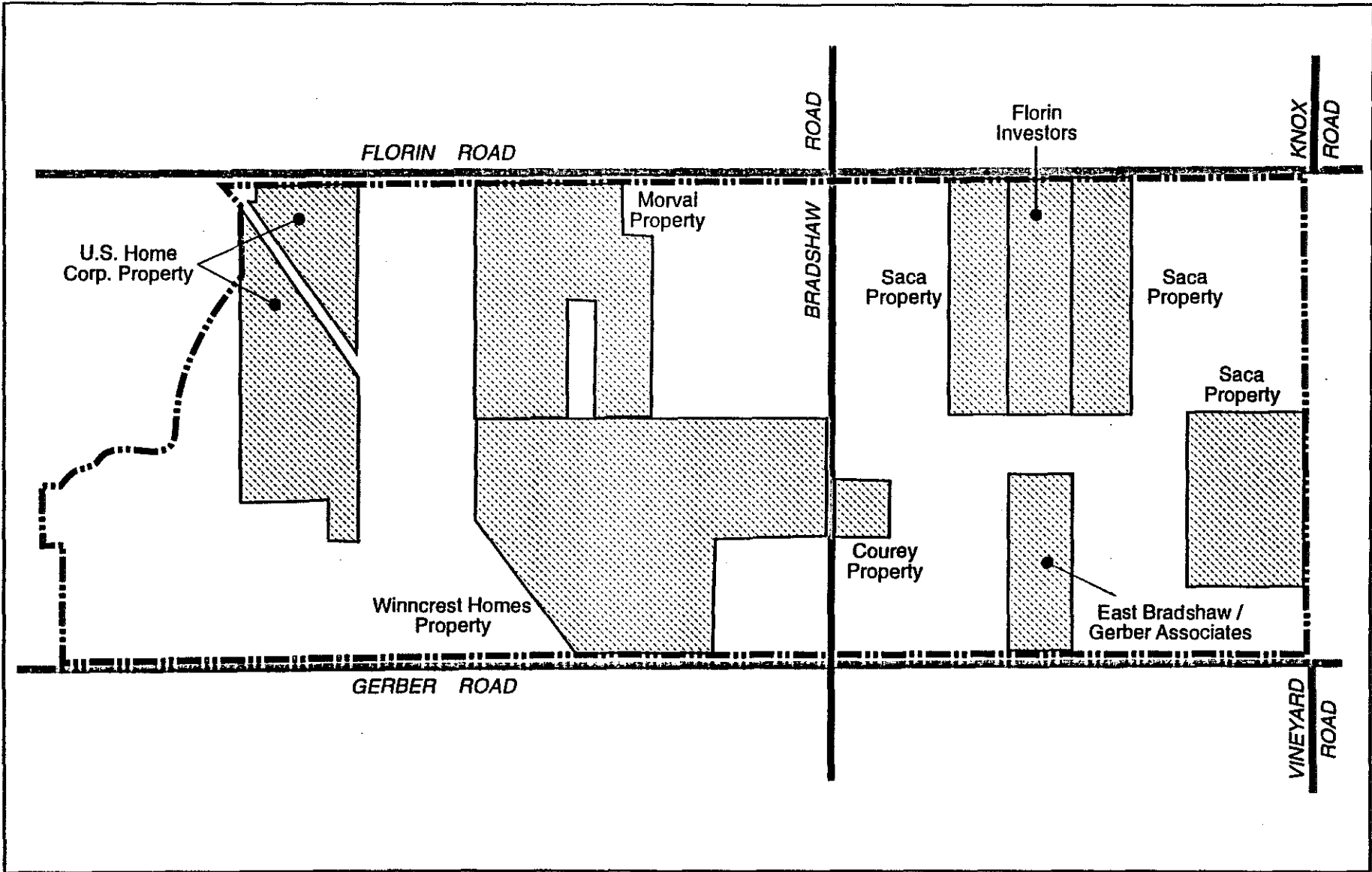
Non-Participating Properties

Due to access limitations, habitat characterization for non-participating properties was undertaken using aerial photographic analysis and observations made from off-site. Following habitat characterization, a list of plant and animal species observed was compiled for the plan area.

Participating Properties

In addition to the habitat characterization methods described above, participating properties (Figure 2) were subjected to complete biotic resource inventories undertaken by qualified biologists. For the most part, these efforts were undertaken in conjunction with other survey efforts (i.e., jurisdictional waters of the U.S. delineation and special-status species determinations). Biotic inventories detailed below were compiled from field observations made during these surveys.

KB:66900-North Vineyard Station



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**NORTH VINEYARD STATION SPECIFIC PLAN
 PARTICIPATING PROPERTIES**

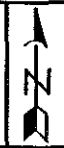


FIGURE 2

Not To Scale

- Delineation of Jurisdictional "Waters of the U.S."

Non-Participating Properties

Due to access limitations, tentative identification of waters of the U.S. (including wetlands) was undertaken using aerial photographic analysis, review of available soils data (U.S. Department of Agriculture, Soil Conservation Service 1993), and observations made from off-site.

Participating Properties

In addition to the methods described above, participating properties were subjected to wetland delineation according to methods outlined the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987). These methods include field investigation and characterization of waters, including wetlands, using hydrologic, soils, and vegetative criteria. Delineation dates for each of the participating properties are reported in Table 1.

Table 1. Delineation of Jurisdictional "Waters of the U.S." for Participating Properties, Field Survey Dates

<u>Property</u>	<u>Date of Delineation</u>
U.S. Home Corporation	May 1995
East Bradshaw/Gerber Associate	May 1995
Saca	March 1995
Morvai	March 1995
Winncrest Homes	September 1993
Florin Investors	March 1995
Courey	March 1996

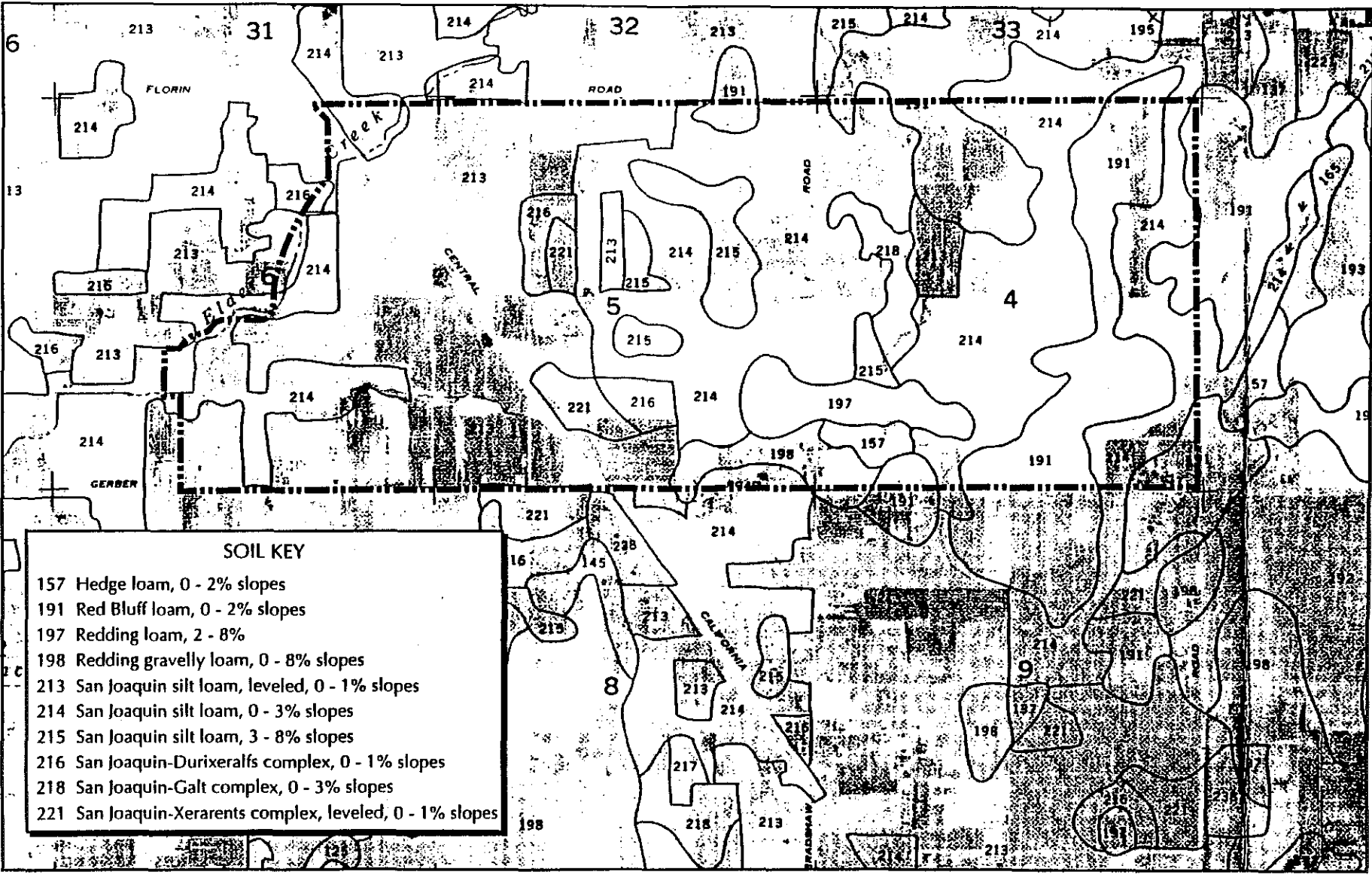
Additional resources utilized for the delineation included:

- Aerial photography (black and white, photo date: 29 March 1995, 1"=200'),
 - Special-flight aerial photography (color, photo date: 04 March 1995, unspecified scale),
 - Aerial photography (black and white, photo date: 06 April 1993, 1"=200')
 - Aerial photography (color infrared, photo date: 22 May 1989, 1"=1000'),
 - *Munsell Soil Color Chart* (Munsell Color 1988),
 - *The National List of Plants that Occur in Wetlands: California (Region 0)* (Reed 1988), and
 - *Sacramento County Soil Survey* (U.S.D.A. 1993) (Figure 3).
- Special-Status Species Determination

Two levels of special-status species assessments have been conducted within the plan area. On-site determinate surveys have been completed for most of the participant properties. For the remainder of the plan area, a list of potentially occurring special-status species has been developed. For the purposes of this document, the term special-status is defined to include those species which are:

- listed (or formally proposed for, or candidates for listing) as threatened or endangered under the federal Endangered Species Act;
- listed (or candidates for listing) as threatened or endangered under the California Endangered Species Act;
- designated as endangered or rare, pursuant to California Fish and Game Code (§1901);
- designated as fully-protected, pursuant to California Fish and Game Code (§3511, §4700, or §5050); or
- designated by the California Department of Fish and Game as species of special concern.

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SOIL KEY	
157	Hedge loam, 0 - 2% slopes
191	Red Bluff loam, 0 - 2% slopes
197	Redding loam, 2 - 8%
198	Redding gravelly loam, 0 - 8% slopes
213	San Joaquin silt loam, leveled, 0 - 1% slopes
214	San Joaquin silt loam, 0 - 3% slopes
215	San Joaquin silt loam, 3 - 8% slopes
216	San Joaquin-Durixeralfs complex, 0 - 1% slopes
218	San Joaquin-Galt complex, 0 - 3% slopes
221	San Joaquin-Xerarents complex, leveled, 0 - 1% slopes

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**NRCS SOIL TYPES AT
 NORTH VINEYARD STATION**

FIGURE 3

SCALE IN FEET 0 1000 2000

The following data sources were reviewed prior to the special-status species surveys:

- *The Natural Diversity Data Base (NDDB)* (California Department of Fish and Game 1993).
- *Inventory of Rare and Endangered Vascular Plants of California*, 4th edition (California Native Plant Society 1988).
- Aerial photography (see above).
- "Elk Grove, California" topographic quadrangle, scale: 1:24,000, (U.S. Geological Survey 1968, photo-revised 1979).
- *California's Wildlife, Volume 1 (Amphibians and Reptiles), Volume 2 (Birds), and Volume 3 (Mammals)* (CDFG 1988, 1990a, 1990b).
- *Soil Survey of Sacramento County* (U.S. Department of Agriculture, Soil Conservation Service 1993).
- Wetland delineation for participating parcels.

Non-Participating Properties

Based upon the habitat characterization compiled for the plan area, and consideration of specific habitat requirements and geographic ranges, a list of potentially-occurring special-status plant and animal species was compiled. These species may be conveniently classified into the following broader ecological/taxonomic categories:

- wetland plants;
- aquatic invertebrates;
- amphibians;
- reptiles; and
- birds.

Due to access limitations, determinate special-status species surveys were not conducted on non-participating properties.

Participating Properties

With the exception of surveys for federally-listed aquatic invertebrates, determinate surveys for special-status species were conducted within the U.S. Home Corporation Property, Saca Properties, Morvai Property, East Bradshaw/Gerber Associates Property, and Winncrest Homes Property. Aquatic invertebrate surveys, conducted on two or three sampling occasions on these properties were not conducted with adequate frequency (biweekly) or duration (two wet seasons) to constitute determinate surveys under U.S. Fish and Wildlife Service survey guidelines. To date, no determinate special-status species surveys have been conducted with the Courey and Florin Investors Property. The Courey Property only represents habitat for birds. Special-status species determinations (consisting of on-site field surveys) were conducted by qualified biologists during appropriate survey seasons, as reported in Table 2. Plant surveys were conducted by walking meandering transects throughout the property focussing on areas with the highest potential of supporting special-status species. Aquatic invertebrate surveys were conducted with a "D-ring" dip net (20 x 24 mesh/inch). Amphibians were sampled using both "D-ring" dip nets and a two-person seine. Surveys for other vertebrate species (i.e., reptiles and birds) were based upon visual observation.

RESULTS: BIOTIC RESOURCES INVENTORY

Results of biotic assessments are reported below.

- Habitat Characterization

The project area is located on the flat bottom of the Sacramento Valley. This area supports few woody species and very little overall woody biomass. The exception is riparian zones which have deeper soils and more available water. Well developed riparian zones are not present in the plan area. Habitats identified within the plan area (i.e., on both non-participating properties and participating properties) are characterized below.

Terrestrial Habitats

Non-native Annual Grassland

The dominant habitat type in the specific plan area is non-native annual grassland. These areas are typically not irrigated and occur in several forms including historically disturbed fallow ground, dry pasture (primarily used for cattle and horses), and "buffer" areas along roads and near houses. Plant species most common throughout the area include soft chess, ripgut brome, wild oat, barley, filaree, tarweed, yellow star thistle, wild radish, and toad rush.

Irrigated Pasture

Flood irrigation of pastures occurs during the dry months in many parts of the plan area. Plant species (forage) consists of a mixture of typical dryland species, as well as many species that occupy the margins of wetlands, and include fescue, birdsfoot trefoil, chicory, curly dock, english plantain, tall flatsedge, thistle, spiny-fruit butter-cup, and white clover.

Trees

Numerous trees are scattered throughout the plan area, typically associated with homesites or situated along fence lines. Observed species include eucalyptus (*Eucalyptus* spp.), Chinese pistachio (*Pistacia chinensis*), black walnut (*Juglans californica*), camphor (*cinamomum camphora*), persimmon (*Diospyros viraginiaia*), and fruitless mulberry (*Morus alba*). A few large Gooding's willows occur along Elder and Gerber Creeks.

Residences — Exotic Landscaping

Most of the vegetation around the residences are ornamental species. These areas support most of the trees and shrubs.

Aquatic Habitats

Elder Creek and Gerber Creek

Elder and Gerber creeks flow through the project site. These creeks are shallow and carry relatively low flows. They have very little woody vegetation, with the exception of short reaches of riparian scrub species such as willow and blackberry. Elder Creek flows through the northwestern corner of the Plan area and joins Gerber Creek near the western boundary of the Plan area.

Elder Creek supports fairly dense areas of blackberry and several willows. The channel bottom is flat with exposed hardpan. Gerber Creek flows along a portion of the southern boundary in an east-west direction. It supports very little woody vegetation over most of its on-site course.

Vernal Pools

Vernal pools are depressional areas within the grassland landscape which pond during the wet winter months and dry out during spring. They are generally small, but can exist in a wide range of depths (several inches to several feet) and sizes (several square feet to several thousand square feet). Vernal pools can occur as isolated basins or as depressions within swales. Maturation of various plant species is from late winter to late spring.

Vegetation is dominated by native non-grass species such as coyote thistle, popcorn flower, Fremont's goldfields, white-head navarretia, dwarf wooly-heads, and American pillwort .

Seasonal Wetlands

Seasonal wetlands are typically shallow and do not pond as deep as vernal pools although their effective saturation period is about the same. These features are support a plant community primarily of grass species (barley and ryegrass).

Drainage Swale

Drainage swales are sloped seasonal wetlands, i.e., water conveyance systems for local watersheds. They are saturated for slightly lesser periods of time than seasonal wetland but tend to support a similar flora.

Freshwater Marsh

Freshwater marsh is typically deeper than seasonal wetlands and vernal pools and pond into early summer. They are dominated by marsh species such as smartweed, cattails, soft rush, and floating aquatics.

Stock Ponds

Several man-made ponds (stock ponds) occur in the plan area. These features occur in several forms including impoundments of drainage swales, excavations within drainages, or excavation on uplands. Water level in the stock ponds fluctuates widely through the year, typically filling in winter and drying out or declining to lowest levels in fall. Vegetation within these ponds also varies widely depending on water regime and level of disturbance.

Observed Animals and Plant Species

A cumulative list of animal and plant species observed in the plan area are identified in Table 2 (see Attachment 1). An inventory of observed plant and animals species for each surveyed property is grouped within Table 3 (see Attachment 2). Plant and animal species lists are not available for the Florin Investors Property.

- Jurisdictional "Waters of the U.S."

The distribution of the aquatic habitats described above that occur within the plan area is depicted Figure 4, and in the full-size exhibit "Preliminary Wetland Assessment, North Vineyard Station Plan Area." Approximate acreages of potentially jurisdictional waters within the plan area are given in Table 2.

Table 2. Potentially Jurisdictional "Waters of the U.S." within the North Vineyard Station Specific Plan Area, Acreages

<u>Water of the U.S. Category</u>	<u>Acreage</u>
Perennial Creek	6
Freshwater Marsh	2
Seasonal Wetland	18
Vernal Pool	18
Drainage Swale	7
Stock Pond	0.09*
Total:	51

* Only 0.09 acres of stock ponds have been verified by the Corps.
All other stockponds are assumed to be non-jurisdictional waters of the U.S.

Participating Properties

A summary of wetland acreages is presented in Table 3.

U.S. Home Corporation Property

Wetland delineations were conducted within the U.S. Home Corporation Property during May 1995. A total of 1.48 acres of jurisdictional waters of the U.S. have been mapped and subsequently verified.

Morvai Property

Wetland delineations were conducted within the Morvai Property during March 1995. A total of 4.22 acres of jurisdictional waters of the U.S. have been mapped and subsequently verified.

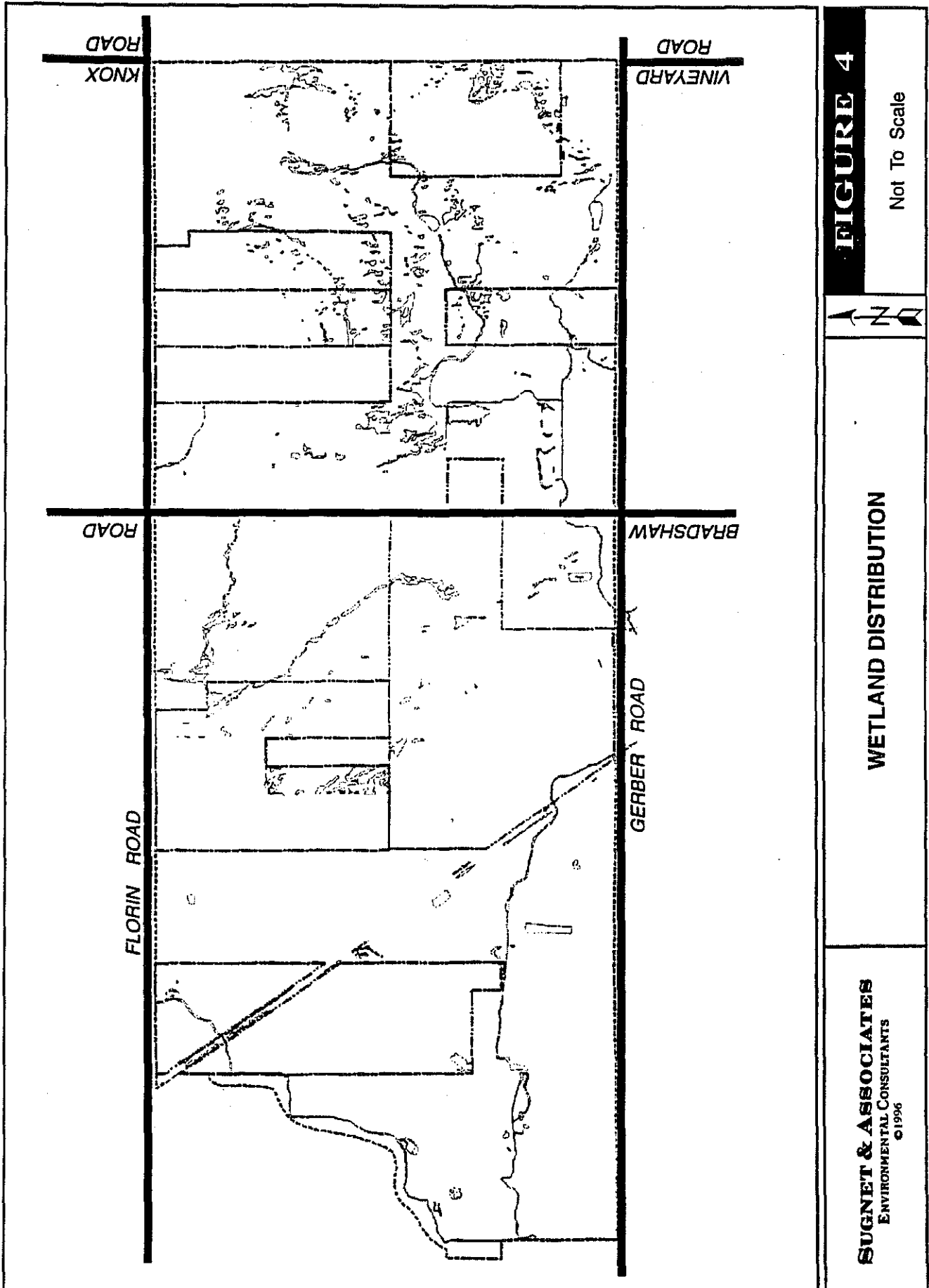
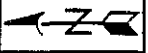


FIGURE 4

Not To Scale



WETLAND DISTRIBUTION

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Table 3. North Vineyard Station Specific Plan Area Participants (Waters of the U.S.)

	<u>Vernal Pool</u>	<u>Seasonal Wetland</u>	<u>Drainage Swale</u>	<u>Elder Creek</u>	<u>Gerber Creek</u>	<u>Stock Pond</u>	<u>Totals</u>
East Bradshaw/ Gerber Associates	0.84	0.19	0.54	0.00	0.00	0.00	1.57*
Courey	0.00	0.00	0.00	0.00	0.00	0.00	0.00+
Morvai	2.46	0.86	0.90	0.00	0.00	0.00	4.22*
Saca	3.70	0.79	0.00	0.59	0.00	0.09	5.17*
Florin Investors	1.63	0.00	0.00	0.00	0.00	0.00	1.63*
U.S. Home Corporation	0.00	0.73	0.00	0.75	0.00	0.00	1.48*
Winncrest Homes	1.30	1.15	0.00	0.00	0.26	0.00	2.71*
Totals	9.93	3.72	1.44	1.34	0.26	0.09	

* - Acreages have been verified by the U.S. Army Corps of Engineers

+ - No waters of the U.S. present on-site

Winncrest Homes Property

Wetland delineations were conducted within the Winncrest Homes Property during September 1993. A total of 2.71 acres of jurisdictional waters of the U.S. have been mapped and subsequently verified.

East Bradshaw/Gerber Associates Property

Wetland delineations were conducted within the East Bradshaw/Gerber Associates Property (formerly known as Chartwell Holdings) during May 1995. A total of 1.57 acres of jurisdictional waters of the U.S. have been mapped and subsequently verified.

Saca Properties

Wetland delineations were conducted within the Saca Properties during March 1995. A total of 5.17 acres of jurisdictional waters of the U.S. have been mapped and subsequently verified.

Courey Property

A wetland delineation was conducted within the Courey Property during March 1996. No jurisdictional waters of the U.S. were observed within this property.

Florin Investors Property

A wetland delineation was conducted and subsequently verified within the Florin Investors Property during March 1995. A total of 1.63 acres of vernal pool was verified within the Florin Investors Property.

Non-Participating Properties

The total wetland area assessed within the non-participating properties within the plan area is approximately 51 acres, and includes vernal pool, seasonal wetland, freshwater marsh, drainage swale, and perennial creek. See Table 6 for a breakdown of wetland acreages within the participating and non-participating properties.⁴

Table 4. Wetland Acreage Within Participant and Non-Participant Properties

<u>Waters of the U.S. Category</u>	<u>Participant Property Acreage</u>	<u>Non-Participant Property Acreage</u>
Vernal Pool	9.93	8
Seasonal Wetland	3.72	14
Drainage Swale	1.44	6
Perennial Creek	1.60	4
Stock Pond	0.09	0
Freshwater Marsh	0.00	2
Total	16.78	34

- Special-Status Species

A comprehensive list of potentially occurring special-status plant and animal species (Table 5) has been compiled for the plan area based upon the habitat types present. Special-status species determinations were conducted by qualified biologists during appropriate survey seasons (Table 6). Potentially-occurring special-status species for the plan area including habitats in which they occur and survey results for participating properties are reported in Table 7, with locations of special-status species actually observed during field surveys shown in Figure 5. A summary of survey results within participating properties follows.

Table 5. North Vineyard Station Specific Plan - Potentially Occurring Special-Status Species

<u>Common Name</u>	<u>Scientific Name</u>	<u>Federal Status</u>	<u>State Status</u>	<u>Habitat Description</u>
Plants				
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>	*	CE	vernal pool
†Ahart's dwarf rush	<i>Juncus leiospermus var. ahartii</i>	*	-	vernal pool
†Greene's legenere	<i>Legenere limosa</i>	*	-	vernal pool
Slender Orcutt grass	<i>Orcuttia tenuis</i>	FPT	CE	vernal pool
Sacramento Orcutt grass	<i>Orcuttia viscida</i>	FPE	CE	vernal pool
†Sanford's arrowhead	<i>Sagittaria sanfordii</i>	*	-	creeks, ditches
Invertebrates				
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT	-	vernal pool, seasonal wetland
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE	-	vernal pool, seasonal wetland
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	FT	-	elderberry shrubs
Amphibians				
California tiger salamander	<i>Ambystoma californiense</i>	FC	CSC	seasonal pools & adjacent grassland
Western spadefoot toad	<i>Scaphiopus hammondi</i>	*	CSC	seasonal pools & adjacent grassland
Reptiles				
Northwestern pond turtle	<i>Clemmys marmorata marmorata</i>	*	CSC	perennial creeks, ponds
Giant garter snake	<i>Thamnophis gigas</i>	FT	CT	ditches, sloughs, marshes
Birds				
White-tailed kite	<i>Elanus leucurus</i>	-	CFP	woodland, grassland
Northern harrier	<i>Circus cyaneus</i>	-	CSC	marsh, grassland
Sharp-shinned hawk	<i>Accipiter striatus</i>	-	CSC	woodland
Cooper's hawk	<i>Accipiter cooperii</i>	-	CSC	woodland
Swainson's hawk	<i>Buteo swainsoni</i>	-	CT	grassland, riparian
Ferruginous hawk	<i>Buteo regalis</i>	*	CSC	grassland
Golden eagle	<i>Aquila chrysaetos</i>	-	CFP, CSC	grassland
Merlin	<i>Falco columbarius</i>	-	CSC	woodland, grassland
Prairie falcon	<i>Falco mexicanus</i>	-	CSC	grassland

TABLE 5. North Valley and Station Specific List - Potentially Occurring Special-Status Species (continued)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Federal Status</u>	<u>State Status</u>	<u>Habitat Description</u>
Mountain plover	<i>Charadrius montanus</i>	FC	CSC	grassland, pasture
Long-billed curlew	<i>Numenius americanus</i>	*	CSC	grassland, pasture
Burrowing owl	<i>Speotyto cunicularia</i>	-	CSC	grassland
Short-eared owl	<i>Asio flammeus</i>	-	CSC	marsh, grassland
Loggerhead shrike	<i>Lanius ludovicianus</i>	*	CSC	grassland, woodland
Tricolored blackbird	<i>Agelaius tricolor</i>	*	CSC	marsh, grassland

Status Codes:

FE - Federally listed, Endangered.

FT - Federally listed, Threatened.

FPE - Formally Proposed for federal listing as Endangered.

FPT - Formally Proposed for federal listing as Threatened.

FC - "Taxa for which the Service has on file enough substantial information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species."

CE - California listed, Endangered.

CT - California listed, Threatened.

CFP - California Department of Fish and Game Fully Protected Species (§3511-birds, §4700-mammals, §5050-reptiles/amphibians).

CSC - California Department of Fish and Game Species of Special Concern.

* - No longer considered a federal candidate species for listing as threatened or endangered (U.S. 1996)

† - No longer considered a special-status, but has been retained on this list because the species was targeted during previous surveys.

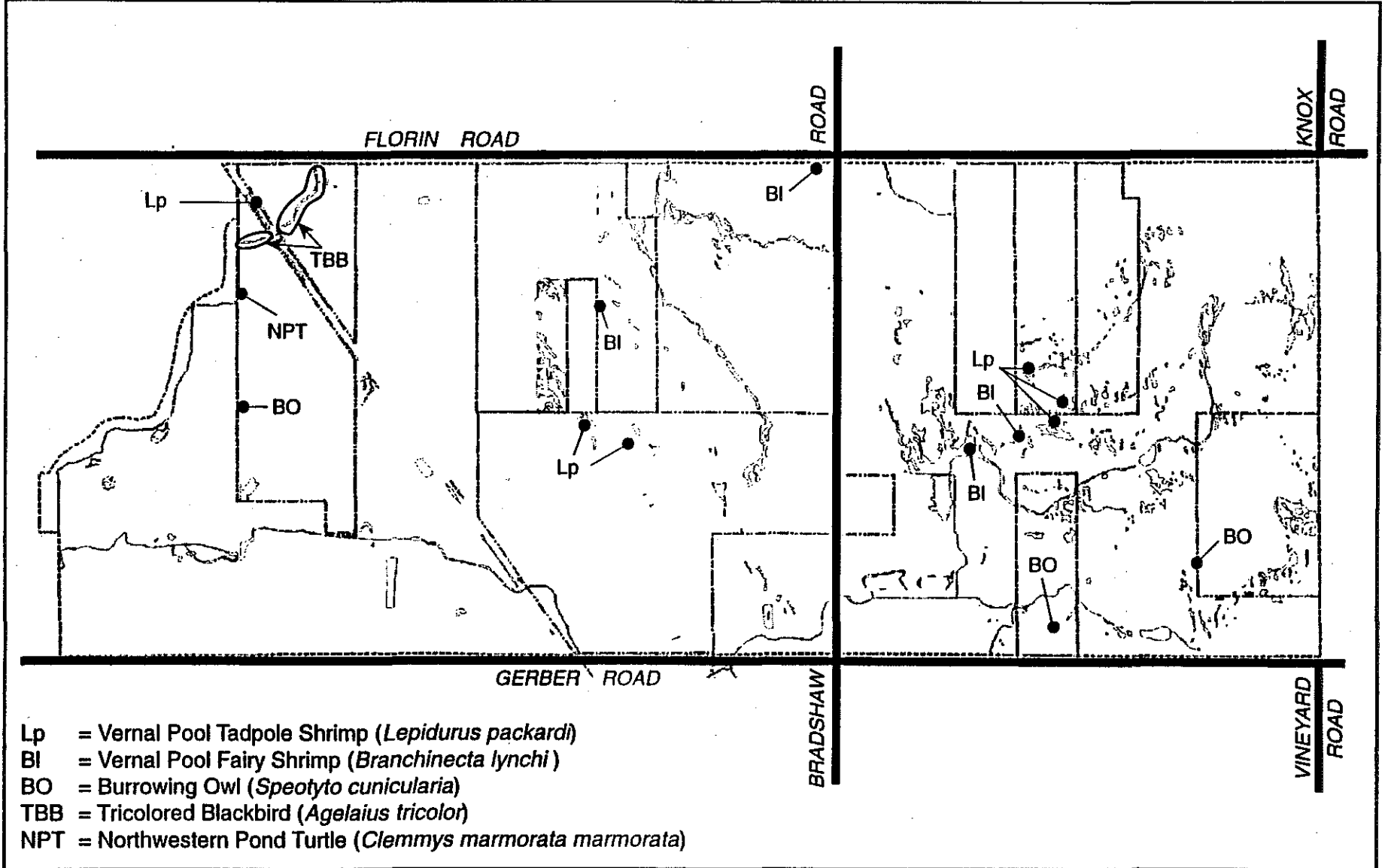
Table 6. North Vineyard Station - Special Status Species Surveys Protocols and Dates within Participating Properties

	<u>Survey Protocol</u>	<u>U.S. Home Corporation</u>	<u>Morvai</u>	<u>East Bradshaw/ Gerber Associates</u>	<u>Saca</u>	<u>Winncrest Homes</u>	<u>Courey</u>	<u>Florin Investors</u>
Plants	Observation	05/02/95	05/11/95	05/11/95	05/08/95	05/21/93	not surveyed	not surveyed
		06/15/95	06/15/95	06/15/95	06/15/95	05/06/93	no habitat	
		4/95	4/93	04/27/93	4/93	04/15/92		
Invertebrates	Dip Net	02/16/93	02/12/93	02/12/93	02/16/93	02/16/93	not surveyed	02/16/93
	or Seine	04/15/92	04/15/92	04/15/92	04/17/92	04/15/92	no habitat	
						04/17/92		
Reptiles	Observation	04/21/95	n/a	n/a	n/a	04/15/92	not surveyed	no habitat
						04/17/92	no habitat	
Amphibians	Dip Net	04/17/92	04/11/95	04/11/95	04/11/95	04/12/93	not surveyed	not surveyed
	or Seine		04/15/92	04/15/92	04/17/92	04/15/93	no habitat	
						04/17/93		
Birds	Observation	4/11/95	4/11/95	4/11/95	4/11/95	5/6/93	3/20/96	not surveyed
		5/2/95	5/11/95	5/11/95	5/8/95	5/21/93		
		6/15/95	6/15/95	6/15/95	6/15/95	4/15/92		
		5/14/93		5/14/93		6/18/92		
		6/18/92		6/18/92				

Table 7. North Vineyard Station Specific Plan - Special-Status Species Survey Results (Participant Properties)

	<u>Plants</u>	<u>Invertebrates</u>	<u>Amphibians</u>	<u>Reptiles</u>	<u>Birds</u>
U.S. Home Corporation	none observed	none observed	none observed	Northwestern Pond Turtle	Tricolored Blackbird (nest) Burrowing Owl (nest) Loggerhead Shrike (forage)
Morvai	none observed	Vernal Pool Fairy Shrimp	none observed	no suitable habitat present	none observed
Winncrest Homes	none observed	Vernal Pool Tadpole Shrimp	none observed	none observed	none observed
East Bradshaw/ Gerber Associates	none observed	none observed	none observed	no suitable habitat present	Burrowing Owl (nest)
Saca	none observed	none observed (West & East) not surveyed (South)	none observed	no suitable habitat present	Burrowing Owl (nest) Northern Harrier (forage) Tricolored Blackbird (forage)
Florin Investors	has not been surveyed	Vernal Pool Tadpole Shrimp	has not been surveyed	no suitable habitat present	has not been surveyed
Courey	no suitable habitat present	no suitable habitat present	no suitable habitat present	no suitable habitat present	none observed during one visit

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SPECIAL-STATUS SPECIES OBSERVED

FIGURE 5
 Not To Scale

U.S. Home Corporation Property

Plants

There are six potentially occurring special-status plants at the U.S. Home Corporation Property, all associated with wetland habitat. Each wetland was field surveyed to determine the presence or absence of target species. Two surveys were conducted, the first on May 2, 1995 and the second on June 15, 1995. Prior to the 1995 determinate surveys, assessment surveys were conducted in April, 1993 for all six potentially occurring special-status plants. No special-status plants were observed on this property during these surveys.

Invertebrates

There are two potentially occurring special-status invertebrates at the U.S. Home Corporation Property: vernal pool fairy shrimp and vernal pool tadpole shrimp. Aquatic invertebrate sampling was conducted on April 17, 1992 and February 16, 1993. No special-status invertebrates were observed within this properties during these surveys.

Reptiles

There are two potentially occurring special-status reptiles at the U.S. Home Corporation Property, northwestern pond turtle and giant garter snake. Surveys were conducted on April 21, 1995. One northwestern pond turtle was observed basking along the Elder Creek corridor along the westernmost boundary property.

Birds

There are four special-status birds which may potentially nest within the U.S. Home Corporation Property, northern harrier, burrowing owl, loggerhead shrike, and tricolored blackbird. In addition, three other special-status birds may occur on-site as foragers only, white-tailed kite, Cooper's hawk, and Swainson's hawk. Surveys for these species were conducted on June 18, 1992, May 14, 1993, April 11, May 2 and June 15, 1995.

Within the U.S. Home Corporation Property, burrowing owls have been observed along the western fenceline in the southern half of the property during each year of surveys. The owls' burrows are located adjacent to a series of ground squirrel holes. A colony of nesting tricolored

blackbirds was observed in the Elder Creek blackberry thicket in 1992 and 1993. However, in the three site visits in 1995, we observed no evidence of the nesting colony.

Morvai Property

Plants

There are six potentially occurring special-status plants within the Morvai Property, all associated with wetland habitat, vernal pool. Each wetland was field surveyed to determine the presence or absence of target species. Two surveys were conducted, the first on May 11, 1995 and the second on June 15, 1995. Prior to the 1995 determinate surveys, assessment surveys were conducted in April, 1993 for special-status plants. No special-status plants were observed on the Morvai property during these of the surveys.

Invertebrates

There are two potentially occurring special-status invertebrates within the Morvai Property: vernal pool fairy shrimp and vernal pool tadpole shrimp. Aquatic invertebrate surveys were conducted within the Morvai Property during April 15, 1992 and February 12, 1993. Vernal pool fairy shrimp were found in one vernal pool located near the center of the project site.

Amphibians

There are two potentially occurring special-status amphibians within the Morvai Property. Surveys for the California tiger salamander and western spadefoot toad were conducted on April 11, 1995. No special-status amphibians were observed on the Morvai property.

Birds

There are two special-status birds which may potentially nest within the Morvai Property, northern harrier and burrowing owl. Five other special-status birds may occur on-site as foragers only (no nesting habitat on-site), white-tailed kite, Cooper's hawk, Swainson's hawk, loggerhead shrike, and tricolored blackbird. Surveys for these species were conducted on April 11, May 11, June 15, 1995. No special-status birds were observed on the Morvai Property.

Winncrest Homes Property

Plants

There are six potentially occurring special-status plants at the Winncrest Homes Property, all associated with wetland habitat. Each wetland was field surveyed to determine the presence or absence of target species. Surveys were conducted on April 15 and 17, 1992, May 6 and 21, 1993. No special-status plants were observed on this property during these surveys.

Invertebrates

There are two potentially occurring special-status invertebrates at the Winncrest Homes Property: vernal pool fairy shrimp and vernal pool tadpole shrimp. Aquatic invertebrate sampling was conducted on April 17, 1992 and February 16, 1993. Vernal pool tadpole shrimp were observed within the northern portion during these surveys.

Reptiles

There are two potentially occurring special-status reptiles at the Winncrest Homes Property, northwestern pond turtle and giant garter snake. Surveys were conducted on April 15 and 17, 1992. No special-status reptiles were observed during these surveys.

Birds

There are three special-status birds which may potentially nest on the Winncrest Homes Property, northern harrier, burrowing owl, and loggerhead shrike. In addition, three other special-status birds may occur on-site as foragers only, white-tailed kite, Cooper's hawk, and Swainson's hawk. Surveys for these species were conducted on April 15 and 18, 1992, and May 6 and 21, 1993. No special-status birds were observed within this property during these surveys.

East Bradshaw/Gerber Associates Property

Plants

There are five potentially occurring special-status plants within the East Bradshaw/Gerber Associates Property (EB/GA), all associated with wetland habitat. Each wetland was field surveyed to determine the presence or absence of target species. Two surveys were conducted, the first on May 11, 1995 and the second on June 15, 1995. Prior to the 1995 determinate surveys, assessment-level surveys were conducted on April 27, 1993 for all five potentially occurring special-status plants. No special-status plants were observed on the EB/GA property during either survey.

Invertebrates

There are two potentially occurring special-status aquatic invertebrates within the EB/GA property, vernal pool fairy shrimp and vernal pool tadpole shrimp. Special-status aquatic invertebrate surveys were conducted on April 15, 1992 and February 12, 1993. No special-status invertebrates were observed on the EB/GA property.

Amphibians

There are two potentially occurring special-status amphibians within the EB/GA property, California tiger salamander and western spadefoot toad. Amphibian surveys were conducted on during April 15, 1993 and on April 11, 1995. No special-status amphibians were observed on the EB/GA property.

Birds

There are two special-status birds which may potentially nest within the EB/GA property, northern harrier and burrowing owl. In addition, five other special-status birds may occur on-site as foragers only (no trees occur on-site), including the white-tailed kite, Cooper's hawk, Swainson's hawk, loggerhead shrike, and tricolored blackbird. Surveys for these species were conducted on June 18, 1992, May 14, 1993, and April 11, May 11 and June 15, 1995. During the

1993 survey, one burrowing owl was observed on the EB/GA property, but during subsequent surveys, no burrowing owls were observed.

Saca Properties

Plants

There are six potentially occurring special-status plants within the Saca Properties, all associated with wetland habitat, vernal pools. No wetlands occur within the Saca West property, and therefore, no plant surveys were conducted within this site. Two determinate surveys were conducted within the Saca East and Saca South sites, the first on May 8, 1995 and the second on June 15, 1995. Prior to the 1995 determinate surveys, assessment-level surveys were conducted during April 1993 for the potentially occurring special-status plants. No special-status plants were located on the Saca properties during the surveys.

Invertebrates

There are two potentially occurring special-status invertebrates within both the Saca South and Saca East project sites: vernal pool fairy shrimp and vernal pool tadpole shrimp. No wetlands occur within the Saca West property, and therefore, no aquatic invertebrate surveys were conducted within this site. No special-status invertebrates were observed during field surveys on the Saca West site. To date, no special-status invertebrate field surveys have been conducted on the Saca South site.

Amphibians

There are two potentially occurring special-status amphibians within the Saca South and Saca East Properties. No wetlands occur within the Saca West property, and therefore, no amphibian surveys were conducted within this site. Surveys for the California tiger salamander and western spadefoot toad were conducted by using a two-person seine and a dipnet, as well as, by visual inspection. Amphibian surveys were conducted on April 11, 1995 for both the Saca South and Saca East sites. No special-status amphibians were located on either the Saca South or Saca East parcels.

Birds

There are three special-status birds which may potentially nest at all three of the project sites, including northern harrier, burrowing owl, and tricolored blackbird. Nesting habitat is also present for the loggerhead shrike on the Saca South Parcel. Three other special-status species may occur on-site as foragers only (no nesting habitat on-site), white-tailed kite, Cooper's hawk, and Swainson's hawk. A survey for these species was conducted on April 11, May 8, and June 15, 1995.

Within the Saca South parcel, a pair of burrowing owls and their burrow were located near the fenceline in the southwest section. These birds were seen during the 1993 surveys but not during the 1995 surveys. It is likely that farming activities have displaced the owls. There is a large population of ground squirrels near the western fenceline, whose abandoned burrows may support burrowing owls in the future. On the Saca East property, foraging tricolored blackbirds were observed. No special-status birds were seen on the Saca West property.

Courey Property

No suitable habitat is present within the Courey Property for special-status plant, invertebrate, amphibian, or reptile species. The Courey Property is potential habitat for special-status bird species, burrowing owl and loggerhead shrike, although any occurrence of these birds is considered unlikely due to the disturbances caused by recent land-use (i.e., dairy) activities. During the March 1996 wetland delineation, no special-status birds were observed on-site. However, no determinate special-status surveys have been conducted on-site.

Florin Investors Property

Plants

There are five potentially occurring special-status plant species within the Florin Investors Property, all associated with vernal pool habitat. To date, no determinate special-status plants surveys have been conducted within this property.

Invertebrates

There are two potentially occurring special-status invertebrates within the Florin Investors Property, vernal pool fairy shrimp and vernal pool tadpole shrimp. To date, no determinate special-status aquatic invertebrate surveys have been conducted. However, vernal pool tadpole shrimp were observed on-site during the 1992 assessment survey.

Reptiles

There is no suitable habitat for potentially occurring special-status reptiles within the Florin Investors Property.

Amphibians

There are two potentially occurring special-status amphibian species within the Florin investor Property, western spadefoot toad and California tiger salamander. To date, no amphibian surveys have been conducted within this property.

Birds

No determinate surveys for special-status birds have been conducted within the Florin Investors Property.

BIOTIC RESOURCES MITIGATION

GOALS OF THE SPECIFIC PLAN AS THEY RELATE TO WETLANDS AND ASSOCIATED BIOTIC RESOURCES

All specific plans, including North Vineyard Station are required to be consistent with policies in the Sacramento County General Plan relating to natural resource conservation. For example, the General Plan sets forth a policy of no net loss of marsh or vernal pool acreage, values or functions, and it requires mitigation for any loss in relation to the values of quality of habitat. The General Plan also advocates a policy of incorporating habitat corridors for wildlife and protecting special-status species habitat from agricultural operations, human access, and other disturbing activities. In accordance with these policies, this section establishes goals for protection of wetlands and biotic resources, assesses the potential impacts anticipated under development pursuant to the land use plan, and identifies appropriate mitigation strategies to attain County and Specific Plan goals as an integral aspect of the land development plan.

CLEAN WATER ACT SECTION 404 PERMIT GUIDELINES

Development of private property and County drainage improvement projects which impact wetlands and waters of the U.S. within the Specific Plan area will be subject to Clean Water Act (CWA) Section 404 permits as authorized by the U.S. Army Corps of Engineers (Corps).

The CWA protects "wetlands" and other "waters of the United States" by forbidding the "discharge" of fill material into them without a permit issued by the Corps (33 U.S.C. §1311, CWA §301(a)). In a broad sense, the permitting program is designed to prevent the placement of fill or other materials into and excavation of wetlands or other waters, including swales and drainages, and to define mitigation requirements in the event that fill and related impacts to wetlands cannot be avoided. The specific plan area will be developed over the long term. All projects, public and private, shall comply with CWA permitting requirements in effect at the time the actual impacts occur and a permit is required.

The County of Sacramento Water Resources Division has identified Section 404 permitting scenarios for projects that include open channel projects ("Specific Plan Wetland Mitigation Plan Process Guidelines," County of Sacramento Water Resources Division, 1994). The Water

Resources Division would process a Section 404 permit for impacts associated with the open channel project. Channel improvements and creek corridors may be utilized to meet wetlands mitigation and compensation replacement requirements for individual projects within the Specific Plan area.

All other projects, both public and private, including but not limited to utilities, transportation or drainage projects, will need to process a Section 404 permit for impacts associated with their project.

CALIFORNIA DEPARTMENT OF FISH AND GAME POLICIES AND GUIDELINES

Under Section 1600 of the California Fish and Game Code, the California Department of Fish and Game (CDFG) must authorize any development projects that divert, obstruct or change the natural flow, bed, channel, or bank of any river, stream or lake that CDFG finds to support or benefit fish or wildlife resources.

Section 1600 of the Fish and Game Code is designed to protect and conserve fish and wildlife resources of the state. For any development that may adversely affect any river, stream or lake, a Streambed Alteration Agreement must be submitted to CDFG pursuant to Section 1603 of the California Fish and Game Code. Construction activities for such development projects cannot begin until CDFG finds that the project will not substantially adversely affect an existing fish or wildlife resource or until CDFG's proposals for fish and wildlife protection measures, or the decisions of a panel of arbitrators, have been incorporated into the development projects.

FEDERAL ENDANGERED SPECIES ACT

The federal Endangered Species Act's stated purpose is to provide programs to conserve endangered and threatened species and the ecosystems upon which these species depend. To achieve this purpose, the Secretary of Interior, acting through the U.S. Fish and Wildlife Service, has been given a number of duties, including: the listing of species which are determined to be "endangered" or "threatened"; the designation of critical habitat for those species; the development of "recovery plans" for those species; the consultation with federal agencies whose federal activities, including permitting, may jeopardize the continued existence of the species; the development of "habitat conservation plans" for those species; and the assurance

that no destruction or adverse modification of critical habitat occurs through either private or federal activity.

For those projects requiring federal permits within the Specific Plan which have been found not likely to jeopardize the continued existence of a listed species under the federal Endangered Species Act ("ESA"), mitigation shall be implemented which satisfies "reasonable and prudent measures" developed by the U.S. Fish and Wildlife Service in consultation with federal agencies, including the U.S. Army Corps of Engineers, for the specific project. These mitigation measures may include, but are not necessarily limited to, the acquisition of replacement habitat at a ratio which assures that no net loss of endangered species habitat occurs, the creation or restoration of such habitat and the establishment of conservation easement or other restrictions to assure that the habitat is preserved in perpetuity, or the placement of adequate buffers around habitat that may be preserved as part of project implementation.

For those projects not requiring a federal permit to proceed, but whose activities may nevertheless impact a listed species, its habitat, or result in an incidental taking. The project applicant shall comply with applicable endangered species act rules and regulations in effect at the time of the activity including but not limited to Section 10a. Under Section 10a a habitat conservation plan and an implementation agreement is used to establish "an operating program for the conservation, protection, enhancement, mitigation and monitoring of the listed candidate species within the plan area."

CALIFORNIA ENDANGERED SPECIES ACT

Under the California Endangered Species Act ("CESA") the California Department of Fish and Game ("CDFG") is required to provide protection to threatened and endangered species in California. Under CESA, CDFG is required to add species to and remove species from the CESA list, has the authority to comment on projects being reviewed under CEQA, and coordinates state agency consultation and issuance of take permits and "management authorizations."

In the event that proposed site development requires state agency approval and that would result in the "take" of a threatened, endangered or candidate state species, the CDFG would be required to conduct formal consultation to determine if the proposed activity may jeopardize a

listed species continued existence, result in destruction or adverse modification of habitat or result in the incidental taking of listed species. In the case where the CDFG determines that an incidental taking will occur from the proposed activity, the CDFG must provide "reasonable and prudent measures" to minimize the adverse effects of the taking. In the case where no state agency approval is required, the CDFG may issue a "management authorization" to allow the project proponent to take threatened, endangered or candidate species as part of the proposed activity. The management authorization may require mitigation as the project proponent's responsibility for CESA compliance. These mitigation measures may include acquiring mitigation lands, or contributing funds for the management of habitat.

WETLAND IMPACTS ASSESSMENT

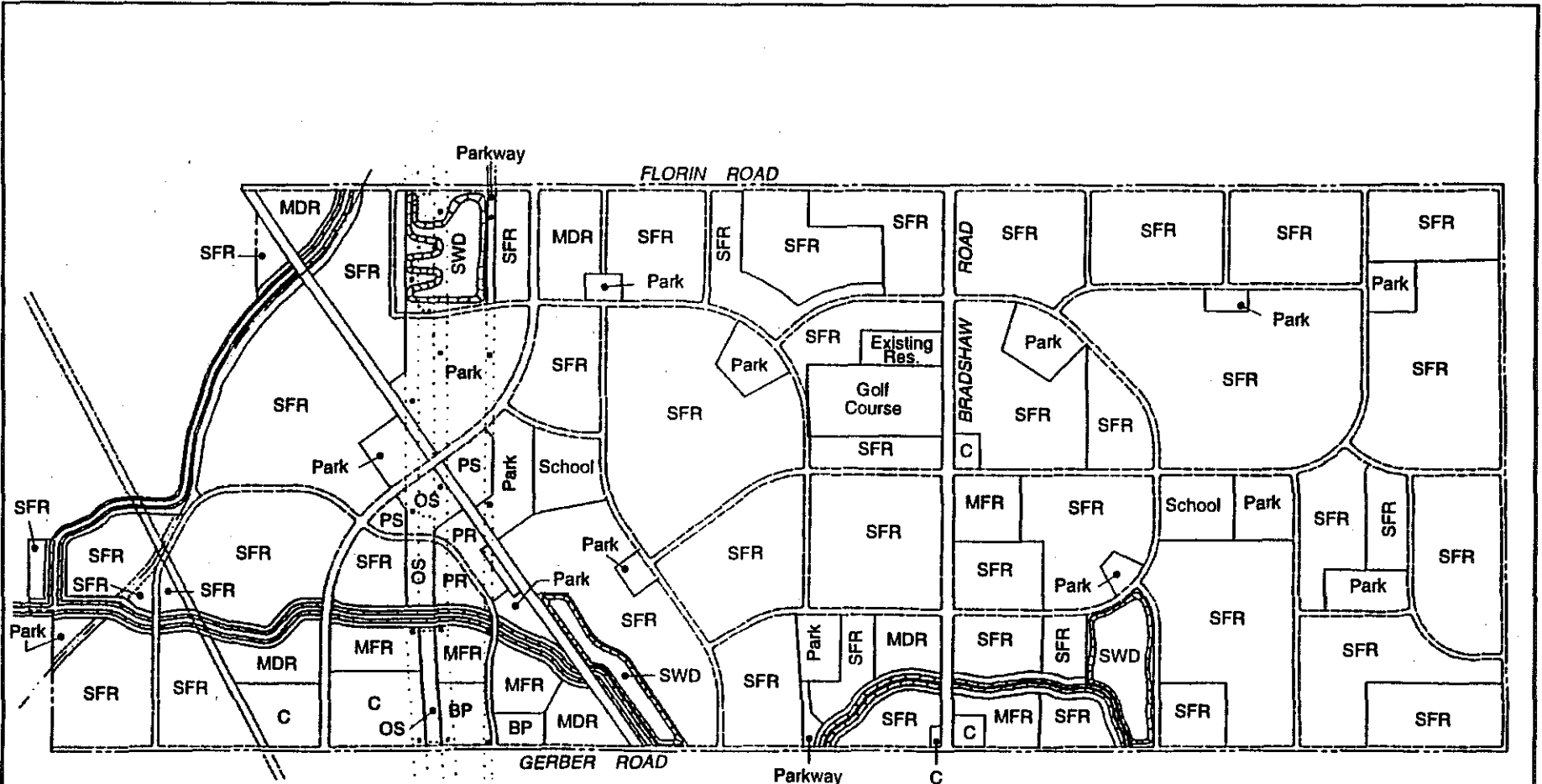
For wetlands analysis purposes, Sugnet and Associates has analyzed the applicants' preferred land use plan to assess potential cumulative wetland impacts and to identify potential cumulative wetland mitigation (see Figure 6). The applicants' preferred channel alternative for the drainage master plan is an improved naturalized channel with linear detention basins and point detention basins. An attached blue line shows the wetland assessment overlain on the land use plan.

Potential cumulative wetland impact acres total 51 acres within the specific plan area and 6 acres outside of the specific plan area. Potential cumulative impacts are defined as 13 acres for the County drainage project and 44 acres for private development. Table 8 shows wetland impacts within the specific plan area and Table 9 shows wetland impacts outside of the specific plan area.

- **County of Sacramento Drainage Project Impacts**

The naturalized channel will have an average depth of eight feet and have bottom widths ranging from 12 to 50 feet. The channel will meander through the creek corridor, which is 200 to 250 feet wide through most of the specific plan area. All storm flows and all low flows will be conveyed in the proposed channel. The creek corridor will also contain a bike/pedestrian/maintenance path and landscaped areas.

KB:66900 • North Vineyard Station



Source: Land Use Plan Exhibit, Preferred Plan.
Don C. Reiners, Inc., January 1996.

- C = Commercial
- PR = Park & Ride
- PS = Public Service
- OS = Open Space
- BP = Business Professional
- SFR = Single Family Residential
- SWD = Storm Water Detention
- MFR = Multi-Family Residential
- MDR = Medium Density Residential

<p>SUGNET & ASSOCIATES ENVIRONMENTAL CONSULTANTS ©1996</p>	<p>NORTH VINEYARD STATION LAND USE PLAN</p>		<p>FIGURE 6</p> <p>Not To Scale</p>
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Table 8. Wetland Impact Acreages within the Specific Plan Area

Wetland Type	Existing Wetlands	Potential Cumulative Wetland Impacts		
		County Drainage Project	Private Development	Total Impacts
Vernal Pool	18.0	0.1	17.9	18.0
Seasonal Wetland	18.0	2.3	15.7	18.0
Freshwater Marsh	2.0	0.0	2.0	2.0
Drainage Swale	7.0	0.0	7.0	7.0
Perennial Creek	6.0	5.0	1.0	6.0
Emergent Marsh	0.0	0.0	0.0	0.0
Total	51.0	7.4	43.6	51.0

Table 9. Off-Site Wetland Impacts by County Drainage Project

Wetland Type	Wetland Impact
Vernal Pool	1.3
Seasonal Wetland	1.1
Drainage Swale	0.1
Perennial Creek	3.1
Emergent Marsh	0.0
Total	5.6

Elder Creek and Gerber Creek will be directly and indirectly impacted as a result of the implementation of the County drainage project. The existing creeks will be directly impacted within the creek corridor by the excavation of the channel and the construction of paths and landscaping within the creek corridor. Those portions of the creek outside of the creek corridor will be indirectly impacted due to the elimination of their water source.

All other wetlands within the creek corridor will also be directly impacted due to the excavation of the channel and the construction of paths and landscaping. The entire acreage of a wetland located partially within the corridor is identified as a direct impact by the county project. The hydrology of the portion of the wetland outside of the creek corridor will most likely be affected by the improvements occurring within the creek corridor and for planning purposes has been considered an impact. More detailed analysis at a later date may determine that the portion of the wetland within the creek corridor can be impacted and the portion of the wetland outside of the creek corridor would not be indirectly impacted by the County drainage project. In this case the wetland would eventually be directly impacted by private development.

The county drainage project includes the construction of a naturalized channel in three locations outside of the specific plan area: 1) Elder Creek 5500 feet downstream of the confluence of Elder and Gerber Creeks, 2) Elder Creek 1500 feet north of Florin Road, and 3) Gerber Creek south of Gerber Road between Bradshaw Road and the railroad tracks. All wetlands located entirely within or partially within the channel, from bank to bank, are identified as impact by the County project. Figures 7, 8, and 9 show the wetland impacts outside of the specific plan area.

- Private Land Owners Impacts

Potential wetland impacts by private developers include all wetlands within the specific plan area not identified as county project impacts.

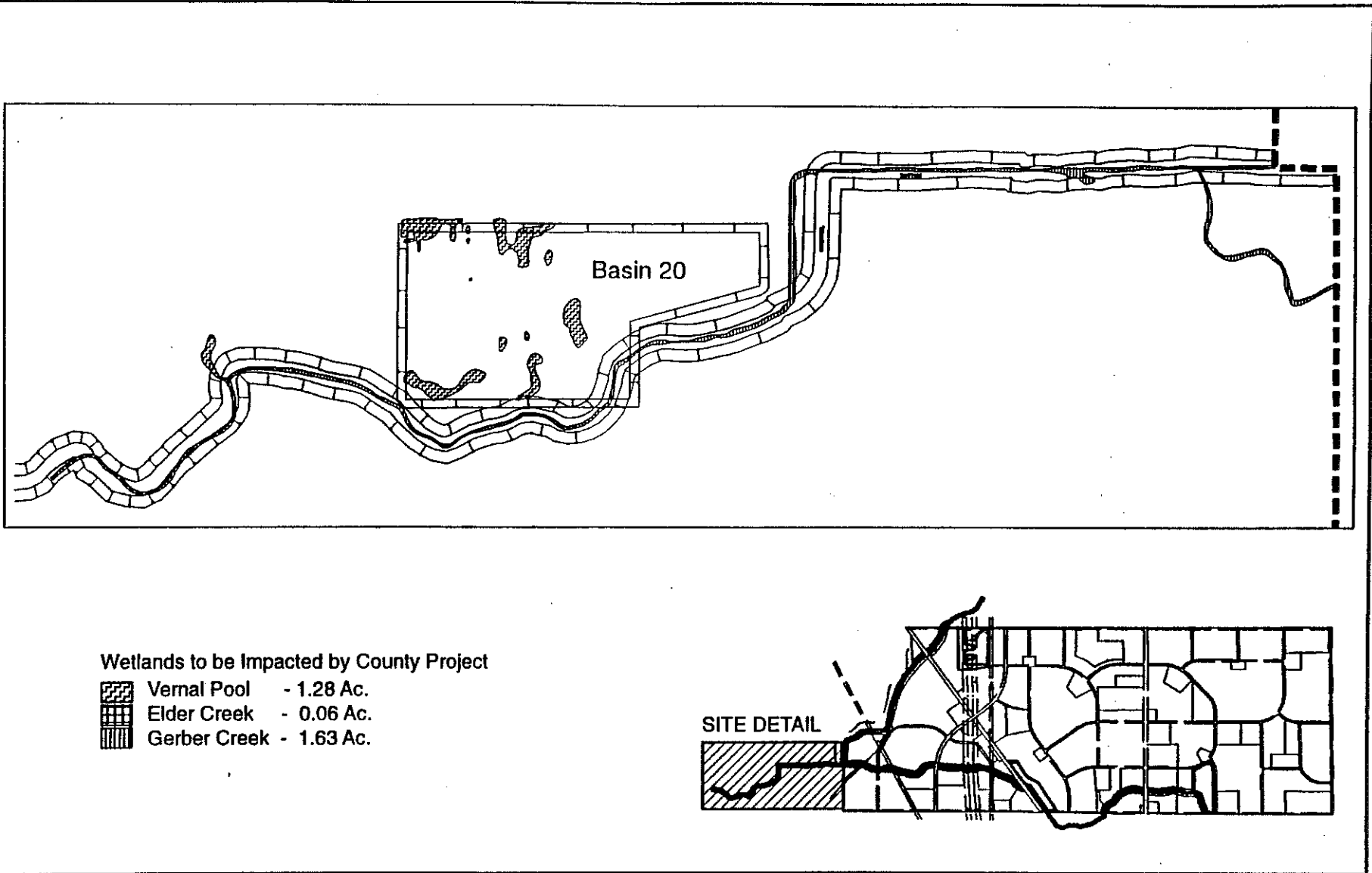
PRESERVATION

No wetland preservation areas are identified in the preferred land use plan.

PROPOSED MITIGATION STRATEGIES

Wetland mitigation strategies have been developed based upon the findings of the biological impact assessment. There are several alternatives available to mitigate for these impacts, and they are described in the following text. Prior to impact, the applicant shall submit a mitigation plan to the appropriate agencies for review and approval.

KB:66900 • North Vineyard Station

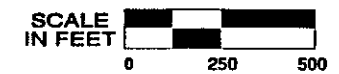


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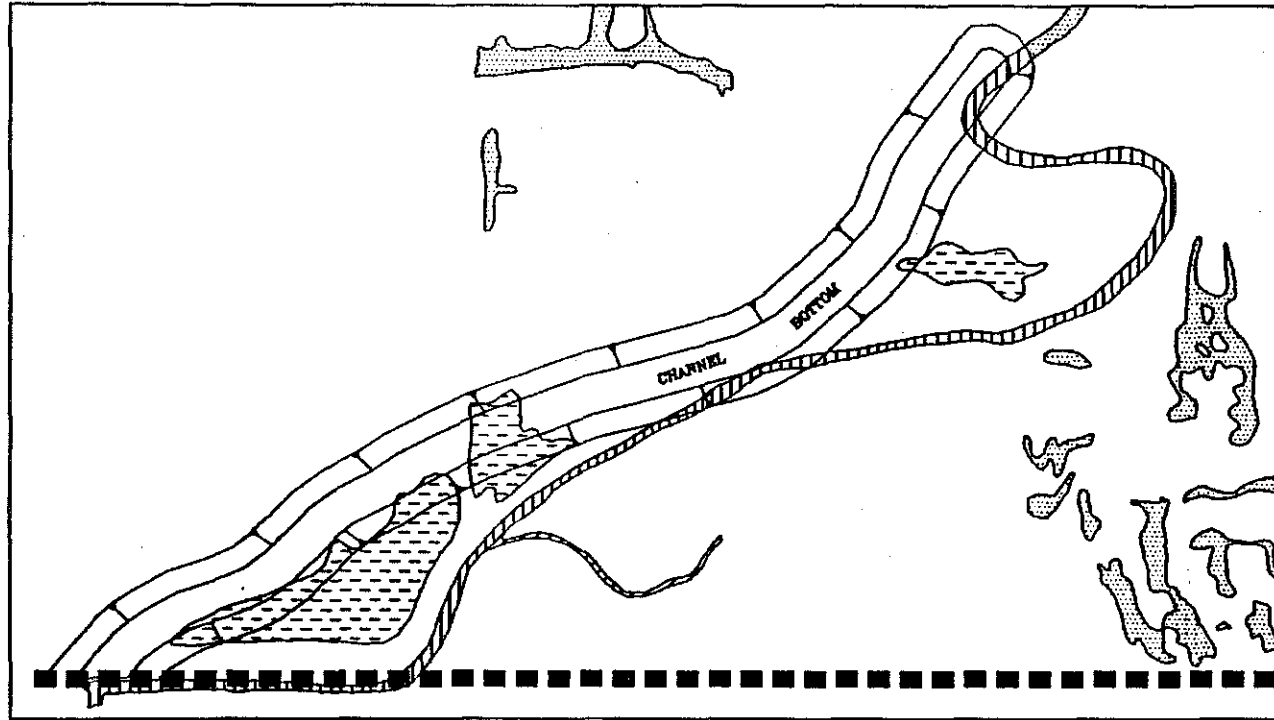
**NORTH VINEYARD STATION
 OFF-SITE WETLAND IMPACTS - DOWNSTREAM**



FIGURE 7



KB:66900 • North Vineyard Station

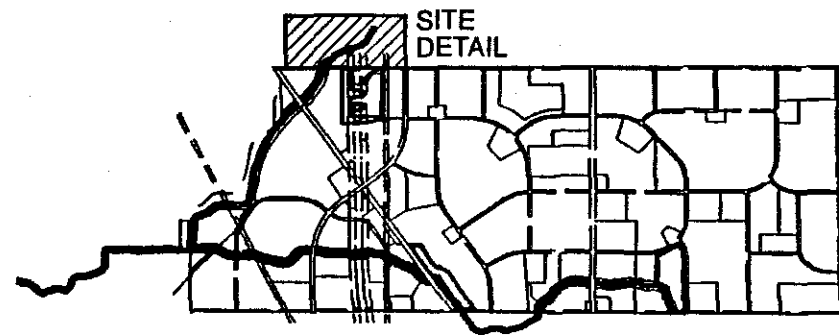


Wetlands to be Impacted by County Project

- Seasonal Wetland - 1.13 Ac.
- Elder Creek - 0.67 Ac.
- Drainage Swale - 0.05 Ac.

