MITIGATED NEGATIVE DECLARATION
OF THE
SOLANO COUNTY DEPARTMENT OF RESOURCE MANAGEMENT

PROJECT TITLE:

LANDS OF ABREW MINOR SUBDIVISION
APPLICATION NO. MS-19-02

PROJECT DESCRIPTION AND LOCATION:

Subdivide 82.9 acres into three (3) 20-acre parcels and one(1) 22.9-acre parcel for total of four (4) parcels in the Exclusive Agriculture 20-acre zoning district (A-20). The property is located north side of Brehme Lane, 4000 feet east of Pleasants Valley Road, within unincorporated Vacaville, California. APN 0102-090-140

FINDINGS:

The Solano County Department of Resource Management has evaluated the Initial Study which was prepared in regard to the project. The County found no potentially significant adverse environmental impacts likely to occur; thus, determines that the project qualifies for a Mitigated Negative Declaration. The Initial Study of Environmental Impact, including the project description, findings and disposition, are attached.

MITIGATION MEASURES INCORPORATED INTO PROJECT DESCRIPTION:

AIR QUALITY:

Mitigation Measure AIR-1: Prior to issuance of a grading/improvement plan permit, building permit or Parcel Map recordation, the project applicant shall require its construction contractor to prepare and implement a Dust Control and Construction Exhaust Mitigation Plan subject to the satisfaction of the Public Works Division and Yolo Solano Air Quality Management District.

BIOLOGICAL RESOURCES:

Mitigation Measure BIO-1: Prior to recordation of the Parcel Map, the Subdivider shall compensate for the loss of foraging habitat due to residential development, structures (houses, barns, out- buildings, roads, etc.) at a ratio of 1:1 (1 acre for every acre removed), for a total loss of 0.85 acres. Mitigation may be in the form of fee-title or a conservation easement or credits, held by a non-profit land management organization, on lands containing suitable Swainson's hawk foraging habitat and as approved by the California Department of Fish and Wildlife in Solano County. The purchase of Swainson's Hawk mitigation credits at a mitigation bank or conservation area located in Solano County is acceptable.

Mitigation Measure BIO-2: Removal of large riparian trees (trunk diameter of 15 inches or more measured at 54 inches above natural grade) shall be avoided to reduce potential impacts to yellow-

breasted chat.

Mitigation Measure BIO-3: For construction activities that occur between February 1 and August 31, a preconstruction breeding bird survey shall be conducted by a qualified biologist familiar with bird behavior and knowledge of nest types prior to and within 10 days of any initial ground-disturbance activities. A copy of the preconstruction survey shall be submitted to the Department of Resource Management prior to construction. Surveys shall be of sufficient intensity (typically 2 to 3 surveys) to document nesting within a 0.25 mi (1,320 ft) buffer around planned work activities (consistent with current Solano HCP guidance). If a lapse in project-related construction work of 15 days or longer occurs, additional preconstruction surveys shall be required before project work may be reinitiated. A survey will consist of a pedestrian search by a qualified Biologist for both direct and indirect evidence of bird nesting. Direct evidence will include the visual search of an actual nest location. Indirect evidence will include observing birds for nesting behavior, such as copulation, carrying food or nesting materials, nest building, feeding chicks, and other characteristic behaviors that indicate the presence of an active nest. Surveys will be conducted in accordance with the guidance in Martin and Guepel (1993). If nesting Swainson's hawks, white tailed kites, or other birds are detected, the qualified biologist shall establish no-disturbance buffers around nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely impacted by construction. Buffers will be maintained until the qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival.

Mitigation Measure BIO-4: All equipment should be thoroughly cleaned (washed) before entering the project site, if the equipment has been used in areas infested with weeds. Workers should inspect, remove, and properly dispose of weed seed and plant parts found on their clothing and equipment. Stockpiled, un-infested material should be maintained in a weed-free condition. Retain native vegetation in and around project activity to the maximum extent possible. Avoid creating soil conditions that promote weed germination and establishment. Revegetate disturbed areas in a manner that optimizes plant establishment for that specific site. Revegetation may include planting, seeding, fertilization, liming, and weed-free mulching as necessary. Use native material where appropriate and feasible. Use certified weed-free or weed-seed-free hay or straw for erosion control. Conduct weed control on roadways and in disturbed areas as needed. Re-seeding of the project site shall be accomplished within appropriate California native plant species that are adapted to the site. Suggested Erosion control seed mix consists of 15 pounds per acre (lbs/ac) of *Bromus carinatus*, 15 lbs/ac of *Elymus glaucus*, 10 lbs/ac of *Lupinus bicolor*, 10 lbs/ac of *Lupinus succulentus*, 10 lbs/ac of *Trifolium albopurpureum*, 10 lbs/ac of *Trifolium microcephalum*, and 5 lbs of *Clarkia pupurea*. Placement of seed shall be by hydromulch spray or other broadcast method as determined by owner to ensure germination prior to October 15th. If necessary, watering of the reseeded area must be ensured to enhance plant germination and survival.

Mitigation Measure BIO-5: In order to protect the riparian corridor and the tributaries, delineate on the Parcel Map a 100-foot wide setback, measured from the centerline of the tributaries or creek. No ancillary structures (barns, leach fields, corrals etc.) shall be placed within the setback.

Mitigation Measure BIO-6: To minimize the impact of development on wildlife movement, all perimeter fencing shall meet the following standards:

- Fence heights shall be limited to average maximum of 5 feet above ground level (limited height variations based on topographic changes are allowable).

- Welded wire or other mesh fences shall have a minimum 4 inch by 4 inch opening. Smaller opening in the lower 18 inches of the fence is allowable if needed to contain smaller domestic animals. No-climb horse fencing should be avoided as perimeter fencing.

- Solid perimeter fences are prohibited.

- Wood or metal picket fences shall have minimum spacing of 4 inches between pickets and shall not have sharp or pointed spikes or decorations along the top.

Mitigation Measure BIO-7: In order to protect and preserve Oak Woodlands and Heritage trees, prior to issuance of a grading permit/improvement plan permit, building permit or recordation of the Parcel Map, a qualified and certified Arborist shall prepare a tree inventory/resources report. All oak species 6-inches dbh or greater to be retained or removed and all heritage trees shall be identified on the grading/improvement plan. Consistent with General Plan policy RS. I-3, heritage trees are defined as (a) trees with a trunk diameter of 15 inches or more measured at 54 inches above natural grade, (b) any oak tree native to California with a diameter of 10 inches above natural grade, or (c) any tree or group of trees special significance in consultation with the Department of Resource Management. The Arborist shall recommend and monitor specific measures to protect oak trees 6-inches dbh or greater or heritage trees from construction impacts. This includes designating no work zones by exclusion fencing along the canopy dripline. Ground disturbance, grading, development, construction or trenching is prohibited within 5 feet of the dripline of any oak tree 6-inches dbh or greater or any heritage tree. If an oak tree or heritage tree cannot be protected from damage or removal, the loss of each mature tree shall be mitigated by planting 15 saplings at least 3 years old in areas where oak recruitment has been absent due to fire, grazing and weed competition. A qualified biologist shall designate potential planting areas and supervise the planting and installation of any necessary irrigation. The following guidelines for oak restoration shall be followed:

- Mitigation Planting: To compensate for the unavoidable loss of mature blue and live oaks, 15 saplings of the same species shall be planted for each mature tree removed. Oak saplings shall be sourced from a certified Phytophthora ramorum-free nursery. Saplings must be at least 3 years old and shall be spaced at least 15 feet from each other. Each sapling shall be staked with two wooden stakes and caged to a sufficient height that deer and cattle cannot damage the sapling. Saplings shall be planted in moist soil, after the first substantial rain. In the following summer, watering may be necessary to enhance survival.

- Performance and Success Criteria: Performance criteria for the revegetation area shall be assessed in 2024, or at least 3 years following the conclusion of grading activities. The oak planting site(s) shall have at least a 65 percent cover by native or naturalized plants (primarily grasses) and no more than 20 percent of the area shall be covered by non-native weeds. Survival of planted oak saplings until 2024 shall exceed 65% (i.e., 10 living oak saplings per mature tree removed).

- Monitoring Plan: The site shall be visited annually by a qualified biologist to visually assess herbaceous cover of the revegetation area and the survival of oak saplings. If revegetation success or sapling mortality falls below the above performance and success criteria during any of the 3 years following construction, adaptive management (reseeding, replanting) must be conducted, using the above species and methods.

CULTURAL RESOURCES:

Mitigation Measure CUL-1: In the event that presently undocumented buried archaeological deposits are encountered during any project-associated construction activity, work must cease within a 50-foot radius of the discovery. A qualified archaeologist must be retained to document the discovery, assess its significance, and recommend treatment.

Mitigation Measure CUL-2: If human remains or any associated funerary artifacts are discovered during construction, all work must cease within the immediate vicinity of the discovery. In accordance with the California Health and Safety Code (Section 7050.5), the Solano County Sheriff/Coroner must be contacted immediately. If the Coroner determines the remains to be Native American, the Coroner will notify the Native American Heritage Commission, which will in turn appoint a Most Likely Descendent (MLD) to act as a tribal representative. The MLD will work with the project applicant and a qualified archaeologist to determine the proper treatment of the human remains and any associated funerary objects. Construction activities will not resume until either the human remains are exhumed, or the remains are avoided via project construction design change.

HAZARDS:

Mitigation Measure HAZ-1: On the Parcel Map, delineate the 30-foot setback (defensible space) from the property lines as shown on the tentative map, required by Cal Fire Regulations and include a note that the property is located within the State Responsibility Area for wildfire. Compliance with the Cal Fire adopted regulations (Cal Code reg. Title 14 Sec 1270 et seq) could minimize the risk of loss, injury or death involving wildfire.

WATER SUPPLY:

Mitigation Measure WS-1: Prior to the recordation of the Parcel Map, complete all engineering and construction related to the public water system, according to the terms of agreement with the Rural North Vacaville Water District, in compliance with the rules and regulations of the Rural North Vacaville District. Submit evidence to the Department of Resource Management that the engineering plans and necessary infrastructure installation are complete to the satisfaction of the Rural North Vacaville Water District.

NOISE:

Mitigation Measure NOISE-1: Construction activity is limited to weekdays during the hours of 8 a.m. to 5 p.m., Monday through Friday; and 9 a.m. to 4 p.m. on Saturdays, and no work should occur on Sundays and Federal holidays. In order to ensure future buyers are aware of the noise restrictions, the Parcel Map shall include a supplemental note statement regarding the noise restriction for construction activities.

PREPARATION:

This Mitigated Negative Declaration was prepared by the Solano County Department of Resource Management. Copies may be obtained at the address listed below or at www.solanocounty.com under Departments, Resource Management, Documents, Environmental Impact Reports & Negative Declarations

Allan Calder, Planning Program Manager
Solano County Dept. of Resource Management
675 Texas Street, Suite 5500, Fairfield, CA 94533
(707) 784-6765

Lands of Abrew Subdivision
Application No.: MS-19-02

Draft Initial Study and

Mitigated Negative Declaration

March 2022

Prepared By
Department of Resource Management
County of Solano

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DEPARTMENT OF RESOURCE MANAGEMENT
PART II OF INITIAL STUDY OF ENVIRONMENTAL IMPACTS

Introduction

The following analysis is provided by the Solano County Department of Resource Management as a review of and supplement to the applicant's completed "Part I of Initial Study". These two documents, Part I and II, comprise the Initial Study prepared in accordance with the State CEQA Guidelines, Section 15063.

Project Title:	Lands of Abrew Subdivision
Application Number:	MS-19-02
Project Location:	Northside of Brehme Lane, 4000 feet east of Pleasants Valley Road
Assessor Parcel No.(s):	0102-090-140
Project Sponsor's Name and Address:	Joseph Abrew 712 Atchinson Drive Vacaville, California 95687

General Information

This document discusses the proposed project, the environmental setting for the proposed project, and the impacts on the environment from the proposed project and any measures incorporated which will minimize, avoid and/or provide mitigation measures for the impacts of the proposed project on the environment.

- ❑ Please review this Initial Study. You may order additional copies of this document from the Planning Services Division, Resource Management Department, County of Solano County at 675 Texas Street, Fairfield, CA, 94533.
- ❑ We welcome your comments. If you have any comments regarding the proposed project please send your written comments to this Department by the deadline listed below.
- ❑ Submit comments via postal mail to

  Planning Services Division
  Resource Management Department
  Attn: Nedzlene Ferrario, Senior Planner
  675 Texas Street
  Fairfield, CA 94533

- ❑ Submit comments via fax to: (707) 784-4805
- ❑ Submit comments via email to: nnferrario@solanocounty.com
- ❑ **Submit comments by the deadline of: May 2, 2022**

Next Steps

After comments are received from the public and any reviewing agencies, the Department may recommend that the environmental review is adequate and that a Mitigated Negative Declaration be adopted or that the environmental review is not adequate and that further environmental review is required.

ENVIRONMENTAL DETERMINATION

On the basis of this initial study:

☐ I find the proposed project could not have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

■ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the project proponent has agreed to revise the project to avoid any significant effect. **A MITIGATED NEGATIVE DECLARATION** will be prepared.

☐ I find the proposed project could have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT (EIR) is required.

☐ I find the proposed project could have a significant effect on the environment, but at least one effect has been (1) adequately analyzed in a previous document pursuant to applicable legal standards, and (2) addressed by mitigation measures based on the previous analysis as described in the attached initial study.

An EIR is required that analyzes only the effects that were not adequately addressed in a previous document.

☐ I find that although the proposed project could have a significant effect on the environment, no further environmental analysis is required because all potentially significant effects have been (1) adequately analyzed in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (2) avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are included in the project, and further analysis is not required.

3-18-22
Date

Nedzlene Ferrario
Senior Planner

INCORPORATION OF MITIGATION MEASURES INTO THE PROPOSED PROJECT

By signature of this document, the project proponent amends the project description to include the mitigation measures as set forth in Section 2.

3-16-2022
Date

Joseph Abrew
Proponent/Owner

1.0 ENVIRONMENTAL SETTING and PROJECT DESCRIPTION

1.1 Environmental Setting:

The subject property ("property" or "project site") consists of approximately 83 acres of undeveloped land located on the northside of Brehme Road, 4,000 feet east of Pleasants Valley Road in the Pleasants Valley, approximately 5 miles northwest of the center of the city of Vacaville, within unincorporated Solano County. The property consists of one legal parcel (Assessor Parcel Number [APN]: 0102-090-140). The property consists of agricultural land that was previously used for grazing. Figures 1 and 2 show the regional location and project site location, respectively.

The site is located within the Pleasants Valley area, an area with predominantly single-family residences on large acreages and associated small-scale agricultural activities, such as ranches and hobby farms. The area consists primarily of grassland mixed with agriculture, bordered by oak savanna on the west and denser oak woodland on the north and at higher elevations along the ridge.

The overall landscape consists of grasslands dominated by annual grassland species, scattered stands of native and nonnative trees, and riparian corridors. The project area contains graveled roadways and ranch roads, undisturbed upland grasslands and woodlands and disturbed sites around buildings and roads. Wetland areas exist along English Creek, consisting of ephemeral streams and a stock pond located near the northern property boundary (Parcel 2C). The site recently burned in the Hennessy fire, a component of the LNU Lightning Complex fire, which burned from August 17 to October 2, 2020.

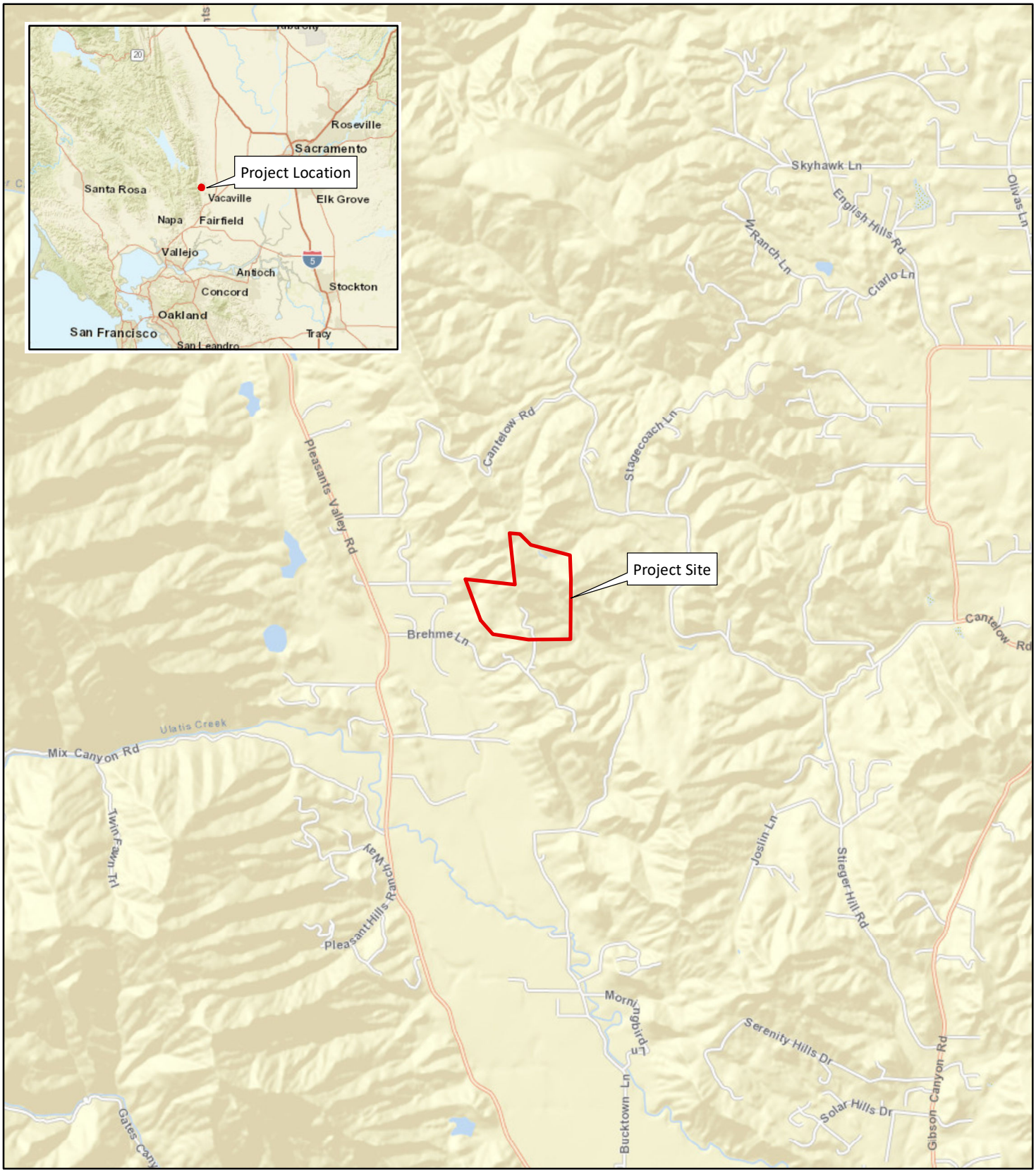
1.2 Project Description:

The project applicant proposes to subdivide the 82.9-acre property into four parcels: three 20-acre parcels (Parcel 2A, Parcel 2D, and Parcel 2C), and one 22.9-acre parcel (Parcel 2B). The proposed tentative parcel map is shown in Appendix C. Access to the property is from Brehme Lane and a new private road is proposed off of Brehme Lane to serve the proposed parcels. Parcel 2A would be accessed from the new private road. The existing cul-de-sac turnaround at the terminus of Brehme Lane would be divided between Parcel 2A and Parcels 2B and 2D, with the property line running through the turnaround. A new private road is proposed to extend from the existing cul-de-sac, along the western boundary of Parcel 2D to the northern boundary of Parcel 2B. Driveways would extend from this private road, providing access to Parcel 2B, Parcel 2C, and Parcel 2D. The proposed private road would be contained within a 60-foot wide private access and utility easement and extended through the adjacent property to Cantelow Road. A subdivision application is currently under review for the adjacent property (MS-20-01, APN 102-090-070).

The project applicant has designated one potential building site for each parcel on the tentative map.

Due to the hilly terrain, the proposed private road and access driveways would slope towards the uphill curb. Drainage for the proposed roadways would be provided by 3-foot-wide V-shaped rock-lined ditches. Where pipes provide storm drains, rock (rip-rap) energy dissipaters would be provided, consisting of a cobble-lined 9-inch deep depression. All on-site storm drains pipes would consist of 12-gauge corrugated metal pipe. Catch basins along the roadway would be approximately 4 square feet or larger and be topped with heavy-duty traffic-rated grates.

Wastewater for each parcel would be disposed of through new on-site sewage disposal systems. Two designated leach field alternatives have been identified on the tentative map for each parcel. Domestic water would be provided by Rural North Vacaville Water District. A water system would be installed consisting of approximately 795 feet of 6-inch water main, extending from the existing public water main along the southern property boundary to the central connection point within Parcel 2B. Two fire hydrant



LSA

LEGEND

Project Site

FIGURE 1

N

0 1500 3000

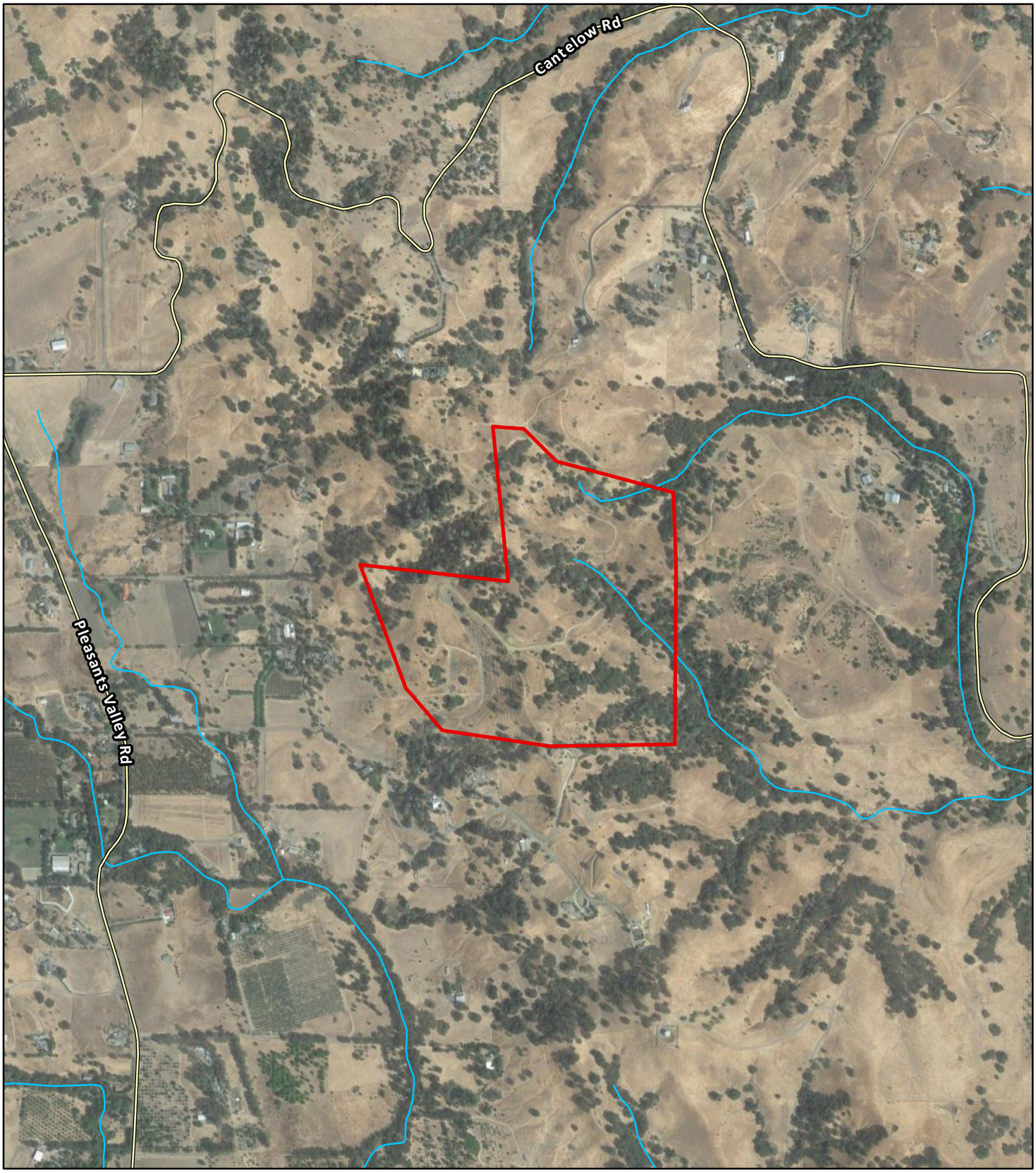
FEET

Lands of Abrew Subdivision
Solano County, California

General Project Location

SOURCE: ESRI World Street Maps (02/2020).

I:\JSP2001\GIS\Maps\Figure 1_General Project Location.mxd (2/14/2021)



LSA

FIGURE 2

LEGEND

Project Site

Stream/River

N

0 500 1000

FEET

Lands of Abrew Subdivision
Solano County, California

Project Site Location

SOURCE: Google Maps Sat (10/2020); National Hydrology Dataset (2018).

I:\JSP2001\GIS\Maps\Figure 2_Project Site Location.mxd (2/14/2021)

locations are currently proposed – one within 1,000 feet of the building site on Parcel 2A and the second within 1,000 feet of the building sites on Parcels 2B, 2C, and 2D.

1.2.1 Additional Data:

NRCS Soil Classification:	45%- DbF2 (Dibble Los Osos) – Class VIe, 20% - BrC (Brentwood clay loam) – Class IIe, 20% - MmE (Millsholm loam) – Class Vie, 15% - GaG2 (Gaviota sandy loam) – Class VIIe
Agricultural Preserve Status/Contract No.:	N/A
Non-renewal Filed (date):	N/A
Airport Land Use Referral Area:	N/A
Alquist Priolo Special Study Zone:	N/A
Primary or Secondary Management Area of the Suisun Marsh:	N/A
Primary or Secondary Zone identified in the Delta Protection Act of 1992:	N/A
Other:	None

1.2.2 Surrounding General Plan, Zoning and Land Uses

	General Plan	Zoning	Land Use
Property	Agriculture	A-20	Agriculture
North	Agriculture	A-20	Agriculture
South	Agriculture	A-20	Agriculture
East	Agriculture	A-20	Agriculture
West	Agriculture	A-20	Agriculture

1.3 Consistency with Existing General Plan, Zoning, and Other Applicable Land Use Controls:

1.3.1 General Plan

The General Plan Land Use Diagram designates the parcel as Agriculture, which provides for the practice of agriculture as the primary use, and allows for secondary uses that support the economic viability of agriculture. Uses include both irrigated and dryland farming and grazing activities. Agriculture-related housing is also permitted within areas designated for agriculture to provide farm residents and necessary residences for farm labor housing. The soil onsite consists of mostly Class VI soils, which have been previously determined by the County to be unsuitable for supporting high intensity crops. According to the Agriculture Element of the General Plan, the project site is located within the Pleasants/Vaca/Lagoon Valleys Agricultural Region, with a minimum lot size of 20 acres. All of the proposed parcels are greater than 20 acres in size. As such, the proposed subdivision is consistent with the County General Plan.

1.3.2 Zoning

The project site is zoned Exclusive Agricultural (A-20), which permits parcels with a minimum lot size of 20 acres. All of the proposed parcels are greater than 20 acres in size. As such, the proposed subdivision is consistent with the County Zoning Regulations.

1.3.3 Solano County Code

Chapter 26 of the Solano County Code, entitled “Solano County Subdivision Ordinance,” states that agricultural parcels proposed for subdivision must be provided adequate access as defined in the Road Improvement Standards and Land Division and Subdivision Requirements and that the subdivider shall be responsible for reasonable improvements, including right-of-way and road dedication. Chapter 26 also states that where sewage disposal will be on-site, there is a minimum parcel size of 2.5 acres if water is supplied by a public agency or utility district. The 83-acre project site is proposed to be subdivided into four parcels, all of which would be at least 20 acres in size. Access would be provided via a private road extension from Brehme Lane. The proposed parcels would be served by the Rural North Vacaville Water District and would meet the minimum requirements for sewage disposal. Therefore, the proposed project would be consistent with Chapter 26 of the Solano County Code.

1.4 Permits and Approvals Required from Other Agencies (Responsible, Trustee and Agencies with Jurisdiction): None

2.0 AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR PROTECTION MEASURES

This chapter discusses the potential for adverse impacts on the environment. Where the potential for adverse impacts exist, the report discusses the affected environment, the level of potential impact on the affected environment and methods to avoid, minimize or mitigate for potential impacts to the affected environment.

Findings of SIGNIFICANT IMPACT

Based on the Initial Study, Part I as well as other information reviewed by the Department of Resource Management, the project does not have the potential for significant impacts to any environmental resources.

Findings of LESS THAN SIGNIFICANT IMPACT Due to Mitigation Measures Incorporated Into the Project

Based on the Initial Study, Part I as well as other information reviewed by the Department of Resource Management, the following environmental resources were considered and the potential for significant impacts were reduced to less than significant due to mitigation measures incorporated into the project. A detailed discussion of the potential adverse effects on environmental resources is provided below:

- ❑ Air Quality
- ❑ Biological Resources
- ❑ Cultural Resource
- ❑ Hazards and Hazardous Materials
- ❑ Hydrology and Water Quality
- ❑ Noise

Findings of LESS THAN SIGNIFICANT IMPACT

Based on the Initial Study, Part I as well as the review of the proposed project by the Department of Resource Management, the following environmental resources were considered and the potential for impact is considered to be less than significant. A detailed discussion of the potential adverse effects on environmental resources is provided below:

- ❑ Geology and Soils
- ❑ Greenhouse Gas Emissions
- ❑ Public Services
- ❑ Transportation and Traffic
- ❑ Utilities and Service Systems

Findings of NO IMPACT

Based on the Initial Study, Part I as well as the review of the proposed project by the Department of Resource Management, the following environmental resources were considered but no potential for adverse impacts to these resources were identified. A discussion of the no impact finding on environmental resources is provided below:

- ❑ Aesthetics
- ❑ Agricultural Resources
- ❑ Land Use
- ❑ Mineral Resources
- ❑ Population and Housing
- ❑ Recreation

2.1 Aesthetics

Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	■
b.	Substantially damage scenic resources, including, but not limited to, trees, rock out-croppings, and historic buildings within a state scenic highway?	☐	☐	☐	■
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	■
d.	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☐	■
e.	Increase the amount of shading on public open space (e.g. parks, plazas, and/or school yards)?	☐	☐	☐	■

Environmental Setting

The project site is located within an area with predominantly single residences on large acreages and associated small-scale agricultural activities, such as ranches and hobby farms. The area consists primarily of grassland mixed with agriculture, bordered by oak savanna on the west and denser oak woodland on the north and at higher elevations along the ridge.

The project site is located off Brehme Lane, which is not identified as a scenic roadway in the General Plan. The nearest scenic roadway to the project site is Pleasants Valley Road, located approximately 0.5-mile to the west of the project site.[1] No designated State scenic highways are located within the viewshed of the project site.

Impacts

2.1.a, c) The only physical change associated with the proposed project would be the possible addition of four dwelling units and associated infrastructure (e.g., roadways, utilities) on the project site. Proposed development would be consistent in scale and density to existing development surrounding the project site. Due to the location and topography of the proposed building sites and the density of development proposed (e.g., one dwelling unit per 20 acres or more), the proposed project would not have a substantial adverse effect on a scenic vista, nor would it substantially degrade the existing visual character or its surroundings. **No impact** would occur.

2.1.b) The project site is not located in close proximity to a State scenic highway or a County-designated scenic roadway. Due to its distance from Pleasants Valley Road and intervening topographic features, the project site and proposed improvements would not be visible from this designated scenic roadway. Therefore, the proposed project would not substantially damage scenic resources within a state scenic highway. **No impact** would occur.

[1] Solano, County of. 2008. Solano County General Plan.

2.1.d, e) The potential addition of four residences on the project site would not create a substantial amount of light or glare that would adversely affect day or nighttime views in the area. The project site is not located in proximity to any public open space areas; therefore, the proposed project would not increase the amount of shading on public open space (e.g. parks, plazas, and/or school yards). **No impact** would occur.

Avoidance, Minimization Measures and/or Mitigation Measures

None required

2.2 Agricultural Resources

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	■
b.	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	■
c.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	■

Environmental Setting

The project site is classified as "Grazing Land" on maps prepared by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP).[2] Grazing Land includes land on which the existing vegetation is suited to the grazing of livestock. The soil onsite consists of mostly Class VI soils, which have been previously determined by the County to be unsuitable for supporting high intensity crops. The project site is not under a Williamson Act contract.

