

# Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613

For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # \_\_\_\_\_

**Project Title:** Parcel Map 15-004 -Knott

Lead Agency: Shasta County Department of Resource Management – Planning Division Contact Person: Lisa Lozier, Senior Planner

Mailing Address: 1855 Placer Street, Suite 103

Phone: (530) 225-5532

City: Redding, CA

Zip: 96001

County: Shasta

**Project Location:** County: Shasta

City/Nearest Community: Palo Cedro

Cross Streets: Maynard Drive and Skylark

Zip Code: 96073

Lat. / Long.: 40° 31' 30" N/ 122° 15' 18" W

Total Acres: 33.7

Assessor's Parcel No.: 058-430-026-000

Section: 19

Twp.: T 31 N

Range: R 3 W

Base: MDBM

Within 2 Miles: State Hwy #: 44

Waterways:

Airports:

Railways:

Schools: Junction Elementary

## Document Type:

CEQA:  NOP  Draft EIR  NEPA:  NOI  Other:  Joint Document  
 Early Cons  Supplement/Subsequent EIR  EA  Final Document  
 Neg Dec (Prior SCH No.)  Draft EIS  Other  
 Mit Neg Dec  Other  FONSI

## Local Action Type:

General Plan Update  Specific Plan  Rezone  Annexation  
 General Plan Amendment  Master Plan  Prezone  Redevelopment  
 General Plan Element  Planned Unit Development  Use Permit  Coastal Permit  
 Community Plan  Site Plan  Land Division (Subdivision, etc.)  Other

## Development Type:

Residential: Units 4 Acres 33.7  Water Facilities: Type \_\_\_\_\_ MGD \_\_\_\_\_  
 Office: Sq.ft. \_\_\_\_\_ Acres \_\_\_\_\_ Employees \_\_\_\_\_  Transportation: Type \_\_\_\_\_  
 Commercial: Sq.ft. \_\_\_\_\_ Acres \_\_\_\_\_ Employees \_\_\_\_\_  Mining: Mineral \_\_\_\_\_  
 Industrial: Sq.ft. \_\_\_\_\_ Acres \_\_\_\_\_ Employees \_\_\_\_\_  Power: Type \_\_\_\_\_ MW \_\_\_\_\_  
 Educational \_\_\_\_\_  Waste Treatment: Type \_\_\_\_\_ MGD \_\_\_\_\_  
 Recreational \_\_\_\_\_  Hazardous Waste: Type \_\_\_\_\_  
 Other: \_\_\_\_\_

## Project Issues Discussed in Document:

Aesthetic/Visual  Fiscal  Recreation/Parks  Vegetation  
 Agricultural Land  Flood Plain/Flooding  Schools/Universities  Water Quality  
 Air Quality  Forest Land/Fire Hazard  Septic Systems  Water Supply/Groundwater  
 Archeological/Historical  Geologic/Seismic  Sewer Capacity  Wetland/Riparian  
 Biological Resources  Minerals  Soil Erosion/Compaction/Grading  Wildlife  
 Coastal Zone  Noise  Solid Waste  Growth Inducing  
 Drainage/Absorption  Population/Housing Balance  Toxic/Hazardous  Land Use  
 Economic/Jobs  Public Services/Facilities  Traffic/Circulation  Cumulative Effects  
 Other \_\_\_\_\_

## Present Land Use/Zoning/General Plan Designation:

Project site is currently undeveloped / Rural Residential combined with a Five-Acre Minimum Lot Area (R-R-BA-5)/Rural Residential "A"

**Project Description:** (please use a separate page if necessary)

The project is located in the Palo Cedro area on a 33.7-acre parcel located at the northern terminus of Skylark Lane approximately 1,000-foot west of Maynard Road. The request is for approval of residential land division that would create, if approved, 4 parcels ranging in size from 5 acres to 8.73 acres and a 10-acre designated remainder parcel. The proposed parcels would be accessed from a private road off Maynard Road. The project site is undeveloped except for an existing emergency fire escape road constructed to provide emergency access parcels. Domestic water supply would be provided by on-site wells and sewage disposal from on-site septic systems.