Wetlands Not Impacted by County Project

- Wetland

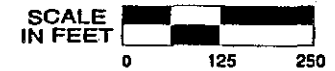


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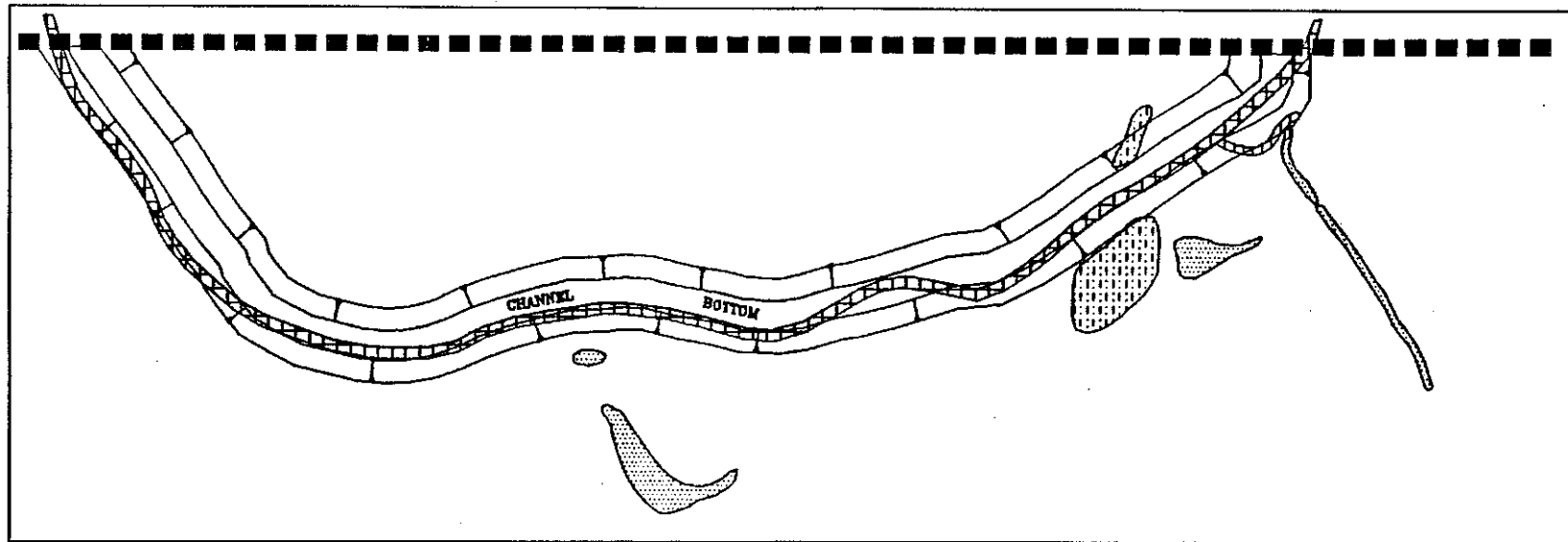
**NORTH VINEYARD STATION
 OFF-SITE WETLAND IMPACTS - NORTH OF
 FLORIN ROAD**



FIGURE 8



KB:66900 • North Vineyard Station



 Stock Pond

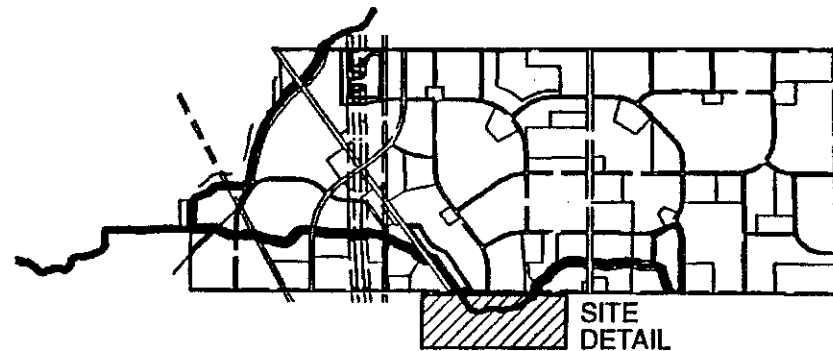
Wetlands to be Impacted by County Project

 Drainage Swale - 0.03 Ac.

 Gerber Creek - 0.72 Ac.

Wetlands Not Impacted by County Project

 Wetland



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ENVIRONMENTAL CONSULTANTS
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**NORTH VINEYARD STATION
OFF-SITE WETLAND IMPACTS - SOUTH OF
GERBER ROAD**

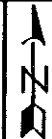
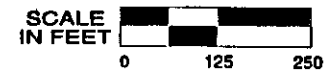


FIGURE 9



Potential cumulative wetland mitigation acres total 62 acres of wetland creation and 78 acres of wetland acquisition based on current regulatory requirements. Potential wetland mitigation acreages within the specific plan area are shown in Table 9 and Potential wetland mitigation acreages for impacts outside of the specific plan area are shown in Table 10.

- **Mitigation Requirements**

Mitigation guidelines as defined by current regulatory requirements are described below. At the time the applicant obtains a permit to impact wetlands, alternative strategies may have been adopted to mitigate for wetland impacts. The following text does not preclude the implementation of these new alternatives.

Mitigation for wetlands determined to be fairy shrimp habitat include the creation of fairy shrimp habitat at a 1:1 ratio (i.e., vernal pools and seasonal wetlands), and the acquisition of fairy shrimp habitat at a ratio of 2:1. Wetlands which do not represent fairy shrimp habitat will be mitigated at a ratio of 1.3:1. These wetlands will be mitigated with emergent marsh or other appropriate wetland types. These mitigation ratios incorporate the current requirements of the regulatory agencies described below. The mitigation acreage represented in this specific plan document assume that all vernal pools and seasonal wetlands represent fairy shrimp habitat and are mitigated accordingly. The type of mitigation and the ratios may change when the Service makes the final determination on which wetland represents fairy shrimp habitat. Actual mitigation acreages may change based on regulations in effect at the time the wetlands are impacted and will be subject to agency review and approval.

Clean Water Act Section 404 Permit

Federal regulatory agencies typically require replacement of temporal habitat losses, those losses that accrue as compensation habitat acquires functions that replace those of impacted habitat. Temporal losses only accrue when impacts to wetland habitat occur prior to the development of full wetland functions in wetland mitigation habitat. This is typically the case with vernal pools, where impacts and construction of mitigation habitat coincide in time.

Table 10. Wetland Mitigation Acreages within the Specific Plan Area

Wetland Type	Existing Wetlands	Potential Cumulative Wetland Impacts		
		County Drainage Project	Private Development	Total Impacts
Vernal Pool	18.0	0.1	17.9	18.0
Seasonal Wetland	18.0	2.3	15.7	18.0
Freshwater Marsh	2.0	0.0	2.0	2.0
Drainage Swale	7.0	0.0	7.0	7.0
Perennial Creek	6.0	5.0	1.0	6.0
Emergent Marsh	0.0	0.0	0.0	0.0
Total	51.0	7.4	43.6	51.0

Potential Cumulative Wetland Mitigation

	<u>Wetland Creation</u>			<u>Wetland Acquisition</u>		
	County Drainage Project	Private Development	Total Mitigation	County Drainage Project	Private Development	Total Mitigation
Vernal Pool	0.1	17.9	18.0	0.2	35.8	36.0
Seasonal Wetland	2.3	15.7	18.0	4.6	31.4	36.0
Freshwater Marsh	0.0	0.0	0.0	0.0	0.0	0.0
Drainage Swale	0.0	0.0	0.0	0.0	0.0	0.0
Perennial Creek	0.0	0.0	0.0	0.0	0.0	0.0
Emergent Marsh	6.5	13.0	19.5	0.0	0.0	0.0
	8.9	46.6	55.5	4.8	67.2	72.0

Table 11. Wetland Mitigation Acreages Impacts Out-side of the Specific Plan Area.

<u>Wetland Type</u>	<u>Wetland Impact</u>	<u>Wetland Creation</u>	<u>Wetland Acquisition</u>
Vernal Pool	1.3	1.3	2.6
Seasonal Wetland	1.1	1.1	2.2
Drainage Swale	0.1	0.0	0.0
Perennial Creek	3.1	0.0	0.0
Emergent Marsh	0.0	4.1	0.0
Total	5.6	6.5	4.7

Federal Endangered Species Act

Current policies regarding the mitigation for impacts to fairy shrimp habitat involves the utilization of creation and preservation banks to acquire existing fairy shrimp habitat and to restore degraded or lost habitat. Mitigation banks contain protected habitat areas that may be utilized for future habitat conservation plans.

The Service has a programmatic consultation for projects with relatively small effects on fairy shrimp habitat. In accordance with the programmatic consultation, projects that are appended to the biological opinion will be mitigated using a combination of habitat preservation and creation. The mitigation identified in the programmatic consultation includes the following:

- **Preservation component.** For every acre of habitat directly or indirectly impacted, at least two vernal pool credits will be dedicated within a Service-approved ecosystem preservation bank, or, based on Service evaluation of site-specific conservation values, three acres of vernal pool habitat may be preserved on the project site. Indirect impacts may include wetlands which have their hydrology altered or may not be adequately buffered from adjacent development.
- **Creation component.** For every acre of habitat directly impacted, at least one vernal pool creation credit will be dedicated within a Service-approved habitat mitigation

bank, or, based on Service evaluation of site-specific conservation values, two acres of vernal pool habitat will be created and monitored on the project site as approved by the Service.

- Vernal pool habitat and associated upland habitat utilized as on-site mitigation will be protected from adverse impacts and managed in perpetuity or until the Corps, the applicant, and the Service agree on a process to exchange such areas for credits within a Service-approved mitigation banking system.

The vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardii*) listed under the federal Endangered Species Act as threatened and endangered have been identified in isolated wetlands within several properties within the specific plan area. A project applicant may perform determinate level surveys (based on Service requirements) to identify if any vernal pool fairy shrimp or vernal pool tadpole shrimp occur on the property. Alternatively, a project applicant may assume all vernal pools and seasonal wetlands are habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp and proceed with Section 7 consultation. For planning purposes it is assumed that all vernal pools, and seasonal wetlands are habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp.

California Department of Fish and Game

Applicants shall obtain necessary Streambed Alteration Agreements from the California Department of Fish and Game for any activities that divert, obstruct or change the natural flow, bed, channel, or bank of any river, stream or lake that California Department of Fish and Game finds to support or benefit fish or wildlife resources. Applicants must mitigate for impacted California Department of Fish and Game jurisdictional wetland habitat which will include Elder and Gerber Creeks and any drainage swales which have a defined bed and bank.

Sacramento County

The wetland mitigation ratio was used which meets the General Plan Policy CO-83, "Ensure no net loss of vernal pool acreage, and/or values and functions, and mitigate any loss in relation to the values of the quality of habitat."

The first portion of this policy – no net loss of vernal pool acreage – addresses spatial losses of vernal pool acreage, and mitigation for these losses can be accomplished by constructing acre-for-acre replacement vernal pools. The second portion of this policy requires that wetland functions be replaced, and monitoring and performance standards are designed to address replacement of wetland functions.

- **Vernal Pool and Seasonal Wetland Mitigation**

Compensation vernal pools and seasonal wetlands will be “in-kind” mitigation for the proposed impacts and will ensure a no net loss of vernal pool and seasonal wetlands acreage, values, and functions. For planning purposes it is assumed that all seasonal wetlands are isolated features which represent fairy shrimp habitat. Vernal pools and seasonal wetlands will be supported primarily by direct rainfall, and will be designed to meet or exceed the hydrophytic conditions in the existing vernal pool and seasonal wetlands proposed for impact. Habitat for native plant and invertebrate species typical of the vernal and seasonal wetlands being impacted will also be reestablished in the compensation wetlands, including any special-status species which may occur within the vernal pools and seasonal wetlands on the site.

All of the functions existing in the vernal pools and seasonal wetlands to be impacted will also operate in the compensation vernal pools and seasonal wetlands. The compensation vernal pools and seasonal wetlands will be of higher habitat quality and value than existing vernal pool and seasonal wetlands habitat due to the fact that wetland preserves are protected from agricultural use and other human disturbances and they will be located in larger preserves.

Vernal pools have natural densities ranging up to 20%. Compensation vernal pools and seasonal wetlands will be constructed at densities ranging from 10% to 20%. Based on 36 acres of vernal pools and seasonal wetland impacts mitigated at a 1:1 ratio, 36 acres of vernal pools and seasonal wetlands would need to be created. At a 15% density, approximately 240 acres of land would be required for vernal pool and seasonal wetland compensation.

On-site Mitigation Alternative

The applicants’ land use plan identifies two open space parcels totalling 8 acres within the specific plan area which are available for vernal pool and seasonal wetland mitigation.

Wetland mitigation could be located within these open space areas subject to land owner and regulatory agency approvals.

The open space areas are generally located under and adjacent to overhead power lines and are all located on rights-of-way for either the U.S. Department of Energy which is operated by the Western Area Power Administration (WAPA) or the Sacramento Municipal Utility District (SMUD). Almost half of these areas are located on lands which have easements by the U.S. Department of Energy. WAPA has adopted a policy which no longer permits the creation of vernal pool or vernal swales within its rights-of-way (see attached letter).

If wetlands were to be constructed at 15% density, less than 0.8 acres of vernal pools or seasonal wetlands could be constructed within these open space areas. This acreage could be further reduced due to limitations by utilities, access, topographical conditions, and soil constraints. Buffers that may be required by regulatory agencies may further reduce the land available for mitigation creation resulting in even lower vernal pool and seasonal wetland densities and acreage.

Off-site Mitigation Alternative

Off-site mitigation would need to occur at an agency approved mitigation bank. Mitigation credits could be purchased from an agency approved mitigation bank, or the applicant could purchase land at an off-site location and construct the mitigation wetlands themselves. A detailed mitigation plan would need to be developed and approved by the agencies.

Acquisition

For every acre of fairy shrimp habitat impacted, the applicant shall purchase two acres of fairy shrimp habitat preservation credits at an agency approved mitigation bank.

- Emergent Marsh Mitigation

Impacts to freshwater marsh, drainage swales and perennial creeks shall be mitigated with emergent marsh. If at the time a detailed mitigation plan is done, it is determined that some of seasonal wetlands do not represent fairy shrimp habitat, the seasonal wetlands may be

mitigated with emergent marsh. The perennial creeks shall be restored in the channel bottom and are included in the emergent marsh mitigation acreages.

Compensation emergent marsh will provide increased functions and biodiversity compared to the wetlands being impacted. The wetlands to be impacted have been disturbed by typical agricultural operations (discing, cattle, etc.), and most of them are dominated by non-native plants. Many of the wetlands are remnants of swales which have been modified by past agricultural practices.

On-site Mitigation Alternative

Compensation emergent marsh will be constructed in the channel bottom of Gerber and Elder Creeks. The proposed naturalized channel will carry perennial low flows and high flows during winter storm events. The channel bottom width will be 12 feet to 50 feet wide and meander within a 250 foot corridor. Emergent marsh credit will be given for the entire channel bottom and totals approximately 23 acres. A low flow channel will be cut into the channel bottom initially although it is anticipated that the low flow channel may cut its own course in a large storm event as in any natural active stream system.

Gerber and Elder Creeks will be deepened and widened in essentially the same location and will allow for the continued existence of the creek corridors. The open-space corridors allow movement and dispersal of plant and animal species, whereas individual isolated wetlands restrict movement.

The emergent marsh in the channel bottom will provide greater habitat diversity than those wetlands being impacted. Volunteer riparian vegetation can be expected to establish along the drainage corridors. The combination of emergent marsh and riparian vegetation will provide diverse habitat for a wide variety of plant and animal species, and will mitigate for any species impacted during project implementation.

Off-site Mitigation Alternative

As detailed mitigation plans are developed for each property, any emergent marsh mitigation which can not be constructed within the channel bottom would be mitigated off-site. Mitigation

credits could be purchased from an agency approved mitigation bank, or the applicant could purchase land at an off-site location and construct the mitigation wetlands themselves. A detailed mitigation plan would need to be developed and approved by the agencies.

- Phasing

Wetland mitigation will occur concurrent with project impacts, as soon as the proposed mitigation site is available, or as stipulated in the permit requirements. Emergent marsh mitigation may occur prior to project impact in association with the county drainage project. If this is the case, emergent marsh credits would be established to mitigate for future wetland impacts. Phasing of wetland mitigation will be subject to regulatory agency review and approval at the time of project impacts. It is anticipated that development and its associated wetland impacts will occur as buildout of the specific plan occurs.

- Ownership

In accordance with Sacramento County General Plan Policy CO-87 *"New or restored marsh/riparian woodlands shall be under ownership of a public agency or subject to a permanent conservation easement."*

- Buffers

Open space areas containing compensation wetlands are to be buffered from development. The purpose of a buffer is to provide a transition between disturbing human activities (i.e., intrusion, noise, litter) and sensitive habitat. The buffer, in effect, is a gradient between the conflicting uses that discourages intrusion or unwanted use of the compensation area. All buffers shall be subject to review and approval by the regulatory agencies and shall be reviewed on a case by case basis.

- Trails

The proposed conceptual plan allows for trails which may be located within the buffer areas to provide for passive recreation such as biking and hiking. The trails will be a part of the system which is designed throughout the plan area, and will be located to avoid any impacts to the

wetland features. Utility access roads will also be required within the utility corridors. Wherever possible these access roads will be incorporated into the trail system and will be located to avoid wetland impacts. Locations of trails will be identified on the tentative maps.

- **Corps Authorization**

Each property shall receive authorization from the Corps prior to impacting any wetlands. The type of permit required will depend on the amount of wetlands on the project site and the regulations in effect at the time of project permitting. A verified wetland delineation shall be submitted to the Corps as well as a mitigation plan (as required). Success criteria and monitoring requirements will be established for all compensation wetlands and shall be overseen by the Corps.

- **California Department of Fish and Game Permitting**

Each project proponent, including the County of Sacramento for the proposed public project, shall receive approval from the California Department of Fish and Game prior to proceeding with the proposed project.

The California Department of Fish and Game responsibilities include but are not limited to the California Endangered Species Act (CESA), and streambed alteration agreements under Fish and Game Code Section 1600. Any project related impacts to wetland habitat which would affect listed species will satisfy the requirements of CESA, including the development of a Section 2081 memorandum of understanding where appropriate. Project proponents will also enter into agreements as required under Section 1600 agreements with California Department of Fish and Game for alteration of streambeds within the Specific Plan area. Appropriate mitigation will be adopted and established as required by the California Fish and Game Code.

- **Compliance With The Federal Endangered Species Act**

Each property shall satisfy the requirements of the federal Endangered Species Act ("ESA") either through the consultation process under Section 7 of the ESA for activities which require a federal permit, or through the development of a Habitat Conservation Plan ("HCP") for potential impacts to endangered species caused by activities not requiring a federal permit.

Proposed impacts to species listed under the ESA which are water dependant, such as the fairy shrimp and the tadpole shrimp, will comply with the ESA through the Section 7 consultation process. Each property owner shall mitigate for loss of fairy shrimp habitat as required by the U.S. Fish and Wildlife Service in consultation with the U.S. Army Corps of Engineers.

WETLAND MONITORING AND MAINTENANCE

Wetland mitigation sites will be monitored. Maintenance and monitoring will be conducted in accordance with the requirements imposed by the Corps pursuant to the issuance of a Section 404 permit. Establishment of a maintenance and monitoring program will ensure that wetland mitigation areas are protected and that agency-required mitigation measures are successful. Monitoring is designed to determine that sufficient water is available to produce the required periods of inundation and subsequent soil saturation to support a desired biological community. In addition, the monitoring will determine the need for remedial action in the form of pool modification, including excavation, fill, and/or modification of hydrologic connections, required to improve the pool water balance.

- Monitoring

Short-term monitoring requirements will be established by the Corps Section 404 permit authorization. If the Corps, in consultation with the USFWS, the U. S. Environmental Protection Agency, and the CDFG, determines that wetland development is successful at the end of the prescribed monitoring period (normally 5 years), no further monitoring will be required. Should short-term monitoring indicate that performance standards are not met, plan modifications will be submitted to the Corps for approval. Approved modifications shall be implemented and monitoring will continue until success criteria are met.

- Maintenance

A landscape lighting district or other mechanism satisfactory to the Corps shall be formed to fund long-term maintenance of compensation areas to assure that the wetlands are maintained in a natural state. Long-term maintenance will include restricted recreational use, erosion control, and maintenance trails, or other similar structures. Maintenance of the channel shall

include the removal of woody vegetation as required for flood control, and as approved by the regulatory agencies.

MITIGATION MEASURES FOR OTHER SPECIAL-STATUS SPECIES

Determinate surveys for potentially-occurring special-status species are to be conducted for all properties prior to development and permitting.

Where positive survey results are indicated, project/plan-specific mitigation measures are to be developed in consultation with Sacramento County, the California Department of Fish and Game, and/or the U.S. Fish and Wildlife Service, as follows:

- For impacts considered significant or potentially significant by the Lead Agency (i.e., Sacramento County) under the California Environmental Quality Act (CEQA), project/plan-specific mitigation measures are to be formulated to the satisfaction of the Lead Agency, according to General Plan policies. If the Lead Agency so directs, this may include mitigation formulated in consultation with appropriate federal and/or California resource agencies (i.e., U.S. Fish and Wildlife Service and/or California Department of Fish and Game).
- Where impacts include "taking" of a federally-listed species, a "Section 10, Incidental Take" permit (or a Biological Opinion resulting from "Section 7 Consultation" regarding another federal permit) will be obtained, and permit conditions implemented.
- Where impacts include "taking" of a California-listed species, a "Section 2081 Management Agreement" will be negotiated with the California Department of Fish and Game, and conditions of that management agreement implemented.

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Endangered or Threatened Species*.

Attachment 1

Plants Species Observed at North Vineyard Station Specific Plan Area

<u>Scientific Name</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Common Name</u>
<i>Achillea millefolium</i>	Common yarrow	<i>Cynodon dactylon</i>	Bermuda grass
<i>Achyrachaena mollis</i>	Blowwives	<i>Cyperus eragrostis</i>	Tall flatsedge
<i>Aegilops triuncilis</i>	Barbed goat grass	<i>Delphinium species</i>	Larkspur
<i>Agrostis species</i>	Bentgrass	<i>Deschampsia danthonioides</i>	Annual hairgrass
<i>Aira caryophylla</i>	Hairgrass	<i>Dichelostemma capitatum</i>	Blue dicks
<i>Alopecurus saccatus</i>	Pacific foxtail	<i>Downingia bicornuta</i>	Double-horn downingia
<i>Amsinckia menziesii</i>	Rancher's fireweed	<i>Downingia ornatissima</i>	Solano downingia
<i>Amsinckia species</i>	Fiddle-neck	<i>Dichelostemma multiflorum</i>	Wild hyacinth
<i>Anagallis arvensis</i>	Scarlet pimpernel	<i>Dichelostemma volubile</i>	Twining brodiaea
<i>Avena barbata</i>	Slender wild oat	<i>Digitaria species</i>	Crabgrass
<i>Avena fatua</i>	Wild oat	<i>Elatine species</i>	Waterwort
<i>Avena sativa</i>	Cultivated oat	<i>Eleocharis acicularis</i>	Least spikerush
<i>Avena species</i>	Wild oat	<i>Eleocharis macrostachya</i>	Creeping spikerush
<i>Baccharis pilularis</i>	Coyote bush	<i>Epilobium brachycarpum</i>	Panicked willow-herb
<i>Blennosperma nanum</i>	Common blennosperma	<i>Epilobium cleistogamum</i>	Cleistogamous spike-primrose
<i>Brassica nigra</i>	Black mustard	<i>Epilobium species</i>	Willow herb
<i>Brassica rapa</i>	Field mustard	<i>Eremocarpus setigerus</i>	Turkey mullien
<i>Briza minor</i>	Little quaking grass	<i>Erodium botrys</i>	Filaree
<i>Brodiaea coronaria</i>	Harvest brodiaea	<i>Erodium cicutarium</i>	Filaree
<i>Brodiaea elegans</i>	Elegant brodiaea	<i>Erodium species</i>	Filaree
<i>Brodiaea species</i>	Brodiaea	<i>Eryngium vaseyi</i>	Vasey's coyote-thistle
<i>Bromus diandrus</i>	Ripgut brome	<i>Festuca species</i>	Fescue
<i>Bromus hordeaceus</i>	Soft brome	<i>Geranium dissectum</i>	Cut-leaf geranium
<i>Bromus madritensis</i>	Red brome	<i>Geranium molle</i>	Hairy geranium
<i>Calandrina ciliata</i>	Red maids	<i>Glyceria species</i>	Manna grass
<i>Callitriche heterophylla</i>	Larger water-starwort	<i>Gratiola ebracteata</i>	Bractless hedgehyssop
<i>Callitriche marginata</i>	Winged water-starwort	<i>Hemizonia fitchii</i>	Fitch's spikeweed
<i>Calochortus luteus</i>	Mariposa lily	<i>Holocarpha virgata</i>	Sticky tarweed
<i>Capsella bursa-pastoris</i>	Shepherd common purse	<i>Hordeum marinum</i>	Mediterranean barley
<i>Cardamine oligosperma</i>	Few-seed bitter-cress	<i>Hordeum murinum</i>	Barley
<i>Castilleja attenuata</i>	Valley tassels	<i>Hypochaeris glabra</i>	Smooth cat's-ear
<i>Centaurea solstitialis</i>	Yellow star-thistle	<i>Isoetes orcuttii</i>	Orcutt's quillwort
<i>Centaurea species</i>	Star thistle	<i>Juncus balticus</i>	Baltic rush
<i>Ceratsium glomeratum</i>	Mouse-ear chickweed	<i>Juncus bufonius</i>	Toad rush
<i>Chamomilla suaveolens</i>	Weed-pineapple	<i>Juncus capitatus</i>	Capped rush
<i>Chlorogalum pomeridianum</i>	Soap plant	<i>Juncus uncialis</i>	Inch-high rush
<i>Cichorium intybus</i>	Chicory	<i>Juncus xiphioides</i>	Iris-leaf rush
<i>Cirsium species</i>	Thistle	<i>Lactuca serriola</i>	Prickly lettuce
<i>Cirsium vulgare</i>	Bull thistle	<i>Lamium amplexicaule</i>	Henbit
<i>Convolvulus arvensis</i>	Morning glory	<i>Lasthenia californica</i>	California goldfields
<i>Conyza canadensis</i>	Canada horseweed	<i>Lasthenia fremontii</i>	Fremont's goldfields
<i>Crassula aquatica</i>	Water pygmy-weed	<i>Lasthenia glaberrima</i>	Smooth goldfields

Plants Species Observed at North Vineyard Station Specific Plan Area (continued)

<u>Scientific Name</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Common Name</u>
<i>Layia fremontii</i>	Freemont's tidy-tips	<i>Ranunculus muricatus</i>	Spiny-fruit butter-cup
<i>Leersia oryzoides</i>	Rice cutgrass	<i>Raphanus sativus</i>	Purple wild radish
<i>Leontodon taraxacoides</i>	Hairy hawkbit	<i>Rubus discolor</i>	Himalaya blackberry
<i>Lepidium nitidum</i>	Pepper grass	<i>Rumex acetosella</i>	Sheep sorrel
<i>Lepidium strictum</i>	Pepperwort	<i>Rumex crispus</i>	Curly dock
<i>Lilaea scilloides</i>	Flowering quillwort	<i>Rumex pulcher</i>	Fiddle dock
<i>Lolium perenne</i>	Perennial ryegrass	<i>Salix gooddingii</i>	Goodding willow
<i>Lotus corniculatus</i>	Birdsfoot trefoil	<i>Salix lasiolepis</i>	Arroyo willow
<i>Lotus purshianus</i>	Bird-foot trefoil	<i>Senecio vulgaris</i>	Common groundsel
<i>Lupinus bicolor</i>	Bicolored lupine	<i>Sidalcea calycosa</i>	Annual checker-mallow
<i>Ludwigia peploides</i>	Water primrose	<i>Silybum marianum</i>	Milk thistle
<i>Lythrum hyssopifolium</i>	Hyssop loosestrife	<i>Sonchus asper</i>	Prickly sowthistle
<i>Malva parviflora</i>	Cheeseweed	<i>Sonchus oleraceus</i>	Common sowthistle
<i>Marrubium vulgare</i>	Common horehound	<i>Spergula arvensis</i>	Spurrey
<i>Medicago polymorpha</i>	Bur clover	<i>Spergularia rubra</i>	Purple sandspurry
<i>Mimulus guttatus</i>	Common large monkey-flower	<i>Stellaria media</i>	Common chickweed
<i>Mimulus tricolor</i>	Tri-color monkey-flower	<i>Taeniatherum caput-medusae</i>	Medusahead grass
<i>Montia fontana</i>	Fountain miner's-lettuce	<i>Taraxacum officinale</i>	Common dandelion
<i>Navarretia intertexta</i>	Needle-leaf navarretia	<i>Trichostema lanceolatum</i>	Vinegar weed
<i>Navarretia leucocephala</i>	White-head navarretia	<i>Trifolium depauperatum</i>	Dwarf sack clover
<i>Paspalum dilatatum</i>	Dallisgrass	<i>Trifolium fucatum</i>	Sour clover
<i>Phalaris lemmonii</i>	Lemon's canary grass	<i>Trifolium hirtum</i>	Rose clover
<i>Picris echioides</i>	Bristly oxtongue	<i>Trifolium species</i>	Clover
<i>Pilularia americana</i>	American pillwort	<i>Trifolium variegatum</i>	White-tip clover
<i>Plagiobothrys greenei</i>	Greene's popcorn-flower	<i>Triphysaria eriantha</i>	Butter and eggs
<i>Plagiobothrys nothofulvus</i>	Rusty popcorn-flower	<i>Triteleia hyacinthina</i>	Hyacinth brodiaea
<i>Plagiobothrys stipitatus</i>	Slender popcorn-flower	<i>Typha species</i>	Cattail
<i>Plantago lanceolata</i>	English plantain	<i>Verbascum blattaria</i>	Moth mullein
<i>Plantago species</i>	Plantain	<i>Veronica peregrina</i>	Purslane speedwell
<i>Poa annua</i>	Annual bluegrass	<i>Vicia species</i>	Vetch
<i>Polygonum arenastrum</i>	Prostrate knotweed	<i>Vicia villosa</i>	Winter vetch
<i>Polygonum species</i>	Smartweed	<i>Vulpia species</i>	Fescue
<i>Polypogon monspeliensis</i>	Annual rabbit-foot grass	<i>Wyethia angustifolia</i>	Mule ears
<i>Psilocarphus brevissimus</i>	Dwarf woolly-heads		
<i>Psilocarphus oregonus</i>	Oregon woolly-heads		
<i>Psilocarphus tenellus</i>	Slender woolly-heads		
<i>Ranunculus bonariensis</i>	Butter-cup		

North Vineyard Station Specific Plan - Wildlife Observed (continued)

Common Name

Scientific Name

Amphibians

Western toad

Bufo boreas

Pacific chorus frog

Pseudacris regilla

Bullfrog

Rana catesbeiana

Reptiles

Northwestern pond turtle

Clemmys marmorata marmorata

Western fence lizard

Sceloporus occidentalis

Gopher snake

Pituophis melanoleuca

Common garter snake

Thamnophis sirtalis

Birds

Great blue heron

Ardea herodias

Great egret

Casmerodius albus

Mallard

Anas platyrhynchos

Cinnamon teal

Anas cyanoptera

American wigeon

Anas americana

Turkey vulture

Cathartes aura

Northern harrier

Circus cyaneus

Red-shouldered hawk

Buteo lineatus

Red-tailed hawk

Buteo jamaicensis

American kestrel

Falco sparverius

Ring-necked pheasant

Phasianus colchicus

California quail

Callipepla californica

Killdeer

Charadrius vociferus

Greater yellowlegs

Tringa melanoleuca

Common snipe

Gallinago gallinago

Rock dove

Columba livia

Mourning dove

Zenaida macroura

Barn owl

Tyto alba

Burrowing owl

Speotyto cunicularia

Anna's hummingbird

Calypte anna

Belted kingfisher

Ceryle alcyon

Northern flicker

Colaptes auratus

Black phoebe

Sayornis nigricans

Say's phoebe

Sayornis saya

Western kingbird

Tyrannus verticalis

Horned Lark

Eremophila alpestris

North Vineyard Station Specific Plan - Wildlife Observed (continued)

N. Rough-winged swallow	<i>Stelgidopteryx serripennis</i>
Cliff swallow	<i>Hirundo pyrrhonata</i>
Barn swallow	<i>Hirundo rustica</i>
Yellow-billed magpie	<i>Pica nuttalli</i>
American crow	<i>Corvus brachyrhynchos</i>
Western bluebird	<i>Sialia mexicana</i>
American robin	<i>Turdus migratorius</i>
Northern mockingbird	<i>Mimus polyglottos</i>
American pipit	<i>Anthus rubescens</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
Loggerhead shrike	<i>Lanius ludovicianus</i>
European starling	<i>Sturnus vulgaris</i>
Yellow-rumped warbler	<i>Dendroica coronata</i>
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
Song sparrow	<i>Melospiza melodia</i>
White-crowned sparrow	<i>Zonotrichia leucophrys</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Tricolored blackbird	<i>Agelaius tricolor</i>
Western meadowlark	<i>Sturnella neglecta</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
Brown-headed cowbird	<i>Molothrus ater</i>
Lesser goldfinch	<i>Carduelis psaltria</i>
American goldfinch	<i>Carduelis tristis</i>
House sparrow	<i>Passer domesticus</i>

Mammals

Black-tailed jackrabbit	<i>Lepus californicus</i>
California ground squirrel	<i>Spermophilus beecheyi</i>
Coyote	<i>Canis latrans</i>
Raccoon	<i>Procyon lotor</i>
Striped skunk	<i>Mephitis mephitis</i>

Plant Species Observed on North Vineyard Station U.S. Home Corporation Property

<u>Scientific Name</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Common Name</u>
<i>Achyrachaena mollis</i>	Blowwives	<i>Lasthenia californica</i>	California goldfields
<i>Aegilops triuncilis</i>	Barbed goat grass	<i>Lasthenia fremontii</i>	Fremont's goldfields
<i>Aira caryophylllea</i>	Hairgrass	<i>Lasthenia glaberrima</i>	Smooth goldfields
<i>Amsinckia menziesii</i>	Rancher's fireweed	<i>Layia fremontii</i>	Freemont's tidy-tips
<i>Anagallis arvensis</i>	Scarlet pimpernel	<i>Leontodon taraxacoides</i>	Hairy hawkbit
<i>Avena barbata</i>	Slender wild oat	<i>Lepidium nitidum</i>	Pepper grass
<i>Blennosperma nanum</i>	Common blennosperma	<i>Lilaea scilloides</i>	Flowering quillwort
<i>Brassica nigra</i>	Black mustard	<i>Lolium perenne</i>	Perennial ryegrass
<i>Brassica rapa</i>	Field mustard	<i>Lotus corniculatus</i>	Birdsfoot trefoil
<i>Briza minor</i>	Little quaking grass	<i>Lotus purshianus</i>	Bird-foot trefoil
<i>Brodiaea coronaria</i>	Harvest brodiaea	<i>Lupinus bicolor</i>	Bicolored lupine
<i>Bromus diandrus</i>	Ripgut brome	<i>Lythrum hyssopifolium</i>	Hyssop loosestrife
<i>Bromus hordeaceus</i>	Soft brome	<i>Malva parviflora</i>	Cheeseweed
<i>Bromus madritensis</i>	Red brome	<i>Marrubium vulgare</i>	Common horehound
<i>Calandrina ciliata</i>	Red maids	<i>Medicago polymorpha</i>	Bur clover
<i>Callitriche marginata</i>	Winged water-starwort	<i>Mimulus tricolor</i>	Tri-color monkey-flower
<i>Capsella bursa-pastoris</i>	Shepherd common purse	<i>Montia fontana</i>	Fountain miner's-lettuce
<i>Cardamine oligosperma</i>	Few-seed bitter-cress	<i>Navarretia intertexta</i>	Needle-leaf navarretia
<i>Castilleja attenuata</i>	Valley tassels	<i>Paspalum dilatatum</i>	Dallisgrass
<i>Centaurea solstitialis</i>	Yellow star-thistle	<i>Picris echioides</i>	Bristly oxtongue
<i>Ceratsium glomeratum</i>	Mouse-ear chickweed	<i>Pilularia americana</i>	American pillwort
<i>Chamomilla suaveolens</i>	Weed-pineapple	<i>Plagiobothrys greenei</i>	Greene's popcorn-flower
<i>Convolvulus arvensis</i>	Morning glory	<i>Plagiobothrys nothofulvus</i>	Rusty popcorn-flower
<i>Conyza canadensis</i>	Canada horseweed	<i>Plagiobothrys stipitatus</i>	Slender popcorn-flower
<i>Crassula aquatica</i>	Water pygmy-weed	<i>Plantago lanceolata</i>	English plantain
<i>Cynodon dactylon</i>	Bermuda grass	<i>Poa annua</i>	Annual bluegrass
<i>Cyperus eragrostis</i>	Tall flatsedge	<i>Polygonum arenastrum</i>	Prostrate knotweed
<i>Deschampsia danthonioides</i>	Annual hairgrass	<i>Polygonum species</i>	Smartweed
<i>Dichelostemma capitatum</i>	Blue dicks	<i>Psilocarphus brevissimus</i>	Dwarf woolly-heads
<i>Digitaria species</i>	Crabgrass	<i>Psilocarphus oregonus</i>	Oregon woolly-heads
<i>Downingia ornatissima</i>	Solano downingia	<i>Psilocarphus tenellus</i>	Slender woolly-heads
<i>Eleocharis macrostachya</i>	Creeping spikerush	<i>Ranunculus bonariensis</i>	Butter-cup
<i>Epilobium species</i>	Willow herb	<i>Ranunculus muricatus</i>	Spiny-fruit butter-cup
<i>Eremocarpus setigerus</i>	Turkey mullien	<i>Rubus discolor</i>	Himalaya blackberry
<i>Erodium botrys</i>	Filaree	<i>Rumex acetosella</i>	Sheep sorrel
<i>Erodium cicutarium</i>	Filaree	<i>Rumex crispus</i>	Curly dock
<i>Erodium species</i>	Filaree	<i>Salix lasiolepis</i>	Arroyo willow
<i>Eryngium vaseyi</i>	Vasey's coyote-thistle	<i>Senecio vulgaris</i>	Common groundsel
<i>Festuca species</i>	Fescue	<i>Silybum marianum</i>	Milk thistle
<i>Geranium dissectum</i>	Cut-leaf geranium	<i>Sonchus asper</i>	Prickly sowthistle
<i>Geranium molle</i>	Hairy geranium	<i>Spergularia rubra</i>	Purple sandspurry
<i>Glyceria species</i>	Manna grass	<i>Stellaria media</i>	Common chickweed
<i>Gratiola ebracteata</i>	Bractless hedgehyssop	<i>Taeniatherum caput-medusae</i>	Medusahead grass
<i>Hemizonia fitchii</i>	Fitch's spikeweed	<i>Taraxacum officinale</i>	Common dandelion
<i>Holocarpha virgata</i>	Sticky tarweed	<i>Trichostema lanceolatum</i>	Vinegar weed
<i>Hordeum marinum</i>	Mediterranean barley	<i>Trifolium depauperatum</i>	Dwarf sack clover
<i>Hordeum murinum</i>	Barley	<i>Trifolium hirtum</i>	Rose clover
<i>Hypochaeris glabra</i>	Smooth cat's-ear	<i>Trifolium species</i>	Clover
<i>Isoetes orcuttii</i>	Orcutt's quillwort	<i>Triphysaria eriantha</i>	Butter and eggs
<i>Juncus bufonius</i>	Toad rush	<i>Triteleia hyacinthina</i>	Hyacinth brodiaea
<i>Juncus capitatus</i>	Capped rush	<i>Verbascum blattaria</i>	Moth mullein
<i>Juncus uncialis</i>	Inch-high rush	<i>Veronica peregrina</i>	Purslane speedwell
<i>Lactuca serriola</i>	Prickly lettuce	<i>Vicia species</i>	Vetch
<i>Lamium amplexicaule</i>	Henbit	<i>Vulpia species</i>	Fescue

Plant Species Observed on North Vineyard Station Morvai Property

<u>Scientific Name</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Common Name</u>
<i>Achillea millefolium</i>	Common yarrow	<i>Hordeum murinum</i>	Barley
<i>Aegilops triuncialis</i>	Barbed goat grass	<i>Hypochaeris glabra</i>	Smooth cat's-ear
<i>Alopecurus saccatus</i>	Pacific foxtail	<i>Isoetes orcuttii</i>	Orcutt's quillwort
<i>Amsinckia menziesii</i>	Rancher's fireweed	<i>Juncus bufonius</i>	Toad rush
<i>Anagallis arvensis</i>	Scarlet pimpernel	<i>Juncus capitatus</i>	Capped rush
<i>Avena fatua</i>	Wild oat	<i>Lactuca serriola</i>	Prickly lettuce
<i>Blennosperma nanum</i>	Common blennosperma	<i>Lasthenia californica</i>	California goldfields
<i>Brassica nigra</i>	Black mustard	<i>Lasthenia fremontii</i>	Fremont's goldfields
<i>Briza minor</i>	Little quaking grass	<i>Lasthenia glaberrima</i>	Smooth goldfields
<i>Brodiaea coronaria</i>	Harvest brodiaea	<i>Layia fremontii</i>	Freemont's tidy-tips
<i>Brodiaea elegans</i>	Elegant brodiaea	<i>Leontodon taraxacoides</i>	Hairy hawkbit
<i>Bromus diandrus</i>	Ripgut brome	<i>Lepidium nitidum</i>	Pepper grass
<i>Bromus hordeaceus</i>	Soft brome	<i>Lolium perenne</i>	Perennial ryegrass
<i>Bromus madritensis</i>	Red brome	<i>Lotus corniculatus</i>	Birdsfoot trefoil
<i>Calandrina ciliata</i>	Red maids	<i>Lotus purshianus</i>	Bird-foot trefoil
<i>Callitriche heterophylla</i>	Larger water-starwort	<i>Lupinus bicolor</i>	Bicolored lupine
<i>Callitriche marginata</i>	Winged water-starwort	<i>Lythrum hyssopifolium</i>	Hyssop loosestrife
<i>Capsella bursa-pastoris</i>	Shepherd common purse	<i>Medicago polymorpha</i>	Bur clover
<i>Cardamine oligosperma</i>	Few-seed bitter-cress	<i>Mimulus guttatus</i>	Common large monkey-flower
<i>Castilleja attenuata</i>	Valley tassels	<i>Montia fontana</i>	Fountain miner's-lettuce
<i>Centaurea solstitialis</i>	Yellow star-thistle	<i>Navarretia leucocephala</i>	White-head navarretia
<i>Ceratsium glomeratum</i>	Mouse-ear chickweed	<i>Pilularia americana</i>	American pillwort
<i>Chamomilla suaveolens</i>	Weed-pineapple	<i>Plagiobothrys greenei</i>	Greene's popcorn-flower
<i>Chlorogalum pomeridianum</i>	Soap plant	<i>Plagiobothrys nothofulvus</i>	Rusty popcorn-flower
<i>Cirsium species</i>	Thistle	<i>Plagiobothrys stipitatus</i>	Slender popcorn-flower
<i>Conyza canadensis</i>	Canada horseweed	<i>Poa annua</i>	Annual bluegrass
<i>Crassula aquatica</i>	Water pygmy-weed	<i>Polypogon monspeliensis</i>	Annual rabbit-foot grass
<i>Cynodon dactylon</i>	Bermuda grass	<i>Psilocarphus oregonus</i>	Oregon woolly-heads
<i>Cyperus eragrostis</i>	Tall flatsedge	<i>Ranunculus bonariensis</i>	Butter-cup
<i>Deschampsia danthonioides</i>	Annual hairgrass	<i>Ranunculus muricatus</i>	Spiny-fruit butter-cup
<i>Dichelostemma volubile</i>	Twining brodiaea	<i>Raphanus sativus</i>	Purple wild radish
<i>Downingia bicornuta</i>	Double-horn downingia	<i>Rubus discolor</i>	Himalaya blackberry
<i>Downingia ornatissima</i>	Solano downingia	<i>Rumex acetosella</i>	Sheep sorrel
<i>Eleocharis acicularis</i>	Least spikerush	<i>Rumex crispus</i>	Curly dock
<i>Eleocharis macrostachya</i>	Creeping spikerush	<i>Rumex pulcher</i>	Fiddle dock
<i>Epilobium brachycarpum</i>	Panicked willow-herb	<i>Senecio vulgaris</i>	Common groundsel
<i>Epilobium cleistogamum</i>	Cleistogamous spike-primrose	<i>Sidalcea calycosa</i>	Annual checker-mallow
<i>Eremocarpus setigerus</i>	Turkey mullien	<i>Taeniatherum caput-medusae</i>	Medusahead grass
<i>Erodium botrys</i>	Filaree	<i>Taraxacum officinale</i>	Common dandelion
<i>Erodium cicutarium</i>	Filaree	<i>Trichostema lanceolatum</i>	Vinegar weed
<i>Eryngium vaseyi</i>	Vasey's coyote-thistle	<i>Trifolium depauperatum</i>	Dward sack clover
<i>Geranium molle</i>	Hairy geranium	<i>Trifolium fucatum</i>	Sour clover
<i>Glyceria species</i>	Manna grass	<i>Trifolium hirtum</i>	Rose clover
<i>Gratiola ebracteata</i>	Bractless hedgehyssop	<i>Trifolium variegatum</i>	White-tip clover
<i>Hemizonia fitchii</i>	Fitch's spikeweed	<i>Triteleia hyacinthina</i>	Hyacinth brodiaea
<i>Holocarpha virgata</i>	Sticky tarweed	<i>Vicia villosa</i>	Winter vetch
<i>Hordeum marinum</i>	Mediterranean barley	<i>Vulpia species</i>	Fescue

Plants Species Observed On North Vineyard Station Winncrest Homes Property

<u>Scientific Name</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Common Name</u>
<i>Aira caryophyllea</i>	Hairgrass	<i>Juncus capitatus</i>	Capped rush
<i>Alopecurus saccatus</i>	Pacific foxtail	<i>Juncus uncialis</i>	Inch-high rush
<i>Amsinckia species</i>	Fiddle-neck	<i>Lactuca serriola</i>	Prickly lettuce <i>Lasthenia</i>
<i>Avena species</i>	Wild oat	<i>glaberrima</i>	Smooth goldfields
<i>Brassica nigra</i>	Black mustard	<i>Layia fremontii</i>	Freemont's tidy-tips
<i>Briza minor</i>	Little quaking grass	<i>Leersia oryzoides</i>	Rice cutgrass
<i>Bromus diandrus</i>	Ripgut brome	<i>Lilaea scilloides</i>	Flowering quillwort
<i>Bromus hordeaceus</i>	Soft brome	<i>Lolium perenne</i>	Perennial ryegrass
<i>Callitriche marginata</i>	Winged water-starwort	<i>Ludwigia peploides</i>	Water primrose
<i>Cichorium intybus</i>	Chicory	<i>Lythrum hyssopifolium</i>	Hyssop loosestrife
<i>Cirsium vulgare</i>	Bull thistle	<i>Medicago polymorpha</i>	Bur clover
<i>Convolvulus arvensis</i>	Morning glory	<i>Navarretia intertexta</i>	Needle-leaf navarretia
<i>Crassula aquatica</i>	Water pygmy-weed	<i>Phalaris lemmonii</i>	Lemon's canary grass
<i>Cynodon dactylon</i>	Bermuda grass	<i>Pilularia americana</i>	American pillwort
<i>Deschampsia danthonioides</i>	Annual hairgrass	<i>Plagiobothrys greenei</i>	Greene's popcorn-flower
<i>Downingia bicornuta</i>	Double-horn downingia	<i>Plagiobothrys stipitatus</i>	Slender popcorn-flower
<i>Eleocharis acicularis</i>	Least spikerush	<i>Poa annua</i>	Annual bluegrass
<i>Eleocharis macrostachya</i>	Creeping spikerush	<i>Polygonum arenastrum</i>	Prostrate knotweed
<i>Epilobium brachycarpum</i>	Panicked willow-herb	<i>Psilocarphus brevissimus</i>	Dwarf woolly-heads
<i>Eremocarpus setigerus</i>	Turkey mullien	<i>Ranunculus bonariensis</i>	Butter-cup
<i>Erodium botrys</i>	Filaree	<i>Ranunculus muricatus</i>	Spiny-fruit butter-cup
<i>Eryngium vaseyi</i>	Vasey's coyote-thistle	<i>Rubus discolor</i>	Himalaya blackberry
<i>Geranium dissectum</i>	Cut-leaved geranium	<i>Rumex crispus</i>	Curly dock
<i>Glyceria species</i>	Manna grass	<i>Salix gooddingii</i>	Goodding willow
<i>Gratiola ebracteata</i>	Bractless hedgehyssop	<i>Taeniatherum caput-medusae</i>	Medusahead grass
<i>Hemizonia fitchii</i>	Fitch's spikeweed	<i>Trifolium species</i>	Clover
<i>Holocarpha virgata</i>	Sticky tarweed	<i>Trifolium variegatum</i>	White-tip clover
<i>Hordeum marinum</i>	Mediterranean barley	<i>Triteleia hyacinthina</i>	Hyacinth brodiaea
<i>Hypochaeris glabra</i>	Smooth cat's-ear	<i>Vulpia species</i>	Fescue
<i>Juncus bufonius</i>	Toad rush		

**Plant Species Observed on North Vineyard Station
East Bradshaw / Gerber Associates Property**

<u>Scientific Name</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Common Name</u>
<i>Achillea millefolium</i>	Common yarrow	<i>Lactuca serriola</i>	Prickly lettuce
<i>Agrostis</i> species	Bentgrass	<i>Lamium amplexicaule</i>	Henbit
<i>Aira caryophylla</i>	Hairgrass	<i>Lasthenia californica</i>	California goldfields
<i>Alopecurus saccatus</i>	Pacific foxtail	<i>Lasthenia fremontii</i>	Fremont's goldfields
<i>Amsinckia menziesii</i>	Rancher's fireweed	<i>Lasthenia glaberrima</i>	Smooth goldfields
<i>Avena fatua</i>	Wild oat	<i>Layia fremontii</i>	Freemont's tidy-tips
<i>Avena sativa</i>	Cultivated oat	<i>Leontodon taraxacoides</i>	Hairy hawkbit
<i>Brassica rapa</i>	Field mustard	<i>Lepidium nitidum</i>	Pepper grass
<i>Briza minor</i>	Little quaking grass	<i>Lolium perenne</i>	Perennial ryegrass
<i>Brodiaea elegans</i>	Elegant brodiaea	<i>Lotus purshianus</i>	Bird-foot trefoil
<i>Brodiaea</i> species	Brodiaea	<i>Lythrum hyssopifolium</i>	Hyssop loosestrife
<i>Bromus diandrus</i>	Ripgut brome	<i>Medicago polymorpha</i>	Bur clover
<i>Bromus hordeaceus</i>	Soft brome	<i>Mimulus guttatus</i>	Common large monkey-flower
<i>Calandrina ciliata</i>	Red maids	<i>Mimulus tricolor</i>	Tri-color monkey-flower
<i>Callitriche marginata</i>	Winged water-starwort	<i>Phalaris lemmonii</i>	Lemon's canary grass
<i>Calochortus luteus</i>	Mariposa lily	<i>Pilularia americana</i>	American pillwort
<i>Capsella bursa-pastoris</i>	Shepherd common purse	<i>Plagiobothrys greenei</i>	Greene's popcorn-flower
<i>Castilleja attenuata</i>	Valley tassels	<i>Plagiobothrys nothofulvus</i>	Rusty popcorn-flower
<i>Centaurea solstitialis</i>	Yellow star-thistle	<i>Plagiobothrys stipitatus</i>	Slender popcorn-flower
<i>Ceratsium glomeratum</i>	Mouse-ear chickweed	<i>Plantago</i> species	Plantain
<i>Convolvulus arvensis</i>	Morning glory	<i>Poa annua</i>	Annual bluegrass
<i>Crassula aquatica</i>	Water pygmy-weed	<i>Psilocarphus brevissimus</i>	Dwarf woolly-heads
<i>Deschampsia danthonioides</i>	Annual hairgrass	<i>Psilocarphus oregonus</i>	Oregon woolly-heads
<i>Dichelostemma capitatum</i>	Blue dicks	<i>Ranunculus bonariensis</i>	Butter-cup
<i>Dichelostemma multiflorum</i>	Wild hyacinth	<i>Ranunculus muricatus</i>	Spiny-fruit butter-cup
<i>Downingia bicornuta</i>	Double-horn downingia	<i>Rumex acetosella</i>	Sheep sorrel
<i>Downingia ornatissima</i>	Solano downingia	<i>Rumex crispus</i>	Curly dock
<i>Eleocharis acicularis</i>	Least spikerush	<i>Rumex pulcher</i>	Fiddle dock
<i>Eremocarpus setigerus</i>	Turkey mullien	<i>Senecio vulgaris</i>	Common groundsel
<i>Erodium botrys</i>	Filaree	<i>Sonchus oleraceus</i>	Common sowthistle
<i>Erodium cicutarium</i>	Filaree	<i>Spergula arvensis</i>	Spurrey
<i>Gratiola ebracteata</i>	Bractless hedgehyssop	<i>Taeniatherum caput-medusae</i>	Medusahead grass
<i>Hemizonia fitchii</i>	Fitch's spikeweed	<i>Trichostema lanceolatum</i>	Vinegar weed
<i>Holocarpha virgata</i>	Sticky tarweed	<i>Trifolium depauperatum</i>	Dwarf sack clover
<i>Hordeum marinum</i>	Mediterranean barley	<i>Trifolium fucatum</i>	Sour clover
<i>Hordeum murinum</i>	Barley	<i>Trifolium hirtum</i>	Rose clover
<i>Hypochaeris glabra</i>	Smooth cat's-ear	<i>Triteleia hyacinthina</i>	Hyacinth brodiaea
<i>Isoetes orcuttii</i>	Orcutt's quillwort	<i>Veronica peregrina</i>	Purslane speedwell
<i>Juncus bufonius</i>	Toad rush	<i>Vicia</i> species	Vetch
<i>Juncus capitatus</i>	Capped rush	<i>Vulpia</i> species	Fescue
<i>Juncus uncialis</i>	Inch-high rush	<i>Wyethia angustifolia</i>	Mule ears

Plant Species Observed on North Vineyard Station Saca Property

<u>Scientific Name</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Common Name</u>
<i>Achyrachaena mollis</i>	Blowwives	<i>Juncus balticus</i>	Baltic rush
<i>Aegilops triuncilis</i>	Barbed goat grass	<i>Juncus bufonius</i>	Toad rush
<i>Aira caryophylla</i>	Hairgrass	<i>Juncus capitatus</i>	Capped rush
<i>Alopecurus saccatus</i>	Pacific foxtail	<i>Juncus uncialis</i>	Inch-high rush
<i>Amsinckia menziesii</i>	Rancher's fireweed	<i>Juncus xiphioides</i>	Iris-leaf rush
<i>Anagallis arvensis</i>	Scarlet pimpernel	<i>Lactuca serriola</i>	Prickly lettuce
<i>Avena barbata</i>	Slender wild oat	<i>Lamium amplexicaule</i>	Henbit
<i>Avena fatua</i>	Wild oat	<i>Lasthenia fremontii</i>	Fremont's goldfields
<i>Avena sativa</i>	Cultivated oat	<i>Layia fremontii</i>	Freemont's tidy-tips
<i>Baccharis pilularis</i>	Coyote bush	<i>Leontodon taraxacoides</i>	Hairy hawkbit
<i>Brassica nigra</i>	Black mustard	<i>Lepidium nitidum</i>	Pepper grass
<i>Brassica rapa</i>	Field mustard	<i>Lepidium strictum</i>	Pepperwort
<i>Briza minor</i>	Little quaking grass	<i>Lolium perenne</i>	Perennial ryegrass
<i>Brodiaea species</i>	Brodiaea	<i>Lotus purshianus</i>	Bird-foot trefoil
<i>Bromus diandrus</i>	Ripgut brome	<i>Lupinus bicolor</i>	Bicolored lupine
<i>Bromus hordeaceus</i>	Soft brome	<i>Lythrum hyssopifolium</i>	Hyssop loosestrife
<i>Bromus madritensis</i>	Red brome	<i>Marrubium vulgare</i>	Common horehound
<i>Calandrina ciliata</i>	Red maids	<i>Medicago polymorpha</i>	Bur clover
<i>Callitriche heterophylla</i>	Larger water-starwort	<i>Mimulus guttatus</i>	Common large monkey-flower
<i>Callitriche marginata</i>	Winged water-starwort	<i>Mimulus tricolor</i>	Tri-color monkey-flower
<i>Capsella bursa-pastoris</i>	Shepherd common purse	<i>Montia fontana</i>	Fountain miner's-lettuce
<i>Cardamine oligosperma</i>	Few-seed bitter-cress	<i>Navarretia leucocephala</i>	White-head navarretia
<i>Castilleja attenuata</i>	Valley tassels	<i>Paspalum dilatatum</i>	Dallisgrass
<i>Centaurea solstitialis</i>	Yellow star-thistle	<i>Pilularia americana</i>	American pillwort
<i>Centaurea species</i>	Star thistle	<i>Plagiobothrys greenei</i>	Greene's popcorn-flower
<i>Ceratsium glomeratum</i>	Mouse-ear chickweed	<i>Plagiobothrys nothofulvus</i>	Rusty popcorn-flower
<i>Chamomilla suaveolens</i>	Weed-pineapple	<i>Plagiobothrys stipitatus</i>	Slender popcorn-flower
<i>Chlorogalum pomeridianum</i>	Soap plant	<i>Plantago lanceolata</i>	English plantain
<i>Cichorium intybus</i>	Chicory	<i>Poa annua</i>	Annual bluegrass
<i>Cirsium species</i>	Thistle	<i>Polygonum arenastrum</i>	Prostrate knotweed
<i>Convolvulus arvensis</i>	Morning glory	<i>Polypogon monspeliensis</i>	Annual rabbit-foot grass
<i>Crassula aquatica</i>	Water pygmy-weed	<i>Ranunculus bonariensis</i>	Butter-cup
<i>Cynodon dactylon</i>	Bermuda grass	<i>Ranunculus muricatus</i>	Spiny-fruit butter-cup
<i>Delphinium species</i>	Larkspur	<i>Raphanus sativus</i>	Purple wild radish
<i>Deschampsia danthonioides</i>	Annual hairgrass	<i>Rubus discolor</i>	Himalaya blackberry
<i>Dichelostemma capitatum</i>	Blue dicks	<i>Rumex acetosella</i>	Sheep sorrel
<i>Downingia ornatissima</i>	Solano downingia	<i>Rumex crispus</i>	Curly dock
<i>Elatine species</i>	Waterwort	<i>Rumex pulcher</i>	Fiddle dock
<i>Eleocharis acicularis</i>	Least spikerush	<i>Salix gooddingii</i>	Goodding willow
<i>Eleocharis macrostachya</i>	Creeping spikerush	<i>Senecio vulgaris</i>	Common groundsel
<i>Epilobium species</i>	Willow herb	<i>Sonchus oleraceus</i>	Common sowthistle
<i>Eremocarpus setigerus</i>	Turkey mullien	<i>Stellaria media</i>	Common chickweed
<i>Erodium botrys</i>	Filaree	<i>Taeniatherum caput-medusae</i>	Medusahead grass
<i>Erodium cicutarium</i>	Filaree	<i>Trichostema lanceolatum</i>	Vinegar weed
<i>Erodium species</i>	Filaree	<i>Trifolium depauperatum</i>	Dwarf sack clover
<i>Eryngium vaseyi</i>	Vasey's coyote-thistle	<i>Trifolium fucatum</i>	Sour clover
<i>Geranium molle</i>	Hairy geranium	<i>Trifolium hirtum</i>	Rose clover
<i>Glyceria species</i>	Manna grass	<i>Trifolium variegatum</i>	White-tip clover
<i>Gratiola ebracteata</i>	Bractless hedgehyssop	<i>Triphysaria eriantha</i>	Butter and eggs
<i>Hemizonia fitchii</i>	Fitch's spikeweed	<i>Triteleia hyacinthina</i>	Hyacinth brodiaea
<i>Holocarpa virgata</i>	Sticky tarweed	<i>Typha species</i>	Cattail
<i>Hordeum marinum</i>	Mediterranean barley	<i>Vicia villosa</i>	Winter vetch
<i>Hordeum murinum</i>	Barley	<i>Vulpia species</i>	Fescue
<i>Hypochaeris glabra</i>	Smooth cat's-ear	<i>Wyethia angustifolia</i>	Mule ears
<i>Isoetes orcuttii</i>	Orcutt's quillwort		

Plant Species Observed on North Vineyard Station Courey Property

<u>Scientific Name</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Common Name</u>
<i>Achyrachaena mollis</i>	Blowwives	<i>Lotus purshianus</i>	Bird-foot trefoil
<i>Aira caryophyllea</i>	Hairgrass	<i>Lupinus bicolor</i>	Bicolored lupine
<i>Anagallis arvensis</i>	Scarlet pimpernel	<i>Medicago polymorpha</i>	Bur clover
<i>Avena barbata</i>	Slender wild oat	<i>Navarretia species</i>	Navarretia
<i>Baccharis pilularis</i>	Coyote bush	<i>Paspalum dilatatum</i>	Dallisgrass
<i>Brassica nigra</i>	Black mustard	<i>Phyla nodiflora</i>	Common frog-fruit
<i>Briza minor</i>	Little quaking grass	<i>Picris echioides</i>	Bristly oxtongue
<i>Brodiaea species</i>	Brodiaea	<i>Plagiobothrys nothofulvus</i>	Rusty popcorn-flower
<i>Bromus diandrus</i>	Ripgut brome	<i>Plantago lanceolata</i>	English plantain
<i>Bromus hordeaceus</i>	Soft brome	<i>Poa annua</i>	Annual bluegrass
<i>Calandrina ciliata</i>	Red maids	<i>Polygonum arenastrum</i>	Prostrate knotweed
<i>Capsella bursa-pastoris</i>	Shepherd common purse	<i>Psilocarphus tenellus</i>	Slender woolly-heads
<i>Castilleja attenuata</i>	Valley tassels	<i>Raphanus sativus</i>	Purple wild radish
<i>Centaurea solstitialis</i>	Yellow star-thistle	<i>Rumex crispus</i>	Curly dock
<i>Chenopodium album</i>	White goosefoot	<i>Rumex pulcher</i>	Fiddle dock
<i>Cichorium intybus</i>	Chicory	<i>Salsola tragus</i>	Russian thistle
<i>Cirsium species</i>	Thistle	<i>Senecio vulgaris</i>	Common groundsel
<i>Cirsium vulgare</i>	Bull thistle	<i>Silybum marianum</i>	Milk thistle
<i>Cynodon dactylon</i>	Bermuda grass	<i>Sonchus asper</i>	Prickly sowthistle
<i>Dichelostemma capitatum</i>	Blue dicks	<i>Sonchus oleraceus</i>	Common sowthistle
<i>Epilobium brachycarpum</i>	Panicked willow-herb	<i>Sorghum halepense</i>	Johnson grass
<i>Eremocarpus setigerus</i>	Turkey mullien	<i>Spergularia media</i>	Middle-size sandspurry
<i>Erodium botrys</i>	Filaree	<i>Taeniatherum caput-medusae</i>	Medusahead grass
<i>Geranium molle</i>	Hairy geranium	<i>Taraxacum officinale</i>	Common dandelion
<i>Hemizonia fitchii</i>	Fitch's spikeweed	<i>Trichostema lanceolatum</i>	Vinegar weed
<i>Holocarpha virgata</i>	Sticky tarweed	<i>Trifolium depauperatum</i>	Dwarf sack clover
<i>Hordeum marinum</i>	Mediterranean barley	<i>Trifolium hirtum</i>	Rose clover
<i>Hordeum murinum</i>	Barley	<i>Triteleia hyacinthina</i>	Hyacinth brodiaea
<i>Hypochaeris glabra</i>	Smooth cat's-ear	<i>Vicia species</i>	Vetch
<i>Juncus bufonius</i>	Toad rush	<i>Sequoiadendron giganteon</i>	Giant sequoia
<i>Juncus capitatus</i>	Capped rush	<i>Aegilops triuncialis</i>	Barbed goat grass
<i>Lactuca serriola</i>	Prickly lettuce	<i>Claytonia perfoliata</i>	Miner's lettuce
<i>Lasthenia californica</i>	California goldfields	<i>Amsinckia menziesii</i>	Rancher's fireweed
<i>Layia fremontii</i>	Freemont's tidy-tips	<i>Cerastium glomeratum</i>	Mouse-ear chickweed
<i>Leontodon taraxacoides</i>	Hairy hawkbit	<i>Spergula arvensis</i>	Spurrey
<i>Lolium perenne</i>	Perennial ryegrass		
<i>Lotus corniculatus</i>	Birdsfoot trefoil		

**Wildlife Observed on North Vineyard Station
U.S. Home Corporation Property**

<u>Common Name</u>	<u>Scientific Name</u>
Amphibians	
Pacific chorus frog	<i>Pseudacris regilla</i>
Bullfrog	<i>Rana catesbeiana</i>
Reptiles	
Northwestern pond turtle	<i>Clemmys marmorata marmorata</i>
Western fence lizard	<i>Sceloporus occidentalis</i>
Birds	
Great blue heron	<i>Ardea herodias</i>
Great egret	<i>Casmerodius albus</i>
Mallard	<i>Anas platyrhynchos</i>
Turkey vulture	<i>Cathartes aura</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
American kestrel	<i>Falco sparverius</i>
Ring-necked pheasant	<i>Phasianus colchicus</i>
California quail	<i>Callipepla californica</i>
Killdeer	<i>Charadrius vociferus</i>
Common snipe	<i>Gallinago gallinago</i>
Rock dove	<i>Columba livia</i>
Mourning dove	<i>Zenaida macroura</i>
Barn owl	<i>Tyto alba</i>
Burrowing owl	<i>Speotyto cunicularia</i>
Belted kingfisher	<i>Ceryle alcyon</i>
Northern flicker	<i>Colaptes auratus</i>
Black phoebe	<i>Sayornis nigricans</i>
Western kingbird	<i>Tyrannus verticalis</i>
Horned Lark	<i>Eremophila alpestris</i>
N. Rough-winged swallow	<i>Stelgidopteryx serripennis</i>
Cliff swallow	<i>Hirundo pyrrhonata</i>
Barn swallow	<i>Hirundo rustica</i>
Yellow-billed magpie	<i>Pica nuttalli</i>
American crow	<i>Corvus brachyrhynchos</i>
Western bluebird	<i>Sialia mexicana</i>
Northern mockingbird	<i>Mimus polyglottos</i>
American pipit	<i>Anthus rubescens</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
Loggerhead shrike	<i>Lanius ludovicianus</i>
European starling	<i>Sturnus vulgaris</i>
Yellow-rumped warbler	<i>Dendroica coronata</i>
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>