Impacts

2.2.a-c) The proposed subdivision would create four lots larger than 20 acres in an agricultural zoning district. As described above, no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is mapped at the project site nor does the site support prime soils. Therefore, **no impacts** related to agricultural resources would occur.

Avoidance, Minimization Measures and/or Mitigation Measures

None required

[2] California Department of Conservation (DOC). California Farmland Conservancy. California Important Farmland Finder. Website: maps.conservation.ca.gov/dlrp/ciff/ (accessed March 17, 2021).

2.3 Air Quality

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	■	☐
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	■	☐	☐
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	■
d.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	■
e.	Create objectionable odors affecting a substantial number of people?	☐	☐	☐	■

Environmental Setting

The project site is located within the Sacramento Valley Air Basin (SVAB), which comprises the northeastern portion of Solano County, and all of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba Counties and the western portion of Placer County. The project site is located within the jurisdiction of the Yolo Solano Area Air Quality Management District (YSAQMD), which regulates air quality in the project area. All projects in the northeastern portion of Solano County are subject to YSAQMD rules and regulations in effect at the time of construction.

Impacts

2.3.a) The proposed project would have no impact on implementation of the YSAQMD's 2019 Triennial Assessment and Plan Update,[3] which is the applicable air quality plan established by YSAQMD. The proposed project would result in the subdivision of land and allow the addition of four new residences on the project site, which would be well below the YSAQMD screening size for residential project. Therefore, operational emissions associated with the proposed project would be **less than significant** and the project would not conflict with implementation of an applicable air quality plan.

2.3.b) The proposed project would result in the subdivision of land and allow the addition of four new residences on the project site. The YSAQMD has developed screening criteria to provide lead agencies with a conservative indication of whether the proposed project would result in potentially significant air quality impacts. If all of the screening criteria are met by a proposed project, then the lead agency would not need to perform a detailed air quality assessment of the proposed project's emissions. For single-

[3] Yolo – Solano Air Quality Management District. 2019. 2019 Triennial Assessment and Plan Update. Available online at: http://www.ysaqmd.org/wp-content/uploads/2021/01/2015-17-Triennial-Plan-Final-Board-Approved.pdf (accessed March 17, 2021).

family residential uses, the YSAQMD screening size for operational criteria pollutants is 325 dwelling units.[4] As identified above, the proposed project would allow the development of four residential units and associated improvements, which would be well below the screening size. Therefore, operational emissions associated with the proposed project would **be less than significant**.

During construction of proposed improvements, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by demolition, grading, hauling, and other activities. Emissions from construction equipment are also anticipated and would include carbon monoxide (CO), nitrogen oxide (NO_x), reactive organic gas emissions (ROG), directly-emitted particulate matter ($PM_{2.5}$ and PM_{10}), and toxic air contaminants (TACs), such as diesel exhaust particulate matter. Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. Construction equipment exhaust can be mitigated by implementing strategies such as restricting unnecessary vehicle idling to 5 minutes, using reformulated and emulsified fuels, incorporating catalyst and filtration technologies, and modernizing the equipment fleet with cleaner repower and newer engines. Implementation of Mitigation Measure AIR-1, described below, would reduce potential impacts related to construction emissions to **less than significant with mitigation**.

2.3.c-e) The proposed project would not generate a significant number of vehicle trips or household emissions that would result in a cumulatively considerable net increase of any criteria pollutant or expose sensitive receptors to significant pollutant concentrations. The proposed project is not anticipated to generate objectionable odors. **No impacts** would occur.

Avoidance, Minimization Measures and/or Mitigation Measures

Mitigation Measure AIR-1: Prior to issuance of a grading/improvement plan permit, building permit or Parcel Map recordation, the project applicant shall require its construction contractor to prepare and implement a Dust Control and Construction Exhaust Mitigation Plan subject to the satisfaction of the Public Works Division and Yolo Solano Air Quality Management District.

Verification: The Solano County Department of Resource Management shall verify that a Dust Control and Construction Exhaust Mitigation Plan has been prepared and approved prior to issuance of grading/improvement plan permit, building permit or Parcel Map recordation.

[4] Yolo – Solano Air Quality Management District. 2007. Handbook for Assessing and Mitigating Air Quality Impacts. Available online at: http://www.ysaqmd.org/wp-content/uploads/Planning/CEQAHandbook2007.pdf (accessed March 17, 2021)

2.4 Biological Resources

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	■	☐	☐
b.	Have a substantial adverse effect on any aquatic, wetland, or riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	■	☐	☐
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act including, but not limited to, marsh, vernal pool, coastal, etc., through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	■
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	■	☐	☐
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	■	☐	☐
f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

Environmental Setting

According to the Biological Assessment Report[5] prepared for the proposed project, the project site is typical of the Inner Coast Range hills in Solano County and vegetation that is adapted to or associated with the dry conditions on hillsides, slopes, ridges, and foothill terraces. The overall landscape consists of grasslands dominated by annual grassland species, scattered stands of native and nonnative trees, and riparian corridors. The project area contains graveled roadways and ranch roads, undisturbed upland grasslands and woodlands and disturbed sites around buildings and roads. Wetland areas exist along English Creek, consisting of ephemeral streams and a stock pond (dry at the time of the field visit). The stock pond is located within the northeastern quadrant of the property (Parcel 2C).

[5] LSA. 2021. Lands of Abrew Subdivision, Biological Assessment Report and Environmental Documentation. March 17.

At the project site, oak dominated communities have been reduced by former orchards (dryland stone fruit and walnuts) and possibly disturbance from grazing and increased seedling mortality from competition with nonnative grasses. The oak woodlands at the project site are a multi-layered mosaic of trees, shrubs and grass patches. Thus, there is a wide range of variation in the species composition, ranging from pure grasslands to dense woodlands. The dominant species within the tree layer throughout most of the project site is blue oak (*Quercus douglasii*). Blue oak savanna occurs with interspersed patches of manzanita and annual grassland. Oak savannah occurs on drier hillslopes and includes scattered individuals of foothill pine (*Pinus sabiniana*). The shrub layer is dominated by manzanita, but coyote bush (*Baccharis pilularis*) also occurs in deeper alluvial soils.

The project site has two primary drainages forming tributaries to English creek; one is trending northeast, the other is trending southeast. The streambed is gravel, cobble and bedrock and the channel sides are steep. Trees within the riparian corridor are typically very large, mature individuals. The primary species that are found along the drainages and within the riparian zine of the drainages include valley oak (*Quercus lobata*), coast live oak (*Q. agrifolia*), Interior live oak (*Q. wislezenii*), black oak (*Q. kelloggii*), California bay (*Umbellularia californica*), and walnut (*Juglans* spp.). Several large individuals of Cottonwood (*Populus fremontii*) were found along the dam of the stock pond near the northern property boundary. California buckeye (*Aesculus californica*) provides an important nectar source for butterflies and hummingbirds. The shrubby understory in these riparian oak woodlands typically consists of poison oak (*Toxicodendron diversalobum*), gooseberries (*Ribes* spp.), and/or toyon (*Heteromales arbutifolia*). However, the study area was severely burned in a recent fire and many individual shrubs or trees were completely consumed by the fire; therefore, the composition of this vegetation community at the project site is presently difficult to assess accurately.

Mammal species observed during the site visit were black-tailed deer (*Odocoileous hemionus*) and black-tailed jack rabbits (*Lepus californicus*). Birds observed included California quail (*Callipepla californica*), mourning dove (*Zenaida macroura*), California scrub jay (*Aphelocoma californica*), acorn woodpecker (*Melanerpes formicivorus*), oak titmouse (*Baelophus inornatus*), and California towhee (*Melozone crissalis*). No amphibians were observed within the streambed of English Creek. No ground squirrel (Otospermophilus beecheyi) individuals or their burrows were observed. No American badger (*Taxidea taxus*) burrows were found.

Impacts

2.4.a.) As described in the Biological Assessment Report prepared for the proposed project, special-status wildlife species that are likely to occur within or immediately adjacent to the project site consist of: Swainson's hawk (Buteo swainsoni; State Threatened), burrowing owl (Athene cunicularia; California Species of Special Concern [SSC]), yellow-breasted chat (Icteria virens; SSC), and American badger (Taxidea taxus; SSC). These species are described further below.

Swainson's Hawk. Three to five known or suspected active Swainson's hawk nests are located within 5 miles of the project site. The Swainson's hawk is highly mobile and can forage up to 18 miles from the nest; therefore, the project site lies within the normal foraging radius of these nests. The site currently offers marginal foraging habitat due to the steep slopes and lack of grazing, which reduces prey availability. There are no ground squirrels on the site, further reducing the habitat quality for Swainson's hawk. The proposed project would result in a minor loss of foraging habitat for this species. Road construction would occur on existing ranch roads and would not have an appreciable impact on Swainson's hawk foraging habitat. Residential buildings, gardens and other residential features would reduce the available foraging habitat by less than 5 percent. Compliance with recommended Mitigation Measure BIO-1 below, will compensate for the loss of foraging habitat for Swainson's hawk.

Burrowing Owl. The absence of burrowing mammals precludes the use of the site as breeding or wintering habitat for burrowing owl. The natural grasslands at the site are marginal foraging habitat for burrowing owl.

Yellow-Breasted Chat. The shrubs and dense vegetation along English Creek could provide suitable habitat for yellow-breasted chat. The species has been verified to occur in the Pleasant Creek drainage, approximately 3.75 miles north of the property. However, no development associated with the proposed project (e.g., roadways, building sites) would be located along English Creek. Implementation of Mitigation Measure BIO-2 below would ensure no impacts to riparian trees along English Creek could impact yellow-breasted chat.

American Badger. American badger could be present on the site, although no badgers or their burrows were observed during field surveys conducted for the proposed project. Badger require friable, sandy soils for burrowing. The soil types with the highest sand percentage (Gaviota sandy loam, 4 percent) and soils of the Millsholm series (36 percent) provide suitable badger habitat. Similar to the Swainson's hawk, the proposed subdivision of the site would maintain large patches of grassland, which would benefit this species, if present within the project site.

Nesting Birds. Vegetation on or adjacent to the project site could provide nesting habitat for some species of birds protected under the federal Migratory Bird Treaty Act and the California Fish and Game Code. If the project requires removal and/or trimming of trees during the nesting bird season (February 15 to August 31), impacts to the active nests of protected bird species could occur. Implementation of Mitigation Measure BIO-3 would reduce the potential project impacts to protected nesting birds to a less-than-significant level.

As described above, the proposed subdivision and limited development on the site would benefit special-status species by preserving large patches of habitat and no development would occur within or along English Creek, which provides habitat for yellow-breasted chat. Mitigation Measures BIO-1 will compensate for the loss of Swainson Hawk foraging habitat and BIO-2, below, would ensure sufficient habitat is preserved. In addition, Mitigation Measures BIO-3 and BIO-4 would ensure construction activities would not affect nesting birds or introduce invasive species that could impact native habitat. With incorporation of Mitigation Measures BIO-1 through BIO-4, described below, impacts to special-status species would be reduced to **less than significant with mitigation incorporated**.

2.4.b.) Riparian habitat exists along a 0.5-mile section of English Creek and its tributaries. The riparian habitat would not be affected by the subdivision, roads and the proposed buildings, which are located on hillslopes at least 100 feet away from the edge of the riparian habitat. No other sensitive natural communities are present on the project site. Implementation of Mitigation Measure BIO-3 would ensure no structures are placed within the riparian zone. With incorporation of Mitigation Measure BIO-5, described below, impacts to riparian habitat would be reduced to **less than significant with mitigation incorporated**.

2.4.c.) English Creek is a seasonal, intermittent creek in its upper reaches. It was dry during the field visit on February 3, 2021. Likewise, the pond at the upper end of the English Creek drainage was dry at that time. No buildings, roads or other features are planned within the channel or banks of English Creek and no stream crossings are currently proposed. Therefore, the proposed project would not impact federally protected wetlands or other waters. **No impact** would occur.

2.4.d.) The California Department of Fish and Wildlife (CDFW) Biogeographic Information & Observation System was reviewed to determine if the project is located within an Essential Connectivity Area. The project does not occur within an Essential Connectivity Area. However, the Solano Habitat Conservation Plan (HCP) has identified the site to fall within the "Jepson Prairie-Vaca Mountains/Inner Coast Range" key corridor. This corridor represents the portion of the English Hills north of the rural residential areas in northern Vacaville. This area provides an important transition between the Vaca Mountains, Pleasants Valley, and the Valley Floor Grassland and Vernal Pool habitats near Vacaville. This corridor contains high value oak savanna and oak woodland habitat within the English Hills. There are no wildlife nursery sites on the property.

The project site currently has no interior barriers to wildlife movement. It is fenced with wildlife permeable fencing on the perimeter although the quality of the fences is poor. The relatively large size of the project site and its position along a major creek drainage makes it a suitable corridor for mobile species. The oak woodlands and riparian habitat of the project site are heavily used by highly mobile species such as deer and turkey, which have been observed at the project site. Subdivision of the parcels could have a minor impact on the movement of wildlife species along the creek and through the property due to the presence of new fences, buildings, and general disturbance. Implementation of Mitigation Measure BIO-6 would minimize the impact of development on wildlife movement. With incorporation of Mitigation Measure BIO-6, described below, impacts to wildlife movement would be reduced to **less than significant with mitigation incorporated**.

2.4.e) Policy RS.P-6 of the Solano County General Plan addresses oak woodlands and heritage tree protection, through the adoption of an ordinance to protect oak woodlands as defined in Senate Bill (SB) 1334 and heritage oak trees. The Solano County General Plan defines heritage trees as the following: (a) trees with a trunk diameter of 15 inches or more measured at 54 inches above natural grade, (b) any oak tree native to California, with a diameter of 10 inches above natural grade, or (c) any tree or group of trees specifically designated by the County for protection because of its historical significance, special character or community benefit. An Oak Woodland and Heritage Tree ordinance has yet to be adopted; however, implementation of the General Plan policies is recommended to **mitigate impacts to a less-than-significant level.**

The project site has an abundance of native trees that meet the definitions of Policy RS.P-6 (oak woodlands and heritage tree protection) and SB 1334. Heritage oak trees could be affected by the proposed widening of roads, construction of the water lines, installation of leach fields and grading of building sites. From field observations and examination of aerial imagery, it can be estimated that project elements may impact up to 22 native trees, primarily blue oak either through direct removal or indirect impacts (e.g., grading within the tree's dripline, change of grade or other root impacts). With incorporation of Mitigation Measure BIO-7, described below, impacts to protected trees would be reduced to **less than significant with mitigation incorporated**.

2.4.f) Solano County is not a participant in the Solano HCP and the HCP has not yet been adopted. This project will not conflict with the provisions of the Solano HCP nor interfere with the implementation of this plan once it is adopted. **No impact** would occur.

Avoidance, Minimization Measures and/or Mitigation Measures

Mitigation Measure BIO-1: Prior to recordation of the Parcel Map, the Subdivider shall compensate for the loss of foraging habitat due to residential development, structures (houses, barns, out- buildings, roads, etc.) at a ratio of 1:1 (1 acre for every acre removed), for a total loss of 0.85 acres. Mitigation may be in the form of fee-title or a conservation easement or credits, held by a non-profit land management organization, on lands containing suitable Swainson's hawk foraging habitat and as approved by the California Department of Fish and Wildlife in Solano County. The purchase of Swainson's Hawk mitigation credits at a mitigation bank or conservation area located in Solano County is acceptable.

Mitigation Measure BIO-2: Removal of large riparian trees (trunk diameter of 15 inches or more measured at 54 inches above natural grade) shall be avoided to reduce potential impacts to yellow-breasted chat.

Mitigation Measure BIO-3: For construction activities that occur between February 1 and August 31, a preconstruction breeding bird survey shall be conducted by a qualified biologist familiar with bird behavior and knowledge of nest types prior to and within 10 days of any initial ground-disturbance activities. A copy of the preconstruction survey shall be submitted to the Department of Resource

Management prior to construction. Surveys shall be of sufficient intensity (typically 2 to 3 surveys) to document nesting within a 0.25 mi (1,320 ft) buffer around planned work activities (consistent with current Solano HCP guidance). If a lapse in project-related construction work of 15 days or longer occurs, additional preconstruction surveys shall be required before project work may be reinitiated. A survey will consist of a pedestrian search by a qualified Biologist for both direct and indirect evidence of bird nesting. Direct evidence will include the visual search of an actual nest location. Indirect evidence will include observing birds for nesting behavior, such as copulation, carrying food or nesting materials, nest building, feeding chicks, and other characteristic behaviors that indicate the presence of an active nest. Surveys will be conducted in accordance with the guidance in Martin and Guepel (1993). If nesting Swainson's hawks, white tailed kites, or other birds are detected, the qualified biologist shall establish no-disturbance buffers around nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely impacted by construction. Buffers will be maintained until the qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival.

Mitigation Measure BIO-4: All equipment should be thoroughly cleaned (washed) before entering the project site, if the equipment has been used in areas infested with weeds. Workers should inspect, remove, and properly dispose of weed seed and plant parts found on their clothing and equipment. Stockpiled, un-infested material should be maintained in a weed-free condition. Retain native vegetation in and around project activity to the maximum extent possible. Avoid creating soil conditions that promote weed germination and establishment. Revegetate disturbed areas in a manner that optimizes plant establishment for that specific site. Revegetation may include planting, seeding, fertilization, liming, and weed-free mulching as necessary. Use native material where appropriate and feasible. Use certified weed-free or weed-seed-free hay or straw for erosion control. Conduct weed control on roadways and in disturbed areas as needed. Re-seeding of the project site shall be accomplished within appropriate California native plant species that are adapted to the site. Suggested Erosion control seed mix consists of 15 pounds per acre (lbs/ac) of *Bromus carinatus*, 15 lbs/ac of *Elymus glaucus*, 10 lbs/ac of *Lupinus bicolor*, 10 lbs/ac of *Lupinus succulentus*, 10 lbs/ac of *Trifolium albopurpureum*, 10 lbs/ac of *Trifolium microcephalum*, and 5 lbs of *Clarkia pupurea*. Placement of seed shall be by hydromulch spray or other broadcast method as determined by owner to ensure germination prior to October 15th. If necessary, watering of the reseeded area must be ensured to enhance plant germination and survival.

Mitigation Measure BIO-5: In order to protect the riparian corridor and the tributaries, delineate on the Parcel Map a 100-foot wide setback, measured from the centerline of the tributaries or creek. No ancillary structures (barns, leach fields, corrals etc.) shall be placed within the setback.

Mitigation Measure BIO-6: To minimize the impact of development on wildlife movement, all perimeter fencing shall meet the following standards:

- Fence heights shall be limited to average maximum of 5 feet above ground level (limited height variations based on topographic changes are allowable).

- Welded wire or other mesh fences shall have a minimum 4 inch by 4 inch opening. Smaller opening in the lower 18 inches of the fence is allowable if needed to contain smaller domestic animals. No-climb horse fencing should be avoided as perimeter fencing.

- Solid perimeter fences are prohibited.

- Wood or metal picket fences shall have minimum spacing of 4 inches between pickets and shall not have sharp or pointed spikes or decorations along the top.

Mitigation Measure BIO-7: In order to protect and preserve Oak Woodlands and Heritage trees, prior to issuance of a grading permit/improvement plan permit, building permit or recordation of the Parcel Map, a qualified and certified Arborist shall prepare a tree inventory/resources report. All oak species

6-inches dbh or greater to be retained or removed and all heritage trees shall be identified on the grading/improvement plan. Consistent with General Plan policy RS. I-3, heritage trees are defined as (a) trees with a trunk diameter of 15 inches or more measured at 54 inches above natural grade, (b) any oak tree native to California with a diameter of 10 inches above natural grade, or (c) any tree or group of trees special significance in consultation with the Department of Resource Management. The Arborist shall recommend and monitor specific measures to protect oak trees 6-inches dbh or greater or heritage trees from construction impacts. This includes designating no work zones by exclusion fencing along the canopy dripline. Ground disturbance, grading, development, construction or trenching is prohibited within 5 feet of the dripline of any oak tree 6-inches dbh or greater or any heritage tree. If an oak tree or heritage tree cannot be protected from damage or removal, the loss of each mature tree shall be mitigated by planting 15 saplings at least 3 years old in areas where oak recruitment has been absent due to fire, grazing and weed competition. A qualified biologist shall designate potential planting areas and supervise the planting and installation of any necessary irrigation. The following guidelines for oak restoration shall be followed:

- Mitigation Planting: To compensate for the unavoidable loss of mature blue and live oaks, 15 saplings of the same species shall be planted for each mature tree removed. Oak saplings shall be sourced from a certified Phytophthora ramorum-free nursery. Saplings must be at least 3 years old and shall be spaced at least 15 feet from each other. Each sapling shall be staked with two wooden stakes and caged to a sufficient height that deer and cattle cannot damage the sapling. Saplings shall be planted in moist soil, after the first substantial rain. In the following summer, watering may be necessary to enhance survival.

- Performance and Success Criteria: Performance criteria for the revegetation area shall be assessed in 2024, or at least 3 years following the conclusion of grading activities. The oak planting site(s) shall have at least a 65 percent cover by native or naturalized plants (primarily grasses) and no more than 20 percent of the area shall be covered by non-native weeds. Survival of planted oak saplings until 2024 shall exceed 65% (i.e., 10 living oak saplings per mature tree removed).

- Monitoring Plan: The site shall be visited annually by a qualified biologist to visually assess herbaceous cover of the revegetation area and the survival of oak saplings. If revegetation success or sapling mortality falls below the above performance and success criteria during any of the 3 years following construction, adaptive management (reseeding, replanting) must be conducted, using the above species and methods.

Verification: The Solano County Department of Resource Management shall verify that the impacts to native trees are mitigated consistent with the above requirements, including ongoing monitoring to ensure revegetation success.

2.5 Cultural Resources

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Cause a substantial adverse change in the significance of an historical resource as defined in CEQA Guidelines §15064.5?	☐	■	☐	☐
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?	☐	■	☐	☐
c.	Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	☐	■	☐	☐
d.	Disturb any human remains, including those interred outside of formal cemeteries?	☐	■	☐	☐

Environmental Setting

A Cultural Resources Study, which included background research, Native American community outreach, and a pedestrian field survey of the project site, was prepared for the proposed project. The following summarizes the results of the study.

On March 22, 2021, a letter and a map depicting the project area were emailed to the Native American Heritage Commission (NAHC). The letter requested a Sacred Lands File (SLF) search for the project area, and a list of Native American community representatives who might have knowledge concerning cultural resources in the project area or that might have an interest in or concerns with the proposed project. On April 1, 2021, Ms. Sarah Fonseca, Cultural Resources Analyst for the NAHC, replied in an emailed letter that the Sacred Lands File search was completed and that no cultural sites or properties were known to be present within or near the project area. Ms. Fonseca also provided a list of local Native American contacts. On April 2, 2021, letters were mailed to the Native American representatives identified by the NAHC. To date, no responses to the letters have been received.

A records search request was submitted to the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) at Sonoma State University on March 29, 2021. The NWIC reviewed the CHRIS archives for records of previously known and recorded cultural resources, studies, and isolates in and within 0.5-mile of the project site. According to the record search results, one previously recorded archaeological site (P-48-000784) is known to be present within the project area. An additional six previously recorded sites have been documented within a 0.5-mile radius of the project site. According to the NWIC record search no historic properties (per Section 106 of the National Historic Preservation Act criteria) or historical resources (per California Register of Historic Resources criteria) have been recorded in the project area or within the 0.5-mile search area.

A pedestrian field survey of the project area was conducted on April 8, 2021. During the field survey, the project area was dominated by low ruderal vegetation, seasonal grasses, and periodic oak trees and bushy plants. Overall, ground surface visibility was highly variable. A single previously documented historic-era resource, P-48-000784, consisting of an earthen dam and adjacent livestock pond is documented on the site. The dam is approximately 100 feet in length, 20 feet in width, and about 15 feet in height above the surrounding ground surface. The dam was constructed to capture run-off from a nearby seasonal drainage. Due to a lack of significant historical associations and characteristics, and a lack of data potential, P-48-000784 does not appear eligible for listing on the CRHR.

Impacts

2.5.a-d.) As described above, the NAHC search did not indicate the presence of any documented Native American cultural resources in the project area and no Native American community representatives have expressed an interest in or concerns with the proposed project. An intensive survey resulted in the updating of information of a single cultural resource - a stock pond and dam dating to the mid-20th century (P-48-000784). As described above, this resource does not appear to be eligible for listing on the CRHR. Consequently, the project would have no impact on documented cultural resources. In the event that presently undocumented buried archaeological deposits or human remains are encountered during any ground-disturbing activities associated with the proposed project, work must cease and appropriate actions taken, as specified in Mitigation Measures CUL-1 and CUL-2, below. With incorporation of Mitigation Measures CUL-1 and CUL-2, described below, impacts to cultural resources would be reduced to **less than significant with mitigation incorporated**.

Avoidance, Minimization Measures and/or Mitigation Measures

Mitigation Measure CUL-1: In the event that presently undocumented buried archaeological deposits are encountered during any project-associated construction activity, work must cease within a 50-foot radius of the discovery. A qualified archaeologist must be retained to document the discovery, assess its significance, and recommend treatment.

Mitigation Measure CUL-2: If human remains or any associated funerary artifacts are discovered during construction, all work must cease within the immediate vicinity of the discovery. In accordance with the California Health and Safety Code (Section 7050.5), the Solano County Sheriff/Coroner must be contacted immediately. If the Coroner determines the remains to be Native American, the Coroner will notify the Native American Heritage Commission, which will in turn appoint a Most Likely Descendent (MLD) to act as a tribal representative. The MLD will work with the project applicant and a qualified archaeologist to determine the proper treatment of the human remains and any associated funerary objects. Construction activities will not resume until either the human remains are exhumed, or the remains are avoided via project construction design change.

Verification: The Solano County Department of Resource Management shall verify that the above measures are implemented throughout the construction period.

2.6 Geology and Soils

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.					
1)	Rupture of a known earthquake fault, as described on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	■	☐
2)	Strong seismic ground shaking?	☐	☐	■	☐
3)	Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
4)	Landslides?	☐	☐	■	☐
b.	Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c.	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, differential settlement, liquefaction or collapse?	☐	☐	■	☐
d.	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	■	☐
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	■	☐

Environmental Setting

No portion of the project site is located with an Alquist-Priolo Special Studies Zone. The closest known fault is the Midland Fault Zone, located approximately 6 miles to the east. However, according to the Solano County General Plan (Figure HS-6, Seismic Shaking Potential), the project site is located in the area of the County with the highest potential for earthquake damage. In addition, the project site is located within Area 4, as designated on Figure HS-8, Landslide Stability in the Solano County General Plan. Area 4 includes lands that are most susceptible to landslides. The project site is not located in an area that is susceptible to liquefaction.

Impacts

2.6.a.) As described above, the project site is located in an identified geologic hazard area due to potential for strong seismic ground shaking and landslides. As part of the proposed project, the project applicant proposes to subdivide the existing parcel and construct one single-family dwelling on each of the four new parcels. Proposed development would be required to conform with the California Building

Code (CBC), which would help to ensure potential adverse effects associated with geologic hazards would be reduce to the extent feasible. In addition, as required by County code, prior to issuance of any building permit for the proposed project, the applicant will be required to submit a geotechnical report and all construction will have to be carried out in accordance with the recommendation of a California licensed civil engineer. Therefore, seismic-related impacts would be **less than significant.**

2.6.b.) Grading and earthmoving during construction of proposed improvements has the potential to result in erosion and loss of topsoil. Exposed soils could be entrained in stormwater runoff and transported off the project site. However, this impact would be reduced to a less-than-significant level through compliance with water quality control measures, which include preparation of a Stormwater Pollution Prevention Plan (SWPPP). Although designed primarily to protect stormwater quality, the SWPPP would incorporate Best Management Practices (BMPs) to minimize erosion. In addition, the proposed project would be required to comply with Chapter 31, Grading, Drainage, Land Leveling, and Erosion Control, of the Solano County Code, which includes preparation and implementation of an engineered erosion, sediment and runoff control plan to minimize soil erosion, sedimentation and rate of water runoff. With compliance with these regulatory requirements, impacts related to erosion would be **less than significant.**

2.6.c.) The buildings would be designed in conformance with the CBC and the County's current building code, which requires preparation of a soils and geologic report and foundation and structural engineering be prepared and designed to prevent any impacts from on- or off-site landslide, lateral spreading, subsidence, differential settlement, liquefaction or collapse. Compliance with regulatory requirements would reduce impacts to **less than significant**.

2.6.d.) According to the Solano County General Plan (Figure HS-10, Shrink-Swell Potential), the project site is located in an area with moderate potential for expansive soils. As described above, Proposed development would be required to conform with the California Building Code (CBC), which would help to ensure potential adverse effects associated with geologic hazards would be reduce to the extent feasible. In addition, as required by County code, prior to issuance of any building permit for the proposed project, the applicant will be required to submit a geotechnical report and all construction will have to be carried out in accordance with the recommendation of a California licensed civil engineer. Therefore, impacts related to expansive soils would be **less than significant**.

2.6.e) According to the Environmental Health Division, site and soil tests were conducted on the property by Dauwalder Engineering Company. Site testing allows for development of standard type onsite wastewater treatment systems. Compliance with Chapter 6 of the County Code to the satisfaction of the Environmental Health Division would ensure impacts associated with septic systems would be **less than significant**. .

Avoidance, Minimization Measures and/or Mitigation Measures

None required

2.7 Greenhouse Gas Emissions

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	■	☐
b.	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	■	☐

Environmental Setting

Greenhouse gases (GHGs) are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, believed to be causing global warming. While manmade GHGs include naturally-occurring GHGs such as carbon dioxide (CO_2), methane, and nitrous oxide (N_2O), some gases, like hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) are completely new to the atmosphere.

Impacts

2.7.a-b) Construction of the proposed project would require energy for the manufacture and transportation of building materials, preparation of the site for grading activities, and building construction. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. Energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources. Therefore, impacts related to energy and GHG emissions during construction activities would be **less than significant**.

The proposed project would subdivide the site to allow for the development of four new housing units, as well as associated roadway and street improvements. The expected energy consumption during operation of the proposed project would be consistent with typical usage rates for single-family residential uses. Long-term operation of the proposed project would generate GHG emissions from mobile sources and indirect emissions from sources associated with energy consumption. Mobile-source emissions of GHGs would include vehicle trips generated by the four new residential units at the project site. As discussed in Section 2.16, Transportation of the Initial Study, the trip generation for four new households would not be significant; therefore, the additional trips for this project are not expected to significantly increase vehicle emissions or GHG emissions. Proposed development would be required to comply with the CBC, including the California Green Building Standards (Cal Green), which would help to reduce energy and natural gas consumption, as well as, associated GHG emissions. As such , the proposed project would not result in the wasteful, inefficient or unnecessary consumption of fuel or energy and would incorporate renewable energy or energy efficiency measures into building design, equipment use, and transportation.

As proposed, the project would not conflict with any goals or policies of the Solano County General Plan, which are intended to reduce or indirectly reduce GHG emissions. In addition, the proposed project would not conflict with the County's Climate Action Plan (June 2011). Therefore, impacts related to greenhouse gas emissions or energy consumption would be **less than significant**.

Avoidance, Minimization Measures and/or Mitigation Measures
None required

2.8 Hazards and Hazardous Materials

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	■
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	■
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	■
d.	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	■
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	■
f.	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	■
g.	Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	■
h.	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	■	☐	☐

Environmental Setting

The proposed project site consists of approximately 83 acres of agricultural land that was previously used for grazing. The project site contains graveled roadways and ranch roads, undisturbed upland grasslands and woodlands and disturbed sites around buildings and roads. The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and no identified hazardous materials sites are located within 1,000 feet of the project site.

Impacts

2.8.a-d) Although small quantities of commercially-available hazardous materials could be used during project construction activities (e.g., oil, gasoline, paint) and for routine household use within the project site, these materials would not be used in sufficient quantities to pose a threat to human or environmental health. No schools are located within 0.25-mile of the project site. Further, the project site is not located on a list of hazardous materials sites. Therefore, **no impacts related to hazardous materials would occur**.