Note: The state Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

January 2008

## Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with an "X". If you have already sent your document to the agency please denote that with an "S".

<input type="checkbox"/> Air Resources Board	<input type="checkbox"/> Office of Emergency Services
<input type="checkbox"/> Boating & Waterways, Department of	<input type="checkbox"/> Office of Historic Preservation
<input type="checkbox"/> California Highway Patrol	<input type="checkbox"/> Office of Public School Construction
<input type="checkbox"/> CalFire	<input type="checkbox"/> Parks & Recreation
<input type="checkbox"/> Caltrans District # _____	<input type="checkbox"/> Pesticide Regulation, Department of
<input type="checkbox"/> Caltrans Division of Aeronautics	<input type="checkbox"/> Public Utilities Commission
<input type="checkbox"/> Caltrans Planning (Headquarters)	<input checked="" type="checkbox"/> Regional WQCB # <u>5</u>
<input type="checkbox"/> Central Valley Flood Protection Board	<input type="checkbox"/> Resources Agency
<input type="checkbox"/> Coachella Valley Mountains Conservancy	<input type="checkbox"/> S.F. Bay Conservation & Development Commission
<input type="checkbox"/> Coastal Commission	<input type="checkbox"/> San Gabriel & Lower L.A. Rivers and Mtns Conservancy
<input type="checkbox"/> Colorado River Board	<input type="checkbox"/> San Joaquin River Conservancy
<input type="checkbox"/> Conservation, Department of	<input type="checkbox"/> Santa Monica Mountains Conservancy
<input type="checkbox"/> Corrections, Department of	<input type="checkbox"/> State Lands Commission
<input type="checkbox"/> Delta Protection Commission	<input type="checkbox"/> SWRCB: Clean Water Grants
<input type="checkbox"/> Education, Department of	<input type="checkbox"/> SWRCB: Water Quality
<input type="checkbox"/> Energy Commission	<input type="checkbox"/> SWRCB: Water Rights
<input checked="" type="checkbox"/> Fish & Game Region # <u>1</u>	<input type="checkbox"/> Tahoe Regional Planning Agency
<input type="checkbox"/> Food & Agriculture, Department of	<input type="checkbox"/> Toxic Substances Control, Department of
<input type="checkbox"/> General Services, Department of	<input type="checkbox"/> Water Resources, Department of
<input type="checkbox"/> Health Services, Department of	<input type="checkbox"/> Other _____
<input type="checkbox"/> Housing & Community Development	<input type="checkbox"/> Other _____
<input type="checkbox"/> Integrated Waste Management Board	
<input type="checkbox"/> Native American Heritage Commission	

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### Local Public Review Period (to be filled in by lead agency)

Starting Date September 9, 2016 Ending Date October 10, 2016

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### Lead Agency (Complete if applicable):

Consulting Firm: _____	Applicant: <u>Allen Knott</u>
Address: _____	Address: <u>2361 Clubhouse Drive</u>
City/State/Zip: _____	City/State/Zip: <u>Rocklin, CA 95765</u>
Contact: _____	Phone: _____
Phone: _____	

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Signature of Lead Agency Representative: \_\_\_\_\_ Date: \_\_\_\_\_

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

# ENVIRONMENTAL INITIAL STUDY & MITIGATED NEGATIVE DECLARATION

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Parcel Map 15-004  
Knott

September 9, 2016

ENVIRONMENTAL INITIAL STUDY &  
MITIGATED NEGATIVE DECLARATION  
WITH  
References and Documentation

Prepared by  
SHASTA COUNTY DEPARTMENT OF RESOURCE MANAGEMENT  
PLANNING DIVISION  
1855 Placer Street, Suite 103  
Redding, California 96001