**Wildlife Observed on North Vineyard Station
U.S. Home Corporation Property**

Common Name

Scientific Name

Song sparrow

Melospiza melodia

White-crowned sparrow

Zonotrichia leucophrys

Red-winged blackbird

Agelaius phoeniceus

Tricolored blackbird

Agelaius tricolor

Western meadowlark

Sturnella neglecta

Brewer's blackbird

Euphagus cyanocephalus

House finch

Carpodacus mexicanus

House sparrow

Passer domesticus

Mammals

Black-tailed hare

Lepus californicus

California ground squirrel

Spermophilus beecheyi

Raccoon

Procyon lotor

Striped skunk

Mephitis mephitis

Wildlife Observed on North Vineyard Station Morvai Property

<u>Common Name</u>	<u>Scientific Name</u>
Amphibians	
Pacific chorus frog	<i>Pseudacris regilla</i>
Bullfrog	<i>Rana catesbeiana</i>
Reptiles	
Western fence lizard	<i>Sceloporus occidentalis</i>
Common garter snake	<i>Thamnophis sirtalis</i>
Birds	
Great blue heron	<i>Ardea herodias</i>
Great egret	<i>Casmerodius albus</i>
Mallard	<i>Anas platyrhynchos</i>
Turkey vulture	<i>Cathartes aura</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Ring-necked pheasant	<i>Phasianus colchicus</i>
Killdeer	<i>Charadrius vociferus</i>
Greater yellowlegs	<i>Tringa melanoleuca</i>
Mourning dove	<i>Zenaida macroura</i>
Black phoebe	<i>Sayornis nigricans</i>
Western kingbird	<i>Tyrannus verticalis</i>
Cliff swallow	<i>Hirundo pyrrhonata</i>
Yellow-billed magpie	<i>Pica nuttalli</i>
American crow	<i>Corvus brachyrhynchos</i>
European starling	<i>Sturnus vulgaris</i>
Yellow-rumped warbler	<i>Dendroica coronata</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Western meadowlark	<i>Sturnella neglecta</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
House finch	<i>Carpodacus mexicanus</i>
Lesser goldfinch	<i>Carduelis psaltria</i>
Mammals	
Black-tailed jackrabbit	<i>Lepus californicus</i>
California ground squirrel	<i>Spermophilus beecheyi</i>

Wildlife Observed on North Vineyard Station Winncrest Homes Property

<u>Common Name</u>	<u>Scientific Name</u>
Amphibians	
Pacific chorus frog	<i>Pseudacris regilla</i>
Western toad	<i>Bufo boreas</i>
Bullfrog	<i>Rana catesbeiana</i>
Reptiles	
Western fence lizard	<i>Sceloporus occidentalis</i>
Gopher snake	<i>Pituophis melanoleuca</i>
Birds	
Great blue heron	<i>Ardea herodias</i>
Great egret	<i>Casmerodius albus</i>
Mallard	<i>Anas platyrhynchos</i>
Cinnamon teal	<i>Anas cyanoptera</i>
Turkey vulture	<i>Cathartes aura</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
American kestrel	<i>Falco sparverius</i>
Ring-necked pheasant	<i>Phasianus colchicus</i>
Killdeer	<i>Charadrius vociferus</i>
Greater yellowlegs	<i>Tringa melanoleuca</i>
Common snipe	<i>Gallinago gallinago</i>
Rock dove	<i>Columba livia</i>
Mourning dove	<i>Zenaida macroura</i>
Northern flicker	<i>Colaptes auratus</i>
Western kingbird	<i>Tyrannus verticalis</i>
Horned Lark	<i>Eremophila alpestris</i>
Cliff swallow	<i>Hirundo pyrrhonata</i>
Barn swallow	<i>Hirundo rustica</i>
Yellow-billed magpie	<i>Pica nuttalli</i>
American crow	<i>Corvus brachyrhynchos</i>
Northern mockingbird	<i>Mimus polyglottos</i>
American pipit	<i>Anthus rubescens</i>
European starling	<i>Sturnus vulgaris</i>
Yellow-rumped warbler	<i>Dendroica coronata</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Western meadowlark	<i>Sturnella neglecta</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
Brown-headed cowbird	<i>Molothrus ater</i>
House finch	<i>Carpodacus mexicanus</i>
Lesser goldfinch	<i>Carduelis psaltria</i>

**Wildlife Observed on North Vineyard Station
Winncrest Homes Property**

Common Name

Scientific Name

Mammals

Black-tailed jackrabbit

Lepus californicus

California ground squirrel

Spermophilus beecheyi

Coyote

Canis latrans

Wildlife Observed on North Vineyard Station
East Bradshaw/Gerber Associates

<u>Common Name</u>	<u>Scientific Name</u>
Amphibians	
Western toad	<i>Bufo boreas</i>
Pacific chorus frog	<i>Pseudacris regilla</i>
Bullfrog	<i>Rana catesbeiana</i>
Reptiles	
Western fence lizard	<i>Sceloporus occidentalis</i>
Common garter snake	<i>Thamnophis sirtalis</i>
Birds	
Great egret	<i>Casmerodius albus</i>
Mallard	<i>Anas platyrhynchos</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Killdeer	<i>Charadrius vociferus</i>
Greater yellowlegs	<i>Tringa melanoleuca</i>
Mourning dove	<i>Zenaida macroura</i>
Burrowing owl	<i>Speotyto cunicularia</i>
Say's phoebe	<i>Sayornis saya</i>
Western kingbird	<i>Tyrannus verticalis</i>
Horned Lark	<i>Eremophila alpestris</i>
Cliff swallow	<i>Hirundo pyrrhonata</i>
Barn swallow	<i>Hirundo rustica</i>
Yellow-billed magpie	<i>Pica nuttalli</i>
Western bluebird	<i>Sialia mexicana</i>
European starling	<i>Sturnus vulgaris</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
White-crowned sparrow	<i>Zonotrichia leucophrys</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Western meadowlark	<i>Sturnella neglecta</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
House finch	<i>Carpodacus mexicanus</i>
Lesser goldfinch	<i>Carduelis psaltria</i>
American goldfinch	<i>Carduelis tristis</i>
Mammals	
Black-tailed jackrabbit	<i>Lepus californicus</i>
California ground squirrel	<i>Spermophilus beecheyi</i>

Wildlife Observed on North Vineyard Station Saca Property

<u>Common Name</u>	<u>Scientific Name</u>
Amphibians	
Pacific chorus frog	<i>Pseudacris regilla</i>
Bullfrog	<i>Rana catesbeiana</i>
Reptiles	
Western fence lizard	<i>Sceloporus occidentalis</i>
Common garter snake	<i>Thamnophis sirtalis</i>
Birds	
Great blue heron	<i>Ardea herodias</i>
Great egret	<i>Casmerodius albus</i>
Mallard	<i>Anas platyrhynchos</i>
Cinnamon teal	<i>Anas cyanoptera</i>
American wigeon	<i>Anas americana</i>
Turkey vulture	<i>Cathartes aura</i>
Northern harrier	<i>Circus cyaneus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
American kestrel	<i>Falco sparverius</i>
Ring-necked pheasant	<i>Phasianus colchicus</i>
California quail	<i>Callipepla californica</i>
Killdeer	<i>Charadrius vociferus</i>
Greater yellowlegs	<i>Tringa melanoleuca</i>
Common snipe	<i>Gallinago gallinago</i>
Rock dove	<i>Columba livia</i>
Mourning dove	<i>Zenaida macroura</i>
Burrowing owl	<i>Speotyto cunicularia</i>
Anna's hummingbird	<i>Calypte anna</i>
Black phoebe	<i>Sayornis nigricans</i>
Western kingbird	<i>Tyrannus verticalis</i>
Horned Lark	<i>Eremophila alpestris</i>
Cliff swallow	<i>Hirundo pyrrhonata</i>
Barn swallow	<i>Hirundo rustica</i>
Yellow-billed magpie	<i>Pica nuttalli</i>
American robin	<i>Turdus migratorius</i>
Northern mockingbird	<i>Mimus polyglottos</i>
American pipit	<i>Anthus rubescens</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
European starling	<i>Sturnus vulgaris</i>
Yellow-rumped warbler	<i>Dendroica coronata</i>
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>

**Wildlife Observed on North Vineyard Station
Saca Property**

Common Name**Scientific Name**

White-crowned sparrow

Zonotrichia leucophrys

Red-winged blackbird

Agelaius phoeniceus

Tricolored blackbird

Agelaius tricolor

Western meadowlark

Sturnella neglecta

Brewer's blackbird

Euphagus cyanocephalus

Brown-headed cowbird

*Molothrus ater***Mammals**

Black-tailed jackrabbit

Lepus californicus

California ground squirrel

Spermophilus beecheyi

Raccoon

Procyon lotor

Striped skunk

Mephitis mephitis

Wildlife Observed on North Vineyard Station Courey Property

<u>Common Name</u>	<u>Scientific Name</u>
Reptiles	
Western fence lizard	<i>Sceloporus occidentalis</i>
Gopher snake	<i>Pituophis melanoleuca</i>
Birds	
Red-tailed hawk	<i>Buteo jamaicensis</i>
Rock dove	<i>Columba livia</i>
Mourning dove	<i>Zenaida macroura</i>
Western kingbird	<i>Tyrannus verticalis</i>
Horned Lark	<i>Eremophila alpestris</i>
Yellow-billed magpie	<i>Pica nuttalli</i>
American crow	<i>Corvus brachyrhynchos</i>
Northern mockingbird	<i>Mimus polyglottos</i>
American pipit	<i>Anthus rubescens</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Western meadowlark	<i>Sturnella neglecta</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
House finch	<i>Carpodacus mexicanus</i>
Lesser goldfinch	<i>Carduelis psaltria</i>

Attachment 3

Department of Energy Western Area Power Administration letter



Department of Energy
 Western Area Power Administration
 Sacramento Area Office
 1825 Bell Street, Suite 105
 Sacramento, California 95825

MACKEY & SOMPS
 Annis _____
 Cox _____
 Day _____

JUN 13 1995

JUN 9 1995

Chapman _____
 Clark _____
 Cook _____
 DeWitt _____
 Evans _____
 Galt _____
 Harbo _____
 Jones _____
 Keith _____
 Lester _____
 Quinn _____
 Rife _____
 Sells _____
 Smith _____
 Taylor _____
 Thompson _____
 Turner _____
 White _____
 Wilson _____
 Young _____

COPY

Mr. J. Steven Lichliter
 MacKay & Somps
 1771 Tribute Road
 Sacramento, CA 95815-4487

Dear Mr. Lichliter:

We have reviewed the May 1995 Public Hearing Draft for the East Elk Grove Specific Plan which encompasses our Hurley-Tracy No. 1 and No. 2 230-kV transmission line easements. Subsequent to the submittal of our initial comments on the September 1994 Public Review Draft, changes to the Federal endangered species list has caused a change in our policies concerning the use of our easements for artificially created wetlands, especially vernal pool mitigation. For safety reasons, we have also recently adopted a policy of allowing only low-growing vegetation that will not exceed 12 feet in height at maturity on our easements.

On September 19, 1994, four species of freshwater crustaceans were listed as threatened or endangered species under the Federal Endangered Species Act (Federal Register 59:48136). These include the Conservancy fairy Shrimp (*Branchinecta conservatio*), Longhorn fairy shrimp (*Branchinecta longiantenna*), Vernal pool tadpole shrimp (*Lepidurus packardii*), and the Vernal pool fairy shrimp (*Branchinecta lynchi*). These species occupy certain types of wetlands including vernal pools and vernal swales that have the potential to occur within the East Elk Grove Specific Plan study area.

Present policies of the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers allow re-creation of wetlands including vernal pools and swales in mitigation areas to compensate for wetlands lost or impacted by development. It has been Western Area Power Administration's (Western) experience that transmission line rights-of-way are often considered for such mitigation sites because of limited alternative land use opportunities caused by the presence of the powerlines. However, artificially created wetlands can become occupied by one or more of the Federally listed endangered or threatened species mentioned above. Even the potential for such listed species to be found on Western's rights-of-way can severely restrict Western's ability to perform routine powerline maintenance and/or facility replacement or construction within 250 feet of artificially created wetlands.


For the reasons listed in the above paragraph, Western no longer permits the creation of vernal pools or vernal swales within its rights-of-way. Detention ponds are acceptable as

long as the required 30-foot setback for operation and maintenance is provided for, and as long as provision for maintenance crews to travel along the easement is preserved. We believe that the text in the Specific Plan related to acceptable uses within Power Transmission Corridors on Page 4-43 (Section (d) second paragraph) should be changed, so it does not describe powerline corridors as an "open space opportunity" to create the types of endangered species habitat that will put Western and other utilities that manage utility lines in a position of "taking" endangered species in the course of performing routine maintenance activities.

Enclosed is a copy of one of the acquisition documents showing the easement rights granted to the United States across the East Elk Grove Specific Plan area. Several easements were acquired across this area.

We appreciate your cooperation in allowing us to participate in this planning process. Please call me at (916) 649-4426 if you have any questions.

Sincerely,


Joan B. Wheatley
Realty Officer

Enclosure

Attachment 4

**Wetland Assessment blue line and
Land Use and Wetland Assessment blue line**

APPENDIX D

NVSSP FEIR: Final Technical Appendices Vol. I

SUGNET & ASSOCIATES
ENVIRONMENTAL CONSULTANTS

January 6, 1997

Ms. Kris Steward
Law Offices of George E. Phillips
555 University Avenue, Suite 200
Sacramento, CA 95825

Re: *20±acre North Vineyard Station Off-site Basin E-20 Wetland Delineation and Special-Status Species Assessment*

Dear Ms. Steward:

At your request, Sugnet & Associates has conducted a preliminary wetland delineation and special-status species assessment for the proposed 20±acre North Vineyard Station Off-site Basin E-20 site in Sacramento County, California. The site is located northwest of the intersection of Gerber Road and Elk Grove-Florin Road within the County of Sacramento and corresponds to a portion of Section 1, Township 7 North, Range 5 East of the Florin and Elk Grove, California 7.5 minute U.S. Geological Survey quadrangles (Figure A-1).

Methodology

The preliminary wetland delineation was conducted on 31 December 1996 and is in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). In the field, aerial photography (black and white aerial photo, dated 25 June 1992, scale 1"=100') was used as a base for delineation of wetland boundaries. The boundaries were then input and digitized via AutoCAD to produce a 1"=100' scale wetland delineation map.

The special-status species assessment was also conducted on 31 December 1996. Prior to the field assessment, the California Department of Fish and Game's (CDFG) Natural Diversity Data Base (NDDB) for the Elk Grove and Florin, California quadrangle (Attachment) was queried to determine if any special-status species have been reported to occur within the project site. Subsequent to the NDDB search, the following sources were reviewed: *Inventory of Rare and Endangered Vascular Plants of California* (California Native Plant Society 1994); *The Jepson Manual, Higher Plants of California* (University of California 1993); *California Birds: Their Status and Distribution* (Small 1994); *Mammalian Species of Special Concern in*

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1

California (Williams 1986); and *Amphibian and Reptile Species of Special Concern in California* (CDFG 1994).

For purposes of this assessment, "special-status" has been defined to include those species which are:

- 1) listed (or formally proposed for, or candidates¹ for listing) as endangered or threatened under the federal Endangered Species Act;
- 2) listed (or candidates for listing) as endangered or threatened under the California Endangered Species Act;
- 3) designated as endangered or rare, pursuant to California Fish and Game Code (§ 1901);
- 4) designated as fully-protected, pursuant to California Fish and Game Code (§ 3511, § 4700, or § 5050); or
- 5) designated as species of concern² by USFWS, or as species of special concern to CDFG.

A list of potentially occurring special-status species (attached table) was developed following the data search.

Wetland Delineation Results

A total of 1.93 acres of potentially jurisdictional waters of the U.S. were mapped within the Off-site Basin E-20 site (attachment).

Waters of the U.S. Acreage Table.

<u>Waters of the U.S. Type</u>	<u>Acreage</u>
Vernal Pool	1.40
Seasonal Wetland	0.05
Perennial Creek	0.48
<u>Total</u>	<u>1.93</u>

1 Candidate species are "Taxa for which the Service [U.S. Fish and Wildlife Service] has on file enough substantial information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species." These were formerly known as "Category 1" candidates for listing.

2 Species of concern are "Taxa for which information now in the possession of the Service [U.S. Fish and Wildlife Service] indicates that proposing to list as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat are not currently available to support proposed rules." These were formerly known as "Category 2" candidates for listing.

This wetland delineation is subject to verification by the U.S. Army Corps of Engineers.

Special-Status Species Assessment Results

According to the NDDB, there are no reports of special-status species occurrences within the North Vineyard Station Off-site Basin E-20 site, and no special-status species were observed on-site during this initial assessment. However, based upon habitats present on-site and species' geographical distribution, several special-status species have been identified to have the potential to occur within the proposed project site. Table A-1 lists the potentially occurring special-status species as well as their appropriate survey season.

Potentially occurring special-status species within the Off-site Basin E-20 site include six plants, two invertebrates, two amphibians, two reptiles, and three nesting and thirteen non-nesting birds.

Five of the six special-status plants which may occur on-site are associated with seasonally inundated wetlands (i.e., vernal pools and seasonal wetland basins), and one species typically occurs in marshes, creeks, and ditches. Of these, Boggs Lake hedge hyssop, Sacramento orcutt grass, and slender orcutt grass are state listed as endangered species. Additionally, Sacramento orcutt grass and slender orcutt grass are federally proposed threatened and proposed endangered species, respectively. These species are protected pursuant to the federal and California Endangered Species Acts (ESA and CESA, respectively). The remaining plants (Ahart's dwarf rush, Greene's legenera, and Sanford's arrowhead) are considered federal species of special concern. These three remaining species are not protected pursuant to either ESA or CESA, but impacts may be considered during California Environmental Quality Act (CEQA) review.

Special-status invertebrates which may occur on-site include vernal pool fairy shrimp and vernal pool tadpole shrimp. These invertebrates are federally listed as threatened and endangered species, respectively, and are protected pursuant to ESA. Vernal pools and seasonal wetlands on-site may represent habitat for these listed aquatic invertebrates.

Special-status amphibians which may occur on-site include California tiger salamander (federal candidate and state species of special concern) and western spadefoot toad (federal and state species of special concern). These two species are not protected pursuant to ESA or CESA. However, impacts to these species may be considered during CEQA review.

Two special-status reptiles may occur on-site, giant garter snake and northwestern

pond turtle. The giant garter snake is federally listed as a threatened species and is protected pursuant to the federal ESA. Elder Creek may be considered potential giant garter snake habitat by the USFWS. The northwestern pond turtle is considered a federal and state species of special concern and is not protected pursuant to ESA or CESA. However, impacts to this species may be considered during CEQA review.

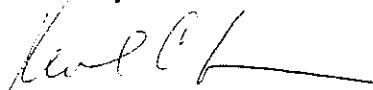
Of the sixteen special-status birds which may occur within the Off-site Basin E-20 site, three may nest on-site, and the remaining species may occur as foragers or migrants. No large trees are present on-site, so the number of potentially nesting species is reduced. Potentially nesting special-status birds include two ground nesting raptors, Northern harrier and western burrowing owl, and one shrub-nesting songbird, loggerhead shrike. All three are federal and/or state species of special concern and, thus are not protected pursuant to either ESA or CESA. However, impacts to these species may be considered during CEQA review. Additionally, the project site is located within the potential foraging range of several nesting Swainson's hawk (state-listed threatened species). According to CDFG policy³, impacts to Swainson's hawk foraging habitat may be required pursuant to CEQA.

Conclusion

A total of 1.93 acres of potentially jurisdictional waters of the U.S. have been mapped on-site, including vernal pool (1.40 acres), seasonal wetland (0.05 acre), and perennial creek (0.48 acre). Potentially occurring special-status species within the North Vineyard Station Off-site Basin E-20 site include six plants, two invertebrates, two amphibians, two reptiles, and three nesting and thirteen non-nesting birds.

Please call me if you have any questions or comments regarding this letter.

Sincerely

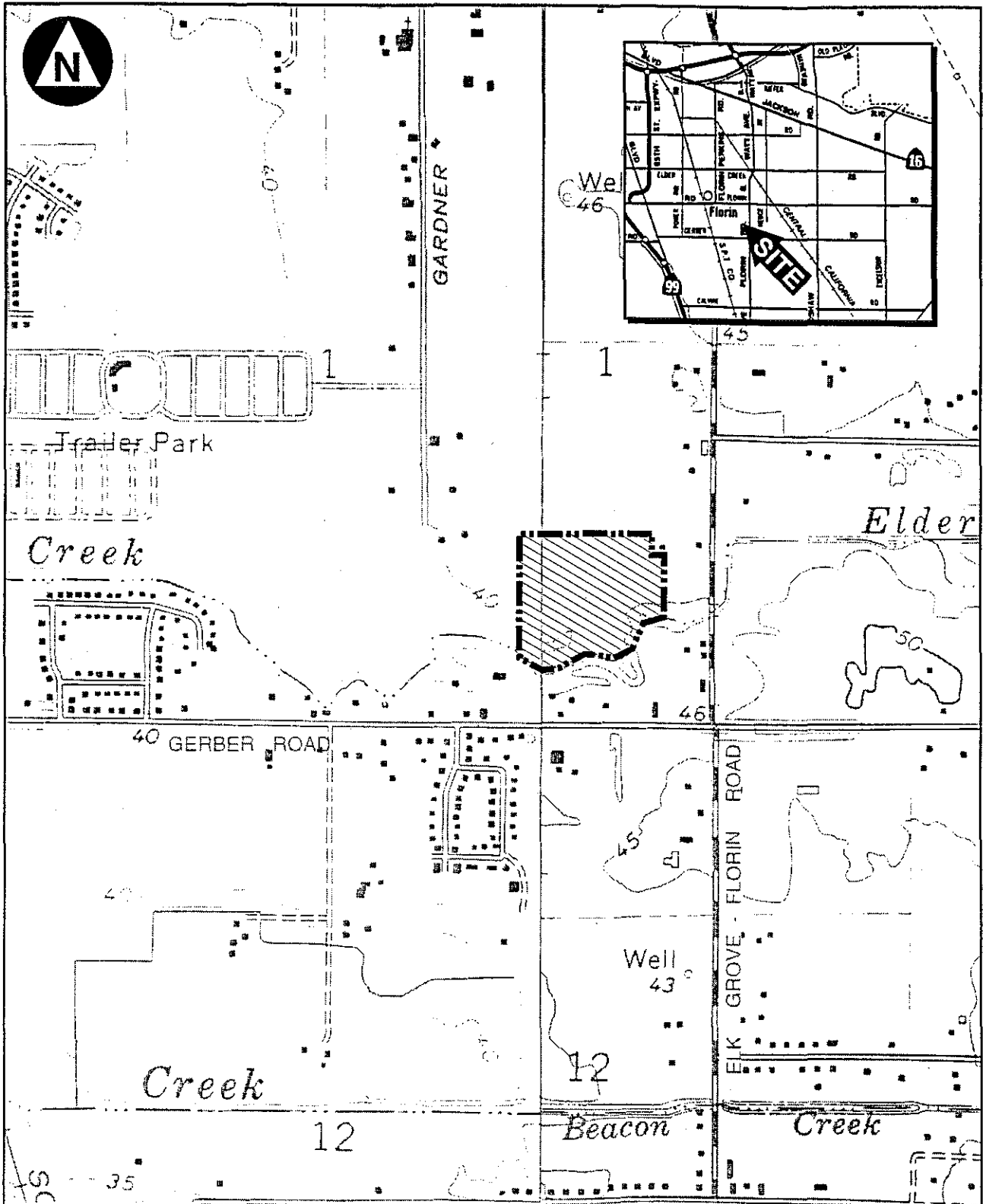


Keith C. Kwan
Avian Biologist

Attachments

- Potentially Occurring Special-Status Species Table
- CDFG Natural Diversity Database for the Florin and Elk Grove, California Quadrangles Computer Printout
- Preliminary Wetland Delineation Blueline Map

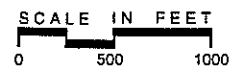
³ *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California*, California Department of Fish and Game, 1994.



**PROJECT SITE AND VICINITY
BASIN E-20**

SUGNET & ASSOCIATES
ENVIRONMENTAL CONSULTANTS
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FIGURE A-1



"Florin & Elk Grove, California" USGS
7.5 minute topographic quadrangle.

Table A-1. North Vineyard Station Off-site Basin E-20 Potentially Occurring Special-Status Species

<u>Common Name</u>	<u>Scientific Name</u>	<u>Federal Status</u>	<u>State Status</u>	<u>Habitat Description</u>	<u>Approximate Survey Dates</u>
Plants					
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>	-	CE	vernal pools	April
Ahart's dwarf rush	<i>Juncus leiospermus var. ahartii</i>	FSC	-	vernal pools	April 15-May 15
Greene's legenere	<i>Legenere limosa</i>	FSC	-	vernal pools	May
Slender orcutt grass	<i>Orcuttia tenuis</i>	FPT	CE	vernal pools	May-June
Sacramento orcutt grass	<i>Orcuttia viscida</i>	FPE	CE	vernal pools	May-June
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	FSC	-	marsh, creeks, ditches	May-July
Invertebrates					
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT	-	vernal pools/wetlands	January-March
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE	-	vernal pools/wetlands	January-March
Amphibians					
California tiger salamander	<i>Ambystoma californiense</i>	FC	CSC	vernal pools, wetlands/adjacent grassland	March-May
Western spadefoot toad	<i>Scaphiopus hammondi</i>	FSC	CSC	vernal pools, wetlands/adjacent grassland	March-May
Reptiles					
Northwestern pond turtle	<i>Clemmys marmorata marmorata</i>	FSC	CSC	creeks, ponds	April-October
Giant garter snake	<i>Thamnophis gigas</i>	FT	CT	ditches, sloughs, marshes	April-October
Birds					
White-tailed kite	<i>Elanus leucurus</i>	-	CFP	woodland, grassland	April-June
Northern harrier	<i>Circus cyaneus</i>	-	CSC	marsh, grassland	June-July
Sharp-shinned hawk	<i>Accipiter striatus</i>	-	CSC	woodland	September-April
Cooper's hawk	<i>Accipiter cooperii</i>	-	CSC	woodland	April-June
Swainson's hawk	<i>Buteo swainsoni</i>	-	CT	grassland, riparian	March-July

Table A-1. North Vineyard Station Off-site Basin E-20 Potentially Occurring Special-Status Species

<u>Common Name</u>	<u>Scientific Name</u>	<u>Federal Status</u>	<u>State Status</u>	<u>Habitat Description</u>	<u>Approximate Survey Dates</u>
Ferruginous hawk	<i>Buteo regalis</i>	FSC	CSC	grassland	November-February
Golden eagle	<i>Aquila chrysaetos</i>	-	CFP, CSC	grassland	November-February
Merlin	<i>Falco columbarius</i>	-	CSC	woodland, grassland	September-April
Prairie falcon	<i>Falco mexicanus</i>	-	CSC	grassland	October-February
Greater sandhill crane	<i>Grus canadensis tabida</i>	-	CT, CFP	pasture, marsh	October-March
Mountain plover	<i>Charadrius montanus</i>	FC	CSC	grassland, pasture	October-March
Long-billed curlew	<i>Numenius americanus</i>	-	CSC	grassland, pasture	September-March
Western burrowing owl	<i>Speotyto cunicularia hypugea</i>	FSC	CSC	grassland	April-July
Short-eared owl	<i>Asio flammeus</i>	-	CSC	marsh, grassland	November-March
Loggerhead shrike	<i>Lanius ludovicianus</i>	-	CSC	grassland, woodland	April-May
Tricolored blackbird	<i>Agelaius tricolor</i>	FSC	CSC	marsh, grassland	April-June

Status Codes:

FE - Federally listed, Endangered.

FT - Federally listed, Threatened.

FPE - Formally Proposed for federal listing as Endangered.

FPT - Formally Proposed for federal listing as Threatened.

FC - Taxa for which the Service has on file enough substantial information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species.

FSC - U.S. Fish and Wildlife Service Species of Concern

CE - California listed, Endangered.

CT - California listed, Threatened.

CFP - California Department of Fish and Game Fully Protected Species (§3511-birds, §4700-mammals, §5050-reptiles/amphibians).

CSC - California Department of Fish and Game Species of Special Concern.

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** Element ID: ABNFD01020 ***** List Status ***** Other Lists ***** *
 * PHALACROCORAX AURITUS (ROOKERY SITE) Federal: None CDFG: Special Concern *
 * Double Crested Cormorant State: None Audubon: *
 * NDDB Element Ranks - Global: G5; State: S3 CNPS List/Code: / *
 * Habitat Associations - *
 * COLONIAL NESTER ON COASTAL CLIFFS AND OFFSHORE ISLANDS, AND ALONG LAKE MARGINS IN THE INTERIOR OF THE STATE. *
 * NEST ALONG COAST ON SEQUESTERED ISLETS, USUALLY ON GROUND WITH SLOPING SURFACE, OR IN TALL TREES ALONG LAKE MARGINS. *
 ** California Department of Fish and Game *****

Occurrence #: 22 Last Seen - Element: 1988/XX/XX Lat/Long: 38d 23m 13s / 121d 29m 27s Township: 06N
 Quality: Unknown Site: 1988/XX/XX UTM: Zone-10 N4249620 E631808 Range: 04E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 12 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11286 More Information? N Acres: 0
 Info Source: VENNARD, M. 1988 (OBS) Map Index Number: 11286 More Map Detail? Y Elevation: 5 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: SE ARM OF NORTH STONE LAKE, APPROX 6 MI S OF SACRAMENTO.
 Threats: GRAZING IS MAIN THREAT; IT DOES NOT ALLOW REGENERATION OF TREES.
 Comments: Distribution Notes - 8 NESTS WITH APPROXIMATELY 20 ADULT BIRDS IN THE AREA; 2 NESTS CONTAINING YOUNG OBSERVED.
 Ecological Notes - HABITAT CONSISTS OF A LARGE COTTONWOOD GROVE SURROUNDED BY A FRESHWATER MARSH BELOW.
 General Notes - GREAT BLUE HERON AND GREAT EGRET ALSO NEST HERE. COUNTY OF SACRAMENTO LEASES THIS PROPERTY TO A PRIVATE PARTY. Owner/Manager - SAC COUNTY, PVT

** Element ID: ABNGA04010 ***** List Status ***** Other Lists ***** *
 * ARDEA HERODIAS Federal: None CDFG: *
 * Great Blue Heron State: None Audubon: *
 * NDDB Element Ranks - Global: G5; State: S4 CNPS List/Code: / *
 * Habitat Associations - *
 * COLONIAL NESTER IN TALL TREES, CLIFFSIDES, AND SEQUESTERED SPOTS ON MARSHES *
 * ROOKERY SITES IN CLOSE PROXIMITY TO FORAGING AREAS: MARSHES, LAKE MARGINS, TIDE-FLATS, RIVERS AND STREAMS, WET MEADOWS. *
 ** California Department of Fish and Game *****

Occurrence #: 1 Last Seen - Element: 1988/05/02 Lat/Long: 38d 23m 13s / 121d 29m 27s Township: 06N
 Quality: Unknown Site: 1988/05/02 UTM: Zone-10 N4249620 E631808 Range: 04E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 12 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11286 More Information? N Acres: 0
 Info Source: MIDDLETON, J. 1988 (OBS) Map Index Number: 11286 More Map Detail? N Elevation: 5 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: NORTH STONE LAKE, NEAR JCT SE ARM AND MAIN LAKE BODY, APPROX 6 MI S OF SACRAMENTO.
 Threats: MAIN THREAT IS GRAZING, WHICH DOES NOT ALLOW FOR REGENERATION OF COTTONWOOD TREES.
 Comments: Distribution Notes - 16 NESTS WITH ADULTS IN THEM ON 1 FEB 88; 54 NESTS WITH ADULTS COUNTED ON 2 MAY 88.
 Ecological Notes - HABITAT CONSISTS OF A LARGE COTTONWOOD GROVE SURROUNDED BY FRESHWATER MARSH. General Notes
 - COUNTY OF SACRAMENTO LEASES THE AREA TO A PRIVATE PARTY. Owner/Manager - SAC COUNTY, PVT

** Element ID: ABNGA05010 ***** List Status ***** Other Lists ***** *
 * CASMERODIUS ALBUS Federal: None CDFG: *
 * Great Egret State: None Audubon: *
 * NDDB Element Ranks - Global: G5; State: S4 CNPS List/Code: / *
 * Habitat Associations - *
 * COLONIAL NESTER IN LARGE TREES. *
 * ROOKERY SITES LOCATED NEAR MARSHES, TIDE-FLATS, IRRIGATED PASTURES, AND MARGINS OF RIVERS AND LAKES. *
 ** California Department of Fish and Game *****

Occurrence #: 1 Last Seen - Element: 1988/05/02 Lat/Long: 38d 23m 13s / 121d 29m 27s Township: 06N
 Quality: Unknown Site: 1988/05/02 UTM: Zone-10 N4249620 E631808 Range: 04E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 12 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11286 More Information? N Acres: 0
 Info Source: MIDDLETON, J. 1988 (OBS) Map Index Number: 11286 More Map Detail? N Elevation: 5 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: SE ARM OF NORTH STONE LAKE, NEAR JCT OF MAIN BODY OF LAKE, APPROX 6 MI S OF SACRAMENTO.
 Threats: CATTLE GRAZING ON ALL SIDES OF ROOKERY ELIMINATE REGENERATION OF TREES.
 Comments: General Notes - ONE GREAT EGRET NEST FOUND ON 1 FEB 88; 11 NESTS COUNTED ON 2 MAY 88. PROPERTY IS OWNED BY SACRAMENTO COUNTY, BUT LEASED TO A PRIVATE PARTY. GREAT BLUE HERONS AND DOUBLE-CRESTED CORMORANTS ALSO NEST HERE. Owner/Manager - SAC COUNTY, PVT

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** Element ID: ABNKC06010 ***** List Status ***** Other Lists ***** *
 * ELANUS LEUCURUS Federal: None CDFG: *
 * White-tailed Kite State: None Audubon: *
 * NDDB Element Ranks - Global: G5; State: S3 CNPS List/Code: / *
 * Habitat Associations - *
 * LOW ROLLING FOOTHILLS/VALLEY MARGINS WITH SCATTERED OAKS AND RIVER BOTTOMLANDS OR MARSHES ADJACENT TO DECIDUOUS WOODLAND *
 * OPEN GRASSLANDS, MEADOWS, OR MARSHES FOR FORAGING CLOSE TO ISOLATED, DENSE-TOPPED TREES FOR NESTING AND PERCHING. *
 ** California Department of Fish and Game * * * * *

Occurrence #: 28 Last Seen - Element: 1990/06/03 Lat/Long: 38d 29m 12s / 121d 21m 50s Township: 07N
 Quality: Fair Site: 1990/06/03 UTM: Zone-10 N4260915 E642620 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: 06 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: JOHNSON, D. 1990 (OBS) Map Index Number: 24807 More Map Detail? N Elevation: 50 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: SOUTH SIDE OF MCCOY AVENUE, 0.4 MILE EAST OF ELK GROVE-FLORIN ROAD, SOUTH OF SACRAMENTO.
 Threats:
 Comments: Ecological Notes - NEST TREE IS LOCATED ON RURAL RESIDENTIAL PROPERTY. General Notes - 2 ADULTS OBSERVED NESTING IN 1990. Owner/Manager - PVT

** Element ID: ABNKC19070 ***** List Status ***** Other Lists ***** *
 * BUTEO SWAINSONI Federal: None CDFG: Special Concern *
 * Swainsons Hawk State: Threatened Audubon: *
 * NDDB Element Ranks - Global: G4; State: S3 CNPS List/Code: / *
 * Habitat Associations - *
 * BREEDS IN STANDS WITH FEW TREES IN JUNIPER-SAGE FLATS, RIPARIAN AREAS AND IN OAK SAVANNAH. *
 * REQUIRES ADJACENT SUITABLE FORAGING AREAS SUCH AS GRASSLANDS, OR ALFALFA OR GRAIN FIELDS SUPPORTING RODENT POPULATIONS. *
 ** California Department of Fish and Game * * * * *

Occurrence #: 131 Last Seen - Element: 1994/XX/XX Lat/Long: 38d 25m 12s / 121d 17m 08s Township: 07N
 Quality: Excellent Site: 1994/XX/XX UTM: Zone-10 N4253630 E649669 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: UN XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Stable Group Number: 11672 More Information? N Acres: 0
 Info Source: CDFG RAPTOR NEST FILES, 1984 (PERS) Map Index Number: 11672 More Map Detail? N Elevation: 60 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: DEER CREEK, AT THE INTERSECTION OF WILTON ROAD, 0.5 MILE NW OF COSUMNES RIVER.
 Threats: POSSIBLE THREAT FROM SURROUNDING DEVELOPMENT OF SMALL RANCHETTES.
 Comments: Ecological Notes - HABITAT CONSISTS OF RIPARIAN SURROUNDED BY AGRICULTURAL CROPS AND GRAZING. General Notes - DFG SWHA #SA013. 2 ADULTS (1 LT, 1 DK) OBSERVED SOARING/ROOSTING HERE IN 1981 AND 1984. NEST OBSERVED DURING A SURVEY OF COSUMNES RIVER IN 1994. Owner/Manager - PVT

Occurrence #: 135 Last Seen - Element: 1981/06/25 Lat/Long: 38d 22m 01s / 121d 28m 40s Township: 06N
 Quality: Unknown Site: 1981/06/25 UTM: Zone-10 N4247419 E632985 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 18 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11303 More Information? N Acres: 0
 Info Source: CDFG RAPTOR NEST FILES, 1984 (PERS) Map Index Number: 11303 More Map Detail? N Elevation: 10 ft
 Quad Summary: Bruceville (3812134), Florin (3812144)
 County(ies): Sacramento
 Location: 6.2 MI N OF TWIN CITIES RD AND WALNUT GROVE EXIT ON HWY 5.
 Threats:
 Comments: General Notes - TERRITORY NO. SA018. 1 ADULT SOARING ABOVE FIELD. Owner/Manager - PVT

Occurrence #: 179 Last Seen - Element: 1984/05/12 Lat/Long: 38d 22m 47s / 121d 28m 35s Township: 06N
 Quality: Unknown Site: 1984/05/12 UTM: Zone-10 N4248839 E633083 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 07 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11308 More Information? N Acres: 0
 Info Source: CDFG RAPTOR NEST FILES, 1984 (PERS) Map Index Number: 11308 More Map Detail? N Elevation: 5 ft
 Quad Summary: Florin (3812144), Bruceville (3812134)
 County(ies): Sacramento
 Location: I-5 APPROX 2 MI N OF HOOD-FRANKLIN RD.
 Threats:
 Comments: Ecological Notes - TERRITORY NO. SA011. ADULTS OBS SOARING OVER AREA IN 1979 AND 1984. NESTS NOT FOUND. Owner/Manager - PVT

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Occurrence #: 183 Last Seen - Element: 1994/XX/XX Lat/Long: 38d 22m 47s / 121d 19m 00s Township: 06N
 Quality: Excellent Site: 1994/XX/XX UTM: Zone-10 N4249102 E647020 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: 10 XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Stable Group Number: 11621 More Information? N Acres: 0
 Info Source: CDFG RAPTOR NEST FILES, 1984 (PERS) Map Index Number: 11621 More Map Detail? N Elevation: 45 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: COSUMNES RIVER, RM-13.4(R), 2 MILES EAST OF THE INTERSECTION OF GRANT LINE ROAD & HWY 99, COSUMNES RIVER PRESERVE.
 Threats: POSSIBLE THREAT FROM DEVELOPMENT OF SMALL RANCHETTES IN THE AREA.
 Comments: Ecological Notes - HABITAT CONSISTS OF RIPARIAN SURROUNDED BY AGRICULTURAL CROPS AND GRAZING. General Notes - DFG SWHA #SA025. 1 ADULT OBSERVED DIVING ON TURKEY VULTURE (1982); NO NEST FOUND. IN SUMMER 1994, NEST OBSERVED DURING A SURVEY OF COSUMNES RIVER AREA. Owner/Manager - TNC-COSUMNES RIVER PRESERVE

Occurrence #: 184 Last Seen - Element: 1995/06/13 Lat/Long: 38d 23m 00s / 121d 18m 27s Township: 06N
 Quality: Excellent Site: 1995/06/13 UTM: Zone-10 N4249475 E647792 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: UN XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Stable Group Number: 11655 More Information? N Acres: 0
 Info Source: CDFG RAPTOR NEST FILES, 1984 (PERS) Map Index Number: 11655 More Map Detail? N Elevation: 60 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: NORTH BANK OF COSUMNES RIVER, AT RM-14.9, ESE OF ELK GROVE.
 Threats:
 Comments: Distribution Notes - LOCATED ~0.25 MILE UPSTREAM FROM DFG COSUMNES RIVER CONSERVATION EASEMENT. Ecological Notes - NEST TREE IS A VALLEY OAK; HABITAT CONSISTS OF RIPARIAN SURROUNDED BY ROW CROPS. General Notes - DFG SWHA #SA038. 1 DARK, 1 MEDIUM PHASE OBSERVED SOARING IN 1984; NO NEST FOUND. 2 CHICKS OBSERVED IN THE NEST ON 13 JUNE 1995. Owner/Manager - PVT

Occurrence #: 185 Last Seen - Element: 1984/05/22 Lat/Long: 38d 22m 34s / 121d 15m 26s Township: 06N
 Quality: Unknown Site: 1984/05/22 UTM: Zone-10 N4248777 E652235 Range: 07E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 18 NW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11725 More Information? N Acres: 0
 Info Source: CDFG RAPTOR NEST FILES, 1984 (PERS) Map Index Number: 11725 More Map Detail? N Elevation: 70 ft
 Quad Summary: Elk Grove (3812143), Galt (3812133)
 County(ies): Sacramento
 Location: 0.25 MI SE OF DAVIS AND WALMORT RDS INTERSECTION.
 Threats:
 Comments: Distribution Notes - NO NEST FOUND BUT POSSIBLY NEST ALONG CONSUMNES RIV. General Notes - TERRITORY NO. SA036. 1 LIGHT & 1 DARK PHASE OBS SOARING. Owner/Manager - PVT

Occurrence #: 187 Last Seen - Element: 1979/07/26 Lat/Long: 38d 25m 09s / 121d 31m 03s Township: 07N
 Quality: Unknown Site: 1982/06/30 UTM: Zone-10 N4253158 E629421 Range: 04E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 39 XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11229 More Information? N Acres: 0
 Info Source: CDFG RAPTOR NEST FILES, 1984 (PERS) Map Index Number: 11229 More Map Detail? N Elevation: 5 ft
 Quad Summary: Clarksburg (3812145), Florin (3812144)
 County(ies): Sacramento, Yolo
 Location: NETHERLANDS RD AND SOUTH RIVER RD INTERSECTION.
 Threats:
 Comments: Distribution Notes - 1 ADULT OBS ON E SIDE OF RIVER BUT NO NEST FOUND IN 1979. General Notes - TERRITORY NO. SA010. NO ADULTS OR NEST FOUND IN 1982. Owner/Manager - PVT

Occurrence #: 188 Last Seen - Element: 1982/05/12 Lat/Long: 38d 26m 03s / 121d 30m 12s Township: 07N
 Quality: Unknown Site: 1982/05/12 UTM: Zone-10 N4254842 E630631 Range: 04E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 26 NE Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11255 More Information? N Acres: 0
 Info Source: CDFG RAPTOR NEST FILES, 1984 (PERS) Map Index Number: 11255 More Map Detail? N Elevation:
 Quad Summary: Clarksburg (3812145), Florin (3812144)
 County(ies): Sacramento
 Location: EXACTLY 3 MI N OF SCRIBNER RD ON HWY 160, E SIDE SACRAMENTO RIVER.
 Threats:
 Comments: Ecological Notes - GOOD HABITAT W/LARGE COTTONWOODS IN SWAMPY AREA ON N SIDE OF LEVEE. General Notes - TERRITORY NO. SA023. 2 ADULTS OBS, 1 DARK, 1 MEDIUM PHASE. CARRYING PREY. Owner/Manager - PVT

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Occurrence #: 189 Last Seen - Element: 1979/06/29 Lat/Long: 38d 26m 14s / 121d 26m 35s Township: 07N
 Quality: Unknown Site: 1982/06/28 UTM: Zone-10 N4255268 E635887 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 28 NW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11369 More Information? N Acres: 0
 Info Source: CDFG RAPTOR NEST FILES, 1984 (PERS) Map Index Number: 11369 More Map Detail? N Elevation: 20 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: SE CORNER OF INTERSECTION ON FRANKLIN BLVD AND SHELDON RD.
 Threats:
 Comments: General Notes - TERRITORY NO. SA005. 1 ADULT OBS IN 1979, NO NEST FOUND. NO ACTIVITY IN 1980 OR 1982.
 Owner/Manager - PVT

Occurrence #: 190 Last Seen - Element: 1984/05/17 Lat/Long: 38d 24m 55s / 121d 17m 36s Township: 07N
 Quality: Unknown Site: 1984/05/17 UTM: Zone-10 N4253065 E649000 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 35 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11652 More Information? N Acres: 0
 Info Source: CDFG RAPTOR NEST FILES, 1984 (PERS) Map Index Number: 11652 More Map Detail? N Elevation: 60 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: DEER CREEK AND WILTON RD.
 Threats:
 Comments: Distribution Notes - NEST IN OAK. General Notes - TERRITORY NO. SA024. 1 ADULT OBS ON NEST. AREA UNSURVEYED.
 SOURCE DOCUMENT SAYS SECTION 35. Owner/Manager - PVT

Occurrence #: 191 Last Seen - Element: 1979/06/29 Lat/Long: 38d 27m 28s / 121d 15m 32s Township: 07N
 Quality: Unknown Site: 1982/06/28 UTM: Zone-10 N4257837 E651918 Range: 07E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 18 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11728 More Information? N Acres: 0
 Info Source: CDFG RAPTOR NEST FILES, 1984 (PERS) Map Index Number: 11728 More Map Detail? N Elevation: 90 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: 0.5 MI E GRANT LINE RD - ELK GROVE; ABOUT HALF WAY BTWN CALVINE & SLOUGHHOUSE RDS.
 Threats:
 Comments: General Notes - TERRITORY NO. SA002. 2 ADULTS AND YOUNG OBS 1979. NO ACTIVITY IN 1980 OR 1982. Owner/Manager - PVT

Occurrence #: 262 Last Seen - Element: 1984/05/17 Lat/Long: 38d 23m 51s / 121d 18m 41s Township: 06N
 Quality: Unknown Site: 1984/05/17 UTM: Zone-10 N4251063 E647460 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 03 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11626 More Information? N Acres: 0
 Info Source: CDFG RAPTOR NEST FILES, 1984 (PERS) Map Index Number: 11626 More Map Detail? N Elevation: 60 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: DEER CREEK, 1 MI SE GRANT LINE RD WHERE CRK FORKS TO THE SW.
 Threats:
 Comments: General Notes - TERRITORY NO. SA037. 2 DARK PHASE ADULTS PERCHES, NO NEST. Owner/Manager - PVT

Occurrence #: 312 Last Seen - Element: 1990/07/02 Lat/Long: 38d 24m 47s / 121d 23m 52s Township: 07N
 Quality: Fair Site: 1990/07/02 UTM: Zone-10 N4252658 E639879 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 35 SE Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: HARVEY, D. 1990 (OBS) Map Index Number: 21028 More Map Detail? N Elevation: 30 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: ALONG BIGHORN ROAD, 0.3 MI NORTH OF ELK GROVE BLVD AND 0.5 MI WEST OF HWY 99, 1.5 MI WEST OF ELK GROVE.
 Threats: THREATENED BY PROPOSED DEVELOPMENT.
 Comments: Distribution Notes - BIRDS WERE FIRST OBSERVED USING SNAGS ADJACENT TO BIGHORN ROAD, LATER NESTING IN VALLEY
 OAKS BEHIND SNAGS. AFTER YOUNG FLEDGED, THE BIRDS RANGED NORTH OVER FIELDS NEAR THE MARSH ON ELK GROVE CREEK.
 Ecological Notes - HABITAT SURROUNDING NEST TREE AND NEARBY SNAGS IS OPEN GRASSLAND. General Notes - THE PAIR
 OF HAWKS WAS OBSERVED FROM 20 APRIL THROUGH 2 JULY 1990, THROUGH THEIR BREEDING PERIOD. AT LEAST ONE YOUNG
 FLEDGED, AFTER WHICH THEY MOVED TO SOME TREES ON STOCKTON BLVD, NORTH OF DUNISCH ROAD. Owner/Manager - PVT

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Occurrence #: 395 Last Seen - Element: 1992/07/16 Lat/Long: 38d 26m 33s / 121d 29m 54s Township: 07N
 Quality: Excellent Site: 1992/07/16 UTM: Zone-10 N4255766 E631031 Range: 04E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: UN XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: NOSAL, T. 1992 (OBS) Map Index Number: 21806 More Map Detail? N Elevation: 10 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: EAST BANK OF SACRAMENTO RIVER, ONE MILE SOUTH OF FREEPORT.
 Threats: INCREASED FOOT TRAFFIC IF PROPOSED NATURE CENTER IS BUILT.
 Comments: Distribution Notes - NEST TREE IS LOCATED ON THE EAST SIDE OF THE LEVEE IN AN ISOLATED STAND OF TREES ALONG THE ACCESS ROAD TO BEACH LAKE. Ecological Notes - NEST TREE IS A VALLEY OAK (QUERCUS LOBATA); ADJACENT AGRICULTURAL FIELDS INCLUDE SAFFLOWER AND ALFALFA. General Notes - ONE ADULT AND ONE JUVENILE OBSERVED ON NEST. SACRAMENTO COUNTY NEGOTIATING WITH BLP FOR CONVERSION OF AREA INTO NATURE CENTER. PROPOSED CALTRANS MITIGATION SITE (0.5 MILES SE OF NEST) MAY INCREASE FORAGING AREA. Owner/Manager - PVT-BEACH LAKE PROPERTIES

Occurrence #: 662 Last Seen - Element: 1994/XX/XX Lat/Long: 38d 23m 14s / 121d 17m 53s Township: 06N
 Quality: Excellent Site: 1994/XX/XX UTM: Zone-10 N4249951 E648633 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: UN XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: ROSCOE, T. 1994 (OBS) Map Index Number: 33208 More Map Detail? N Elevation: 50 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: COSUMNES RIVER, RM-14.6(L), 2.5 MILES SW OF THE INTERSECTION OF WILTON ROAD AND DILLARD ROAD, EAST OF ELK GROVE.
 Threats: POSSIBLE THREAT FROM DEVELOPMENT OF SURROUNDING AREA INTO SMALL RANCHETTES.
 Comments: Ecological Notes - HABITAT CONSISTS OF RIPARIAN SURROUNDED BY AGRICULTURAL CROPS AND GRAZING. General Notes - ACTIVE NEST OBSERVED DURING A SUMMER 1994 SURVEY OF COSUMNES RIVER AREA. Owner/Manager - UNKNOWN

Occurrence #: 663 Last Seen - Element: 1994/XX/XX Lat/Long: 38d 22m 57s / 121d 18m 48s Township: 06N
 Quality: Excellent Site: 1994/XX/XX UTM: Zone-10 N4249398 E647298 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: UN XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: ROSCOE, T. 1994 (OBS) Map Index Number: 33209 More Map Detail? N Elevation: 45 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: COSUMNES RIVER, RM-13.6(R), 3 MILES SE OF ELK GROVE.
 Threats: POSSIBLE THREAT FROM DEVELOPMENT OF SURROUNDING AREA INTO SMALL RANCHETTES.
 Comments: Ecological Notes - HABITAT CONSISTS OF RIPARIAN SURROUNDED BY AGRICULTURAL CROPS AND GRAZING. General Notes - ACTIVE NEST OBSERVED DURING A SUMMER 1994 SURVEY OF THE COSUMNES RIVER AREA. Owner/Manager - UNKNOWN

Occurrence #: 664 Last Seen - Element: 1994/XX/XX Lat/Long: 38d 22m 31s / 121d 19m 13s Township: 06N
 Quality: Excellent Site: 1994/XX/XX UTM: Zone-10 N4248596 E646716 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: UN XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: ROSCOE, T. 1994 (OBS) Map Index Number: 33210 More Map Detail? N Elevation: 45 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: COSUMNES RIVER, RM-13.0(L), 2.5 MILES SE OF ELK GROVE.
 Threats: POSSIBLE THREAT FROM DEVELOPMENT OF SURROUNDING AREA INTO SMALL RANCHETTES.
 Comments: Ecological Notes - HABITAT CONSISTS OF RIPARIAN SURROUNDED BY AGRICULTURAL CROPS AND GRAZING. General Notes - ACTIVE NEST OBSERVED DURING A SUMMER 1994 SURVEY OF COSUMNES RIVER AREA. Owner/Manager - UNKNOWN

Occurrence #: 665 Last Seen - Element: 1994/XX/XX Lat/Long: 38d 24m 59s / 121d 16m 30s Township: 07N
 Quality: Excellent Site: 1994/XX/XX UTM: Zone-10 N4253231 E650579 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: UN XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: ROSCOE, T. 1994 (OBS) Map Index Number: 33211 More Map Detail? N Elevation: 70 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: COSUMNES RIVER, RM-17.5(L), 0.5 MILE NW OF WILTON.
 Threats: POSSIBLE THREAT FROM DEVELOPMENT OF SURROUNDING AREA INTO SMALL RANCHETTES.
 Comments: Ecological Notes - HABITAT CONSISTS OF RIPARIAN SURROUNDED BY AGRICULTURAL CROPLANDS AND GRAZING. General Notes - ACTIVE NEST OBSERVED DURING A SUMMER 1994 SURVEY OF COSUMNES RIVER AREA. Owner/Manager - UNKNOWN

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Occurrence #: 672 Last Seen - Element: 1995/06/13 Lat/Long: 38d 25m 22s / 121d 15m 21s Township: 07N
 Quality: Excellent Site: 1995/06/13 UTM: Zone-10 N4253959 E652255 Range: 07E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: UN XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: ROSCOE, T. 1995 (OBS) Map Index Number: 33224 More Map Detail? N Elevation: 70 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: SOUTH BANK OF COSUMNES RIVER, AT BEITZEL ROAD, 7.5 MILES EAST OF ELK GROVE.
 Threats: POSSIBLE THREATS INCLUDE DEVELOPMENT AND CONVERSION TO VINEYARDS.
 Comments: Ecological Notes - HABITAT CONSISTS OF RIPARIAN SURROUNDED BY ROW CROPS. General Notes - 2 ADULTS OBSERVED COPULATING ON 13 JUNE 1995. Owner/Manager - PVT

Occurrence #: 673 Last Seen - Element: 1995/06/13 Lat/Long: 38d 25m 04s / 121d 16m 39s Township: 07N
 Quality: Good Site: 1995/06/13 UTM: Zone-10 N4253397 E650361 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: UN XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: ROSCOE, T. 1995 (OBS) Map Index Number: 33225 More Map Detail? N Elevation: 60 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: NORTH BANK OF COSUMNES RIVER, 0.1 MILE EAST OF WILTON ROAD, 7.4 MILES EAST OF ELK GROVE.
 Threats: THREATENED BY DEVELOPMENT.
 Comments: Ecological Notes - NEST TREE IS A COTTONWOOD SNAG; HABITAT CONSISTS OF RIPARIAN SURROUNDED BY ROW CROPS, SAND MINING, AND LOW-DENSITY RESIDENTIAL. General Notes - 1 CHICK OBSERVED IN THE NEST ON 13 JUNE 1995. Owner/Manager - PVT

Occurrence #: 674 Last Seen - Element: 1995/06/13 Lat/Long: 38d 24m 17s / 121d 17m 17s Township: 06N
 Quality: Good Site: 1995/06/13 UTM: Zone-10 N4251932 E649465 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: UN XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: ROSCOE, T. 1995 (OBS) Map Index Number: 33226 More Map Detail? N Elevation: 55 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: SOUTH BANK OF COSUMNES RIVER, 7.1 MILE DOWNSTREAM FROM WILTON ROAD, 7.4 MILES EAST OF ELK GROVE.
 Threats: THREATS INCLUDE DEVELOPMENT AND CONVERSION TO VINEYARDS.
 Comments: Ecological Notes - NEST TREE IS A VALLEY OAK; HABITAT CONSISTS OF RIPARIAN SURROUNDED BY ROW CROPS AND LOW-DENSITY HOUSING. General Notes - ON 13 JUNE 1995, 2 ADULTS WERE OBSERVED SOARING IN THE VICINITY OF THE NEST TREE, FROM WHICH AT LEAST 2 CHICKS COULD BE HEARD CALLING. Owner/Manager - PVT

** Element ID: ABNSB10010 ***** List Status ***** Other Lists ***** *
 * ATHENE CUNICULARIA Federal: None CDFG: Special Concern *
 * Burrowing Owl State: None Audubon: Special Concern *
 * NDDB Element Ranks - Global: G4T2; State: S2 CNPS List/Code: / *
 * Habitat Associations - *
 * FOUND IN OPEN, DRY ANNUAL OR PERENIAL GRASSLANDS, DESERTS & SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION. *
 * SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL. *
 ** California Department of Fish and Game * * * * *

Occurrence #: 128 Last Seen - Element: 1992/02/19 Lat/Long: 38d 26m 59s / 121d 27m 31s Township: 07N
 Quality: Fair Site: 1992/02/19 UTM: Zone-10 N4256643 E634515 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: 20 NW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: KOFORD, E. J. 1992 (OBS) Map Index Number: 20687 More Map Detail? N Elevation: 15 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: EAST SIDE OF SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT, BETWEEN HWY 99 AND I-5, 5 MI NORTH OF FRANKLIN.
 Threats:
 Comments: Distribution Notes - BURROW LOCATED IN BERM ADJACENT TO ROAD. Ecological Notes - HABITAT ADJACENT TO BURROW SITE IS GRASSLAND. General Notes - ONE INDIVIDUAL OBSERVED AT A BURROW SITE BY KOFORD. Owner/Manager - SAC COUNTY

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Occurrence #: 210 Last Seen - Element: 1994/03/11 Lat/Long: 38d 27m 24s / 121d 25m 06s Township: 07N
 Quality: Good Site: 1994/03/11 UTM: Zone-10 N4257464 E638002 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 15 SW Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 12.7
 Info Source: GUSE', K. 1994 (OBS) Map Index Number: 25473 More Map Detail? N Elevation: 30 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: COSUMNES RIVER COLLEGE PLAYING FIELD, SACRAMENTO.
 Threats: POSSIBLE DISTURBANCE/THREAT FROM JOGGER'S PETS.
 Comments: Distribution Notes - BURROWS LOCATED ON THE BERMS SURROUNDING THE TRACK AND FOOTBALL FIELD. Ecological Notes - HABITAT CONSISTS OF INTRODUCED, ANNUAL GRASSLAND. General Notes - 12 OCCUPIED BURROWS OBSERVED IN 1994, WITH A TOTAL OF AT LEAST 18 ADULTS (6-12 PAIRS ESTIMATED). Owner/Manager - COSUMNES RIVER COLLEGE

Occurrence #: 229 Last Seen - Element: 1995/05/16 Lat/Long: 38d 28m 33s / 121d 27m 02s Township: 07N
 Quality: Poor Site: 1995/05/16 UTM: Zone-10 N4259559 E635143 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: 08 NE Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: NOSAL, T. AND J. NOSAL, 1995 (OBS) Map Index Number: 33164 More Map Detail? N Elevation: 15 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: SOUTH SIDE OF ELDER CREEK, JUST WEST OF FRANKLIN BLVD, SACRAMENTO.
 Threats: THREATENED BY LEVEE "IMPROVEMENTS," (OWLS WILL BE PASSIVELY DISPLACED BY ONE-WAY BURROW DOORS).
 Comments: Distribution Notes - OWLS OBSERVED ON THE TOP OF A FREQUENTLY-USED LEVEE. Ecological Notes - HABITAT CONSISTS OF MAN-MADE LEVEE; ASSOCIATED VEGETATION IS VERY WEEDY (ANNUAL GRASSES, POLYGONUM, BRASSICA, ETC). SURROUNDING: VACANT PLOWED FIELDS NORTH & SOUTH OF LEVEE, PENDING DEVELOPMENT IN LOT TO THE SOUTH, REMAINDER DEVELOPED. General Notes - AT LEAST 3, AND PROBABLY MORE, OWLS OBSERVED ON 16 MAY 1995. Owner/Manager - CITY OF SACRAMENTO

** Element ID: ABPBX8002 ***** List Status ***** Other Lists ***** *
 * AGELAIUS TRICOLOR Federal: Sp of Concern (C2) CDFG: Special Concern *
 * Tricolored Blackbird State: None Audubon: *
 * NDDB Element Ranks - Global: G2; State: S2 CNPS List/Code: / *
 * Habitat Associations - *
 * NOMADIC RESIDENT OF SACRAMENTO-SAN JOAQUIN VALLEYS AND LOW FOOTHILLS OF SIERRA NEVADA; SEA LEVEL TO 3400 FT. *
 * NESTS COLONIALY IN VICINITY OF FRESH WATER, MARSHY AREAS. COLONIES PREFER HEAVY GROWTHS OF CATTAILS AND TULE. *
 ** California Department of Fish and Game * * * * *

Occurrence #: 6 Last Seen - Element: 1993/05/05 Lat/Long: 38d 25m 53s / 121d 22m 40s Township: 07N
 Quality: Good Site: 1993/05/05 UTM: Zone-10 N4264354 E641590 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 24 NE Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Fluctuating Group Number: 11515 More Information? N Acres: 4.3
 Info Source: HOSEA, R. C. 1986 (LIT) Map Index Number: 11515 More Map Detail? N Elevation: 35 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: ALONG EAST SIDE OF SPRR TRACKS, 0.2 TO 0.6 MILES SSE OF CALVINE ROAD, SE OF SACRAMENTO.
 Threats:
 Comments: Distribution Notes - BIRDS ARE FOUND NESTING IN BLACKBERRIES AND FORAGING ALONG STRAWBERRY CREEK AND IN ADJACENT GRASSLANDS. Ecological Notes - NESTING SUBSTRATE CONSISTS OF BLACKBERRIES. General Notes - 320 BIRDS OBSERVED IN 1981. IN 1991 UNKNOWN NUMBER OF BIRDS SEEN NESTING IN BLACKBERRIES ALONG STRAWBERRY CK; BUSHES ELIMINATED BY RELOCATION OF STRAWBERRY CK. IN 1992 NO BIRDS FOUND. IN 1993, MORE THAN 1,000 BIRDS NESTED ALONG RR TRACKS. Owner/Manager - UNKNOWN

Occurrence #: 7 Last Seen - Element: 1981/05/11 Lat/Long: 38d 27m 14s / 121d 24m 21s Township: 07N
 Quality: Unknown Site: 1981/05/11 UTM: Zone-10 N4257173 E639104 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 14 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11446 More Information? N Acres: 0
 Info Source: HOSEA, R. C. 1986 (LIT) Map Index Number: 11446 More Map Detail? N Elevation: 25 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: CALVINE RD AND HWY 99, SE OF SACRAMENTO
 Threats:
 Comments: Distribution Notes - COLONY OF 50 ADULTS WITH FLEDGLING YOUNG NESTING IN CATTAIL AND BLACKBERRY. Owner/Manager - PVT

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Occurrence #: 9 Last Seen - Element: 1981/05/15 Lat/Long: 38d 22m 19s / 121d 24m 57s Township: 06N
 Quality: Unknown Site: 1981/05/15 UTM: Zone-10 N4248065 E638387 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 15 E Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11420 More Information? N Acres: 0
 Info Source: HOSEA, R. C. 1986 (LIT) Map Index Number: 11420 More Map Detail? N Elevation: 25 ft
 Quad Summary: Bruceville (3812134), Florin (3812144)
 County(ies): Sacramento
 Location: NEAR INTERSECTION OF KAMMERER RD AND BRUCEVILLE RD, 4 MI N OF FRANKLIN FIELD.
 Threats:
 Comments: Distribution Notes - COLONY OF 100 ADULTS OBSERVED NESTING IN BLACKBERRY ALONG FENCEROW BESIDE KAMMERER RD.
 Owner/Manager - PVT

Occurrence #: 13 Last Seen - Element: 1981/XX/XX Lat/Long: 38d 29m 51s / 121d 16m 07s Township: 08N
 Quality: Unknown Site: 1992/06/16 UTM: Zone-10 N4262229 E650987 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 36 S Qtr
 Presence: Possibly Extirpated Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11708 More Information? N Acres: 0
 Info Source: HOSEA, R. C. 1986 (LIT) Map Index Number: 11708 More Map Detail? N Elevation: 100 ft
 Quad Summary: Elk Grove (3812143), Carmichael (3812153)
 County(ies): Sacramento
 Location: JUST NORTH OF FLORIN ROAD, 0.5 MI WEST OF EAGLES NEST ROAD, APPROXIMATELY 8 MI NE OF ELK GROVE.
 Threats:
 Comments: General Notes - NESTING COLONY OF 3000 ADULTS OBSERVED BY MATUS IN 1981. Owner/Manager - PVT

Occurrence #: 19 Last Seen - Element: 1982/06/07 Lat/Long: 38d 26m 11s / 121d 23m 30s Township: 07N
 Quality: Unknown Site: 1992/06/16 UTM: Zone-10 N4255253 E640374 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 26 NE Qtr
 Presence: Possibly Extirpated Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11473 More Information? N Acres: 0
 Info Source: HOSEA, R. C. 1986 (LIT) Map Index Number: 11473 More Map Detail? N Elevation: 30 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: ALONG SHELDON RD, 0.5 MI E OF HWY 99, SOUTH OF SACRAMENTO.
 Threats:
 Comments: Distribution Notes - BIRDS NEST IN TYPHA GROWING ALONG CULVERTS ADJACENT TO SHELDON ROAD. Ecological Notes -
 NESTING SUBSTRATE CONSISTS OF TYPHA. General Notes - FLOCK OF 130 ADULT BIRDS OBSERVED NESTING BY HOSEA IN
 1981. SITE CHECKED IN 1992 BY SCHNEIDER AND BARTLETT; NO BIRDS OBSERVED. Owner/Manager - PVT

Occurrence #: 156 Last Seen - Element: XXXX/XX/XX Lat/Long: 38d 22m 47s / 121d 22m 24s Township: 06N
 Quality: Unknown Site: XXXX/XX/XX UTM: Zone-10 N4248993 E642085 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 13 NE Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11521 More Information? N Acres: 0
 Info Source: DEHAVEN, R.W. (OBS) Map Index Number: 11521 More Map Detail? N Elevation: 40 ft
 Quad Summary: Elk Grove (3812143), Bruceville (3812134), Galt (3812133), Florin (3812144)
 County(ies): Sacramento
 Location: 0.5 MI W OF HWY 99, NEAR GRANT LINE RD EXIT, APPROX 2 MI SSW OF ELK GROVE.
 Threats:
 Comments: Ecological Notes - NESTING IN CATTAILS AND BULRUSH. General Notes - OBS BTWN 1969 AND 1974. Owner/Manager -
 UNKNOWN