2.8.e-f) The project site is not located near or within an airport land use plan area. **No impact would occur.**

2.8.g) The project site is not located along within an adopted emergency response plan area or along an emergency evacuation route. The proposed subdivision would not alter or block adjacent roadways; therefore, implementation of the proposed project would not be expected to impair the function of nearby emergency evacuation routes. As described below, the applicant is proposing an 18- to 20-foot wide access road, which would provide access to all parcels and would connect to Cantelow Road through the neighboring property. **No impacts would occur.**

2.8.h) According to the Solano County General Plan (Figure HS-12 Very High Fire Hazard Severity Zones and State Responsibility Areas), the project site is located in a State Responsibility Area and designated as a Very High Fire Hazard Severity Zone. The project applicant would be required to comply with CalFire and Vacaville Fire Protection District standards for development within the State Responsibility Area. As outlined in the Project Description, the applicant is proposing several measures, which would minimize impacts during wildfire, including an access road, which would provide through connection between Pleasants Valley and Cantelow Road through a neighboring property and could serve as an access route during an emergency. Two fire hydrants are proposed for fire suppression. Thirty-foot wide setbacks or defensible space between any structures and property lines are required to comply with State Responsibility Area requirements. With incorporation of Mitigation Measure HAZ-1 described below, impacts related to wildfire would be reduced to **less than significant with mitigation incorporated**.

Avoidance, Minimization Measures and/or Mitigation Measures

Mitigation Measure HAZ-1: On the Parcel Map, delineate the 30-foot setback (defensible space) from the property lines as shown on the tentative map, required by Cal Fire Regulations and include a note that the property is located within the State Responsibility Area for wildfire. Compliance with the Cal Fire adopted regulations (Cal Code reg. Title 14 Sec 1270 et seq) could minimize the risk of loss, injury or death involving wildfire.

Verification: The Solano County Department of Resource Management shall verify that the above measure is implemented prior to Parcel Map recordation.

2.9 Hydrology and Water

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Violate any water quality standards or waste discharge requirements?	☐	☐	■	☐
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	■	☐	☐
c.	Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-or off-site?	☐	☐	■	☐
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-or off-site?	☐	☐	■	☐
e.	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	■	☐
f.	Otherwise substantially degrade water quality?	☐	☐	■	☐
g.	Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	■
h.	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	■
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	■
j.	Be subject to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	■

Environmental Setting

The State Water Resources Control Board and nine Regional Water Quality Control Boards regulate water quality of surface water and groundwater bodies throughout California. The project site is located within the jurisdiction of the Central Valley Regional Water Quality Control Board (Water Board), which is responsible for implementation the Water Quality Control Plan (Basin Plan). The Basin Plan establishes beneficial water uses for waterways and water bodies within the region.
Runoff water quality is regulated by the National Pollutant Discharge Elimination System (NPDES) Program (established through the federal Clean Water Act). The NPDES program objective is to control and reduce pollutant discharges to surface water bodies. Compliance with NPDES permits is mandated by State and federal statutes and regulations. Locally, the NPDES Program is administered by the Water Board. According to the water quality control plans of the Water Board, any construction activities, including grading, that would result in the disturbance of 1 acre or more or smaller sites that are part of larger plan of development would require compliance with the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activity (Construction General Permit).

Since the project would create and/or replace 5,000 square feet or more of impervious surface, it would be required to comply with Section E.12 of the Small MS4 Phase II General Permit (Phase II General Permit)[6] that requires implementation of measures for site design, source control, runoff reduction, storm water treatment and baseline hydromodification[7] management. The Phase II General Permit also requires implementation of Low Impact Development (LID) standards. LID uses design techniques such as harvest and reuse, infiltration, evapotranspiration to mimic a site's pre-development hydrology.

Impacts

2.9.a) Most of the land uses and improvements proposed are relatively low-intensity and would not have the potential to substantially increase the discharge of pollutants to surface water. However, the project would include construction of new paved roads and building pads, which would create new impervious surfaces at the project site.

During the construction period, excavation and grading activities would result in exposure of soil to runoff, potentially causing erosion and entrainment of sediment in the runoff. Soil stockpiles and excavations on the project site would be exposed to runoff and, if not managed properly, the runoff could cause erosion and increased sedimentation in water courses outside of the project site.
Consistent with the requirements of the Statewide Construction General Permit, the project applicant would be required to prepare and implement a SWPPP designed to reduce potential adverse impacts to surface water quality through the project construction period. The SWPPP shall be prepared by a Qualified SWPPP Practitioner (QSP) and include Best Management Practices (BMPs) for erosion and sediment control, site management/ housekeeping /waste management, management of non-stormwater discharges, run-on and runoff controls, and BMP inspection/maintenance/repair activities. The QSP shall be responsible for implementing the BMPs at the site and for performing all required monitoring, and BMP inspection, maintenance and repair activities.

In addition, in compliance with Chapter 31, Grading, Drainage, Land Leveling, and Erosion Control, of the Solano County Code, the project applicant would be required to prepare and implement an engineered erosion, sediment and runoff control plan to minimize soil erosion, sedimentation and rate

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6 NPDES General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems (Small MS4 Permit), Order No. 2013-0001-DWQ

7 Hydromodification is the alteration of the natural flow of water through a landscape, and often takes the form of creek channel erosion. Hydromodification is one of the leading sources of impairment in streams, lakes, and estuaries.

of water runoff. With compliance with these regulatory requirements, potential impacts to water quality during construction **would be less than significant.**

Operational activities may involve common urban pollutants such as surface litter, oil, gasoline, grease, paint, fertilizers, pesticides, and herbicides, which could result in an increase in pollutant discharges at the project site. As described above, the project would be required to comply with Section E.12 of the Phase II General Permit that requires implementation of LID standards. One of the main goals of LID design measures is to treat post-construction stormwater runoff so that receiving water quality is protected. Compliance with the existing regulations that require compliance with Phase II General Permit post-construction stormwater management requirements would ensure that potential impacts to water quality during the operation period are **less than significant**.

2.9.b) The entire property is located in the "A" zone for water bearing rocks in the San Francisco Bay Area by D.A. Webster 1972 - US Department of Interior of Geological Survey. The "A" water zone has the lowest probability of success when attempting to develop a domestic drinking water well with a minimum sustained yield of 3 gallons per minute, when compared to water bearing rock zones with higher probability such as "B, C and D".

The Subdivision Ordinance allows well water to serve as the water supply for lots 5 acres or more; however, the low probability of success raises the risk of water availability and concern for domestic use and project approval. The applicant has proposed public water service connections by the Rural North Vacaville Water District for four (4) lots. The public water main is located on the south side of Parcel 2B and new 6-inch water line extensions through Parcel 2B would be required to serve the project site.

Public water service connection would ensure adequate water supply for the project in a groundwater scarce area. The Rural North Vacaville Water District has approved the sale of four (4) water rights. The District requires that all improvements be designed, engineered and installed by the subdivider in accordance with the District Rules and Regulations prior to recording the Parcel Map or sale of individual lots.

Individual well water usage for four (4) additional lots in a groundwater scarce area has the potential to cause a significant impact; therefore, Mitigation Measure WS-1, described below, is recommended to minimize impacts to a less than significant level. With incorporated of Mitigation Measure WS-1 impacts related to groundwater would be **less than significant with mitigation incorporated**. :

2.9.c-f) Construction of proposed improvements, including roads, and building pads would include the placement of new impervious surfaces at the project site, which could increase the potential for erosion and surface runoff and alter the existing drainage pattern of the project site. However, new impervious surfaces would not be continuous, but would be surrounded by unimproved lands where runoff from the new impervious surface can infiltrate. The applicant would be required to comply with Solano County's Stormwater Pollution Prevention Small Municipalities Program (NPDES Phase II Municipal Permit). Section E.12 of the Phase II Municipal Permit requires implementation of measures for site design, source control, runoff reduction, storm water treatment and baseline hydromodification management. The Phase II Municipal Permit requires regulated projects to include facilities designed to evapotranspire, infiltrate, harvest/use, and biotreat storm water to meet at least one of the hydraulic sizing design criteria included in the Phase II Municipal Permit. To comply with the Phase II Municipal Permit, a Stormwater Control Plan that describes the project specific measures must be prepared and implemented. Compliance with these regulatory requirements, would reduce potential impacts related to stormwater runoff to a **less than significant level**.

2.9.g-i) According to the Solano County General Plan (Figure HS-1 100-Year Floodplain Zone, HS-3 Dam Inundation, and HS-4 Levee Flood Projection Zones), the project site is not located within a 100-year floodplain, dam inundation area or levee flood protection zone. Therefore, the proposed project

would not expose people or structures to a significant risk of loss, injury, or death involving flooding. **No impacts would occur**.

2.9.j) The project site is inland and is not threatened by potential seiche or tsunami. **No impacts would occur**.

Avoidance, Minimization Measures and/or Mitigation Measures

Mitigation Measure WS-1: Prior to the recordation of the Parcel Map, complete all engineering and construction related to the public water system, according to the terms of agreement with the Rural North Vacaville Water District, in compliance with the rules and regulations of the Rural North Vacaville District. Submit evidence to the Department of Resource Management that the engineering plans and necessary infrastructure installation are complete to the satisfaction of the Rural North Vacaville Water District.

Verification: The Solano County Department of Resource Management shall verify that the above measure is implemented prior to Parcel Map recordation.

2.10 Land Use and Planning

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Physically divide an established community?	☐	☐	☐	■
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	■
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	■

Environmental Setting

The proposed project site consists of approximately 83 acres of agricultural land that was previously used for grazing. The project site contains graveled roadways and ranch roads, undisturbed upland grasslands and woodlands and disturbed sites around buildings and roads. The project site is zoned Exclusive Agricultural (A-20), which permits parcels with a minimum lot size of 20 acres. The project site is surrounded by agricultural lands.

Impacts

2.10.a-b) The proposed project would not physically divide an established community. The project site is zoned Exclusive Agricultural (A-20), which permits parcels with a minimum lot size of 20 acres. All of the proposed parcels are greater than 20 acres in size. As such, the proposed subdivision is consistent with the County General Plan and the County's Zoning Ordinance. **No impacts would occur.**

2.10.c) Solano County is not a participant in the Solano HCP and the HCP has not yet been adopted. This project will not conflict with the provisions of the Solano HCP nor interfere with the implementation of this plan once it is adopted. **No impact would occur.**

Avoidance, Minimization Measures and/or Mitigation Measures

None required

2.11 Mineral Resources

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	■
b.	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	■

Environmental Setting

According to the Solano County General Plan, known mineral resource zones (MRZs) are located to the northeast of Vallejo, to the south and southeast of Green Valley, in areas south and east of Travis Air Force Base, and in pockets located within both Vacaville and Fairfield. Stone, gravel, sand, and clay mines are spread out around the County. MRZs are classified by the State Geologist on the basis of geologic factors and may fall into one of four general classifications (MRZ-1 through MRZ-4). MRZ-3 zones occur throughout the County while only one MRZ-2 zone is mapped near Vallejo and Benicia. MRZ-2 zones have the highest probability of having significant mineral deposits, while MRZ-3 zones are likely to have mineral deposits which may or may not be significant.

Impacts

2.11.a-b) As shown on Figure RS-4, Mineral Resources, in the Solano County General Plan, no known no known mineral resources are located within the vicinity of the project site that would be of value to the region or to the State. Further, no locally-important mineral resources have been identified within or adjacent to the project site. **No impacts would occur**.

Avoidance, Minimization Measures and/or Mitigation Measures

None required

2.12 Noise

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	■	☐	☐
b.	Exposure of persons to or generation of, excessive ground borne vibration or ground borne noise levels?	☐	☐	■	☐
c.	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	■	☐
d.	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	■	☐	☐
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■
f.	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■

Environmental Setting

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a ten-fold increase in acoustic energy, while 20 dB is 100 times more intense and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness. Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for 24-hour sound measurements which better represent how humans are more sensitive to sound at night. These measurements include the day/night sound level (Ldn) and the Community Noise Equivalent Level (CNEL).

The Solano County General Plan Noise includes guidelines for normally acceptable noise levels for types of land uses as established by the California Office of Planning and Research. These guidelines enforce a normally acceptable noise level of 65 dB Ldn for low-density residential uses.

Primary noise sources within the project area include traffic along neighboring roadways, airplanes flying overhead, and construction noise (if present at nearby properties).

Impacts

2.12.a-d) Construction of four new single-family residences and associated improvements on the proposed parcels would be compatible with the existing surrounding residential and agricultural development. However, the proposed project would result in short-term noise level increases due to construction activities and long-term noise levels increases due to normal residential and road noises.

Short term:
Construction activities associated with the proposed project could result in a substantial temporary increase in ambient noise levels associated with construction of roadways, infrastructure and residential structures. Due to the location within the valley, the project could add ambient noise levels during construction and post construction. The addition of additional residences could potentially raise the temporary ambient noise levels in the neighborhood. In order to mitigate for construction level noise, **Mitigation Measure NOISE-1 is recommended to minimize impacts to less than significant**.

Long term:
Long-term noise levels would increase slightly due to the addition of four new residences. However, these uses would not result in a substantial increase in daily traffic trips in the project area. Noise generated from proposed residential uses would be similar to existing conditions and would not increase the existing ambient noise level above normal noise levels for an agricultural neighborhood. **Less than significant impacts are anticipated**.

2.12.e-f) The project site is not located near or within an airport land use plan area. **No impact would occur.**

Avoidance, Minimization Measures and/or Mitigation Measures

Mitigation Measure NOISE-1: Construction activity is limited to weekdays during the hours of 8 a.m. to 5 p.m., Monday through Friday; and 9 a.m. to 4 p.m. on Saturdays, and no work should occur on Sundays and Federal holidays. In order to ensure future buyers are aware of the noise restrictions, the Parcel Map shall include a supplemental note statement regarding the noise restriction for construction activities.

Verification: The Solano County Department of Resource Management shall verify that the above measure is implemented prior to parcel map recordation and during construction activities.

2.13 Population and Housing

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	■
b.	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■
c.	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

Environmental Setting

The project site consists of approximately 83 acres of agricultural land that was previously used for grazing. No existing housing or population currently exists on the project site.

Impacts

2.13.a-d) The proposed project would result in the subdivision of land to allow the development of four residential units at the project site. Based on the County's average household size of 2.88 persons[8], the proposed project would increase the local population by approximately 12 persons. The current population of the County is estimated to be approximately 447,643. The anticipated population growth associated with the proposed project represents less than a 1 percent increase to the County's current population. Therefore, the proposed project would not result in substantial unplanned population growth in the area. **No impact would occur**.

2.13.b-c) The project site is currently undeveloped. Therefore, the proposed project would not result in the displacement of people or housing and would not require the construction of replacement housing elsewhere. **No impact would occur.**

Avoidance, Minimization Measures and/or Mitigation Measures

None required

[8] United States Census Bureau. 2019. QuickFacts Solano County. Available online at: www.census.gov/quickfacts/fact/table/solanocountycalifornia/INC110219 (Accessed March 24, 2021)

2.14 Public Services

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1)	Fire Protection?	☐	☐	■	☐
2)	Police Protection?	☐	☐	■	☐
3)	Schools?	☐	☐	■	☐
4)	Parks?	☐	☐	■	☐
5)	Other Public Facilities?	☐	☐	■	☐

Environmental Setting

The project site is located in unincorporated Solano County, in an area served by existing public services.

Fire Protection. Fire protection and emergency response services in the unincorporated areas of the County are provided by six fire districts and CalFire. The project site is served by the Vacaville Fire Protection District. The closest fire station to the project site is located at 4135 Cantelow Road.

Police Protection. Police protection in the County is provided by the Solano County Office of the Sheriff, a State constitutional office headed by an elected sheriff. The Solano County Sheriff's office is located at 530 Union Ave #100 in the City of Fairfield.

Schools. The project site is served by the Vacaville Unified School District (VUSD). VUSD currently operates 10 elementary schools, three middle schools, four high schools, an adult school and one charter school.

Parks. No parks are located in the vicinity of the project site.

Impacts

2.14.a.1) The proposed project would result in the addition of four new residential units at the project site, which would incrementally increase the demand for emergency fire services and emergency medical services. However, the increase in demand would not be substantial. The Vacaville Fire Protection District would continue providing services to the project site and would not require additional firefighters to serve the proposed project. The construction of a new or expanded fire station would also not be required. The proposed project would be required to comply with all applicable codes for fire safety and emergency access, including installation of fire hydrants. Compliance with the applicable

CalFire State Responsibility Area Fire Safe Regulations and Vacaville Fire Protection District rules and regulations would ensure impacts related to fire protection would be **less than significant.**

2.14.a.2) As described above, the proposed project would result in the addition of four residential units at the project site, which would incrementally increase the demand for police services. However, the increase in demand would not be substantial and the Solano County Sheriff's Department has adequate facilities and staff to serve the project site. Therefore, impacts to police protection would be **less than significant.**

2.14.a.3) Individual property owners are required to pay fees prior to issuance of building permits which would help pay for new schools or additional facilities in the Vacaville Unified School District. Therefore, impacts related to schools would be **less than significant**.

2.14.a.4) The project site is located in a rural, agricultural area and would result in minimal development compared to the size of the site. The addition of four residences is not anticipated to result in a substantial increase in demand for park facilities, such that new park facilities would be required. Therefore, impacts related to parks would be **less than significant**.

2.14.a.5) Development of the proposed project could also increase demand for other public services, including libraries, community centers, and public health care facilities. However, due to the minimal increase in population, the proposed project would not result in a substantially increase the use of these facilities. Therefore, impacts to other public facilities would be **less than significant.**

Avoidance, Minimization Measures and/or Mitigation Measures

None required

2.15 Recreation

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	■
b.	Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	■
c.	Physically degrade existing recreational resources?	☐	☐	☐	■

Environmental Setting

No parks or other recreational facilities are located in the vicinity of the project site.

Impacts

2.15.a) The proposed project would result in the addition of four new residential units at the project site, which would incrementally increase the demand for parks and recreational facilities. However, the increase in use at existing parks and recreational facilities would not be substantial, such that physical deterioration of these facilities would occur. **No impact to existing parks and recreational facilities would occur**.

2.15.b-c) The proposed project would subdivide an existing property to create four new parcels, with associated residential uses. The proposed project would not include the construction of any recreational facilities nor would the project require the construction or expansion of recreational facilities. The proposed project would not eliminate or physically degrade any existing recreational resources. **No impacts would occur**.

Avoidance, Minimization Measures and/or Mitigation Measures

None required

2.16 Transportation and Traffic

	Checklist Items: Would the project	Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	■	☐
b.	Conflict with an applicable congestion management program, including, but not limited to level of service standard and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	■	☐
c.	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	■
d.	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible land uses (e.g., farm equipment)?	☐	☐	■	☐
e.	Result in inadequate emergency access?	☐	☐	■	☐
f.	Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	■

Environmental Setting

The proposed parcels would be accessed from Brehme Lane, which is a rural road with limited traffic volumes. Pleasants Valley Road, which provides access to Brehme Lane is classified as a Collector in the Solano County General Plan. Collector roads link local and collector roads with arterials, freeways, and other collector roads and usually have moderate but not congested volume.

Impacts

2.16.a-b) The proposed project would result in the addition of four new residential units at the project site. According to the Institute of Transportation Engineers Trip Generation Manual, the trip generation rate for a single-family residence is 9.6 trips per day; therefore, the proposed project is anticipated to generate a total of 38 vehicle trips per day, with 3 trips in the AM peak hour and 4 trips in the PM peak hour. Because the proposed project would generate fewer than 100 trips during the PM peak hours, a full traffic impact study is not necessary per Solano Transportation Authority's 2019 Congestion Management Program (CMP). Therefore, it can be assumed that the proposed project would not generate enough new trips such that a conflict with the CMP for Solano County would occur. The small

increase in traffic generated by these parcels would not have significant impacts on the circulation system. This impact would be **less than significant**.

The California Office of Planning and Research guidelines for Vehicle Miles Traveled (VMT) analyses state that projects that generate fewer than 110 trips per day may be assumed to cause less than significant VMT impacts. The project would generate approximately 38 vehicle trips per day; therefore, impacts are **less than significant**.

2.16.c) Three international airports are located within 60 miles from the project site: San Francisco International, Oakland International and Sacramento International Airports. Three airports operate in Solano County – Nut Tree Airport (approximately 5 miles from the project site), Rio Vista Airport (Baumann Field, approximately 20 miles from the project site), and Travis Air Force Base (AFB, approximately 10 miles from the project site). The proposed project would result in subdivision of an existing property to create four parcels with associated residential units. The proposed project would not alter or change existing air traffic patterns. **No impacts would occur**.

2.16.d-e) The proposed project proposes to construct a new private road, extending from the existing cul-de-sac, along the western boundary of Parcel 2D to the northern boundary of Parcel 2B. Driveways would extend from this private road, providing access to Parcel 2B, Parcel 2C, and Parcel 2D. In addition, a secondary emergency access road would be provided, connecting to Cantelow Road. The proposed roadway and access driveways would be required to comply with the County's Subdivision Ordinance, the County Road Improvement Standards and Land Development Requirements and Vacaville Fire Protection District standards. In addition, the Vacaville Fire Protection District would also review the proposed site plan and would provide input on final design in relation to emergency access prior to issuance of a building permit. Therefore, impacts related to design hazards and emergency access **would be less than significant.**

2.16.f) The proposed subdivision would have no impact on existing public transit, bicycle or pedestrian facilities nor would it conflict with adopted policies, plans, or programs supporting alternative transportation. **No impact would occur**.

Avoidance, Minimization Measures and/or Mitigation Measures

None required

2.17 Utilities and Service Systems

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	■
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	■	☐
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	■
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	■	☐
e.	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	■	☐
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	■
g.	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	■

Environmental Setting

Water service at the project site would be provided by the Rural North Vacaville Water District (RNVWD), which provides a public water distribution system for properties within the rural north Vacaville area. RNVWD provides potable water for residential use and water for fire protection by supplying water to a series of fire hydrants serving properties in the area. The water system was designed to provide enough water capacity to supply potable water to a maximum of 533 parcels within that area.[9]

Lands in the unincorporated area of the County operate on stand-alone septic tanks. A permit is required in Solano County to install, repair, or modify a septic system.

As described in Section 2.9, Hydrology and Water Quality, runoff water quality is regulated by the National Pollutant Discharge Elimination System (NPDES) Program (established through the federal Clean Water Act). The NPDES program objective is to control and reduce pollutant discharges to

[9] Rural North Vacaville Water District. Website: rnvwd.com/ (Accessed March 25, 2021)

surface water bodies. Compliance with NPDES permits is mandated by State and federal statutes and regulations.

Solid wastes generated in the unincorporated County are disposed of in one of two privately-owned landfills – the Potrero Hills Landfill and the Hay Road Landfill. The Potrero Hills Landfill will reach its capacity in 2048.[10] The Hay Road Landfill has until 2070 before it reaches capacity.

Impacts

2.17.a) The four new residences that could be constructed with implementation of the proposed subdivision would be served by on-site septic systems. No additional wastewater treatment would be required. Prior to issuance of a building permit, proposed sewage disposal plans would be reviewed and approved by the Environmental Health Division consistent with Chapter 6.4 Sewage Standards of the County Code. Therefore, the proposed project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. **No impacts would occur**.

2.17.b, d, e) Wastewater generated by proposed residences at the project site would be treated by new on-site septic systems on the four new parcels, as permitted through the Environmental Health Division. The proposed project would increase demand for wastewater treatment at any wastewater treatment facility.

Water for the project would be provided by the RNVWD. The RNVWD would need to provide Will Serve letters prior to issuance of each building permit. With compliance with these County requirements, impacts related to water supply and water infrastructure **would be less than significan**t.

2.17.c) As described in Section 2.9, Hydrology and Water Quality, the proposed project would include the placement of new impervious surfaces at the project site; however, new impervious surfaces would not be continuous, but would be surrounded by unimproved lands where runoff from the new impervious surface can be infiltrated. Therefore, the proposed project would not require the construction of new stormwater drainage facilities or the expansion of existing facilities. **No impact would occur**.

2.17.f-g) Solid waste generated by the four residences proposed at the project site would not be substantial. As described above, both of the landfills that serve Solano County have sufficient capacity to accommodate the solid waste generated as a result of the proposed project. The proposed project would comply with all federal, State, and local statutes and regulations related to solid waste. **No impact would occur**.

Avoidance, Minimization Measures and/or Mitigation Measures

None required

[10] California Department of Resources Recycling and Recovery (CalRecycle). 2019. SWIS Facility/Site Activity Details, Potrero Hills Landfill (48-AA-0075). Available online at: www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1194?siteID=3591 (Accessed March 25, 2021).

2.18 Mandatory Findings of Significance

Checklist Items: Would the project		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a.	Does the project have the potential to (1) degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, (5) reduce the number or restrict the range of a rare or endangered plant or animal, or (6) eliminate important examples of the major periods of California history or prehistory?	☐	■	☐	☐
b.	Does the project have impacts that are individually limited, but cumulatively considerable? “Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.	☐	☐	☐	■
c.	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	■

The Solano County General Plan has designated this area for agricultural purposes and impacts associated with agricultural activities and residences, is to be expected and anticipated. Any environmental effects from the project would not cause substantial adverse effects on human beings, wildlife or major periods of California history or prehistory. Implementation of Mitigation Measure BIO-1 would ensure that potential impacts to oak trees/heritage trees are reduced to a less-than-significant level. Further, the proposed project would not result in impacts that are individually limited, but cumulatively considerable, as any similar development in the vicinity of the project site would be of similar character and scale. Therefore, the proposed project would not impact the quality of the environment, result in cumulative impacts, or result in substantial adverse effects on human beings. With implementation of mitigation measures provided herein, impacts would be **less than significant.**

3.0 AGENCY COORDINATION AND PUBLIC INVOLVEMENT

3.1 Consultation and Coordination with Public Agencies

The Initial Study is being circulated for public comment and referred to the State Clearinghouse for coordinated review by state agencies. In addition, it will be sent to the Department of Conservation and the Solano County Agriculture Commissioner and other local agencies for review and comment. (See Section 5.0 Distribution List)

3.2 Public Participation Methods

The Initial Study is available at the Solano County Department of Resource Management and online at the Department's Planning Services Division website at:

http://www.solanocounty.com/depts/rm/documents/eir/default.asp

Interested parties may contact the planner assigned to this project at the contact points provided below:

Nedzlene Ferrario, Senior Planner
Planning Services Division
Resource Management Department
675 Texas Street
Fairfield, CA 94533

PHONE: (707) 784-6765
FAX: (707) 784-4805
EMAIL: nnferrario@solanocounty.com

4.0 LIST OF PREPARERS

This Initial Study was prepared by the Solano County Department of Resource Management. The following staff and consultants contributed to the preparation of this Initial Study:

Solano County Department of Resource Management

Other Preparers

LSA Associates, Inc.
Theresa Wallace, AICP/Principal Environmental Planner
Shanna Guiler, AICP/Associate Environmental Planner
Steve Kohlmann, PhD, CWB, Associate/Senior Wildlife Biologist

5.0 DISTRIBUTION LIST

State Agencies
Cal Fire
CA Department of Fish and Wildlife

Local Agencies
Rural North Vacaville Water District
Vacaville Fire Protection District

6.0 APPENDICES

A. Application Form
B. Assessor's Parcel Number
C. Tentative Parcel Map
D. Preliminary Public Water System Plan
E. Vacaville Fire Protection District
F. Rural North Vacaville Water District Will Serve
G. Biological Assessment Report
H. Cultural Resources Report
I. Mitigation Monitoring Plan

DEPARTMENT OF RESOURCE MANAGEMENT
DEVELOPMENT PERMIT APPLICATION
Planning Services Division

675 Texas Street , Suite 5500, Fairfield, CA 94533
Phone (707) 784-6765 Fax (707) 784-4805
www.solanocounty.com

Application Type: ☒ New ☐ Extension (maps) ☐ Minor Revision ☐ Map Modification

☐ Architectural Review (AR)	☒ Minor Subdivision (MS)	☐ Sign Permit (SGN)
☐ General Plan Amendment (G)	☐ Major Subdivision (S)	☐ Use Permit (U)
☐ Mutual Agreement (MA)	☐ Performance Standards (PS)	☐ Variance (V)
☐ Marsh Development Permit (MD)	☐ Policy Plan Overlay (PP)	☐ Waiver (WA)
☐ Mobilehome Storage Permit (MH)	☐ Rezone (Z)	

For office use only: Application No: MS-19-02 Hrg: (ZA) BOS Date Filed: 6/24/19 Plnr: Avery

Project Name: Abrew Minor Subdivision

Subject Site Information

Site Address: Nearest Address is 3539 Brehme Lane City: Vacaville State: CA Zip: 95688

Assessor's Parcel Number (s): APN: 0102-090-140 Size (sq. ft/acre): 82.97+- Acres

Preferred Property Access by Staff: ☐ OK to access ☒ Call applicant before access (Locked Gate) ☒ Call owner before access (Locked Gate)

Contact Information

Property Owner Name: Joseph Abrew

Contact Name: Joseph Abrew Phone: 707-365-6136 Email: josephabrew@gmail.com

Mailing Address: 712 Atchison Dr City: Vacaville State: CA Zip: 95687

Architect/Engineer/Land Surveyor Company Name: Foulk Civil Engineering

Contact Name: Brad Foulk Phone: 707-864-0784 Email: brad@foulkce.com

Mailing Address: 4777 Mangels Blvd. City: Fairfield State: CA Zip: 94534

Applicant/Company Name: Joseph Abrew

Contact Name : Joseph Abrew Phone: 707-365-6136 Email: josephabrew@gmail.com

Mailing Address: 712 Atchison Dr City: Vacaville State: CA Zip: 95687

Other Contacts:

Name: Angie Kenitzer Phone: 925-872-4154 Email: akenitzer@comcast.net

Mailing Address: 712 Atchison Dr City: Vacaville State: CA Zip: 95687

1 Project Narrative

Describe the type of development, proposed uses/business, phases, changes or alterations to the property or building and intent or purpose of your proposal clearly. Attach additional sheets as necessary.

To divide a 82.97+- Acre parcel that is zoned A-20 into four parcels to create three 20.0+- acre parcels and one 22.97+- acre parcel

2 General Plan, Zoning and Utilities:

General Plan, Zoning or Williamson Act Contract information is available at our offices or can be obtained by visiting www.solanocounty.com. Click on the "Interactive Map" icon, then search by address or assessor parcel number.

Current General Plan Designation: A-20

Current Zoning: A-20

Proposed General Plan Designation: A-20

Proposed Zoning: A-20

Current Water Provider: Rural North Vacaville Water District

Current Sewage Disposal: None

Proposed Water Provider: Rural North Vacaville Water District

Proposed Sewage Disposal: Individual Septic Systems

3 Williamson Act Contract

A. Is any portion of the property under Williamson Act Contract? ☐ Yes ☒ N o

If yes, Contract No. _____ __please provide a copy.

If yes, has a Notice of Non-Renewal been filed? ☐ Yes ☐ No

If yes, please provide a copy.

B. Are there any agricultural conservation, open space or similar easements affecting the use of the project site? (such easements do not include Williamson Act contracts)

☐ Yes ☒ No *if yes, please list and provide a copy.*

4 Additional Background Information

A. Does the proposal propose the demolition or alteration of any existing structures on the subject site?

☐ Yes ☒ No If yes, please describe in the project narrative.

B. List any permits that are required from Solano County and/or other local, state, federal agencies (i.e. building permit, Department of Fish and Game permits, etc.)

C. List any known previously approved projects located on the property (i.e. Use Permit, Parcel Maps, etc). Identify the project name, type of project and date of approval.

Tenative Split begun By John Crawford in 2007 but not completed

D. List any known professionally prepared reports for the project (i.e. biological survey, traffic study, geologic, hazardous materials, etc.)

Soils Testing Report By Dauwalder Engineering Inc on 05/2006
Soils Data Testing Report by Geocon Consultants Inc. on 4/2007
Cultural Resources Survey Report by Solano Archaeological Services on 04/2007
Part 1&2 of Initial Study of Environmental Impacts by Department of Resource Management 10/2007

E. Does the project involve Housing and Urban Development (HUD) federal funding? ☐ Yes ☒ No
Is HUD funding anticipated? ☐ Yes ☒ No

If yes, indicate the type of funding (i.e. CDBG grant, HOME, Investment Partnership Program, etc), funding amount, whether awarded or application pending and fiscal year of award or application request.

H. Is this part of a larger project? If yes, please explain. ☐ Yes ☒ No

5 Existing Conditions

Describe in general the project site and surrounding properties as they presently exist; including but not limited to, information on existing land uses, unique physical and topographic features, soil stability, plants and animals, cultural, historical, or scenic aspects, and any other information which would assist the Department in understanding the project's environmental setting. Clear, representative color photographs may be submitted to show the project area. Draw in property boundaries on the photographs.