**SHASTA COUNTY  
ENVIRONMENTAL CHECKLIST FORM  
INITIAL STUDY & MITIGATED NEGATIVE DECLARATION**

- 1. Project Title:**  
Parcel Map 15-004 - Knott
- 2. Lead agency name and address:**  
Shasta County Department of Resource Management, Planning Division  
1855 Placer Street, Suite 103  
Redding, CA 96001-1759
- 3. Contact Person and Phone Number:**  
Lisa Lozier, Senior Planner (530) 225-5532
- 4. Project Location:**  
The project is located in the Palo Cedro area approximately 1,000 feet west of Maynard Road at the northern terminus of Skylark Lane.
- 5. Applicant Name and Address:**  
Allen Knott  
2361 Club house Drive  
Rocklin, CA 95765
- 6. General Plan Designation:**  
Rural Residential "A" (RA)
- 7. Zoning District:**  
Rural Residential combined with a Five-Acre Minimum Lot Area (R-R-BA-5)
- 8. Description of Project:**  
The project is located in the Palo Cedro area on a 33.7-acre parcel located approximately 1,000 feet west of Maynard Road and adjacent to the north end of Skylark Lane. The request is for approval of residential land division that would create, if approved, 4 parcels ranging in size from 5 acres to 8.73 acres and a 10-acre designated remainder parcel. The proposed parcels would be accessed from a proposed private road off Maynard Road. The project site is undeveloped except for an existing emergency fire escape road constructed to provide emergency access for a previous adjacent parcel map. Domestic water supply would be provided by on-site wells and sewage disposal from on-site septic systems. Access is from a private driveway which would be improved to Shasta County Road Standards utilizing a portion of the existing emergency fire escape road.
- 9. Surrounding Land Uses and Setting:**  
The surrounding uses are large-lot residential parcels, part-time agriculture, and open space. The project site is level at the northern end and slopes to a drainage swale which traverses proposed parcels 2,3,4, and the southwest corner of proposed parcel 1. Vernal pool and wetland features located on the proposed designated remainder parcel would be left undisturbed. Oak Trees and heavily grazed native grasses are the primary vegetation.
- 10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):**  
California Department of Fish and Wildlife  
Regional Water Quality Control Board

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

	Aesthetics		Agricultural Resources		Air Quality
	Biological Resources		Cultural Resources		Geology / Soils
	Hazards & Hazardous Materials		Hydrology / Water Quality		Land Use / Planning
	Mineral Resources		Noise		Population / Housing
	Public Services		Recreation		Transportation / Traffic
	Utilities / Service Systems		Mandatory Findings of Significance		

**DETERMINATION: (To be completed by the Lead Agency)**

On the basis of the initial evaluation:

I find that 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 revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

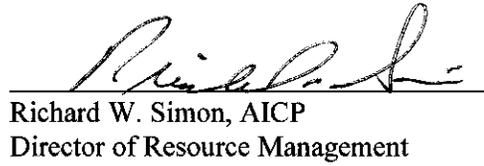
I find that although the proposed project could have a significant effect on the environment because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Copies of the Initial Study and related materials and documentation may be obtained at the Planning Division of the Department of Resource Management, 1855 Placer Street, Suite 103, Redding, CA 96001. Contact Lisa Lozier, Senior Planner at (530) 225-5532.



\_\_\_\_\_  
Lisa Lozier, AICP  
Senior Planner

9/1/16  
Date



\_\_\_\_\_  
Richard W. Simon, AICP  
Director of Resource Management

9/1/16  
Date

## EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parenthesis following each question. A "No Impact" answer is adequately supported if all the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less-than-significant with mitigation, or less-than-significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more, "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) "Negative Declaration: Less-than-significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-than-significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from Section XVIII, "Earlier Analyses," may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
  - a) Earlier Analysis Used. Identify and state where they are available for review.
  - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c) Mitigation Measures: For effects that are "Less-than-significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. General Plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify the following:
  - a) The significance criteria or threshold, if any, used to evaluate each question; and
  - b) The mitigation measure identified, if any, to reduce the impact to less-than-significant.