Occurrence #: 157 Last Seen - Element: 1972/05/XX Lat/Long: 38d 29m 44s / 121d 15m 10s Township: 07N
 Quality: Unknown Site: 1972/05/XX UTM: Zone-10 N4262046 E652439 Range: 07E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 06 NW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11747 More Information? N Acres: 0
 Info Source: DEHAVEN, R. W. (OBS) Map Index Number: 11747 More Map Detail? N Elevation: 110 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: SOUTH SIDE OF FLORIN ROAD, 0.4 MILE EAST OF EAGLES NEST ROAD, 5 MILES NNE OF SHELDON.
 Threats:
 Comments: Ecological Notes - NESTING SUBSTRATE IS CATTAILS. General Notes - 2000 INDIVIDUALS OBSERVED NESTING IN MAY
 1972. Owner/Manager - UNKNOWN

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Occurrence #: 158 Last Seen - Element: XXXX/XX/XX Lat/Long: 38d 30m 50s / 121d 15m 48s Township: 08N
 Quality: Unknown Site: XXXX/XX/XX UTM: Zone-10 N4264056 E651413 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 25 SE Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11720 More Information? N Acres: 0
 Info Source: DEHAVEN, R.W. (OBS) Map Index Number: 11720 More Map Detail? N Elevation: 140 ft
 Quad Summary: Carmichael (3812153), Buffalo Creek (3812152), Elk Grove (3812143)
 County(ies): Sacramento
 Location: NEAR JCT OF JACKSON RD (HWY 16) AND EAGLES NEST RD, APPROX 0NS MI S OF MATHER AFB.
 Threats:
 Comments: Ecological Notes - NESTING IN CATTAILS. General Notes - OBS BTWN 1969 AND 1974. Owner/Manager - UNKNOWN

Occurrence #: 159 Last Seen - Element: XXXX/XX/XX Lat/Long: 38d 22m 45s / 121d 23m 57s Township: 06N
 Quality: Unknown Site: XXXX/XX/XX UTM: Zone-10 N4248892 E639829 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 14 N Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11454 More Information? N Acres: 0
 Info Source: DEHAVEN, R.W. (OBS) Map Index Number: 11454 More Map Detail? N Elevation: 30 ft
 Quad Summary: Florin (3812144), Bruceville (3812134)
 County(ies): Sacramento
 Location: 2 MI SSW OF ELK GROVE BLVD AND HWY 99 JCT, APPROX 3 MI E OF FRANKLIN.
 Threats:
 Comments: Ecological Notes - NESTING IN CATTAILS AND BULRUSH. General Notes - OBS BTWN 1969 AND 1974. Owner/Manager - UNKNOWN

Occurrence #: 174 Last Seen - Element: 1992/06/16 Lat/Long: 38d 23m 33s / 121d 25m 16s Township: 06N
 Quality: Good Site: 1992/06/16 UTM: Zone-10 N4250353 E637887 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 10 NW Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 10.5
 Info Source: HARVEY, D. 1990 (OBS) Map Index Number: 17173 More Map Detail? N Elevation: 25 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: JUST NORTH OF QUAIL RUN AND 0.25 MI WEST OF BRUCEVILLE ROAD, APPROXIMATELY 2 MI NE OF FRANKLIN.
 Threats: POSSIBLE THREAT FROM GRAZING.
 Comments: Distribution Notes - TELY 500 ADULTS OBSERVED NESTING IN A BLACKBERRY BRAMBLE THAT RUNS NORTH FROM QUAIL RUN; BIRDS RANGE A DISTANCE WEST FOR FORAGING. Ecological Notes - THE NESTING AREA (BLACKBERRIES) FORMS A BOUNDARY TO A CULTIVATED FIELD (FIELD CROPS, SOMETIMES FALLOW). General Notes - APPROXIMATELY 500 ADULTS OBSERVED NESTING IN 1990; FEMALES WERE INCUBATING AT THE TIME OF OBSERVATION. IN 1992, APPROXIMATELY 100 ADULTS OBSERVED NESTING. Owner/Manager - PVT

Occurrence #: 177 Last Seen - Element: 1994/04/23 Lat/Long: 38d 29m 53s / 121d 18m 55s Township: 08N
 Quality: Unknown Site: 1994/04/23 UTM: Zone-10 N4262223 E646907 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 34 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Fluctuating Group Number: 17176 More Information? N Acres: 0
 Info Source: JOHNSON, D. 1990 (OBS) Map Index Number: 17176 More Map Detail? N Elevation: 75 ft
 Quad Summary: Elk Grove (3812143), Carmichael (3812153)
 County(ies): Sacramento
 Location: ALONG BOTH SIDES OF KNOX ROAD, JUST NORTH OF FLORIN ROAD, APPROXIMATELY 6 MI NNE OF ELK GROVE.
 Threats: POSSIBLE HUMAN DISTURBANCE DUE TO BISECTION OF SITE BY KNOX ROAD.
 Comments: Distribution Notes - NESTING OCCURS ON THE EAST AND WEST SIDES OF KNOX ROAD, OCCUPYING APPROXIMATELY 1/4 ACRE OF LAND. Ecological Notes - BREEDING SUBSTRATE CONSISTS OF BLACKBERRIES. ONE NEST WITH 3 EGGS AND 2 NEWLY-HATCHED YOUNG OBSERVED ON 9 MAY 1990. General Notes - 1000 PAIRS OBSERVED NESTING IN 1990. SEVERAL HUNDRED NAKED YOUNG FOUND DEAD ON THE ROAD ON 20 MAY 1990. ON 2 JUNE AND 25 JUNE 1992, ONLY FORAGING BIRDS OBSERVED. ON 23 APRIL 1994, 5000-7500 BIRDS WERE OBSERVED; NEST-BUILDING BY FEMALES. Owner/Manager - UNKNOWN

Occurrence #: 204 Last Seen - Element: 1992/06/18 Lat/Long: 38d 26m 09s / 121d 26m 06s Township: 07N
 Quality: Fair Site: 1992/06/18 UTM: Zone-10 N4255116 E636593 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 28 N Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 40
 Info Source: SCHNEIDER, T. 1992 (OBS) Map Index Number: 21602 More Map Detail? N Elevation: 20 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: LAGUNA CREEK, NORTH AND SOUTH OF SHELDON ROAD, ONE MI WEST OF BRUCEVILLE ROAD, SACRAMENTO.
 Threats: LAND 0.5 MI SOUTH OF THIS SITE IS CURRENTLY BEING DEVELOPED (RESIDENTIAL).
 Comments: Ecological Notes - NESTING SUBSTRATE WAS BLACKBERRIES ALONG THE CREEK. General Notes - SITE VISITED ON 16 JUNE AND 18 JUNE, 1992; 100-200 NESTING BIRDS OBSERVED. Owner/Manager - UNKNOWN

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Occurrence #: 231 Last Seen - Element: 1992/05/25 Lat/Long: 38d 26m 38s / 121d 22m 39s Township: 07N
 Quality: Excellent Site: 1992/06/18 UTM: Zone-10 N4256157 E641588 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 24 SE Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: WYMER, N. 1992 (OBS) Map Index Number: 21475 More Map Detail? N Elevation: 35 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: 0.5 MILE NNW OF THE INTERSECTION OF ELK GROVE-FLORIN ROAD AND SHELTON ROAD, SE OF SACRAMENTO.
 Threats: AREA PROPOSED FOR CHANNEL ALTERATION NEARBY.
 Comments: Ecological Notes - DOMINANT VEGETATION CONSISTS OF RUBUS PRO CERUS AND SAGITTARIA SANFORDII; SURROUNDING AREA IS OPEN FIELDS AND PASTURE LAND. General Notes - SITE VISITED ON 20 AND 25 MAY 1992; 6 MALES AND 30 FEMALES OBSERVED. SUBSEQUENT SITE VISIT ON 18 JUNE 1992 FOUND THE BIRDS HAD ABANDONED THE SITE. Owner/Manager - UNKNOWN

Occurrence #: 232 Last Seen - Element: 1994/04/23 Lat/Long: 38d 26m 21s / 121d 20m 51s Township: 07N
 Quality: Good Site: 1994/04/23 UTM: Zone-10 N4255560 E644155 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (0 Mile) Section: 20 SW Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 35.1
 Info Source: ROSCOE, T. 1992 (OBS) Map Index Number: 21808 More Map Detail? N Elevation: 50 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: LAGUNA CREEK, NORTH AND SOUTH OF SHELTON ROAD, 0.25 MILE EAST OF WATERMAN ROAD, JUST NORTH OF ELK GROVE.
 Threats: FORAGING HABITAT THREATENED BY RESIDENTIAL DEVELOPMENT.
 Comments: Distribution Notes - COLONY NESTING IN BLACKBERRY BRAMBLES ON THE EAST SHORE OF LAGUNA CREEK, NORTH AND SOUTH OF THE SHELTON ROAD BRIDGE; BIRDS FORAGE IN ADJACENT FIELDS. Ecological Notes - NESTING HABITAT CONSISTS OF BLACKBERRIES, AND SOME WILD ROSE, ALONG CREEK. General Notes - 1000 ADULTS AND AN UNKNOWN NUMBER OF NESTLINGS OBSERVED ON 19 JUNE 1992. COLONY OF 2000 OBSERVED ON 23 APRIL 1994. Owner/Manager - PVT

Occurrence #: 249 Last Seen - Element: 1991/05/22 Lat/Long: 38d 27m 01s / 121d 22m 37s Township: 07N
 Quality: Fair Site: 1991/05/22 UTM: Zone-10 N4256835 E641604 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 24 NE Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 3.7
 Info Source: DAINS, V. 1991 (OBS) Map Index Number: 23982 More Map Detail? N Elevation: 35 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: STRAWBERRY CREEK, JUST SOUTH OF CALVINE ROAD AND 0.5 MILE WEST OF ELK GROVE FLORIN ROAD, SOUTH OF SACRAMENTO.
 Threats: THREATENED BY PROPOSED DEVELOPMENT.
 Comments: Ecological Notes - NESTING SUBSTRATE CONSISTS OF HIMALAYA BERRY BRAMBLES ON THE SOUTH BANK OF STRAWBERRY CREEK. General Notes - 40 TRICOLORED'S OBSERVED NESTING WITH ABOUT 20 REDWINGED BLACKBIRDS; ADDITIONAL NESTS OBSERVED THAT APPEARED ABANDONED. Owner/Manager - PVT

Occurrence #: 298 Last Seen - Element: 1994/04/23 Lat/Long: 38d 29m 05s / 121d 15m 48s Township: 07N
 Quality: Unknown Site: 1994/04/23 UTM: Zone-10 N4260857 E651523 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 01 SE Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: BURKE, C. 1994 (OBS) Map Index Number: 30620 More Map Detail? N Elevation: 90 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: LAGUNA CREEK, WEST OF EAGLES NEST ROAD, 0.75 MILE SOUTH OF FLORIN ROAD, NE OF ELK GROVE.
 Threats:
 Comments: Ecological Notes - NESTING SUBSTRATE CONSISTS OF TULE, WITH WILLOWS IN THE BACKGROUND; BIRDS FORAGE IN ADJACENT FALLOW AND CULTIVATED FIELDS. General Notes - ON 23 APRIL 1994, 140 BIRDS WERE OBSERVED AT THE NEST SITE, WITH AN ADDITIONAL 110 FORAGING NEARBY. Owner/Manager - UNKNOWN

Occurrence #: 299 Last Seen - Element: 1994/04/23 Lat/Long: 38d 23m 53s / 121d 15m 17s Township: 06N
 Quality: Unknown Site: 1994/04/23 UTM: Zone-10 N4251195 E652354 Range: 07E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 06 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: BURKE, C. 1994 (OBS) Map Index Number: 30621 More Map Detail? N Elevation: 75 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: SOUTH OF THE INTERSECTION OF WILTON ROAD AND DILLARD ROAD, 5 MILES EAST OF ELK GROVE.
 Threats:
 Comments: Distribution Notes - COLONY SITE IS LOCATED 150 METERS DIRECTLY SOUTH OF THE FIRE STATION. Ecological Notes - NESTING SUBSTRATE CONSISTS OF BLACKBERRIES; BIRDS FORAGE IN ADJACENT FALLOW FIELDS AND GRAZED PASTURES. COLONY OCCUPIES 1 ACRE. General Notes - ON 23 APRIL 1994, 110 BIRDS WERE OBSERVED NESTING AND 20 FORAGING NEARBY. Owner/Manager - UNKNOWN

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Occurrence #: 300 Last Seen - Element: 1994/04/23 Lat/Long: 38d 27m 23s / 121d 20m 17s Township: 07N
 Quality: Unknown Site: 1994/04/23 UTM: Zone-10 N4257607 E644917 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 17 SE Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: MANOLIS, T. 1994 (OBS) Map Index Number: 30623 More Map Detail? N Elevation: 55 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: NW OF THE INTERSECTION OF BRADSHAW ROAD AND CALVINE ROAD, 3 MILE NNE OF ELK GROVE.
 Threats:
 Comments: Ecological Notes - NESTING SUBSTRATE CONSISTS OF BLACKBERRIES. General Notes - ON 23 APRIL 1994, THIS PROBABLE COLONY OF ~250 BIRDS WAS OBSERVED. COLONY SIZE MAY BE LARGER - DISTANCE FROM ROAD AND THE PRESENCE OF INTERVENING OBJECTS MADE VIEWING DIFFICULT. Owner/Manager - UNKNOWN

Occurrence #: 301 Last Seen - Element: 1994/04/23 Lat/Long: 38d 23m 24s / 121d 20m 40s Township: 06N
 Quality: Unknown Site: 1994/04/23 UTM: Zone-10 N4250240 E644577 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (3/5 Mile) Section: 08 XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: MANOLIS, T. 1994 (OBS) Map Index Number: 30622 More Map Detail? N Elevation: 50 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: ALONG GRANT LINE ROAD, FROM 0.5 MILE SOUTH OF BRADSHAW ROAD TO JUST SOUTH OF WATERMAN ROAD, SE OF ELK GROVE.
 Threats:
 Comments: Ecological Notes - NESTING SUBSTRATE CONSISTS OF CATTAILS/BLACKBERRIES IN AN AREA COVERING ~50 ACRES; COLONY OCCUPIES ~5-10 ACRES. BIRDS FORAGE ON AN ADJACENT DAIRY FARM. General Notes - ON 23 APRIL 1994, 6000-7500 BIRDS WERE OBSERVED NESTING. Owner/Manager - UNKNOWN

Occurrence #: 319 Last Seen - Element: 1996/06/03 Lat/Long: 38d 24m 04s / 121d 15m 27s Township: 06N
 Quality: Good Site: 1996/06/03 UTM: Zone-10 N4251561 E652139 Range: 07E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: 06 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: ROSCOE, T. 1996 (OBS) Map Index Number: 33417 More Map Detail? N Elevation: 80 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: JUST EAST OF THE INTERSECTION OF WILTON ROAD AND DILLARD ROAD, 5 MILES EAST OF ELK GROVE.
 Threats: THREATENED BY DEVELOPMENT.
 Comments: Ecological Notes - NESTING SUBSTRATE IS BLACKBERRIES; SURROUNDING HABITAT CONSISTS OF AGRICULTURE, GRAZED PASTURE, AND RURAL RESIDENTIAL. General Notes - ESTIMATED 1000 ADULTS OBSERVED NESTING ON 3 JUNE 1996. Owner/Manager - PVT

** Element ID: ARAADO2031 ***** * ***** List Status ***** Other Lists ***** *
 * CLEMMYS MARMORATA MARMORATA Federal: Sp of Concern (C2) CDFG: Special Concern *
 * Northwestern Pond Turtle State: None Audubon: *
 * NDDB Element Ranks - Global: G4T4; State: S3 CNPS List/Code: / *
 * Habitat Associations - *
 * ASSOCIATED WITH PERMANENT OR NEARLY PERMANENT WATER IN A WIDE VARIETY OF HABITATS. *
 * REQUIRES BASKING SITES. NESTS SITES MAY BE FOUND UP TO 0.5 KM FROM WATER. *
 ** California Department of Fish and Game * * * * * **

Occurrence #: 48 Last Seen - Element: XXXX/XX/XX Lat/Long: Township:
 Quality: Unknown Site: XXXX/XX/XX UTM: Range:
 Type: Natural/Native occurrence Mapping Precision: Section: Qtr
 Presence: Presumed Extant Symbol Type: Meridian:
 Trend: Unknown Group Number: More Information? Acres: 0
 Info Source: HOLLAND, D.C. 1988 (PERS) Map Index Number: More Map Detail? Elevation:
 Quad Summary: Florin (3812144), Clarksburg (3812145)
 County(ies): Sacramento
 * S * Location: Locational Information Suppressed - Call Local California Department of Fish and Game Office for Details
 Threats:
 Comments: Locational Information Suppressed - Call Local California Department of Fish and Game Office for Details

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Occurrence #: 49 Last Seen - Element: XXXX/XX/XX Lat/Long: Township:
 Quality: Unknown Site: XXXX/XX/XX UTM: Range:
 Type: Natural/Native occurrence Mapping Precision: Section: Qtr
 Presence: Presumed Extant Symbol Type: Meridian:
 Trend: Unknown Group Number: More Information? Acres: 61
 Info Source: HOLLAND, D.C. 1988 (PERS) Map Index Number: More Map Detail? Elevation:
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 * S * Location: Locational Information Supressed - Call Local California Department of Fish and Game Office for Details
 Threats:
 Comments: Locational Information Supressed - Call Local California Department of Fish and Game Office for Details

Occurrence #: 50 Last Seen - Element: XXXX/XX/XX Lat/Long: Township:
 Quality: Unknown Site: XXXX/XX/XX UTM: Range:
 Type: Natural/Native occurrence Mapping Precision: Section: Qtr
 Presence: Presumed Extant Symbol Type: Meridian:
 Trend: Unknown Group Number: More Information? Acres: 5.2
 Info Source: HOLLAND, D.C. 1988 (PERS) Map Index Number: More Map Detail? Elevation:
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 * S * Location: Locational Information Supressed - Call Local California Department of Fish and Game Office for Details
 Threats:
 Comments: Locational Information Supressed - Call Local California Department of Fish and Game Office for Details

** Element ID: ARADB36150 ***** List Status ***** Other Lists ***** *
 * THAMNOPHIS GIGAS Federal: Threatened CDFG: *
 * Giant Garter Snake State: Threatened Audubon: *
 * NDDB Element Ranks - Global: G2G3; State: S2S3 CNPS List/Code: / *
 * Habitat Associations - *
 * PREFERS FRESHWATER MARSH AND LOW GRADIENT STREAMS. HAS ADAPTED TO DRAINAGE CANALS & IRRIGATION DITCHES. *
 * THIS IS THE MOST AQUATIC OF THE GARTER SNAKES IN CALIFORNIA. *
 ** California Department of Fish and Game * * * * *

Occurrence #: 13 Last Seen - Element: 1982/07/26 Lat/Long: 38d 24m 45s / 121d 23m 40s Township: 07N
 Quality: None Site: 1987/XX/XX UTM: Zone-10 N4252598 E640177 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 35 S Qtr
 Presence: Extirpated Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: HANSEN, G. E. 1982 (LIT) Map Index Number: 11466 More Map Detail? Y Elevation: 45 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: ELK GROVE CREEK, 0.4 MI W HWY 99 AND 0.5 MI N ELK GROVE BLVD , ELK GROVE.
 Threats:
 Comments: Ecological Notes - THE MARSH AT THIS LOCATION WAS FILLED AND LEVELED FOR INDUSTRIAL PARK DEVELOPMENT AS OF MAY 1984. General Notes - ONE SNAKE CAPTURED AND RELEASED ON 7/1/76. TWO JUVENILES CAPTURED ON 7/26/82 WHILE BASKING ON MATS OF DRY CATTAILS NEAR SHORE. THEY WERE EXAMINED & RELEASED. NO SNAKES OBSERVED DURING A 1986-87 STUDY BY G. HANSEN. Owner/Manager - PVT

Occurrence #: 14 Last Seen - Element: 1976/08/03 Lat/Long: 38d 26m 13s / 121d 25m 19s Township: 07N
 Quality: Unknown Site: 1987/XX/XX UTM: Zone-10 N4255276 E637726 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 27 NW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11413 More Information? N Acres: 0
 Info Source: HANSEN, G. E. 1982 (LIT) Map Index Number: 11413 More Map Detail? Y Elevation: 20 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: LAGUNA MARSH, ALONG SHELDON RD, 0.3 MI W OF BRUCEVILLE RD, ELK GROVE.
 Threats: AGRICULTURE AND GRAZING.
 Comments: Ecological Notes - MARSH AREA SURROUNDED BY CULTIVATED FIELDS AND HEAVILY GRAZED GRASSLANDS. GRAZED AREAS CHARACTERIZED BY COMPACTED SOIL, FEW RODENT BURROWS, & SPARSE VEGETATION, THEREBY PROVIDING LITTLE COVER FOR SNAKES DURING FLOODS. General Notes - SNAKES OBSERVED PRIOR TO, BUT NOT DURING 1986-87 STUDY BY G. HANSEN. Owner/Manager - PVT

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Occurrence #: 15 Last Seen - Element: 1992/07/19 Lat/Long: 38d 25m 58s / 121d 29m 52s Township: 07N
 Quality: Unknown Site: 1992/07/19 UTM: Zone-10 N4254735 E631112 Range: 04E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (0 Mile) Section: UN XX Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: 11275 More Information? N Acres: 61
 Info Source: HANSEN, G. 1980 (LIT) Map Index Number: 11275 More Map Detail? N Elevation: 10 ft
 Quad Summary: Florin (3812144)

County(ies): Sacramento
 Location: BEACH LAKE, APPROXIMATELY 1.5 MILES SOUTH OF FREEPORT.
 Threats: SITE WAS SPRAYED BY HERBICIDES IN 1991.
 Comments: Distribution Notes - 1992 OBSERVATION MADE ALONG THE EASTERN FACE OF THE LEVEE BETWEEN MORRISON CREEK AND THE LAKE. Ecological Notes - SHORE VEGETATION DOMINATED BY SCIRPUS ACUTA. General Notes - ONE ADULT OBSERVED EATING A BULLFROG. LEVEE SERVES AS ACCESS TO AGRICULTURAL FIELD (SITE OF PROPOSED CALTRANS MITIGATION BANK) TO EAST. LIGHT FISHING AND RECREATION USE FROM BEACH LAKE PROPERTIES (BLP) MEMBERS. Owner/Manager - SAC COUNTY, PVT

Occurrence #: 84 Last Seen - Element: 1982/08/03 Lat/Long: 38d 25m 52s / 121d 24m 16s Township: 07N
 Quality: Fair Site: 1982/08/03 UTM: Zone-10 N4254648 E639269 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 26 NW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11449 More Information? N Acres: 0
 Info Source: HANSEN, G.E. 1982 (LIT) Map Index Number: 11449 More Map Detail? Y Elevation: 20 ft
 Quad Summary: Florin (3812144)

County(ies): Sacramento
 Location: LAGUNA CRK, 0.8 MI SE JCT OF BRUCEVILLE RD AND SHELDON RD, ELK GROVE.
 Threats: MARSH AREA SURROUNDED BY IRRIGATED PASTURE & GRAZED GRASSLAND.
 Comments: Ecological Notes - ADULT SNAKE FOUND SWIMMING AMONG CATTAILS & TULE; AREA ALSO KNOWN AS "CONFLUENCE MARSH" (JCT OF LAGUNA CR & ELK GROVE CR). POTENTIAL PREY SPECIES INCLUDE CARP, BULLHEAD, MOSQUITOFISH, & BULLFROG. General Notes - SNAKE OBSERVED PRIOR TO, BUT NOT DURING 1986-87 STUDY BY G. HANSEN. Owner/Manager - PVT

** Element ID: CTT44110CA ***** List Status ***** Other Lists ***** *
 * NORTHERN HARDPAN VERNAL POOL Federal: None CDFG: *
 * State: None Audubon: *
 * NDDB Element Ranks - Global: G3; State: S3.1 CNPS List/Code: / *
 * Habitat Associations - *
 * Not available at this time. *
 * *
 ** California Department of Fish and Game * * * * *

Occurrence #: 28 Last Seen - Element: 1980/05/13 Lat/Long: 38d 26m 29s / 121d 27m 11s Township: 07N
 Quality: Unknown Site: 1980/05/13 UTM: Zone-10 N4255716 E635006 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 20 S Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11356 More Information? N Acres: 0
 Info Source: GRIGGS, T. 1980 (OBS). Map Index Number: 11356 More Map Detail? N Elevation: 18 ft
 Quad Summary: Florin (3812144)

County(ies): Sacramento
 Location: N OF SIMS RD, W OF FRANKLIN RD. (SACRAMENTO VIC).
 Threats:
 Comments: Distribution Notes - FRESHWATER MARSH AREAS PRESENT. APPROX 200 ACRES. Ecological Notes - LOW FLOOD PLAIN POOLS. Owner/Manager - UNKNOWN

Occurrence #: 31 Last Seen - Element: 1983/XX/XX Lat/Long: 38d 30m 15s / 121d 17m 02s Township: 08N
 Quality: Unknown Site: 1983/XX/XX UTM: Zone-10 N4262944 E649641 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 35 SE Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11687 More Information? N Acres: 0
 Info Source: GRIGGS, T. 1980 (OBS) Map Index Number: 11687 More Map Detail? N Elevation: 120 ft
 Quad Summary: Carmichael (3812153), Elk Grove (3812143)

County(ies): Sacramento
 Location: LARGE AREA BOUNDED BY JACKSON RD, EAGLES NEST, CALVINE, AND EXCELSIOR RD.
 Threats: HOUSING DEVELOPMENT IN AREA. SOME CATTLE USE.
 Comments: Distribution Notes - VAST AREA OF SPARSE VERNAL POOLS. EXTENDS N TO JACKSON RD. Ecological Notes - ON REDDING-CORNING ASSOCIATION SOILS. Owner/Manager - UNKNOWN

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Occurrence #: 34 Last Seen - Element: 1983/XX/XX Lat/Long: 38d 25m 60s / 121d 24m 09s Township: 07N
 Quality: Unknown Site: 1983/XX/XX UTM: Zone-10 N4254897 E639434 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 26 W Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11453 More Information? N Acres: 0
 Info Source: GRIGGS, T. 1980 (OBS) Map Index Number: 11453 More Map Detail? N Elevation: 25 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: S OF SHELDON RD AND W OF HWY 99. (SACRAMENTO VIC).
 Threats:
 Comments: Distribution Notes - APPROX 200 ACRES. Ecological Notes - LOW FLOOD PLAIN POOLS W/ FRESHWATER MARSH AREAS. ON SAN JOAQUIN ASSOCIATION SOILS. Owner/Manager - UNKNOWN

Occurrence #: 52 Last Seen - Element: 1980/05/13 Lat/Long: 38d 22m 51s / 121d 27m 55s Township: 06N
 Quality: Unknown Site: 1980/05/13 UTM: Zone-10 N4248978 E634051 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 07 SE Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11322 More Information? N Acres: 0
 Info Source: GRIGGS, T. 1980 (OBS) Map Index Number: 11322 More Map Detail? N Elevation: 15 ft
 Quad Summary: Florin (3812144), Bruceville (3812134)
 County(ies): Sacramento
 Location: 10 MI S OF SACTO. FRANKLIN BLVD, NW OF FRANKLIN AREA INCLS 6 1/2 SECTS.
 Threats: HEAVY CATTLE USE.
 Comments: Ecological Notes - LARGE, SHALLOW, FLOODPLAIN VERNAL POOLS. Owner/Manager - UNKNOWN

Occurrence #: 55 Last Seen - Element: 1983/XX/XX Lat/Long: 38d 28m 45s / 121d 17m 16s Township: 07N
 Quality: Unknown Site: 1983/XX/XX UTM: Zone-10 N4260163 E649353 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 11 NW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11675 More Information? N Acres: 0
 Info Source: GRIGGS, T. 1980 (OBS) Map Index Number: 11675 More Map Detail? N Elevation: 90 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: NE OF ELK GROVE ALONG BRADSHAW RD. 1-2.5 MI N OF CALVINE RD ALONG EXCELSIOR RD.
 Threats: AREA GRAZED, HOUSING IN VICINITY, PER 1980 SITE VISIT.
 Comments: Distribution Notes - LARGE AREA OF SPARSE VERNAL POOLS AS SEEN IN 1983 AERIAL PHOTOGRAPHS. ORCUTTIA TENUIS KNOWN FROM THIS AREA. Owner/Manager - UNKNOWN

Occurrence #: 56 Last Seen - Element: 1980/05/13 Lat/Long: 38d 27m 19s / 121d 17m 59s Township: 07N
 Quality: Unknown Site: 1980/05/13 UTM: Zone-10 N4257493 E648360 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 15 SE Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11641 More Information? N Acres: 0
 Info Source: GRIGGS, T. 1980 (OBS) Map Index Number: 11641 More Map Detail? N Elevation: 70 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: NE OF ELKGROVE ALONG BRADSHAW RD. (ACT NW OF INT. OF CALVINE & EXCELSIOR RDS.)
 Threats: GRAZED HOUSING IN VICINITY.
 Comments: Owner/Manager - UNKNOWN

Occurrence #: 57 Last Seen - Element: 1987/06/17 Lat/Long: 38d 25m 52s / 121d 21m 25s Township: 07N
 Quality: Fair Site: 1987/06/17 UTM: Zone-10 N4254721 E643415 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 30 E Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Decreasing Group Number: 11566 More Information? N Acres: 0
 Info Source: GRIGGS, T. 1980 (OBS) Map Index Number: 11566 More Map Detail? N Elevation: 55 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: NE OF ELKGROVE ALONG BRADSHAW RD (W OF WATERMAN RD. BETWEEN SHELDON & BOND RDS).
 Threats: AREA GRAZED, WESTERN PORTIONS ONCE USED AS SMALL RESERVOIRS W/CHECK DAMS; OTHER AREAS W/SMALL CHECKS, TERRACES.
 Comments: Ecological Notes - PORTIONS RETAIN NATURAL TOPOGRAPHY W/GOOD SPECIES DIVERSITY. ON REDDING-CORNING ASSOC. SOILS. General Notes - PARCEL TO BE SOLD, 1987. Owner/Manager - SAC COUNTY

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Occurrence #: 58 Last Seen - Element: 1983/XX/XX Lat/Long: 38d 27m 35s / 121d 20m 18s Township: 07N
 Quality: Unknown Site: 1983/XX/XX UTM: Zone-10 N4257925 E644982 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 16 E Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11587 More Information? N Acres: 0
 Info Source: GRIGGS, T. 1980 (OBS) Map Index Number: 11587 More Map Detail? N Elevation: 65 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: NE OF ELKGROVE ALONG BRADSHAW RD.
 Threats:
 Comments: Distribution Notes - 480 AC OF DENSE POOLS SEEN IN 1983 AERIAL PHOTOS. AREA OF SPARSE POOLS ALSO TO WEST IN 1/2 S17, E 1/2 S18. Ecological Notes - ON REDDING-CORNING ASSOCIATION SOILS. Owner/Manager - UNKNOWN

Occurrence #: 88 Last Seen - Element: 1983/XX/XX Lat/Long: 38d 30m 17s / 121d 20m 20s Township: 08N
 Quality: Unknown Site: 1983/XX/XX UTM: Zone-10 N4262917 E644844 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 32 NE Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11588 More Information? N Acres: 0
 Info Source: HOLLAND & DAINS, 1986 (MAP) Map Index Number: 11588 More Map Detail? N Elevation: 60 ft
 Quad Summary: Carmichael (3812153), Elk Grove (3812143)
 County(ies): Sacramento
 Location: W OF BRADSHAW RD. S OF ELDER CR ROAD. ABOUT 3 MI SW OF MATHER AIR FORCE BASE.
 Threats:
 Comments: Distribution Notes - TWO SMALL AREAS OF DENSE VERNAL POOLS AS SEEN IN 1983 AERIAL PHOTOS. Owner/Manager - UNKNOWN

Occurrence #: 89 Last Seen - Element: 1983/XX/XX Lat/Long: 38d 29m 26s / 121d 19m 40s Township: 07N
 Quality: Unknown Site: 1983/XX/XX UTM: Zone-10 N4261363 E645841 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 04 XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11597 More Information? N Acres: 0
 Info Source: HOLLAND & DAINS, 1986 (MAP) Map Index Number: 11597 More Map Detail? N Elevation: 60 ft
 Quad Summary: Elk Grove (3812143), Carmichael (3812153)
 County(ies): Sacramento
 Location: E & W OF BRADSHAW ROAD, N OF GERBER ROAD. ABOUT 5 MI N OF ELK GROVE.
 Threats:
 Comments: Distribution Notes - EAST OF ROAD SPARSE VERNAL POOLS EXTEND FOR OVER 1 MILE. WEST OF ROAD SMALLER POOL AREA ON E SIDE OF CENTRAL CALIFORNIA TRECITION RAILROAD LINES. Owner/Manager - UNKNOWN

Occurrence #: 93 Last Seen - Element: 1983/XX/XX Lat/Long: 38d 24m 57s / 121d 27m 49s Township: 07N
 Quality: Unknown Site: 1983/XX/XX UTM: Zone-10 N4252865 E634132 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 31 XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11328 More Information? N Acres: 0
 Info Source: HOLLAND & DAINS, 1986 Map Index Number: 11328 More Map Detail? N Elevation: 15 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: ELLIOT RANCH ROAD, W OF FRANKLIN BLVD.
 Threats:
 Comments: Distribution Notes - SPARSELY DISTRIBUTED. Ecological Notes - ON SAN JOAQUIN-ALAMO ASSOC SOILS. Owner/Manager - UNKNOWN

Occurrence #: 94 Last Seen - Element: 1983/XX/XX Lat/Long: 38d 21m 43s / 121d 27m 28s Township: 06N
 Quality: Unknown Site: 1983/XX/XX UTM: Zone-10 N4246884 E634730 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 20 XX Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11340 More Information? N Acres: 0
 Info Source: HOLLAND & DAINS, 1986 (MAP) Map Index Number: 11340 More Map Detail? N Elevation: 15 ft
 Quad Summary: Bruceville (3812134), Florin (3812144)
 County(ies): Sacramento
 Location: WEST OF FRANKLIN BLVD ABOUT 1.3 MI S OF FRANKLIN.
 Threats:
 Comments: Distribution Notes - SPARSE DISTRIBUTION. Ecological Notes - ON SAN JOAQUIN-ALAMO ASSOC SOILS. Owner/Manager - UNKNOWN

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Occurrence #: 97 Last Seen - Element: 1983/XX/XX Lat/Long: 38d 26m 23s / 121d 25m 23s Township: 07N
Quality: Unknown Site: 1983/XX/XX UTM: Zone-10 N4255575 E637628 Range: 05E
Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1 Mile) Section: 22 SW Qtr
Presence: Presumed Extant Symbol Type: POINT Meridian: M
Trend: Unknown Group Number: 11412 More Information? N Acres: 0
Info Source: HOLLAND & DAINS 1986 (MAP) Map Index Number: 11412 More Map Detail? N Elevation: 20 ft
Quad Summary: Florin (3812144)
County(ies): Sacramento
Location: JUST N OF SHELDON RD, W OF BRUCEVILLE RD. S OF COSUMNES RIV COLLEGE.
Threats:
Comments: Distribution Notes - SPARSE VERNAL POOLS AS SEEN IN 1983 AERIAL PHOTOS. Ecological Notes - ON SAN JOAQUIN ASSOCIATION SOILS. Owner/Manager - UNKNOWN

Occurrence #: 118 Last Seen - Element: 1983/XX/XX Lat/Long: 38d 23m 14s / 121d 17m 10s Township: 06N
Quality: Unknown Site: 1983/XX/XX UTM: Zone-10 N4249970 E649681 Range: 06E
Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: UN XX Qtr
Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
Trend: Unknown Group Number: 11670 More Information? N Acres: 167.6
Info Source: HOLLAND & DAINS, 1986 (MAP) Map Index Number: 11670 More Map Detail? N Elevation: 65 ft
Quad Summary: Elk Grove (3812143)
County(ies): Sacramento
Location: EAST OF COSUMNES RIVER, NW OF DILLARD RD, SOUTH OF FREEMAN RD.
Threats:
Comments: Distribution Notes - DENSE DISTRIBUTION OF VERNAL POOLS. Ecological Notes - SAN JOAQUIN ASSOCIATION SOILS. Owner/Manager - UNKNOWN

Occurrence #: 119 Last Seen - Element: 1983/XX/XX Lat/Long: 38d 22m 40s / 121d 15m 47s Township: 06N
Quality: Unknown Site: 1983/XX/XX UTM: Zone-10 N4248953 E651722 Range: 06E
Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: UN XX Qtr
Presence: Presumed Extant Symbol Type: POINT Meridian: M
Trend: Unknown Group Number: 11712 More Information? N Acres: 0
Info Source: HOLLAND & DAINS, 1986 (MAP) Map Index Number: 11712 More Map Detail? N Elevation: 65 ft
Quad Summary: Elk Grove (3812143), Galt (3812133)
County(ies): Sacramento
Location: SOUTH OF WALMORT RD, EAST OF NORTH BADGER CR.
Threats:
Comments: Distribution Notes - SMALL AREA OF DENSE VERNAL POOLS. Ecological Notes - SAN JOAQUIN ASSOCIATION SOILS. Owner/Manager - UNKNOWN

** Element ID: CTT61430CA ***** List Status ***** Other Lists ***** *
* GREAT VALLEY VALLEY OAK RIPARIAN FOREST Federal: None CDFG: *
* State: None Audubon: *
* NDDB Element Ranks - Global: G1; State: S1.1 CNPS List/Code: / *
* Habitat Associations - *
* Not available at this time. *
* ** California Department of Fish and Game * * * * *

Occurrence #: 13 Last Seen - Element: 1985/07/16 Lat/Long: 38d 22m 58s / 121d 19m 03s Township: 06N
Quality: Excellent Site: 1985/07/16 UTM: Zone-10 N4249407 E646968 Range: 06E
Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: UN XX Qtr
Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
Trend: Unknown Group Number: 11610 More Information? Y Acres: 209.6
Info Source: HOLLAND, R. 1985 (PERS) Map Index Number: 11610 More Map Detail? Y Elevation: 45 ft
Quad Summary: Elk Grove (3812143)
County(ies): Sacramento
Location: ALONG DEER CR ABOUT 1 AIR MI NE OF CONFL W/COSUMNES RIVER. BETW GRANT LINE & DILLARD RDS.
Threats: SCS STREAM CLEARING THREATENS PART.
Comments: Distribution Notes - BNDRY INCL SOME GRAZING-MAINTAINED SAVANNA W/VALLEY OAKS 80-100 FT TALL, SOME W/6 FT DBH. Ecological Notes - 80-90% CLOSED CANOPY; VALLEY OAK DOMINANT, WALNUTS SUBDOMINANT. DENSE BOX ELDER, SAMBUCUS; LIANAS IMPENETRABLE. General Notes - DFG TRYING TO REFOREST. RAPTOR AND LONGHORN BEETLE HABITAT. DFG HAS A 34 ACRE CONSERVATION EASEMENT HERE. Owner/Manager - PVT

** Element ID: ICBRA03030 ***** List Status ***** Other Lists ***** *
* BRANCHINECTA LYNCHI Federal: Threatened CDFG: *
* Vernal Pool Fairy Shrimp State: None Audubon: *
* NDDB Element Ranks - Global: G1G2; State: S1S2 CNPS List/Code: / *
* Habitat Associations - *
* ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS. *
* INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS. *
* ** California Department of Fish and Game * * * * *

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Occurrence #: 100 Last Seen - Element: 1995/02/02 Lat/Long: 38d 26m 45s / 121d 21m 22s Township: 07N
Quality: Excellent Site: 1995/02/02 UTM: Zone-10 N4256365 E643436 Range: 06E
Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 19 NE Qtr
Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
Trend: Unknown Group Number: More Information? N Acres: 29.1
Info Source: GIBSON & SKORDAL 1995 (LIT) Map Index Number: 32550 More Map Detail? N Elevation: 60 ft
Quad Summary: Elk Grove (3812143)
County(ies): Sacramento

Location: NORTH OF ELK GROVE; 0.5 MI SOUTH OF CALVINE ROAD AND IMMEDIATELY WEST OF WATERMAN ROAD.
Threats: WETLAND PRESERVE IS PROTECTED BY EXISTING PERIMETER FENCE AND NO DISTURBANCES NOTED.
Comments: Distribution Notes - PERRY RANCH MITIGATION AREA. Ecological Notes - 37-ACRE PRESERVE CONSISTING OF NORTHERN
HARDPAN VERNAL POOL HABITAT WITH BOTH CONSTRUCTED AND NATURAL POOLS; SOIL TYPES: CORNING-REDDING COMPLEX (8-30%
SLOPES) AND REDDING GRAVELLY LOAM (0-8% SLOPES) General Notes - 12/28/1995-SHRIMP OBSERVED IN 25 OF 26
CONSTRUCTED POOLS AND 7 OF 10 REFERENCE POOLS. 2/2/1995-SHRIMP OBSERVED IN 2 OF 26 CONSTRUCTED POOLS AND 1 OF
10 REFERENCE POOLS. Owner/Manager - PVT-WINNCREST HOMES

Occurrence #: 123 Last Seen - Element: 1993/02/23 Lat/Long: 38d 26m 56s / 121d 27m 28s Township: 07N
Quality: Poor Site: 1993/02/23 UTM: Zone-10 N4256551 E634527 Range: 05E
Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 20 NW Qtr
Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
Trend: Unknown Group Number: More Information? N Acres: 2.4
Info Source: LEACH, S. 1993 (OBS) Map Index Number: 24533 More Map Detail? N Elevation: 15 ft
Quad Summary: Florin (3812144)
County(ies): Sacramento

Location: E OF SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT; ON WEST SIDE OF WP RR TRACKS; 1.2 KM N OF RR CROSSING ON
SIMS ROAD.
Threats: VEHICLE ENCROACHMENT DURING RR MAINTENANCE AND OTHER FACILITY ACTIVITIES.
Comments: Ecological Notes - HABITAT CONSISTS OF WATER FILLED DEPRESSIONS WITH RR ROW; SLIGHTLY TURBID WATER; DOMINANT
PLANTS: JUNCUS BUFONIUS, PLAGIOBOTHRYUS STIPITATUS VAR. MICRANTHUS, GRATIOLA EBRACTEATA, LYTHRUM HYSSOPIFOLIA.
General Notes - BRANCHINECTA LYNCHI OBSERVED AT THIS SITE IN THE PAST, NUMBERS UNKNOWN. Owner/Manager -
PVT-WESTERN PACIFIC RR

** Element ID: ICBRA06010 ***** List Status ***** Other Lists ***** *
* LINDERIELLA OCCIDENTALIS Federal: None CDFG: *
* California Linderiella State: None Audubon: *
* NDB Element Ranks - Global: G2?; State: S2? CNPS List/Code: / *
* Habitat Associations - *
* SEASONAL POOLS IN UNPLOWED GRASSLANDS WITH OLD ALLUVIAL SOILS UNDERLAIN BY HARDPAN OR IN SANDSTONE DEPRESSIONS. *
* WATER IN THE POOLS HAS VERY LOW ALKALINITY, CONDUCTIVITY, AND TDS. *
** California Department of Fish and Game * * * * *

Occurrence #: 27 Last Seen - Element: 1993/02/23 Lat/Long: 38d 26m 56s / 121d 27m 28s Township: 07N
Quality: Poor Site: 1993/02/23 UTM: Zone-10 N4256551 E634527 Range: 05E
Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 20 NW Qtr
Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
Trend: Unknown Group Number: More Information? Y Acres: 2.4
Info Source: LEACH, S. 1993 (OBS) Map Index Number: 24533 More Map Detail? N Elevation: 15 ft
Quad Summary: Florin (3812144)
County(ies): Sacramento

Location: E OF SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT, ON BOTH SIDES OF WP RR TRACKS; 1.2 KM N OF RR CROSSING ON
SIMS ROAD
Threats: MOSQUITO ABATEMENT/VEGETATION CONTROL ACTIVITIES; VEHICLE ENCROACHMENT FOR RR MAINTENANCE; WATER TREATMENT
ACTIVITIES.
Comments: Distribution Notes - FOUND ALONG THE WEST AND EAST SIDES OF THE WESTERN PACIFIC RR TRACKS. Ecological Notes -
HABITAT CONSISTS OF WATER-FILLED DEPRESSIONS WITHIN RR ROW; SLIGHTLY TURBID WATER; DOMINANT PLANTS: JUNCUS
BUFONIUS, PLAGIOBOTHRYUS STIPITATUS VAR. MICRANTHUS, GRATIOLA EBRACTEATA, LYTHRUM HYSSOPIFOLIA. General Notes -
3/23/93-1000 ADULTS OBSERVED; 1 COLLECTED BY LEACH FOR PERSONAL COLLECTION; 3/11/93-MANY OBSERVED BY YORK &
SAZAKI. BRANCHINECTA LYNCHI OBSERVED IN PAST. 4/2/1992-KOFORD OBSERVED LINDERIELLA AND TADPOLE SHRIMP.
Owner/Manager - PVT-WESTERN PACIFIC RR

** Element ID: ICBRA10010 ***** List Status ***** Other Lists ***** *
* LEPIDURUS PACKARDI Federal: Endangered CDFG: *
* Vernal Pool Tadpole Shrimp State: None Audubon: *
* NDB Element Ranks - Global: G1; State: S1 CNPS List/Code: / *
* Habitat Associations - *
* INHABITS VERNAL POOLS AND SWALES IN THE SACRAMENTO VALLEY CONTAINING CLEAR TO HIGHLY TURBID WATER. *
** California Department of Fish and Game * * * * *

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Occurrence #: 32 Last Seen - Element: 1993/02/23 Lat/Long: 38d 26m 56s / 121d 27m 28s Township: 07N
 Quality: Poor Site: 1993/02/23 UTM: Zone-10 N4256551 E634527 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 20 NW Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 2.4
 Info Source: LEACH, S. 1993 (OBS) Map Index Number: 24533 More Map Detail? N Elevation: 15 ft
 Quad Summary: Florin (3812144), Buffalo Creek (3812152)
 County(ies): Sacramento
 Location: E OF SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT; ON WEST SIDE OF WP RR TRACKS; 1.2 KM N OF RR CROSSING ON SIMS ROAD
 Threats: VEHICLE ENCROACHMENT DURING RAILROAD MAINTENANCE AND OTHER FACILITY ACTIVITIES.
 Comments: Ecological Notes - HABITAT CONSISTS OF WATER FILLED DEPRESSIONS WITHIN RR ROW; SLIGHTLY TURBID WATER; DOMINANT PLANTS: JUNCUS BUFONIUS, PLAGIOBOTHRYIS STIPITATUS VAR. MICRANTHUS, GRATIOLA EBRACTEATA, LYTHRUM HYSSOPIFOLIA. General Notes - c100 ADULTS OBSERVED BREEDING AND FORAGING; 1 COLLECTED FOR PERSONAL COLLECTION; BRANCHINECTA LYNCHI HAS BEEN OBSERVED AT THIS SITE IN PAST. 4/2/1992-KOFORD OBSERVED TADPOLE SHRIMP AND LINDERIELLA AT SITE. Owner/Manager - PVT-WESTERN PACIFIC RR

** Element ID: PDCAM060C0 ***** List Status ***** Other Lists ***** *
 * DOWNINGIA PUSILLA Federal: None CDFG: *
 * Dwarf Downingia State: None Audubon: *
 * NDDB Element Ranks - Global: G3; State: S3.1 CNPS List/Code: 2 /1-2-1 *
 * Habitat Associations - *
 * VALLEY AND FOOTHILL GRASSLAND (MESIC SITES), VERNAL POOLS. *
 * MESIC SITES; 1-445M. *
 ** California Department of Fish and Game * * * * *

Occurrence #: 54 Last Seen - Element: 1991/04/26 Lat/Long: 38d 25m 59s / 121d 21m 00s Township: 07N
 Quality: Fair Site: 1991/04/26 UTM: Zone-10 N4254949 E643994 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: 29 NW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: WITHAM, C. 1991 (OBS) Map Index Number: 26056 More Map Detail? N Elevation: 55 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: SOUTHEAST CORNER OF SHELDON AND WATERMAN ROADS, ELK GROVE.
 Threats: MOST POOLS HEAVILY DAMAGED BY EXHAUSTIVE DAIRY CATTLE GRAZING.
 Comments: Distribution Notes - MAPPED BETWEEN LAGUNA CREEK AND WATERMAN ROAD IN THE SW CORNER OF DAIRY PASTURE. WITHIN THE SW 1/4 OF THE NW 1/4 OF SECTION 29. Ecological Notes - VERNAL POOL DOMINATED BY ALLOCARYA STIPITATA MICRANTHA, RANUNCULUS BONARIENSIS TRISEPALUS, AND ERYNGIUM VASEYI VALLICOLA. LEGENERE LIMOSA GROWING IN NEARBY POOL AND SEASONAL WETLAND. General Notes - ABOUT 200 PLANTS OBSERVED IN 1991. Owner/Manager - PVT

Occurrence #: 55 Last Seen - Element: 1991/04/XX Lat/Long: 38d 25m 35s / 121d 21m 12s Township: 07N
 Quality: Good Site: 1991/04/XX UTM: Zone-10 N4254232 E643740 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 30 SE Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 12.9
 Info Source: DAINS, V. 1991 (OBS) Map Index Number: 26057 More Map Detail? N Elevation: 60 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: NORTHWEST CORNER OF BOND ROAD AND WATERMAN ROAD, ELK GROVE.
 Threats: CURRENT USE IS GRAZING; DEVELOPMENT PLAN IS BEING PREPARED.
 Comments: Distribution Notes - TWO CONCENTRATIONS OF PLANTS MAPPED; ONE ALONG EAST SIDE OF WATERMAN ABOUT 0.2 MILE NORTH OF BOND. THE OTHER IS ABOUT 0.35 MILE WEST OF WATERMAN AND 0.1 MILE NORTH OF BOND. Ecological Notes - 6 POPULATIONS IN NATURAL POOLS; 2 POPULATIONS IN SCRAPED DEPRESSIONS. NATURAL POOLS HAVE A WELL DEVELOPED NATIVE FLORA. LEGENERE LIMOSA CO-OCCURS IN ONE POOL. General Notes - 300 PLANTS OBSERVED IN 1991. QUALITY OF NATURAL POOLS IS EXCELLENT, QUALITY OF SCRAPED DEPRESSIONS IS FAIR. Owner/Manager - PVT

Occurrence #: 56 Last Seen - Element: 1990/04/16 Lat/Long: 38d 24m 31s / 121d 29m 16s Township: 07N
 Quality: Good Site: 1990/04/16 UTM: Zone-10 N4252067 E632005 Range: 04E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 36 SE Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? Y Acres: 9.7
 Info Source: RANLETT, TALBERT, AND VAN ESS 1990 (OBS) Map Index Number: 26055 More Map Detail? Y Elevation: 10 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: WEST OF I-5 AT THE ELK GROVE BLVD INTERCHANGE, ELK GROVE.
 Threats: PAST ROAD CONSTRUCTION ACTIVITIES HAVE ALTERED SITE. INTERCHANGE IS TO AVOID THE SITE BUT MAY INFLUENCE HYDROLOGY.
 Comments: Distribution Notes - LOCATED AT TWO SITES IN THIS VICINITY; ONE IS ALONG EITHER SIDE OF CULVERT UNDER ELLIOT RANCH ROAD AND THE SECOND IS ABOUT 0.1 MILE WEST OF THE CULVERT. Ecological Notes - VERNAL POOL SURROUNDED BY ANNUAL GRASSLAND. ASSOCIATED WITH ALLOCARYA UNULATA, A. STIPITATA MICRANTHA, PSILOCARPHUS BREVISSIMUS, ALOPECURUS SACCATUS, ERYNGIUM ARISTULATUM, AND LOLIUM MULTIFLORUM. SOILS ARE SAN JOAQUIN SILTY LOAM. General

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 Notes - HUNDREDS TO THOUSANDS OF PLANTS OBSERVED IN 1990. SITE INCLUDED WITHIN PROPOSED STONE LAKE WILDLIFE REFUGE AND IS PRESENTLY MANAGED BY SACRAMENTO COUNTY DEPARTMENT OF PARKS AND RECREATION. Owner/Manager - SAC COUNTY-PARKS AND REC

** Element ID: PDCAM0C010 ***** List Status ***** Other Lists ***** *
 * LEGENERE LIMOSA Federal: Sp of Concern (C2) CDFG: *
 * Legenere State: None Audubon: *
 * NDDB Element Ranks - Global: G2; State: S2.2 CNPS List/Code: 1B/2-3-3 *
 * Habitat Associations - *
 * VERNAL POOLS *
 * IN BEDS OF VERNAL POOLS, 0-1400 FT. *
 ** California Department of Fish and Game * * * * *

Occurrence #: 27 Last Seen - Element: 1991/04/XX Lat/Long: 38d 25m 29s / 121d 21m 26s Township: 07N
 Quality: Excellent Site: 1991/04/XX UTM: Zone-10 N4254040 E643394 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 30 E Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 90.7
 Info Source: DAINS, V. 1991 (OBS) Map Index Number: 30207 More Map Detail? Y Elevation: 50 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: NORTHWEST CORNER OF BOND ROAD AND WATERMAN ROAD, ELK GROVE.
 Threats: CATTLE GRAZING, DEVELOPMENT PLANNED FOR THIS SITE.
 Comments: Distribution Notes - FIVE SUB-POPULATIONS FOUND IN NATURAL VERNAL POOLS AND FIVE IN DISTURBED/CREATED SEASONAL DEPRESSIONS. Ecological Notes - NATURAL AND CREATED VERNAL POOLS/SEASONAL DEPRESSIONS. ASSOCIATES IN NATURAL POOLS INCLUDE ELEOCHARIS MACROSTACHYA, LASTHENIA GLABERRIMA, GRATIOLA HETEROSEPALA, AND DOWNINGIA PUSILLA. General Notes - 1000'S OF PLANTS OBSERVED AT THIS SITE IN 1991. NATURAL POOLS ARE OF EXCELLENT QUALITY; CREATED DEPRESSIONS ARE OF FAIR QUALITY. MOST OF THE LEGENERE POPULATIONS WILL BE PRESERVED ALTHOUGH SOME LESSER QUALITY POOLS WILL BE DESTROYED. Owner/Manager - PVT

Occurrence #: 28 Last Seen - Element: 1988/03/26 Lat/Long: 38d 28m 56s / 121d 16m 54s Township: 07N
 Quality: Excellent Site: 1988/03/26 UTM: Zone-10 N4260512 E649867 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 02 SE Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 18.6
 Info Source: DAINS, V. 1988 (OBS) Map Index Number: 30205 More Map Detail? Y Elevation: 90 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: SOUTH FLORIN COUNTY PARK, ABOUT 1 MILE SOUTH OF FLORIN ROAD AND 0.7 MILE EAST OF EXCELSIOR ROAD, NORTHEAST OF ELK GROVE.
 Threats: PARK SLATED FOR DEVELOPMENT (1988).
 Comments: Distribution Notes - LOCATED NEAR THE SOUTHERN BORDER OF THE PARK (PRE-DEVELOPMENT). FOUR COLONIES MAPPED WITHIN THE S 1/2 OF THE SE 1/4 OF SECTION 2. Ecological Notes - VERNAL POOLS. ASSOCIATED WITH ELEOCHARIS MACROSTACHYS AND LASTHENIA GLABERRIMA. General Notes - ABOUT 100 PLANTS OBSERVED WITHIN THE PARK (INCLUDING OCCURRENCE #29). POPULATION MAY BE LOW DUE TO DRY YEAR. SITE IS RELATIVELY UNDISTURBED/UNGRAZED. HIGH QUALITY SEASONAL WETLAND. Owner/Manager - SAC COUNTY-PARKS AND REC

Occurrence #: 29 Last Seen - Element: 1988/03/26 Lat/Long: 38d 29m 43s / 121d 16m 59s Township: 07N
 Quality: Excellent Site: 1988/03/26 UTM: Zone-10 N4261980 E649724 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 02 NE Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 9.7
 Info Source: DAINS, V. 1988 (OBS) Map Index Number: 30204 More Map Detail? N Elevation: 110 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: SOUTH FLORIN COUNTY PARK, ABOUT 0.2 MILE SOUTH OF FLORIN ROAD AND 0.7 MILE EAST OF EXCELSIOR RD, NORTHEAST OF ELK GROVE.
 Threats: PARK SLATED FOR DEVELOPMENT (1988).
 Comments: Distribution Notes - LOCATED NEAR THE NORTH-CENTRAL PORTION OF THE PARK (PRE-DEVELOPMENT). TWO COLONIES MAPPED ALONG AN EPHEMERAL DRAINAGE IN THE W 1/2 OF THE NE 1/4 OF SECTION 2. Ecological Notes - VERNAL POOLS. ASSOCIATED WITH ELEOCHARIS MACROSTACHYA AND LASTHENIA GLABERRIMA. General Notes - ABOUT 100 PLANTS OBSERVED WITHIN THE PARK (INCLUDING OCCURRENCE #28). POPULATION MAY BE LOW DUE TO DRY YEAR. ONLY A FEW PLANTS SEEN AT EACH LOCATION. SITE IS RELATIVELY UNDISTURBED/UNGRAZED. THESE ARE HIGH QUALITY SEASONAL WETLANDS. Owner/Manager - SAC COUNTY-PARKS AND REC

California Department of Fish and Game * Natural Diversity Data Base

Occurrence #: 30 Last Seen - Element: 1991/04/26 Lat/Long: 38d 25m 57s / 121d 20m 58s Township: 07N
 Quality: Fair Site: 1991/04/26 UTM: Zone-10 N4254906 E644059 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 29 NW Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 18.3
 Info Source: WITHAM, C. 1991 (OBS) Map Index Number: 30206 More Map Detail? Y Elevation: 50 ft
 Quad Summary: Elk Grove (3812143)

County(ies): Sacramento
 Location: SOUTHEAST CORNER OF SHELDON ROAD AND WATERMAN ROAD, ELK GROVE.
 Threats: HEAVILY DAMAGED BY CATTLE GRAZING; ADJACENT PROPERTY BEING DEVELOPED FOR HOMES.
 Comments: Distribution Notes - THREE COLONIES MAPPED AS A SINGLE POLYGON WITHIN THE SW 1/4 OF THE NW 1/4 OF SECTION 29. Ecological Notes - LARGE SEASONAL WETLAND AND VERNAL POOL WITHIN A DAIRY PASTURE. DOMINANTS INCLUDE LASTHENIA GLABERRIMA, ALLOCARYA BRACTEATUS, ELEOCHARIS MACROSTACHYA, AND RANUNCULUS BONARIENSIS TRISEPALUS. DOWNINGIA PUSILLA OCCURS IN A NEARBY VERNAL POOL. General Notes - MORE THAN 300 PLANTS OBSERVED IN 1991; COLONIES RANGE IN SIZE FROM 5 TO 300 PLANTS. Owner/Manager - PVT

Occurrence #: 31 Last Seen - Element: 1993/05/06 Lat/Long: 38d 26m 29s / 121d 23m 13s Township: 07N
 Quality: Good Site: 1993/05/06 UTM: Zone-10 N4255820 E640755 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: 24 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: PRESTON, R. 1993 (OBS) Map Index Number: 26234 More Map Detail? N Elevation: 35 ft
 Quad Summary: Florin (3812144)

County(ies): Sacramento
 Location: NORTH OF SHELDON ROAD AND 0.7 MILE EAST OF HIGHWAY 99, ELK GROVE.
 Threats: PROPOSED HOUSING DEVELOPMENT, POOLS SCHEDULED TO BE FILLED.
 Comments: Distribution Notes - MAPPED ABOUT 0.25 MILE NORTH OF SHELDON ROAD WITHIN THE SW 1/4 OF THE SW 1/4 OF SECTION 24. Ecological Notes - DEEP NORTHERN CLAYPAN VERNAL POOLS ON GALT CLAY SOILS. POOLS DOMINATED BY ERYNGIUM CASTRENSE, DOWNINGIA BICORNUTA, AND LASTHENIA GLABERRIMA. OTHER ASSOCIATES INCLUDE ELEOCHARIS MACROSTACHYS AND PLAGIOBOTHRYUS STIPITATUS MICRANTHUS. General Notes - MORE THAN 2500 PLANTS OBSERVED IN 1993. POOLS IN FAIRLY GOOD SHAPE ALTHOUGH ADJACENT LAND HAD BEEN FARMED. POPULATION MAY BE SALVAGED IN CONJUNCTION WITH THE PROJECT VERNAL POOL MITIGATION PLAN. Owner/Manager - PVT

** Element ID: PDSCR0R060 ***** List Status ***** Other Lists ***** *
 * GRATIOLA HETEROSEPALA Federal: None CDFG: *
 * Boggs Lake Hedge-hyssop State: Endangered Audubon: *
 * NDDB Element Ranks - Global: G3; State: S3.1 CNPS List/Code: 1B/1-2-2 *
 * Habitat Associations - *
 * VERNAL POOLS AND LAKE MARGINS, FRESHWATER MARSH. *
 * CLAY SOILS; 10-2375M. *

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

Occurrence #: 33 Last Seen - Element: 1991/05/13 Lat/Long: 38d 25m 54s / 121d 21m 41s Township: 07N
 Quality: Fair Site: 1991/05/13 UTM: Zone-10 N4254848 E642978 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: 30 N Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: DAINS, V. 1991 (OBS) Map Index Number: 23929 More Map Detail? N Elevation: 45 ft
 Quad Summary: Elk Grove (3812143)

County(ies): Sacramento
 Location: 0.75 MI NW OF INTERSECTION OF BOND AND WATERMAN RDS.
 Threats:
 Comments: Ecological Notes - ASSOCIATED WITH ERYNGIUM VASEYI, ELEOCHARIS MACROSTACHYA, DOWNINGIA ORNATISSIMA. MOST PLANTS IN NEARLY BARREN PORTIONS OF POOL. ANOTHER RARE PLANT ALSO HERE: LEGENERE LIMOSA. General Notes - 20 PLANTS IN 1991. SITE OWNED BY CAMRAY DEVELOPMENT. Owner/Manager - PVT

Occurrence #: 34 Last Seen - Element: 1991/05/09 Lat/Long: 38d 27m 28s / 121d 21m 09s Township: 07N
 Quality: Good Site: 1991/05/09 UTM: Zone-10 N4257722 E643736 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: 17 SW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: WITHAM, C. 1991 (OBS) Map Index Number: 23930 More Map Detail? N Elevation: 75 ft
 Quad Summary: Elk Grove (3812143)

County(ies): Sacramento
 Location: 0.35 MI N OF INTERSECTION OF CALVINE AND WATERMAN ROADS.
 Threats: ADJACENT AREAS SLATED FOR DEVELOPMENT, COULD IMPACT POOLS. TWO-THIRDS OF THE POOL COMPLEX HAS BEEN DISKED.
 Comments: Ecological Notes - LARGE VERNAL POOL COMPLEX; GROWING IN SPARSELY VEGETATED DEEPER AREAS OF POOLS. ASSOCIATED WITH ELEOCHARIS MACROSTACHYA, ERYNGIUM VASEYI, G. EBRACTEA, ISOETES NUTTALLII, PLAGIOBOTHRYUS BRACTEATUS, LASTHENIA GLABERRIMA, & ELATINE CA. General Notes - APPROX 200 PLANTS IN 1991. Owner/Manager - PVT

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Occurrence #: 35 Last Seen - Element: 1989/04/28 Lat/Long: 38d 27m 55s / 121d 21m 19s Township: 07N
 Quality: Excellent Site: 1989/04/28 UTM: Zone-10 N4258596 E643507 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (0 Mile) Section: 17 XX Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 513
 Info Source: WYMER, N. 1989 (OBS) Map Index Number: 23931 More Map Detail? N Elevation: 75 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: BETWEEN BRADSHAW RD AND ELK GROVE-FLORIN RD, N OF CALVINE RD, S OF GERBER RD.
 Threats: HORSE TRACKS THROUGH 1 POOL, ORV TRACKS ALSO EVIDENT. FUTURE DEVELOPMENT SITE FOR ELLIOT HOMES.
 Comments: Ecological Notes - 3 POOLS WITHIN A ROLLING GRASSLAND WITH DOWNINGIA BICORNUTA, PLAGIOBOTHRYIS STIPITATUS
 MICRANTHA, G. EBRACTEATA, ETC. General Notes - NEED BETTER MAP OF POPULATION; MAP AT NDDDB IS OF PROJECT SITE.
 SITE OWNED BY ELLIOT HOMES. Owner/Manager - PVT

** Element ID: PMAL1040QO ***** List Status ***** Other Lists ***** *
 * SAGITTARIA SANFORDII Federal: Sp of Concern (C2) CDFG: *
 * Sanford's Arrowhead State: None Audubon: *
 * NDDDB Element Ranks - Global: G3; State: S3.2 CNPS List/Code: 1B/2-2-3 *
 * Habitat Associations - *
 * MARSHES AND SWAMPS. *
 * IN STANDING OR SLOW-MOVING FRESHWATER (PONDS, MARSHES, AND DITCHES); 0-610M. *
 ** California Department of Fish and Game * * * * *

Occurrence #: 16 Last Seen - Element: 1993/XX/XX Lat/Long: 38d 29m 02s / 121d 23m 36s Township: 07N
 Quality: Fair Site: 1993/XX/XX UTM: Zone-10 N4260531 E640218 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 02 SE Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? Y Acres: 33.9
 Info Source: WITHAM, C. 1992 (OBS) Map Index Number: 24535 More Map Detail? N Elevation: 40 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: ELDER CREEK, FROM REESE RD EAST JUST PAST FRENCH RD, ELK GROVE.
 Threats: CREEK REALIGNMENT, HERBICIDE SPRAYING, ADJACENT RESIDENTIAL DEVELOPMENT, AND TRASH DUMPING ARE THREATS.
 Comments: Ecological Notes - GROWING IN FLOWING STREAM IN ASSOCIATION WITH LEPTOCHLOA FASCICULARIS, ECHINOCHLOA
 CRUS-GALLI, TYPHA, CYPERUS ERAGROSTIS, LUDWIGIA PELOIDES, ALISMA PLANTAGO-AQUATICA. General Notes - 400+
 PLANTS OBSERVED IN TWO COLONIES IN 1992. Owner/Manager - PVT, ELK GROVE SCHOOL DIST

Occurrence #: 17 Last Seen - Element: 1993/XX/XX Lat/Long: 38d 28m 24s / 121d 24m 04s Township: 07N
 Quality: Unknown Site: 1993/XX/XX UTM: Zone-10 N4259372 E639564 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 11 SW Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 23.1
 Info Source: NORTON, K. 1993 (MAP) Map Index Number: 24536 More Map Detail? N Elevation: 25 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: BEACON CREEK, SOUTH OF ELSIE AVE AND EAST OF POWER INN RD, E LK GROVE.
 Threats:
 Comments: Distribution Notes - MAPPED AS TWO POLYGONS; ONE IMMEDIATELY SOUTH OF ELSIE AVE, THE OTHER IS ABOUT 0.15 MILE
 EAST OF POWER INN ROAD ON EITHER SIDE OF IONA WAY. Ecological Notes - CEMENT LINED CHANNEL WITH MUD. General
 Notes - BETTER ECOLOGICAL, THREAT, AND OWNERSHIP INFO NEEDED. Owner/Manager - UNKNOWN