A. Project site:
Rolling to Hilly/Steep Property. Typical Grasslands with some man made ponds and several Oak and Pine trees

B. Surrounding properties:
Rural Residential and Grazing

C. Existing use of land:
Vacant

D. Describe number and type of existing structures:

	Type/Number	Square Feet
Residential	None	
Agricultural	None	
Commercial	None	
Industrial	None	
Other	None	

E. Describe existing vegetation on site, including number and type of existing trees.

Grasslands with Several Oaks and Pines

F. If in agricultural use, describe type of use or crop (cattle, sheep, hay, vegetables, fruit, etc).

Not Known. Potential Cattle Grazing

G. Slope of property:

Flat or sloping	(0 - 6% slope)	12+- acres
Rolling	(7 - 15% slope)	20+- acres
Hilly	(16 - 24% slope)	31+- acres
Steep	(> 24% slope)	20+- acres

H. Describe existing drainage conditions on site. Indicate direction of surface flows, adjacent parcels affected.
Natural Drainage Swales

I. Describe land uses on adjacent parcels (specify types of crops if agricultural).

North	Vacant	South	Rural Residential
East	Rural Residential	West	Rural Residential

J. Distance to nearest residence(s) or other adjacent use(s): 400ft +- (ft/mi)

K. Describe and indicate location of any power lines, water mains, pipelines or other transmission lines which are located on or adjacent to the property.
Rural North Vacaville Water District has a 4" supply waterpipe located at the southern boundary on the tentative map
There are a total of at least 10 water hookups at the top of the hill.

L. Describe number and location of natural creeks or water courses through or adjacent to the property. Specify names (if any). Indicate whether ephemeral (brief flows following rains), intermittent (seasonal flows during wet season), or perennial (year-round flows).
3 Ephemeral swaled areas on property

M. Describe number and location of man-made drainage channels through or adjacent to the property. Specify names, if any.
Some Drainage Ditches Affiliated with a 20' wide roadway tthat was constructed in about 2006

N. Identify and describe any on-site or adjacent marshes, wetlands, vernal pools, wet meadows, riparian (i.e. dependant on water bodies) vegetation, etc.:
Two existing seasonal ponds

O. Are there any unique, sensitive, rare, threatened, or endangered animals, plants, or habitats on the project site or located in close proximity which may be affected by the project?

Yes _____ No X Don't Know_____ If yes, please list:

P. Describe existing vehicle access(s) to property:
20' Wide Asphault Road Paved in 2006

Q. List and describe the nature and location of all existing easements serving or affecting the property, including access, utility, and other public or private easements (see deed or recent preliminary title report).

R. List and describe any freestanding and attached signage on the property. Describe the dimensions, area and height. Include the location on the site plan.

None

6 Proposed Changes to the Site

A. Topography and grading (attach copy of grading plan showing existing and proposed topography and drainage patterns.)

i. Percent of site previously graded: None %.

ii. Project area (area to be graded or otherwise disturbed): None sq. ft./acres.

iii. Estimate amount of soil to be moved (cut and/or fill):

X Less than 50 cubic yds^3 _____ More than 50 cubic yds^3 _____ More than 1000 cubic yds^3

iv. Estimate amount of soil to be:

Imported None yd^3 Exported None yd^3 Used on site None yd^3.

B. Number, size and type of trees, and type and quantity of vegetation to be removed. (size of trees = diameter at 4ft. above grade)

None - No trees are going to be removed

C. Number, type and use of existing structures to be removed, and removal schedule:

None - There are no existing structures

D. Describe proposed fencing and/or visual screening (landscaping):

None

E. Proposed access to project site (road name, driveway location, etc.):

Brehme Lane, 4000' long 20' Wide Asphault Road Paved in 2006

F. Proposed source and method of water supply:

Rural North Vacaville Water District

G. Proposed method of sewage disposal (specify agency if public sewer):

Individual Septic Systems

H. Provisions for solid/hazardous waste disposal (specify company or agency if applicable):
None - No known soild/hazzardous materials

I. List hazardous materials or wastes handled on-site:
None - No known soild/hazzardous materials

J. Duration of construction and/or anticipated phasing:
Approximately 5 Days to distribute aggregate base rock on dirt road to make it an all weather road

K. Will the proposed use be affected by or sensitive to existing noise in the vicinity? If so, describe source (e.g. freeway, industrial) and distance to noise source.
No

7 Proposed Site Utilization

A. **RESIDENTIAL PROJECTS**

1. Number of structures: Single Family:_____ Multi-family:_____ Accessory: _____
   If multi-family, number of units:_____ Maximum height: _____
2. Signage: Freestanding: _____ Dimension(s): _____ Area: _____(sq.ft)
   Attached/Wall_____ Dimensions(s):_____ Area:_____(sq.ft)

B. **NON-RESIDENTIAL PROJECTS** (Commercial, Industrial, Agricultural, Other)

1. Lot coverage:
   Building coverage: _____(sq.ft.) Surfaced area: _____(sq.ft.)
   Landscaped or open space: _____(s q.ft.)
2. Total floor area: _____(s q.ft.)
3. Number of stories: _____ Maximum height: _____(ft.)
4. Proposed hours of operation:
   Days: _____
   From : _____ a.m./p.m to _____ a.m./p.m
   Year round: ☐ Yes ☐ No Months of operation: from _____ through_____

5. Proposed construction schedule:

   Daily construction schedule: from _____a.m./p.m. to _____a.m./p.m.

   Days of construction: _____

6. Will this project be constructed in phases? Describe:

   _____

   _____

7. Maximum number of people using facilities:

   At any one time: _____Throughout day: _____

8. Total number of employees: _____

   Expected maximum number of employees on site: _____

   During a shift: _____During day: _____

9. Number of parking spaces proposed: _____

10. Maximum number of vehicles expected to arrive at site:

    At any one time: _____day: _____

11. Radius of service area: _____

12. Type of loading/unloading facilities:

    _____

    _____

13. Type of exterior lighting proposed:

    _____

    _____

14. Describe all anticipated noise-generating operations, vehicles or equipment on-site.
    None

    _____

15. Describe all proposed uses which may emit odors detectable on or off-site.
    Possible Cattle Grazing

    _____

16. Describe all proposed freestanding and wall signage. Include the dimensions, area and height.
    None

    _____

8 Environmental Checklist

Indicate the following items applicable to the project or its effects. Discuss in Section 9 all items checked "Yes" or "Maybe". ***Attach additional sheets as necessary.***

	YES	MAYBE	NO
A. Change in existing natural features including any bays, tidelands, lakes, streams, beaches, natural landforms or vegetation.	☐	☐	☒
B. Change in scenic views or vistas from existing residential areas, public lands or roads.	☐	☐	☒
C. Change in scale, pattern or character of general area of project.	☐	☐	☒
D. Increased amounts of solid waste or litter.	☐	☐	☒
E. Dust, ash, smoke, fumes or odors on site or in vicinity.	☐	☐	☒
F. Change in ground water quality or quantity.	☐	☐	☒
G. Alteration of existing drainage patterns, or change in surface water quantity or quality.	☐	☐	☒
H. Change in existing noise or vibration levels.	☐	☐	☒
I. Construction on filled land or construction or grading on slopes of 25% or more.	☐	☐	☒
J. Storage, use or disposal of materials potentially hazardous to man or wildlife, including gasoline and diesel fuel. (See Environmental Health Division for assistance or information).	☐	☐	☒
K. Increase in demand for public services (police, fire, water, sewer, etc.)	☐	☐	☒
L. Increase in fossil fuel consumption (electricity, natural gas, oil, etc.).	☐	☐	☒
M. Change in use of or access to an existing recreational area or navigable stream.	☐	☐	☒
N. Change in traffic or vehicular noise on road system in immediate vicinity.	☐	☐	☒
O. Increased hazards for vehicles, bicycles or pedestrians.	☐	☐	☒
P. Removal of agricultural or grazing lands from production.	☐	☐	☒
Q. Relocation of people.	☐	☐	☒

9 Additional Information by Applicant

In order to make this application COMPLETE, please submit any additional data, information or special study reports that may be necessary to determine whether the project may have significant effect on the environment or to evaluate any adverse impacts, and to determine how they may be mitigated. Add additional pages as necessary.

10 Information Verification - Signed by Owner and Applicant

Owner and Applicant must sign below certifying that all information is to the best of his/her knowledge true and correct.

If the applicant is not the owner of record of all property included in this application, the signature given below is certification that the owners of record have knowledge of and consent to the filing of this application and supporting information. Additionally, the undersigned does hereby authorize representatives of the County to enter upon the above mentioned property for inspection purposes and as necessary to evaluate potential environmental impacts of the project. **This certification acknowledges that if the project exceeds double that of the application fee, applicants are subject to the hourly billing rate of staff time. You will be notified if the project is approaching this threshold.**

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Owner signature: _____ Date: _____

PRINTED NAME: Joseph Abrew

Applicant signature: _____ Date: _____

PRINTED NAME: Joseph Abrew

For Office Use Only

Planning Permit Fee(s)

MS-19-02	$ 6003.00
____-____-____	$
____-____-____	$
____-____-____	$
____-____-____	$
Total	$ 6003.00
Total Fees Paid (P + E)	$ 6003.00

Environmental Review Fees

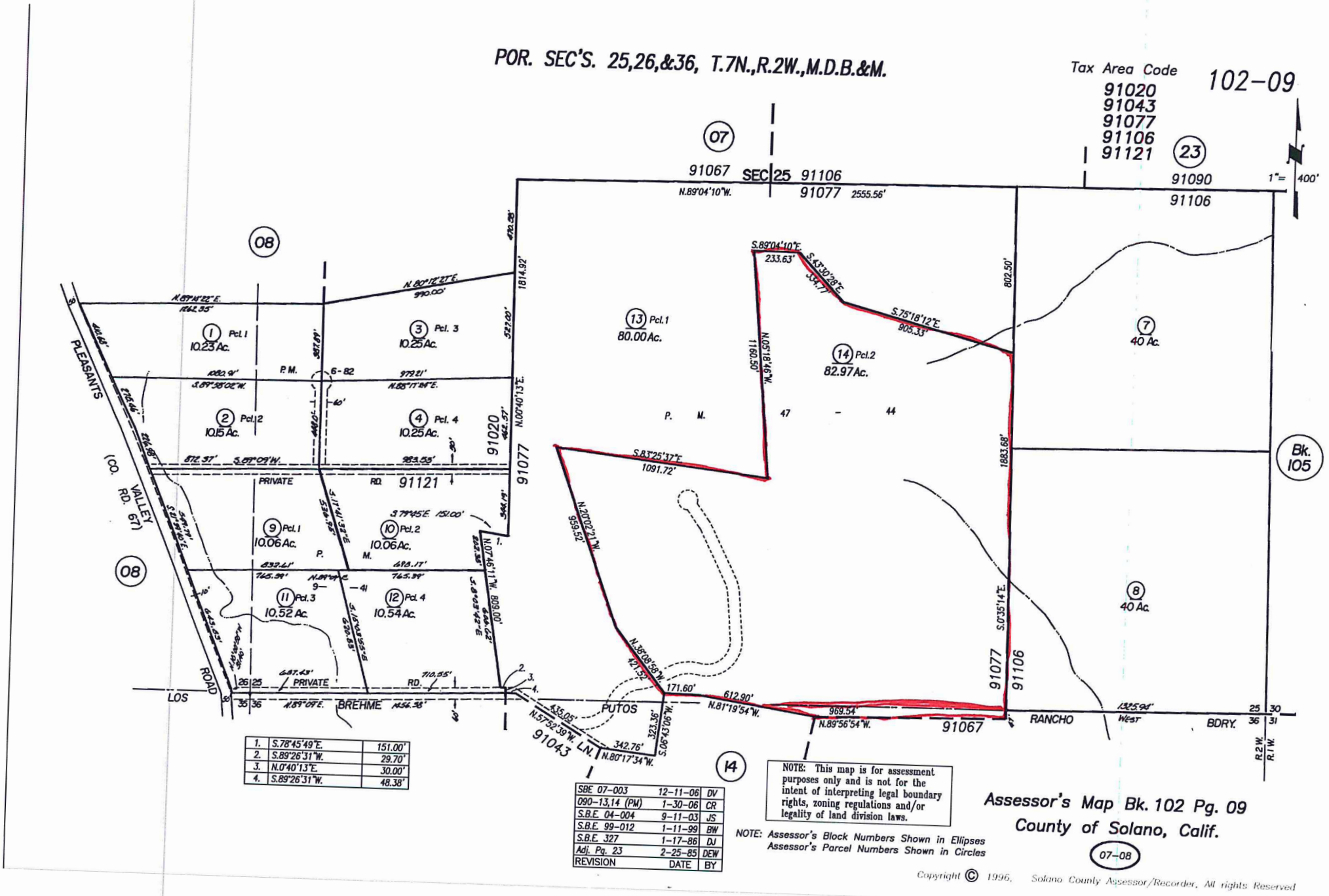
Initial Study	$
Archaeological Study (Sonoma State NWIC)	$
Negative Declaration	$
CA Fish and Games (ND or EIR)	$
Initiate EIR	$
Mitigation Monitoring Plan	$
Total	$

Receipt No.: 5284

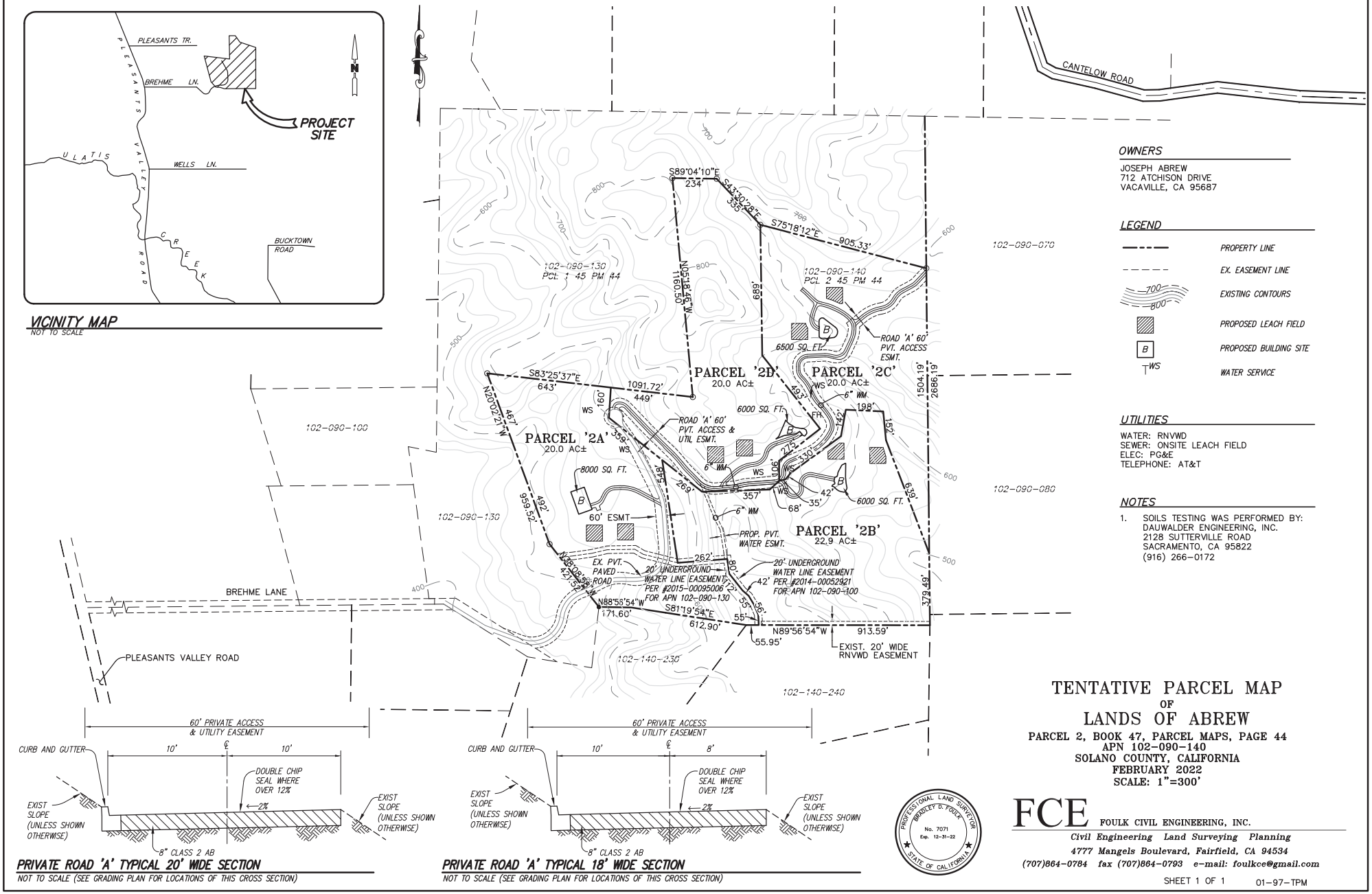
Staff verify: Zoning: A-20 GP Land Use & Consistency: Ag

Comments: _____ Staff/Date: _____

For assistance or application appointment
contact us at (707) 784-6765



VICINITY MAP
NOT TO SCALE



PRIVATE ROAD 'A' TYPICAL 20' WIDE SECTION
NOT TO SCALE (SEE GRADING PLAN FOR LOCATIONS OF THIS CROSS SECTION)

PRIVATE ROAD 'A' TYPICAL 18' WIDE SECTION
NOT TO SCALE (SEE GRADING PLAN FOR LOCATIONS OF THIS CROSS SECTION)

OWNERS

JOSEPH ABREW
712 ATCHISON DRIVE
VACAVILLE, CA 95687

LEGEND

- PROPERTY LINE
- EX. EASEMENT LINE
- EXISTING CONTOURS
- PROPOSED LEACH FIELD
- PROPOSED BUILDING SITE
- WS WATER SERVICE

UTILITIES

WATER: RNVWD
SEWER: ONSITE LEACH FIELD
ELEC: PG&E
TELEPHONE: AT&T

NOTES

1. SOILS TESTING WAS PERFORMED BY:
   DAUWALDER ENGINEERING, INC.
   2128 SUTTERVILLE ROAD
   SACRAMENTO, CA 95822
   (916) 266-0172

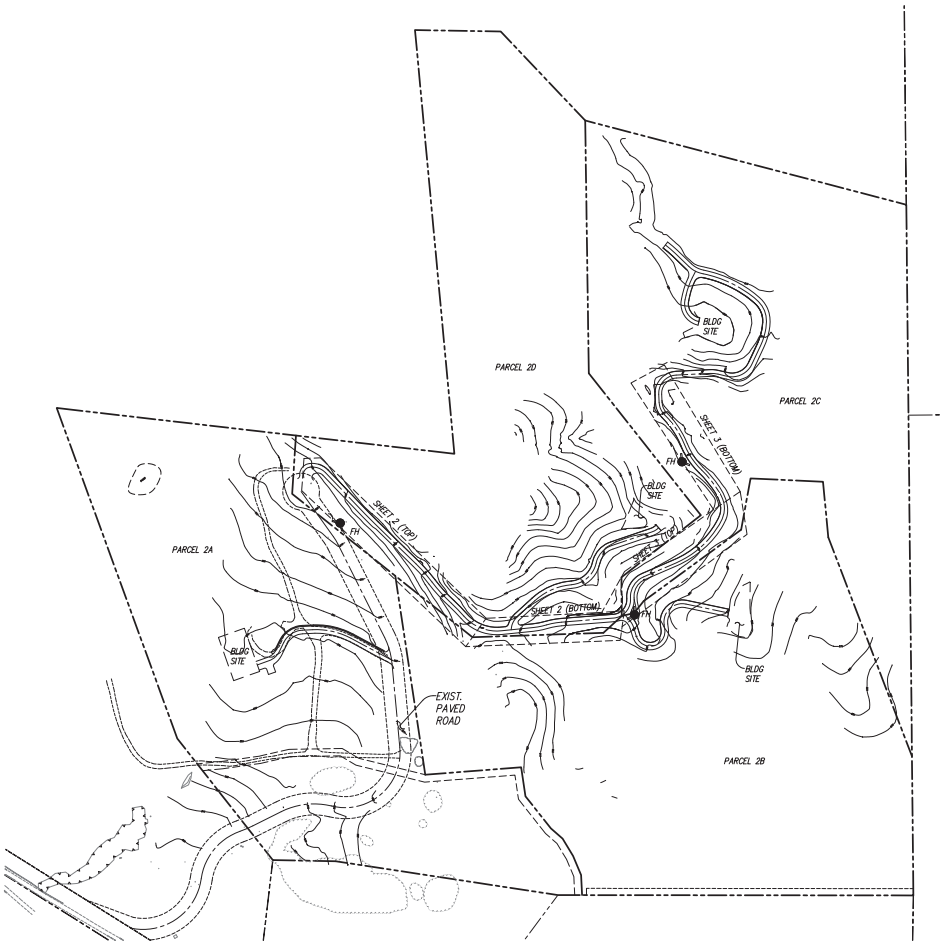
TENTATIVE PARCEL MAP
OF
LANDS OF ABREW

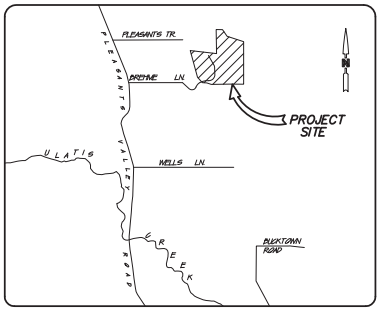
PARCEL 2, BOOK 47, PARCEL MAPS, PAGE 44
APN 102-090-140
SOLANO COUNTY, CALIFORNIA
FEBRUARY 2022
SCALE: 1"=300'

PROFESSIONAL LAND SURVEYOR
BRADLEY D. FOULK
No. 7071
Exp. 12-31-22
STATE OF CALIFORNIA

FCE FOULK CIVIL ENGINEERING, INC.
Civil Engineering Land Surveying Planning
4777 Mangels Boulevard, Fairfield, CA 94534
(707)864-0784 fax (707)864-0793 e-mail: foulkce@gmail.com

LANDS OF ABREW
PRELIMINARY WATER SYSTEM PLANS





VICINITY MAP
NOT TO SCALE

SHEET INDEX

1. COVER SHEET
2. PRELIMINARY WATER PLAN STA 10+40 TO STA 21+00
3. PRELIMINARY WATER PLAN STA 21+00 TO STA 30+00

ASSESSOR'S PARCEL NUMBER

0102-090-140

OWNER

JOSEPH ABREW
712 ATCHISON DRIVE
VACAVILLE, CA 95687
(707) 446-2036

CIVIL ENGINEER

FOULK CIVIL ENGINEERING, INC.
4777 MANGELS BOULEVARD
FAIRFIELD, CA 94534
P (707) 864-0784
F (707) 864-0793
CONTACT: BRAD FOULK

LEGEND

- RANDOM CONTROL FOR SURVEY
- 700 / 710 — EXISTING CONTOURS
- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPERTY LINE
- EXISTING CENTERLINE OF ROAD
- EXISTING EDGE OF PAVEMENT
- EXISTING DIRT ROAD
- PROPOSED RETAINING WALL

ABBREVIATIONS

A.D.	ANGULAR DEFLECTION
BLDG	BUILDING
ELEV	ELEVATION
EGR	EDGE OF GRAVEL ROAD
EXIST	EXISTING
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
SHT	SHEET
STA	STATION
VC	VERTICAL CURVE

DESIGNED BY: BDF
DRAFTED BY: NRF
CHECKED BY: BDF
ISSUE DATE: 11/17/20

GRAPHIC SCALE
160 0 80 160 320 640
(IN FEET)
1 inch = 160 ft.

FCE FOULK CIVIL ENGINEERING, INC.
Civil Engineering Land Surveying Planning
4777 Mangels Blvd., Fairfield, CA 94534
(707)864-0784 fax (707)864-0793 e-mail: foulkce@gmail.com

REGISTERED PROFESSIONAL ENGINEER — BRADLEY D. FOULK — No. 47287 Exp. 12-31-21 — CIVIL — STATE OF CALIFORNIA

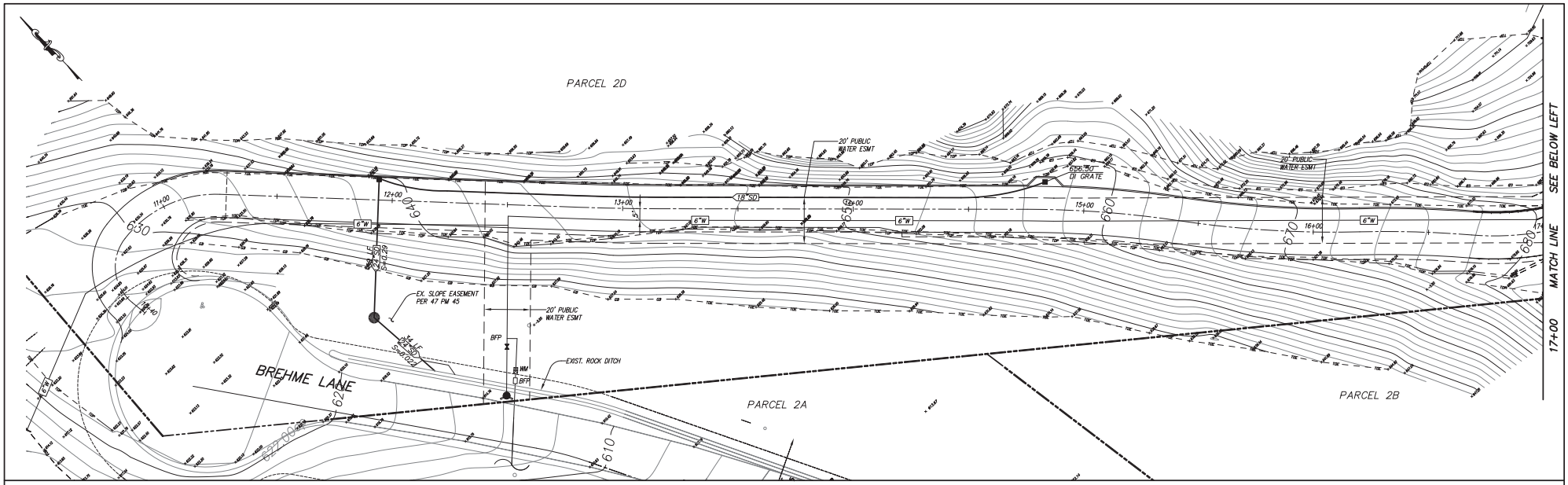
REV.	DATE	DESCRIPTION	BY	APPROVED

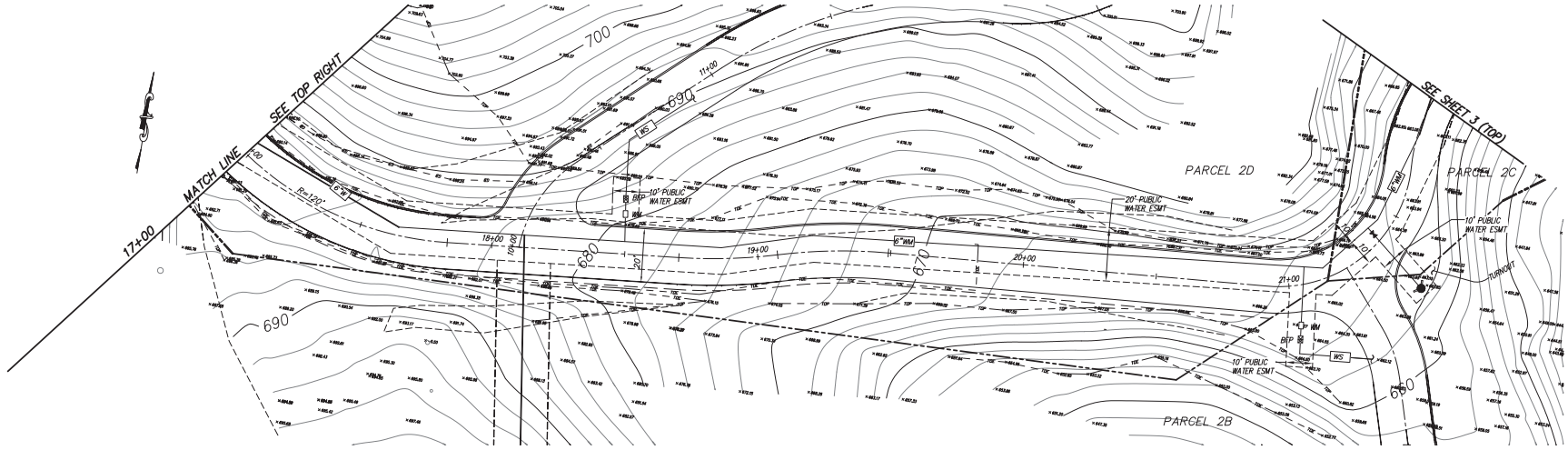
PROJECT: LANDS OF ABREW
PRELIMINARY WATER SYSTEM PLANS
SOLANO COUNTY, CALIFORNIA

SHEET TITLE: COVER SHEET
SCALE: 1"=160' | DWG. NO: 01-97 | JOB NO: 01-97 | XREF: 01-097-TOPO

SHEET 1 OF 3

Attachment D





DESIGNED BY:	BDF
DRAFTED BY:	NRF
CHECKED BY:	BDF
ISSUE DATE:	11/17/20

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

FCE FOULK CIVIL ENGINEERING, INC.
Civil Engineering Land Surveying Planning
4777 Mangels Blvd., Fairfield, CA 94534
(707)864-0784 fax (707)864-0793 e-mail: foulkce@gmail.com

REGISTERED PROFESSIONAL ENGINEER — BRADLEY B. FOULK — No. 47287 — Exp. 12-31-21 — CIVIL — STATE OF CALIFORNIA

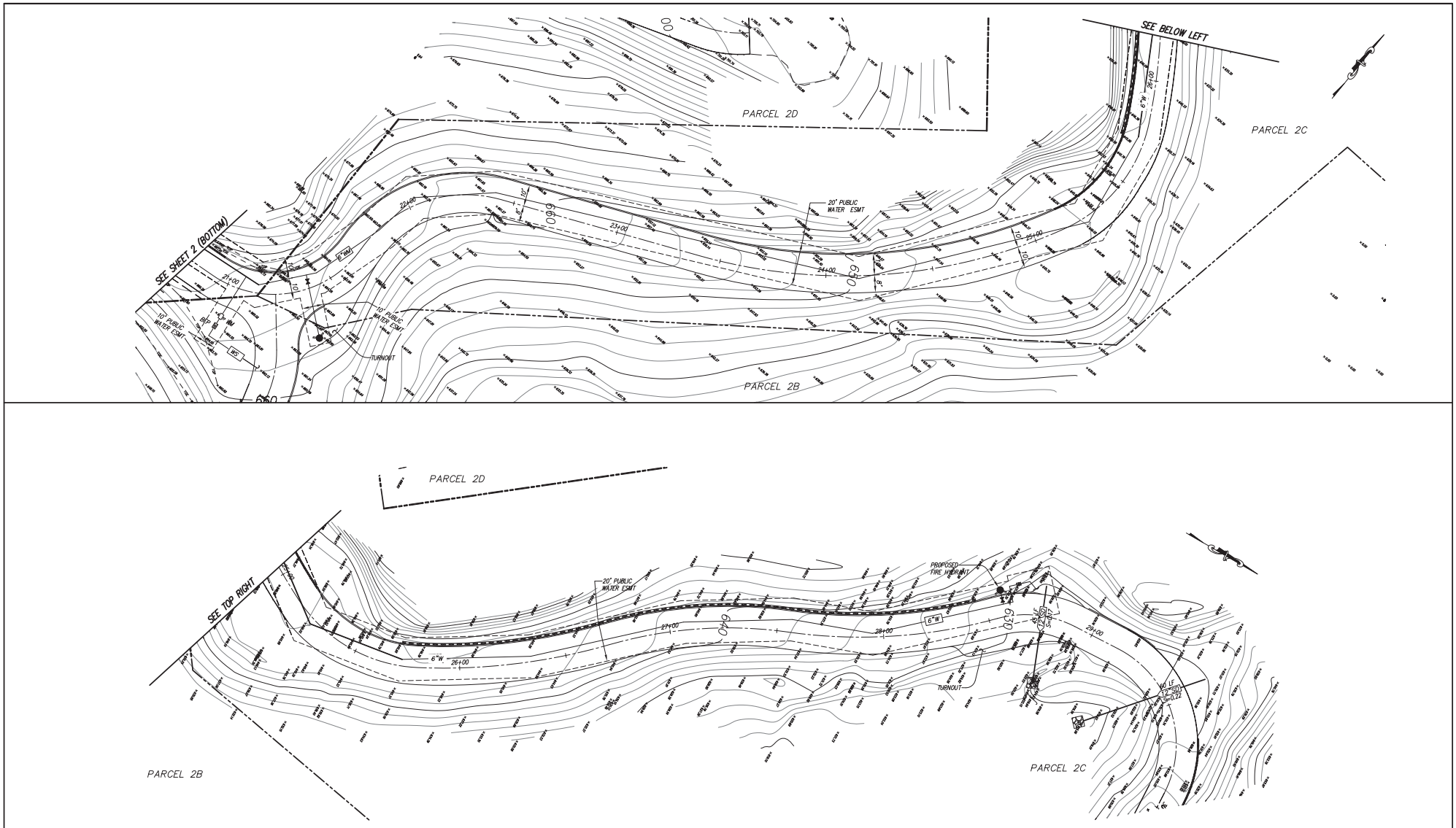
REV.	DATE	DESCRIPTION	BY	APPROVED

PROJECT: LANDS OF ABREW
PRELIMINARY WATER SYSTEM PLANS
SOLANO COUNTY, CALIFORNIA

SHEET TITLE: PRELIMINARY WATER PLAN STA 10+40 TO STA 21+00

SCALE: 1"=20' HORIZ / 1"=8' VERT | DWG. NO: 01-97 | JOB NO: 01-97 | XREF: 01-097-TOPO

SHEET 2 OF 3



DESIGNED BY: BDF	GRAPHIC SCALE	FCE FOULK CIVIL ENGINEERING, INC.		REV.	DATE	DESCRIPTION	BY	APPROVED	PROJECT: LANDS OF ABREW
DRAFTED BY: NRF	20 0 10 20 40 80	Civil Engineering Land Surveying Planning	REGISTERED PROFESSIONAL ENGINEER BRADLEY D. FOULK No. 47287 Exp. 12-31-21 CIVIL STATE OF CALIFORNIA						PRELIMINARY WATER SYSTEM PLANS
CHECKED BY: BDF	(IN FEET)	4777 Mangels Blvd., Fairfield, CA 94534							SOLANO COUNTY, CALIFORNIA
ISSUE DATE: 11/17/20	1 inch = 20 ft.	(707)864-0784 fax (707)864-0793 e-mail: foulkce@gmail.com							SHEET TITLE: PRELIMINARY WATER PLAN STA 21+00 TO STA 30+00
									SCALE: 1"=20' HORIZ / 1"=8' VERT | DWG. NO: 01-97 | JOB NO: 01-97 | XREF: 01-097-TOPO

SHEET 3 OF 3

VACAVILLE FIRE PROTECTION DISTRICT

420 Vine Street
Vacaville, CA 95688
(707) 447-2252
FAX (707) 447-2769

HOWARD F. WOOD
FIRE CHIEF

February 22, 2021

Nedzlene N. Ferrario, Project Planner
Solano County Department of Resource Management
675 Texas Street, Suite 5500
Fairfield, CA 94533

Dear Ms. Ferrario:

Reference: MS-19-02

On October 9, 2020, Fire Chief Wood and I met with Joseph Abrew and Brad Foulk at the Abrew property.