I. <b>AESTHETICS:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	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 outcroppings, 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 which would adversely affect day or nighttime views in the area?			✓	

**Discussion:** Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not result in any adverse effect on a scenic vista. There is no view of the project site which includes a scenic vista. The project would not visually obstruct a scenic vista.
- b) The project would not substantially damage any scenic resource. The project site is not visible from a designated scenic highway.
- c) The project would not degrade the existing visual character or quality of the site and its surroundings. The project surroundings include large lot residential development. Construction of 4 residential main buildings and associated accessory buildings would be consistent with the existing visual character and quality of the site and its surroundings.
- d) The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Any proposed lighting will be required to meet the criteria of Section 17.84.050 of the Shasta County Zoning Plan which specifically indicates that no lighting shall be of the type or in a location such that constitutes a hazard to vehicular traffic or private property.

**Mitigation/Monitoring:** None proposed.

II. <b>AGRICULTURE RESOURCES:</b> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural, Land Evaluation and Site Assessment Mode (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or 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?				✓

**Discussion:** Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The subject property is not identified as Prime Farmland, Unique Farmland, or Statewide Importance on the map titled Shasta County Important Farmland 2010.
- b) Neither this property nor the surrounding properties are zoned for agricultural use nor are they in a Williamson Act Contract.
- c) The project would not result in the conversion of Farmland to non-agricultural use. The project would not result in any conflicts with existing or adjacent agricultural operations. The site is not located in an area of significant agricultural soils.

**Mitigation/Monitoring:** None proposed.

<b>III. AIR QUALITY:</b> Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	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 non-attainment under an applicable Federal or State ambient air quality standard (including releasing emission which exceed quantitative thresholds for ozone precursors)?				✓
d) Expose sensitive receptors to substantial pollutant concentrations?				✓
e) Create objectionable odors affecting a substantial number of people?				✓

**Discussion:** Based on related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a-e) The project would generate approximately 20 vehicle trips per day. This is an insignificant increase in traffic. The project is consistent with the Rural Residential B (RB) General Plan designation and the air quality attainment plan. The project would not violate any air quality standards. The project would not contribute substantially to an existing or projected air quality violation. The project would not result in a cumulatively considerable net increase of any criteria pollutant, including ozone, ozone pre-cursors or PM10 (particulate matter), the pollutants for which the Northern Sacramento Valley Air Basin is in non-attainment under the applicable State ambient air quality standard. No sensitive receptors have been identified adjacent to or near the project area. No sensitive receptors would be exposed to pollution concentrations. Substantial pollutant concentrations are not anticipated as a result of the project. The project would not cause air emissions which would create objectionable odors affecting a substantial number of people.

**Mitigation/Monitoring:** None proposed.

<b>IV. BIOLOGICAL RESOURCES:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Have a substantial 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?		✓		

IV. <b>BIOLOGICAL RESOURCES:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?				✓

**Discussion:** Based on the related documents listed in the Sources of Documentation for Initial Study Checklist; “Delineation of Waters of the United States” for Skylark Drive Residential Development, December 2015; “Biological Analysis for Shasta County APN 058-430-026-000”, March 13, 2016; comments received from California Department of Fish and Wildlife (CDFW); staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a-d) A preliminary delineation of Waters of the United States was completed for the project in December 2015. The preliminary delineation within the project site indicated the presence of wetland areas including a 0.44-acre vernal pool and drainage areas identified as other Waters of the United States located on the proposed remainder. Eastside Environmental was retained to conduct an informal project site survey to determine an appropriate avoidance setback to mitigate the potential impacts of the project on the wetland features to a less than significant level. Research conducted by Eastside Environmental included a query of the California Natural Diversity Database (CNDDB), a March 3, 2016 query of the US Fish and Wildlife Service Information for Planning and Conservation (IPaC) database, a site visit conducted on March 4, 2016, and a review of available correspondence and literature regarding the project including 01/25/16 comment letter from the CDFW, and the December 2015 Wetland Delineation conducted by Realm Engineering. The site visit indicated a strong potential habitat for listed plant species due to the presence of a vernal pool on the project site and potential presence of Federal, State, and CNPS Endangered and Threatened invertebrates and plant species. Eastside Environmental recommended two approaches to an appropriate avoidance setback. 1) to “assume presence” of listed species and implement the standard US Fish and Wildlife Service (USFWS) setback standard of 250-foot from the vernal pool boundary; 2) conduct the appropriate technical biological studies recommended in the Biological Analysis by Eastside Environmental, March 13, 2016 to determine if a lesser setback could be implemented. The Project Applicant has chosen the first alternative recommending a 250-foot buffer surrounding the area identified as wetland by the “Delineation of Waters of the United States” for Skylark Drive Residential Development. All of the area to the west of the existing emergency fire escape road would be proposed as a remainder parcel, and a 250-foot non-building, non-disturbance buffer will be required for the wetland area.
- e) The project would not conflict with any ordinances or policies which protect biological resources. Shasta County Board of Supervisors’ Resolution No. 95-157 provides guidance regarding use and protection of oak trees on a voluntary basis.
- f) No habitat conservation plans or other similar plans have been adopted for the project site or project area. There are no adopted Habitat Conservation Plan, Natural Community, Conservation Plan, or other approved local, regional, or State habitat conservation plans for the project site or project area.