Occurrence #: 18 Last Seen - Element: 1991/11/08 Lat/Long: 38d 27m 14s / 121d 22m 33s Township: 07N
 Quality: Unknown Site: 1991/11/08 UTM: Zone-10 N4257270 E641732 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 13 SE Qtr
 Presence: Possibly Extirpated Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: MILLER, S. AND R. LOPEZ 1991 (PERS) Map Index Number: 24539 More Map Detail? N Elevation: 40 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: NORTHWEST OF CALVINE RD/ELK GROVE-FLORIN RD INTERSECTION, ELK GROVE.
 Threats: CANAL WAS TO BE CLEARED OF VEGETATION IN 1991 OR 1992.
 Comments: Distribution Notes - CHANNEL OFF OF STRAWBERRY CREEK IN THE VICINITY OF BAY TOWN CREEK AVE. Ecological Notes -
 CEMENT LINED CHANNEL. General Notes - SACRAMENTO COUNTY DEPT. OF PUBLIC WORKS WAS TO TRANSPLANT PORTIONS OF
 THIS POPULATION INTO A NEARBY GIANT GARTER SNAKE MITIGATION SITE IN ORDER TO MITIGATE FOR CANAL CLEARING
 ACTIVITIES. Owner/Manager - SAC COUNTY PUBLIC WORKS

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Occurrence #: 19 Last Seen - Element: 1993/XX/XX Lat/Long: 38d 27m 02s / 121d 22m 41s Township: 07N
 Quality: Fair Site: 1993/XX/XX UTM: Zone-10 N4256879 E641507 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 24 N Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 38.8
 Info Source: DAINS, V. 1991 (OBS) Map Index Number: 24538 More Map Detail? N Elevation: 30 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: STRAWBERRY CREEK, SOUTH OF CALVINE RD AND WEST OF ELK GROVE FLORIN RD, ELK GROVE.
 Threats: DEVELOPMENT IS PROPOSED.
 Comments: Distribution Notes - THREE COLONIES MAPPED ALONG THE CREEK WEST OF ELK GROVE-FORIN RD AND ALONG EITHER SIDE OF THE SPRR TRACKS. Ecological Notes - ALONG DRIED CREEK CHANNEL. TRICOLORED BLACKBIRDS OCCUR FURTHER DOWNSTREAM. General Notes - 40 PLANTS OBSERVED IN 1991. Owner/Manager - PVT

Occurrence #: 20 Last Seen - Element: 1992/XX/XX Lat/Long: 38d 27m 06s / 121d 23m 38s Township: 07N
 Quality: Unknown Site: 1992/XX/XX UTM: Zone-10 N4256956 E640213 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: NON-SPECIFIC (0 Mile) Section: 23 NE Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 39.1
 Info Source: NORTON, K. 1992 (PERS) Map Index Number: 24537 More Map Detail? N Elevation: 30 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: STRAWBERRY CREEK, SOUTH OF CALVINE ROAD AND 1 KM (0.6 MI) EAST OF HWY 99, ELK GROVE.
 Threats:
 Comments: Distribution Notes - ALONG ASSESSORS PARCEL #115013014. General Notes - POPULATION WAS REPLANTED AT THIS SITE AFTER STRAWBERRY CREEK WAS REALIGNED. Owner/Manager - UNKNOWN

Occurrence #: 21 Last Seen - Element: 1992/08/20 Lat/Long: 38d 27m 27s / 121d 25m 00s Township: 07N
 Quality: Good Site: 1992/08/20 UTM: Zone-10 N4257544 E638158 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: 15 SE Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 0
 Info Source: BEGLEY, E. 1992 (OBS) Map Index Number: 24540 More Map Detail? Y Elevation: 20 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: STRAWBERRY CREEK AT BRUCEVILLE ROAD, SACRAMENTO.
 Threats:
 Comments: Distribution Notes - JUST NORTH OF COSUMNES RIVER BLVD IN CREEK ALONG BOTH SIDES OF BRUCEVILLE ROAD, JUST WITHIN SACRAMENTO CITY LIMITS. Ecological Notes - IN SHALLOW SLOW MOVING WATER. General Notes - SEVERAL HUNDRED PLANTS OBSERVED IN 1992. Owner/Manager - PVT

Occurrence #: 22 Last Seen - Element: 1992/07/19 Lat/Long: 38d 26m 14s / 121d 29m 43s Township: 07N
 Quality: Good Site: 1992/07/19 UTM: Zone-10 N4255148 E631296 Range: 04E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: UN XX Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 11
 Info Source: NOSAL, T. 1992 (OBS) Map Index Number: 24534 More Map Detail? N Elevation: 0
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: BEACH LAKE, ALONG DIKE ADJACENT TO MORRISON CREEK, 2 KM (1.8 MI) SOUTH OF FREEPORT.
 Threats: HERBICIDE APPLICATION.
 Comments: Distribution Notes - HISTORIC BEACH LAKE EXTENDED ALONG EITHER SIDE OF WHAT IS NOW I-5. THIS PORTION OF BEACH LAKE REFERS TO MARSHY AREA SOUTH OF FREEPORT AND BETWEEN I-5 AND THE SACRAMENTO RIVER. Ecological Notes - GROWING JUST OFFSHORE IN 1-2 FEET OF WATER. ASSOCIATES INCLUDE TYPHA LATIFOLIA, LUDWIGIA PELOIDES, AND SCIRPUS ACUTUS. GIANT GARTER SNAKE (THAMNOPHIS GIGAS) OBSERVED JUST EAST OF THE SAGITTARIA. General Notes - 3-4 COLONIES OBSERVED IN 1992. LAKE OWNED BY BEACH LAKE PROPERTIES BUT MAY BECOME PART OF A COUNTY PRESERVE. CALTRANS RECREATED WETLANDS MITIGATION BANK IS LOCATED TO THE EAST, BETWEEN BEACH LAKE AND I-5. Owner/Manager - PVT-BEACH LAKE PROPERTIES

Occurrence #: 40 Last Seen - Element: 1993/XX/XX Lat/Long: 38d 29m 46s / 121d 27m 01s Township: 08N
 Quality: Unknown Site: 1993/XX/XX UTM: Zone-10 N4261816 E635124 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 32 SE Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 11
 Info Source: NORTON, K. 1993 (MAP) Map Index Number: 30130 More Map Detail? N Elevation: 20 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: MORRISON CREEK AT FLORIN ROAD, SACRAMENTO.
 Threats:
 Comments: Distribution Notes - ALONG EITHER SIDE OF FLORIN ROAD, ABOUT 0.4 MILE EAST OF FRANKLIN BLVD. General Notes - ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL; ECOLOGICAL, THREAT, AND OWNERSHIP INFO NEEDED. Owner/Manager - UNKNOWN

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Occurrence #: 41 Last Seen - Element: 1993/XX/XX Lat/Long: 38d 28m 34s / 121d 27m 00s Township: 07N
 Quality: Unknown Site: 1993/XX/XX UTM: Zone-10 N4259585 E635199 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 08 NE Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 12.2
 Info Source: NORTON, K. 1993 (MAP) Map Index Number: 30131 More Map Detail? N Elevation: 20 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: ELDER CREEK AT FRANKLIN BLVD, SACRAMENTO.
 Threats:
 Comments: Distribution Notes - ALONG EITHER SIDE OF FRANKLIN BLVD., ABOUT 0.15 MILE NORTH OF MACK ROAD. General Notes - ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL; ECOLOGICAL, THREAT, AND OWNERSHIP INFO NEEDED. Owner/Manager - UNKNOWN

Occurrence #: 42 Last Seen - Element: 1993/XX/XX Lat/Long: 38d 28m 14s / 121d 24m 59s Township: 07N
 Quality: Unknown Site: 1993/XX/XX UTM: Zone-10 N4259036 E638144 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 10 SW Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 16.7
 Info Source: NORTON, K. 1993 (MAP) Map Index Number: 30132 More Map Detail? N Elevation: 20 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: BEACON CREEK AT HWY 99 AND STOCKTON ROAD, SACRAMENTO.
 Threats:
 Comments: Distribution Notes - MAPPED ABOUT 0.3 MILE SOUTHEAST OF ELSIE AVE AND EXTENDING FROM EAST OF STOCKTON ROAD TO JUST WEST OF HWY 99. General Notes - ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL; ECOLOGICAL, THREAT, AND OWNERSHIP INFO NEEDED. Owner/Manager - UNKNOWN

Occurrence #: 43 Last Seen - Element: 1993/XX/XX Lat/Long: 38d 24m 44s / 121d 23m 24s Township: 07N
 Quality: Unknown Site: 1993/XX/XX UTM: Zone-10 N4252602 E640543 Range: 05E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (0 Mile) Section: 35 SE Qtr
 Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
 Trend: Unknown Group Number: More Information? N Acres: 9.2
 Info Source: NORTON, K. 1993 (MAP) Map Index Number: 30133 More Map Detail? N Elevation: 30 ft
 Quad Summary: Florin (3812144)
 County(ies): Sacramento
 Location: ELK GROVE CREEK WEST OF HWY 99, ELK GROVE.
 Threats:
 Comments: Distribution Notes - MAPPED ABOUT 0.25 MILE NORTH OF ELK GROVE BLVD IN CHANNEL BEHIND WALMART. General Notes - ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL; ECOLOGICAL, THREAT, AND OWNERSHIP INFO NEEDED. Owner/Manager - UNKNOWN

** Element ID: PMPOA4G050 ***** List Status ***** Other Lists ***** *
 * ORCUTTIA TENUIS Federal: Proposed Threatened CDFG: *
 * Slender Orcutt Grass State: Endangered Audubon: *
 * NDDDB Element Ranks - Global: G3; State: S3.1 CNPS List/Code: 1B/2-3-3 *
 * Habitat Associations - *
 * VERNAL POOLS. *
 * 35-1735M. *
 ** California Department of Fish and Game * * * * *

Occurrence #: 16 Last Seen - Element: 1987/05/19 Lat/Long: 38d 28m 37s / 121d 17m 33s Township: 07N
 Quality: Fair Site: 1987/05/19 UTM: Zone-10 N4259914 E648928 Range: 06E
 Type: Natural/Native occurrence Mapping Precision: SPECIFIC (80m) Section: 11 NW Qtr
 Presence: Presumed Extant Symbol Type: POINT Meridian: M
 Trend: Unknown Group Number: 11658 More Information? Y Acres: 0
 Info Source: BIOSYSTEMS ANALYSIS, 1988 (LIT) Map Index Number: 11658 More Map Detail? N Elevation: 110 ft
 Quad Summary: Elk Grove (3812143)
 County(ies): Sacramento
 Location: WEST SIDE OF LAGUNA CREEK, 0.2 MI E OF EXCELSIOR ROAD. 1.6 M I N OF CALVINE ROAD.
 Threats: GRAZING DOES NOT SEEM TO BE ADVERSELY IMPACTING PLANTS. INDUSTRIAL PARK HAS BEEN PROPOSED FOR THIS PARCEL.
 Comments: Ecological Notes - ELONGATE, NARROW VERNAL POOL SURROUNDED BY ANNUAL GRASSLAND. WITH ELEOCHARIS MACROSTACHYA, ALLOCARYA STIPITATA, DOWNINGIA BICORNUTA, NAVARRETIA LEUCOCEPHALA, PSILOCARPUS BREVISSIMUS, ERYNGIUM VASEYI, ETC. General Notes - ABUNDANT IN 1986 AND 1987. Owner/Manager - PVT

APPENDIX E

NVSSP FEIR: Final Technical Appendices Vol. I

Preliminary
ARBORIST REPORTS
for
Participating Properties



Tree Care Incorporated

A Merger Of Austin B. Carroll & Son and Sta-Green Tree Service

December 7, 1995

George E. Phillips
555 University Avenue, Suite 200
Sacramento, CA 95825

Office 929-8881
Fax 929-8882

Attn.: Kris Steward

Re: Chartwell Holdings, APN 66-110-10,11 and 12

Dear Ms. Steward:

As requested we inspected that above referenced parcel and confirmed that there are no trees or woody plants on this site.

If you should have any further questions please feel free to call me at my office.

Sincerely,

Jim Hunsaker
ISA Certified Tree Worker WC-0120

Edwin E. Stirtz / U.K.S.

Edwin E. Stirtz
ISA Certified Arborist WC-0510

JH/EES/jh

George E. Phillips, Law Office

APN 66-110-01 (Courey)

Arborist Report

Submitted by:

**Edwin E. Stirtz
ISA Certified Arborist WC-0510
TREE CARE INCORPORATED**

January 05, 1995

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Tree Care Incorporated

A Merger Of Austin B. Carroll & Son and Sta-Green Tree Service

January 03, 1995

George E. Phillips, Law Offices
555 University Avenue, Suite 200
Sacramento, CA 95825

Office #: 929-8881
Fax #: 929-8882

Attn.: Kris Steward

RE: Arborist Report; APN 66-110-01 (Courey)

Dear Mrs. Steward:

As requested I inspected the above referenced site with specific regards to compiling a preliminary arborist report.

This report includes any native Oaks 4" DBH and any significant non Oak trees 18" DBH and larger. In addition all non Oak trees have been include in a summary table.

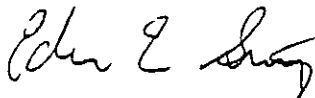
All trees included within the preliminary arborist report have been identified in the field using 1" x 1" aluminum tag attached the number on which corresponds to the report as plotted on the site map provided, starting with #20. The trees included within the summary are listed on the map by species and DBH.

If you should have any further questions please feel free to call me at my office.

Sincerely,


Jim Hunsaker

ISA Certified Tree Worker WC-0120



Edwin E. Stirtz
ISA Certified Arborist WC-0510

JH/de

letters/jim/courey.rpt

Specific Inventory Data/Maintenance Recommendations

Within this specific inventory data you will find the following information:

Tree Number:	Corresponds to aluminum tag attached to the tree.
Species Identification:	Scientific and common species name
Diameter:	This is the trunk diameter as measured at breast height. (Industry standard 4.5 feet above ground level)
Dripline radius:	Measurement of the tree's dripline from the trunk to the farthest most branch tip.
Root Crown:	Assessment of the root crown area located at the base of the trunk of the tree at soil level.
Trunk:	Assessment of the tree's main trunk from ground level generally to the point of the primary crotch structure.
Limbs:	Assessment of both smaller and larger branching, generally from primary crotch structure to branch tips.
Foliage:	Tree's leaves
Overall Condition:	Describes overall condition of the tree in terms of structure and vigor.
Dripline Environment:	Describes area directly beneath the tree (growing environment).
Recommendation:	Maintenance priority number. Specific maintenance requirements.

George E. Phillips, Law Offices
 555 University Avenue, Suite 200
 RE: APN 66-110-01.(Courey)
 Page 6

TREE # 20 Monterey Pine (*Pinus radiata*)

DIAMETER : 22.0 inches
DRIPLINE RADIUS : 17 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair
FOLIAGE : Fair - sparse southeast side due to previous competition of other trees that have been removed recently
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Lawn
RECOMMENDATIONS : Reduce weight on southeast side only and deep root fertilize

TREE # 21 Monterey Pine (*Pinus radiata*)

DIAMETER : 18.0 inches
DRIPLINE RADIUS : 15 feet
ROOT CROWN : Fair
TRUNK : Fair - leans to the east due to previous competition of removed tree
LIMBS : Fair
FOLIAGE : Fair - dense
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Lawn
RECOMMENDATIONS : Prune to thin, reduce weight on east side and fertilize

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Summary

<u>Species</u>	<u>Diameter</u>	<u>Condition</u>
Canary Island Pine (<i>Pinus canariensis</i>)	4"	Fair
Apple sp (<i>Malus sp</i>)	4"	Fair
Canary Island Pine (<i>Pinus canariensis</i>)	4"	Fair
Raywood Ash (<i>Fraxinus ornus</i>)	6"	Fair
Olive (<i>Olea europaea</i>)	3"	Fair
Crape Myrtle (<i>Lagerstroemia indica</i>)	2" range (9 stems)	Fair
Pear (<i>Prunus sp</i>)	4"	Fair
Fig (<i>Ficus carica</i>)	5"	Fair
Apple sp (<i>Malus sp</i>)	3"	Fair
Apple sp (<i>Malus sp</i>)	3"	Fair
Apple sp (<i>Malus sp</i>)	3"	Fair
Plum (<i>Prunus sp</i>)	5"	Fair
Apricot (<i>Prunus sp</i>)	6"	Fair
Coast Redwood (<i>Sequoia sempervirens</i>)	10"	Fair
Coast Redwood (<i>Sequoia sempervirens</i>)	10"	Fair
Plum (<i>Prunus sp</i>)	3"	Poor
Cottonwood (<i>Populus fremontii</i>)	8"	Fair
Cottonwood (<i>Populus fremontii</i>)	Dual stem 3", 3"	Fair to Poor
Willow (<i>Salix sp</i>)	3"	Poor
Pyracantha bush (<i>Pyracantha coccinea</i>)		Fair
Cottonwood (<i>Populus fremontii</i>)	6"	Poor
Fruit bearing Mulberry (<i>Morus alba</i>)	Multi stem (6 stems)	Poor
Pyracantha bush (<i>Pyracantha coccinea</i>)		Fair
Bottlebrush bush (<i>Callistemon citrinus</i>)		Fair
Arborvitae (<i>Thuja plicata</i>)	3"	Fair
Pyracantha bush (<i>Pyracantha coccinea</i>)		Fair
19 Juvenile Alepo Pine (<i>Pinus halepensis</i>)	2" to 5" (range)	Fair
19 Juvenile Canary Island Pine (<i>Pinus canariensis</i>)	3" to 5" (range)	Fair
19 Juvenile Japanese Black Pine (<i>Pinus thunbergii</i>)	3" to 5" (range)	Fair

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DEFINITIONS OF TERMS USED IN THIS REPORT

TDBH:	Trunk diameter, breast height.
DRIPLINE RADIUS:	The area of soil around the tree directly under its outermost branch tips.
ROOT CROWN:	The point where the major lateral roots originate, or near, ground level.
TRUNK:	The main trunk of the tree and its condition.
BRANCHING:	The condition of any, or all, of the main branches.
CONDITION:	The condition of the tree in general.
REC:	Recommendations.

CROWN CLEAN OUT: This shall consist of the removal of all dead, dying, diseased, interfering, objectionable, obstructing and weak branches, as well as selective thinning to lessen wind resistance.

DEEP ROOT FEEDING (D.R.F.): A method employed to induce vigor and stimulate new root growth. This is used as a means of feeding a large tree, as well as deep watering at the same time. Water soluble fertilizers are mixed in water and hydraulically pumped with a probe into the ground delivering water and nutrients directly to the root zone allowing for uptake from the tree. In this way vigor can be improved and new root growth stimulated.

If you should have any questions regarding these terms, or any other terms used in this report, please do not hesitate to call the office and we will be glad to help you.

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DEFINITIONS OF TREE CONDITION

- Excellent:** A very healthy, vigorous tree.
- Very good:** Healthy and vigorous, but not excellent.
- Good:** New growth over the last season with some signs of vigor.
- Fair:** Growing, however with a lack of distinct vigor and little or no current season new growth.
- Poor to fair:** Basically a tree in between poor and fair condition; not bad enough to be considered poor, but not healthy enough to be considered fair.
- Poor:** A tree showing no vigor and exhibiting signs of stress, either defoliation, terminal bud dieback, bad leaf color, deformed leaf structures, etc.
- Very poor:** A tree with very limited chances of survival through the next growing season. Extensive deadwood and defoliation.

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RECOMMENDATIONS FOR PROTECTING NATIVE OAKS IN AREAS TO BE DEVELOPED

(GENERAL RECOMMENDATIONS)

DAMAGE AND MITIGATION

The most common causes of injuries to native oaks during construction are 1) grading (fills and cuts), 2) trenching, 3) compaction, 4) bark and limb wounding from equipment, 5) soil moisture changes and occasionally 6) chemical (petroleum products) spills.

The approach used in the following text is to identify the problem, explain why it is a problem and recommend how to avoid it or how to mitigate for it.

1a) Grading Cuts: The roots of a mature oak can extend much beyond its dripline. Roots have been found as far away as three and one half times the dripline radius. The closer to the tree, the more critical is root damage. The more roots that can be left intact the better for the tree. Cutting the roots means a moisture and nutrient loss for the tree. California native oaks develop "sinker" roots that grow downward off the larger horizontal roots that radiate out from the trunk. The sinker roots supply the majority of the tree's water requirements during our hot, dry summers. Severing any horizontal roots means the loss of any sinker roots that are attached beyond the point of severance.

Another reason why root injury from grading cuts is a problem is that it allows a point of entry for pathogens and decay-causing organisms. It is important to minimize the surface area of the damaged roots. An aid to this end is to make a clean, perpendicular cut on the root portion still attached to the tree.

An important and often overlooked way that grading cuts can reduce the amount of moisture available to the tree is that they expose a greater soil surface area from which evaporation takes place. The remaining roots then have less than normal moisture available.

When so many roots are cut or so much soil surface is exposed that the tree's water needs cannot be met naturally it is necessary to supply sufficient irrigation until the tree is able to survive on its own. If after any such excessive cuts are made they should be covered with opaque plastic, wood mulch, or a retaining wall to avoid unnatural moisture loss. Fertilizing can help stimulate root growth and is recommended in most cases for root-damaged trees. In fact, fertilizing a tree before construction begins, in expectation of grading damage, can be very beneficial and is a recommended practice.

1b) Grading Fills: The main problem that is caused by grading fills within the root zone is root suffocation. Roots need oxygen. There is a need for a natural gas exchange to take place within the root zone. With below normal levels of oxygen available, roots are unable to effectively absorb nutrients and water. Fills over a root zone can form a barrier which prevents the normal

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supply and exchange of gases in the soil where the roots have developed. In many cases it is possible to install an aeration system under fill to provide the roots with adequate gas exchange.

2) Trenching: Grading cuts and trenching essentially have the same negative effects when roots are cut. Whenever possible, boring under roots should be done to minimize damage.

3) Compaction: Compaction can have the same effect as fill as well as physically crush roots and root hairs. Keeping equipment and materials away from the zone as much as possible will avoid soil compaction. Aerating the soil may be necessary if the soil becomes compacted.

Another form of compaction is the addition of paving over a root zone. Depending upon the amount of surface area effected, it may be necessary to install an aeration system under the paving. Logically, this should be done before the paving is installed. Interlocking pavers should not be used due to the fact that they compact under use and allow petroleum products from vehicles to be absorbed thus killing roots or entire trees.

4. Mechanical Damage: Mechanical damage to the trunk or limbs is very detrimental, especially to older, less vigorous trees. Any wounds that remove bark and penetrate the cambium layer allow an opening for decay-causing organisms. This can weaken a tree to the point that its structure fails. The best cure in this case is prevention. The method proven to be most effective is to encircle each tree or group of trees with a chain link or other approved fencing at least six feet high. The fence should be placed as far outside the dripline as possible. The standard recommended minimum is install the fence using a radius of one foot outside the dripline of the longest limb. Fertilizing can help stimulate the growth and callus formation rates.

5. Excessive Moisture: Excessive moisture in the root zone can have the same effect as fill. It is important to avoid allowing the root zone to become water saturated for any length of time. In addition to cutting normal gas exchange, moisture, especially in the summer months, can promote the development of pathogenic fungi. Where water application are necessary it is important to allow the soil to thoroughly drain and partially dry between irrigations.

5b) Allowing the soil to dry out and lack of moisture is an obvious problem and has been discussed in the last paragraph under Grading Cuts (1a).

6. Chemical Spills: Chemical spills can be directly toxic to the roots or can indirectly affect them. The best way to avoid this type of damage is to prevent vehicles from being parked near a tree and not to store any materials under or near a tree. In cases where this type of damage occurs as much of the effected soils as possible should be removed. The addition of organic matter, including charcoal, can be helpful.

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MAINTENANCE

It is not uncommon in nature to find native oaks surviving for 350 years or longer with no help from man. Many oaks are damaged by fire, lightning, limb breakage or other means and develop decayed cavities where birds, mammals and other animals find shelter. This is a normal occurrence in a natural situation. In developed areas where limb breakage can have tragic results it is necessary to maintain the oldest tree in a manner as to avoid, or lessen, the chance of structural failure. The trees on the site should be evaluated and the soundest kept if at all possible. For the trees to be saved, remedial pruning may be necessary to reduce weight, remove dead wood and do other corrective pruning. It may even be necessary to install artificial supports using cabling, bracing and bolting. These are not permanent solutions but effective, temporary measures which should be inspected annually to ensure that they continue to function properly. If done properly any remedial work will not alter the appearance, basic structure, and shape of a tree and are not usually very noticeable. To answer any questions about the maintenance, pruning or mitigation measures for oaks an I.S.A. Certified Arborist should be called. All tree work should be performed by or under the supervision of an I.S.A. Certified Arborist.

After construction around the oaks is completed, information about care and regulations protecting these trees should be placed into the C C & R's (Covenants, Codes, and Restriction) for the development. Anyone who lives or works around oaks should know how to treat them. In addition to making individuals aware of how they are to be treated the above information should be shared, as well as information about appropriate landscaping.

Generally, a native oak should not be subjected to summer irrigation. One exception is mentioned previously in reference to cases of inadequate water absorption due to root loss or extreme moisture loss from the soil.

Limited landscaping, using drought tolerant plants, can be acceptable near and even within the dripline of an oak in some situations. A rule of thumb is that only drip irrigation should be used and this only until plants are established. The advisability of landscaping near oaks should be considered on an individual tree basis with recommendations from someone who is knowledgeable about oaks.

George E. Phillips, Law Offices
North Vineyard Investors (U.S. Home)
Arborist Report

Submitted by:

Edwin E. Stirtz
ISA Certified Arborist WC-0510
TREE CARE INCORPORATED

January 04, 1996

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Tree Care Incorporated

A Merger of Austin B. Carroll & Son and Sta-Green Tree Service

January 03, 1995

George E. Phillips, Law Offices
555 University Avenue, Suite 200
Sacramento, CA 95825

Office #: 929-8881
Fax #: 929-8882

Attn.: Kris Steward

RE: Arborist Report; North Vineyard Investors (U.S. Home)

Dear Mrs. Steward:

As requested I inspected the above referenced site with specific regards to compiling a preliminary arborist report.

This report includes any native Oaks 4" DBH and any significant non Oak trees 18" DBH and larger. In addition all non Oak trees have been include in a summary table.

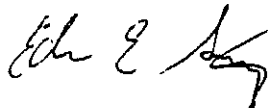
All trees included within the preliminary arborist report have been identified in the field using 1" x 1" aluminum tag attached the number on which corresponds to the report as plotted on the site map provided, starting with #21. The trees included within the summary are listed on the map by species and DBH.

If you should have any further questions please feel free to call me at my office.

Sincerely,


Jim Huhsaker

ISA Certified Tree Worker WC-0120



Edwin E. Stirtz

ISA Certified Arborist WC-0510

JH/de

letters/jim/north.rpt

Specific Inventory Data/Maintenance Recommendations

Within this specific inventory data you will find the following information:

- Tree Number:** Corresponds to aluminum tag attached to the tree.
- Species Identification:** Scientific and common species name
- Diameter:** This is the trunk diameter as measured at breast height. (Industry standard 4.5 feet above ground level)
- Dripline radius:** Measurement of the tree's dripline from the trunk to the farthest most branch tip.
- Root Crown:** Assessment of the root crown area located at the base of the trunk of the tree at soil level.
- Trunk:** Assessment of the tree's main trunk from ground level generally to the point of the primary crotch structure.
- Limbs:** Assessment of both smaller and larger branching, generally from primary crotch structure to branch tips.
- Foliage:** Tree's leaves
- Overall Condition:** Describes overall condition of the tree in terms of structure and vigor.
- Dripline Environment:** Describes area directly beneath the tree (growing environment).
- Recommendation:** Maintenance priority number. Specific maintenance requirements.

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TREE #21 London Plane (*Platanus orientalis*)

DIAMETER : 22.0 inches
DRIPLINE RADIUS : 25 feet
ROOT CROWN : Fair
TRUNK : Fair to poor - 3 large scaffolding limbs removed
 stubbed off.
LIMBS : Fair - Above average amount of
 deadwood.
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Gravel drive and house
RECOMMENDATIONS : Prune and deep root fertilize

TREE #22 Black Walnut (*Juglas nigra*)

DIAMETER : 18.0 inches
DRIPLINE RADIUS : 20 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - above average amount of
 deadwood.
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Gravel drive
RECOMMENDATIONS : Prune

TREE #23 Black Walnut (*Juglas nigra*)

DIAMETER : 28.0 inches
DRIPLINE RADIUS : 26 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - above average amount of
 deadwood.
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Grasses
RECOMMENDATIONS : Prune and remove deadwood

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TREE #24 Black Walnut (*Juglas nigra*)

DIAMETER : 18.0 inches
DRIPLINE RADIUS : 12 feet
ROOT CROWN : Poor - decay at grade
TRUNK : Poor - decayed areas
LIMBS : Poor - Die back, wood bores present
FOLIAGE : Poor
CONDITION : Poor structure and poor vigor
DRIPLINE ENVIRONMENT : Pasture
RECOMMENDATIONS : Remove

TREE #25 Black Walnut (*Juglas nigra*)

DIAMETER : 19.0 inches
DRIPLINE RADIUS : 12 feet
ROOT CROWN : Poor - decay at grade
TRUNK : Poor - decayed areas
LIMBS : Fair - above average amount of
 deadwood.
FOLIAGE : Poor - sparse
CONDITION : Poor structure and poor vigor
DRIPLINE ENVIRONMENT : Pasture/creek
RECOMMENDATIONS : Remove

TREE # 26 Black Walnut (*Juglas nigra*)

DIAMETER : 20.0 inches
DRIPLINE RADIUS : 25 feet
ROOT CROWN : Fair
TRUNK : Fair - imbedded bark at 15' "V" crotch, direct
 pick cable
LIMBS : Fair to poor - above average amount of
 deadwood and mistletoe diseased
FOLIAGE : Poor to fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : House/lawn
RECOMMENDATIONS : Prune and install a direct pick cable, remove
 deadwood and mistletoe

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TREE # 27 Black Walnut (*Juglas nigra*)

DIAMETER	:	18.0 inches
DRIPLINE RADIUS	:	12 feet
ROOT CROWN	:	Fair
TRUNK	:	Fair -
LIMBS	:	Fair - top central leaders removed (topped)
FOLIAGE	:	Dense
CONDITION	:	Fair structure and fair vigor
DRIPLINE ENVIRONMENT	:	Lawn
RECOMMENDATIONS	:	Prune to thin

SUMMARY

<u>Species</u>	<u>Diameter</u>	<u>Condition</u>
Black Walnut (<i>Juglas nigra</i>)	8"	Poor
Apple (<i>Malus sp</i>)	6"	Fair
Crape Myrtle (<i>Lagerstroemia indica</i>)	Multi stem 1" - 3"	Fair
Black Walnut (<i>Juglas nigra</i>)	14"	Fair
Cottonwood (<i>Populus fremontii</i>)	Multi stem 7", 4", 5" (3 stems)	Poor
Smooth Arizona Cypress (<i>Cupressus glabra</i>)	12"	Fair
Smooth Arizona Cypress (<i>Cupressus glabra</i>)	5"	Fair
Smooth Arizona Cypress (<i>Cupressus glabra</i>)	6"	Fair
Smooth Arizona Cypress (<i>Cupressus glabra</i>)	Dual stem 4", 9"	Fair
Smooth Arizona Cypress (<i>Cupressus glabra</i>)	9"	Fair
Smooth Arizona Cypress (<i>Cupressus glabra</i>)	8"	Fair
Black Walnut (<i>Juglas nigra</i>)	14"	Poor
Black Walnut (<i>Juglas nigra</i>)	16"	Poor
Plum (<i>Prunus sp</i>)	8"	Fair
Monterey Pine (<i>Pinus radiata</i>)	17"	Fair
Italian Cypress (<i>Cupressus sempervirens</i>)	7"	Fair
Italian Cypress (<i>Cupressus sempervirens</i>)	9"	Fair
Fig Sprouts (<i>Ficus carica</i>)		
Fruitless Mulberry (<i>Populus fremontii</i>)	10"	Fair
Smooth Arizona Cypress (<i>Cupressus glabra</i>)	5"	Fair
Smooth Arizona Cypress (<i>Cupressus glabra</i>)	5"	Fair
Apricot (<i>Prunus sp</i>)	5"	Fair
English Walnut (<i>Juglans regia</i>)	6"	Fair
Olive (<i>Olea europaeo</i>)	Multi stems, 8", 3", 7" (3 stems)	Fair
Black Walnut (<i>Juglas nigra</i>)	17"	Poor
Black Walnut (<i>Juglas nigra</i>)	Multi stems, 3", 3", 2"	Poor
Black Walnut (<i>Juglas nigra</i>)	DBH not excessable due to berries surrounding trees	Fair
Black Walnut (<i>Juglas nigra</i>)	DBH not excessable due to berries surrounding trees	Fair
(6) Cottonwood Sprouts (<i>Populus sp</i>)		Poor
Willow (<i>Salix babylonica</i>)	Unable to excess due to berries surrounding trunk	
Cottonwood (<i>Populus sp</i>)	12", 12"	Fair
Plum (<i>Prunus sp</i>)	8"	Fair
Black Walnut (<i>Juglas nigra</i>)	9"	Poor
Cottonwood stump sprout (<i>Populus sp</i>)		Poor

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DEFINITIONS OF TERMS USED IN THIS REPORT

TDBH:	Trunk diameter, breast height.
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DEFINITIONS OF TREE CONDITION

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- Poor to fair:** Basically a tree in between poor and fair condition; not bad enough to be considered poor, but not healthy enough to be considered fair.
- Poor:** A tree showing no vigor and exhibiting signs of stress, either defoliation, terminal bud dieback, bad leaf color, deformed leaf structures, etc.
- Very poor:** A tree with very limited chances of survival through the next growing season. Extensive deadwood and defoliation.

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RECOMMENDATIONS FOR PROTECTING NATIVE OAKS IN AREAS TO BE DEVELOPED

(GENERAL RECOMMENDATIONS)

DAMAGE AND MITIGATION

The most common causes of injuries to native oaks during construction are 1) grading (fills and cuts), 2) trenching, 3) compaction, 4) bark and limb wounding from equipment, 5) soil moisture changes and occasionally 6) chemical (petroleum products) spills.

The approach used in the following text is to identify the problem, explain why it is a problem and recommend how to avoid it or how to mitigate for it.

1a) **Grading Cuts:** The roots of a mature oak can extend much beyond its dripline. Roots have been found as far away as three and one half times the dripline radius. The closer to the tree, the more critical is root damage. The more roots that can be left intact the better for the tree. Cutting the roots means a moisture and nutrient loss for the tree. California native oaks develop "sinker" roots that grow downward off the larger horizontal roots that radiate out from the trunk. The sinker roots supply the majority of the tree's water requirements during our hot, dry summers. Severing any horizontal roots means the loss of any sinker roots that are attached beyond the point of severance.

Another reason why root injury from grading cuts is a problem is that it allows a point of entry for pathogens and decay-causing organisms. It is important to minimize the surface area of the damaged roots. An aid to this end is to make a clean, perpendicular cut on the root portion still attached to the tree.

An important and often overlooked way that grading cuts can reduce the amount of moisture available to the tree is that they expose a greater soil surface area from which evaporation takes place. The remaining roots then have less than normal moisture available.

When so many roots are cut or so much soil surface is exposed that the tree's water needs cannot be met naturally it is necessary to supply sufficient irrigation until the tree is able to survive on its own. If after any such excessive cuts are made they should be covered with opaque plastic, wood mulch, or a retaining wall to avoid unnatural moisture loss. Fertilizing can help stimulate root growth and is recommended in most cases for root-damaged trees. In fact, fertilizing a tree before construction begins, in expectation of grading damage, can be very beneficial and is a recommended practice.

1b) **Grading Fills:** The main problem that is caused by grading fills within the root zone is root suffocation. Roots need oxygen. There is a need for a natural gas exchange to take place within the root zone. With below normal levels of oxygen available, roots are unable to effectively absorb nutrients and water. Fills over a root zone can form a barrier which prevents the normal

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supply and exchange of gases in the soil where the roots have developed. In many cases it is possible to install an aeration system under fill to provide the roots with adequate gas exchange.

2) Trenching: Grading cuts and trenching essentially have the same negative effects when roots are cut. Whenever possible, boring under roots should be done to minimize damage.

3) Compaction: Compaction can have the same effect as fill as well as physically crush roots and root hairs. Keeping equipment and materials away from the zone as much as possible will avoid soil compaction. Aerating the soil may be necessary if the soil becomes compacted.

Another form of compaction is the addition of paving over a root zone. Depending upon the amount of surface area effected, it may be necessary to install an aeration system under the paving. Logically, this should be done before the paving is installed. Interlocking pavers should not be used due to the fact that they compact under use and allow petroleum products from vehicles to be absorbed thus killing roots or entire trees.

4. Mechanical Damage: Mechanical damage to the trunk or limbs is very detrimental, especially to older, less vigorous trees. Any wounds that remove bark and penetrate the cambium layer allow an opening for decay-causing organisms. This can weaken a tree to the point that its structure fails. The best cure in this case is prevention. The method proven to be most effective is to encircle each tree or group of trees with a chain link or other approved fencing at least six feet high. The fence should be placed as far outside the dripline as possible. The standard recommended minimum is install the fence using a radius of one foot outside the dripline of the longest limb. Fertilizing can help stimulate the growth and callus formation rates.

5. Excessive Moisture: Excessive moisture in the root zone can have the same effect as fill. It is important to avoid allowing the root zone to become water saturated for any length of time. In addition to cutting normal gas exchange, moisture, especially in the summer months, can promote the development of pathogenic fungi. Where water application are necessary it is important to allow the soil to thoroughly drain and partially dry between irrigations.

5b) Allowing the soil to dry out and lack of moisture is an obvious problem and has been discussed in the last paragraph under Grading Cuts (1a).

6. Chemical Spills: Chemical spills can be directly toxic to the roots or can indirectly affect them. The best way to avoid this type of damage is to prevent vehicles from being parked near a tree and not to store any materials under or near a tree. In cases where this type of damage occurs as much of the effected soils as possible should be removed. The addition of organic matter, including charcoal, can be helpful.

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MAINTENANCE

It is not uncommon in nature to find native oaks surviving for 350 years or longer with no help from man. Many oaks are damaged by fire, lightning, limb breakage or other means and develop decayed cavities where birds, mammals and other animals find shelter. This is a normal occurrence in a natural situation. In developed areas where limb breakage can have tragic results it is necessary to maintain the oldest tree in a manner as to avoid, or lessen, the chance of structural failure. The trees on the site should be evaluated and the soundest kept if at all possible. For the trees to be saved, remedial pruning may be necessary to reduce weight, remove dead wood and do other corrective pruning. It may even be necessary to install artificial supports using cabling, bracing and bolting. These are not permanent solutions but effective, temporary measures which should be inspected annually to ensure that they continue to function properly. If done properly any remedial work will not alter the appearance, basic structure, and shape of a tree and are not usually very noticeable. To answer any questions about the maintenance, pruning or mitigation measures for oaks an I.S.A. Certified Arborist should be called. All tree work should be performed by or under the supervision of an I.S.A. Certified Arborist.

After construction around the oaks is completed, information about care and regulations protecting these trees should be placed into the C C & R's (Covenants, Codes, and Restriction) for the development. Anyone who lives or works around oaks should know how to treat them. In addition to making individuals aware of how they are to be treated the above information should be shared, as well as information about appropriate landscaping.

Generally, a native oak should not be subjected to summer irrigation. One exception is mentioned previously in reference to cases of inadequate water absorption due to root loss or extreme moisture loss from the soil.

Limited landscaping, using drought tolerant plants, can be acceptable near and even within the dripline of an oak in some situations. A rule of thumb is that only drip irrigation should be used and this only until plants are established. The advisability of landscaping near oaks should be considered on an individual tree basis with recommendations from someone who is knowledgeable about oaks.

**DONN C. REINERS
WINNCREST HOMES
APN 66-080-04,06 AND 13
(95-05)**

PRELIMINARY ARBORIST REPORT

Submitted by:

**Edwin E. Stirtz
ISA Certified Arborist WC-0510
TREE CARE INCORPORATED**

December 7, 1995

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Tree Care Incorporated

A Merger Of Austin B. Carroll & Son and Sta-Green Tree Service

December 7, 1995

Donn C. Reiners, Inc.
8915 Folsom Boulevard, Suite B
Sacramento, CA 95826

361-3459

Attn.: Donn C. Reiners

RE: Preliminary Arborist Report Winncrest Property 132-020-005

Dear Mr. Reiners:

As requested we inspected that above referenced site with specific regards to compiling a preliminary arborist report. This report includes all native oaks 4" DBH and larger, and any significant non-oak trees 18" DBH and larger. In addition, non-oak trees 6" DBH and larger have been included in a summary table.

The trees included in the preliminary arborist report have been tagged in the field with a 1"x1" aluminum tag, the number on which corresponds to the report as plotted on the site map you provided. The numbering sequence for this parcel begins with the number 18.

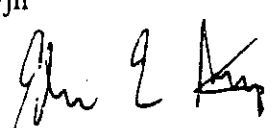
The trees included within the summary are listed on the map by species and DBH.

If you should have any further questions please feel free to call me at my office.

Sincerely,


Jim Hunsaker
ISA Certified Tree Worker WC-0120

JH/jh


Edwin E. Stirtz
ISA Certified Arborist WC-0510

EES/jh

Donn C. Reiners Inc.

RE: Winncrest Homes, APN 66-080-04.06 AND 13 (95-05)

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TREE #18 Weeping Willow (*Salix babylonica*)

DIAMETER : 36.0 inches
DRIPLINE RADIUS : 40 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - several inherently weak crotch structures.
FOLIAGE : Fair
CONDITION : Fair structure and Fair vigor
DRIPLINE ENVIRONMENT : Pasture/drainage swale
RECOMMENDATIONS : Clean out crown and perform weight reduction as necessary

TREE #19 Weeping Willow (*Salix babylonica*)

DIAMETER : 30.0 inches
DRIPLINE RADIUS : 29 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - average amount of deadwood.
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Pasture/drainage swale
RECOMMENDATIONS : Clean out crown and perform weight reduction as necessary

TREE # 20 Eucalyptus (*Eucalyptus sp*)

DIAMETER : 23.0 inches
DRIPLINE RADIUS : 8 feet
ROOT CROWN : Fair
TRUNK : Poor - defects/wounding various locations, significant interior wood exposed with decay
LIMBS : Poor - basically the entire upper canopy of the tree is dead
FOLIAGE : Poor to fair - approximately 10% of foliage on tree comprised of sprouts on lower trunk
CONDITION : Poor structure and Poor vigor
DRIPLINE ENVIRONMENT : Grasses/debris
RECOMMENDATIONS : Remove

Donn C. Reiners Inc.
RE: Winncrest Homes. APN 66-080-04.06 AND 13 (95-05)
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TREE #21 Eucalyptus (*Eucalyptus sp*)

DIAMETER : 35.0 inches
DRIPLINE RADIUS : 38 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - above average amount of deadwood. Some
tip dieback in upper canopy
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Grass/debris
RECOMMENDATIONS : Clean out crown

Donn C. Reiners Inc.

RE: Winncrest Homes, APN 66-080-04.06 AND 13 (95-05)

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SUMMARY

<u>Species</u>	<u>Diameter</u>	<u>Condition</u>
✓ Fremont Cottonwood (<i>Populus fremontii</i>)	14.0" & 17.0"	Fair
Black Locust (<i>Robinia pseudoacacia</i>)	6.0" & 9.0"	Poor to fair
✓ Black Walnut (<i>Juglans nigra</i>)	13.0"	Poor to fair
Black Locust (<i>Robinia pseudoacacia</i>)	6 stems; 2.0"-3.0"	Fair
Black Locust (<i>Robinia pseudoacacia</i>)	5 stems; 2.0"-3.0"	Fair
Black Locust (<i>Robinia pseudoacacia</i>)	6.0"	Poor
Black Locust (<i>Robinia pseudoacacia</i>)	2.0"-3.0"	Fair
<i>Eucalyptus</i> sp	7.0" & 8.0"	Fair
Black Locust (<i>Robinia pseudoacacia</i>)	6.0"-10.0"	Fair
Dogwood (<i>Cornus</i> sp)	2.0"-3.0"	Fair
Black Locust (<i>Robinia pseudoacacia</i>)	5.0" & 6.0"	Fair
Black Locust (<i>Robinia pseudoacacia</i>)	3.0" & 3.0"	Fair
Black Locust (<i>Robinia pseudoacacia</i>)	3.0" & 3.0"	Fair
<i>Eucalyptus</i> sp	3.0", 4.0", & 4.0"	Fair
Black Walnut (<i>Juglans nigra</i>)	8.0" & 9.0"	Fair
Black Walnut (<i>Juglans nigra</i>)	6.0" & 10.0"	Fair
Black Walnut (<i>Juglans nigra</i>)	14.0"	Fair

Donn C. Reiners Inc.

RE: Winncrest Homes, APN 66-080-04,06 AND 13 (95-05)

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DEFINITIONS OF TERMS USED IN THIS REPORT

TDBH:	Trunk diameter, breast height.
DRIPLINE RADIUS:	The area of soil around the tree directly under its outermost branch tips.
ROOT CROWN:	The point where the major lateral roots originate, or near, ground level.
TRUNK:	The main trunk of the tree and its condition.
BRANCHING:	The condition of any, or all, of the main branches.
CONDITION:	The condition of the tree in general.
REC:	Recommendations.

CROWN CLEAN OUT: This shall consist of the removal of all dead, dying, diseased, interfering, objectionable, obstructing and weak branches, as well as selective thinning to lessen wind resistance.

DEEP ROOT FEEDING (D.R.F.): A method employed to induce vigor and stimulate new root growth. This is used as a means of feeding a large tree, as well as deep watering at the same time. Water soluble fertilizers are mixed in water and hydraulically pumped with a probe into the ground delivering water and nutrients directly to the root zone allowing for uptake from the tree. In this way vigor can be improved and new root growth stimulated.

If you should have any questions regarding these terms, or any other terms used in this report, please do not hesitate to call the office and we will be glad to help you.

Donn C. Reiners Inc.
RE: Winncrest Homes, APN 66-080-04,06 AND 13 (95-05)
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DEFINITIONS OF TREE CONDITION

- Excellent:** A very healthy, vigorous tree.
- Very good:** Healthy and vigorous, but not excellent.
- Good:** New growth over the last season with some signs of vigor.
- Fair:** Growing, however with a lack of distinct vigor and little or no current season new growth.
- Poor to fair:** Basically a tree in between poor and fair condition; not bad enough to be considered poor, but not healthy enough to be considered fair.
- Poor:** A tree showing no vigor and exhibiting signs of stress, either defoliation, terminal bud dieback, bad leaf color, deformed leaf structures, etc.
- Very poor:** A tree with very limited chances of survival through the next growing season. Extensive deadwood and defoliation.

Donn C. Reiners Inc.
RE: Winncrest Homes, APN 66-080-04,06 AND 13 (95-05)
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RECOMMENDATIONS FOR PROTECTING NATIVE OAKS IN AREAS TO BE DEVELOPED

(GENERAL RECOMMENDATIONS)

DAMAGE AND MITIGATION

The most common causes of injuries to native oaks during construction are 1) grading (fills and cuts), 2) trenching, 3) compaction, 4) bark and limb wounding from equipment, 5) soil moisture changes and occasionally 6) chemical (petroleum products) spills.

The approach used in the following text is to identify the problem, explain why it is a problem and recommend how to avoid it or how to mitigate for it.

1a) Grading Cuts: The roots of a mature oak can extend much beyond its dripline. Roots have been found as far away as three and one half times the dripline radius. The closer to the tree, the more critical is root damage. The more roots that can be left intact the better for the tree. Cutting the roots means a moisture and nutrient loss for the tree. California native oaks develop "sinker" roots that grow downward off the larger horizontal roots that radiate out from the trunk. The sinker roots supply the majority of the tree's water requirements during our hot, dry summers. Severing any horizontal roots means the loss of any sinker roots that are attached beyond the point of severance.

Another reason why root injury from grading cuts is a problem is that it allows a point of entry for pathogens and decay-causing organisms. It is important to minimize the surface area of the damaged roots. An aid to this end is to make a clean, perpendicular cut on the root portion still attached to the tree.

An important and often overlooked way that grading cuts can reduce the amount of moisture available to the tree is that they expose a greater soil surface area from which evaporation takes place. The remaining roots then have less than normal moisture available.

When so many roots are cut or so much soil surface is exposed that the tree's water needs cannot be met naturally it is necessary to supply sufficient irrigation until the tree is able to survive on its own. If after any such excessive cuts are made they should be covered with opaque plastic, wood mulch, or a retaining wall to avoid unnatural moisture loss. Fertilizing can help stimulate root growth and is recommended in most cases for root-damaged trees. In fact, fertilizing a tree before construction begins, in expectation of grading damage, can be very beneficial and is a recommended practice.

1b) Grading Fills: The main problem that is caused by grading fills within the root zone is root suffocation. Roots need oxygen. There is a need for a natural gas exchange to take place within the root zone. With below normal levels of oxygen available, roots are unable to effectively absorb nutrients and water. Fills over a root zone can form a barrier which prevents the normal

Donn C. Reiners Inc.

RE: Winncrest Homes, APN 66-080-04,06 AND 13 (95-05)

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supply and exchange of gases in the soil where the roots have developed. In many cases it is possible to install an aeration system under fill to provide the roots with adequate gas exchange.

2) Trenching: Grading cuts and trenching essentially have the same negative effects when roots are cut. Whenever possible, boring under roots should be done to minimize damage.

3) Compaction: Compaction can have the same effect as fill as well as physically crush roots and root hairs. Keeping equipment and materials away from the zone as much as possible will avoid soil compaction. Aerating the soil may be necessary if the soil becomes compacted.

Another form of compaction is the addition of paving over a root zone. Depending upon the amount of surface area effected, it may be necessary to install an aeration system under the paving. Logically, this should be done before the paving is installed. Interlocking pavers should not be used due to the fact that they compact under use and allow petroleum products from vehicles to be absorbed thus killing roots or entire trees.

4. Mechanical Damage: Mechanical damage to the trunk or limbs is very detrimental, especially to older, less vigorous trees. Any wounds that remove bark and penetrate the cambium layer allow an opening for decay-causing organisms. This can weaken a tree to the point that its structure fails. The best cure in this case is prevention. The method proven to be most effective is to encircle each tree or group of trees with a chain link or other approved fencing at least six feet high. The fence should be placed as far outside the dripline as possible. The standard recommended minimum is install the fence using a radius of one foot outside the dripline of the longest limb. Fertilizing can help stimulate the growth and callus formation rates.

5. Excessive Moisture: Excessive moisture in the root zone can have the same effect as fill. It is important to avoid allowing the root zone to become water saturated for any length of time. In addition to cutting normal gas exchange, moisture, especially in the summer months, can promote the development of pathogenic fungi. Where water application are necessary it is important to allow the soil to thoroughly drain and partially dry between irrigations.

5b) Allowing the soil to dry out and lack of moisture is an obvious problem and has been discussed in the last paragraph under Grading Cuts (1a).

6. Chemical Spills: Chemical spills can be directly toxic to the roots or can indirectly affect them. The best way to avoid this type of damage is to prevent vehicles from being parked near a tree and not to store any materials under or near a tree. In cases where this type of damage occurs as much of the effected soils as possible should be removed. The addition of organic matter, including charcoal, can be helpful.

Donn C. Reiners Inc.

RE: Winncrest Homes, APN 66-080-04.06 AND 13 (95-05)

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MAINTENANCE

It is not uncommon in nature to find native oaks surviving for 350 years or longer with no help from man. Many oaks are damaged by fire, lightning, limb breakage or other means and develop decayed cavities where birds, mammals and other animals find shelter. This is a normal occurrence in a natural situation. In developed areas where limb breakage can have tragic results it is necessary to maintain the oldest tree in a manner as to avoid, or lessen, the chance of structural failure. The trees on the site should be evaluated and the soundest kept if at all possible. For the trees to be saved, remedial pruning may be necessary to reduce weight, remove dead wood and do other corrective pruning. It may even be necessary to install artificial supports using cabling, bracing and bolting. These are not permanent solutions but effective, temporary measures which should be inspected annually to ensure that they continue to function properly. If done properly any remedial work will not alter the appearance, basic structure, and shape of a tree and are not usually very noticeable. To answer any questions about the maintenance, pruning or mitigation measures for oaks an I.S.A. Certified Arborist should be called. All tree work should be performed by or under the supervision of an I.S.A. Certified Arborist.

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DONN C. REINERS
FLORIN INVESTORS

APN 66-100-03
(Reiners #95-08)

PRELIMINARY ARBORIST REPORT

Submitted by:

Edwin E. Stirtz
ISA Certified Arborist WC-0510
TREE CARE INCORPORATED

December 7, 1995

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Tree Care Incorporated

A Merger Of Austin B. Carroll & Son and Sta-Green Tree Service

December 7, 1995

Donn C. Reiners, Inc.
8915 Folsom Boulevard, Suite B
Sacramento, CA 95826

361-3459

Attn.: Donn C. Reiners

RE: Preliminary Arborist Report for Florin Investors APN 66-100-03 (Reiners #95-08)

Dear Mr. Reiners:

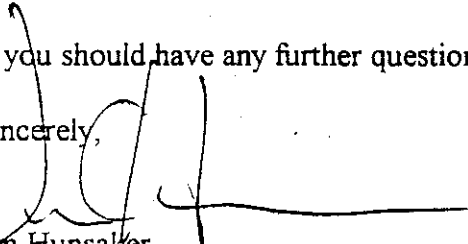
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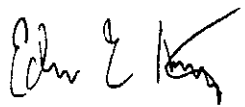
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Sincerely,


Jim Hunsaker
ISA Certified Tree Worker WC-0120

JH/jh


Edwin E. Stirtz
ISA Certified Arborist WC-0510

EES/jh

Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Florin Investors APN 66-100-03 (Reiners #95-08)

Page 5

TREE #1 Fruitless Mulberry (*Morus sp*)

DIAMETER : 20.0 inches
DRIPLINE RADIUS : 20 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - above average amount of deadwood,
pollarded in the past
FOLIAGE : Fair
CONDITION : Fair structure and Fair vigor
DRIPLINE ENVIRONMENT : Turf/gravel drive
RECOMMENDATIONS : Clean out crown

TREE #2 Fruitless Mulberry (*Morus sp*)

DIAMETER : 22.0 inches
DRIPLINE RADIUS : 20 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - above average amount of deadwood,
pollarded in the past
FOLIAGE : Fair
CONDITION : Fair structure and questionable vigor
DRIPLINE ENVIRONMENT : Turf/gravel drive
RECOMMENDATIONS :

TREE # 3 Fruitless Mulberry (*Morus sp*)

DIAMETER : 20.0 inches
DRIPLINE RADIUS : 19 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - above average amount of deadwood,
pollarded in the past
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Turf/gravel drive
RECOMMENDATIONS : Clean out crown

Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Florin Investors APN 66-100-03 (Reiners #95-08)

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TREE #4 Fruitless Mulberry (*Morus sp*)

DIAMETER	: 21.0 inches
DRIPLINE RADIUS	: 20 feet
ROOT CROWN	: Fair
TRUNK	: Fair
LIMBS	: Fair - above average amount of deadwood, pollarded in the past
FOLIAGE	: Fair
CONDITION	: Fair structure and fair vigor
DRIPLINE ENVIRONMENT	: Pasture/gravel drive
RECOMMENDATIONS	: Clean out crown

Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Florin Investors APN 66-100-03 (Reiners #95-08)

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SUMMARY

<u>Species</u>	<u>Diameter</u>	<u>Condition</u>
Fruitless Mulberry (<i>Morus sp</i>)	15.0"	Fair
Fruitless Mulberry (<i>Morus sp</i>)	9.0"	Fair
Fruitless Mulberry (<i>Morus sp</i>)	10.0"	Fair

Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Florin Investors APN 66-100-03 (Reiners #95-08)

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Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Florin Investors APN 66-100-03 (Reiners #95-08)

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RE: Preliminary Arborist Report for Florin Investors APN 66-100-03 (Reiners #95-08)

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RECOMMENDATIONS FOR PROTECTING NATIVE OAKS IN AREAS TO BE DEVELOPED

(GENERAL RECOMMENDATIONS)

DAMAGE AND MITIGATION

The most common causes of injuries to native oaks during construction are 1) grading (fills and cuts), 2) trenching, 3) compaction, 4) bark and limb wounding from equipment, 5) soil moisture changes and occasionally 6) chemical (petroleum products) spills.

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Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Florin Investors APN 66-100-03 (Reiners #95-08)

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Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Florin Investors APN 66-100-03 (Reiners #95-08)

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MAINTENANCE

It is not uncommon in nature to find native oaks surviving for 350 years or longer with no help from man. Many oaks are damaged by fire, lightning, limb breakage or other means and develop decayed cavities where birds, mammals and other animals find shelter. This is a normal occurrence in a natural situation. In developed areas where limb breakage can have tragic results it is necessary to maintain the oldest tree in a manner as to avoid, or lessen, the chance of structural failure. The trees on the site should be evaluated and the soundest kept if at all possible. For the trees to be saved, remedial pruning may be necessary to reduce weight, remove dead wood and do other corrective pruning. It may even be necessary to install artificial supports using cabling, bracing and bolting. These are not permanent solutions but effective, temporary measures which should be inspected annually to ensure that they continue to function properly. If done properly any remedial work will not alter the appearance, basic structure, and shape of a tree and are not usually very noticeable. To answer any questions about the maintenance, pruning or mitigation measures for oaks an I.S.A. Certified Arborist should be called. All tree work should be performed by or under the supervision of an I.S.A. Certified Arborist.

After construction around the oaks is completed, information about care and regulations protecting these trees should be placed into the C C & R's (Covenants, Codes, and Restriction) for the development. Anyone who lives or works around oaks should know how to treat them. In addition to making individuals aware of how they are to be treated the above information should be shared, as well as information about appropriate landscaping.

Generally, a native oak should not be subjected to summer irrigation. One exception is mentioned previously in reference to cases of inadequate water absorption due to root loss or extreme moisture loss from the soil.

Limited landscaping, using drought tolerant plants, can be acceptable near and even within the dripline of an oak in some situations. A rule of thumb is that only drip irrigation should be used and this only until plants are established. The advisability of landscaping near oaks should be considered on an individual tree basis with recommendations from someone who is knowledgeable about oaks.

**DONN C. REINERS
SACA COMMERCIAL
APN 66-100-05 AND 72
(Reiners #95-09)**

PRELIMINARY ARBORIST REPORT

Submitted by:

**Edwin E. Stirtz
ISA Certified Arborist WC-0510
TREE CARE INCORPORATED**

December 7, 1995

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Tree Care Incorporated

A Merger Of Austin B. Carroll & Son and Sta-Green Tree Service

December 7, 1995

Donn C. Reiners, Inc.
8915 Folsom Boulevard, Suite B
Sacramento, CA 95826

361-3459

Attn.: Donn C. Reiners

RE: Preliminary Arborist Report for Saca Commercial, APN 66-100-05 AND 72, (Reiners #95-09)

Dear Mr. Reiners:

As requested we inspected that above referenced site with specific regards to compiling a preliminary arborist report. This report includes all native oaks 4" DBH and larger, and any significant non-oak trees 18" DBH and larger. In addition, non-oak trees 6" DBH and larger have been included in a summary table.

The trees included in the preliminary arborist report have been tagged in the field with a 1"x1" aluminum tag, the number on which corresponds to the report as plotted on the site map you provided. The numbering sequence for this parcel begins with the number 22.

The trees included within the summary are listed on the map by species and DBH.

If you should have any further questions please feel free to call me at my office.

Sincerely,

Jim Hunsaker
ISA Certified Tree Worker WC-0120

JH/jh

Edwin E. Stirtz
ISA Certified Arborist WC-0510

EES/jh

Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Saca Commercial APN 66-100-05 and 72 (Reiners #95-09)

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TREE #22 Fruitless Mulberry (*Morus sp*)

DIAMETER : 10.0 and 16.0 inches
 DRIPLINE RADIUS : 22 feet
 ROOT CROWN : Fair
 TRUNK : Fair
 LIMBS : Fair - above average amount of deadwood
 FOLIAGE : Fair
 CONDITION : Fair structure and Fair vigor
 DRIPLINE ENVIRONMENT : Turf
 RECOMMENDATIONS : Clean out crown

TREE #23 Fruitless Mulberry (*Morus sp*)

DIAMETER : 19.0 inches
 DRIPLINE RADIUS : 18 feet
 ROOT CROWN : Fair
 TRUNK : Fair
 LIMBS : Fair - above average amount of deadwood.
 FOLIAGE : Dormant
 CONDITION : Fair structure and questionable vigor
 DRIPLINE ENVIRONMENT : Turf
 RECOMMENDATIONS : No maintenance at this time

TREE # 24 Fruitless Mulberry (*Morus sp*)

DIAMETER : 21.0 inches
 DRIPLINE RADIUS : 20 feet
 ROOT CROWN : Fair - significant surface rooting
 TRUNK : Fair
 LIMBS : Fair - above average amount of deadwood
 FOLIAGE : Fair
 CONDITION : Fair structure and fair vigor
 DRIPLINE ENVIRONMENT : Soil/hardscape
 RECOMMENDATIONS : Clean out crown

TREE #25 Fruitless Mulberry (*Morus sp*)

DIAMETER : 19.0 inches
 DRIPLINE RADIUS : 20 feet
 ROOT CROWN : Fair
 TRUNK : Fair
 LIMBS : Fair - above average amount of deadwood.
 FOLIAGE : Fair
 CONDITION : Fair structure and fair vigor
 DRIPLINE ENVIRONMENT : Soil/hardscape
 RECOMMENDATIONS : Clean out crown

Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Saca Commercial APN 66-100-05 and 72 (Reiners #95-09)

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TREE #26 Italian Stone Pine (*Pinus pinea*)

DIAMETER : 21.0 inches
DRIPLINE RADIUS : 24 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - average amount of deadwood
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Soil
RECOMMENDATIONS : Clean out crown

TREE #27 Catalpa (*Catalpa sp*)

DIAMETER : 19.0 inches
DRIPLINE RADIUS : 16 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - above average amount of deadwood, tree
forks in upper canopy
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Soil/sand box
RECOMMENDATIONS : No maintenance at this time

TREE #28 Modesto Ash (*Fraxinus velutina* 'Modesto')

DIAMETER : 3 stems, 8.0, 9.0, and 14.0 inches
DRIPLINE RADIUS : 20 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - above average amount of deadwood
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Soil/miscellaneous trailers
RECOMMENDATIONS : Clean out crown

TREE #29 Modesto Ash (*Fraxinus velutina* 'Modesto')

DIAMETER : 18.0 inches
DRIPLINE RADIUS : 17 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - above average amount of deadwood
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Gravel drive/hardscape
RECOMMENDATIONS : Clean out crown

Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Saca Commercial APN 66-100-05 and 72 (Reiners #95-09)

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TREE #30 Box Elder (*Acer negundo*)

DIAMETER : Dual stems, 9.0 and 11.0 inches
DRIPLINE RADIUS : 16 feet
ROOT CROWN : Fair
TRUNK : Poor to fair - weeping lesions in various locations along length to 8 feet above grade
LIMBS : Fair - above average amount of deadwood
FOLIAGE : Fair
CONDITION : Fair structure and poor to fair vigor
DRIPLINE ENVIRONMENT : Grasses
RECOMMENDATIONS : No maintenance at this time

TREE #31 Japanese Black Pine (*Pinus thunbergiana*)

DIAMETER : Multi-stems, 9.0, 9.0, and 10.0 inches
DRIPLINE RADIUS : 16 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - average amount of deadwood
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Turf/pond
RECOMMENDATIONS : Clean out crown

TREE #32 Silver Maple (*Acer saccharinum*)

DIAMETER : Multi-stems, 6.0, 6.0, and 7.0 inches
DRIPLINE RADIUS : 13 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - average amount of deadwood
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Pasture/garage
RECOMMENDATIONS : No maintenance at this time

TREE #33 Silver Maple (*Acer saccharinum*)

DIAMETER : 18.0 inches
DRIPLINE RADIUS : 17 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - average amount of deadwood
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Turf
RECOMMENDATIONS : No maintenance at this time

Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Saca Commercial APN 66-100-05 and 72 (Reiners #95-09)

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TREE #34 Box Elder (*Acer negundo*)

DIAMETER : Multi-stems, 7.0, 10.0, 10.0, and 11.0 inches
DRIPLINE RADIUS : 20 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - above average amount of deadwood
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Turf
RECOMMENDATIONS : No maintenance at this time

TREE #35 Box Elder (*Acer negundo*)

DIAMETER : Multi-stems, 5.0, 6.0, 7.0, and 9.0 inches
DRIPLINE RADIUS : 16 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - average amount of deadwood
FOLIAGE : Fair
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Turf
RECOMMENDATIONS : No maintenance at this time

Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Saca Commercial APN 66-100-05 and 72 (Reiners #95-09)

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SUMMARY

<u>Species</u>	<u>Diameter</u>	<u>Condition</u>
Silve Maple (<i>Acer sacchrinum</i>)	4.0" & 5.0"	Fair
Modesto Ash (<i>Fraxinus velutina</i>)	7 stems 2.0" to 5.0"	Poor to fair
Fruitless Mulberry (<i>Morus alba</i>)	15.0"	Fair
Fruitless Mulberry (<i>Morus alba</i>)	17.0"	Fair
Modesto Ash (<i>Fraxinus velutina</i>)	17.0"	Fair
Coast Redwood (<i>Sequoia semprevirens</i>)	7.0"	Fair
Pine (<i>Pinus sp</i>)	2.0", 3.0", 3.0"	Fair
Coast Redwood (<i>Sequoia semprevirens</i>)	8.0"	Fair
Liquidambar (<i>Liquidambar styraciflua</i>)	10.0	Fair
Liquidambar (<i>Liquidambar styraciflua</i>)	8.0	Fair
Liquidambar (<i>Liquidambar styraciflua</i>)	11.0	Fair
Liquidambar (<i>Liquidambar styraciflua</i>)	12.0	Fair
Corkscrew Willow (<i>Salix matsudana 'Tortuosa'</i>)	4.0	Poor
Persimmon (<i>Diospros</i>)	3.0", 3.0", 4.0"	Fair
Plum (<i>Prunus sp</i>)	2.0", 2.0", 2.0", 3.0"	Fair
Plum (<i>Prunus sp</i>)	2.0", 2.0", 3.0"	Fair
Plum (<i>Prunus sp</i>)	2.0", 3.0", 3.0", 3.0"	Fair
Plum (<i>Prunus sp</i>)	3.0", 3.0"	Fair
Fig (<i>Ficus sp</i>)	3.0", 5.0", 6.0"	Fair
<i>Prunus sp</i>	3.0", 3.0"	Fair
<i>Prunus sp</i>	2.0", 3.0", 4.0"	Fair
Silve Maple (<i>Acer sacchrinum</i>)	6.0", 6.0"	Fair
Italian Cypress (<i>Cupressus sempvirens</i>)	8.0"	Fair
Cypress (<i>Cupressus sp</i>)	6.0"	Fair
English Walnut (<i>Juglans regia</i>)	5 stems, 3.0"	Fair
Box Elder (<i>Acer negundo</i>)	8.0", 9.0"	Fair
Pecan (<i>Carya illinoensis</i>)	7.0"	Fair
Crape Myrtle (<i>Lagerstroemia indica</i>)	8 stems, 2.0" to 3.0"	Fair
Flowering Plum (<i>Prunus sp</i>)	3.0"	Fair
Flowering Plum (<i>Prunus sp</i>)	4.0"	Fair
Flowering Plum (<i>Prunus sp</i>)	3.0"	Fair
Flowering Plum (<i>Prunus sp</i>)	2.0", 3.0"	Fair

Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Saca Commercial APN 66-100-05 and 72 (Reiners #95-09)

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DEFINITIONS OF TERMS USED IN THIS REPORT

TDBH:	Trunk diameter, breast height.
DRIPLINE RADIUS:	The area of soil around the tree directly under its outermost branch tips.
ROOT CROWN:	The point where the major lateral roots originate, or near, ground level.
TRUNK:	The main trunk of the tree and its condition.
BRANCHING:	The condition of any, or all, of the main branches.
CONDITION:	The condition of the tree in general.
REC:	Recommendations.