The location of the fire hydrants were designated and approved. See 11-17-20 preliminary water system plan.

The location of the emergency access road was designated and approved. See 2-5-21 emergency access plan.

If you have any questions or I can be of any assistance, please do not hesitate to contact me.

Sincerely,

Tim Walton
Battalion Chief

RURAL NORTH VACAVILLE WATER DISTRICT

May 3, 2021

Building Official
Solano County Department of Resource Management
675 Texas Street, Suite 5500
Fairfield, CA 94533

Subject: **Will Serve Confirmation**; 4 Lot Subdivision application (MS-19-02)

Account #: 44302 **Contact:** josephabrew@gmail.com; akenitzer@comcast.net

Reference Address: **Vacaville CA 95688, APN 0102-090-140; Brehme Lane**

Dear Building Official:

This **"will serve"** letter is written in reference to the above subject property as requested by the property owner Joseph and Angie Abrew and Civil Engineer Brad Foulk. This property is in the water district and **has 4 water rights** in good standing with 1 Base and 3 Supplemental water rights. There are no current connections.

The District requires all improvements shall be designed, engineered, and installed by the developer in accordance with the requirements of the most recent District Rules and Regulations and Exhibits and that the work be approved and accepted by SID and the District as a condition precedent to the recording of a Final map.

The water district is a rural drinking water system. New residences may need to provide additional on-site storage for in-house fire protection systems. Hydrants within the district are for the filling of fire department tanker trucks (there is no guarantee on flow rate or quantity of water available). The landowner should verify the risks and limitations regarding fire protection in this area.

The developer has posted a $5,000 deposit for engineering review and district coordination expenses related to review of the proposed development, engineering, and related costs.

Please contact the undersigned if you have any questions.

Sincerely,

Gordon Stankowski

Gordon Stankowski
General Manager

P.O. Box 5097
Vacaville, CA 95696

Phone: 707-447-8420
GM@RNVWD.com

LSA

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

April 28, 2021

Mr. Joseph Abrew
712 Atchinson Drive
Vacaville, California 95687

Subject: Lands of Abrew Subdivision, Biological Assessment Report and Environmental Documentation

Dear Mr. Abrew:

At your request, LSA conducted an analysis of the biological resources at Brehme Lane, Vacaville in Solano County to support your Tentative Parcel Map (TPM) application with Solano County. This report analyzes the biological resources at the project site and discusses potential impacts to biological resources from the proposed parcel subdivision and associated water and driveway improvements concerning the California Environmental Quality Act (CEQA) Initial Study Checklist questions for Biological Resources. The assessment includes planning level recommendations and measures to avoid or mitigate impacts associated with future development of lots to mitigate potentially significant impacts, if any.

This report provides a site assessment of the potential for significant biological and wildlife resources, such as special-status species, sensitive biological communities, and wetlands and other waters under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS), the U.S. Army Corps of Engineers (Corps), the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW) to occur on the property. Finally, LSA has evaluated the proposed roadway, water main and the associated need for removal of mature native trees. LSA's recommendations are presented toward the end of this report.

No protocol-level surveys for special-status species were conducted for this assessment. The current time is past the appropriate seasons for conducting protocol surveys for most species. Protocols vary by species but typically multiple surveys are required when species are most active and identifiable (this varies by species but generally is between mid-February and end of July). Additionally, as a result of the recent LNU Lightning Complex fires that encompassed the project site, detailed floristic or faunal surveys for specific species would not have yielded any worthwhile results.

INTRODUCTION

PROJECT DESCRIPTION

The subject property ("property" or "project site") is situated at Brehme Lane (no address) in the Pleasants Valley, approximately 5 miles northwest of the center of the city of Vacaville (Figure 1). The property is located within the unincorporated part of Solano County (Figure 2) and consists of one legal parcel (APN: 0102090140) of 82.97 acres. The parcel is zoned A-20.

Proposed Project

The property owner proposes to subdivide this parcel into four new parcels, compliant with a 20-acre minimum size in the following layout (Figure 3): Parcel "2A" (20.0 acres), Parcel "2B" (20.0 acres), Parcel "2C" (20.0 acres), and Parcel "2D" (22.9 acres). In addition to subdivision, the TPM identifies four potential new building sites (one in each new parcel). Building sites will have a paved driveway and two designated leach field alternatives. All driveways will be 20 feet wide with a 2-degree slope towards the uphill curb. Drainage will be provided by 3-foot wide V-shaped rock-lined ditches. Where pipes provide storm drains, rock (rip-rap) energy dissipaters will be provided, consisting of a cobble-lined 9-in depression. All on-site storm drains pipes are 12-gauge corrugated metal pipe. Catch basins along the roadway shall be sized at 2' by 2' or larger, depending on drain pipes characteristics. All catch basins will have heavy-duty traffic-rated grates. The total length of paved access driveways will be approximately 1,750 yards and will be largely within the right-of-way of existing ranch roads. In addition, a water system will be installed consisting of approximately 265 yards of 6-inch water main, leading from the existing public water main along the southern property boundary "cross country" to the central connection point within parcel 2B. The water main will be installed within a 20' wide public water easement. Water lines will be laid primarily within the existing roads. Two 2 proposed fire hydrant locations will be installed. 1-inch water pipes will service each home site, but currently only the connection points have been designated.

Sequence of Activities

Physical development would begin with the grading for the roadway infrastructure to provide access to each of the building sites. The bulk of this work involves improving existing graded roads to bring them incompliance with current state fire regulations. These improvements include widening the roads to provide a 20 foot width and grading the roadways to decrease the roadway slopes. In a couple of difficult narrow locations the Vacaville Fire Protection District will allow a more narrow segment by having turnouts at each end. The access roadway to parcels 2B to 2D begins at the existing cul-de-sac at the current terminus of the existing Brehme Lane and is approximately 2700 feet in length. From this primary access road, driveways will be extended to each of the building sites and the pads will be graded. The driveway to parcel 2A is via the existing paved portion of Brehme Lane. An emergency exit road will provide a secondary escape

route to Cantelow Road to be used in the event of an emergency that does not allow access to Pleasants Valley Road.

After grading is complete, the public Water System installation as shown on the preliminary water system plan will occur. This work involves the connection to the existing public water main along the south property boundary and installation of a 6-inch water main routed northerly along a ridge to a tee at the primary access road. From the tee the 6-inch main is to be extended northwest along the primary access and west to provide potable water service to parcel 2A and a fire hydrant within 1000 feet of the home site. Also from the tee, the 6-inch main also to is to be extended t easterly and northerly along the primary access road to provide domestic water service to lots 2B-2D and fire hydrants within 1000 feet of each of those building sites. Part of this work includes the installation of water meters and backflow prevention devices for each lot. The private service pipelines to the building sites would be installed at the time of construction of the home on each lot.

Each lot is to be provided with PG&E electric power. At this point it is not clear whether it will be overhead or underground but it is expected that it will be routed along the primary access road.

After completion of the grading, public water improvements and PG&E power improvements gravel road base will be placed on the primary access road. Final surfacing of the primary access road with chip seal or asphalt concrete per table 1 of the County Public Works Standards would occur prior to construction of the second home having access from said road.

Extensions of water services, PG&E power services and surfacing of the individual driveways to each building site will be completed by each lot owner at time of construction of each home. Additionally, each lot owner would install an on-site waste treatment system prior to occupancy of the new home.

PURPOSE

The purpose of this assessment is to document the biological and natural resource conditions at the site and evaluate potential impacts to sensitive biological resources pursuant to the CEQA checklist (see Title 14, Chapter 3, California Code of Regulations, Sections 15000 et seq. and Division 13, California Public Resource Code, Sections 21000-21178).

This assessment evaluates the project's potential to:

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

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations or by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS)?

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

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

METHODS

Prior to accessing the project site, LSA evaluated multiple existing databases regarding the potential special-status species that may be present at the site. In particular, LSA accessed the following databases:

- **California Native Plant Society (CNPS) Online Inventory**. LSA accessed the CNPS Online Inventory of Rare and Endangered Vascular Plants of California for all rare plant records on the U.S. Geological Survey (USGS) *Vacaville and Napa Quadrangle*[1].
- **California Natural Diversity Database (CNDDB).** LSA queried the CNDDB for occurrences of all special-status wildlife and plant species subject to CEQA within a 5-mile radius of the property boundary. Special-status species are rare, threatened, or endangered throughout their range, and impacts to any of these species would be considered significant under CEQA.
- **USFWS Information for Planning and Conservation (IPaC) Online System**[2]. LSA used the USFWS IPaC online system to determine if the property is in any designated critical habitat. The IPaC online system was also used to generate a list of special-status plant and wildlife species that the USFWS suggests may occur within or near the property or be affected by a project on the property. The search area was defined by drawing the property boundaries onto the IPaC online mapper.
- **Other Sources**: LSA reviewed the public draft of the Solano Habitat Conservation Plan (HCP) for information on protected biological resources that could potentially occur on the property.

On February 3, 2021, senior wildlife biologist Steve Kohlmann, PhD, CWB, surveyed the property to identify potential wetlands or special-status species habitats that may be present on the site,

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1 California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.38). Website: http://www.rareplants.cnps.org (accessed November 19, 2020).

2 USFWS IPaC (Information for Planning and Consultation), available online at https://ecos.fws.gov/ipac/.

and to examine the woodlands and individual trees potentially affected by the proposed driveways. The site was surveyed by foot. Geo-referenced photographs were taken of representative portions of the site. Plant and animal species observed during the survey were recorded in field notes. Weather conditions during the survey consisted of sunny skies and temperatures in the high 80's degrees Fahrenheit. A pedestrian survey of all accessible land was completed to search for signs of burrowing owl activity. Binoculars (10 x 40) were used to aid in identification of bird species, behavioral observations, and investigation of suitable habitats. Following the guidance provided in the California Department of Fish and Wildlife 2012 Burrowing Owl Staff Report (CDFW 2012), the assessment evaluated the project area for suitable burrowing owl habitat (e.g., burrows, structures), with particular attention to habitat suitability and utilization (e.g., whitewash, pellets). The survey also identified suitable habitat for Swainson's hawk. Due to the timing of this survey outside the primary breeding season of migratory bird species, LSA could not evaluate the presence of active bird nests that are protected under the California Fish and Game Code.

LSA did not evaluate the proposed activities with respect to potential avoidance and mitigation requirements pursuant to the current Draft Solano Habitat Conservation Plan (Solano HCP). The Solano HCP is not yet approved by the USFWS and the County of Solano is not a direct participant in the HCP.

RESULTS AND DISCUSSION

EXISTING CONDITIONS

Location

The project site is located in a rural area in Solano County, California, approximately 5 miles northwest of the city center of Vacaville. The site is located within the English Hills area, an area with predominantly single residences on large acreages and associated small-scale agricultural activities, such as ranches and hobby farms. The English Hills area consists primarily of grassland mixed with agriculture, bordered by oak savanna on the west and denser oak woodland on the north and at higher elevations along the ridge.

The project parcel is currently zoned A-20. Average parcel sizes in the area surrounding the project location are ranging from 5 acres to over 20 acres). The site is shown on the USGS 7.5-minute topographic map for Mt. Vaca, California.

Topography, Geology, and Soils

The project site is situated in the Sacramento River watershed, straddling the watershed boundary between the Upper Ulatis Creek subwatershed (HUC 12-180201630503) and the McCune-Sweany Creek subwatershed (HUC 12-180201630501), both subwatersheds of Ulatis Creek (HUC 10- 1802016305). The site includes a headwater tributary of English Creek, a prominent drainage in the English Hills area. Topographic relief is pronounced and hillsides and northwest trending ridgelines dominate the visual landscape. The project area is characterized by

steep hills, with elevations ranging from 530 feet above sea level on the western property boundary to over 845 feet (Figure 2).

Soils are varied and originate primarily from weathered residuum from sandstone and shale. Exposed bedrock facing southwest is apparent in several of the steep, deeply incised valleys on the property. Bedrock in this geographical province is dominated by Cretaceous marine sedimentary units, with smaller inclusions of Tertiary sedimentary rocks. Rocks of igneous origin are rarely found in the Vaca Mountains. Consequently, no unusual substrates such as serpentine are present. The project site is located within 1-2 miles of the Great Valley thrust fault system, a group of northwest-southeast trending faults running along the base of the Coast Range.

The primary soils are Dibble-Los Osos loams and Millsholm loams, with Brentwood clay loam and Gaviota sandy loam as minor soils (Table B). None of the soils are hydric. The Brentwood clay loam soil (10.9 acres) is considered prime farmland if irrigated. These soils have significant shrink-swell potential, evident in large cracks at the surface during the summer. Erosion potential of soils in the assessment area is generally modest to high, predominantly due to the steep slopes. Except for the Brentwood clay loam, soils of the project area have severe limitations that make them generally unsuitable for cultivation, restricting their use mainly to pasture, rangeland, forestland, or wildlife habitat (Table A).

Table A: **Soil Characteristics**

Map Unit Symbol	Map Unit Name	acres	Percent of Area	Farmland Classification	NRCS Ecological Site	Revised Storie Index (Land Productivity rating)
BrC	Brentwood clay loam, 2 to 9 percent slopes	10.9	13.3	Prime Farmland if Irrigated	R015xe020ca, Fine Loamy	Excellent
DbE	Dibble-Los Osos loams, 9 to 30 percent slopes	7.9	9.5	Not prime Farmland	R015xe020ca Fine Loamy	Fair
DbF2	Dibble-Los Osos loams, 30 to 50 percent slopes, eroded	31.4	37.8	Not prime Farmland	R015xe020ca Fine Loamy	Poor
GaG2	Gaviota sandy loam, 30 to 75 percent slopes, eroded	12.9	15.7	Not prime Farmland	R015xe091ca Very Shallow Loamy	Very poor
MmE	Millsholm loam, 15 to 30 percent slopes, MLRA 15	19.6	23.7	Not prime Farmland	R015xi002ca Shallow Loamy Hills	Poor
Totals for Project Site		**82.9**	**100.0%**			

Source: Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at the following link: http://websoilsurvey.sc.egov.usda.gov/. Accessed February 2, 2021.

Vegetation

The site had recently burned in the Hennessy fire, a component of the LNU Lightning Complex fire, which burned from August 17 to October 2, 2020. Therefore, a description of the current vegetation is limited to what was visible at the time of the field visit. In addition, LSA reviewed available pre-fire aerial imagery, and features that had been previously mapped in the vicinity of the project site (Figure 5).

General Vegetation Community

The project site is typical of the Inner Coast Range hills in Solano County and vegetation that is adapted to or associated with the dry conditions on hillsides, slopes, ridges, and foothill terraces. The overall landscape consists of grasslands dominated by annual grassland species, scattered stands of native and nonnative trees, and riparian corridors. The project area contains graveled roadways and ranch roads, undisturbed upland grasslands and woodlands and disturbed sites around buildings and roads. Wetland areas exist along English Creek, consisting of ephemeral streams and a stock pond (dry at the time of the field visit).

The natural plant community for this ecological site is a blue oak (*Quercus douglasii*) savanna with patches of manzanita (*Arctostaphylos manzanita*) and grassland intermixed. The historic herbaceous understory layer of this ecological site is unknown, having been replaced by annual grasses and forbs of European origin during the European settlement of California. Understory species and grassland patches are frequently dominated by soft chess brome (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), annual ryegrass (*Lolium multiflorum*), and rose clover (*Trifolium hirtum*). Ripgut brome is often more prevalent in the oak understory on this site than in the open grassland patches. Fall temperatures and precipitation are major factors determining grassland composition, along with light intensity affected by shading from plants and litter, and differences in micro-topography and grazing history.

Deep soils with higher water holding capacity are often dominated by wild oats and other tall annual grasses. Consequently, understory and open grassland species composition varies by slope position, soil characteristics and seasonally and annually. Therefore, multiple species may dominate the composition in some years and be present in most years. Filaree (*Erodium spp*) may occur on shallow soils or following close grazing or fire. Filaree expansion occur in low rainfall years or when residual dry matter is low due to drought, heavy grazing and fire. Following a fire, filaree may dominate the site for up to three years (Parsons and Stohlgren 1989, McDougald et al 1991). The soils in this ecological site are usually shallow. Consequently, invasions of medusahead (*Taeniatherum caput-medusae*) or starthistle (*Centaurea solstitialis*) may be less than on other deeper soils in the region. The extent of invasive weeds on the property could not be verified due to the recent fire.

Oak woodlands

The Inner Coast Range is interspersed with other vegetation types, including oak woodland, oak savanna, and chaparral. Oak woodland is the dominant plant community in the Vaca Mountains. Both oak woodland and oak savanna are dominated by oaks (*Quercus spp*.). However, the density and structure of these plant communities vary within their distributional range depending on the

dominant species of oak and other environmental parameters, such as soils, availability of water, aspect, and elevation. Oak woodland and oak savanna commonly intergrade, going from dense woodlands to open savanna. These communities, while not as diverse floristically as grasslands, support an unusual diversity of animal species as a result of the many resources that oaks provide, including nesting sites and an abundance of food (i.e., large acorn crops). Many oak woodland and savanna habitats have been lost due to intensive agriculture and urban development, and most oak woodlands that do persist have been significantly altered. At the project site, oak dominated communities have been reduced by former orchards (dryland stone fruit and walnuts) and possibly disturbance from grazing and increased seedling mortality from competition with nonnative grasses.

The oak woodlands at the project site are a multi-layered mosaic of trees, shrubs and grass patches. Given this mosaic of multi-layered vegetation types there is wide range of variation in the species composition, ranging from pure grasslands to dense woodlands. The dominant species within the tree layer throughout most of the project site is blue oak. Blue oak savanna occurs with interspersed patches of manzanita and annual grassland. Oak savannah occurs on drier hillslopes and includes scattered individuals of foothill pine (*Pinus sabiniana*). The shrub layer is dominated by manzanita, but coyote bush (*Baccharis pilularis*) also occurs in deeper alluvial soils.

The project site has two primary drainages forming tributaries to English creek; one is trending northeast, the other is trending southeast. The streambed is gravel, cobble and bedrock and the channel sides are steep. Trees within the riparian corridor are typically very large, mature individuals. The primary species that are found along the drainages and within the riparian zine of the drainages include valley oak, (*Quercus lobata*), coast live oak (*Q. agrifolia*), Interior live oak (*Q. wislezenii*), black oak (*Q. kelloggii*), California bay (*Umbellularia californica*), and walnut (*Juglans spp.*). Several large individuals of Cottonwood (*Populus fremontii*) were found along the dam of the stock pond near the northern property boundary. California buckeye (*Aesculus californica*) provides an important nectar source for butterflies and hummingbirds. The shrubby understory in these riparian oak woodlands typically consists of poison oak (*Toxicodendron diversalobum*), gooseberries (*Ribes spp*.), and/or toyon (*Heteromales arbutifolia*). However, the assessment area was severely burned in the recent fire and many individual shrubs or trees were completely consumed by the fire, therefore the composition of this vegetation community at the project site is presently difficult to assess accurately.

Fire ecology

Prior to European settlement fire frequency in blue oak savanna was approximately every 25 years (McClaran 1986), but fire frequency increased (5 to 15 years) following settlement before and after the gold rush (Pavlik 1991, Mensing 1992, Stephens 1997) due to burning by ranchers and others to reduce brush from 1850 to the 1950s. Subdivision, urbanization and air quality concerns have reduced the use of fire as a management tool, reducing todays' fire frequency to somewhere near 25 to 50 years. Blue oak trees evolved under low severity understory fires and can reach 100 to 200 years old, with a maximum recorded age of more than 400 years (McClaran 1986). Blue oak is adapted to fire by sprouting from the root crown, but resprouting declines with age (Burns and Honkala 1990). Protection from fire has decreased fire frequency allowing shrubs

to extend into the oak canopy providing a ladder for fire. Protection from fire and grazing results in a gradual increase in shrubs contributing to increased fuel loads. If the shrub canopy reaches into the tree canopy the potential for crown fires increases. Protection from browsing reduces hedging allowing the oak canopy to reach the ground layer increasing the chances for ground fires to become crown fires. Crown fires can top-kill oak trees. Grazing and browsing may slow recovery of woody plants following fire (Johnson and Fitzhugh 1990). Manzanita is a prolific seed producer and following fire seeds are stimulated to germinate. These long-lived seeds accumulate in the soil and litter until they are stimulated to germinate by the heat of a fire. However, frequent burning can remove these species from the site.

Productivity

Species composition and productivity of the annual dominated understory grasses and forbs vary greatly within and between years and is greatly influenced by the timing and amount of precipitation and the amount of residual dry matter (George et al. 2001a). When rainfall is greater than normal or well-distributed throughout the wet season, grasses tend to dominate the vegetation community. Annual forage production for normal, favorable and unfavorable years is 800-1100 lb/a, 1000-1600 lb/a, and 400-800 lb/a years, respectively.

Manmade features

A stock pond exists within the northeastern quadrant of the property; however, it was dry and completely burned over. Evidence of standing water, such as shoreline erosion, cracked soil or remnants of aquatic vegetation could not be verified. The pond is shown full of water on aerial imagery for every year since 2001. Standing water often persists into the late summer. The pond is behind a 20-foot berm. In addition to the stock pond, there are numerous ranch roads and what appears to be recreational motorcycle or ATV tracks, shooting targets and benches and a variety of storage containers, equipment, an RV, old vehicles and other debris, mostly near the entrance to the property along the existing paved driveway. There are no cross fences and the condition of the perimeter fences is generally poor. Evidence of old stone-fruit orchards exists in the form of shallow terraces and legacy fruit trees, many of which have succumbed to the recent fire. A large stand of non-native fig trees is located near the entrance.

Wildlife

Mammal species observed during the site visit were black-tailed deer (*Odocoileous hemionus*) and black-tailed jack rabbits (*Lepus californicus*). Birds observed included California quail (*Callipepla californica*), mourning dove (*Zenaida macroura*), California scrub jay (*Aphelocoma californica*), acorn woodpecker (*Melanerpes formicivorus*), oak titmouse (*Baelophus inornatus*), and California towhee (*Melozone crissalis*). No amphibians were observed within the streambed of English Creek. No ground squirrel (*Otospermophilus beecheyi*) individuals or their burrows were observed. No American badger (*Taxidea taxus*) burrows were found.

POTENTIAL IMPACTS TO BIOLOGICAL RESOURCES

The following CEQA checklist summarizes potential impacts from the proposed project on biological resources on the project site. Each item is addressed in detail on the following pages.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Impact Analysis

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Special-Status Species

CNDDB Records. Impacts to special-status species are typically considered as a significant impact under the California Environmental Quality Act (CEQA; ACEC 2020). For the purposes of this assessment and consistent with biological reports prepared for projects in Solano County, special-status plant and wildlife species are defined as follows:

- Species that are listed, proposed, or designated as candidates for listing as threatened or endangered under the federal Endangered Species Act (ESA)
- Species that are listed, proposed, or designated as candidates for listing as threatened or endangered under the California Endangered Species Act (CESA)
- Wildlife species designated as Fully Protected (FP) or Species of Special Concern (SSC) by the CDFW
- Plant species designated by the CNPS as California Rare Plant Rank (CRPR) 1A, 1B, 2A, 2B, and 3
- Species that meet the definition of rare, threatened, or endangered under Section 15380 of the CEQA Guidelines
- Species that are considered taxa of special concern by local agencies

The CNDDB lists one plant species and two bird species. Potentially occurring are one mammal, one reptile, one amphibian, and five invertebrate species due to suitable habitat within the project area (Figure 4, Table B). In addition, the USFWS lists an additional one bird, one reptile, one amphibian and one fish species (Table B; Appendix B).

Table B: **Special-Status Species that could potentially be present at the Project Site**

Name	Presence	Federal Status[1]	State Status[1]	State Rank[2]	Rare Plant Rank[3]	CDFW Status[4]
Plants						
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	Not likely to occur, no suitable wetlands present			S2	1B.1	
Birds						
Burrowing owl *Athene cunicularia*	No potential habitat			S3		SSC
Swainson's hawk *Buteo swainsoni*	Foraging habitat, some potential nesting habitat		T	S3		
Yellow-breasted chat *Icteria virens*	Potential habitat along English Creek					SSC
Northern spotted owl *Strix occidentalis caurina*	Not present, no suitable habitat	T	T			
Mammals						
American badger *Taxidea taxus*	Potentially present, no evidence of presence found			S3		SSC
Reptiles						
Giant garter snake *Thamnophis gigas*	No suitable habitat, outside of known range	T	T			
Amphibians						
Foothill yellow-legged frog *Rana boylii*	Not likely to occur, no suitable habitat in English Creek		C	S3		SSC
California red-legged Frog *Rana draytonii*	Not likely to occur, no suitable habitat	T	T			
California Tiger salamander	Not likely to occur, no suitable	T	T			

Table B: **Special-Status Species that could potentially be present at the Project Site**

Name	Presence	Federal Status[1]	State Status[1]	State Rank[2]	Rare Plant Rank[3]	CDFW Status[4]
Ambystoma californiense	vernal pool habitat					
Fish						
Delta smelt *Hypomesus transpacificus*	No suitable habitat, outside of known range	T	E			
Invertebrates						
Vernal pool fairy shrimp *Branchinecta lynchi*	No suitable habitat, occurs in vernal pools	T		S3		
Western bumble bee [3] *Bombus occidentalis*	Potentially present in grasslands and shrub lands					
Crotch's bumble bee [2] *Bombus crotchii*	Potentially present in grasslands and shrub lands					
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	Potentially present within the English Creek drainage, but no elderberry shrubs were verified	T		S2		
Vernal pool tadpole shrimp *Lepidurus packardi*	No suitable habitat, occurs in vernal pools	E		S3S4		
California linderiella *Linderiella occidentalis*	No suitable habitat, occurs in vernal pools			S2S3		
California Freshwater Shrimp *Syncaris pacifica*	No suitable habitat; outside of known range	E	E			

Source: CNDDB, CNPS, USFWS

[1]. E= Endangered, T=Threatened, C=Candidate

[2]. State Ranking refer to the imperilment status only within California's state boundaries: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; S4 = Apparently Secure; S5 = Secure

[3]. California Rare Plant Ranks: 1A. Presumed extirpated in California and either rare or extinct elsewhere; 1B. Rare or Endangered in California and elsewhere 2A. Presumed extirpated in California, but more common elsewhere 2B. Rare or Endangered in California, but more common elsewhere 3. Plants for which we need more information - Review list 4. Plants of limited distribution - Watch list

[4]. CDFW Status: SSC= Species of Special Concern; Species experiencing declining population levels, limited ranges, and/or continuing threats; FP= Fully protected, may not be taken or possessed at any time.

Potentially Present Species

Swainson's Hawk. There are 3 to 5 known or suspected active Swainson's hawk nests within 5 miles of the property (CNDDB 2020, Rippey et al. 2016, LSA unpubl. data). The Swainson's hawk is highly mobile and can forage up to 18 miles from the nest (Estep 1989, Babcock 1993) and as a result the project site is within the normal foraging radius of these nests. The property currently consists of five parcels, ranging in size from 10.4 to 40 acres. The project proposes to subdivide the existing 82.9 acre property into four 20-acre acre (or larger) residential lots. The site currently offers marginal foraging habitat due to the steep slopes and lack of grazing, which reduces preyt availability. There are no ground squirrels on the site, further reducing the habitat quality for

[3] This species was a Candidate for State listing but a recent court decision has vacated listing (Superior Court of California, County of Sacramento, November 13, 2020 decision in ALMOND ALLIANCE OF CALIFORNIA v. CALIFORNIA FISH AND GAME COMMISSION; Case 34-2019-80003216).

Swainson's hawk. The primary impact to Swainson's hawk from this subdivision would be a minor loss of foraging habitat. Road construction will occur in existing ranch roads, hence will not have an appreciable impact of Swainson's hawk foraging habitat. Residential buildings, gardens and other residential features would reduce the available foraging habitat by less than 5% and - given the current conditions of the habitat- would not be significant. In general, Swainson's hawk prefer foraging habitat areas that are 40+ acre in size (Estep 1989). This can consist of multiple parcels as long as the habitat is continuous. Thus, the resulting four parcels will preserve large habitat patches and - with the recommended measures below - will help retain adequate foraging habitat for Swainson's hawk.

Recommendation: To avoid the potential loss of foraging habitat due to residential development, structures (houses, barns, out- buildings, roads, etc.) should be limited to no more than 2 acres or 10 percent of a parcel. Corrals/paddocks should be less than 1 acre, and vineyards or orchards should be limited to a maximum of 30 percent of each parcel. These conditions would maintain sufficient foraging habitat on the property equivalent to a 1:1 ratio and would provide the most direct benefit to hawks nesting and foraging in the area north of Vacaville.

Burrowing Owl. The absence of burrowing mammals precludes the use of the site as breeding or wintering habitat for burrowing owl. The natural grasslands at the site are marginal foraging habitat for burrowing owl. Similar to Swainson's hawk, the parcel re-configuration will maintain larger habitat patches within individual lots.

Recommendation: The measures recommended for maintaining foraging habitat for Swainson's hawk will be likewise beneficial for burrowing owl.

Yellow-Breasted Chat. The shrubs and dense vegetation along English Creek (Figure 5) could provide suitable habitat for yellow-breasted chat. The species has been verified to occur in the Pleasant's Creek drainage, approximately 3.75 miles north of the property. The proposed roadways and building sites will not affect potential yellow-breasted chat habitat along English Creek.

Recommendation: Removal of large riparian trees should be avoided to reduce potential impacts t yellow-breasted chat to insignificant levels.

American Badger. American badger could be potentially present, although no badgers or their burrows were observed. Badger require friable, sandy soils for burrowing. The soil types with the highest sand percentage (Gaviota sandy loam, 4 percent) and soils of the Millsholm series (36 percent) provide suitable badger habitat.

Recommendation: Maintaining grassland as recommended above for Swainson's hawk foraging habitat benefits this species if present.