**Mitigation/Monitoring:** With the mitigation measures being proposed, the impacts will be less-than-significant.

Mitigation 1: The parcel map attachment sheet shall depict the 0.44-acre vernal pool and the 250-foot buffer which shall be designated as non-building, non-disturbance on the recorded map. Any future Certificate of Compliance for the remainder parcel shall include a condition that all development and disturbance shall be outside the designated buffer area, or the appropriate biological studies shall be conducted as recommended in the observation study prepared by Eastside Environmental, March 13, 2016, and the proposed actions approved by Shasta County Planning Division in consultation with the California Department of Fish and Wildlife.

Mitigation 2: Note on the parcel map attachment sheet: Show the area within 50 feet on both sides of the drainage swale measured from the centerline of the drainage courses as non-building, non-disturbance areas on parcels 1 through 4. Vegetation within the non-building, non-disturbance areas shall not be removed or disturbed, except as allowed by prior approval of the Department of Fish and Wildlife.

<b>V. CULTURAL RESOURCES</b> – Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?				✓
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §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?				✓

**Discussion:** Based on the Nord/Dillon Archeology Report, February 2, 2002 by Jensen and Associates; Peer review by Genesis Society Administrator, Sean Jensen, September 2015, related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, and observations on the project site and in the vicinity, the following findings can be made:

- a-b) A pedestrian field survey was conducted the project site of proposed Parcel Map 01-029 in February 2002 by Jensen & Associates in response to Northeast Information Center of the California Historical Resources Information System recommendations for the evaluation of Parcel Map 01-029. A peer review of the 2002 survey conducted by Jensen & Associates was completed in September 2015 by Genesis Society Administrator, Sean Jensen. Mr. Jensen determined that the 2002 survey which included the subject property would be consistent with current standards and methods. No evidence of prehistoric activity or occupation was observed during the 2002 survey nor, was there evidence of demonstrably historic-period occupation, refuse disposal, or homesteading observed on the project site. The February 2002 report concluded that the subdivision and development would not adversely affect archaeological or historic resources.
- c) Upon review of the Minerals Element of the General Plan, there is no evidence to suggest that the project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- d) The project site is not on or adjacent to any known cemetery or burial area. Therefore, there is no evidence to suggest that the project would disturb any human remains.

Although there is no evidence to suggest that the project would result in any significant effect to historical, archeological, paleontological, or unique geologic resource, or human remains, there is always the possibility that such resources or remains could be encountered. Therefore, a standard condition shall be applied to the project requiring that if in the course of development, any archaeological, historical, or paleontological resources are uncovered, discovered or otherwise detected or observed, mineral exploration activities in the affected area shall cease and a qualified archaeologist shall be contacted to review the site and advise the County of the site's significance. If the findings are deemed significant by the Environmental Review Officer, appropriate mitigation shall be required.