CROWN CLEAN OUT: This shall consist of the removal of all dead, dying, diseased, interfering, objectionable, obstructing and weak branches, as well as selective thinning to lessen wind resistance.

DEEP ROOT FEEDING (D.R.F.): A method employed to induce vigor and stimulate new root growth. This is used as a means of feeding a large tree, as well as deep watering at the same time. Water soluble fertilizers are mixed in water and hydraulically pumped with a probe into the ground delivering water and nutrients directly to the root zone allowing for uptake from the tree. In this way vigor can be improved and new root growth stimulated.

If you should have any questions regarding these terms, or any other terms used in this report, please do not hesitate to call the office and we will be glad to help you.

Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Saca Commercial APN 66-100-05 and 72 (Reiners #95-09)

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DEFINITIONS OF TREE CONDITION

- Excellent:** A very healthy, vigorous tree.
- Very good:** Healthy and vigorous, but not excellent.
- Good:** New growth over the last season with some signs of vigor.
- Fair:** Growing, however with a lack of distinct vigor and little or no current season new growth.
- Poor to fair:** Basically a tree in between poor and fair condition; not bad enough to be considered poor, but not healthy enough to be considered fair.
- Poor:** A tree showing no vigor and exhibiting signs of stress, either defoliation, terminal bud dieback, bad leaf color, deformed leaf structures, etc.
- Very poor:** A tree with very limited chances of survival through the next growing season. Extensive deadwood and defoliation.

Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Saca Commercial APN 66-100-05 and 72 (Reiners #95-09)

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RECOMMENDATIONS FOR PROTECTING NATIVE OAKS IN AREAS TO BE DEVELOPED

(GENERAL RECOMMENDATIONS)

DAMAGE AND MITIGATION

The most common causes of injuries to native oaks during construction are 1) grading (fills and cuts), 2) trenching, 3) compaction, 4) bark and limb wounding from equipment, 5) soil moisture changes and occasionally 6) chemical (petroleum products) spills.

The approach used in the following text is to identify the problem, explain why it is a problem and recommend how to avoid it or how to mitigate for it.

1a) Grading Cuts: The roots of a mature oak can extend much beyond its dripline. Roots have been found as far away as three and one half times the dripline radius. The closer to the tree, the more critical is root damage. The more roots that can be left intact the better for the tree. Cutting the roots means a moisture and nutrient loss for the tree. California native oaks develop "sinker" roots that grow downward off the larger horizontal roots that radiate out from the trunk. The sinker roots supply the majority of the tree's water requirements during our hot, dry summers. Severing any horizontal roots means the loss of any sinker roots that are attached beyond the point of severance.

Another reason why root injury from grading cuts is a problem is that it allows a point of entry for pathogens and decay-causing organisms. It is important to minimize the surface area of the damaged roots. An aid to this end is to make a clean, perpendicular cut on the root portion still attached to the tree.

An important and often overlooked way that grading cuts can reduce the amount of moisture available to the tree is that they expose a greater soil surface area from which evaporation takes place. The remaining roots then have less than normal moisture available.

When so many roots are cut or so much soil surface is exposed that the tree's water needs cannot be met naturally it is necessary to supply sufficient irrigation until the tree is able to survive on its own. If after any such excessive cuts are made they should be covered with opaque plastic, wood mulch, or a retaining wall to avoid unnatural moisture loss. Fertilizing can help stimulate root growth and is recommended in most cases for root-damaged trees. In fact, fertilizing a tree before construction begins, in expectation of grading damage, can be very beneficial and is a recommended practice.

1b) Grading Fills: The main problem that is caused by grading fills within the root zone is root suffocation. Roots need oxygen. There is a need for a natural gas exchange to take place within the root zone. With below normal levels of oxygen available, roots are unable to effectively absorb nutrients and water. Fills over a root zone can form a barrier which prevents the normal

Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Saca Commercial APN 66-100-05 and 72 (Reiners #95-09)

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supply and exchange of gases in the soil where the roots have developed. In many cases it is possible to install an aeration system under fill to provide the roots with adequate gas exchange.

2) Trenching: Grading cuts and trenching essentially have the same negative effects when roots are cut. Whenever possible, boring under roots should be done to minimize damage.

3) Compaction: Compaction can have the same effect as fill as well as physically crush roots and root hairs. Keeping equipment and materials away from the zone as much as possible will avoid soil compaction. Aerating the soil may be necessary if the soil becomes compacted.

Another form of compaction is the addition of paving over a root zone. Depending upon the amount of surface area effected, it may be necessary to install an aeration system under the paving. Logically, this should be done before the paving is installed. Interlocking pavers should not be used due to the fact that they compact under use and allow petroleum products from vehicles to be absorbed thus killing roots or entire trees.

4. Mechanical Damage: Mechanical damage to the trunk or limbs is very detrimental, especially to older, less vigorous trees. Any wounds that remove bark and penetrate the cambium layer allow an opening for decay-causing organisms. This can weaken a tree to the point that its structure fails. The best cure in this case is prevention. The method proven to be most effective is to encircle each tree or group of trees with a chain link or other approved fencing at least six feet high. The fence should be placed as far outside the dripline as possible. The standard recommended minimum is install the fence using a radius of one foot outside the dripline of the longest limb. Fertilizing can help stimulate the growth and callus formation rates.

5. Excessive Moisture: Excessive moisture in the root zone can have the same effect as fill. It is important to avoid allowing the root zone to become water saturated for any length of time. In addition to cutting normal gas exchange, moisture, especially in the summer months, can promote the development of pathogenic fungi. Where water application are necessary it is important to allow the soil to thoroughly drain and partially dry between irrigations.

5b) Allowing the soil to dry out and lack of moisture is an obvious problem and has been discussed in the last paragraph under Grading Cuts (1a).

6. Chemical Spills: Chemical spills can be directly toxic to the roots or can indirectly affect them. The best way to avoid this type of damage is to prevent vehicles from being parked near a tree and not to store any materials under or near a tree. In cases where this type of damage occurs as much of the effected soils as possible should be removed. The addition of organic matter, including charcoal, can be helpful.

Donn C. Reiners, Inc.

RE: Preliminary Arborist Report for Saca Commercial APN 66-100-05 and 72 (Reiners #95-09)

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MAINTENANCE

It is not uncommon in nature to find native oaks surviving for 350 years or longer with no help from man. Many oaks are damaged by fire, lightning, limb breakage or other means and develop decayed cavities where birds, mammals and other animals find shelter. This is a normal occurrence in a natural situation. In developed areas where limb breakage can have tragic results it is necessary to maintain the oldest tree in a manner as to avoid, or lessen, the chance of structural failure. The trees on the site should be evaluated and the soundest kept if at all possible. For the trees to be saved, remedial pruning may be necessary to reduce weight, remove dead wood and do other corrective pruning. It may even be necessary to install artificial supports using cabling, bracing and bolting. These are not permanent solutions but effective, temporary measures which should be inspected annually to ensure that they continue to function properly. If done properly any remedial work will not alter the appearance, basic structure, and shape of a tree and are not usually very noticeable. To answer any questions about the maintenance, pruning or mitigation measures for oaks an I.S.A. Certified Arborist should be called. All tree work should be performed by or under the supervision of an I.S.A. Certified Arborist.

After construction around the oaks is completed, information about care and regulations protecting these trees should be placed into the C C & R's (Covenants, Codes, and Restriction) for the development. Anyone who lives or works around oaks should know how to treat them. In addition to making individuals aware of how they are to be treated the above information should be shared, as well as information about appropriate landscaping.

Generally, a native oak should not be subjected to summer irrigation. One exception is mentioned previously in reference to cases of inadequate water absorption due to root loss or extreme moisture loss from the soil.

Limited landscaping, using drought tolerant plants, can be acceptable near and even within the dripline of an oak in some situations. A rule of thumb is that only drip irrigation should be used and this only until plants are established. The advisability of landscaping near oaks should be considered on an individual tree basis with recommendations from someone who is knowledgeable about oaks.



Tree Care Incorporated

A Merger Of Austin B. Carroll & Son and Sta-Green Tree Service

January 03, 1995

George E. Phillips, Law Offices
555 University Avenue, Suite 200
Sacramento, CA 95825

Office #: 929-8881
Fax #: 929-8882

Attn.: Kris Steward

RE: Arborist Report; APN 66-100-19,20,21 "Saca"

Dear Mrs. Steward:

As requested I inspected the above referenced site with specific regards to compiling a preliminary arborist report to include all native oaks 6" DBH and larger and any significant non Oak trees 18" or larger in which this property has neither.

The only tree located on the property is a multi stem, Willow (*Salix sp*), juvenile stage, approximately 5 feet tall, which is in fair condition.

If you should have any further questions please feel free to call me at my office.

Sincerely,

Jim Hunsaker
ISA Certified Tree Worker WC-0120

Edwin E. Stirtz
ISA Certified Arborist WC-0510

JH/de

letters/jim/saca.rpt

Law Offices of George E. Phillips

Morvai Property Map #: 9510

APN 06-070-04, 05, 06, 08, 19

Arborist Report

Submitted by:

Edwin E. Stirtz
ISA Certified Arborist WC-0510
TREE CARE INCORPORATED

January 03, 1996

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Tree Care Incorporated

A Merger Of Austin B. Carroll & Son and Sta-Green Tree Service

December 29, 1995

Law Offices of George E. Phillips
555 University Avenue, Ste. 200
Sacramento, CA 95825

Phone #: 929-8881
FAX #: 929-8882

Attn.: Kris Steward

RE: Morvai Property; Map #: 9510

Dear Ms. Steward:

All trees included within the inventory have been identified in the field using 1" x 1" aluminum tag attached to the tree trunk in an inconspicuous location and have been rough plotted on the map provided.

If you should have any further questions please feel free to call me at my office.

Sincerely,

Jim Hunsaker
ISA Certified Tree Worker WC-0120

Edwin E. Stirtz
ISA Certified Arborist WC-0510

EES/jh

Law Offices of George E. Phillips
 555 University Avenue, Suite 200
 Morvai Property Map #: 9510
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TREE #1 *Eucalyptus (Eucalyptus sp)*

DIAMETER : 29.0 inches
DRIPLINE RADIUS : 10 feet
ROOT CROWN : Poor
TRUNK : Poor - freeze damage with decay
LIMBS : Poor - sprout growth and freeze damaged
FOLIAGE : Poor - sparse
CONDITION : Poor structure and poor vigor
DRIPLINE ENVIRONMENT : Gravel road/lawn
RECOMMENDATIONS : Remove

TREE #2 *Eucalyptus (Eucalyptus sp)*

DIAMETER : (3 stems) 19.0, 24.0, and 21.0 inches at 3 feet above grade
DRIPLINE RADIUS : 20 feet
ROOT CROWN : Fair
TRUNK : Poor - cambium damage (freeze) at 10" above grade
LIMBS : Poor - scarring severe (freeze)
FOLIAGE : Fair to poor
CONDITION : Poor structure and poor vigor
DRIPLINE ENVIRONMENT : Gravel road/grasses
RECOMMENDATIONS : Remove

TREE #3 *Eucalyptus (Eucalyptus sp)*

DIAMETER : (4 stems) 19.0, 24.0, 21.0, and 18.0 inches at 12" above grade
DRIPLINE RADIUS : 8 feet
ROOT CROWN : Fair
TRUNK : Poor - cambium damage (freeze)
LIMBS : Poor - cambium damage (freeze)
FOLIAGE : Fair to poor
CONDITION : Poor structure and poor vigor. Tree has sever frost damage and re-sprouting
DRIPLINE ENVIRONMENT : Gravel road/chicken coup
RECOMMENDATIONS : Remove

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 555 University Avenue, Suite 200
 Morvai Property Map #: 9510
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TREE #4 Eucalyptus (*Eucalyptus sp*)

DIAMETER : 41.0 inches
DRIPLINE RADIUS : 30 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - above average amount of deadwood,
 excessive weight on laterals
FOLIAGE : Fair
CONDITION : Fair structure and Fair vigor
DRIPLINE ENVIRONMENT : Gravel road/ chicken coup
RECOMMENDATIONS : Reduce weight, remove deadwood, and deep root
 fertilize

TREE #5 Eucalyptus (*Eucalyptus sp*)

DIAMETER : 38.0, 21.0, 22.0, 30.0 inches at 24" above grade
DRIPLINE RADIUS : 35 feet
ROOT CROWN : Fair
TRUNK : Poor - serious decay at main attachment, sever
 cambium damage (frost)
LIMBS : Poor - above average amount of deadwood.
FOLIAGE : Fair - poor
CONDITION : Fair structure and poor vigor
DRIPLINE ENVIRONMENT : Gravel road/dirt yard
RECOMMENDATIONS : Remove

TREE #6 Eucalyptus (*Eucalyptus sp*)

DIAMETER : 28.0 inches
DRIPLINE RADIUS : 16 feet
ROOT CROWN : Fair to poor
TRUNK : Poor - severe cambium damage (frost)
LIMBS : Poor - severe cambium damage (frost)
FOLIAGE : Poor
CONDITION : Poor structure and poor vigor
DRIPLINE ENVIRONMENT : Gravel road/yard
RECOMMENDATIONS : Remove

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 Morvai Property Map #: 9510
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TREE #7 *Eucalyptus (Eucalyptus sp)*

DIAMETER : 36.0 inches
DRIPLINE RADIUS : 16 feet
ROOT CROWN : Poor
TRUNK : Poor - severe decay throughout
LIMBS : Poor - decay areas
FOLIAGE : Poor - sparse
CONDITION : Poor structure and poor vigor
DRIPLINE ENVIRONMENT : Pasture/lawn
RECOMMENDATIONS : Remove

TREE #8 *Eucalyptus (Eucalyptus sp)*

DIAMETER : 24.0 inches
DRIPLINE RADIUS : 16 feet
ROOT CROWN : Fair
TRUNK : Fair to poor old pruning cut, decay
LIMBS : Poor - severe dieback
FOLIAGE : Poor
CONDITION : Poor structure and poor vigor
DRIPLINE ENVIRONMENT : Coup/yard
RECOMMENDATIONS : Remove

TREE #9 *Eucalyptus (Eucalyptus sp)*

DIAMETER : 7.0, 10.0, 10.0, and 36.0 inches
DRIPLINE RADIUS : 26 feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - average amount of deadwood.
FOLIAGE : Fair to poor
CONDITION : Fair structure and poor vigor
DRIPLINE ENVIRONMENT : Gravel road/yard/foundation/compacted soil
RECOMMENDATIONS : Deep root fertilize

TREE #10 *Eucalyptus (Eucalyptus sp)*

DIAMETER : 8.0, 8.0, 12.0, and 20.0 inches at 36" above grade
DRIPLINE RADIUS : 16 feet
ROOT CROWN : Fair
TRUNK : Poor - sever cambium damage (frost) decay areas
LIMBS : Poor - severe cambium damage (frost)
FOLIAGE : Fair to poor - advantageous growth
CONDITION : Poor structure and fair to poor vigor
DRIPLINE ENVIRONMENT : House/pasture
RECOMMENDATIONS : Remove

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TREE #11 Eucalyptus (*Eucalyptus sp*)

DIAMETER : Dual stems, 12.0 and 39.0 inches
DRIPLINE RADIUS : 22 feet
ROOT CROWN : Fair
TRUNK : Poor - decayed
LIMBS : Poor - sever cambium damage (frost)
FOLIAGE : Fair to poor - sprouts (advantageous growth)
CONDITION : Poor structure and poor vigor
DRIPLINE ENVIRONMENT : Gravel/pasture
RECOMMENDATIONS : Remove

TREE #12 Eucalyptus (*Eucalyptus sp*)

DIAMETER : 45.0 inches
DRIPLINE RADIUS : 30 feet
ROOT CROWN : Fair - debris piled around and against
TRUNK : Fair to poor - old large pruning cuts and limb failure stubs
LIMBS : Fair to poor - crossing limbs interfering. Above average amount of deadwood
FOLIAGE : Fair - dense
CONDITION : Fair structure and Fair vigor
DRIPLINE ENVIRONMENT : Coups and old wooden house
RECOMMENDATIONS : Clean out crown, reduce weight, remove deadwood and debris, and deep root fertilize

TREE #13 Eucalyptus (*Eucalyptus sp*)

DIAMETER : 32.0 inches
DRIPLINE RADIUS : 25 feet
ROOT CROWN : Fair
TRUNK : Poor
LIMBS : Poor - major dieback and weak attachments
FOLIAGE : Fair to poor
CONDITION : Poor structure and poor vigor
DRIPLINE ENVIRONMENT : Shed/natural grasses
RECOMMENDATIONS : Remove

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TREE #14 Eucalyptus (*Eucalyptus sp*)

DIAMETER : 18.0 inches at 18" above grade
DRIPLINE RADIUS : 16 feet
ROOT CROWN : Fair
TRUNK : Fair to poor - cambium damage at main limb attachment
LIMBS : Fair to poor - original dominant stem is dead, multiple re-growth at 24"
FOLIAGE : Fair to poor
CONDITION : Fair to poor structure and fair to poor vigor
DRIPLINE ENVIRONMENT : Lawn/coups
RECOMMENDATIONS : Remove

TREE #15 Eucalyptus (*Eucalyptus sp*)

DIAMETER : 12.0 inches
DRIPLINE RADIUS : feet
ROOT CROWN : Fair
TRUNK : Poor - major decay
LIMBS : Poor - severe dieback
FOLIAGE : Poor - sparse
CONDITION : Fair structure and Fair vigor
DRIPLINE ENVIRONMENT : Coup/grass
RECOMMENDATIONS : Remove

TREE #16 Eucalyptus (*Eucalyptus sp*)

DIAMETER : 18.0 inches at 12" above grade
DRIPLINE RADIUS : 20 feet
ROOT CROWN : Fair
TRUNK : Fair - turns into dual stems at 12" above grade, imbedded bark
LIMBS : Fair - excessive weight on laterals
FOLIAGE : Fair
CONDITION : Fair structure and Fair vigor
DRIPLINE ENVIRONMENT : Wooden shed
RECOMMENDATIONS : Clean out crown, reduce weight, and install direct pick cable

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TREE #17 Eucalyptus (*Eucalyptus sp*)

DIAMETER : 6.0, 12.0, 16.0, 20.0 inches at 24" above grade
DRIPLINE RADIUS : feet
ROOT CROWN : Fair
TRUNK : Fair
LIMBS : Fair - Imbedded bark at attachment, excessive weight on laterals, above average amount of deadwood
FOLIAGE : Fair - dense
CONDITION : Fair structure and fair vigor
DRIPLINE ENVIRONMENT : Gravel road/grass
RECOMMENDATIONS : Clean out crown, reduce weight, remove deadwood, install cable, and deep root fertilize

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SUMMARY

<u>Species</u>	<u>Diameter</u>	<u>Condition</u>
Plum	6"	Fair
Eucalyptus	9",10",12"	Fair
Eucalyptus	16"	Fair
Eucalyptus	10"	Fair
Eucalyptus	6"	Fair
Eucalyptus	14"	Fair
Eucalyptus	3"	Fair
Eucalyptus	4"	Fair
Eucalyptus	4"	Fair
Eucalyptus	10"	Fair
Eucalyptus	9"	Fair
Eucalyptus	6", 4"	Fair
Eucalyptus	8"	Fair
Eucalyptus	2"	Fair
Eucalyptus	8"	Fair
Eucalyptus	3"	Fair
Eucalyptus	3"	Fair
Eucalyptus	3"	Fair
Eucalyptus	8"	Fair
Eucalyptus	4",2"	Fair
Eucalyptus	2",2"	Poor
Black Walnut	6"	Fair
Black Walnut	6"	Poor
Eucalyptus	2"	Fair
Eucalyptus	2"	Fair
Eucalyptus	6"	Fair
Eucalyptus	8"	Fair
Eucalyptus	8"	Fair
Eucalyptus	6"	Fair
Eucalyptus	8"	Fair
Eucalyptus	10"	Fair
Eucalyptus	9"	Fair
Eucalyptus	8"	Fair
Black Walnut	6"	Fair
Black Walnut	8"	Fair
Black Walnut	8"	Fair
Plum	8"	Fair
Eucalyptus	4",4"	Fair
Eucalyptus	3",4",4"	Fair
Eucalyptus	4",9"	Fair
Eucalyptus	8",8",9"	Fair
Eucalyptus	8",9",6",6"	Fair
Eucalyptus	10"	Fair
Eucalyptus	12"	Fair
Eucalyptus	16"	Fair
Eucalyptus	14"	Fair

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SUMMARY (cont'd)

<u>Species</u>	<u>Diameter</u>	<u>Condition</u>
Eucalyptus	16"	Fair
Persimmon	12"	Fair (leans north)
Black Walnut	10"	Fair
Silver leaf Maple	14"	Poor
Fruitless Mulberry	8"	Poor
Eucalyptus	10"	Fair
Fruitless Mulberry	16"	Fair to poor
Fruitless Mulberry	14"	Fair to poor
Black Walnut	8"	Fair to poor
Plum	8"	Fair to poor
Plum	6"	Fair
Crab Apple	5"	Poor
Fruitless Mulberry	4",6",6"	Fair to poor

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DEFINITIONS OF TERMS USED IN THIS REPORT

TDBH:	Trunk diameter, breast height.
DRIPLINE RADIUS:	The area of soil around the tree directly under its outermost branch tips.
ROOT CROWN:	The point where the major lateral roots originate, or near, ground level.
TRUNK:	The main trunk of the tree and its condition.
BRANCHING:	The condition of any, or all, of the main branches.
CONDITION:	The condition of the tree in general.
REC:	Recommendations.

CROWN CLEAN OUT: This shall consist of the removal of all dead, dying, diseased, interfering, objectionable, obstructing and weak branches, as well as selective thinning to lessen wind resistance.

DEEP ROOT FEEDING (D.R.F.): A method employed to induce vigor and stimulate new root growth. This is used as a means of feeding a large tree, as well as deep watering at the same time. Water soluble fertilizers are mixed in water and hydraulically pumped with a probe into the ground delivering water and nutrients directly to the root zone allowing for uptake from the tree. In this way vigor can be improved and new root growth stimulated.

If you should have any questions regarding these terms, or any other terms used in this report, please do not hesitate to call the office and we will be glad to help you.

DEFINITIONS OF TREE CONDITION

- Excellent:** A very healthy, vigorous tree.
- Very good:** Healthy and vigorous, but not excellent.
- Good:** New growth over the last season with some signs of vigor.
- Fair:** Growing, however with a lack of distinct vigor and little or no current season new growth.
- Poor to fair:** Basically a tree in between poor and fair condition; not bad enough to be considered poor, but not healthy enough to be considered fair.
- Poor:** A tree showing no vigor and exhibiting signs of stress, either defoliation, terminal bud dieback, bad leaf color, deformed leaf structures, etc.
- Very poor:** A tree with very limited chances of survival through the next growing season. Extensive deadwood and defoliation.

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RECOMMENDATIONS FOR PROTECTING NATIVE OAKS IN AREAS TO BE DEVELOPED

(GENERAL RECOMMENDATIONS)

DAMAGE AND MITIGATION

The most common causes of injuries to native oaks during construction are 1) grading (fills and cuts), 2) trenching, 3) compaction, 4) bark and limb wounding from equipment, 5) soil moisture changes and occasionally 6) chemical (petroleum products) spills.

The approach used in the following text is to identify the problem, explain why it is a problem and recommend how to avoid it or how to mitigate for it.

1a) Grading Cuts: The roots of a mature oak can extend much beyond its dripline. Roots have been found as far away as three and one half times the dripline radius. The closer to the tree, the more critical is root damage. The more roots that can be left intact the better for the tree. Cutting the roots means a moisture and nutrient loss for the tree. California native oaks develop "sinker" roots that grow downward off the larger horizontal roots that radiate out from the trunk. The sinker roots supply the majority of the tree's water requirements during our hot, dry summers. Severing any horizontal roots means the loss of any sinker roots that are attached beyond the point of severance.

Another reason why root injury from grading cuts is a problem is that it allows a point of entry for pathogens and decay-causing organisms. It is important to minimize the surface area of the damaged roots. An aid to this end is to make a clean, perpendicular cut on the root portion still attached to the tree.

An important and often overlooked way that grading cuts can reduce the amount of moisture available to the tree is that they expose a greater soil surface area from which evaporation takes place. The remaining roots then have less than normal moisture available.

When so many roots are cut or so much soil surface is exposed that the tree's water needs cannot be met naturally it is necessary to supply sufficient irrigation until the tree is able to survive on its own. If after any such excessive cuts are made they should be covered with opaque plastic, wood mulch, or a retaining wall to avoid unnatural moisture loss. Fertilizing can help stimulate root growth and is recommended in most cases for root-damaged trees. In fact, fertilizing a tree before construction begins, in expectation of grading damage, can be very beneficial and is a recommended practice.

1b) Grading Fills: The main problem that is caused by grading fills within the root zone is root suffocation. Roots need oxygen. There is a need for a natural gas exchange to take place within the root zone. With below normal levels of oxygen available, roots are unable to effectively absorb nutrients and water. Fills over a root zone can form a barrier which prevents the normal

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supply and exchange of gases in the soil where the roots have developed. In many cases it is possible to install an aeration system under fill to provide the roots with adequate gas exchange.

2) **Trenching:** Grading cuts and trenching essentially have the same negative effects when roots are cut. Whenever possible, boring under roots should be done to minimize damage.

3) **Compaction:** Compaction can have the same effect as fill as well as physically crush roots and root hairs. Keeping equipment and materials away from the zone as much as possible will avoid soil compaction. Aerating the soil may be necessary if the soil becomes compacted.

Another form of compaction is the addition of paving over a root zone. Depending upon the amount of surface area effected, it may be necessary to install an aeration system under the paving. Logically, this should be done before the paving is installed. Interlocking pavers should not be used due to the fact that they compact under use and allow petroleum products from vehicles to be absorbed thus killing roots or entire trees.

4. **Mechanical Damage:** Mechanical damage to the trunk or limbs is very detrimental, especially to older, less vigorous trees. Any wounds that remove bark and penetrate the cambium layer allow an opening for decay-causing organisms. This can weaken a tree to the point that its structure fails. The best cure in this case is prevention. The method proven to be most effective is to encircle each tree or group of trees with a chain link or other approved fencing at least six feet high. The fence should be placed as far outside the dripline as possible. The standard recommended minimum is install the fence using a radius of one foot outside the dripline of the longest limb. Fertilizing can help stimulate the growth and callus formation rates.

5. **Excessive Moisture:** Excessive moisture in the root zone can have the same effect as fill. It is important to avoid allowing the root zone to become water saturated for any length of time. In addition to cutting normal gas exchange, moisture, especially in the summer months, can promote the development of pathogenic fungi. Where water application are necessary it is important to allow the soil to thoroughly drain and partially dry between irrigations.

5b) Allowing the soil to dry out and lack of moisture is an obvious problem and has been discussed in the last paragraph under Grading Cuts (1a).

6. **Chemical Spills:** Chemical spills can be directly toxic to the roots or can indirectly affect them. The best way to avoid this type of damage is to prevent vehicles from being parked near a tree and not to store any materials under or near a tree. In cases where this type of damage occurs as much of the effected soils as possible should be removed. The addition of organic matter, including charcoal, can be helpful.

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MAINTENANCE

It is not uncommon in nature to find native oaks surviving for 350 years or longer with no help from man. Many oaks are damaged by fire, lightning, limb breakage or other means and develop decayed cavities where birds, mammals and other animals find shelter. This is a normal occurrence in a natural situation. In developed areas where limb breakage can have tragic results it is necessary to maintain the oldest tree in a manner as to avoid, or lessen, the chance of structural failure. The trees on the site should be evaluated and the soundest kept if at all possible. For the trees to be saved, remedial pruning may be necessary to reduce weight, remove dead wood and do other corrective pruning. It may even be necessary to install artificial supports using cabling, bracing and bolting. These are not permanent solutions but effective, temporary measures which should be inspected annually to ensure that they continue to function properly. If done properly any remedial work will not alter the appearance, basic structure, and shape of a tree and are not usually very noticeable. To answer any questions about the maintenance, pruning or mitigation measures for oaks an I.S.A. Certified Arborist should be called. All tree work should be performed by or under the supervision of an I.S.A. Certified Arborist.

After construction around the oaks is completed, information about care and regulations protecting these trees should be placed into the C C & R's (Covenants, Codes, and Restriction) for the development. Anyone who lives or works around oaks should know how to treat them. In addition to making individuals aware of how they are to be treated the above information should be shared, as well as information about appropriate landscaping.

Generally, a native oak should not be subjected to summer irrigation. One exception is mentioned previously in reference to cases of inadequate water absorption due to root loss or extreme moisture loss from the soil.

Limited landscaping, using drought tolerant plants, can be acceptable near and even within the dripline of an oak in some situations. A rule of thumb is that only drip irrigation should be used and this only until plants are established. The advisability of landscaping near oaks should be considered on an individual tree basis with recommendations from someone who is knowledgeable about oaks.

APPENDIX F

NVSSP FEIR: Final Technical Appendices Vol. I

**CULTURAL RESOURCES ASSESSMENT
OF THE NORTH VINEYARD STATION
SPECIFIC PLAN,
SACRAMENTO COUNTY, CALIFORNIA**

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INTRODUCTION

The North Vineyard Station Specific Plan incorporates approximately 1,580 acres. The area is bounded on the north by Florin Road, on the east by (the eventual expansion of) Vineyard Road, on the south by Gerber Road and on the west by the channel of Elder Creek. The Specific Plan area is located near the center of Sacramento County. Of the 1,580 acres, approximately 556 acres are owned by individuals who are petitioners (Map 1).

The County of Sacramento, Department of Environmental Review and Assessment (DERA) requested that an intensive cultural resource assessment be conducted for the 556 acre area (petitioners' parcels) and a more generalized review of the remaining 1024 acre area. Phillips and Sandberg, representing the petitioners, requested that Peak & Associates, Inc. perform this assessment.

Prior to the initiation of the field work phase, a review of historic period maps and documents was conducted so that areas of possible concern could be identified. These analyses produced data that indicated that 16 historic period structures had been constructed within the study area by 1909. By 1942, four of these structures had been removed, and eleven additional structures had been constructed.

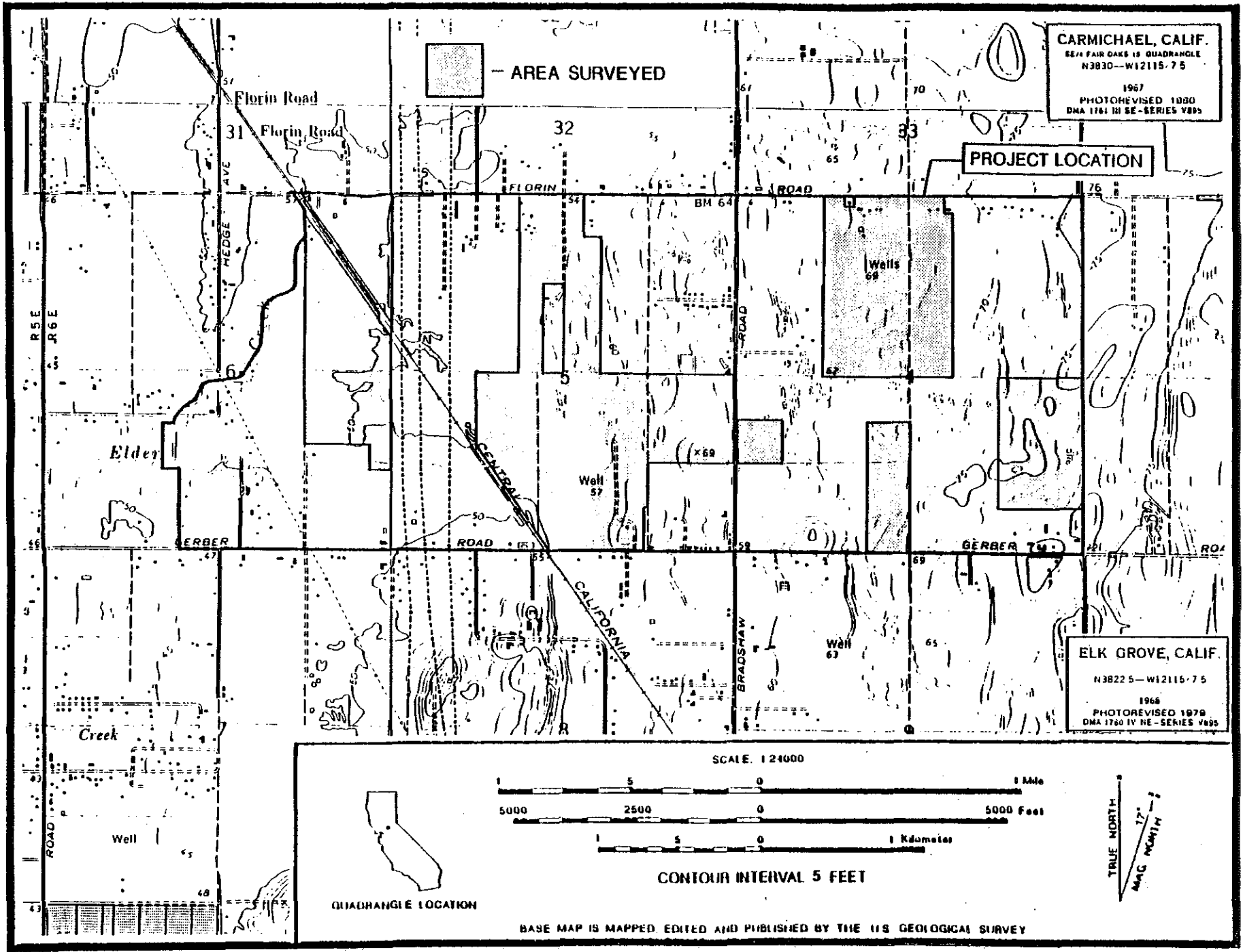
At the completion of the field investigation, twelve historic period structures had been identified, three of which were located within the petitioners' parcels. One historic period refuse concentration was also identified and was recorded to current archeological standards. This resource is not considered to be significant and no further mitigative measures will be required.

No evidence of prehistoric period activity was observed.

CULTURAL HISTORY

Archeological Background

The Sacramento Delta was one of the first regions in California to attract intensive archeological fieldwork. Between 1893 and 1901, avocational archeologist J. A. Barr excavated many prehistoric mounds in the Stockton area. He collected nearly 2000 artifacts during the course of his investigations. H. C. Meredith was another avocational archeologist of the period who pursued collecting in the same Stockton locality. Meredith (1899, 1900) did publish a compilation of his own and Barr's findings, and these appear to constitute the earliest accounts of Delta archeology. Holmes (1902), from the Smithsonian Institution, further elaborated on the Delta or "Stockton District" archeology, presenting illustrations of artifacts collected by Meredith and Barr.



MAP 1

It was Elmer J. Dawson who first recognized culture changes through time in Delta archeology. Though he was an amateur archeologist, Dawson understood the necessity of keeping accurate notes on grave associations and provenience of artifacts. He collaborated with W. E. Schenck to produce an overview of northern San Joaquin Valley archeology (Schenck and Dawson 1929). The overview contained information on more than 90 prehistoric sites as well as data on previous collectors.

By 1931, the focus of archeological work was directed toward the Cosumnes River locality, where survey and exploration were conducted by Sacramento Junior College (Lillard and Purves 1936). Excavations, especially at the stratified Windmiller mound (CA-SAC-107), suggested three temporally distinct cultural traditions: Early, Transitional, and Late. Information grew as a result of excavations at other mounds in the Delta and lower Sacramento Valley by Sacramento Junior College and the University of California, Berkeley.

Previous investigations in the project region have focused upon very detailed archival research of Spanish sources (Bennyhoff 1977), and the archeological investigations at a number of small sites (Schulz et al. 1979; Schulz and Simons 1973; Soule 1976). A reexamination of earlier work has also been undertaken (Ragir 1972; Schulz 1981; Doran 1980). Several of the previously investigated sites probably represent satellite encampments or small villages associated with major villages.

The majority of the sites appear to be relatively late in time, and probably represent Plains Miwok. As mentioned above, the sites appear to be satellite encampments or small villages. The activities practiced are varied, but detailed studies on the faunal collection suggest seasonality of occupation and a focus on fish species other than the main channel varieties.

Writing the definitive summary of California archeology, Moratto (1984: 529-547) devoted an entire chapter to linguistic prehistory. For the Central Valley region, Moratto points out that some Early Horizon and Middle Horizon central California archeological sites appear at least in part, contemporaneous, based on existing radiocarbon dates. Cultural materials recovered from CA-SJO-68, an Early Horizon site, are thought to relate to date to 4350 ± 250 B.P. or 2350 B.C. On the other hand, a Middle Horizon component at CA-CCO-308 dates to 4450 ± 400 B.P. or 2450 B.C. The antiquity of other Early and Middle Horizon sites demonstrate an overlap of the two horizons by a millennium or more.

One explanation proposes that the Middle Horizon represents an intrusion of ancestral Miwok speaking people into the lower Cosumnes, Mokelumne, and Sacramento River areas from the Bay Area. The Early Horizon may represent older Yokuts settlements or perhaps the speakers of a Utian language who were somehow replaced by a shift of population(s) from the bay.

Ethnological Background

The Eastern Miwok represent one of the two main divisions of the Miwokan subgroup of the Utian language family (Levy 1978:398). The Plains Miwok, one of five separate cultural and linguistic groups of the Eastern Miwok, occupied the lower reaches of the Mokelumne, Cosumnes and Sacramento Rivers including the area of south Sacramento County surrounding the project area. Linguistic studies and the application of a lexicostatistic model for language divergence suggests that Plains Miwok was a distinct linguistic entity for the last 2000 years (Levy 1970). This result led researchers such as Richard Levy (1978:398) to conclude that the Plains Miwok inhabited the Sacramento Delta for a considerable period of time.

The political organization of the Plains Miwok centered on the tribelet. Tribelets were comprised of 300 to 500 individuals (Levy 1978:410). Each tribelet was thought to control a specific area of resources and usually consisted of several villages or hamlets. Each tribelet also was divided along lineages. These lineages were apparently localized to a specific geographic setting and most likely represented a village site and their associated satellite sites where the seasonal collection of resources occurred (Levy 1978:398-399). Each settlement apparently contained roughly 21 individuals according to data collected by Gifford (Cook 1955:35).

The diet of the Plains Miwok emphasized the collection of floral resources such as acorns, buckeye, digger pine nuts, seeds from the native grasses and various fresh greens. Faunal resources such as tule elk, pronghorn antelope, deer, jackrabbits, cottontails, beaver, gray squirrels, woodrats, quail and waterfowl were hunted. Fishing, particularly salmon and sturgeon, contributed significantly to the Plains Miwok diet (Levy 1978:402-403). The primary method of collecting fish was by nets, but the use of bone hooks, harpoons and obsidian-tipped spears is also known ethnographically (Levy 1978:404).

Both twined and coiled basketry were manufactured by the Eastern Miwok. The uses of baskets included the collection and storage of seeds, basketry cradles and gaming (Levy 1978:406). Tule mats were also known to have been used by the Plains Miwok primarily as a floor covering. Other uses of tule included the manufacture of the tule balsa, a water craft in which native people navigated and exploited adjacent delta and major river systems.

Four main types of structures were known among the Eastern Miwok, depending on the environmental setting. In the mountains, the primary structure was a conical structure of bark slabs. At lower elevations the structures consisted of thatched structures, semi-subterranean earth-covered dwellings and two types of assembly houses used for ceremonial purposes (Levy 1978:408-409).

Bennyhoff (1977:11) characterized the Plains Miwok as intensive hunter-gatherers, with an emphasis upon gathering. The seasonal availability of floral resources defined the limits of the group's economic pursuits. Hunting and fishing subsistence pursuits apparently accommodated the given distribution of resources. The Plains Miwok territory covered six seasonally productive biotic communities and as such native people could apparently afford to

pick and choose the resources they ranked highest from each of these zones. The subsequent storage of floral resources (such as acorns in granaries) allowed for a more stable use of the resource base (Bennyhoff 1977:10). The acorn was apparently the subsistence base needed to provide an unusually productive environment as earlier non-acorn using peoples who resided in the same geographic setting apparently suffered some seasonal deprivation (Schulz 1981). Such an emphasis upon the gathering of acorns is consistent with the population increase evident during the Upper Emergent Period in California (Doran 1980).

The study of piscine (fish) remains from both CA-SAC-65 (Schulz et al. 1979) and CA-SAC-145 (Schulz n.d.; Schulz and Simons 1973) indicates that small villages away from the major rivers appear to concentrate on the collection of piscine species (particularly the Sacramento perch) that inhabited slow-moving waters. This would probably have been the case with any village located within or near the Plan Area, if there was a village in the immediate area.

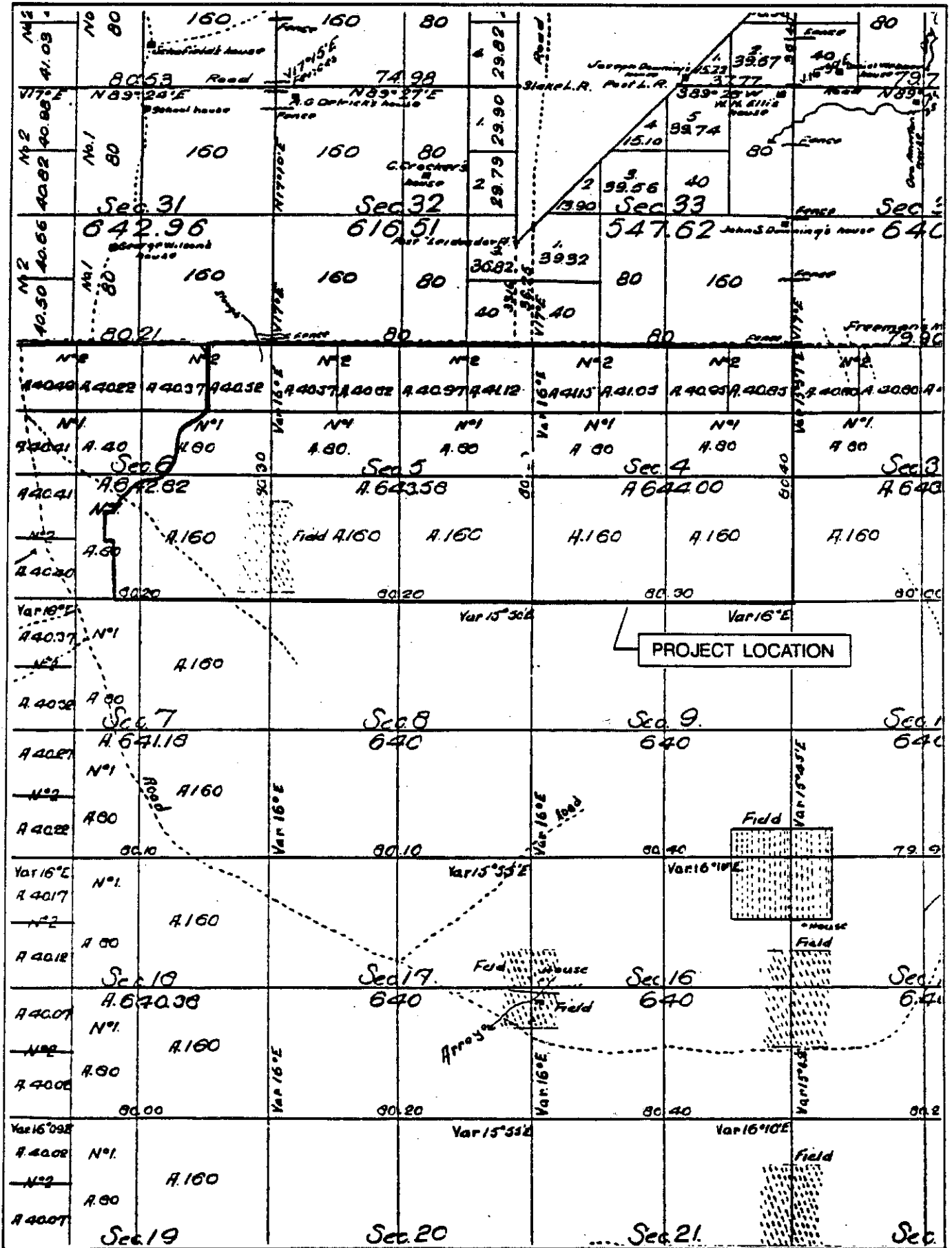
The Plan Area is not known to be controlled by any particular tribelet of the Plains Miwok, but appears to lie in an unoccupied boundary zone between the Plains Miwok and the antagonistic Nisenan to the north (Bennyhoff 1977:58).

Historical Background

The Plan Area does not lie on a portion of the early Mexican land grants nor does it lie within the land that could be mined for gold. As a result, there is no indication that any important events or activities occurred in the early history of the region. It was not long after the initial gold rush of the late 1840s-early 1850s, however, when the agricultural potential of the excellent farmlands of the Sacramento Valley was recognized. The first lands taken up were the rich bottom lands along the major watercourses. By the mid-1860s, the prime farm land had been claimed and the later settlers began to discover the potential of lands such as the Plan Area with poorer soil and less available water. In the 1860s and 1870s, virtually all land in the region was taken up by the later settlers for agricultural purposes. The Plan Area lies within the boundaries of the San Joaquin Township (Thompson & West 1880:234-235).

The historic maps of the Plan Area have been collected. The earliest map is the General Land Office plat of the township dating to 1856, which indicates a field on both sides of the line between the south halves of Sections 5 and 6. A road is indicated crossing the Plan Area in a northwest/southeast direction, within the south half of Section 6. No structures are shown, but it is likely at least one ranch would be associated with the developed field (Map 2).

The 1885 County map shows the subdivision of the land and the names of the landowners. At that point, the land was held in fairly large blocks, with two of the seven owners having blocks of 480 and 430 acres each. The 1880 County history has biographies for these two individuals--R.J. Brown and Mrs. Cordelia Bates. Brown came to California in 1859, and "engaged in baling hay and teaming for about eight years: he has been farming for the last



nine years", presumably on a portion of the Plan Area. In 1880 he owned 320 acres; he expanded the tract to 480 acres by 1885 (NW, NE, and SE quarters of Section 4). Mrs. Bates had moved to a 400 acre tract of land in the Plan Area with her husband in 1870 (SW quarter of Section 4; SE quarter and W half of SW quarter of Section 5). He died in 1875, leaving her as a young widow with seven children (Thompson & West 1880).

Thomas G. Casey, who purchased the southeast quarter of Section 6 in 1880 for \$3000, has a biography in both the 1880 and 1890 County histories. Casey had been living in Brighton Township not too far north of the Plan Area in 1880. Casey added a number of improvements including fencing and outbuildings to his holding in the Plan Area. He is described as carrying on "general farming", but also had 15 acres of vineyard and orchards (Davis 1890).

The service center for the farmers of the Plan Area was the town of Florin, about three miles from the northwest quarter of the Plan Area. The town, formed in 1875 along the line of the Central Pacific Railroad branch, had a post office, railroad station, store, blacksmith shop, hotel, school, box factory and carpenter shop in 1880. The soils of the region overlie a hardpan layer, making them suitable primarily for the raising small fruits such as strawberries, grapes, peaches and apples, with irrigation. Florin served as the shipping point for the farm products of the region (Thompson & West 1880).

From the distribution and number of structures on the 1909 Elk Grove topographic quadrangle, the same pattern of large land holdings can be inferred as continuing through this date. Section 4 contains only two structures, Section 5 has nine and the portion of Section 6 in the Plan Area contains only five. The number of structures is reflective in part of the subdivision of some of the parcels, particularly the Bates and Casey parcels.

The early years of the twentieth century were an era of rapid development of a large number of interurban electrified railways. The technological advances related to the production and long-distance transmission of hydroelectric power of the late nineteenth century made this a popular form of transportation for passenger service and freight service throughout the virtually flat terrain of the Central Valley. One of the systems to be organized and built in this era was the Central California Traction Railroad (CCT). The corporation was organized in 1905 with three goals in mind: to compete with the Southern Pacific and Western Pacific for transporting agricultural products of farms on the east side of the San Joaquin and Sacramento valleys; to develop farmland along the railroad right-of-way; and to provide a major customer for the power company owned by several of the corporate directors.

The 53-mile CCT main line connected Sacramento with Stockton, with a branch from the main line to Lodi. The section from Sheldon to Sacramento through the Plan Area was completed in 1910. Almost from the beginning, the railroad built up a substantial freight business, and was a financial success. In the 1920s, Southern Pacific, Santa Fe and Western

Pacific purchased the railway jointly. Eventually, the increasing use of personal automobiles and bus lines brought a reduction in the number of passengers, for the CCT, and passenger service was eliminated in 1933. In 1946, the use of electricity was discontinued in favor of diesel service (Hilton and Due 1960: 401).

The railroad station along the line that would have been convenient for produce shippers within the Plan Area was located about one-quarter mile north of Florin Road, shown on a 1927 map of the county as the "Florin Road Station".

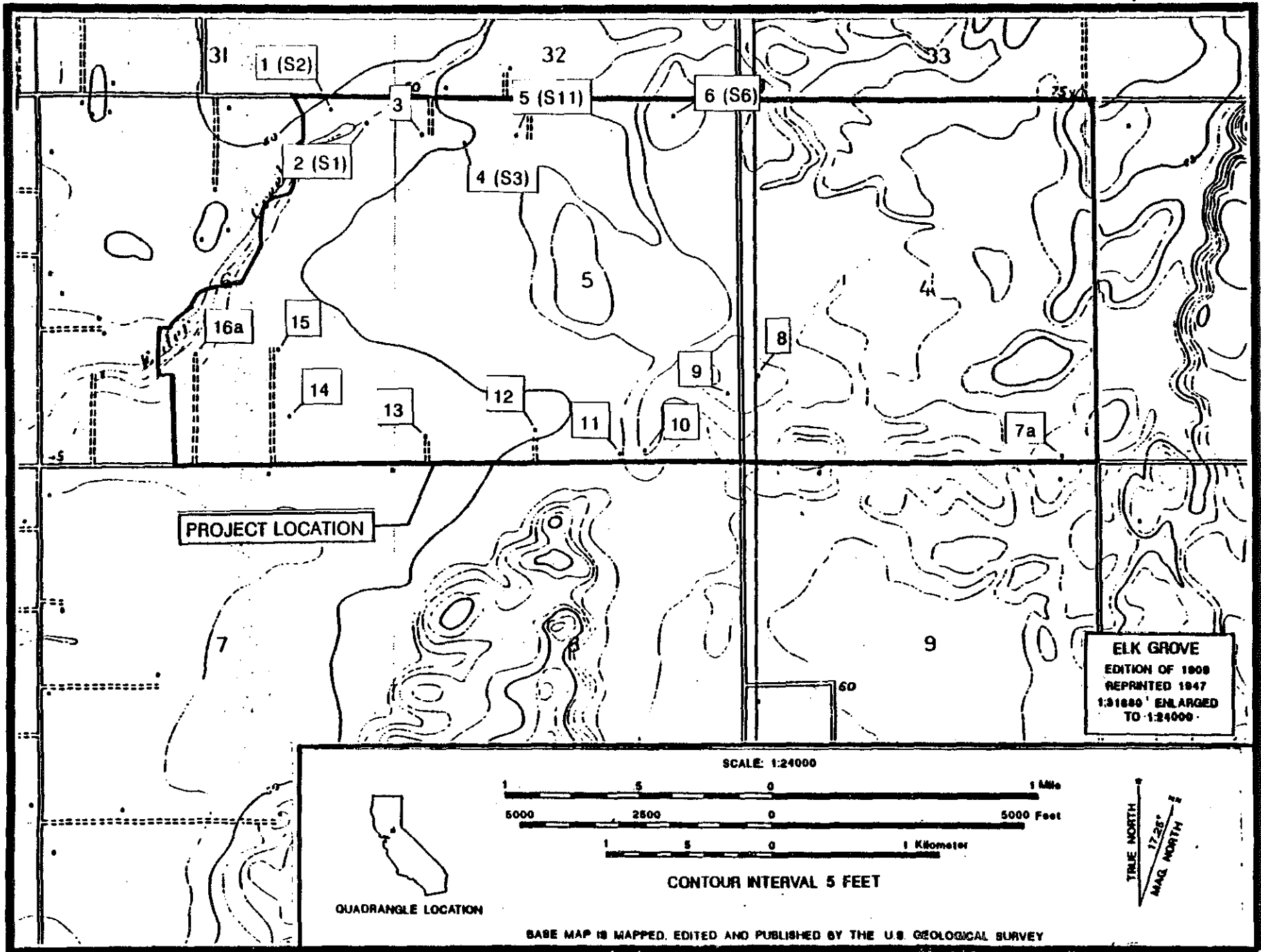
RESEARCH

Records of previous cultural resource surveys and maps of recorded sites within the project area were reviewed in person by James Oglesby on May 2, 1995 at the North Central Information Center of the California Archeological Inventory. The records search for the North Vineyard Specific Plan Area revealed that there are no archeological sites recorded in or near the study area. Very little of the project area has been systematically surveyed. In 1974, J. Johnson of CSU Sacramento completed a survey of both branches of Morrison Creek that transect the Plan Area. Peak & Associates, Inc. completed a survey of the corridor for one of the SMUD transmission lines (Project A) that crosses the western portion of the Plan Area in 1979. All four of the bridges along Gerber (3) and Florin (1) roads have been reviewed and evaluated, and are not significant resources.

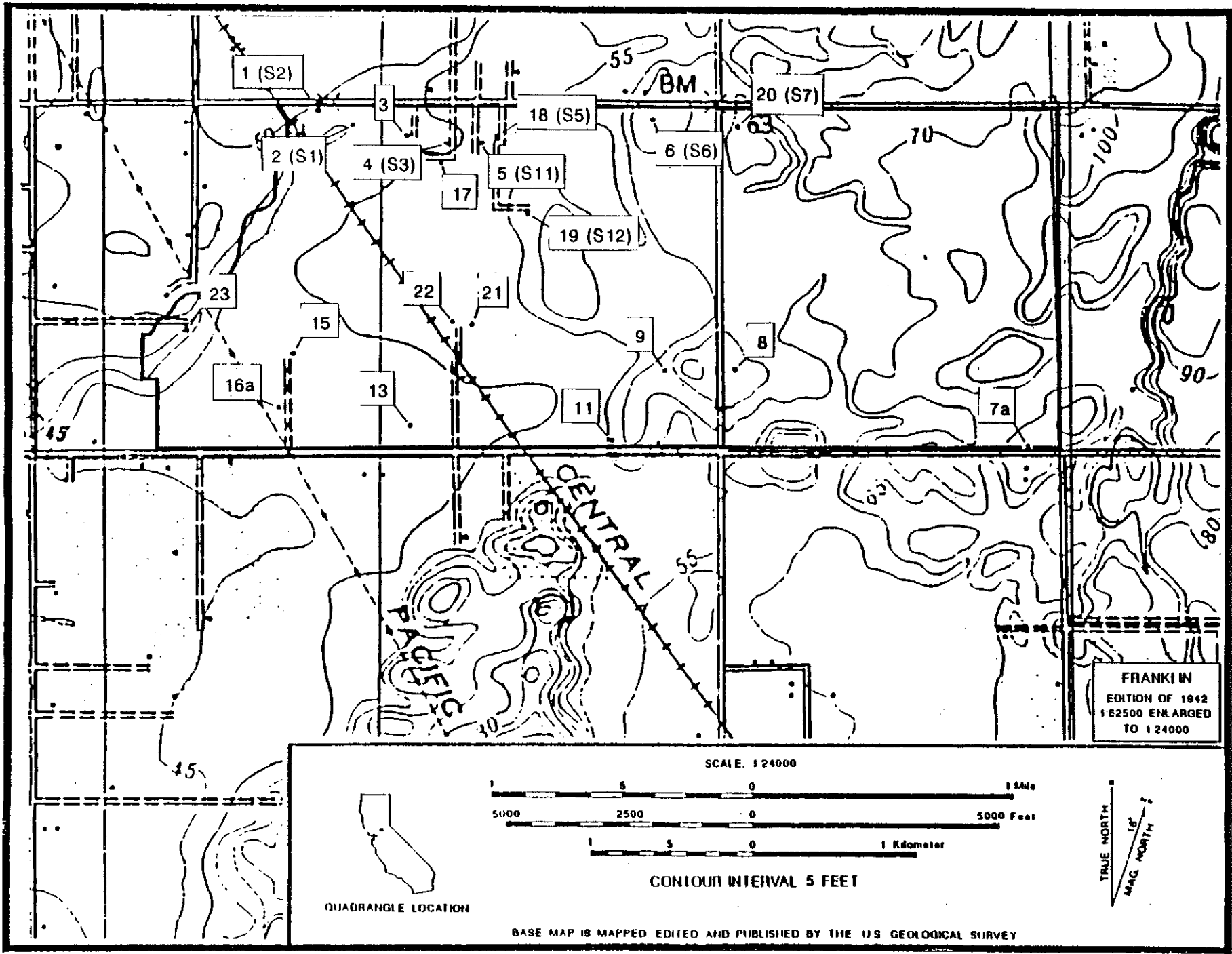
A letter was sent to the Native American Heritage Commission requesting the identities of knowledgeable Native Americans that might have information on sites within the Plan Area of significance to modern Miwok. Letters were sent to the individuals identified by the Commission. A similar request was sent to the Sacramento County Historical Society regarding historic resources. No replies have been received as yet.

Research on historic sites was conducted at the Bureau of Land Management, California State Library, and the U.C. Davis Map Library. Additionally, several published texts were consulted for information on sites of recognized significance. There are no historic sites of recognized significance within the Plan Area.

Historic maps of the area revealed that some of the early structures that once stood within the Plan Area are no longer present. The 1856 General Land Office plat shows a field within the Plan Area located in the southwest quarter of section 5 and the south east quarter of section 6 (See Map 2). Despite the existence of the field, no structures appear on this map. The 1909 Elk Grove USGS map indicates 15 structures within the Plan Area (Map 3). The 1942 Franklin 15' topographic map indicates that twelve of these older structures are still present, along with nine more built between 1909 and 1942 (#16-#23, Map 4). The county building records indicate that two structures date to this time period but they do not appear on this map. The 1968 Florin 7.5' USGS map indicates that eight structures from the 1909 map are still present and six more



MAP 3



MAP 4

BASE MAP IS MAPPED, EDITED AND PUBLISHED BY THE U.S. GEOLOGICAL SURVEY

built between 1909 and 1942 still remain (Map 5). The 1979 photorevised edition indicates that a total of twelve structures from both the 1909 and 1942 maps are still present (Map 6). There are many structures shown on this map that do not appear on the earlier editions.

There are several factors that could effect the accuracy of the map study, such as the vagaries of early mapping, changes in map scales and the possibility that some of the structures shown on the recent USGS map could be newer structures erected on or near the sites of razed older structures. For these reasons, two steps were taken to check the accuracy of these conclusions, the field inspection and an examination of county building records.

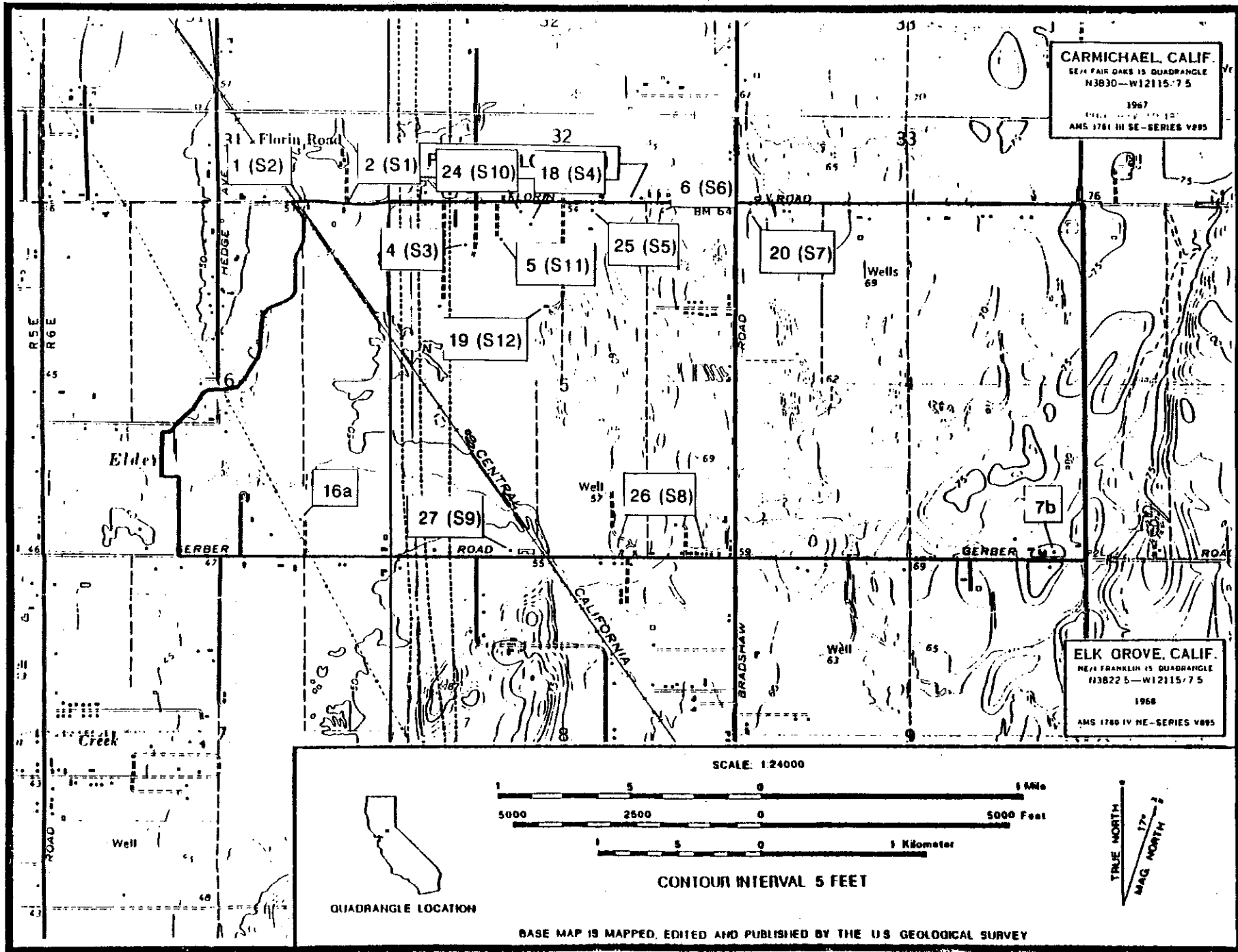
Building records for the parcels were consulted and, for the most part, they supported the results of the map study, but there are several conflicts. First, the county building records indicate that the structure located at 9204 Florin Road was built in 1922 but a structure appears on the 1909 map in the same location. Similar problems occur with other structures within the Plan Area. These structures include the buildings at 9437 Gerber Road, 9673 Gerber Road, and 9441 Florin Road. According to the building records these structures were built in 1930, 1920, and 1928 respectively, but they do not appear on the 1942 map. The dates given on building records are often approximated, so a part of the field work involved checking on the accuracy of these dates, if possible, along with clearing up the discrepancies noted above.

FIELD ASSESSMENT

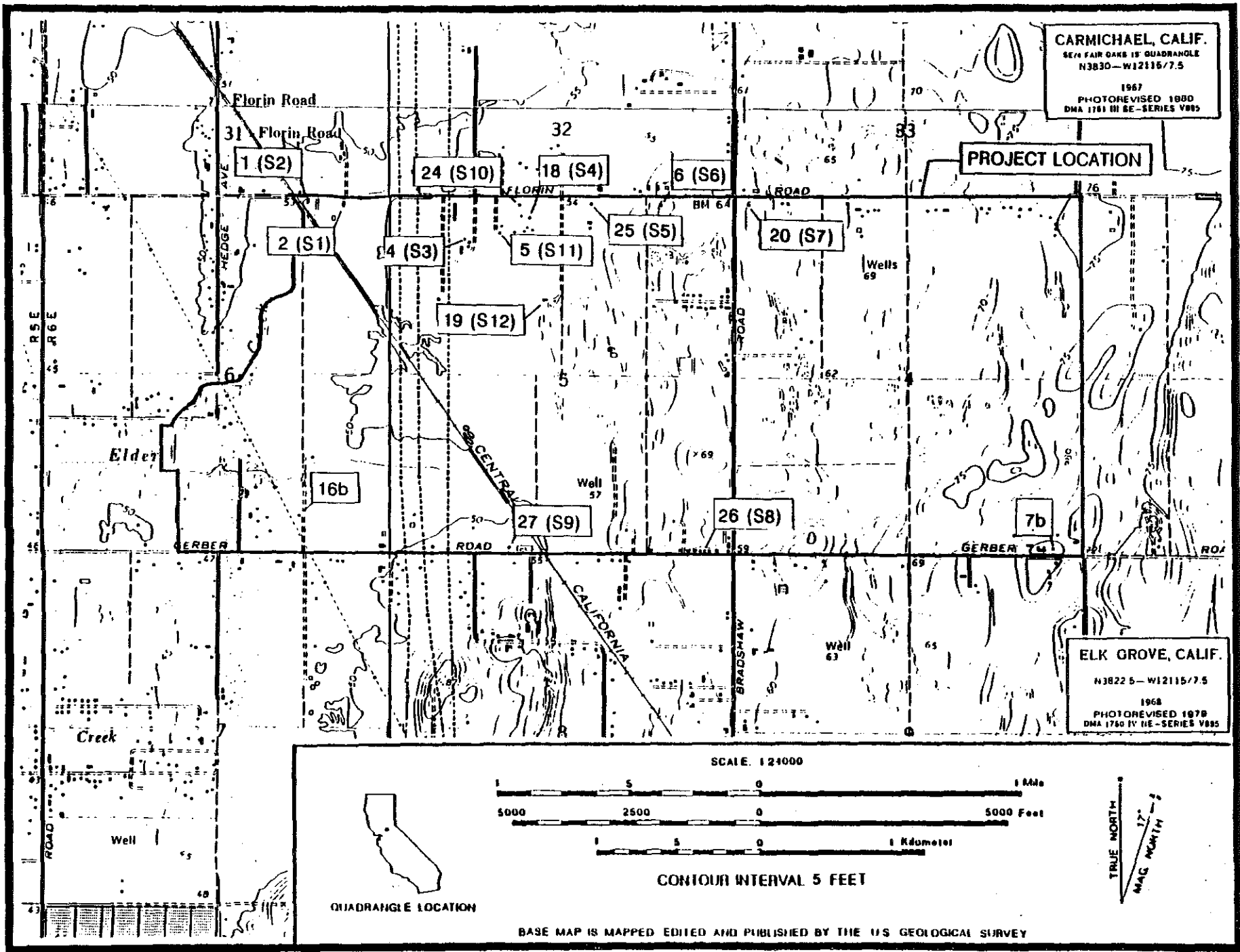
A total of 556 acres of the 1580 acre project area was given a complete pedestrian walk-over by a team of archeologists (resumés, Appendix 1). This acreage consisted of the petitioners' parcels where access was available (See Map 1). The remaining 1024 acres was inspected for the presence or absence of historic period structures via public roadways.