Western Bumble Bee, Crotch's Bumble Bee. The two bumble bee species are considered rare and may be threatened by development. They were a Candidate for State listing but a recent

court decision has vacated listing[4]. No bumble bees were observed during the field visit; however, conditions based on time of year and the recent fire activity were not conducive to assessing bumble bee activity. In general, bumble bees forage pollen and nectar from a diversity of plants, although individual species can vary greatly in their plant preferences. Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees.

Recommendation: Maintaining larger patches of grassland and scrubland on the property as recommended for Swainson's hawk will also benefit the two bumble bee species if present. LSA also recommends the following measures for areas of potential ground disturbance outside existing roadways and already disturbed areas:

- A qualified wildlife biologist shall conduct visual surveys of areas planned for ground disturbance (water main, new roads, leach fields, home sites) and a 100-foot buffer. Surveys should be conducted to coincide with the blooming period of locally common nectar sources such as vetch (*Vicia* spp.) and California poppy (*Eschscholzia californica*) during the flight season for the western and Crotch's bumble bee (generally late February through late June). Between two and four evenly spaced surveys shall be conducted for the highest detection probability, including surveys in early spring (late March/early April) and early summer (late June/July). Surveys shall take place when temperatures are above 60°F, preferably on sunny days with low wind speeds (e.g., less than 8 miles per hour) and at least 2 hours after sunrise and 3 hours before sunset. On warm days (e.g., over 85°F), bumble bees will be more active in the mornings and evenings. Surveyors shall conduct transect surveys focusing on detection of foraging bumble bees and underground nests using visual aids such as butterfly binoculars. If no western or Crotch's bumble bees are detected, no further mitigation is required.

- If western or Crotch's bumble bees nests are identified within the planned development area and buffer area, a plan to protect bumble bee nests and individuals shall be developed and implemented in consultation with CDFW. The plan shall include, but not be limited to, the following measures:

    - Specifications for construction timing and sequencing requirements (e.g., avoidance of raking, mowing, tilling, or other ground disturbance until late March to protect overwintering queens);

    - Preconstruction surveys conducted within 30 days and consistent with any current available CDFW standards prior to the start of ground disturbing activities to identify active nests;

    - Establishment of appropriate no-disturbance buffers for nest sites and construction monitoring by a qualified biologist to ensure compliance;

[4] See Superior Court of California, County of Sacramento, November 13, 2020 decision in ALMOND ALLIANCE OF CALIFORNIA v. CALIFORNIA FISH AND GAME COMMISSION (Case 34-2019-80003216).

- Restrictions associated with construction practices, equipment, or materials that may harm bumble bees (e.g., avoidance of pesticides/herbicides, BMPs to minimize the spread of invasive plant species);

- Prescription of an appropriate restoration seed mix targeted for the bumble bees, including native plant species known to be visited by native bumble bee species and containing a mix of flowering plant species with continual floral availability through the entire active season for bumble bees (March to October).

Critical habitat

There are no designated critical habitats at this location.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Riparian or Sensitive Natural Community. Riparian habitat exists along a 1/2-mile section of English Creek and its tributaries. The riparian habitat will not be affected by the subdivision and the proposed buildings, which are located on hillslopes at least 100 feet away from the edge of the riparian habitat. No other sensitive natural communities, such as purple needlegrass stands, could be verified during the site visit. Thus, there will be no substantial adverse effect on any riparian habitat or other sensitive natural community.

Recommendation: No ancillary structures (barns, leach fields, corrals etc) should be placed within the Riparian Zone.

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Wetlands. English Creek is a seasonal, intermittent creek in its upper reaches. It was dry during the field visit on February 3, 2021. Likewise, the pond at the upper end of the English Creek drainage was dry at that time. Provided runoff from building sites, barns, or access roads is properly infiltrated or treated before it reaches the creek, the subdivision into four parcels will not have impacts on this creek. There are no buildings, roads or other features planned within the channel or banks of English Creek. The proposed building sites can be accessed via the existing ranch roads and no stream crossings are needed to access the newly created parcels and their proposed building sites. Thus, there will be no significant impacts to federally protected wetlands or other waters.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Movement Corridors. The project site has currently no interior barriers to wildlife movement. It is fenced with wildlife permeable fencing on the perimeter although the quality of the fences is

poor. The site itself is located along the English Creek drainage. The relatively large size of the project site and its position along a major creek drainage makes it a suitable corridor for mobile species. The oak woodlands and riparian habitat of the project site are heavily used by highly mobile species such as deer and turkey, which have been observed at the project site. Reconfiguring the parcels could have a minor impact on the movement of wildlife species along the creek and through the property due to the presence of new fences, buildings, presence of pet dogs, and general disturbance.

Recommendation: To minimize the impact of development on wildlife movement, all perimeter fencing shall meet the following standards:

- Fence heights shall be limited to average maximum of 5 feet above ground level (limited height variations based on topographic changes are allowable).
- Welded wire or other mesh fences shall have a minimum 4 inch by 4 inch opening. Smaller opening in the lower 18 inches of the fence is allowable if needed to contain smaller domestic animals. No-climb horse fencing should be avoided as perimeter fencing.
- Solid perimeter fences are prohibited.
- Wood or metal picket fences shall have minimum spacing of 4 inches between pickets and shall not have sharp or pointed spikes or decorations along the top.

The CDFW Biogeographic Information & Observation System (CDFW 2017a) was reviewed to determine if the project is located within an Essential Connectivity Area. The project does not occur within an Essential Connectivity Area. However, the Solano HCP has identified the site to fall within the "Jepson Prairie-Vaca Mountains/Inner Coast Range" key corridor. This corridor represents the portion of the English Hills north of the rural residential areas in northern Vacaville. This area provides an important transition between the Vaca Mountains, Pleasants Valley, and the Valley Floor Grassland and Vernal Pool habitats near Vacaville. This corridor contains high value oak savanna and oak woodland habitat within the English Hills. There are no wildlife nursery sites on the property.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Ordinances

Local polices protecting biological resources that are relevant to the proposed project include:

- **Williamson Act:** The project site appears to not have been enrolled in the Williamson Act.

Solano County General Plan: The following is a summary of zoning policies of Solano County:[5]

1. Resource Conservation and Open Space Element, 1999.
    a. **Riparian Vegetation:** Natural watercourses should be protected in their natural state. Permanent structures should be prohibited within floodplains. Preservation of natural vegetation should be required. Development on slopes >6 percent should avoid loss of natural vegetation. An amendment to prohibit destruction or degradation of any fish and wildlife habitat, including riparian vegetation should be adopted. A grading ordinance should be adopted. No building sites are planned within floodplains or on steep slopes. With the implementation of the recommended measures the project does not conflict with the protection of natural water courses.
2. Land Use Element 1995.
    a. The Land Use Element designates policies to maintain natural resources including **agricultural land, soils, water, minerals, wetlands and scenic corridors**, but does not include oaks or oak woodlands on the list. With the implementation of the recommended measures the project does not conflict with the provisions of the Land Use Element.
3. Zoning Ordinance, Chapter 28.
    a. This ordinance establishes **watershed and conservation districts** in areas of fire hazard and slope instability with steep topography (defined as slopes in excess of 25 percent grade) and excessive vegetation coverage (at least 50 percent chaparral or woodland). The site is zoned "agricultural" and is not zoned as a Watershed or Resource Conservation District.
4. The Solano County General Plan addresses **conversion of agricultural land** to other uses in AG Policy AG.P-4, which requires farmland conversion mitigation for either of the following actions:
    a. A General Plan amendment that changes the designation of any land from an agricultural to a nonagricultural use or
    b. An application for a development permit that changes the use of land from production agriculture to a nonagricultural use, regardless of the General Plan designation. If the parcel designation remains A-20 after the reconfiguration and any future development complies with the agricultural use designation, no conflicts with this policy arise from the proposed project.
5. The General Plan's Policy RS.P-5 also protects **wildlife movement corridors** to ensure the health and long-term survival of local animal and plant populations. It aims to preserve contiguous habitat areas to increase habitat value and to lower land management costs.

[5] Source. https://www.solanocounty.com/depts/rm/planning/zoning_regulations.asp (accessed November 19, 2020)

With the implementation of the recommended measures the project does not conflict with Policy RS.P-5.

6. Subdivision Ordinance, Chapter 26, 2001

   In subdivisions in hillsides and visually sensitive areas, stands of native vegetation should be maintained within residential development. Building and grading areas shall be shown on tentative maps, as well as all trees >/6" in diameter 3' above the ground in building, road, and cut and fill areas.

7. Policy RS.P-6 addresses **oak woodlands and heritage tree** protection, through the adoption of an ordinance to protect oak woodlands as defined in Senate Bill (SB) 1334 and heritage oak trees. The Solano County General Plan defines heritage trees as the following: (a) trees with a trunk diameter of 15 inches or more measured at 54 inches above natural grade, (b) any oak tree native to California, with a diameter of 10 inches above natural grade, or (c) any tree or group of trees specifically designated by the County for protection because of its historical significance, special character or community benefit.

The Tentative Parcel Map does not show all trees within the proposed project areas. The project site has an abundance of native trees that meet the definitions of Policy RS.P-6 (oak woodlands and heritage tree protection) and Senate Bill (SB) 1334 considered. Heritage oak trees could be affected by the proposed widening of roads, construction of the water lines, installation of leach fields and grading of building sites. From field observations and examination of aerial imagery, it can be estimated that project elements may impact up to 22 native trees, primarily blue oak (Table C) either directly (required removal) or indirectly (grading within the tree's dripline, change of grade or other root impacts).

Table C: Native trees that could potentially be impacted at the Project Site

Parcel	Water main and hydrants	Roadways, driveways	Building pads	Leach fields	Total
2A	1	1	0	2	4
2B	2-3	2	1	2-3	7-9
2C	0	1	2	0	3
2D	0	4-5	0	1	5-6
Total	3-4	8-9	3	5-6	19-22

Recommendation: All native oak trees meeting the heritage definition of the Solano County General Plan shall be protected from damage to the maximum extent possible. This includes designating no work zones by exclusion fencing along the canopy dripline. If a heritage tree cannot be protected from damage or removal, LSA recommends to mitigate for the loss of

each mature tree by planting 15 saplings at least 3 years old in areas where oak recruitment has been absent due to fire, grazing and weed competition. A qualified biologist should designate potential planting areas and supervise the planting and installation of any necessary irrigation. The following guidelines for oak restoration should be followed:

1. Mitigation Planting: To compensate for the unavoidable loss of mature blue and live oaks, 15 saplings of the same species shall be planted for each mature tree removed. Oak saplings shall be sourced from a certified *Phytophthora ramorum*-free nursery. Saplings must be at least 3 years old and shall be spaced at least 15 feet from each other. Each sapling shall be staked with two wooden stakes and caged to a sufficient height that deer and cattle cannot damage the sapling. Saplings shall be planted in moist soil, after the first substantial rain. In the following summer, watering may be necessary to enhance survival.

2. Performance and Success Criteria: Performance criteria for the revegetation area are to be assessed in 2024, or at least 3 years following the conclusion of grading activities. The oak planting site(s) shall have at least a 65 percent cover by native or naturalized plants (primarily grasses) and no more than 20 percent of the area shall be covered by non-native weeds. Survival of planted oak saplings until 2024 shall exceed 65% (i.e., 10 living oak saplings per mature tree removed).

3. Monitoring Plan: The site will be visited annually by a qualified biologist to visually assess herbaceous cover of the revegetation area and the survival of oak saplings. If revegetation success or sapling mortality falls below the above performance and success criteria during any of the 3 years following construction, adaptive management (reseeding, replanting) must be conducted, using the above species and methods.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

There are no conflicts with any adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State conservation plans. Solano County is not a participant in the Solano HCP and the HCP has not yet been adopted. This project will not conflict with the provisions of the Solano HCP nor interfere with the implementation of this plan once it is adopted.

BIOLOGICAL RESOURCES BEST MANAGEMENT PRACTICES

All construction activities shall be conducted to avoid impacts to biological resources to the maximum feasible. In addition to the above recommendation, LSA recommends the following measures to avoid and minimize impacts during construction:

Nesting Bird Survey

For construction activities that occur between February 1 and August 31, a preconstruction breeding bird survey shall be conducted by a qualified biologist familiar with bird behavior and knowledge of nest types prior to and within 10 days of any initial ground-disturbance activities. Surveys shall be of sufficient intensity (typically 2 to 3 surveys) to document nesting within a 0.25 mi (1,320 ft) buffer around planned work activities (consistent with current Solano HCP guidance). If a lapse in project-related construction work of 15 days or longer occurs, additional preconstruction surveys shall be required before project work may be reinitiated. A survey will consist of a pedestrian search by a qualified Biologist for both direct and indirect evidence of bird nesting. Direct evidence will include the visual search of an actual nest location. Indirect evidence will include observing birds for nesting behavior, such as copulation, carrying food or nesting materials, nest building, feeding chicks, and other characteristic behaviors that indicate the presence of an active nest. Surveys will be conducted in accordance with the guidance in Martin and Guepel (1993). If nesting Swainson's hawks, white tailed kites, or other birds are detected, the qualified biologist shall establish no-disturbance buffers around nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely impacted by construction. Buffers will be maintained until the qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival.

Construction Fugitive Dust Emissions

The following Best Management Practices (BMPs) for fugitive dust control shall be required for all construction activities within the project area. These measures would reduce fugitive dust emissions primarily during soil movement and grading, but also during vehicle and equipment movement on unpaved project sites.

a. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered to prevent the formation of airborne nuisance. Additional watering shall be provided on dry or windy days.

b. All haul trucks transporting soil, sand, or other loose material off site shall be covered.

c. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

d. Paving of the driveway shall be completed as soon as possible.

Spill Prevention

Equipment shall be inspected daily prior to the onset of work to prevent fluid leaks. If leaks occur during the work, the spill must be contained immediately and affected soils must be removed and disposed of according to county regulations.

Fire Prevention

The potential for wildfires shall be reduced by parking vehicles away from vegetation and by the use of shields, protective mats, and other fire prevention methods when conducting activities that are likely to create a fire hazard. All construction sites shall have adequate sources of water, shovels, and fire extinguishers available for immediate use. All vehicles and heavy equipment used on construction sites shall have on-board fire extinguishers. During the dry season, vehicles shall never be parked or idled so that the undercarriage is in contact with vegetation.

Weed prevention

All equipment should be thoroughly cleaned (washed) before entering the project site, if the equipment has been used in areas infested with weeds. Workers should inspect, remove, and properly dispose of weed seed and plant parts found on their clothing and equipment. Stockpiled, un-infested material should be maintained in a weed-free condition. Retain native vegetation in and around project activity to the maximum extent possible. Avoid creating soil conditions that promote weed germination and establishment. Revegetate disturbed in a manner that optimizes plant establishment for that specific site. Revegetation may include planting, seeding, fertilization, liming, and weed-free mulching as necessary. Use native material where appropriate and feasible. Use certified weed-free or weed-seed-free hay or straw for erosion control. Conduct weed control on roadways and in disturbed areas as needed. Re-seeding of the project site shall be accomplished within appropriate California native plant species that are adapted to the site. Suggested Erosion control seed mix consists of 15 lbs/ac *Bromus carinatus*, 15 lbs/ac *Elymus glaucus*, 10 lbs/ac *Lupinus bicolor*, 10 lbs/ac *Lupinus succulentus*, 10 lbs/ac *Trifolium albopurpureum*, 10 lbs/ac *Trifolium microcephalum*, and 5 lbs *Clarkia pupurea*. Placement of seed shall be by hydromulch spray or other broadcast method as determined by owner to ensure germination prior to October 15th. If necessary, watering of the reseeded area must be ensured to enhance plant germination and survival.

CONCLUSIONS

The proposed project involves the subdivision of an 82.9-acre contiguous property into four parcels of 20 acres or more. This may cause the following impacts:

1. Potentially minor adverse effects, either directly or through habitat modifications, on Swainson's hawk foraging habitat. Mitigation of Swainson's hawk foraging habitat is best achieved by limiting the extent of allowable conversion of hawk grassland foraging habitat on each parcel.

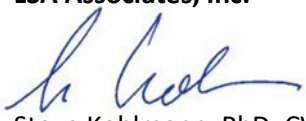
2. Potential effect on native bumble bees. Implementation of the recommended measures for areas of potential ground disturbance will result in less than significant impacts to bumble bee species.

3. Potential conflict with ordinance and regulations protecting native trees, oak woodlands and heritage oak trees. Avoidance measures should at a minimum designate no-work zones along the dripline of native oaks and avoid damage to these trees. Removal of native trees should be mitigated by planting 15 saplings of the same species per removed tree. Mitigation for tree removal includes monitoring of sapling survival and replanting if survival is lower than 65% after 3 years.

Please contact me at (510) 236-6810 or at steve.kohlmann@lsa.net if you have any questions or require additional information.

Sincerely,

LSA Associates, Inc.



Steve Kohlmann, PhD, CWB
Associate/Wildlife Biologist

Attachments: Literature Cited
Figures

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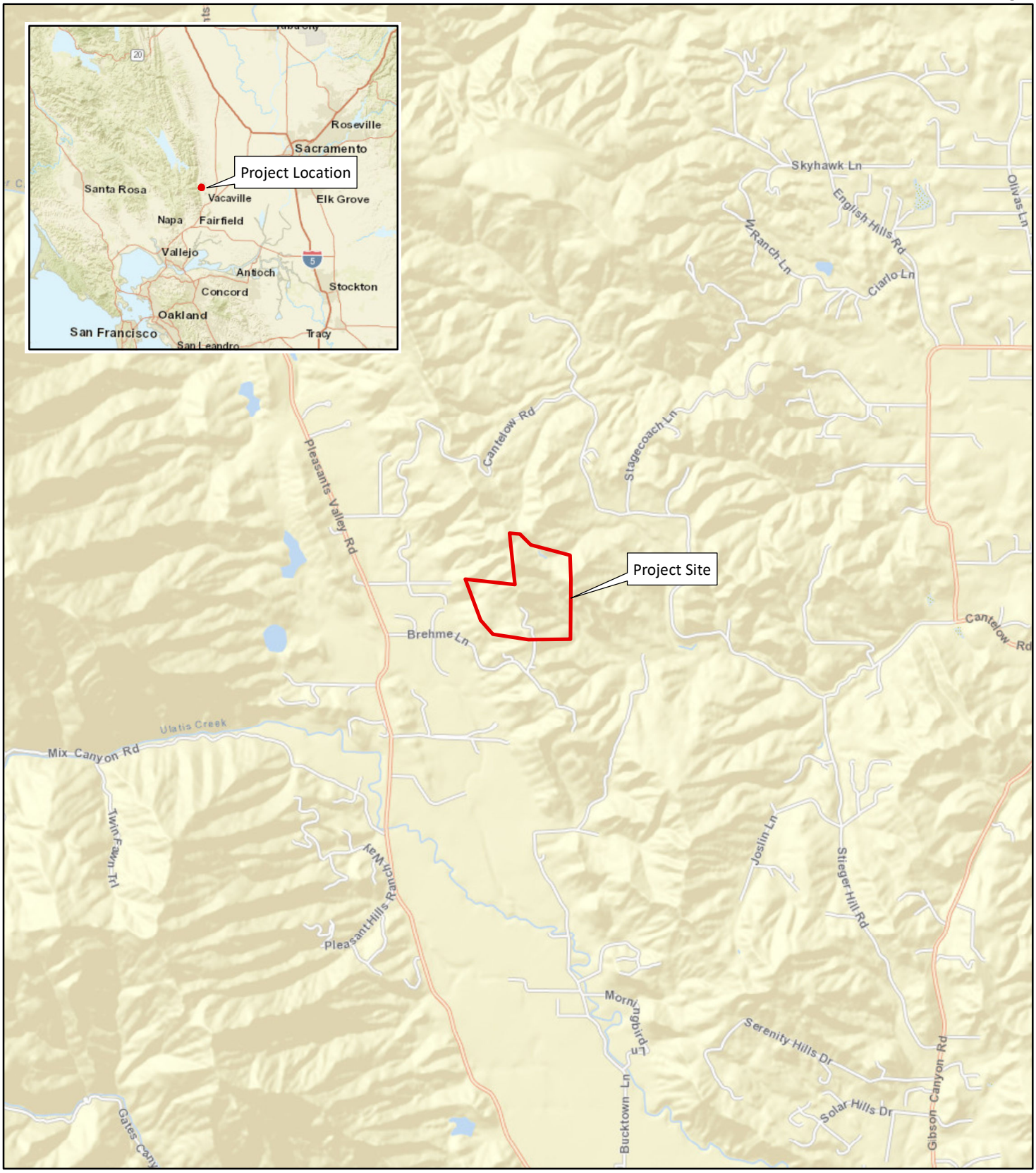
FIGURES



LSA

LEGEND

Project Site

FIGURE 1

N

0 1500 3000

FEET

Lands of Abrew Subdivision
Solano County, California

General Project Location

SOURCE: ESRI World Street Maps (02/2020).

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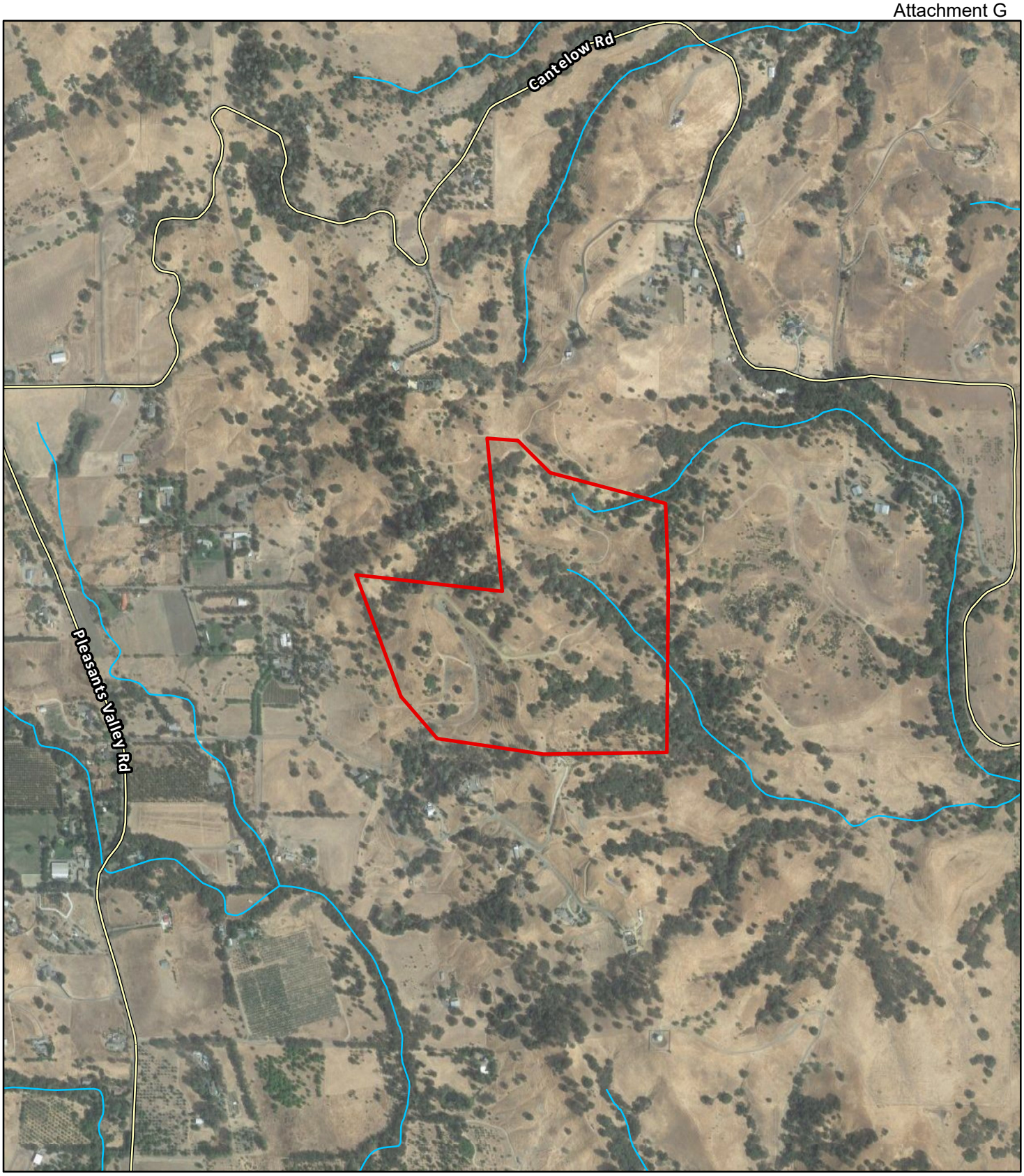

LSA

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Project Site

Stream/River

FIGURE 2

N

0 500 1000

FEET

Lands of Abrew Subdivision
Solano County, California

Project Site Location

SOURCE: Google Maps Sat (10/2020); National Hydrology Dataset (2018).

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LSA

LEGEND

Project Site

Tentative Parcels

N

0 200 400

FEET

FIGURE 3

Lands of Abrew Subdivision
Solano County, California

Tentative Parcel Map

SOURCE: Google Maps Sat (10/2020); National Hydrology Dataset (2018).

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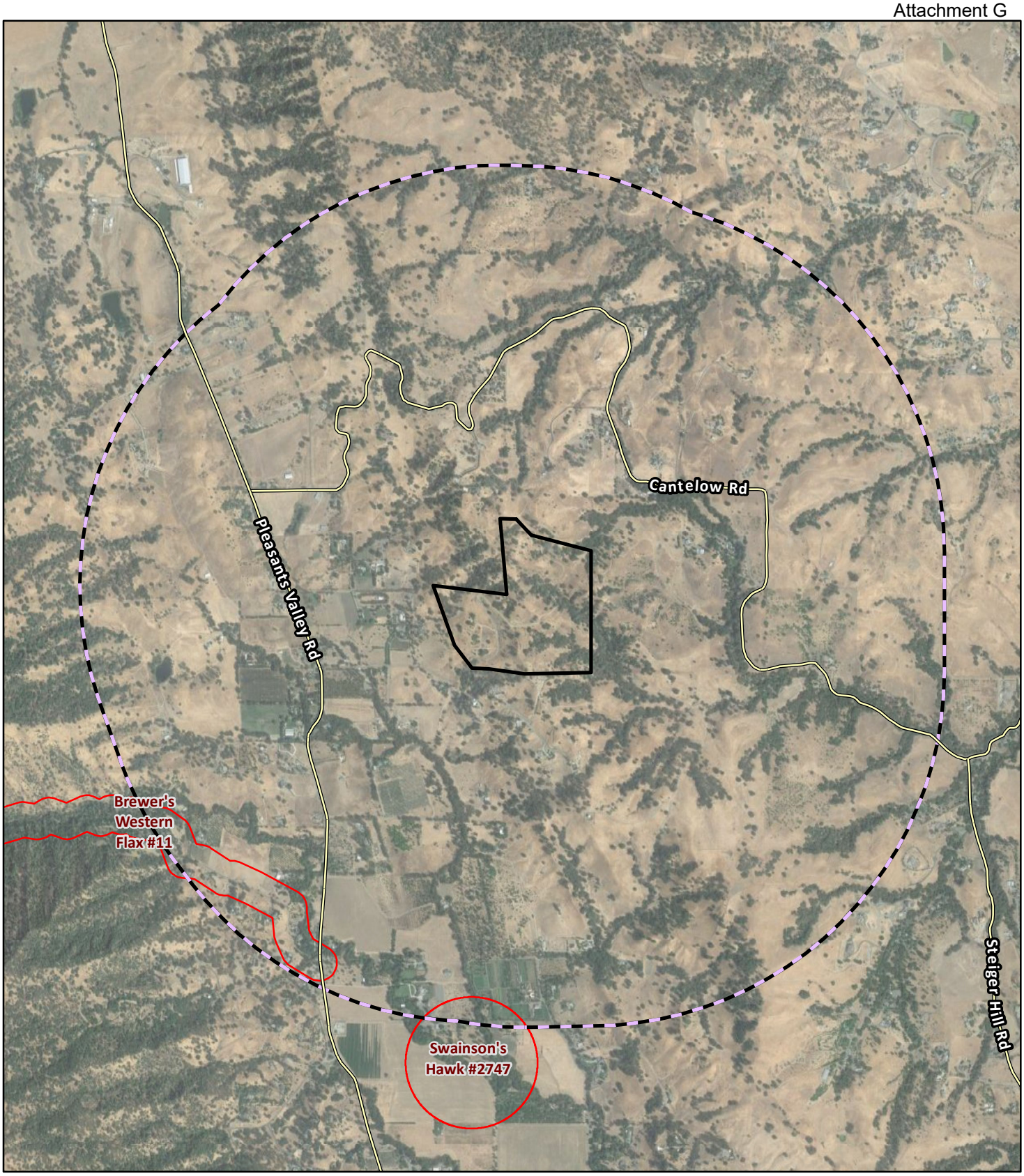

LSA

LEGEND

- Project Site
- 1-Mile Buffer of Project Site
- Special-Status Species Occurrences

N

0 1000 2000
FEET

FIGURE 4

Lands of Abrew Subdivision
Solano County, California

Special-Status Species Occurrences within 1 Mile of the Project Site

SOURCE: Google Maps Sat (10/2020); CDFW CNDDB (02/2021).