**Mitigation/Monitoring:** None proposed.

**Mitigation/Monitoring:** None proposed.

<b>VI. GEOLOGY AND SOILS</b> – Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: <ul style="list-style-type: none"> <li>i) Rupture of a known earthquake, fault, as delineated on</li> </ul>				✓

<b>VI. GEOLOGY AND SOILS – Would the project:</b>	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<p>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 Publications 42.</p> <p>ii) Strong seismic ground shaking?</p> <p>iii) Seismic-related ground failure, including liquefaction?</p> <p>iv) Landslides?</p>				
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, 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 waste water?				✓

**Discussion:** Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - i) Rupture of a known earthquake fault; According to the Alquist-Priolo Earthquake Fault Zoning Maps for Shasta County, there is no known earthquake fault on the project site.
  - ii, iii) Strong seismic ground shaking; Seismic-related ground failure, including liquefaction;

According to the Shasta County General Plan Section 5.1, Shasta County has a low level of historic seismic activity. The entire County is in Seismic Design Category D. According to the Seismic Hazards Assessment for the City of Redding, California, prepared by Woodward Clyde, dated July 6, 1995, the most significant earthquake at the project site may be a background (random) North American crustal event up to 6.5 on the Richter scale at distances of 10 to 20 km. All structures shall be constructed according to the seismic requirements of the currently adopted Uniform Building Code.

  - iv) Landslides. The project location is relatively flat and is not subject to landslides.
- b) The project would not result in substantial soil erosion or the loss of topsoil. A grading permit is required prior to any grading activities. The grading permit includes requirements for erosion and sediment control, including retention of topsoil.
- c) The project would not 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, liquefaction, or collapse. Based on records of construction in the area, there is no evidence to support a conclusion that the project is on a geologic unit or soil that is unstable.
- d) The project would not be located on expansive soil creating substantial risks to life or property.
- e) The project would not 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. No septic permits are proposed with this project. The Environmental Health Division has reviewed and approved soils dated provided by the applicant.

Mitigation/Monitoring: None proposed.

VII. <u>HAZARDS AND HAZARDOUS MATERIALS</u> : Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	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?				✓

**Discussion:** Based on these comments, the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The proposed uses resulting from the project are residential and no routine transport, use, or disposal of hazardous materials is anticipated as a result of the project.
- b) The project would not 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) The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- d) The project is not located on a site which is included on a list of hazardous materials sites and would not create a significant hazard to the public or the environment. The project site is not included on the list of hazardous materials sites compiled by the California Department of Toxic Substances Control. There is no historical evidence of any commercial activity on the site that would have used hazardous materials.
- e) The project is not located within an airport land use plan or within two miles of a public airport or public use airport.
- f) The project is not located within the vicinity of a private airstrip.
- g) The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. A review of the project and the County of Shasta Multi-Hazard Functional Plan indicates that the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

- h) Fire protection for the project is provided by the Shasta County Fire Department. The Shasta County Fire Department has indicated that the project is located in an area which is designated a VERY HIGH fire hazard severity zone. All roadways, driveways and buildings for the proposed project be required to be constructed in accordance with the Shasta County Fire Safety Standards. These standards also require the clearing of combustible vegetation around all structures for a distance of not less than 30 on each side or to the property line. The California Public Resources Code section 4291 includes a "Defensible Space" requirement of clearing 100 feet around all buildings or to the property line, whichever is less.

**Mitigation/Monitoring:** None proposed.

<b>VIII. HYDROLOGY AND WATER QUALITY:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	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 new 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 through 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 which would result in flooding on- or offsite?			✓	
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?			✓	
f) Otherwise substantially degrade water quality?			✓	
g) Place housing within 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 which 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) Inundation by seiche, tsunami, or mudflow?				✓

**Discussion:** Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not violate any water quality standards or waste discharge requirements. Through adherence to construction standards, including erosion and sediment control measures, water quality and waste discharge standards will not be violated. Grading will be needed to construct the proposed road. A grading permit and improvement plans will be required. The provisions of the Improvement plans will address erosion and siltation containment on- and off-site.