The archeological inspection of the 556 acres was completed by means of parallel sided transects that were between 15 to 20 meters in width. A three person team conducted this investigation between November 6th and 10th, 1995. The majority of the 556 acres was open pasture land or fields which provided fair to good exposure of the existing ground surface. In those small acreage parcels with homes and other structural improvements, the ground surface was occasionally covered with landscaping, lawns, driveways, etc. which prevented the examination of the natural ground surface. None of these areas, however, were extensive and their presence did not preclude the surveyors from visually inspecting the majority of each property as shown on Map 1.

The vehicular inspection of the remaining 1024 acres was accomplished by driving the public roadways, and when feasible, photographing those structures that research and/or empirical observation had indicated were over 45 years old. No surface inspection of the 1024 acres was completed due to lack of access.



MAP 5



MAP 6

Archeological Sites

No prehistoric artifacts or evidence of prehistoric use of the Survey Area was found. Several fields in the Survey Area had been recently plowed or mowed, providing excellent ground visibility. Some rock was observed in these areas, but none that had been modified by man.

One historic period archeological site was discovered near the Central California Traction Railroad in the northwest portion of the Plan Area. This area was assigned a temporary field number, PA-95-61. A scaled sketch map was created, the area was photographed, and a Department of Parks and Recreation form 422 A (Rev. 4/86) was completed. The form, sketch and location maps are contained in Appendix 2.

PA-95-61 consists of a small scatter of 1930s/40s era refuse that was primarily domestic in nature. Broken condiment bottles, fragments of a child's decorated ceramic tea set, sardine cans, red bricks, a sewer pipe fragment, and a bent iron pipe were all discovered protruding from the ground surface. No existing structures, or structures shown on historic period maps or other documentary sources, were located anywhere near this refuse deposit. The closest feature is the Central California Traction Railroad which is located to the west and south of the site area. Given the types of historic period artifacts present at the site, it is unlikely that this refuse was once associated with the railroad. It would appear that this small refuse pile probably represents a single episode dumping of material that was once associated with a residence. The existing structure on this parcel is located approximately 2,000 feet to the north, northwest of PA-95-61. This home was constructed in 1910, however, and it is possible that the refuse deposited at the site originated from this residence.

Historic Structures

Twelve historic period (greater than 45 years old) structures were identified during the pedestrian and vehicular inspection of the Plan Area. Three of these structures are located within petitioners' parcels, while the remaining nine were found within the remaining 1024 acre area. Each of the structures was photographed, assigned a temporary field number, and a Department of Parks and Recreation form 523 (Rev. 6/90) was completed. These forms are contained in Appendix 2. Map 6 shows the location of each of these structures.

The following table summarizes the findings for each of the 29 potential historic structures identified during the historic map research.

TABLE 1
HISTORIC STRUCTURE SUMMARY

* = in petitioner parcel

** = should show on 1942 map

Map Num.	Extant Structures	Est. Date from maps	Building Records/Field Observations
1	S2	pre-1909	Building record 1922, field visit concurs with building record date.
2*	S1	pre-1909	Building record 1910, field visit concurs with building record date.
3		pre-1909	No building record, newer residence now in same location.
4	S3	pre-1909	Building record 1900, field visit concurs with building record date.
5	S11	pre-1909	Building record 1940, field visit concurs with building record date.
6	S6	pre-1909	Building record 1908, field visit concurs with building record date.
7a		pre-1909	Razed before 1962.
7b		1942-1968	Building record 1962, field visit concurs; newer residence has replaced older structure in same location.
8		pre-1909	Razed before 1968.
9		pre-1909	Razed before 1968.
10		pre-1909	Razed before 1942.
11		pre-1909	Razed before 1968.
12		pre-1909	Razed before 1942.
13		pre-1909	Razed before 1968.
14		pre-1909	Razed before 1942.

15		pre-1909	Razed before 1968.
16a		1909-1942	Razed before 1971.
16b		post-1968	Building record 1971, field visit concurs; newer residence has replaced older structure in same location.
17		1909-1942	Razed before 1968.
18*	S4	1909-1942	Building record 1930, field visit was inconclusive but building not older than 1930s.
19	S12	1909-1942	Building record 1930, field visit concurs with building record date.
20	S7	1909-1942	Building record 1925, field visit concurs with building record date.
21		1909-1942	Razed before 1968.
22		1909-1942	Razed before 1968
23		1942-1968	Razed before 1968
24*	S10	1942-1968**	Building record 1920, field visit concurs with building record date.
25	S5	1942-1968**	Building record 1935, field visit concurs with building record date.
26	S8	1942-1968**	Building record 1928, field visit concurs with building record date.
27	S9	1942-1968**	Building record 1930, field visit concurs with building record date.

The second column showing the extant structures provides a reference number that corresponds to their location on the modern Elk Grove map (Map 6). These numbers also correspond to the descriptions of the structures provided later in the text.

EVALUATIONS

The importance of structures within the Survey Area (petitioner parcels) was evaluated according to the criteria presented in Supplementary Document J of CEQA. Where it was possible to approach close enough for a reasonable inspection, other structures in the Plan Area were evaluated by the same criteria. These specify, in part, that an important "archaeological resource" is one which:

Is associated with an event or person of recognized significance in California or American history, or

Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind.

The other criteria apply primarily to prehistoric or historic archeological sites rather than standing structures. The state is in the process of establishing a California Register of Historic Properties, but the criteria have not been established as yet.

It has been established through historic research that none of the properties in the Survey Area are directly related to the original settlers on the land or the early period of regional history. The oldest structures date to about the turn of the century or slightly earlier. All of the structures are residences, barns and other outbuildings related to farming. It does not appear that any structure within the Plan Area satisfies the first criterion above.

The importance of each structure, therefore, depends on unusual or particularly well executed architectural design or on unusual structural techniques or workmanship. Each extant property within the Plan Area is described below with reference to these considerations.

Structures Within the Survey Area

Structure 1, 9230 Florin Road (S1)--This single family home is located along Florin Road between Hedge Avenue and Bradshaw Road (See Map 6). According to the Sacramento County Assessor's Office, this structure was constructed in 1910. The home is one and one-half stories high with a moderately steep hipped roof. The style of this home would classify it within the Craftsman bungalow tradition (McAlester and McAlester 1990:452-463). The home has not been significantly modified since the original date of construction.

In keeping with the Craftsman tradition, the gabled dormers on the roof have exposed rafters and, with the exception of an added air conditioning unit in the window of the east dormer and a sliding window under the south dormer, the windows appear to be original double-hung transom windows. In addition to the windows, four plain columns with sloping sides,

resting on brick piers that begin at ground level and extend almost half-way above the porch level, support the porch roof. A balustrade with turned spindles runs between the pillars and from the corner pillars to the wall. Another Craftsman element is the narrow lapped siding.

There is nothing unusual about the architecture of the structure overall. Many houses in this style were constructed from design books and varied only in minor touches favored by the individual builder and by degree of craftsmanship. The craftsmanship in this case appears first rate. It is a good example of the Craftsman bungalow style, although the air conditioning unit and the replacement of the south window somewhat limit its value as a typical structure of a recognizable style. Still, this structure appears to satisfy the criteria for importance as a representative example of an identifiable architectural style.

Structure 4, Address Unknown (S4)--This structure is currently used as a storage building and may never have been utilized as a home. It is located to the south of Florin Road between Hedge Avenue and Bradshaw Road (See Map 6). According to the County Assessor's office, this structure was constructed in 1930. It is single-story with unpainted wood siding and a corrugated metal roof. The structure does not appear to have been maintained beyond what is necessary.

Currently this structure is used as an outbuilding or barn. Although it appears that this structure was a residence at one time, it is indeterminate as to the length of occupancy. Because of the lack of architectural style and the poor condition of this structure, it does not appear to be architecturally important.

Structure 10, 9351 Gerber Road (S10)--This single story home is located approximately 0.6 miles west of the intersection of Florin and Bradshaw Roads along Florin Road (See Map 6). The home is "L" shaped in configuration and has a cross-gabled, moderately sloped roof. Stylistically, this home would be classified within the National Folk style. According to the Sacramento County Assessor's office, this structure was constructed in 1920. The home currently has stucco siding and a composition roof; two elements that were not likely original. Modern materials have been used to construct a small porch along the east side. It is also possible that the front section of the house (cross-gable) was added at a later date.

There is nothing unusual about the architecture of this structure. The enclosure of the porch and the replacement stucco siding detract from the original character of the building. Due to the alterations and the lack of a distinct style, the structure does not have architectural merit.

Other Structures in the Plan Area

Structure 2, 9204 Florin Road (S2)--This area contains three structures; a single family home, a water tower, and a detached garage. This complex is located just east of the intersection of Florin Road and the Central California Traction Railroad (See Map 6).

According to the Sacramento County Assessor's Office, the home was constructed in 1922. Significant alterations have occurred to each of the three structures with the addition of new siding, windows, and roofing material. Although the outline of the home and certain design features would classify it as a Craftsman bungalow, it has been modified extensively (McAlester and McAlester 1990:452-463). Unfortunately, the modifications to the home and outbuildings are so extensive, and so much out of character with the original design, that the buildings could not be returned to anything like their original appearance without a major restoration project. Unless this is feasible, the structure no longer has architectural merit.

Structure 3, 9384 Florin Road (S3)--This single family home is situated south of Florin Road between Hedge Avenue and Bradshaw Road (See Map 6). This home is the oldest of the eleven structures analyzed as the Sacramento County Assessor's Office has a construction date of 1900 listed. The home is single storied with a low pitched gable and hipped roof, bay windows and a porch. Stylistically, this home fits within the Queen Anne Victorian style (McAlester and McAlester 1990:262-287). This structure has not been significantly modified since the date of construction.

The architectural style of this structure is not unusual. The Queen Anne was the dominant style of domestic building from approximately 1880 until 1900, although it existed with decreasing popularity until 1910. The craftsmanship of this structure appears to be first rate. It does not appear that any alterations have been made to the structure. The house seems to be very well maintained and it is possible that the architecture could be of some interest. When this property is developed, further study of this structure should be conducted.

Structure 5, Address Unknown (S5)--This single family home is located along Florin Road between Hedge Avenue and Bradshaw Road (See Map 6). The home is one and one-half stories high and was constructed in 1935 according to the County Assessors Office. The house has a side-gabled moderately steep pitched roof and gabled dormer that extends over a partial porch. A shed roof extends over a rear porch. The siding appears to be original but the roof has recently been replaced with composition shingles. The remaining elements of the house appear to be original as well. This structure is considered as a Minimal Traditional Style (McAlester and McAlester 1990:476-478). A detached garage is located to the southwest of the main structure and has a flat shed roof and stucco siding.

There is nothing unusual about the architecture of this structure. If the 1935 date is correct, the structure appears to be an early example of the Minimal Traditional style. It does not appear to be architecturally significant. If the associated garage dates to the same time period as the home, it has been modified significantly.

Structure 6, Address Unknown (S6)--This structure consists of a single family home that is located on Florin Road, approximately 900 feet west of the intersection of Bradshaw and Florin Roads (See Map 6). The Sacramento County Assessor's Office indicates that this structure was built in 1908. It is one and one-half stories high with a bay window and covered front porch. The home has the original wood shiplap siding and wood shingles that appear to

have been replaced sometime during the past 87 years. The original double-sash windows are enclosed with decorated wood trim. Other decorative elements include fish-scale siding, cut-away bays, and corner-bracket detailing. Stylistically, this home fits within the Queen Anne style cottage (McAlester and McAlester 1990:262-287).

There is nothing unusual about the architecture of the structure overall, although it is unusual for the immediate region. While the Queen Anne style was popular throughout the United States, many houses of this style varied in the amount of ornate detailing including wall textures and spindlework. The craftsmanship in this case appears first rate. If the construction date is correct, this structure is a good example of a late Queen Anne Victorian. This structure appears to satisfy the criteria for importance as a representative example of an identifiable architectural style. It is very well maintained and it is possible that the vernacular architecture could be of some interest. When this property is developed, further study of this structure should be conducted.

Structure 7, Address Unknown (S7)--This single family home is located along Florin Road, approximately 200 feet east of the intersection of Florin and Bradshaw Roads (See Map 6). The home has a moderately steep, cross-gabled roof with double-sash windows, plain and fish-scale siding, and a more modern composition shingled roof. A partial front porch is supported by brick and wood balustrades. The rafters, typical of a Craftsman bungalow home, are exposed.

The exposed rafter ends, balustraded porch, and wide, open overhangs at the eaves mark the structure as a Craftsman bungalow. The decorated fish-scale siding is more of a throwback to earlier, Victorian-influenced styles. The building record suggests a 1925 date for the structure, a date that fits with the style of Craftsman bungalow. The Greene brothers, whose work in the Pasadena area inspired the style, did not begin designing Craftsman bungalows until 1903 (McAlester and McAlester 1990:454) and it was 1905 or so before the style achieved popularity with the general public. This house is a good example of a Craftsman bungalow with a few distinctive touches of its own. The structure has architectural merit and when this property is developed, further study of this structure should be conducted.

Structure 8, 9673 Gerber Road (S8)--This small, single-story home is located along Gerber Road, approximately 400 feet east of the intersection of Gerber and Bradshaw Roads (See Map 6). Stylistically, this home shares several features typical of the Craftsman bungalow style including a covered front porch, exposed roof rafters, and a moderately pitched front gabled roof (McAlester and McAlester 1990:452-463). According to the Sacramento County Assessor's office, this home was constructed in 1928. The double-sash windows and siding appear to be original features, although the modern composition shingle roof does not. Another interesting characteristic of this home is the enclosure of a portion of the porch (east side) with siding and a casement window. The entryway to the porch area appears to have been modified also as the entryway, instead of being in the center of the home, is now offset to the east. The presence of two, relatively large *Thuja spp.* along what would have been the center entryway

to the raised porch area may explain this relocation of access. A white picket fence encloses the property and a small detached shed appears to be located to the rear of this home.

There does not appear to be anything unusual in the architecture of this house. If the 1928 construction date is correct, then it was built rather late in the period of greatest popularity for this style. The alterations to the porch area combined with the lack of detail limits the architectural value of this structure. It does not appear to be architecturally significant. The associated shed is also a standard structure.

Structure 9, 9437 Gerber Road (S9)--This small home is located approximately 550 feet west of the intersection of Gerber Road and the Central California Traction Railroad (See Map 6). The structure is "L" shape in outline and has characteristics that would place it within the National Folk style architectural classification (McAlester and McAlester 1990:89-92). According to the Sacramento County Assessor's office, this structure was built in 1930. Since the time of original construction, the front door, windows, and portions of the front siding have been replaced with modern materials. The galvanized metal roof may be original in terms of composition, but the current roof appears to be an updated version of the original.

This structure does not appear to have been noteworthy prior to the renovations and the modifications have reduced its architectural value even more. This structure does not qualify as important.

Structure 11, Address Unknown (S11)--This small home is located approximately 600 feet south of Florin Road, about 0.7 miles west of the intersection of Florin Road and Bradshaw Road (See Map 6). It is rectangular in outline and single story and is currently sided with pink/orange colored stucco and modern composition shingles. According to the Sacramento County Assessor's office, this structure was constructed in 1940. If the date of construction is correct, the style appears to be Minimal Traditional. Two outbuildings are located to the south of the house; a single car detached garage and a metal shed. Due to the questionable style and the poor repair of one structure, this complex does not appear to be architecturally important.

Structure 12, 9494 Florin Road (S12)--This structure is located approximately 1550 feet south of Florin Road near the center of Section 5 (See Map 6). According to the Sacramento County Assessor's office, this structure was constructed in 1930. Stylistically, this "L" shaped home would be classified within the National Folk style (McAlester and McAlester 1990:89-92). Based on analysis of topographic map quadrangles and a review of construction materials and design, it would appear that this home may have had an addition constructed along the western edge of the building. Two other modern-appearing outbuildings are located within the complex area. Due to the uncertain architectural style and the later modifications, this complex does not appear to be architecturally important.

CONCLUSIONS

The Plan Area lies on a flat open plain of the Sacramento Valley with no permanent water sources present. Two intermittent branches of Elder Creek transect the area along the western margin. Prehistoric period campsites and villages are normally not discovered in areas with no permanent water sources. It is entirely likely that the Native American people utilized this area for seasonal resource collection, but did not inhabit the Plan Area on a permanent basis. The gathering/hunting of plants and animals rarely leaves tangible evidence of this activity, other than the isolated, lost tool.

The land of the Plan Area has been in agricultural use from the 1850s up to the present day. Generally, farmers first took up the land with first rate soil, with a later wave of settlers selecting the tracts with second rate soil. The soil type, combined with a lack of natural water sources, made the latter useful for dry land cultivation of hay and grain, or for seasonal grazing. Later, with the development of better systems for pumping water and irrigation, the land could be used more intensively for vineyards and small fruit orchards.

None of the surviving structures within the Survey Area represent the early years of pioneer settlement in this area. The earliest structures date to about the turn of the century. There are a number of structures in the Plan Area dating within the 1900-1920 era representing small rural residence types and agricultural utility buildings common for this period. The types of residences within the Plan Area varied. The two most common styles were the Craftsman bungalow, which was popular throughout rural America from about 1905 to 1920, and the Minimal Traditional, a style that became popular in the late 1930s and remained the dominant style during the post-war 1940s and 1950s. Examples in the Plan Area range from well preserved to poorly maintained to remodeled beyond recognition. None of the extant buildings are associated with important individuals or events, and therefore, do not constitute "important" resources under CEQA criteria in this area.

RECOMMENDATIONS

General

A surface inspection can never entirely eliminate the possibility of a buried resource. It is, therefore, recommended that if artifacts, bone, or shell are uncovered during construction, all work should be halted in the area of the find and an archeologist should be contacted for an assessment. Should bone be uncovered that appears to be human, by state law the County Coroner must be contacted. If the coroner determines the bone is from a Native American interment, the Native American Heritage Commission must be contacted.

PA-95-61

This historic period refuse scatter contains a limited range of artifacts that are marginally greater than 45 years old. The deposit does not appear to have great depth, and the recordation of this site has essentially exhausted the research potential of this site area. It is unclear why this isolated location was selected for a refuse deposit, and this scatter may represent the illegal dumping of household waste material. It does not appear to represent a long term deposition of discarded goods.

Under CEQA criteria, this deposit does not qualify as an "important archeological resource." The location of this refuse deposit and description of the artifacts observed will be preserved through the placement of the form and maps within the North Central Information Center of the California Archeological Inventory. As a non-important resource, this site need only be mentioned in the Environmental Impact Report (EIR), with no further treatment or mitigation measures necessary.

Structures

When specific development plans are filed for parcels not within the current Survey Area, a part of the requirements should be detailed archeological survey. The purpose of the surveys would be identification of any prehistoric resources and, as necessary, augmentation of the information on historic structures presented in this overview. It should be noted that although not indicated on the modern USGS map, there could be other structures in the Plan Area outside of the Survey Area that have not been examined. Certainly there could be structural remnants worthy of evaluation for their historic archeological potential.

There are several possible courses for avoiding or mitigating adverse effect to Structure 1, the Craftsman bungalow located at 9230 Florin Road. If preservation in place is feasible, it should be saved. If preservation in place is not feasible, then the structure could be moved. If the structure must be destroyed, then its appearance and history should be fully documented beforehand. It is probable that the structure could be individually nominated to the National Register of Historic Places at the local level of significance. If so, documentation according to the standards of the Historic American Buildings Survey would be appropriate. In any event, documentation at that level should be required, that is: complete, archival quality photographic documentation (interior and exterior); preparation of a site-specific historical narrative, including identification of designer, builder, owners and their place in regional history; and recovery of the original architectural plans or, failing this, re-creation of such plans.

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APPENDIX 1
RESUMÉS OF INVESTIGATORS

RESUMÉ

MELINDA A. PEAK
Senior Historian/Archeologist

September 1994

PROFESSIONAL EXPERIENCE

Ms. Peak has served as the principal investigator on a wide range of prehistoric and historic excavations throughout California. She has directed laboratory analyses of archeological materials, including the historic period. She has also conducted a wide variety of cultural resource assessments in California, including documentary research, field survey and report preparation. In addition, Ms. Peak has developed a second field of expertise in applied history, specializing in site specific research. She is a registered professional historian and has completed a number of historical research projects.

EDUCATION

M.A. - History - California State University, Sacramento, 1989

B.A. - Anthropology - University of California, Berkeley, 1976

RECENT PROJECTS

In recent months, Ms. Peak has completed several determination of eligibility and effect documents in coordination with the Corps of Engineers for projects requiring federal permits, assessing the eligibility of a number of sites for the National Register of Historic Places. She has also conducted several surveys, and completed historical research projects on a wide variety of topics for a number of projects including the development of navigation and landings on the Napa River, a farmhouse dating to the 1860s, an early roadhouse, and a section of an electric railway line.

In recent years, Ms. Peak has prepared a number of cultural resource overviews and predictive models for blocks of land proposed for future development for general and specific plans. She has been able to directed a number of surveys of these areas, allowing the model to be tested.

Ms. Peak has served as project manager for a number of major survey and excavation projects in recent years, including the many surveys and site definition excavations for the 172-mile-long Pacific Pipeline proposed for construction in Santa Barbara, Ventura and Los Angeles counties. She also completed an archival study in the City of Los Angeles for the project.

Additionally, she completed a number of small surveys, served as a construction monitor at several urban sites, and directed the excavations of several historic complexes in Sacramento, Placer and El Dorado Counties.

RESUMÉ

NEAL J. NEUENSCHWANDER
Staff Archeologist

December 1995

PROFESSIONAL EXPERIENCE

Mr. Neuenschwander has compiled an excellent record of supervision of excavation and survey projects for both the public and private sectors over the past sixteen years. He has supervised the fieldwork of over 250 projects throughout California, Oregon, Nevada, and southern Idaho.

EDUCATION

M.A. candidate - Anthropology - California State University, Chico
B.A. - Anthropology - California State University, Chico, 1981 (with distinction)
B.A. - Geography - California State University, Chico, 1981 (with distinction)

RECENT PROJECTS

Mr. Neuenschwander's duties at Peak & Associates have included the field direction for multiple site excavations and surveys throughout northern, central, and southern California, Nevada, Oregon and Idaho. In this capacity, he has been responsible for the planning and implementation of every aspect of the fieldwork, analysis, and report production phases. During his nine years with the company, he has developed a reputation for his ability to complete projects on-time and within budget parameters, while at the same time maximizing the recovery and analysis of data for the professional community.

Notable projects under Mr Neuenschwander's direction include the nine week excavation at Clarks Flat in Calaveras County, eleven weeks with a crew of over twenty technicians at the Upper Mountain locale (a remote camp six miles from the nearest road), ten weeks of a 9,000 + acre survey at Elk Hills Naval Petroleum Reserve, and a two-phase excavation at CA-PLU-88, a site that contained radiocarbon evidence of the earliest inhabitation of the Sierra Nevada Mountains.

Mr. Neuenschwander also served as the field director of multiple phases of recordation, testing and evaluation for the 172-mile-long Pacific Pipeline Project proposed for construction in Santa Barbara, Ventura, and Los Angeles counties. Prior to 1986, he was co-owner of a private consulting firm in northern California and spent two seasons employed as a seasonal technician with the United States Forest Service. He also worked in the office of U.S. Senator James McClure, Idaho, Chairman of the Energy and Natural Resources Committee, before returning to California in 1981.

APPENDIX 2

CONFIDENTIAL

PA-95-61

Site Form

Sketch and Location Map

HISTORIC RESOURCES INVENTORY FORMS

Structures 1-12

Peak and Associates, Inc.
ARCHEOLOGICAL SITE RECORD
 (DPR 422, Rev. 4/86)

Permanent Trinomial: None yet given
Other Designation: PA-95-61
Page: 1 of 3

1. **County:** Sacramento
2. **USGS Quad:** Elk Grove, 7.5' (1968; Photorevised 1979)
3. **UTM Coordinates:** Zone 10, 643690m Easting 4261415m Northing
4. **Township 7N Range 6E ; SE ¼ of NE ¼ of SE ¼ of NE ¼ of Sec. 6 BM MDM**
5. **Map Coordinates:** 38 mmS 81 mmE (from NW corner of map)
6. **Elevation:** 48 feet
7. **Location:** From the intersection of the Central California Traction Railroad and Florin Road, follow the railroad tracks south, south east for 750 meters until reaching the boundary between sections 6 and 7. This is also the southernmost tip of APN # 65-052-2 and corresponds to the junction where the two fences that border this parcel meet. From the point where the fences meet, the site area is located at a bearing of 349 degrees, a distance of 87.3 meters. A small fruit tree (the only one in the immediate area) is located directly adjacent to the scatter of historic period materials.
8. **Prehistoric** [] **Protohistoric** [] **Historic** []
9. **Site Description:** The site consists of a small scatter of historic period artifacts, including both domestic refuse and building materials, that are located adjacent to a single fruit tree in an area of open pasture land.
10. **Area:** 7 m (N-S) by 6.5 m (E-W); 35.73 m²
Method of Determination: Tape, compass
11. **Depth:** Unknown
Method of Determination: N/A
12. **Features:** None observed
13. **Artifacts:** Two cobalt blue Milk of Magnesium bottle fragments, one brown colored spout-top beer bottle fragment, one aqua colored Coca Cola bottle fragment, one clear glass condiment container (mustard), one blue-white decorated miniature tea cup (childs ?), one, one gallon crockery jug lip, one clear glass machine-made patent medicine bottle, one sardine can with key opening, one 2.5 inch diameter iron pipe fragment (bent), one 15 amp porcelain fuse box insulator, two red clay bricks (no markings) and one fragment of a 12

Peak and Associates, Inc.
ARCHEOLOGICAL SITE RECORD
(DPR 422, Rev. 4/86)

Permanent Trinomial: None yet given
Other Designation: PA-95-61
Page: 2 of 3

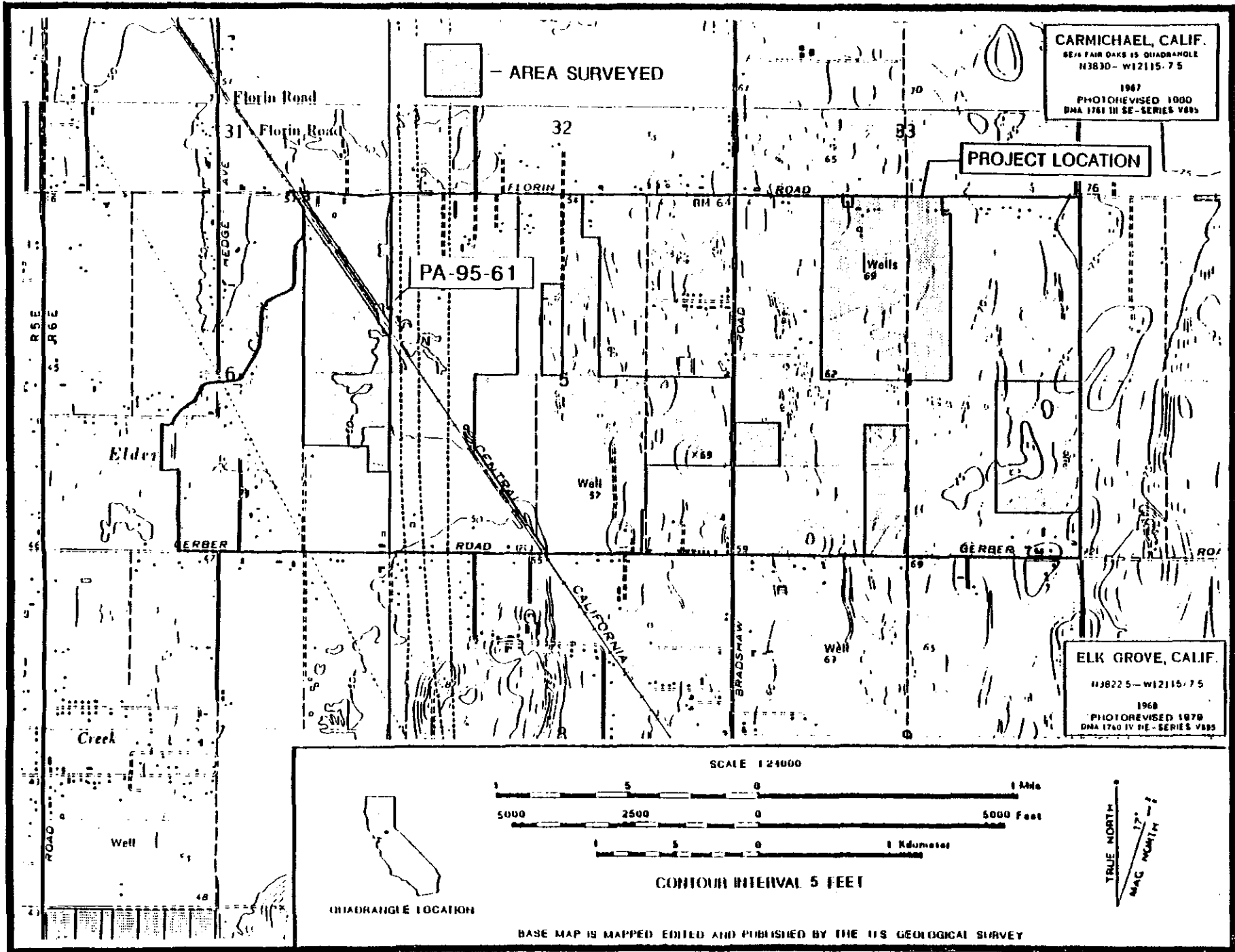
inch diameter tile sewer or water transport pipe.

14. **Non-Artifactual Constituents and Faunal Remains:** Two sheep bones (w/ butcher marks)
15. **Date Recorded:** 11/7/95
16. **Recorded by:** Dan Osanna, Chris Whittington, Neal Neuenschwander
17. **Affiliation and Address:** Peak and Associates, Inc., 8167A Belvedere Avenue, Sacramento, California, 95826.
18. **Human Remains:** None observed
19. **Site Disturbances:** Minimal surface disturbance by livestock.
20. **Nearest Water:** Elder Creek, west, northwest 420 meters.
21. **Vegetation Community:** Grassland
22. **Vegetation (on site):** Introduced fruit tree (plum or prune?), cottonwood, grasses.
23. **Site Soil:** Medium light-brown silty clay loam
24. **Surrounding Soil:** Same as # 23
25. **Geology:** Alluvium
26. **Landform:** Floodplain
27. **Slope:** 0 degrees
28. **Exposure:** Open
29. **Land Owner and Address:** Unknown
30. **Remarks:** Material appears to represent the late 1930s, early 1940s era and it may have been deposited during a single episode. The deposit contains a mixture of both domestic refuse and construction materials, but in minimal quantities, suggesting that the origin of these items was some distance from the site area. The 1907, 1942, and 1968 USGS topographic quadrangles present no evidence that a structure was ever present at this locale.

Peak and Associates, Inc.
ARCHEOLOGICAL SITE RECORD
(DPR 422, Rev. 4/86)

Permanent Trinomial: None yet given
Other Designation: PA-95-61
Page: 3 of 3

31. **References:** *Cultural Resource Assessment of the North Vineyard Station Specific Plan Area, Sacramento County, California.* (Peak & Associates, Inc. 1995)
32. **Name of Project:** Same as #31
33. **Type of Investigation:** Archeological reconnaissance.
34. **Site Accession Number:** N/A
35. **Photos:** Color print/35mm/Roll 11-1; frames 1-4



Peak & Associates, Inc.
Archeological Site Map

Scale 1 cm = 1 meter
1 inch = 2.54 meters

1 inch

1 cm



Site Number

Field Number

Date Drawn

Drawn By

PA-95-61

11-7-95

Whittington

Section 6

Section 7

Fence/section line

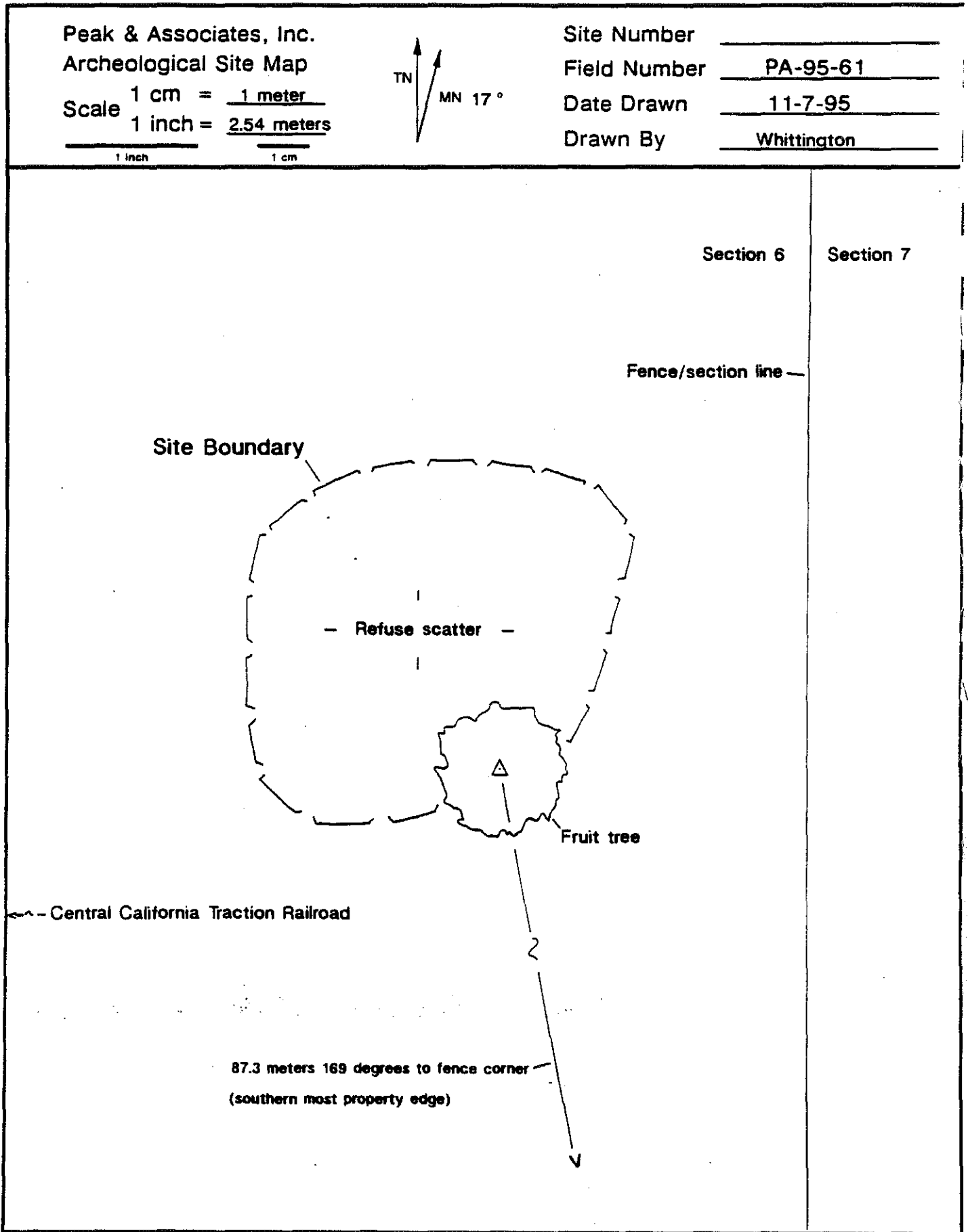
Site Boundary

Refuse scatter

Fruit tree

Central California Traction Railroad

87.3 meters 169 degrees to fence corner
(southern most property edge)



State of California - The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
 OFFICE OF HISTORIC PRESERVATION

HISTORIC RESOURCES INVENTORY

IDENTIFICATION AND LOCATION

- 1. Historic Name: None
- *2. Common or current name: (Structure 1)
- *3. Number & street 9230 Florin Road Cross-corridor _____
 City: Sacramento Vicinity only _____ Zip 95829 County: Sacramento
- 4. UTM zone 10 A 643470/4261910 B _____ C _____ D _____
- 5. Quad map No. Elk Grove 7.5 Parcel No. 065-0052-002 Other T7N,R6E, NE¼ of NW¼ of NE¼ of Section 6

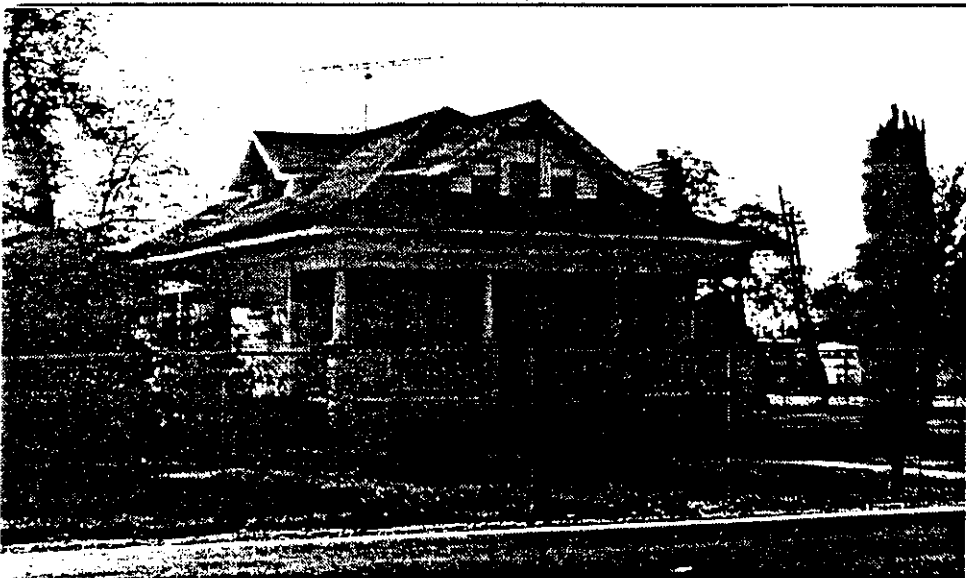
Ser. No. _____
National Register status <u>4S3</u>
Local designation _____

DESCRIPTION

- 6. Property category Building If district, number of documented resources _____
- *7. Briefly describe the present physical appearance of the property, including condition, boundaries, related features, surroundings, and (if appropriate) architectural style.

The county building record for this residence indicates a date of construction of 1910 which is consistent with the style: Craftsman bungalow. The structure is a one and one half story, square shaped building that has a hipped roof, with a moderate pitch, is extended to cover a full width entry porch on the front (north) elevation. Four plain columns with sloping sides, resting on brick piers that begin at ground level and extend almost half-way above the porch level, support the porch roof. A ballustrade with turned spindles runs between the pillars and from the corner pillars to the wall. A gabled dormer with exposed rafter ends extend from each side of the roof. Roofing is composite shingles. Typical Craftsman elements include narrow lapped siding and transomed windows that appear to be original.

There is a barn south of the house that appears to be modern.



- 8. Planning Agency County Planning Department
- 9. Owner & address Gerrion
9230 Florin Road
Sacramento CA 95829
- 10. Type of ownership Private
- 11. Present use Residence
- 12. Zoning _____
- 13. Threats Private Development

Send a copy of this form to: State Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001

*Complete these items for historic preservation compliance projects under Section 106 (36 CFR 800). All items must be completed for historical resources survey information.

HISTORICAL INFORMATION

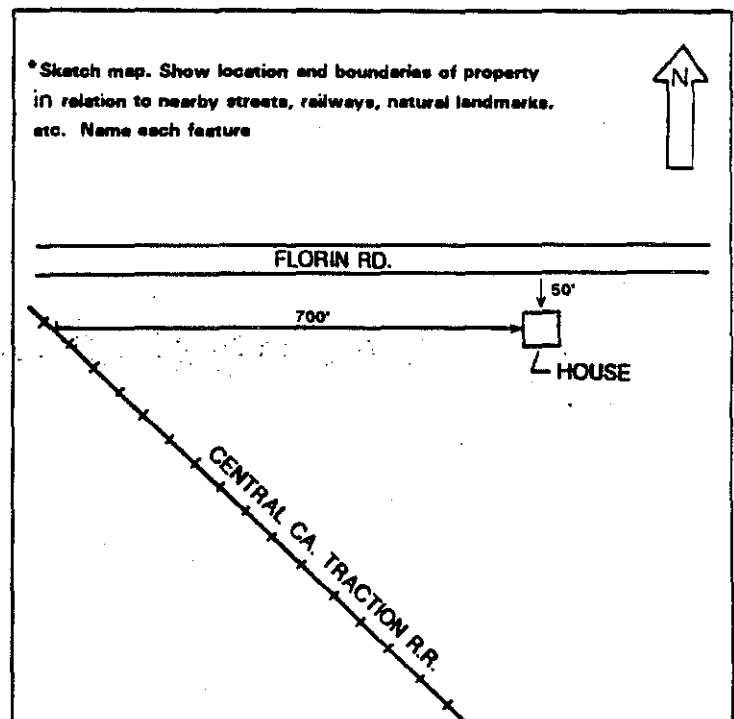
- *14. Construction date(s) 1910 A Original Location yes Date moved _____
15. Alterations & date None noted.
16. Architect Unknown Builder Unknown
17. Historic attributes (with number from list) 02--Single Family Property

SIGNIFICANCE AND EVALUATION

18. Context for evaluation: Theme Rural colloquial architecture Area Southern Sacramento County
 Period c. 1900-1940 Property type Residences Context formally developed? no
- *19. Briefly discuss the property's importance within the context. Use historical and architectural analysis as appropriate. Compare with similar properties.

There is nothing unusual about the architecture of the structure overall. Many houses in this style were constructed from the design inspired by the work of Charles Sumner Green and Henry Mather Green and varied only in minor details favored by the individual builder and by degree of craftsmanship. The craftsmanship in this case appears first rate. It is a good example of the Craftsman bungalow style. It does not appear that any alterations to the structure have been made and the structure appears to satisfy the criteria for importance as a representative example of an identifiable architectural style. The date of construction is 1910 and almost all Craftsman houses were built between 1905 and 1930 so the date of construction and the style period match (McAlester and McAlester 1990: 453).

20. Sources Peak and Associates, Inc., 1995, Cultural Resources Assessment of the North Vineyard Plan Area, Sacramento County, California (Survey Report)
21. Applicable National Register criteria none
22. Other recognition _____
 State Landmark No. (if applicable) _____
23. Evaluator Melinda A. Peak
 Date of evaluation 11/7/95
24. Survey type Project Related
25. Survey name North Vineyard Specific Plan Area
- *26. Year form prepared 1995
 By (name) Dan Osanna
 Organization Peak and Associates, Inc.
 Address 8167A Belvedere Avenue
 City & Zip Sacramento, CA 95826
 Phone (916) 452-4435



State of California - The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
 OFFICE OF HISTORIC PRESERVATION

HISTORIC RESOURCES INVENTORY

IDENTIFICATION AND LOCATION

1. Historic Name: _____

*2. Common or current name: (Structure 2)

*3. Number & street 9204 Florin Road Cross-corridor 3500 feet east of Bradshaw
 City: Sacramento Vicinity only _____ Zip 95829 County: Sacramento

4. UTM zone 10 A 643300/4261930 B _____ C _____ D _____

5. Quad map No. Florin 7.5' Parcel No. 065-0052-001 Other T7N.R6E, NW¼ of NW¼ of NE¼ of NE¼ of Section 6

Ser. No. _____
National Register status <u>622</u>
Local designation _____

DESCRIPTION

6. Property category Building If district, number of documented resources _____

*7. Briefly describe the present physical appearance of the property, including condition, boundaries, related features, surroundings, and (if appropriate) architectural style.

The county building record for this structure indicates a construction date of 1922. The style of roof and the date of construction identify this structure with the Craftsman bungalow style but this structure has been altered. The main Craftsman features on this structure include the hipped roof, clad in composition shingles, and exposed rafters. Alterations to this structure include a partial-width porch with a shed roof that is supported by two columns that extend from a wooden balustrade, aluminum framed windows, and T/1/11 siding covering the exterior walls.

There is a detached two-car garage with a cross gabled moderate pitched roof and clapboard siding sitting west of the house. This building appears to have the same date of construction as the house. Several other outbuildings are located south of the house. These buildings include a water tower and a modern prefabricated outbuilding. The hip roofed water tower was apparently built in the same time period as the house. With the exception of the roof which appears to be original, the water tower has been significantly modified. These modifications include two octagonal windows on the north side, a sliding glass door on the east side, and several other windows on all four sides.



8. Planning Agency County Planning Department

9. Owner & address
Hartman
9204 Gerber Road
Sacramento, CA 95829

10. Type of ownership Private

11. Present use Residence

12. Zoning _____

13. Threats Private development

Send a copy of this form to: State Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001

* Complete these items for historic preservation compliance projects under Section 106 (36 CFR 800). All items must be completed for historical resources survey information.

HISTORICAL INFORMATION

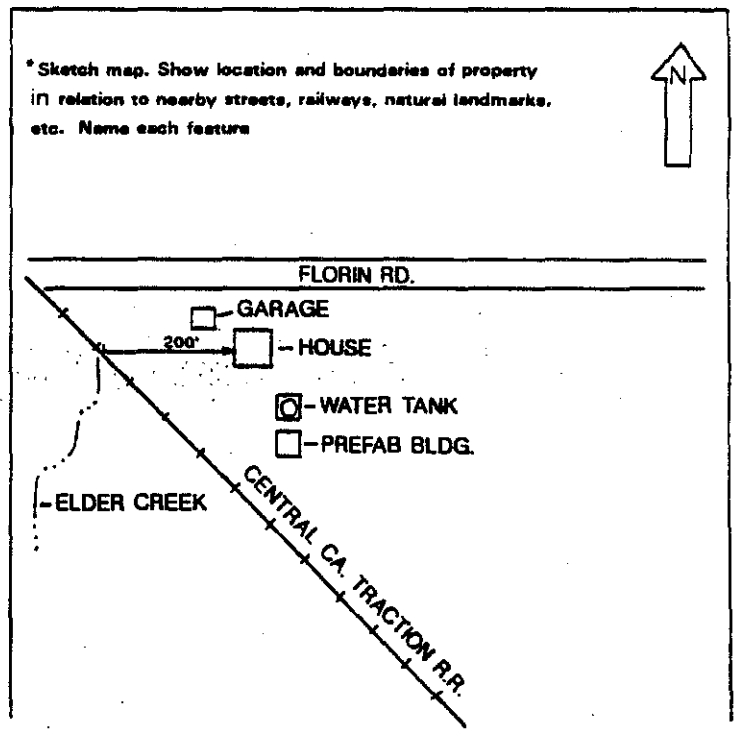
- *14. Construction date(s) 1922 A Original Location yes Date moved _____
- 15. Alterations & date Siding, windows, porch. Date unknown.
- 16. Architect Unknown Builder Unknown
- 17. Historic attributes (with number from list) 02--Single Family Property

SIGNIFICANCE AND EVALUATION

- 18. Context for evaluation: Theme Rural colloquial architecture Area Southern Sacramento County
 Period c. 1900-1940 Property type Residence Context formally developed? no
- *19. Briefly discuss the property's importance within the context. Use historical and architectural analysis as appropriate. Compare with similar properties.

There is nothing unusual about the architecture of the structure overall. Many houses in this style were constructed from a design established by Charles Summer Green and Henry Mather Green and popularized in contemporary magazines (McAlester and McAlester 1990:453). The style varies in some details favored by the individual builder and by degree of craftsmanship. The structure in this case lacks most of the detailing associated with a typical Craftsman bungalow and it has little architectural merit. Extensive alterations, including the replacement siding and windows and the possible replacement of the porch further reduce the architectural integrity of the structure. Additionally, the water tower and garage have been altered significantly enough to reduce their architectural merit.

- 20. Sources Peak and Associates, Inc., 1995, Cultural Resources Assessment of the North Vineyard Plan Area, Sacramento County, California (Survey Report)
- 21. Applicable National Register criteria none
- 22. Other recognition _____
 State Landmark No. (if applicable) _____
- 23. Evaluator Melinda A. Peak
 Date of evaluation 11/7/95
- 24. Survey type Project Related
- 25. Survey name North Vineyard Specific Plan Area
- *26. Year form prepared 1995
 By (name) Dan Osanna
 Organization Peak & Associates, Inc.
 Address 8165A Belvedere Avenue
 City & Zip Sacramento, CA 95826
 Phone (916)452-4435



State of California - The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
 OFFICE OF HISTORIC PRESERVATION

HISTORIC RESOURCES INVENTORY

IDENTIFICATION AND LOCATION

1. Historic Name: _____

*2. Common or current name: (Structure 3)

*3. Number & street 9384 Florin Road
 City: Sacramento

Vicinity only _____ Cross-corridor _____
 Zip 95829 County: Sacramento

4. UTM zone 10 A 644020/4261780 B _____ C _____ D _____

5. Quad map No. Florin 7.5' Parcel No. 066-0070-002 Other T7N.R6E. SW¼ of NE¼ of NW¼ of Section 5

Ser. No. _____
National Register status <u>4S3</u>
Local designation _____

DESCRIPTION

6. Property category Building If district, number of documented resources _____

*7. Briefly describe the present physical appearance of the property, including condition, boundaries, related features, surroundings, and (if appropriate) architectural style.

The county building record for this residence indicates construction date of 1900. This date of construction corresponds with the style, a Queen Anne Victorian. Consistent with the late construction date for this style, this one-story house has a low-pitched gable on hipped roof with a lower gabled dormer that extends above a cutaway bay window at the front (east elevation) of the house. A partial porch sits adjacent to the bay window. A more simple style of Queen Anne, this structure lacks most of the ornate features typically characteristic of this style. Some of the Queen Anne elements present on this structure include turned spindle pillars, a ballustrade with turned spindles running between the pillars, and a gable ornament. Missing from this structure are the various types of wood shingling usually decorating the gables, cover brackets above the corners of the bay windows, and patterned shingles covering the walls.



8. Planning Agency
County Planning Department

9. Owner & address
Leslie
9384 Florin Road
Sacramento, CA 95829

10. Type of ownership Private

11. Present use Residence

12. Zoning _____

13. Threats Private development

Send a copy of this form to: State Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001

* Complete these items for historic preservation compliance projects under Section 106 (36 CFR 800). All items must be completed for historical resources survey information.

HISTORICAL INFORMATION

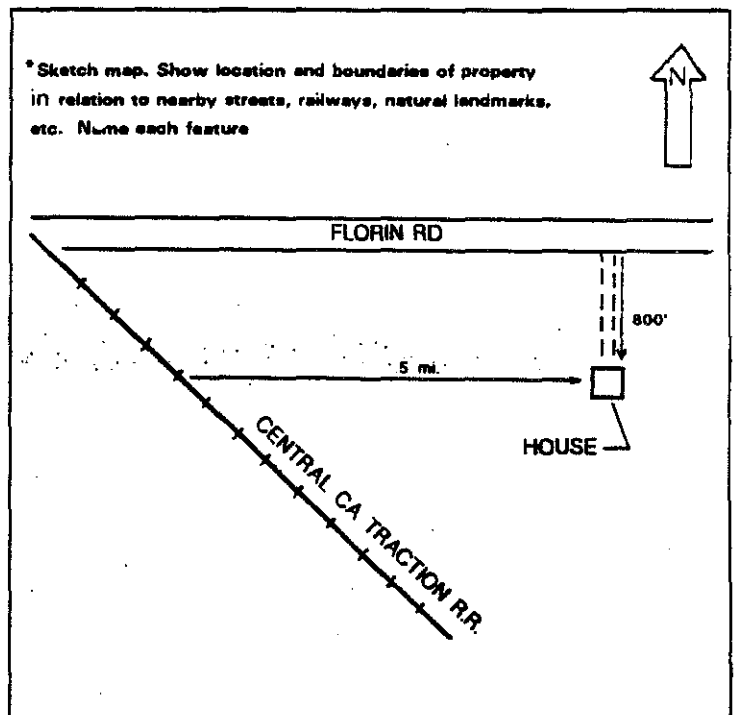
- *14. Construction date(s) 1900 A Original Location yes Data moved _____
- 15. Alterations & date None noted.
- 16. Architect Unknown Builder Unknown
- 17. Historic attributes (with number from list) 02--Single Family Property

SIGNIFICANCE AND EVALUATION

- 18. Context for evaluation: Theme Rural colloquial architecture Area Southern Sacramento County
 Period c. 1900-1940 Property type Residence Context formally developed? no
- *19. Briefly discuss the property's importance within the context. Use historical and architectural analysis as appropriate. Compare with similar properties.

The architectural style of this structure is not unusual. The Queen Anne was the dominant style of domestic building from approximately 1880 until 1900, although it existed with decreasing popularity until 1910. The craftsmanship of this structure appears to be first rate. It does not appear that any alterations have been made to the structure and it seems to satisfy the criteria for importance as a representative example of an identifiable architectural style.

- 20. Sources Peak and Associates, Inc., 1995, Cultural Resources Assessment of the North Vineyard Plan Area, Sacramento County, California (Survey Report)
- 21. Applicable National Register criteria none
- 22. Other recognition _____
 State Landmark No. (if applicable) _____
- 23. Evaluator Melinda A. Peak
 Date of evaluation 11/7/95
- 24. Survey type Project Related
- 25. Survey name North Vineyard Specific Plan Area
- *26. Year form prepared 1995
 By (name) Dan Osanna
 Organization Peak & Associates, Inc.
 Address 8165A Belvedere Avenue
 City & Zip Sacramento, CA 95826
 Phone (916)452-4435



State of California - The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
 OFFICE OF HISTORIC PRESERVATION

HISTORIC RESOURCES INVENTORY

IDENTIFICATION AND LOCATION

1. Historic Name: _____

*2. Common or current name: (Structure 4)

*3. Number & street Florin Road Cross-corridor 300ft. west of Bradshaw and 500ft. south of Florin
 City: Sacramento Vicinity only _____ Zip 95829 County: Sacramento

4. UTM zone 10 A 644340/4261880 B _____ C _____ D _____

5. Quad map No. Elk Grove 7.5 Parcel No. 066-0070-006 Other T7N.R6E, SW¼ of NE¼ of NE¼ of NW¼ of Section 6

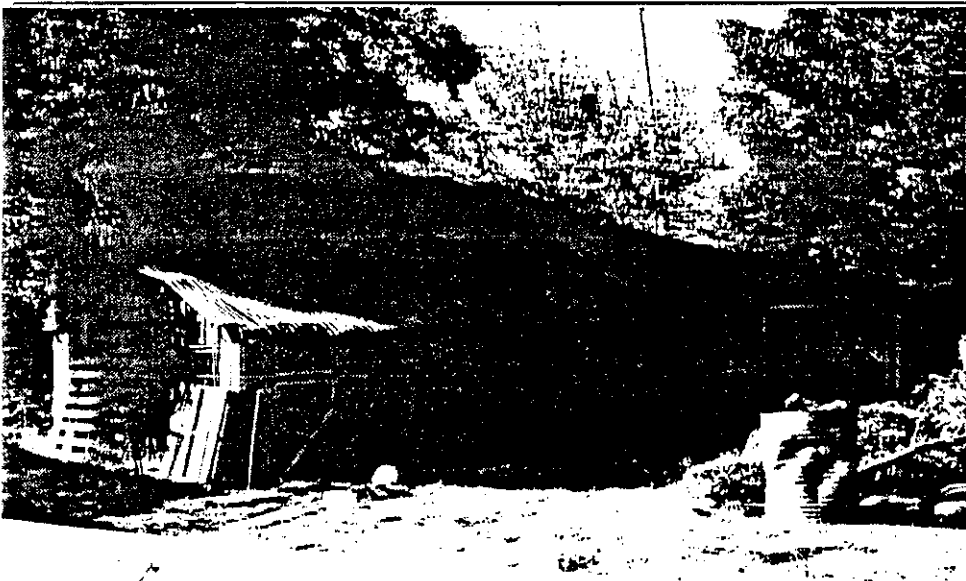
Ser. No. _____
 National Register status 6Z2
 Local designation _____

DESCRIPTION

6. Property category Building If district, number of documented resources _____

*7. Briefly describe the present physical appearance of the property, including condition, boundaries, related features, surroundings, and (if appropriate) architectural style.

The building record indicates a construction date of 1930 for this structure. The structure, apparently a barn, is of mixed design and construction dates. The first part is a gable-roofed structure with a shed roof along one side. This section is constructed of flush vertical wood siding and a corrugated metal roof. Attached to this section, possibly an addition or the remnants of a house, is structure with a steep pitched hipped roof with a shed roof off the front. This section's roof is constructed of boards that appear to be covered with composition sheets that have deteriorated considerably. The walls appear to be constructed of horizontal flush planks.



8. Planning Agency County Planning Department

9. Owner & address Oscar Morva
520 Pajaro Court
Sacramento, CA 95829

10. Type of ownership Private

11. Present use Barn

12. Zoning _____

13. Threats Private Development

Send a copy of this form to: State Office of Historic Preservation, P.O. Box 942996, Sacramento, CA 94296-0001

* Complete these items for historic preservation compliance projects under Section 106 (36 CFR 800). All items must be completed for historical resources survey information.

HISTORICAL INFORMATION

- *14. Construction date(s) 1930 A Original Location yes Date moved _____
- 15. Alterations & date Addition? Date Unknown.
- 16. Architect Unknown Builder Unknown
- 17. Historic attributes (with number from list) 33--Farm/Ranch

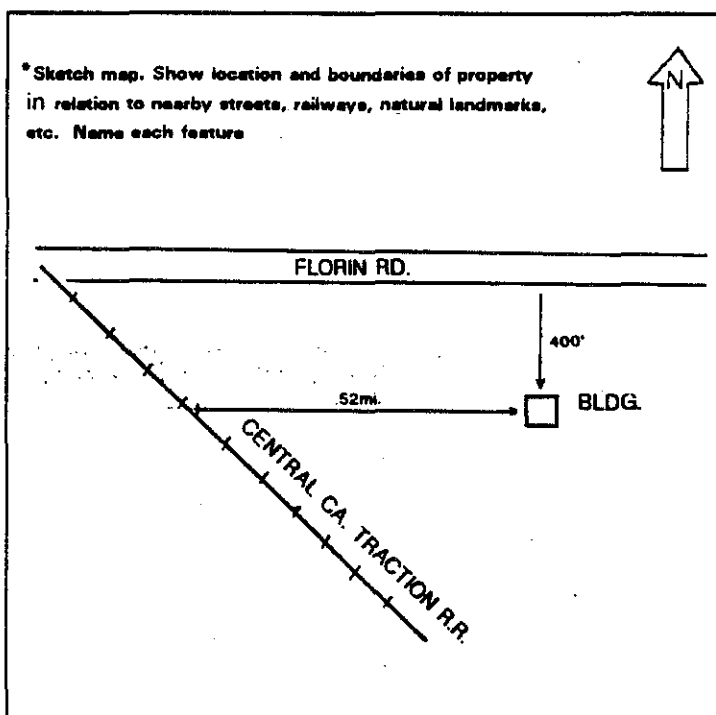
SIGNIFICANCE AND EVALUATION

- 18. Context for evaluation: Theme Rural colloquial architecture Area Southern Sacramento County
 Period c. 1900-1940 Property type Barn Context formally developed ? no
- *19. Briefly discuss the property's importance within the context. Use historical and architectural analysis as appropriate. Compare with similar properties.

Due to the uncertain architectural style, later modifications, and the poor repair of the structure, this building does not appear to be architecturally important. The structure has a construction date of 1930 and a corresponding structure appears on the 1942 USGS map but it is indeterminate whether it was previously a residence.

- 20. Sources Peak and Associates, Inc., 1995, Cultural Resources Assessment of the North Vineyard Plan Area, Sacramento County, California (Survey Report)

- 21. Applicable National Register criteria none
- 22. Other recognition _____
 State Landmark No. (if applicable) _____
- 23. Evaluator Melinda A. Peak
 Date of evaluation 11/7/95
- 24. Survey type Project Related
- 25. Survey name North Vineyard Specific Plan Area
- *26. Year form prepared 1995
 By (name) Dan Osanna
 Organization Peak and Associates, Inc.
 Address 8167A Belvedere Avenue
 City & Zip Sacramento, CA 95826
 Phone (916) 452-4435



State of California - The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
 OFFICE OF HISTORIC PRESERVATION

HISTORIC RESOURCES INVENTORY

IDENTIFICATION AND LOCATION

Ser. No. _____
 National Register status 622
 Local designation _____

- 1. Historic Name: _____
- *2. Common or current name: (Structure 5)
- *3. Number & street South side of Florin Road Cross-corridor 2200 feet west of Bradshaw Road
 City: Sacramento Vicinity only _____ Zip 95829 County: Sacramento
- 4. UTM zone 10 A 644630/4261950 B _____ C _____ D _____
- 5. Quad map No. Florin 7.5' Parcel No. 066-0070-007 Other T7N,R6E, NE¼ of NW¼ of NW¼ of NE¼ of Section 5

DESCRIPTION

- 6. Property category Building If district, number of documented resources _____
- *7. Briefly describe the present physical appearance of the property, including condition, boundaries, related features, surroundings, and (if appropriate) architectural style.

The county building record for this structure indicates a construction date of 1935. The variation of style and the date of construction place it in the Minimal Traditional style. Reflecting the era it was built, this Minimal Traditional house lacks the more expensive detailing of traditional Eclectic houses. Like other structures in this category, this house has a side gabled moderate pitched roof that extends into a shed roof in the rear. This one and one half story structure also has a gabled dormer extending over a partial porch. The roof is composition and the siding is wood.

A detached one-car garage sits adjacent to the house. This flat-roofed structure with stucco siding most likely was built concurrently with the house.



- 8. Planning Agency County Planning Department
- 9. Owner & address Flowers
Florin Road
Sacramento, CA 95829
- 10. Type of ownership Private
- 11. Present use Residence
- 12. Zoning _____
- 13. Threats Private development

Send a copy of this form to: State Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001

* Complete these items for historic preservation compliance projects under Section 106 (36 CFR 300). All items must be completed for historical resources survey information.

HISTORICAL INFORMATION

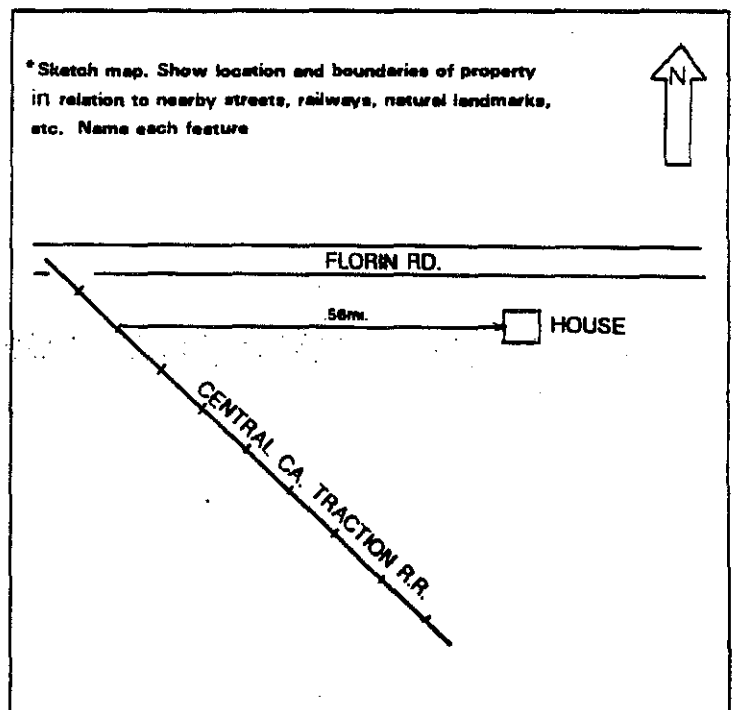
- *14. Construction date(s) 1935 A Original Location yes Date moved _____
15. Alterations & date None Apparent.
16. Architect Unknown Builder Unknown
17. Historic attributes (with number from list) 02--Single Family Property

SIGNIFICANCE AND EVALUATION

18. Context for evaluation: Theme Rural colloquial architecture Area Southern Sacramento County
 Period c. 1900-1940 Property type Residence Context formally developed? no
- *19. Briefly discuss the property's importance within the context. Use historical and architectural analysis as appropriate. Compare with similar properties.

There is nothing unusual about the architecture of the structure. Although more dominant in the post-war 1940s and early 1950s, this structure, with a construction date of 1935, is representative of an early Minimal Traditional style home. The craftsmanship of this structure appears unaltered. Due to the varied style of the garage, this structure does not appear to satisfy the criteria for importance as a representative example of an identifiable architectural style.

20. Sources Peak and Associates, Inc., 1995, Cultural Resources Assessment of the North Vineyard Plan Area, Sacramento County, California (Survey Report)
21. Applicable National Register criteria none
22. Other recognition _____
 State Landmark No. (if applicable) _____
23. Evaluator Melinda A. Peak
 Date of evaluation 11/7/95
24. Survey type Project Related
25. Survey name North Vineyard Specific Plan Area
- *26. Year form prepared 1995
 By (name) Dan Osanna
 Organization Peak & Associates, Inc.
 Address 8165A Belvedere Avenue
 City & Zip Sacramento, CA 95826
 Phone (916)452-4435



State of California - The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
 OFFICE OF HISTORIC PRESERVATION

HISTORIC RESOURCES INVENTORY

IDENTIFICATION AND LOCATION

1. Historic Name: _____

*2. Common or current name: (Structure 6)

*3. Number & street South side of Florin Road Cross-corridor 1000 feet west of Bradshaw Road

City: Sacramento Vicinity only _____ Zip 95829 County: Sacramento

4. UTM zone 10 A 644950/4261950 B _____ C _____ D _____

5. Quad map No. Florin 7.5' Parcel No. 066-0070-033 Other T7N,R6E, NW¼ of NW¼ of NE¼ of Section 5

Ser. No. _____
National Register status <u>453</u>
Local designation _____

DESCRIPTION

6. Property category Building If district, number of documented resources _____

*7. Briefly describe the present physical appearance of the property, including condition, boundaries, related features, surroundings, and (if appropriate) architectural style.