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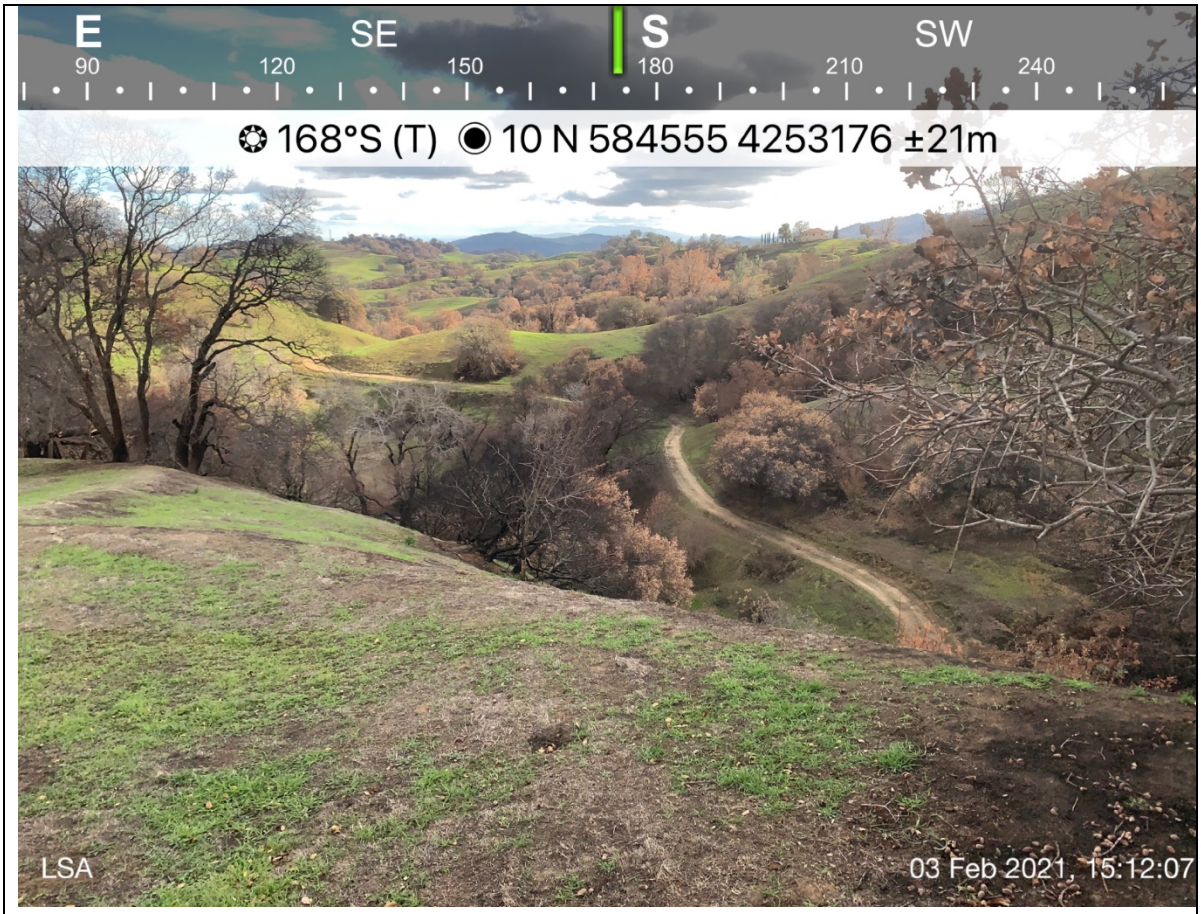
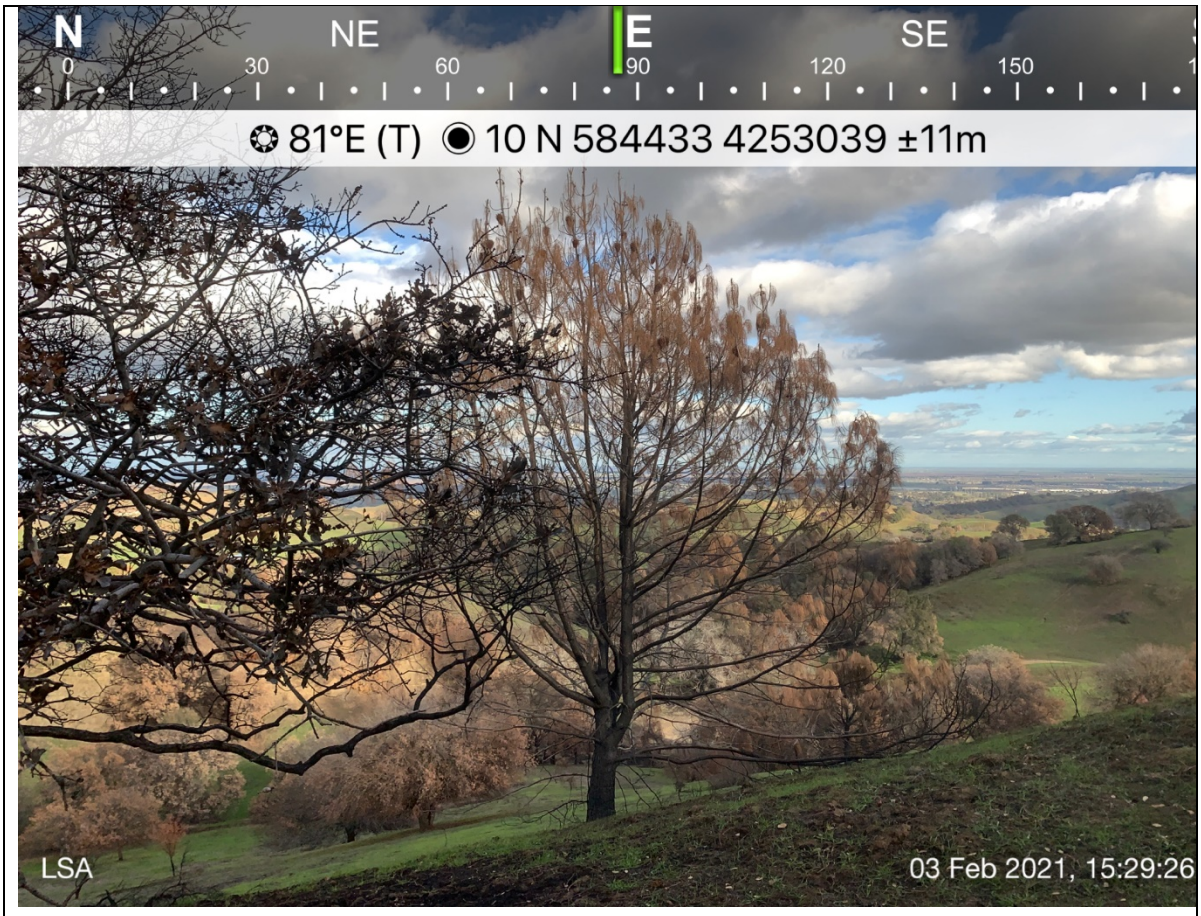
PHOTOPOINTS

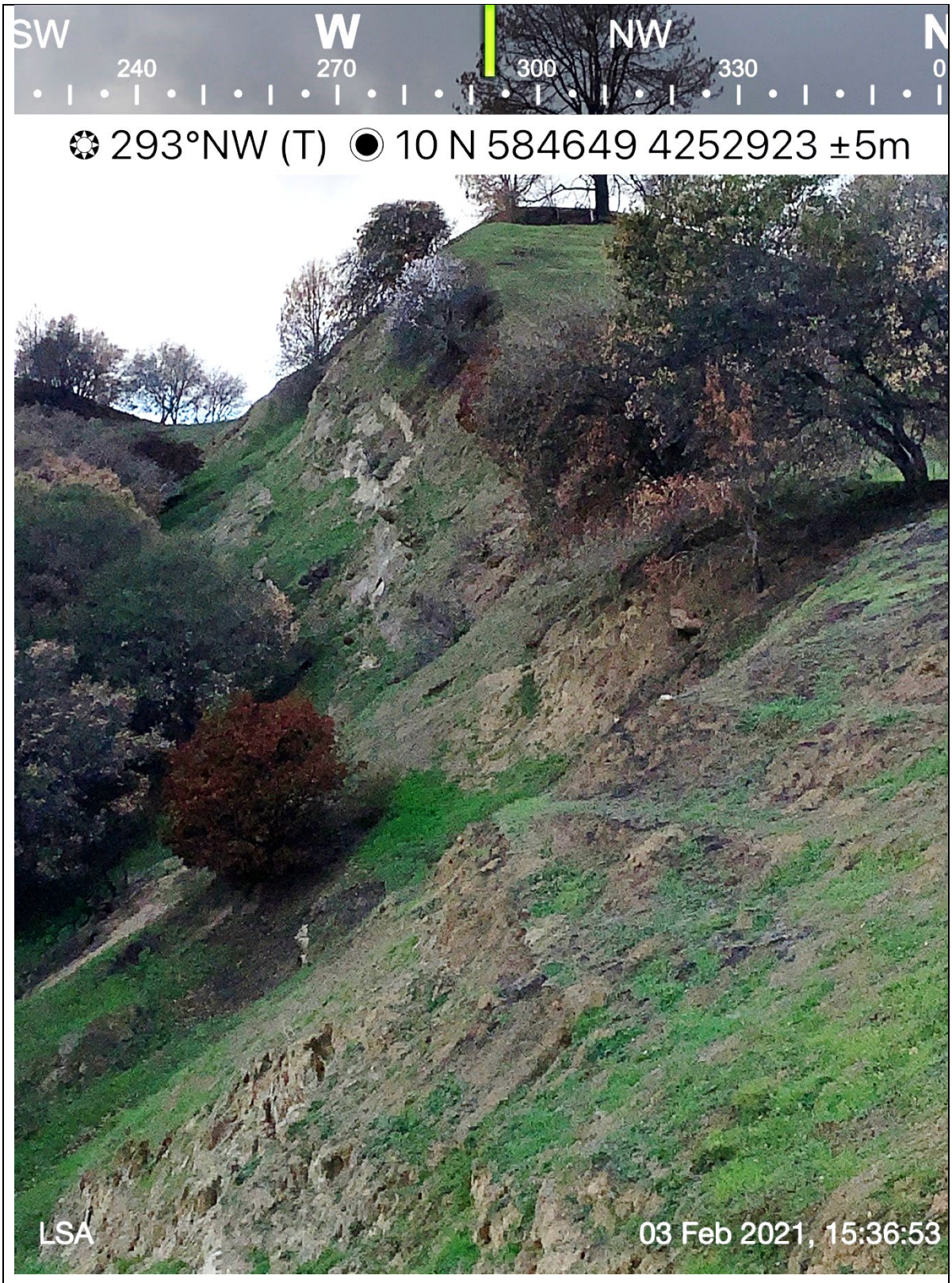


View from Northern property boundary due south

Stock pond and burned Fremont Cottonwoods (*Populus fremontii*)



Burned Foothill pine (*Pinus sabiniana*)



The property has steep slopes with sandstone outcroppings


E
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03 Feb 2021, 15:40:07

Grasslands

Tributary to English Creek

Drainage culvert and stonework

Disfunct culvert

Staging and building site, western propoerty boundary

Western property boundary looking east

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Elmira, CA 95625

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CULTURAL RESOURCES TECHNICAL MEMORANDUM

Date: April 12, 2021
To: Brehme Properties, LLC
From: Solano Archaeological Services, LLC

Subject: Cultural Resources Study - Abrew Brehme Lane Project, Solano County, County, California

INTRODUCTION

This technical memorandum summarizes the background research, Native American community outreach, pedestrian survey, and findings for the Abrew Brehme Lane Project (Project). The Project is subject to California Environmental Quality Act (CEQA) requirements, and Solano Archaeological Services (SAS) has prepared this technical memorandum to support those needs.

PROJECT LOCATION

The project area consists of an 80-acre (ac.) parcel (APN 0102-090-140) located north of the City of Vacaville in Solano County, California (Attachment A, Figures 1–3). The project area lies about 3 miles (mi.) north of the limits of the City of Vacaville, and approximately 5 mi. west of Interstate 505. The project area is situated on the *Mount Vaca, California*, U.S. Geological Survey (USGS) 7.5-minute quadrangle map, in Township 7 North, Range 2 West, Section 25.

PROJECT DESCRIPTION

Brehme Properties, LLC proposes to subdivide the existing 80-ac. project area into four 20-ac. lots consistent with Solano County's Rural Residential designation. The subdivision process will require substantial grading for regular road access, as well as the construction of an emergency fire escape route, and potable water delivery.

REGULATORY SETTING

CEQA requires that public agencies having authority to finance or approve public or private projects assess the effects of the projects on cultural resources. Cultural resources include buildings, sites, structures, objects, or districts, each of which may have historical, architectural, archaeological, cultural, or scientific significance. CEQA states that if a proposed project would result in an effect that may cause a substantial adverse change in the significance of a significant cultural resource (termed a "historical resource"), alternative plans or mitigation measures must be considered. Because only significant cultural resources need to be addressed, the significance of cultural resources must be determined before mitigation measures are developed.

CEQA §5024.1 (Public Resources Code §5024.1) and §15064.5 of the State CEQA Guidelines (14 California Code of Regulations [CCR] §15064.5) define a historical resource as "a resource listed or eligible for listing on the California Register of Historical Resources." A historical resource may be eligible for inclusion in the California Register of Historical Resources (CRHR) if it:

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2) Is associated with the lives of persons important to our past;
3) Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values; or
4) Has yielded, or may be likely to yield, information important to prehistory or history.

In addition, CEQA also distinguishes between two classes of archaeological resources: archaeological sites that meet the definition of a historical resource, and "unique archaeological resources." An archaeological resource is considered "unique" if it:

- Is associated with an event or person of recognized significance in California or American history or of recognized scientific importance in prehistory;
- Can provide information that is of demonstrable public interest and is useful in addressing scientifically consequential and reasonable research questions;
- Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;
- Is at least 100 years old and possesses substantial stratigraphic integrity; or
- Involves important research questions that historical research has shown can be answered only with archaeological methods (Public Resources Code §21083.2).

According to the CEQA Guidelines, a project with an effect that may cause a substantial adverse change in the significance of a historical resource or a unique archaeological resource is a project that may have a significant effect on the environment (14 CCR §15064.5[b]). CEQA further states that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired.

The CEQA Guidelines (14 CCR §15064.5[e]) also require that excavation activities be stopped whenever human remains are uncovered, and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of a Native American, the Native American Heritage Commission must be contacted within 24 hours, and the provisions for treating or disposing of the remains and any associated grave goods as described in CCR §15064.5 must be followed.

NATURAL AND CULTURAL SETTING

Existing Environment

The landscape and natural resources surrounding the site are rich and diverse. These conditions are also reflected in the larger Solano region through numerous geological, ecological, and biological resource zones. Thus, the climate and natural environment would have provided an excellent setting for prehistoric settlement and subsistence. The modern climate of the Solano area is mild most of the year with an annual average temperature of 60.3°F. Cool temperatures average between 47–51°F during the winter months (December through February) and average hot temperatures range between 84.9–89.0°F during the summer months (June through August). The annual average amount of precipitation is 27.6 inches (in.), most falling during the winter months. The summer months average 0.05 in. of precipitation between June and August.

Although several local season and perennial water sources can be found near the project area (e.g. English Creek just to the east, and South Fork English Creek to the southeast), the largest waterway in the area is Ulatis Creek about a mile to the south. Ulatis Creek exhibits a significant riparian habitat supporting

numerous terrestrial and aquatic species on either a seasonal or a year-round basis (Brown 1999; Lightfoot and Parrish 2009). Terrestrial mammals in particular would also have provided dietary protein and fat as well as necessary raw materials for a wide variety of implements (Anderson 2005; Lightfoot and Parrish 2009; Storer and Tevis 1996).

The prehistoric inhabitants of the region would also have had access to the coastal marsh and bay environments south of the project area at Grizzly Bay, Suisun Marsh, Suisun Bay, Honker Bay, and San Pablo Bay. These fresh water and brackish marsh environments are host to hundreds of plant and animal species (e.g. migratory waterfowl, fish, and marine mammals) that could not be otherwise obtained from the riparian habitats closest to the site, but would have provided additional resources for shelter, subsistence, and personal adornment fully within the ethnographic territory of the Patwin (see *Ethnographic Setting* below) (Eschmeyer and Herald 1983; Lightfoot and Parrish 2009).

PREHISTORIC CONTEXT

David Fredrickson's study of the central districts of the North Coast Ranges in the early 1970s led him to build a sequence of cultural patterns that could be placed within a framework of distinct cultural periods. These periods, he proposed, were applicable to California as a whole. The cultural patterns developed by Fredrickson were distinctively different from the concepts of previous researchers (Beardsley 1954) who tended to emphasize assemblages of material goods as the basis for their classifications. Fredrickson, taking a much broader view of recovered archaeological materials, defined the term *pattern* as "...an adaptive mode shared in general outline by a number of analytically separable cultures over an appreciable period of time within an appreciable geographic space." (Fredrickson 1973).

Fredrickson recognized that the economic/cultural component of each pattern could be manifested in neighboring geographic regions according to the presence of stylistically different artifact assemblages. He introduced the term *Aspect* as a cultural subset of the pattern, defining it as a set of historically related technological and stylistic cultural assemblages. The following is a summary of these temporal periods, now known as the *Archaic-Emergent* structure. This nomenclature is widely used by North Bay archaeologists and some Central Bay archaeologists. The listed temporal periods below describe the associated cultural patterns that have been identified for northern Solano County and the adjoining regions and incorporates recent taxonomic and interpretative revisions that are summarized from the work of White and Frederickson (1992).

Paleo-Indian Period (10,000 BC to 6,000 BC)

This period saw the first demonstrated entry and spread of humans into California with most known sites being situated along lakeshores. A developed milling tool technology may be present at this time depth although evidence regarding this technology is scarce. The social units were not heavily dependent upon the exchange of resources with trading activities having occurred on an ad-hoc, individual basis.

The Post Pattern represents the earliest known occupation of the North Coast Ranges. This Pattern is documented only at the Borax Lake site, and perhaps at the Mostin site (Moratto 1984:497). Characteristic artifacts noted in the lithic assemblages include fluted projectile points and flaked crescents. Though the artifacts representative of this Pattern have never been found in a single site context in the Solano County region, numerous occurrences of its distinctive artifacts are reported and can be affiliated with better-documented assemblages in California and throughout North America.

Lower Archaic Period (6,000 BC to 3,000 BC)

The beginning of this period coincides with that of the middle Holocene climatic shift to more arid conditions that brought about the drying up of the pluvial lakes. Subsistence appears to have been focused

more on plant foods although hunting clearly still provided for important food and raw material sources. Settlement was semi-sedentary with little emphasis on material wealth. Most tools were manufactured of local materials, and exchange remained on an ad hoc basis. Distinctive artifact types are large projectile points and the milling slab and hand stone. The Lower Archaic Borax Lake Pattern has been identified in the North Coast Ranges during this period.

Middle Archaic Period (3,000 BC to 1,000 BC)

This period begins at the end of mid-Holocene climatic conditions when weather patterns became similar to present-day conditions. Discernable cultural change was likely brought about in response to these changes in climate and accompanying variation in available floral and faunal resources. Economic systems were more diversified and likely included the introduction of acorn processing technology. Hunting remained an important source of food and raw materials although reliance on plant foods appears to have predominated the subsistence system. Sedentism appears to have been fully developed and there was an overall growth in population and a general expansion in land use.

Upper Archaic Period (1,000 BC to AD 500)

A marked expansion of sociopolitical complexity marks this period with the development of status distinctions based upon material wealth being well documented. Group-oriented religions emerge and may be the origins of the Kuksu religious system that arises at the end of the period. There was a greater complexity of trade systems with evidence for regular, sustained exchanges between groups. Shell beads gained in significance as possible indicators of personal status and as important trade items. This period retained the large projectile points in different forms, but the milling slab and hand stone were replaced throughout most of California by the bowl mortar and pestle.

Emergent Period (AD 500 to 1800)

This period is distinguished by the advent of several technological and social changes. The bow and arrow were introduced, ultimately replacing the atlatl. Territorial boundaries between groups became well established and were well documented in early historic accounts. It became increasingly common for distinctions in an individual's social status to have been linked to acquired wealth. The exchange of goods between groups became more regularized with more raw materials, along with finished products, entering into the exchange networks. In the latter portion of this period (1500 AD to 1800 AD), exchange relations became highly regularized and sophisticated. The clam disk bead became a monetary unit of exchange and increasing quantities of goods are transported over greater distances. Specialists arose to govern various aspects of production and exchange.

ETHNOGRAPHIC SETTING

The project area is situated in the ethnographic territory of the Patwin. The Patwin, which means "people" in their own language, are also known as the *Copeh* or Southern Wintun. At the time of initial contact with European explorers, they existed mainly in what are now known as Solano, Yolo, and Colusa counties, and shared territorial boundaries with many different Native American groups. The Nomlaki to the north referred to the Patwin as *noymok*, or "south people", while the Yuki to the northwest referred to them as the "Little Stony Creek Patwin" who had contact with *Ku'mnom*, or "salt people" (Johnson 1978: 358-359).

The Patwin territory took an approximate geographic expanse of 90 mi. north-south by 40 mi. east–west. They were known to have existed on the east side of the Coastal Range, along the foothills east of Clear Lake. Suisun Bay acted as their southern boundary, providing a Delta tule marsh habitat full of biota to exploit. From Suisun Bay to the confluence of Feather River and the lower Sacramento River, the Patwin eastern boundary existed near the west banks of the Sacramento River (Johnson 1978:350-351).

The Patwin belong to the Penutian linguistic stock, which has been divided into five languages. The Wintun language group, residing on the west side of the Sacramento Valley, is further divided into three distinct dialects, namely the Wintu to the north, the Central Wintun (Nomlaki), and the Southern Wintun (Patwin) (Heizer and Elsasser 1980:14). Due to the three groups sharing linguistic and cultural traits, they were all originally considered to be Wintun. As ethnographic research continued, however, early ethnologist Stephen Powers in 1877 discovered during fieldwork that the Nomlaki and the Patwin were culturally distinguishable (Johnson 1978:350). As their own cultural group, the Patwin were further divided into the Hill Patwin and the River Patwin. The Hill Patwin settled in areas along the Coastal Range foothills to the west. The River Patwin settled along the Sacramento River and various valley creek drainages (and Suisun Bay).

The main political unit for the Patwin was the tribelet, which consisted of a primary village and several satellite villages settled around drainages. The Patwin typically lived in semi-subterranean, earth-covered structures that were ovular in shape (Johnson 1978:357-358). Near riparian zones tule was also utilized to create various dwellings. Being autonomous, the tribelet held a specific territory and was led by a Chief who directed most of the economic and ceremonial activities.

HISTORIC SETTING

After Mexico seceded from Spain in 1822, land in California was divided into many large land grants, or *ranchos*. Particularly in the Central Valley*, ranchos* were established to help create stability during a time of upheaval created by European contact. In 1842 Juan Felipe Peña and Manuel Cabeza Vaca settled in the area surrounding much of what is now known as Solano County, and by 1843 they received their first land grant for the Rancho Rio De Los Putos ("River of the Putahs, or Patwin Indians"). The land grant originally consisted of approximately 17,754 ac. (Beck and Haase 1978; Shumway 2007) and incorporated the project area. However, in 1858 the U.S. Government patented a much larger region of 44,384 ac. for the Rancho Los Putos.

At the start of the Gold Rush in 1849, settlers from around the world came to establish farms in and around what would soon become Solano County. Some turned to agriculture after failing to make their fortunes in the mines, while others pursued it as a lucrative endeavor that many had overlooked. In 1848 two American settlers Albert Lyon and John Patton made the first sale of land from the Rancho Rio De Los Putos, and in the following year Vaca sold nine square ac. of his rancho to William McDaniel. In 1851 McDaniel, as part of his agreement with Vaca, established Villa de Vacaville and was the second town to be surveyed in Solano County. By 1892 Vacaville became incorporated as an official city that became a central community in Solano County for settlers looking to establish farm plots and orchards.

NATIVE AMERICAN COMMUNITY OUTREACH

On March 22, 2021 SAS emailed a letter and a map depicting the project area to the Native American Heritage Commission (NAHC). The letter requested a Sacred Lands File (SLF) search for the project area, and a list of Native American community representatives who might have knowledge concerning cultural resources in the project area or that might have an interest in or concerns with the proposed Project (Attachment B). On April 1, 2021, Ms. Sarah Fonseca, Cultural Resources Analyst for the NAHC, replied in an emailed letter that the Sacred Lands File search was completed and that no cultural sites or properties were known to be present within or near the project area. Ms. Fonseca also provided a list of local Native American contacts. On April 2, 2021, SAS mailed letters to the following Native American representatives identified by the NAHC:

- Charlie Wright, Chair - Cortina Rancheria – Klestal Dehe Band of Wintun Indians
- Clifford Mota, Tribal Preservation Liaison - Cachil Dehe Band of Wintun Indians
- Daniel Gomez, Chair – Cachil Dehe Band of Wintun Indians
- Donald Duncan, Chair – Guidiville Rancheria
- Isaac Bojorquez, Director of Cultural Resources – Yocha Dehe Wintun Nation
- Laverne Bill, Site Protection Manager – Yocha Dehe Wintun Nation
- Leland Kinter, Tribal Historic Preservation Officer – Yocha Dehe Wintun Nation
- Anthony Roberts, Chair - Yocha Dehe Wintun Nation

The letters mailed to the above-listed individuals provided a summary of the Project, noted the results of the NAHC SLF record search, and requested any information they might have on cultural sites or concerns they might have with the Project. As of this report, no responses to the letters have been forwarded to SAS but if substantive information is conveyed at a later time, an addendum to this report may be developed.

California Historical Resources Information System Records Search

The Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University on March 29, 2021. The NWIC reviewed the CHRIS archives for records of previously known and recorded cultural resources, studies, and isolates in and within one half-mi. of the project area. The record search included, but was not necessarily restricted to, a review of the following additional sources:

- The *National Register of Historic Places* (Historic Properties Directory, California Office of Historic Preservation)
- The *California Register of Historic Places* (Historic Properties Directory, California Office of Historic Preservation)
- The *California Historical Landmarks* (California Office of Historic Preservation)
- The *California Points of Historical Interest* (California Office of Historic Preservation)
- The *California Inventory of Historic Resources* (California Department of Parks and Recreation)
- General Land Office plat maps
- Historic USGS topographic quadrangle maps
- Other local and regional historic mapping

According to the record search results, one previously recorded archaeological site (P-48-000784) is known to be present within the project area. An additional six previously recorded sites have been documented within a half-mi. radius of the project area: P-48-000427, P-48-000511, P-48-000532, P-48-000533, P-48-000534, and P-48-000535. P-48-000427 is part of a historic water system consisting of a mortared rock check dam. P-48-000511, lying approximately one half-mi. southeast of the project area, consist of a series of historic structure depressions associated with a sparse scattering of artifacts. Situated about one-quarter mi. southwest of the project area is P-48-000532, a fieldstone and concrete weir with associated concrete pipe. The remains of a historic bridge abutment off English Creek (P-48-000532), and the remains of a historic water conveyance system – a concrete weir and a catch basin probably built for erosion control (P-48-000534) are also present in the search area. Lastly, P-48-000535 consists of modern and historic debris dump within a linear depression along County Road. The debris pile was approximately 40 ft. long by 6 ft. wide.

One study (Coleman 2007) has been conducted within the project area, and six studies have been conducted within a half-mi. search radius. These six studies consist of S-20960, S-24833, S-5100, S-25103, S-24831, and S-24834. Study S-5100, consisting of a linear survey for the proposed Solano Irrigation District Pipeline Extension, yielded two archaeological sites, none of which were located either

in the project area, or within the half-mile search area. Study S-20960 was a large block survey for the Rural North Vacaville Water District Water System. It yielded a total of nine archaeological sites, including P-48-000427 noted above. Study S-24831 consisted of a historic property survey and evaluation of CA-Sol-414H (P-48-000511). Both S-24834 and S-24833 were additional linear surveys for the Rural North Vacaville Water District Water System project, where P-48-000511, P-48-000532, P-48-000533, P-48-000534, and P-48-000535 sites were originally recorded. Additionally, P-48-000427 was identified during these surveys. Lastly, S-25103 consisted of a small linear survey for a proposed power line located south of the project area where a total of three archaeological sites were discovered.

According to the 1859 General Land Office plat map (General Land Office), the project area and surrounding vicinity may contain unrecorded historic structures, including houses and associated farmland material. According to the NWIC record search no historic properties (per Section 106 of the National Historic Preservation Act criteria) or historical resources (per CRHR criteria) have been recorded in the project area or within the half-mi. search area.

FIELD SURVEY

Methods

On April 8, 2021, SAS archaeologist Jason Coleman, M.A., RPA, conducted an intensive pedestrian survey of the project area using parallel transects spaced approximately 15 meters apart. Rodent burrows, other ground openings, and erosional areas were thoroughly inspected for indications of subsurface conditions, and the property was documented with digital photographs and video recordings. A Trimble Juno unit was utilized to verify project area boundaries and the location of documented cultural resources.

Results

The project area was dominated by low ruderal vegetation, seasonal grasses, and periodic oak trees and bushy plants. Overall ground surface visibility was highly variable. With the exception of rodent burrows and small erosional areas, visibility was generally between approximately 5% and 15%. A single previously documented historic-era resource, P-48-000784 consisting of an earthen dam and adjacent livestock pond, was encountered (Attachment C).

P-48-000784

This resource consists of an earthen embankment (dam) that lies adjacent to a presumed livestock watering pond. The dam is approximately 100 feet (ft.) in length, 20 ft. in width, and about 15 ft. in height above the surrounding ground surface. This dam was constructed to capture run-off from a nearby season drainage. The pond is about 50 ft. in diameter and was depicted on the 1951 *Mt. Vaca* USGS topographic quadrangle map. The dam and pond remain unchanged from the time of their initial documentation by SAS in 2007 for the *Crawford Property Project* (Coleman 2007).

Background research does not suggest that the dam and pond is associated with any specific historically significant individual or event and as such, is recommended not eligible for CRHR listing under criteria 1, or 2. As a vernacular structure with no particular architectural style it shows no evidence of being unique, constructed by a recognized master, nor is it a particularly early or outstanding example of its type. Consequently, SAS recommends P-48-000784 not eligible for CRHR listing under Criterion 3. Also, archival and field research and documentation have likely exhausted the data potential of this resource and as a result, SAS recommends P-48-000784 not eligible for CRHR listing under Criterion 4.

SUMMARY AND RECOMMENDATIONS

The NAHC search did not indicate the presence of any documented Native American cultural resources in the project area and no Native American community representatives have expressed an interest in or concerns with the proposed project. An intensive survey resulted in the updating of information of a single cultural resource - a stock pond and dam dating to the mid-20th century (P-48-000784). Due to a lack of significant historical associations and characteristics, and a lack of data potential, SAS recommended P-48-000784 not eligible the CRHR listing. Consequently, the Project would have *no impact* on documented cultural resources and no further research or management is recommended.

In the event that presently undocumented buried archaeological deposits are encountered during any Project-associated construction activity, work must cease within a 50-ft. radius of the discovery. A qualified archaeologist must be retained to document the discovery, assess its significance, and recommend treatment. If human remains or any associated funerary artifacts are discovered during construction, all work must cease within the immediate vicinity of the discovery. In accordance with the California Health and Safety Code (Section 7050.5), the Solano County Sheriff/Coroner must be contacted immediately. If the Coroner determines the remains to be Native American, the Coroner will notify the Native American Heritage Commission, which will in turn appoint a Most Likely Descendent (MLD) to act as a tribal representative. The MLD will work with the Applicant and a qualified archaeologist to determine the proper treatment of the human remains and any associated funerary objects. Construction activities will not resume until either the human remains are exhumed, or the remains are avoided via Project construction design change.

REFERENCES

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1973 Early Cultures of the North Coast Ranges, California. Ph.D. dissertation, Department of Anthropology, University of California, Davis, CA.

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1978 The Patwin. In *Handbook of North American Indians*, vol. 8. Smithsonian Institution, Washington, D.C.

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1980 The Natural World of the California Indians, University of California Press, Berkeley, CA

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1996 California Grizzly. University of California Press. Berkeley, CA.

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1992 Research Design for: The Anderson Flat Project, Archaeological Data Recovery Investigations at Sites CA-LAK-72, 509, 510, 536, 542, and 1375, Lake County, California. On file, Northwest Information Center of the Historical Resources File System, Sonoma State University, Rohnert Park, CA.

ATTACHMENT A

Figures

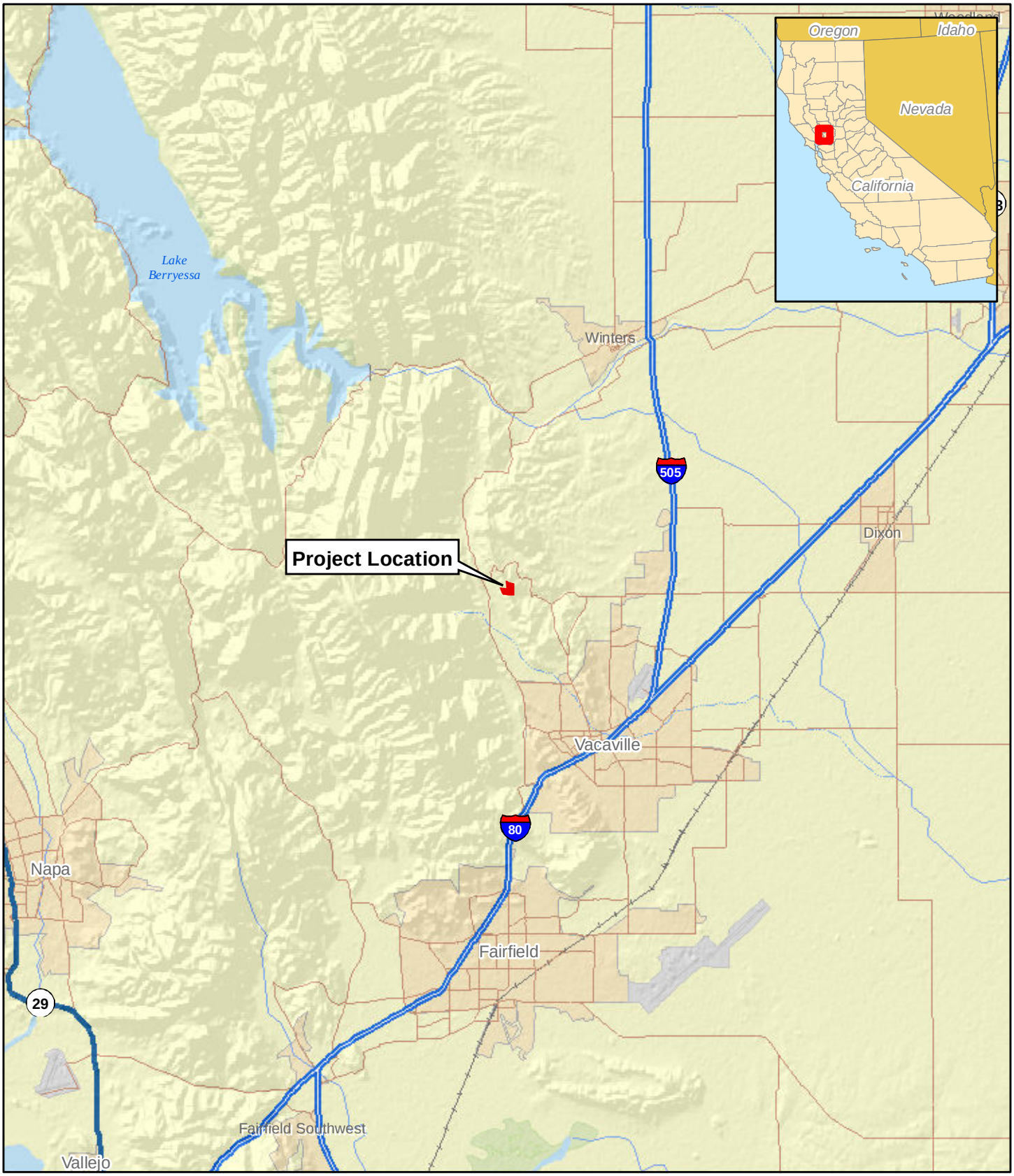

Figure1. Project Vicinity Map.