The county building record for this structure indicates a construction date of 1908. This house appears to be a one and one half story Queen Anne style cottage. The moderate pitched roof is front gabled and it extends at a hip-like angle to cover a partial porch. The hip roofed porch is supported by two classic columns. A second gable covers a cut-away bay. The main gable is covered with fish scale patterned shingles surrounding a gabled dormer. The gable above the cut away bay appears to be a mixture of fish scale and plain shingles surrounding a rectangular shaped window. Additional Queen Anne attributes include cut-away bays on both sides of the house, corner bracket detailing over the front bay, and simple door and window surrounds.



8. Planning Agency County Planning Department

9. Owner & address Weber
Florin Road
Sacramento, CA 95829

10. Type of ownership Private

11. Present use Residence

12. Zoning _____

13. Threats Private development

Send a copy of this form to: State Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001

* Complete these items for historic preservation compliance projects under Section 106 (36 CFR 800). All items must be completed for historical resources survey information.

HISTORICAL INFORMATION

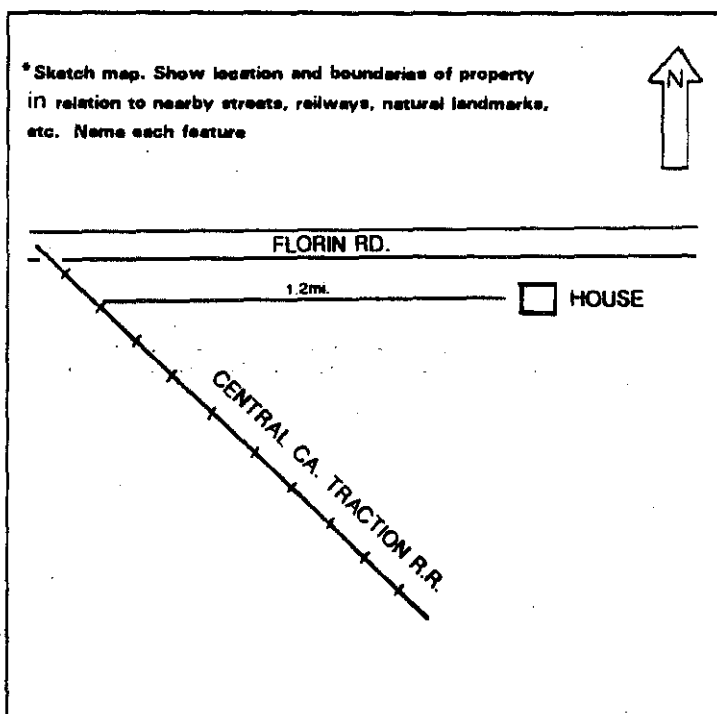
- *14. Construction date(s) 1908 A Original Location yes Date moved _____
15. Alterations & date None apparent
16. Architect Unknown Builder Unknown
17. Historic attributes (with number from list) 02--Single Family Property

SIGNIFICANCE AND EVALUATION

18. Context for evaluation: Theme Rural colloquial architecture Area Southern Sacramento County
 Period c. 1900-1940 Property type Residence Context formally developed? no
- *19. Briefly discuss the property's importance within the context. Use historical and architectural analysis as appropriate. Compare with similar properties.

There is nothing unusual about the architecture of this structure. The Queen Anne was the dominant style of domestic building from approximately 1880 until 1900, although it existed with decreasing popularity until 1910. The structure, built in 1908, represents a late period example of the Queen Anne. The craftsmanship of this structure appears first rate. It does not appear that any alterations have been made to this structure and it seems to satisfy the criteria for importance as a representative example of an identifiable architectural style.

20. Sources Peak and Associates, Inc., 1995, Cultural Resources Assessment of the North Vineyard Plan Area, Sacramento County, California (Survey Report)
21. Applicable National Register criteria none
22. Other recognition _____
 State Landmark No. (if applicable) _____
23. Evaluator Melinda A. Peak
 Date of evaluation 11/7/95
24. Survey type Project Related
25. Survey name North Vineyard Specific Plan Area
- *26. Year form prepared 1995
 By (name) Dan Osanna
 Organization Peak & Associates, Inc.
 Address 8165A Belvedere Avenue
 City & Zip Sacramento, CA 95826
 Phone (916)452-4435



State of California - The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
 OFFICE OF HISTORIC PRESERVATION

HISTORIC RESOURCES INVENTORY

IDENTIFICATION AND LOCATION

1. Historic Name: _____

*2. Common or current name: (Structure 7)

*3. Number & street South side of Florin Road Cross-corridor 200 feet east of Bradshaw Road
 City: Sacramento Vicinity only _____ Zip 95829 County: Sacramento

4. UTM zone 10 A 645350/4261960 B _____ C _____ D _____

5. Quad map No. Florin 7.5' Parcel No. 066-0100-059 Other T7N,R6E, NW¼ of NW¼ of NW¼ of Section 4

Ser. No. _____
 National Register status 4S3
 Local designation _____

DESCRIPTION

6. Property category Building If district, number of documented resources _____

*7. Briefly describe the present physical appearance of the property, including condition, boundaries, related features, surroundings, and (if appropriate) architectural style.

The county building record for this structure indicates a construction date of 1925 which is consistent with the style: Craftsman bungalow. The cross gabled, moderate pitched roof appears to be covered with composite shingles. Two piers with sloping sides extend from a short brick balustrade to support a gabled roof that is connected to the front gable of the house. Other typical Craftsman elements include exposed rafters and wood clapboard siding.



8. Planning Agency County Planning Department

9. Owner & address Dias
Florin Road
Sacramento, CA 95829

10. Type of ownership Private

11. Present use Residence

12. Zoning _____

13. Threats Private development

Send a copy of this form to: State Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001

* Complete these items for historic preservation compliance projects under Section 106 (36 CFR 800). All items must be completed for historical resources survey information.

HISTORICAL INFORMATION

- *14. Construction date(s) 1925 A Original Location yes Date moved _____
- 15. Alterations & date _____
- 16. Architect Unknown Builder Unknown
- 17. Historic attributes (with number from list) 02-Single Family Property

SIGNIFICANCE AND EVALUATION

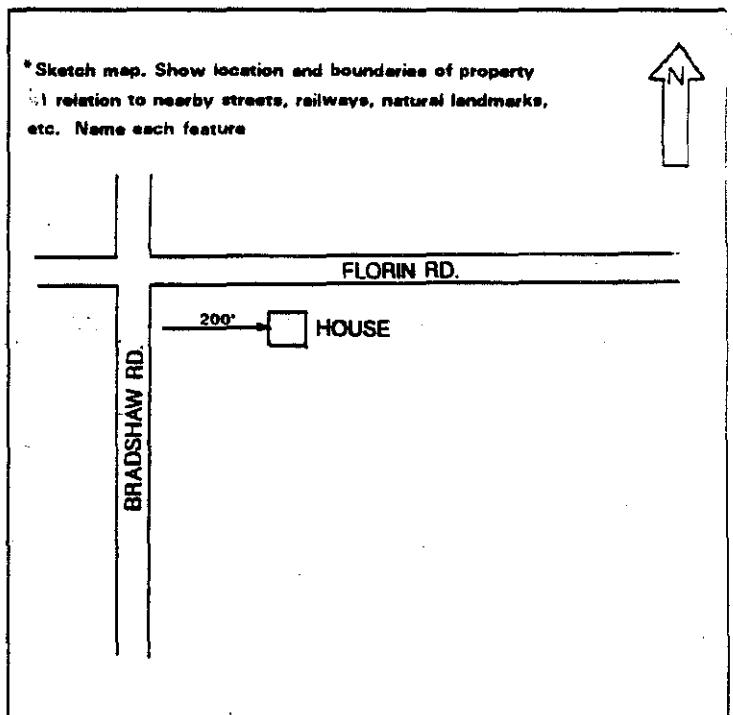
- 18. Context for evaluation: Theme Rural colloquial architecture Area Southern Sacramento County
 Period c. 1900-1940 Property type Residence Context formally developed? no
- *19. Briefly discuss the property's importance within the context. Use historical and architectural analysis as appropriate. Compare with similar properties.

There is nothing unusual about the overall architecture of this structure. Many houses in this style were constructed from a design established by Charles Summer Green and Henry Mather Green and popularized in contemporary magazines (McAlester and McAlester 1990: 453). The style varies in some details favored by the individual builder and by degree of craftsmanship. It does not appear that any alterations have been made to this structure and it seems to satisfy the criteria for importance as a representative example of an identifiable architectural style.

- 20. Sources Peak and Associates, Inc., 1995, Cultural Resources Assessment of the North Vineyard Plan Area, Sacramento County, California (Survey Report)

- 21. Applicable National Register criteria none
- 22. Other recognition _____
 State Landmark No. (if applicable) _____
- 23. Evaluator Melinda A. Peak
 Date of evaluation 11/7/95
- 24. Survey type Project Related
- 25. Survey name North Vineyard Specific Plan Area

- *26. Year form prepared 1995
 By (name) Dan Osanna
 Organization Peak & Associates, Inc.
 Address 8165A Belvedere Avenue
 City & Zip Sacramento, CA 95826
 Phone (916)452-4435



State of California - The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
 OFFICE OF HISTORIC PRESERVATION

HISTORIC RESOURCES INVENTORY

IDENTIFICATION AND LOCATION

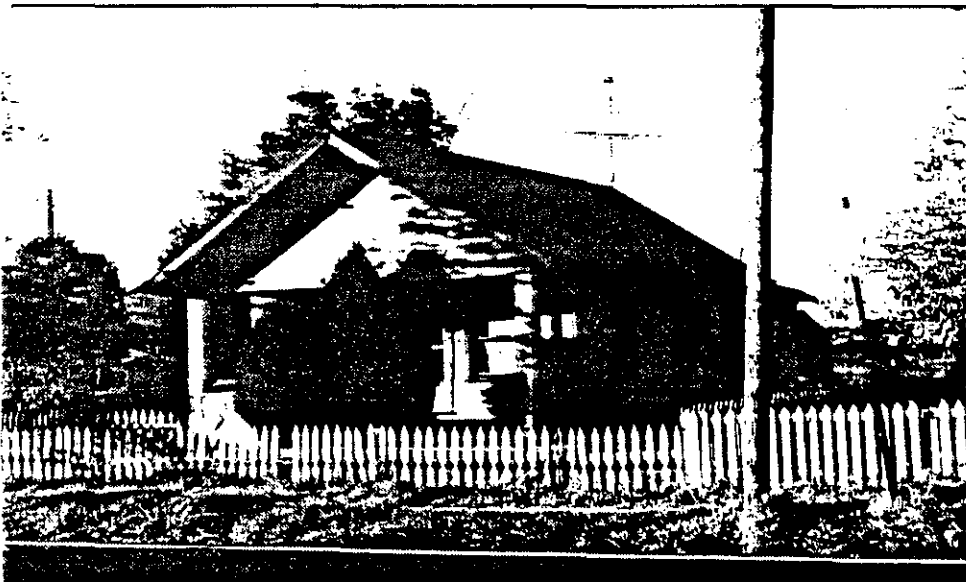
- 1. Historic Name: _____
- *2. Common or current name: (Structure 8)
- *3. Number & street 9673 Gerber Road Cross-corridor _____
 City: Sacramento Vicinity only _____ Zip 95829 County: Sacramento
- 4. UTM zone 10 A 645180/4260410 B _____ C _____ D _____
- 5. Quad map No. Florin 7.5' Parcel No. 066-0090-020 Other T7N,R6E, SW¼ of SE¼ of SE¼ of Section 5

Ser. No. _____
 National Register status 622
 Local designation _____

DESCRIPTION

- 6. Property category Building If district, number of documented resources _____
- *7. Briefly describe the present physical appearance of the property, including condition, boundaries, related features, surroundings, and (if appropriate) architectural style.

The county building record for this structure indicates a construction date of 1928. The style and construction date of this structure place it in the Craftsman bungalow style. The front gabled roof is extended, without a change in pitch, to cover a full width entry porch on the front (south) elevation. Two plain, square wooden pillars support the porch roof. The east side of the porch was enclosed at what appears to be a later date, possibly as part of a completely enclosed porch that has since been removed. It appears that the siding is covered with composition shingles. The roofing is also composition shingles. Typical Craftsman elements include the exposed rafter ends.



- 8. Planning Agency County Planning Department
- 9. Owner & address Campbell
9673 Gerber Road
Sacramento, CA 95829
- 10. Type of ownership Private
- 11. Present use Residence
- 12. Zoning _____
- 13. Threats Private development

Send a copy of this form to: State Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001

* Complete these items for historic preservation compliance projects under Section 106 (36 CFR 800). All items must be completed for historical resources survey information.

HISTORICAL INFORMATION

- *14. Construction date(s) 1928 A Original Location yes Date moved _____
- 15. Alterations & date Siding replaced with composition shingles; a wall extension from the porch. Dates unknown.
- 16. Architect Unknown Builder Unknown
- 17. Historic attributes (with number from list) 02--Single Family Property

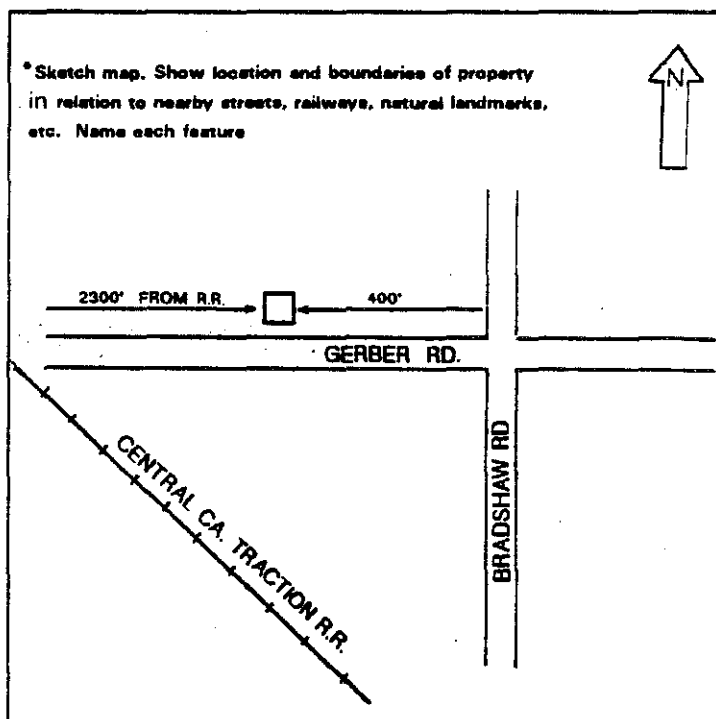
SIGNIFICANCE AND EVALUATION

- 18. Context for evaluation: Theme Rural colloquial architecture Area Southern Sacramento County
 Period c. 1900-1940 Property type Residence Context formally developed? no
- *19. Briefly discuss the property's importance within the context. Use historical and architectural analysis as appropriate. Compare with similar properties.

There is nothing unusual about the architecture of this structure. Many houses in this style were constructed from a design established by Charles Summer Green and Henry Mather Green and popularized in contemporary magazines (McAlester and McAlester 1990: 453). The style varies in some details favored by the individual builder and by degree of craftsmanship. The structure in this case lacks some of the detailing associated with a typical Craftsman bungalow and it has little architectural merit. Alterations to this structure include the addition of a wall and window extending the east wall of the house flush with the front porch in a possible attempt to enclose the porch.

- 20. Sources Peak and Associates, Inc., 1995, Cultural Resources Assessment of the North Vineyard Plan Area, Sacramento County, California (Survey Report)

- 21. Applicable National Register criteria none
- 22. Other recognition _____
 State Landmark No. (if applicable) _____
- 23. Evaluator Melinda A. Peak
 Date of evaluation 11/7/95
- 24. Survey type Project Related
- 25. Survey name North Vineyard Specific Plan Area
- *26. Year form prepared 1995
 By (name) Dan Osanna
 Organization Peak & Associates, Inc.
 Address 8165A Belvedere Avenue
 City & Zip Sacramento, CA 95826
 Phone (916)452-4435



State of California - The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
 OFFICE OF HISTORIC PRESERVATION

HISTORIC RESOURCES INVENTORY

IDENTIFICATION AND LOCATION

- 1. Historic Name: _____
- *2. Common or current name: (Structure 9)
- *3. Number & street 9437 Gerber Road Cross-corridor _____
 City: Sacramento Vicinity only _____ Zip 95829 County: Sacramento
- 4. UTM zone 10 A 644270/4260400 B _____ C _____ D _____
- 5. Quad map No. Florin 7.5' Parcel No. 066-0080-009 Other T7N,R6E, SE¼ of SW¼ of SE¼ of Section 5

Ser. No. _____
National Register status <u>6Z2</u>
Local designation _____

DESCRIPTION

- 6. Property category Building If district, number of documented resources _____
- *7. Briefly describe the present physical appearance of the property, including condition, boundaries, related features, surroundings, and (if appropriate) architectural style.

The county building record for this structure indicates a construction date of 1930. The house appears to have characteristics of the National Folk style but it is difficult to place in a distinct category. Some of its National Folk characteristics include the building's L shape with a moderate sloping cross-gabled roof and its shed-roofed porch placed within the L formed by the two wings. The roof is metal with standing seams and the walls appear to be smooth boards. The front windows and door have been replaced as well.



- 8. Planning Agency County Planning Department
- 9. Owner & address Lynn
9437 Gerber Road
Sacramento, CA 95829
- 10. Type of ownership Private
- 11. Present use Residence
- 12. Zoning _____
- 13. Threats Private development

Send a copy of this form to: State Office of Historic Preservation, P.O. Box 942396, Sacramento, CA 94296-0001

* Complete these items for historic preservation compliance projects under Section 106 (36 CFR 800). All items must be completed for historical resources survey information.

HISTORICAL INFORMATION

- *14. Construction date(s) 1930 A Original Location yes Date moved _____
- 15. Alterations & date Windows replaced; date unknown.
- 16. Architect Unknown Builder Unknown
- 17. Historic attributes (with number from list) 02--Single Family Property

SIGNIFICANCE AND EVALUATION

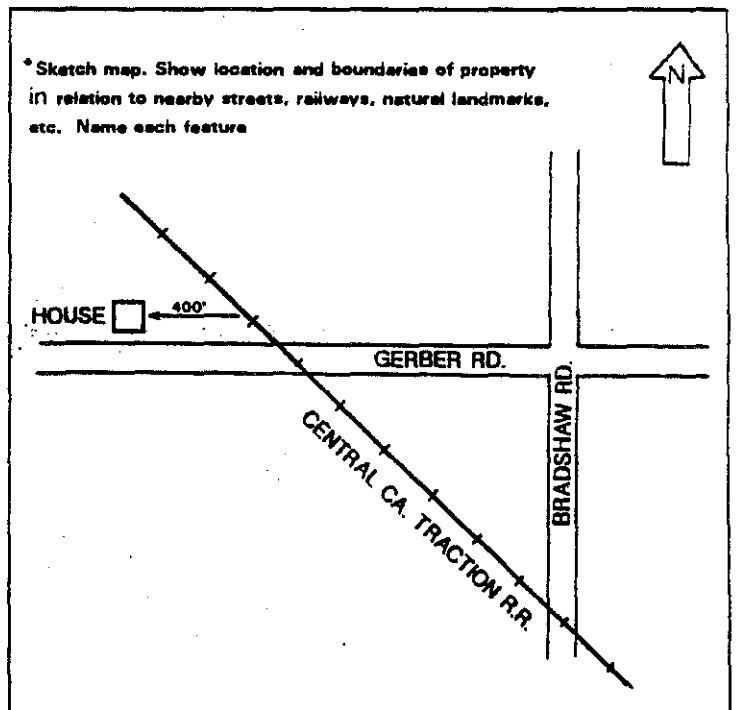
- 18. Context for evaluation: Theme Rural colloquial architecture Area Southern Sacramento County
 Period c. 1900-1940 Property type Residence Context formally developed? no
- *19. Briefly discuss the property's importance within the context. Use historical and architectural analysis as appropriate. Compare with similar properties.

Due to the uncertain architectural style and later modifications, this building does not appear to be architecturally important. The building record indicates a construction date of 1930 for the residence, however, it appears that the front windows and possibly the roof and front door have been replaced.

- 20. Sources Peak and Associates, Inc., 1995, Cultural Resources Assessment of the North Vineyard Plan Area, Sacramento County, California (Survey Report)

- 21. Applicable National Register criteria none
- 22. Other recognition _____
 State Landmark No. (if applicable) _____
- 23. Evaluator Melinda A. Peak
 Date of evaluation 11/7/95
- 24. Survey type Project Related
- 25. Survey name North Vineyard Specific Plan Area

- *26. Year form prepared 1995
 By (name) Dan Osanna
 Organization Peak & Associates, Inc.
 Address 8165A Belvedere Avenue
 City & Zip Sacramento, CA 95826
 Phone (916)452-4435



State of California - The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
 OFFICE OF HISTORIC PRESERVATION

HISTORIC RESOURCES INVENTORY

IDENTIFICATION AND LOCATION

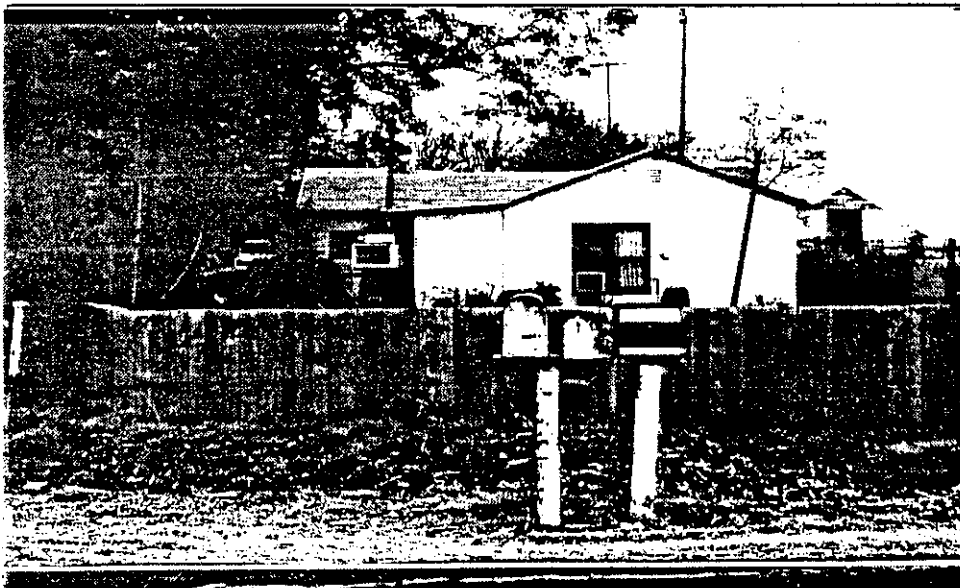
- 1. Historic Name: _____
- *2. Common or current name: (Structure 10) _____
- *3. Number & street 9441 Florin Road Cross-corridor _____
 City: Sacramento Vicinity only _____ Zip 95829 County: Sacramento
- 4. UTM zone 10 A 644630/4261730 B _____ C _____ D _____
- 5. Quad map No. Florin 7.5' Parcel No. 066-0070-004 Other T7N,R6E, NW¼ of NE¼ of NE¼ of NW¼ of Section 5

Ser. No. _____
National Register status <u>6Z2</u>
Local designation _____

DESCRIPTION

- 6. Property category Building If district, number of documented resources _____
- *7. Briefly describe the present physical appearance of the property, including condition, boundaries, related features, surroundings, and (if appropriate) architectural style.

The county building record for this structure indicates a construction date of 1920. The house appears to have characteristics found in the the National Folk style. The building is L shaped with a cross-gabled roof. A shed roof extends to cover the front porch that sits within the L formed by the two wings. The roof is composition shakes and the walls appear to be stucco. It appears that a plywood wall extends west from the north wall of the house to form an enclosure for the porch was added at a later date.



- 8. Planning Agency County Planning Department
- 9. Owner & address Oscar Morvai
520 Palara Court
Sacramento, CA 95829
- 10. Type of ownership Private
- 11. Present use Residence
- 12. Zoning _____
- 13. Threats Private development

Send a copy of this form to: State Office of Historic Preservation, P.O. Box 942996, Sacramento, CA 94296-0001

*Complete these items for historic preservation compliance projects under Section 106 (36 CFR 300). All items must be completed for historical resources survey information.

HISTORICAL INFORMATION

- *14. Construction date(s) 1920 A Original Location yes Date moved _____
15. Alterations & date Plywood wall extension date unknown
16. Architect Unknown Builder Unknown
17. Historic attributes (with number from list) 02--Single Family Property

SIGNIFICANCE AND EVALUATION

18. Context for evaluation: Theme Rural colloquial architecture Area Southern Sacramento County
 Period c. 1900-1940 Property type Residence Context formally developed? no
- *19. Briefly discuss the property's importance within the context. Use historical and architectural analysis as appropriate. Compare with similar properties.

There is nothing unusual about the architecture of this structure. This house was constructed in 1920 but appears to have the characteristics found in the National Folk style. Due to the nebulous time period of this style, it is difficult to place this structure in a definite style. Due to the uncertain architectural style and later modifications, this building does not appear to be architecturally important.

20. Sources Peak and Associates, Inc., 1995, Cultural Resources Assessment of the North Vineyard Plan Area, Sacramento County, California (Survey Report)

21. Applicable National Register criteria none

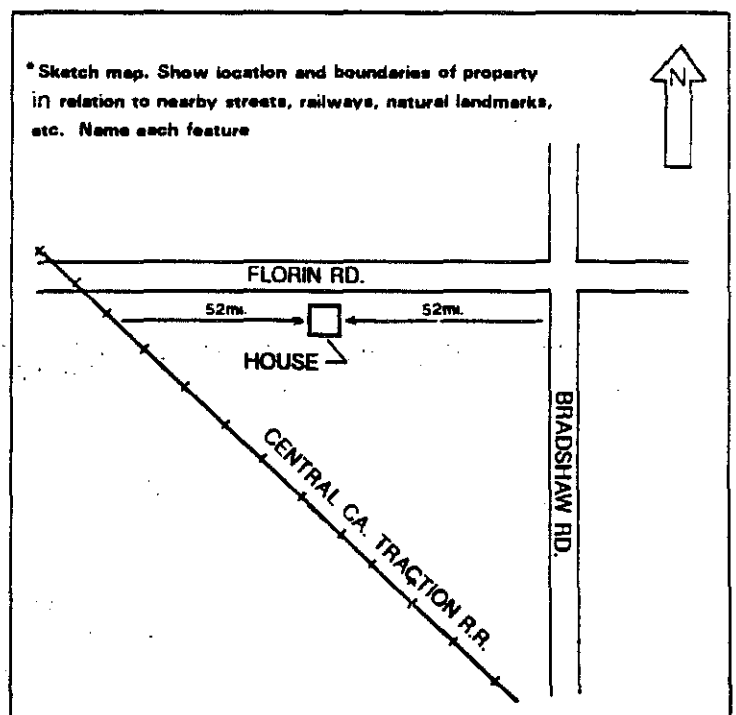
22. Other recognition _____
 State Landmark No. (if applicable) _____

23. Evaluator Melinda A. Peak
 Date of evaluation 11/7/95

24. Survey type Project Related

25. Survey name North Vineyard Specific Plan Area

*26. Year form prepared 1995
 By (name) Dan Osanna
 Organization Peak & Associates, Inc.
 Address 8165A Belvedere Avenue
 City & Zip Sacramento, CA 95826
 Phone (916)452-4435



State of California - The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
 OFFICE OF HISTORIC PRESERVATION

HISTORIC RESOURCES INVENTORY

IDENTIFICATION AND LOCATION

- 1. Historic Name: _____
- *2. Common or current name: (Structure 11)
- *3. Number & street 500 feet South of Florin Road Cross-corridor 3500 feet east of Bradshaw
 City: Sacramento Vicinity only _____ Zip 95829 County: Sacramento
- 4. UTM zone 10 A 644210/4261810 B _____ C _____ D _____
- 5. Quad map No. Florin 7.5' Parcel No. 066-0070-003 Other T7N,R6E, SE¼ of NW¼ of NE¼ of NW¼ of Section 5

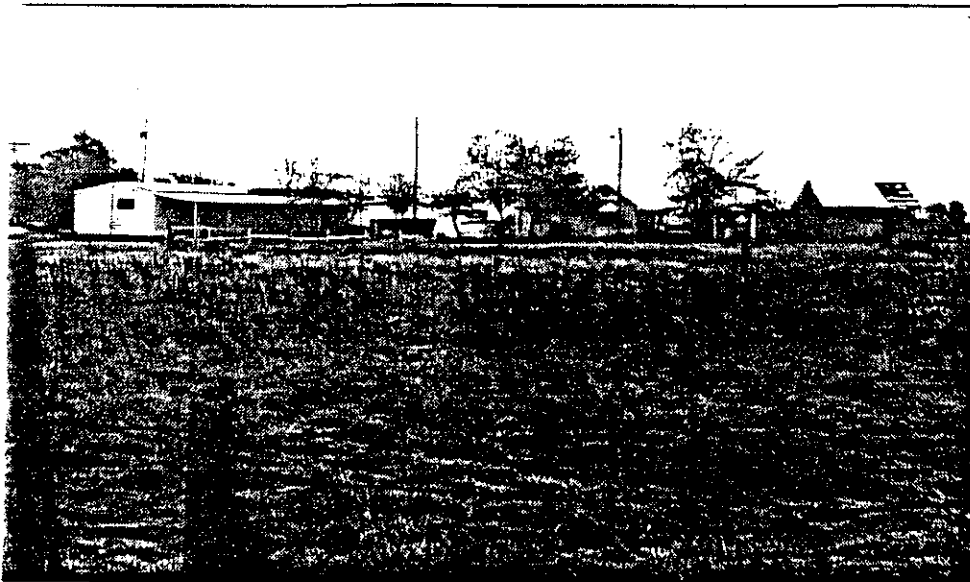
Ser. No. _____
National Register status <u>622</u>
Local designation _____

DESCRIPTION

- 6. Property category Building If district, number of documented resources _____
- *7. Briefly describe the present physical appearance of the property, including condition, boundaries, related features, surroundings, and (if appropriate) architectural style.

The county building record for this structure indicates a construction date of 1940. The date of construction and the lack of decorative detailing place this structure in the Minimal Traditional style. This is a one-story frame house with stucco siding. The low-pitched front gabled roof is clad in composition shingles. The main door, located at the center of a gabled end, is covered by a gabled pediment that is supported by cross braces extended from the wall. Typical Minimal Traditional features on this house include the low pitched roof and the eaves and rake.

A double wide mobile home sits north of the house. Two outbuildings are located south of the house. These include one single-car detached garage and a barn. The garage appears to have a front-gabled roof with composition shingles and the barn has a steep pitched metal sheet roof that is in disrepair. The walls of the barn are split. The bottom half is composition imitation brick paper and the top half is corrugated metal.



- 8. Planning Agency County Planning Department
- 9. Owner & address Wulf
5920 Wilkinson Drive
Sacramento, CA 95829
- 10. Type of ownership Private
- 11. Present use Residence
- 12. Zoning _____
- 13. Threats Private development

Send a copy of this form to: State Office of Historic Preservation, P.O. Box 942996, Sacramento, CA 94296-0001

* Complete these items for historic preservation compliance projects under Section 106 (36 CFR 300). All items must be completed for historical resources survey information.

HISTORICAL INFORMATION

- *14. Construction date(s) 1940 A Original Location yes Date moved _____
- 15. Alterations & date None noted.
- 16. Architect Unknown Builder Unknown
- 17. Historic attributes (with number from list) 02--Single Family Property

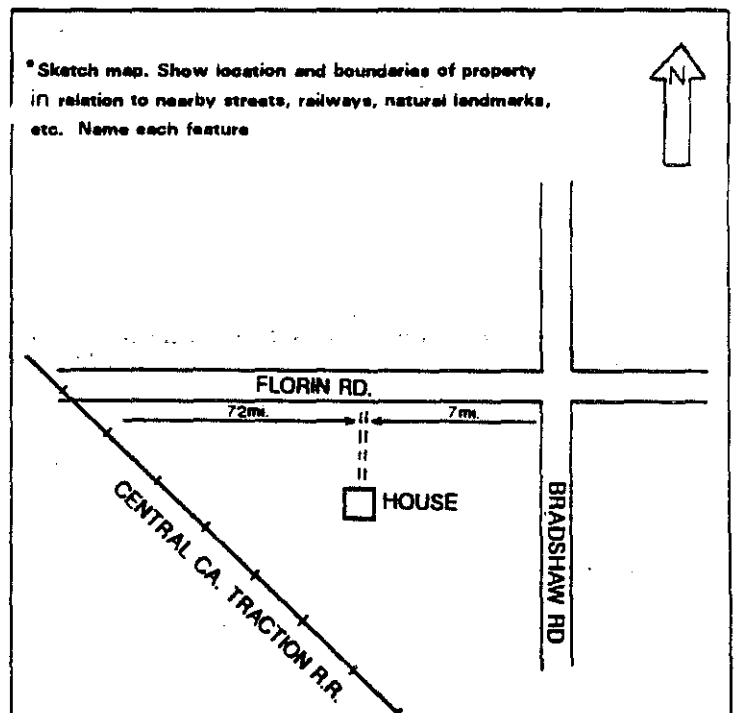
SIGNIFICANCE AND EVALUATION

- 18. Context for evaluation: Theme Rural colloquial architecture Area Southern Sacramento County
 Period c. 1900-1940 Property type Residence Context formally developed? no
- *19. Briefly discuss the property's importance within the context. Use historical and architectural analysis as appropriate. Compare with similar properties.

There is nothing unusual about the architecture of the structure overall. Although more dominant in the post war 1940s and early 1950s, this structure, with a construction date of 1940, is representative of a Minimal Traditional style home. The craftsmanship of this structure appears to be in top form and it does not appear that any alterations have been made to it. It appears to satisfy the criteria for importance as a representative example of an identifiable architectural style.

- 20. Sources Peak and Associates, Inc., 1995, Cultural Resources Assessment of the North Vineyard Plan Area, Sacramento County, California (Survey Report)

- 21. Applicable National Register criteria none
- 22. Other recognition _____
 State Landmark No. (if applicable) _____
- 23. Evaluator Melinda A. Peak
 Date of evaluation 11/7/95
- 24. Survey type Project Related
- 25. Survey name North Vineyard Specific Plan Area
- *26. Year form prepared 1995
 By (name) Dan Osanna
 Organization Peak & Associates, Inc.
 Address 8165A Belvedere Avenue
 City & Zip Sacramento, CA 95826
 Phone (916)452-4435



State of California - The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
 OFFICE OF HISTORIC PRESERVATION

HISTORIC RESOURCES INVENTORY

IDENTIFICATION AND LOCATION

- 1. Historic Name: _____
- *2. Common or current name: (Structure 12)
- *3. Number & street 9494 Florin Road Cross-corridor 3500 feet east of Bradshaw
 City: Sacramento Vicinity only _____ Zip 95829 County: Sacramento
- 4. UTM zone 10 A 644420/4261510 B _____ C _____ D _____
- 5. Quad map No. Florin 7.5' Parcel No. 066-0070-018 Other T7N,R6E, NE¼ of NE¼ of SE¼ of SW¼ of Section 5

Ser. No. _____
National Register status <u>622</u>
Local designation _____

DESCRIPTION

- 6. Property category Building If district, number of documented resources _____
- *7. Briefly describe the present physical appearance of the property, including condition, boundaries, related features, surroundings, and (if appropriate) architectural style.

The county building record for this structure indicates a construction date of 1930. The house appears to have characteristics of the National Folk style but it is difficult to place in a distinct category. The building is L shaped with a cross-gabled roof. It appears that a section of this house may have been a later addition. A gabled pediment covers a partial porch on the front (east elevation) of the house. The other section of the house appears to have a wrap porch that is covered by an extended roof. Both porches are supported by plain wooden supports. The entire structure appears to be roofed in composition shingles but the siding is different. The front section is clad in clapboard siding and the second section appears to be covered in modern T/1/11 siding.

Two modern looking outbuildings are located near the structure. A small flat-roofed shed sits south of the structure and a cross-gabled garage sits southeast of the house. The roof of the garage appears to be corrugated metal and the siding appears to be T/1/11.



- 8. Planning Agency County Planning Department
- 9. Owner & address

Seale
9494 Florin Road
Sacramento, CA 95829
- 10. Type of ownership Private
- 11. Present use Residence
- 12. Zoning _____
- 13. Threats Private development

Send a copy of this form to: State Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001

*Complete these items for historic preservation compliance projects under Section 106 (36 CFR 800). All items must be completed for historical resources survey information.

HISTORICAL INFORMATION

- *14. Construction date(s) 1930 A Original Location yes Date moved _____
15. Alterations & date None noted.
16. Architect Unknown Builder Unknown
17. Historic attributes (with number from list) 02--Single Family Property

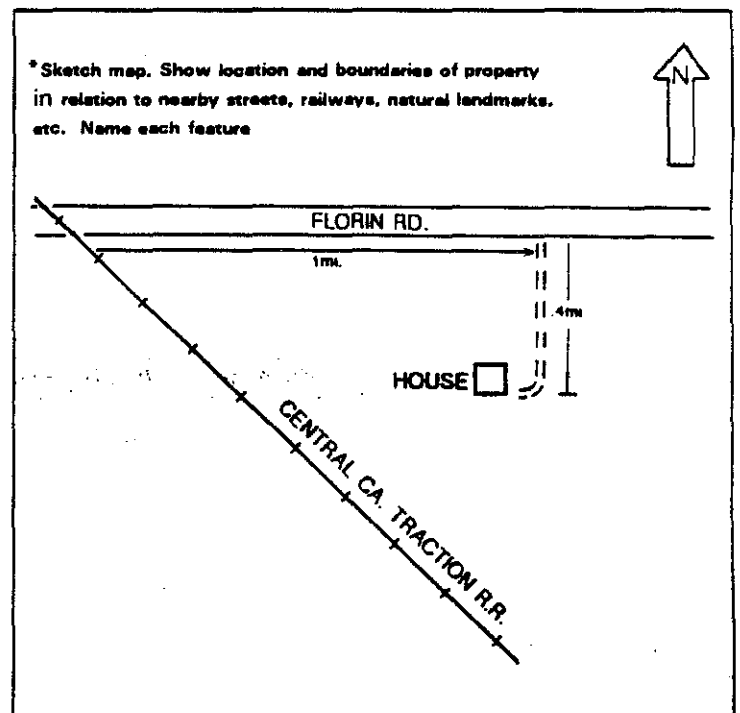
SIGNIFICANCE AND EVALUATION

18. Context for evaluation: Theme Rural colloquial architecture Area Southern Sacramento County
 Period c. 1900-1940 Property type Residence Context formally developed? no
- *19. Briefly discuss the property's importance within the context. Use historical and architectural analysis as appropriate. Compare with similar properties.

There is nothing unusual about the architecture of the structure overall. This house was constructed in 1930 but appears to have some characteristics of the National Folk style. Due to the mixed style of construction and the possible improvements, this building does not appear to be architecturally important.

20. Sources Peak and Associates, Inc., 1995, Cultural Resources Assessment of the North Vineyard Plan Area, Sacramento County, California (Survey Report)

21. Applicable National Register criteria none
22. Other recognition _____
 State Landmark No. (if applicable) _____
23. Evaluator Melinda A. Peak
 Date of evaluation 11/7/95
24. Survey type Project Related
25. Survey name North Vineyard Specific Plan Area
- *26. Year form prepared 1995
 By (name) Dan Osanna
 Organization Peak & Associates, Inc.
 Address 8165A Belvedere Avenue
 City & Zip Sacramento, CA 95826
 Phone (916)452-4435



**CULTURAL RESOURCES ASSESSMENT
OF THE NORTH VINEYARD STATION
OFF-SITE DETENTION BASIN,
SACRAMENTO COUNTY, CALIFORNIA**

Prepared by

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(916) 452-4435

Prepared for

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555 University Avenue, Suite 200
Sacramento, CA 95825
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January 14, 1997
(Job #97-002)

INTRODUCTION

The North Vineyard Station Specific Plan incorporates approximately 1,580 acres. The area is bounded on the north by Florin Road, on the east by (the eventual expansion of) Vineyard Road, on the south by Gerber Road and on the west by the channel of Elder Creek. The Specific Plan area is located near the center of Sacramento County. Peak & Associates completed a cultural resource study of this area in December, 1995.

An off-site detention basin has been proposed, about 1¼ miles west of the Specific Plan area. This basin is located on Elder Creek, northwest of the intersection of Elk Grove-Florin and Gerber Roads. The site is in the southeast ¼ of section 1, Township 7 North, Range 5 East, mapped on the Elk Grove and Florin 7.5' USGS topographic quadrangles (Map 1). The County of Sacramento, Department of Environmental Review and Assessment (DERA) requested that an intensive cultural resource assessment be conducted for this proposed project.

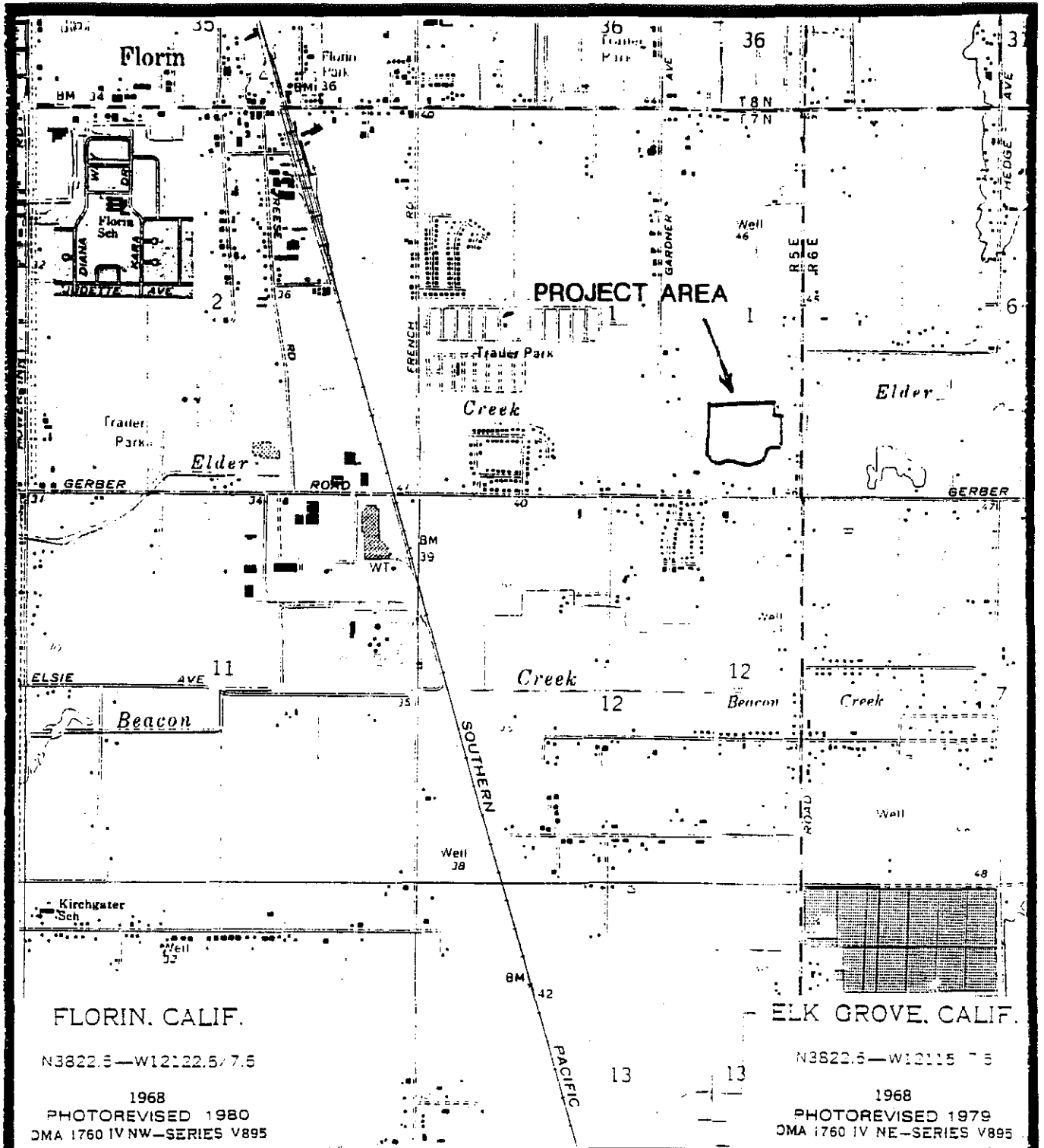
CULTURAL HISTORY

Archeological Background

The Sacramento Delta was one of the first regions in California to attract intensive archeological fieldwork. Between 1893 and 1901, avocational archeologist J. A. Barr excavated many prehistoric mounds in the Stockton area. He collected nearly 2,000 artifacts during the course of his investigations. H. C. Meredith was another avocational archeologist of the period who pursued collecting in the same Stockton locality. Meredith (1899, 1900) did publish a compilation of his own and Barr's findings, and these appear to constitute the earliest accounts of Delta archeology. Holmes (1902), from the Smithsonian Institution, further elaborated on the Delta or "Stockton District" archeology, presenting illustrations of artifacts collected by Meredith and Barr.

It was Elmer J. Dawson who first recognized culture changes through time in Delta archeology. Though he was an amateur archeologist, Dawson understood the necessity of keeping accurate notes on grave associations and provenience of artifacts. He collaborated with W. E. Schenck to produce an overview of northern San Joaquin Valley archeology (Schenck and Dawson 1929). The overview contained information on more than 90 prehistoric sites as well as data on previous collectors.

By 1931, the focus of archeological work was directed toward the Cosumnes River locality, where survey and exploration were conducted by Sacramento Junior College (Lillard and Purves 1936). Excavations, especially at the stratified Windmill mound (CA-SAC-107), suggested three temporally distinct cultural traditions: Early, Transitional, and Late. Information grew as a result of excavations at other mounds in the Delta and lower Sacramento Valley by Sacramento Junior College and the University of California, Berkeley.



FLORIN, CALIF.

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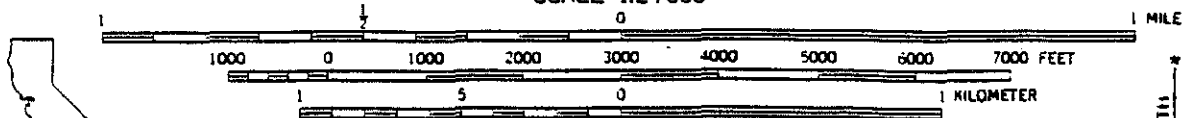
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ELK GROVE, CALIF.

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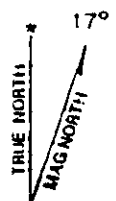
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BASE MAP IS MAPPED EDITED AND PUBLISHED BY THE U. S. GEOLOGICAL SURVEY



Previous investigations in the project region have focused upon very detailed archival research of Spanish sources (Bennyhoff 1977), and the archeological investigations at a number of small sites (Schulz et al. 1979; Schulz and Simons 1973; Soule 1976). A reexamination of earlier work has also been undertaken (Ragir 1972; Schulz 1981; Doran 1980). Several of the previously investigated sites probably represent satellite encampments or small villages associated with major villages.

The majority of the sites appear to be relatively late in time, and probably represent Plains Miwok. As mentioned above, the sites appear to be satellite encampments or small villages. The activities practiced are varied, but detailed studies on the faunal collection suggest seasonality of occupation and a focus on fish species other than the main channel varieties.

Writing the definitive summary of California archeology, Moratto (1984: 529-547) devoted an entire chapter to linguistic prehistory. For the Central Valley region, Moratto points out that some Early Horizon and Middle Horizon central California archeological sites appear at least in part, contemporaneous, based on existing radiocarbon dates. Cultural materials recovered from CA-SJO-68, an Early Horizon site, are thought to relate to date to 4350 ± 250 B.P or 2350 B.C. On the other hand, a Middle Horizon component at CA-CCO-308 dates to 4450 ± 400 B.P. or 2450 B.C. The antiquity of other Early and Middle Horizon sites demonstrate an overlap of the two horizons by a millennium or more.

One explanation proposes that the Middle Horizon represents an intrusion of ancestral Miwok speaking people into the lower Cosumnes, Mokelumne, and Sacramento River areas from the Bay Area. The Early Horizon may represent older Yokuts settlements or perhaps the speakers of a Utian language who were somehow replaced by a shift of population(s) from the bay.

Ethnological Background

The Eastern Miwok represent one of the two main divisions of the Miwokan subgroup of the Utian language family (Levy 1978:398). The Plains Miwok, one of five separate cultural and linguistic groups of the Eastern Miwok, occupied the lower reaches of the Mokelumne, Cosumnes and Sacramento Rivers including the area of south Sacramento County surrounding the project area. Linguistic studies and the application of a lexicostatistic model for language divergence suggests that Plains Miwok was a distinct linguistic entity for the last 2000 years (Levy 1970). This result led researchers such as Richard Levy (1978:398) to conclude that the Plains Miwok inhabited the Sacramento Delta for a considerable period of time.

The political organization of the Plains Miwok centered on the tribelet. Tribelets were comprised of 300 to 500 individuals (Levy 1978:410). Each tribelet was thought to control a specific area of resources and usually consisted of several villages or hamlets. Each tribelet also was divided along lineages. These lineages were apparently localized to a specific geographic setting and most likely represented a village site and their associated satellite sites where the

seasonal collection of resources occurred (Levy 1978:398-399). Each settlement apparently contained roughly 21 individuals according to data collected by Gifford (Cook 1955:35).

The diet of the Plains Miwok emphasized the collection of floral resources such as acorns, buckeye, digger pine nuts, seeds from the native grasses and various fresh greens. Faunal resources such as tule elk, pronghorn antelope, deer, jackrabbits, cottontails, beaver, gray squirrels, woodrats, quail and waterfowl were hunted. Fishing, particularly salmon and sturgeon, contributed significantly to the Plains Miwok diet (Levy 1978:402-403). The primary method of collecting fish was by nets, but the use of bone hooks, harpoons and obsidian-tipped spears is also known ethnographically (Levy 1978:404).

Both twined and coiled basketry were manufactured by the Eastern Miwok. The uses of baskets included the collection and storage of seeds, basketry cradles and gaming (Levy 1978:406). Tule mats were also known to have been used by the Plains Miwok primarily as a floor covering. Other uses of tule included the manufacture of the tule balsa, a water craft in which native people navigated and exploited adjacent delta and major river systems.

Four main types of structures were known among the Eastern Miwok, depending on the environmental setting. In the mountains, the primary structure was a conical structure of bark slabs. At lower elevations the structures consisted of thatched structures, semi-subterranean earth-covered dwellings and two types of assembly houses used for ceremonial purposes (Levy 1978:408-409).

Bennyhoff (1977:11) characterized the Plains Miwok as intensive hunter-gatherers, with an emphasis upon gathering. The seasonal availability of floral resources defined the limits of the group's economic pursuits. Hunting and fishing subsistence pursuits apparently accommodated the given distribution of resources. The Plains Miwok territory covered six seasonally productive biotic communities and as such native people could apparently afford to pick and choose the resources they ranked highest from each of these zones. The subsequent storage of floral resources (such as acorns in granaries) allowed for a more stable use of the resource base (Bennyhoff 1977:10). The acorn was apparently the subsistence base needed to provide an unusually productive environment as earlier non-acorn using peoples who resided in the same geographic setting apparently suffered some seasonal deprivation (Schulz 1981). Such an emphasis upon the gathering of acorns is consistent with the population increase evident during the Upper Emergent Period in California (Doran 1980).

The study of piscine (fish) remains from both CA-SAC-65 (Schulz et al. 1979) and CA-SAC-145 (Schulz n.d.; Schulz and Simons 1973) indicates that small villages away from the major rivers appear to concentrate on the collection of piscine species (particularly the Sacramento perch) that inhabited slow-moving waters. This would probably have been the case with any village located within or near the Plan Area, if there was a village in the immediate area.

The detention basin site is not known to be controlled by any particular tribe or of the Plains Miwok, but appears to lie in an unoccupied boundary zone between the Plains Miwok and the antagonistic Nisenan to the north (Bennyhoff 1977:58).

Historical Background

The detention basin site does not lie on a portion of the early Mexican land grants nor does it lie within the land that could be mined for gold. As a result, there is no indication that any important events or activities occurred in the early history of the region. It was not long after the initial gold rush of the late 1840s-early 1850s, however, when the agricultural potential of the excellent farmlands of the Sacramento Valley was recognized. The first lands taken up were the rich bottom lands along the major watercourses. By the mid-1860s, the prime farm land had been claimed and the later settlers began to discover the potential of lands such as the detention basin site with poorer soil and less available water. In the 1860s and 1870s, virtually all land in the region was taken up by the later settlers for agricultural purposes. The detention basin site lies within the boundaries of the San Joaquin Township (Thompson & West 1880:234-235).

The service center for the farmers of the region was the town of Florin, about 1½ miles from the proposed detention basin. The town, formed in 1875 along the line of the Central Pacific Railroad branch, had a post office, railroad station, store, blacksmith shop, hotel, school, box factory and carpenter shop in 1880. The soils of the region overlie a hardpan layer, making them suitable primarily for the raising small fruits such as strawberries, grapes, peaches and apples, with irrigation. Florin served as the shipping point for the farm products of the region (Thompson & West 1880).

The 1855 General Land Office plat of the township does not show any feature within the project area. In 1885, Esau Gardner owned 600 acres in the Florin vicinity including the detention basin site. Gardner came to California in 1850, and settled on the property in 1875. Fifty acres of his holdings were devoted to a vineyard (Thompson & West 1880:272). By 1903, Gardner's holdings had been divided with several individuals named Gardners holding various parcels. E. Gardner was shown as the owner of the property, possibly Esau, but more likely a son or other heir. The 1909 Florin USGS topographic quadrangle does not show any structures in or near the detention basin site. By 1911, the land lay within the site was within the boundaries of the 80 acre parcel owned by John L. Scholfield. In 1923, A. Mueller owned the southwest quarter of the southwest quarter of the section.

RESEARCH

Records of previous cultural resource surveys and maps of recorded sites within the project area were reviewed in person by Robert Gerry on January 8, 1997 at the North Central Information Center of the California Historical Resources Information System. The records search for the North Vineyard detention basin revealed that there are no archeological sites recorded in or near the study area. Very little of the project area has been systematically surveyed. In 1974, J. Johnson of CSU Sacramento completed a survey of Elder Creek transecting the southern edge of the detention basin site.

Research on historic sites was conducted utilizing historic maps in our files. Additionally, several published texts were consulted for information on sites of recognized significance. There are no historic sites of recognized significance within the proposed basin.

FIELD INSPECTION

The project area was inspected on January 10, 1997 by Robert Gerry of Peak & Associates, Inc. The inspection consisted of complete pedestrian coverage of the property except for the few areas that were overflowed at the time of the field study.

The property has been used as pasture in the recent past, but is now vacant. There is heavy grass cover, beaten down and matted from the recent rains, that hindered surface inspection. There are, however, numerous vehicle and animal trails and rodent burrows that allowed a reasonable level of inspection. Particular care was given to the banks of the creek, where a vertical soil exposure ranging from 1.0 to 1.5 meters in height was present, except where trampled down by cattle. The soil exposure revealed only light brown sandy clay (flood sediment) throughout with no evidence of organic build-up. The only rock present, other than minor amounts of gravel, consisted of natural stream cobbles, and these were rare.

No evidence of prehistoric use or occupation of the project area was observed.

The only two structures in the project area are near the northern boundary. One is a low cattle feeding trough made of wood timbers. The other is a wood frame storage shed. The shed is about 15 x 15 feet with vertical board and batten siding and a low pitched, gabled corrugated tin roof. There are two equal-sized door openings on the northern side (one missing the door) and no other openings. On the east side, a small addition has been added, apparently by dragging a section off of an abandoned house to the shed and nailing it in place. This section is sided with flush horizontal boards and had a shed roof, now collapsed. Both sections of the structure are constructed using wire nails exclusively and the siding of the main section is in good shape despite a complete lack of maintenance. The structure looks old at first glance, due to the

deteriorated condition of the addition, but closer inspection indicates that it is not, in fact, of any great antiquity.

CONCLUSIONS

The detention basin site lies on a flat open plain of the Sacramento Valley with no permanent water sources present. A branch of Elder Creek transects the area along the southern margin. Prehistoric period campsites and villages are normally not discovered in areas with no permanent water sources. It is entirely likely that the Native American people utilized this area for seasonal resource collection, but did not inhabit the detention basin site on a permanent basis. The gathering/hunting of plants and animals rarely leaves tangible evidence of this activity, other than the isolated, lost tool.

The land of the detention basin site has been in agricultural use from the 1850s up to the present day. Generally, farmers first took up the land with first rate soil, with a later wave of settlers selecting the tracts with second rate soil. The soil type, combined with a lack of natural water sources, made the latter useful for dry land cultivation of hay and grain, or for seasonal grazing. Later, with the development of better systems for pumping water and irrigation, the land could be used more intensively for vineyards and small fruit orchards.

RECOMMENDATIONS

A surface inspection can never entirely eliminate the possibility of a buried resource. It is, therefore, recommended that if artifacts, bone, or shell are uncovered during construction, all work should be halted in the area of the find and an archeologist should be contacted for an assessment. Should bone be uncovered that appears to be human, by state law the County Coroner must be contacted. If the coroner determines the bone is from a Native American interment, the Native American Heritage Commission must be contacted.

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APPENDIX 1

RESUMÉS

RESUMÉ

MELINDA A. PEAK
Senior Historian/Archeologist

February 1996

PROFESSIONAL EXPERIENCE

Ms. Peak has served as the principal investigator on a wide range of prehistoric and historic excavations throughout California. She has directed laboratory analyses of archeological materials, including the historic period. She has also conducted a wide variety of cultural resource assessments in California, including documentary research, field survey and report preparation. In addition, Ms. Peak has developed a second field of expertise in applied history, specializing in site specific research. She is a registered professional historian and has completed a number of historical research projects.

EDUCATION

M.A. - History - California State University, Sacramento, 1989
B.A. - Anthropology - University of California, Berkeley, 1976

RECENT PROJECTS

In recent months, Ms. Peak has completed several determination of eligibility and effect documents in coordination with the Corps of Engineers for projects requiring federal permits, assessing the eligibility of a number of sites for the National Register of Historic Places. She has also conducted several surveys, and completed historical research projects on a wide variety of topics for a number of projects including the development of navigation and landings on the Napa River, a farmhouse dating to the 1860s, an early roadhouse, and a section of an electric railway line.

In recent years, Ms. Peak has prepared a number of cultural resource overviews and predictive models for blocks of land proposed for future development for general and specific plans. She has been able to direct a number of surveys of these areas, allowing the model to be tested.

Ms. Peak has served as project manager for a number of major survey and excavation projects in recent years, including the many surveys and site definition excavations for the 172-mile-long Pacific Pipeline proposed for construction in Santa Barbara, Ventura and Los Angeles counties. She also completed an archival study in the City of Los Angeles for the project.

Additionally, she completed a number of small surveys, served as a construction monitor at several urban sites, and directed the excavations of several historic complexes in Sacramento, Placer and El Dorado Counties.

RESUMÉ

ROBERT A. GERRY
Consulting Archeologist

December, 1995

PROFESSIONAL EXPERIENCE

Mr. Gerry has over twenty years of extensive experience in both the public and private sectors. He has directed all types of cultural resource-related projects, ranging from field survey, test excavations, data recovery programs, intensive archival research and cultural resource management. He has completed archeological work in most cultural areas of California and the western Great Basin.

EDUCATION

Graduate studies - Anthropology - California State University, Sacramento, 1972-1977
B.A. - Anthropology - University of Illinois, Chicago Circle, 1972

RECENT PROJECTS

Mr. Gerry was field director for a cultural resources survey of about 18,640 acres within the Naval Petroleum Reserve No. 1, Kern County, California. The project employed a stratified random sampling strategy and resulted in the recording of 112 cultural resources, and preparation of a management plan. He also directed a subsequent excavation program for evaluation of significance. Additionally, he served as field director for archeological surveys on the Plumas, Stanislaus, El Dorado and Six Rivers National Forests.

He was field director and primary report writer on several linear surveys of considerable length - including the San Joaquin Valley Pipeline (157 miles) for Shell Oil, the Point Arena-Dunnigan fiber optic cable (137 miles) and the Medford, Oregon, to Redding, California fiber optic cable (151 miles), the Oregon and Idaho portions of the Spokane to Boise fiber optic cable, and the San Bernardino to San Diego fiber optic cable, for American Telephone & Telegraph Company. He also assisted on the 170 mile Pacific Pipeline survey on the southern coast of California.

He produced the computer program that stored, sorted and printed out data abstracts for 1604 sites involved in the Enlarged Shasta Dam and Alternatives Class I Cultural Resources Overview for the Bureau of Reclamation. He directed the transit-and-stadia mapping of a prehistoric/historic site complex covering some 170 acres in El Dorado County and drafted the final map.

Mr. Gerry has developed a specialty in bridge replacement evaluations, completing five such studies in Tuolumne County, two in Santa Barbara County, two in Amador County and six others in various areas of California.

01/28/97 16:33 FAX 916 452 0684 PEAKE & ASSOC

001

PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY

January 28, 1997

Kris Steward
Law Offices of George E. Phillips
555 University Avenue, Suite 200
Sacramento, CA 95825

Subject: North Vineyard Station, Basin 20 and Elder Creek Channel

Dear Ms. Steward:

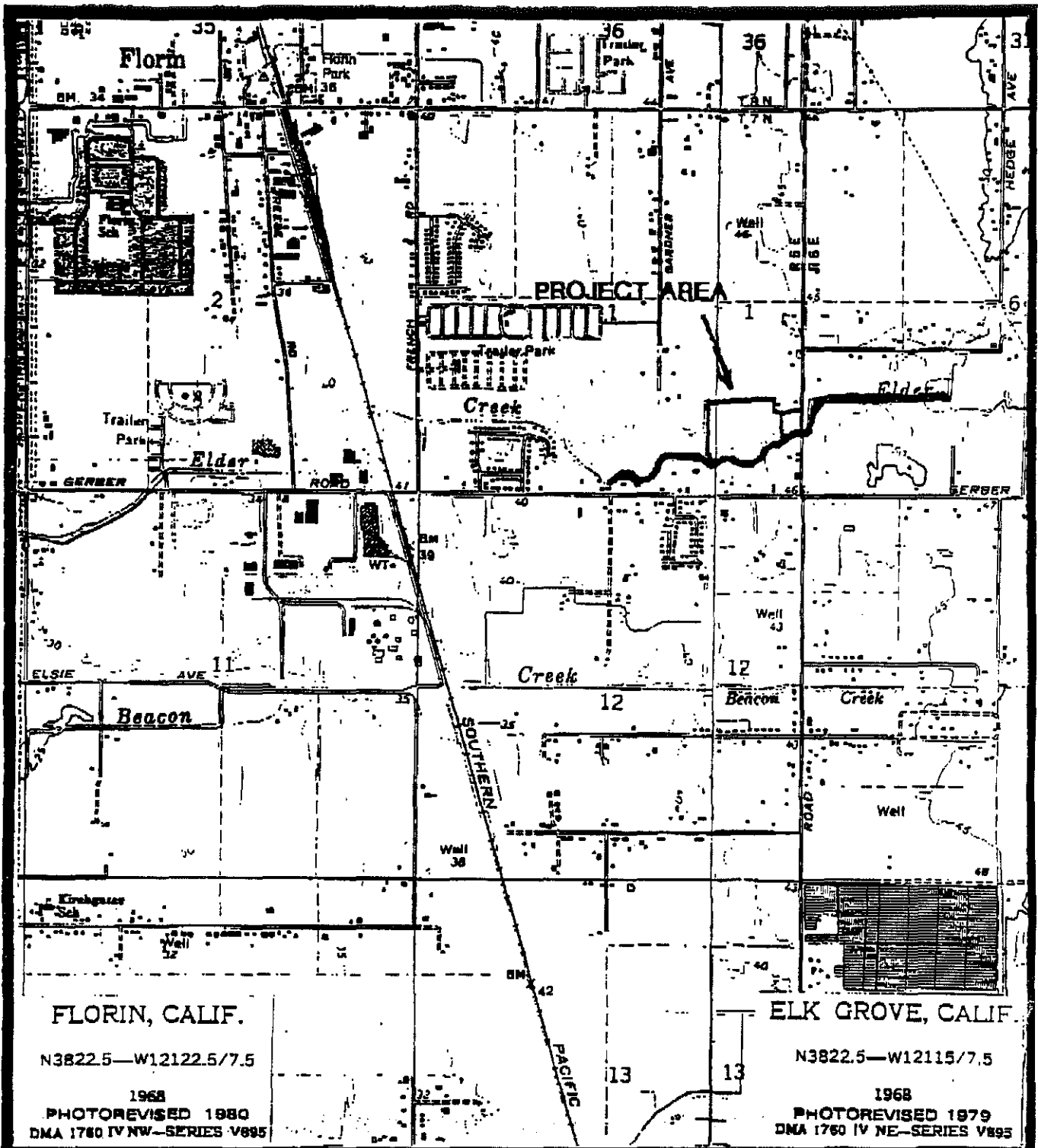
The corridor of Elder Creek had been previously surveyed by J. Johnson in 1977 with negative results. On January 24, 1997, Melinda Peak completed an on-foot survey of the study area as indicated on the attached map. She inspected exposed ground surfaces and the cutbanks of the channel wherever possible. Dense vegetation obscured some of the channel banks. In addition, she surveyed the extension of the proposed basin area that extends eastward to Elk Grove-Florin Road, indicated on the enclosed map. There is no evidence of prehistoric or historic cultural materials in the study area.

Sincerely,

Melinda A. Peak
President

MAP//

enclosure



FLORIN, CALIF.

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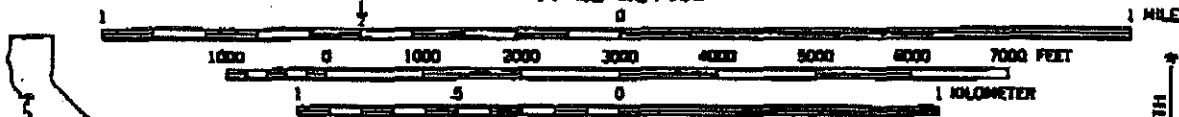
1968
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ELK GROVE, CALIF.

N3822.5—W12115/7.5

1968
PHOTOREVISED 1979
DMA 1760 IV NE—SERIES V895

SCALE 1:24000



CONTOUR INTERVAL 5 FEET

QUADRANGLE LOCATION

BASIC MAP IS MAPPED, EDITED AND PUBLISHED BY THE U. S. GEOLOGICAL SURVEY



MAP 1

DEPARTMENT OF ENVIRONMENTAL REVIEW & ASSESSMENT

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