Brehme Lane Project Area

1:250,000

0 3 Miles

0 6 Kilometers

Sources: *USA Base Map* [layer],*Data and Maps* [CD]. ESRI, 2006.

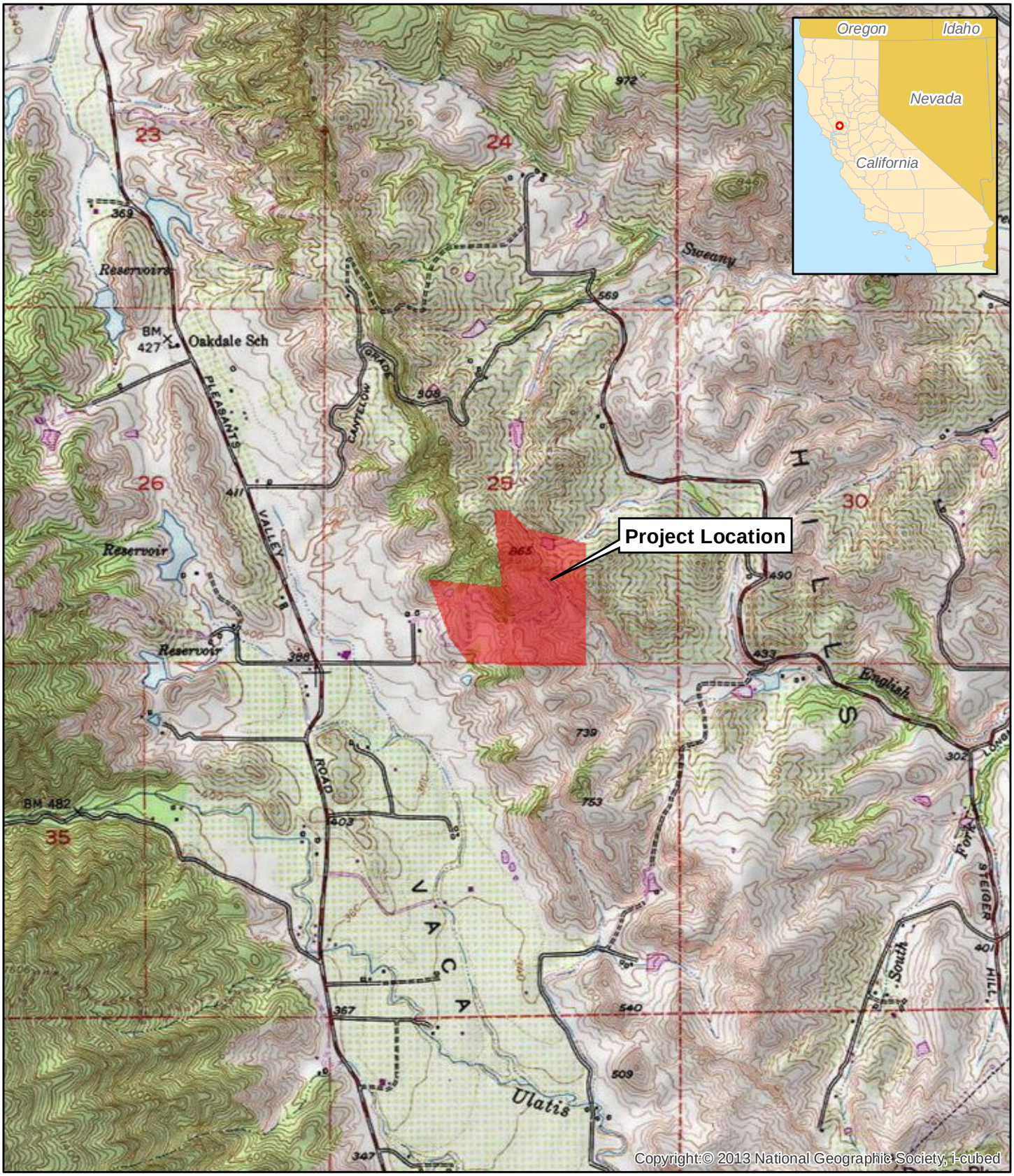

Figure 2. Project Location Map.

Brehme Lane Project Area

T07N, R02W, Section 25.
Mount Vaca 7.5' Series Quadrangle, USGS, 1969, p.r. 1978.

1:24,000

0.5 Miles

1 Kilometers

SAS SOLANO ARCHAEOLOGICAL SERVICES

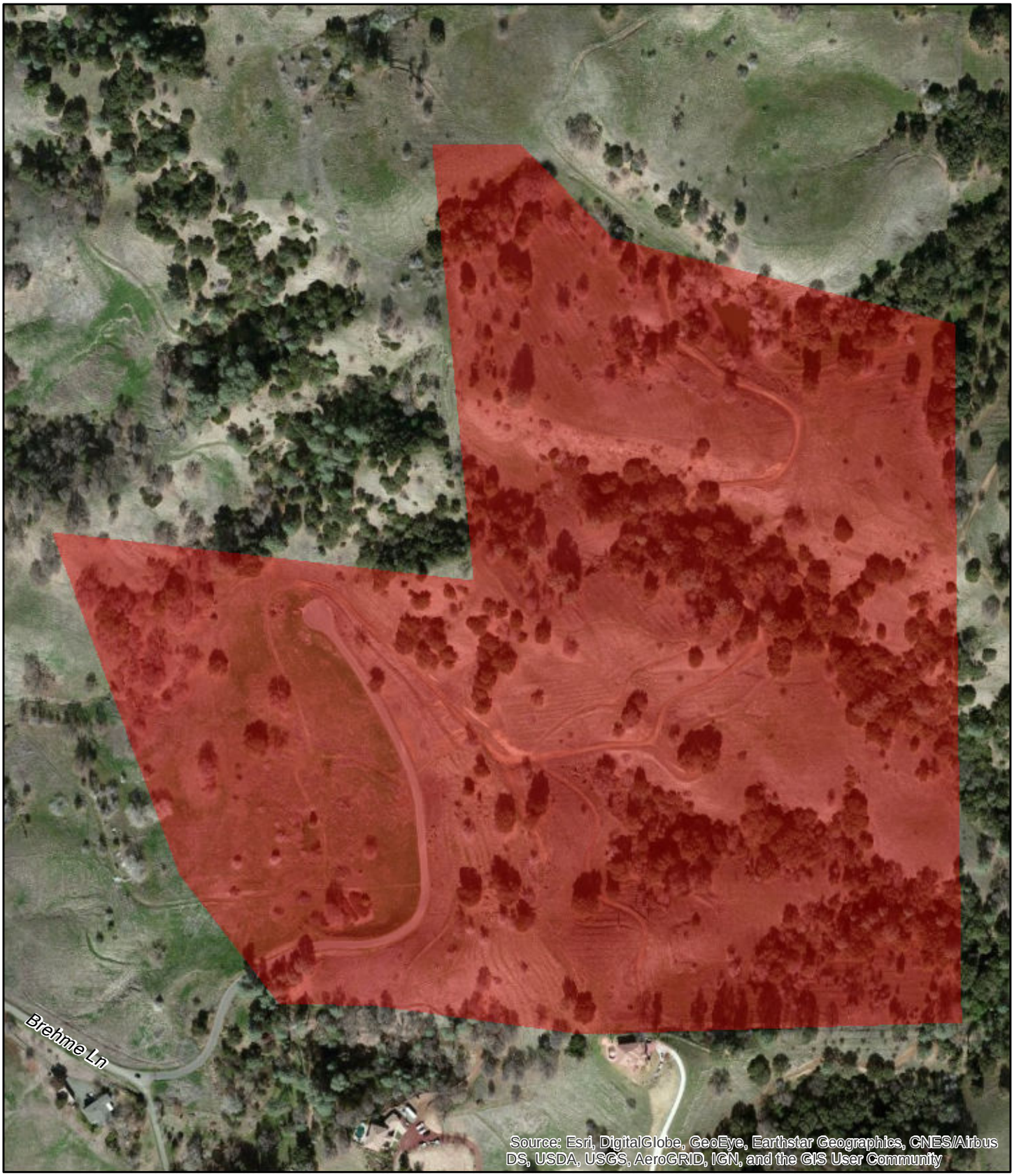

Figure 3. Project Area Map.

Brehme Lane Project Area

Total Acres: 82.70

1:4,200

0 300 Feet

0 150 Meters

ATTACHMENT B

Native American Community Outreach

STATE OF CALIFORNIA Gavin Newsom, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

April 1, 2021

Brian Ludwig, PhD, Principal Investigator
Solano Archaeological Services

Via Email to: brian@solanoarchology.com

Re: Abrew Brehme Lane Project, Solano County

Dear Dr. Ludwig:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Sarah.Fonseca@nahc.ca.gov.

Sincerely,

Sarah Fonseca
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Solano County
4/1/2021

Cachil Dehe Band of Wintun Indians of the Colusa Indian Community
Clifford Mota, Tribal Preservation Liaison
3730 Highway 45 Wintun
Colusa, CA, 95932
Phone: (530) 458 - 8231
cmota@colusa-nsn.gov

Cachil Dehe Band of Wintun Indians of the Colusa Indian Community
Daniel Gomez, Chairman
3730 Highway 45 Wintun
Colusa, CA, 95932
Phone: (530) 458 - 8231
dgomez@colusa-nsn.gov

Cortina Rancheria - Kletsel Dehe Band of Wintun Indians
Charlie Wright, Chairperson
P.O. Box 1630 Wintun
Williams, CA, 95987
Phone: (530) 473 - 3274
Fax: (530) 473-3301

Guidiville Indian Rancheria
Donald Duncan, Chairperson
P.O. Box 339 Pomo
Talmage, CA, 95481
Phone: (707) 462 - 3682
Fax: (707) 462-9183
admin@guidiville.net

Yocha Dehe Wintun Nation
Isaac Bojorquez, Director of Cultural Resources
PO Box 18 Brooks, CA 95606 Patwin
Phone: (530) 796 - 0103
ibojorquez@yochadehe-nsn.gov

Yocha Dehe Wintun Nation
Laverne Bill, Site Protection Manager
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
lbill@yochadehe-nsn.gov

Yocha Dehe Wintun Nation
Anthony Roberts, Chairperson
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
aroberts@yochadehe-nsn.gov

Yocha Dehe Wintun Nation
Leland Kinter, THPO
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
thpo@yochadehe-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Abrew Brehme Lane Project, Solano County.

131 Sunset Avenue, Suite E # 120
Suisun, CA 94585-2064

707-718-1416 ▲ Fax 707-451-4775
www.solanoarchaeology.com

April 2, 2021

Yocha Dehe Wintun Nation
Anthony Roberts - Chairman
P.O. Box 18
Brooks, CA, 95606

Re: Abrew Brehme Lane Subdivision Project, Solano County, California

Dear Mr. Roberts:

Brehme Properties, LLC, has retained Solano Archaeological Services to conduct a CEQA level cultural resources inventory of the approximately 80-acre (ac.) Abrew Brehme Lane project area (APN 0102-090-140) for subdivision into four 20-ac. parcels. The project area is located in the City of Vacaville, Solano County, California. The subdivision process will require substantial grading for regular road access, as well as the construction of an emergency fire escape route and potable water delivery. The project area lies on the Mount Vaca, California topographic 7.5 minute quadrangle in Township 7 North, Range 2 West, Section 25. Please find the enclosed topographic map illustrating the project area location.

We would like to ask if you could provide any information on unrecorded resources within or in the vicinity of the project area as shown on the attached map. Any input or recommendations you could provide for the Project would be greatly appreciated. Please know that this request is for CEQA purposes only, and is not part of SB 18 or AB 52 review. For your information, the Native American Heritage Commission Sacred Lands File record search indicated that no culturally significant properties have been recorded in or near the project area.

If you have any questions or if you need any additional information, please feel free to contact me at your convenience. I can be reached via phone at 530-417-7007, or by email at brian@solanoarchaeology.com. Thank you very much for your attention to this request and I hope to hear from you soon.

Thanks,

Brian Ludwig, Ph.D.
Principal Investigator

Enc. Project area location map

131 Sunset Avenue, Suite E # 120
Suisun, CA 94585-2064

707-718-1416 ▲ Fax 707-451-4775
www.solanoarchaeology.com

April 2, 2021

Cachil Dehe Band of Wintun Indians of the Colusa Indian Community
Clifford Mota, Tribal Preservation Liaison
3730 Highway 45
Colusa, CA, 95932

Re: Abrew Brehme Lane Subdivision Project, Solano County, California

Dear Mr. Mota:

Brehme Properties, LLC, has retained Solano Archaeological Services to conduct a CEQA level cultural resources inventory of the approximately 80-acre (ac.) Abrew Brehme Lane project area (APN 0102-090-140) for subdivision into four 20-ac. parcels. The project area is located in the City of Vacaville, Solano County, California. The subdivision process will require substantial grading for regular road access, as well as the construction of an emergency fire escape route and potable water delivery. The project area lies on the Mount Vaca, California topographic 7.5 minute quadrangle in Township 7 North, Range 2 West, Section 25. Please find the enclosed topographic map illustrating the project area location.

The cultural resources inventory will include a pedestrian survey of the project area and we would like to ask if you could provide any information on unrecorded resources within or in the vicinity of the project area as shown on the attached maps. Any input or recommendations you could provide for the Project would be greatly appreciated. Please know that this request is for CEQA purposes only, and is not part of SB 18 or AB 52 review. For your information, the Native American Heritage Commission Sacred Lands File record search indicated that no culturally significant properties have been recorded in or near the project area.

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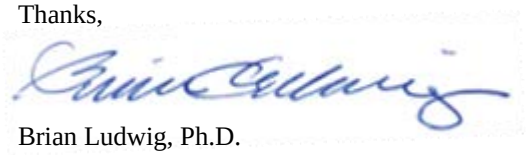
Thanks,



Brian Ludwig, Ph.D.
Principal Investigator

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April 2, 2021

Cortina Rancheria - Kletsel Dehe Band of Wintun Indians
Charlie Wright, Chairperson
P.O. Box 1630
Williams, CA, 95987

Re: Abrew Brehme Lane Subdivision Project, Solano County, California

Dear Mr. Wright:

Brehme Properties, LLC, has retained Solano Archaeological Services to conduct a CEQA level cultural resources inventory of the approximately 80-acre (ac.) Abrew Brehme Lane project area (APN 0102-090-140) for subdivision into four 20-ac. parcels. The project area is located in the City of Vacaville, Solano County, California. The subdivision process will require substantial grading for regular road access, as well as the construction of an emergency fire escape route and potable water delivery. The project area lies on the Mount Vaca, California topographic 7.5 minute quadrangle in Township 7 North, Range 2 West, Section 25. Please find the enclosed topographic map illustrating the project area location.

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Thanks,

Brian Ludwig, Ph.D.
Principal Investigator

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Suisun, CA 94585-2064

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www.solanoarchaeology.com

April 2, 2021

Guidiville Indian Rancheria
Donald Duncan, Chairperson
P.O. Box 339
Talmage, CA, 95481

Re: Abrew Brehme Lane Subdivision Project, Solano County, California

Dear Mr. Duncan:

Brehme Properties, LLC, has retained Solano Archaeological Services to conduct a CEQA level cultural resources inventory of the approximately 80-acre (ac.) Abrew Brehme Lane project area (APN 0102-090-140) for subdivision into four 20-ac. parcels. The project area is located in the City of Vacaville, Solano County, California. The subdivision process will require substantial grading for regular road access, as well as the construction of an emergency fire escape route and potable water delivery. The project area lies on the Mount Vaca, California topographic 7.5 minute quadrangle in Township 7 North, Range 2 West, Section 25. Please find the enclosed topographic map illustrating the project area location.

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Thanks,

Brian Ludwig, Ph.D.
Principal Investigator

Enc. Project area location map

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Suisun, CA 94585-2064

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April 2, 2021

Cachil Dehe Band of Wintun Indians of the Colusa Indian Community
Daniel Gomez, Chairman
3730 Highway 45
Colusa, CA, 95932

Re: Abrew Brehme Lane Subdivision Project, Solano County, California

Dear Mr. Gomez:

Brehme Properties, LLC, has retained Solano Archaeological Services to conduct a CEQA level cultural resources inventory of the approximately 80-acre (ac.) Abrew Brehme Lane project area (APN 0102-090-140) for subdivision into four 20-ac. parcels. The project area is located in the City of Vacaville, Solano County, California. The subdivision process will require substantial grading for regular road access, as well as the construction of an emergency fire escape route and potable water delivery. The project area lies on the Mount Vaca, California topographic 7.5 minute quadrangle in Township 7 North, Range 2 West, Section 25. Please find the enclosed topographic map illustrating the project area location.

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Thanks,

Brian Ludwig, Ph.D.
Principal Investigator

Enc. Project area location map

131 Sunset Avenue, Suite E # 120
Suisun, CA 94585-2064

707-718-1416 ▲ Fax 707-451-4775
www.solanoarchaeology.com

April 2, 2021

Yocha Dehe Wintun Nation
Isaac Bojorquez, Director of Cultural Resources
PO Box 18 Brooks, CA 95606

Re: Abrew Brehme Lane Subdivision Project, Solano County, California

Dear Mr. Bojorquez:

Brehme Properties, LLC, has retained Solano Archaeological Services to conduct a CEQA level cultural resources inventory of the approximately 80-acre (ac.) Abrew Brehme Lane project area (APN 0102-090-140) for subdivision into four 20-ac. parcels. The project area is located in the City of Vacaville, Solano County, California. The subdivision process will require substantial grading for regular road access, as well as the construction of an emergency fire escape route and potable water delivery. The project area lies on the Mount Vaca, California topographic 7.5 minute quadrangle in Township 7 North, Range 2 West, Section 25. Please find the enclosed topographic map illustrating the project area location.

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Thanks,

Brian Ludwig, Ph.D.
Principal Investigator

Enc. Project area location map

131 Sunset Avenue, Suite E # 120
Suisun, CA 94585-2064

707-718-1416 ▲ Fax 707-451-4775
www.solanoarchaeology.com

April 2, 2021

Yocha Dehe Wintun Nation
Laverne Bill, Site Protection Manager
P.O. Box 18
Brooks, CA, 95606

Re: Abrew Brehme Lane Subdivision Project, Solano County, California

Dear Mr. Bill:

Brehme Properties, LLC, has retained Solano Archaeological Services to conduct a CEQA level cultural resources inventory of the approximately 80-acre (ac.) Abrew Brehme Lane project area (APN 0102-090-140) for subdivision into four 20-ac. parcels. The project area is located in the City of Vacaville, Solano County, California. The subdivision process will require substantial grading for regular road access, as well as the construction of an emergency fire escape route and potable water delivery. The project area lies on the Mount Vaca, California topographic 7.5 minute quadrangle in Township 7 North, Range 2 West, Section 25. Please find the enclosed topographic map illustrating the project area location.

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Thanks,

Brian Ludwig, Ph.D.
Principal Investigator

Enc. Project area location map

131 Sunset Avenue, Suite E # 120
Suisun, CA 94585-2064

707-718-1416 ▲ Fax 707-451-4775
www.solanoarchaeology.com

April 2, 2021

Yocha Dehe Wintun Nation
Leland Kinter – Tribal Historic Preservation Officer
P.O. Box 18
Brooks, CA, 95606

Re: Abrew Brehme Lane Subdivision Project, Solano County, California

Dear Mr. Kinter:

Brehme Properties, LLC, has retained Solano Archaeological Services to conduct a CEQA level cultural resources inventory of the approximately 80-acre (ac.) Abrew Brehme Lane project area (APN 0102-090-140) for subdivision into four 20-ac. parcels. The project area is located in the City of Vacaville, Solano County, California. The subdivision process will require substantial grading for regular road access, as well as the construction of an emergency fire escape route and potable water delivery. The project area lies on the Mount Vaca, California topographic 7.5 minute quadrangle in Township 7 North, Range 2 West, Section 25. Please find the enclosed topographic map illustrating the project area location.

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Thanks,

Brian Ludwig, Ph.D.
Principal Investigator

Enc. Project area location map

ATTACHMENT C

Site Record - P-48-000784

State of California — The Resources Agency **Primary #** P-48-000784
DEPARTMENT OF PARKS AND RECREATION **HRI#**

CONTINUATION SHEET

Trinomial

Page 1 **of** 1 ***Resource Name or #:** Crawford Property Embankment

***Recorded by:** J. Coleman ***Date:** April 8, 2021 ☐ Continuation ☒ Update

This resource consists of an earthen embankment (dam) that lies adjacent to a presumed livestock watering pond. The dam is approximately 100 feet (ft.) in length, 20 ft. in width, and about 15 ft. in height above the surrounding ground surface. This dam was constructed to capture run-off from a nearby season drainage. The pond is about 50 ft. in diameter and was depicted on the 1951 *Mt. Vaca* USGS topographic quadrangle map. The dam and pond remain unchanged from the time of their initial documentation by SAS in 2007 for the *Crawford Property Project*.

LANDS OF ABREW MINOR SUBDIVISION
APPLICATION NO. MS-19-02
MITIGATION MONITORING AND REPORTING PROGRAM

When an agency makes a finding that potentially significant impacts have been mitigated to less than significant levels, the agency must also adopt a program for reporting on or monitoring the efficacy of the mitigation measures that were adopted (Public Resources Code 21081.6). This document consists of a proposed Mitigation Monitoring and Reporting Program for Lands of Abrews Minor Subdivision Application. The monitoring and reporting measures included in this program are the responsibility of the Project Sponsor/Applicant/Subdivider.

The Mitigation Monitoring and Reporting Program includes the confirmation of, or review and approval of, the implementation of specific mitigation actions in the form of reports and plans. The mitigation measures included in this monitoring program will be completed at various stages of the Project, including future document submittals for Building and Grading Permit approvals, actions or approvals linked to other Responsible Agencies if applicable, as well as during project construction and implementation. Solano County will provide documentation that the Mitigation Monitoring and Reporting Program has been fully adhered to and completed. This Mitigation Monitoring and Reporting Program applies to all activities evaluated by the Lands of Abrew Initial Study.

Solano County remains responsible for ensuring that the implementation of these mitigation measures occurs to the extent noted in this Mitigation Monitoring and Reporting Program and, where it is noted, Solano County will be responsible for reviewing and monitoring the required mitigation measures to ensure compliance (CEQA Guidelines 15097).

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Mitigation Measures	**Party Responsible for Implementation**	**Party Responsible for Monitoring**	**Monitoring Action**	**Significance After Mitigation**
Air Quality				
Mitigation Measure AIR-1: Prior to issuance of a grading/improvement plan permit, building permit or Parcel Map recordation, the project applicant shall require its construction contractor to prepare and implement a Dust Control and Construction Exhaust Mitigation Plan subject to the satisfaction of the Public Works Division and Yolo Solano Air Quality Management District.	Subdivider/Applicant	Department of Resource Management	Prior to construction	Less than significant
Biological Resources				
Mitigation Measure BIO-1: Prior to recordation of the Parcel Map, the Subdivider shall compensate for the loss of foraging habitat due to residential development, structures (houses, barns, out- buildings, roads, etc.) at a ratio of 1:1 (1 acre for every acre removed), for a total loss of 0.85 acres. Mitigation may be in the form of fee-title or a conservation easement or credits, held by a non-profit land management organization, on lands containing suitable Swainson's hawk foraging habitat and as approved by the California Department of Fish and Wildlife in Solano County. The purchase of Swainson's Hawk mitigation credits at a mitigation bank or conservation area located in Solano County is acceptable.	Applicant/Subdivider	Department of Resource Management	Prior to Parcel Map recordation	Less than significant

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Mitigation Measure BIO-2: Removal of large riparian trees (trunk diameter of 15 inches or more measured at 54 inches above natural grade) shall be avoided to reduce potential impacts to yellow-breasted chat. **Mitigation Measure BIO-3:** For construction activities that occur between February 1 and August 31, a preconstruction breeding bird survey shall be conducted by a qualified biologist familiar with bird behavior and knowledge of nest types prior to and within 10 days of any initial ground-disturbance activities. A copy of the preconstruction survey shall be submitted to the Department of Resource Management prior to construction. Surveys shall be of sufficient intensity (typically 2 to 3 surveys) to document nesting within a 0.25 mi (1,320 ft) buffer around planned work activities (consistent with current Solano HCP guidance). If a lapse in project-related construction work of 15 days or longer occurs, additional preconstruction surveys shall be required before project work may be reinitiated. A survey will consist of a pedestrian search by a qualified Biologist for both direct and indirect evidence of bird nesting. Direct evidence will include the visual search of an actual nest location. Indirect evidence will include observing birds for nesting behavior, such as copulation, carrying food or nesting materials, nest building, feeding chicks, and other characteristic behaviors that indicate the presence of an active nest. Surveys will be conducted in accordance with the guidance in Martin and Guepel (1993). If nesting Swainson's hawks, white tailed kites, or other birds are detected, the qualified biologist shall establish no-	Applicant/Subdivider	Department of Resource Management	Prior or during construction	Less than significant

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disturbance buffers around nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely impacted by construction. Buffers will be maintained until the qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival. **Mitigation Measure BIO-4:** All equipment should be thoroughly cleaned (washed) before entering the project site, if the equipment has been used in areas infested with weeds. Workers should inspect, remove, and properly dispose of weed seed and plant parts found on their clothing and equipment. Stockpiled, un-infested material should be maintained in a weed-free condition. Retain native vegetation in and around project activity to the maximum extent possible. Avoid creating soil conditions that promote weed germination and establishment. Revegetate disturbed areas in a manner that optimizes plant establishment for that specific site. Revegetation may include planting, seeding, fertilization, liming, and weed-free mulching as necessary. Use native material where appropriate and feasible. Use certified weed-free or weed-seed-free hay or straw for erosion control. Conduct weed control on roadways and in disturbed areas as needed. Re-seeding of the project site shall be accomplished within appropriate California native plant species that are adapted to the site. Suggested Erosion control seed mix consists of 15 pounds per acre (lbs/ac) of *Bromus carinatus*, 15 lbs/ac of *Elymus glaucus*, 10 lbs/ac of *Lupinus bicolor*, 10 lbs/ac of *Lupinus succulentus*, 10 lbs/ac of *Trifolium albopurpureum*, 10 lbs/ac of *Trifolium microcephalum*,				

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and 5 lbs of *Clarkia pupurea*. Placement of seed shall be by hydromulch spray or other broadcast method as determined by owner to ensure germination prior to October 15th. If necessary, watering of the reseeded area must be ensured to enhance plant germination and survival. **Mitigation Measure BIO-5:** In order to protect the riparian corridor and the tributaries, delineate on the Parcel Map a 100-foot wide setback, measured from the centerline of the tributaries or creek. No ancillary structures (barns, leach fields, corrals etc.) shall be placed within the setback. **Mitigation Measure BIO-6:** To minimize the impact of development on wildlife movement, all perimeter fencing shall meet the following standards: • Fence heights shall be limited to average maximum of 5 feet above ground level (limited height variations based on topographic changes are allowable). • Welded wire or other mesh fences shall have a minimum 4 inch by 4 inch opening. Smaller opening in the lower 18 inches of the fence is allowable if needed to contain smaller domestic animals. No-climb horse fencing should be avoided as perimeter fencing. • Solid perimeter fences are prohibited.			Prior to Parcel Map recordation	

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• Wood or metal picket fences shall have minimum spacing of 4 inches between pickets and shall not have sharp or pointed spikes or decorations along the top. **Mitigation Measure BIO-7:** In order to protect and preserve Oak Woodlands and Heritage trees, prior to issuance of a grading permit/improvement plan permit, building permit or recordation of the Parcel Map, a qualified and certified Arborist shall prepare a tree inventory/resources report. All oak species 6-inches dbh or greater to be retained or removed and all heritage trees shall be identified on the grading/improvement plan. Consistent with General Plan policy RS. I-3, heritage trees are defined as (a) trees with a trunk diameter of 15 inches or more measured at 54 inches above natural grade, (b) any oak tree native to California with a diameter of 10 inches above natural grade, or (c) any tree or group of trees special significance in consultation with the Department of Resource Management. The Arborist shall recommend and monitor specific measures to protect oak trees 6-inches dbh or greater or heritage trees from construction impacts. This includes designating no work zones by exclusion fencing along the canopy dripline. Ground disturbance, grading, development, construction or trenching is prohibited within 5 feet of the dripline of any oak tree 6-inches dbh or greater or any heritage tree. If an oak tree or heritage tree cannot be protected from damage or removal, the loss of each mature tree shall be mitigated by planting 15 saplings at least 3 years old in areas where oak recruitment has been absent due to				

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fire, grazing and weed competition. A qualified biologist shall designate potential planting areas and supervise the planting and installation of any necessary irrigation. The following guidelines for oak restoration shall be followed: • Mitigation Planting: To compensate for the unavoidable loss of mature blue and live oaks, 15 saplings of the same species shall be planted for each mature tree removed. Oak saplings shall be sourced from a certified Phytophthora ramorum-free nursery. Saplings must be at least 3 years old and shall be spaced at least 15 feet from each other. Each sapling shall be staked with two wooden stakes and caged to a sufficient height that deer and cattle cannot damage the sapling. Saplings shall be planted in moist soil, after the first substantial rain. In the following summer, watering may be necessary to enhance survival. • Performance and Success Criteria: Performance criteria for the revegetation area shall be assessed in 2024, or at least 3 years following the conclusion of grading activities. The oak planting site(s) shall have at least a 65 percent cover by native or naturalized plants (primarily grasses) and no more than 20 percent of the area shall be covered by non-native weeds. Survival of planted oak saplings until 2024 shall exceed 65% (i.e., 10 living oak saplings per mature tree removed).				

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• Monitoring Plan: The site shall be visited annually by a qualified biologist to visually assess herbaceous cover of the revegetation area and the survival of oak saplings. If revegetation success or sapling mortality falls below the above performance and success criteria during any of the 3 years following construction, adaptive management (reseeding, replanting) must be conducted, using the above species and methods.				
Mitigation Measure CUL-1: In the event that presently undocumented buried archaeological deposits are encountered during any project-associated construction activity, work must cease within a 50-foot radius of the discovery. A qualified archaeologist must be retained to document the discovery, assess its significance, and recommend treatment. **Mitigation Measure CUL-2:** If human remains or any associated funerary artifacts are discovered during construction, all work must cease within the immediate vicinity of the discovery. In accordance with the California Health and Safety Code (Section 7050.5), the Solano County Sheriff/Coroner must be contacted immediately. If the Coroner determines the remains to be Native American, the Coroner will notify the Native American Heritage Commission, which will in turn appoint a Most Likely Descendent (MLD) to act as a tribal representative. The MLD will work with the	Applicant/Subdivider	Department of Resource Management	During construction	Less than significant

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project applicant and a qualified archaeologist to determine the proper treatment of the human remains and any associated funerary objects. Construction activities will not resume until either the human remains are exhumed, or the remains are avoided via project construction design change.				
Hazards				
Mitigation Measure HAZ-1: On the Parcel Map, delineate the 30-foot setback (defensible space) from the property lines as shown on the tentative map, required by Cal Fire Regulations and include a note that the property is located within the State Responsibility Area for wildfire. Compliance with the Cal Fire adopted regulations (Cal Code reg. Title 14 Sec 1270 et seq) could minimize the risk of loss, injury or death involving wildfire.	Applicant/Subdivider	Department of Resource Management	Prior to Parcel Map recordation process	Less than significant
Water Supply				
Mitigation Measure WS-1: Prior to the recordation of the Parcel Map, complete all engineering and construction related to the public water system, according to the terms of agreement with the Rural North Vacaville Water District, in compliance with the rules and regulations of the Rural North Vacaville District. Submit evidence to the Department of Resource Management that the engineering plans and necessary infrastructure installation are complete to	Applicant/Subdivider	Department of Resource Management	Prior to Parcel Map recordation	Less than significant

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the satisfaction of the Rural North Vacaville Water District.				
Noise				
Mitigation Measure NOISE-1: Construction activity is limited to weekdays during the hours of 8 a.m. to 5 p.m., Monday through Friday; and 9 a.m. to 4 p.m. on Saturdays, and no work should occur on Sundays and Federal holidays. In order to ensure future buyers are aware of the noise restrictions, the Parcel Map shall include a supplemental note statement regarding the noise restriction for construction activities.	Applicant/Subdivider	Department of Resource Management	Prior to Parcel Map recordation and continuous	Less than significant