- b) The project as proposed is to be served by on-site wells and is not expected to substantially deplete groundwater supplies or interfere substantially with groundwater recharge.
- c) The project would not substantially alter the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation on- or off-site. The drainage pattern will not be altered. Drainage will be dispersed to either the unimproved areas and maintained on-site. This will preserve the existing drainage pattern and not require alteration of the natural drainage courses.
- d) The project would not substantially alter the existing drainage pattern of the site or area, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.
- e) The project would not create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.
- f) The project would not substantially degrade water quality.
- g) The project site is not located within a flood hazard boundary.
- h) The project site is not located within a 100-year flood hazard boundary.
- i) The project would not expose people or structures to a significant risk of loss, injury, or death involving flooding. There are no levees, dams, or impoundments within or upstream from the project area which would create flooding in the event of levee or dam failure.
- j) The project would not result in inundation by seiche, tsunami, or mudflow. The project is not located near a large lake or the ocean so would not be subject to seiche or tsunami. It is not located on or near a mountainside or hillside which is subject to mudflows.

**Mitigation/Monitoring:** None proposed.

<b>IX. LAND USE AND PLANNING</b> - Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	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?				✓

**Discussion:** Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not physically divide an established community. The project is not located in any established community. The project does not include the creation of any road, ditch, wall, or other feature which would physically divide an established community.
- b) The project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. The project is consistent with the Rural residential "A" General Plan land use designation and the Rural Residential combined with a five-acre Lot Area Minimum (R-R-BA-5) zone district of the project site.
- c) The project would not conflict with any applicable habitat conservation plan or natural community conservation plan. There is no adopted Habitat Conservation Plan, Natural Community, Conservation Plan, or other approved local, regional, or State habitat conservation plans for the project site or project area.

**Mitigation/Monitoring:** None proposed.

<b>X. MINERAL RESOURCES</b> – Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	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?				✓

**Discussion:** Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not 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. There are no known mineral resources of regional value located on or near the project site.
- b) The project would not 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. The project site is not identified in the General Plan Minerals Element as containing a locally-important mineral resource. There is no other land use plan which addresses minerals.

**Mitigation/Monitoring:** None proposed.

<b>XI. NOISE</b> – Would the project result in:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	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 groundborne vibration or groundborne 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?				✓

**Discussion:** Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not result in exposure of persons to or generation of noise levels in excess of standards established in the local General Plan. The General Plan Noise Standard is 55 hourly  $L_{eq}$  daytime, and 50 hourly  $L_{eq}$  nighttime. The project will not generate noise levels in excess of this standard. The project is not located in a high noise area that will result in exposure of persons to noise levels in excess of the standard.
- b) The project would not result in exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels. There is no identified source of ground borne vibration or ground borne noise levels in the project area.

- c) The project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. The project will result in residential construction which will not cause any significant permanent increase in ambient noise levels in the project vicinity.
- d) The project would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. The project will result in the creation of two residential parcels which will cause less-than-significant temporary and periodic increases in ambient noise levels in the project vicinity. There will be increased noise levels during residential construction, and increased noise levels caused by the daily activities of new residents. However, none of these increases are expected to be significant due to the large parcel size and increased noise levels will likely be attenuated to less than significant at the property line.
- e) The project is not located within an airport land use plan or within two miles of a public airport or public use airport.
- f) The project is not located within the vicinity of a private airstrip.

**Mitigation/Monitoring:** None proposed.

<b>XII. POPULATION AND HOUSING</b> – Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	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?				✓

**Discussion:** Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not induce substantial population growth in an area, either directly or indirectly. The proposal is consistent with the Rural Residential “A” (RA) General Plan land designation which allows a density of 1dwelling per 2 acres.
- b) The project does not include destruction of any existing housing.
- c) The project would not displace any numbers of people.

**Mitigation/Monitoring:** None proposed.

<b>XIII. PUBLIC SERVICES:</b> Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Fire Protection?				✓
Police Protection?				✓
Schools?				✓
Parks?				✓
Other public facilities?				✓

**Discussion:** Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:

**Fire Protection:** The project is located in a VERY HIGH fire hazard severity zone. However, no significant additional level of fire protection is necessary. The project site contains an Emergency Fire Escape Road which will be maintained as a part of this project.

**Police Protection:** The addition of four new residential parcels is not considered a significant increase in residential development and is not expected to warrant any additional sworn or non-sworn peace officers.

**Schools:** The resultant development from the project will be required to pay the amount allowable per square foot of construction to mitigate school impacts.

**Parks:** The County does not have a neighborhood parks system.

**Mitigation/Monitoring:** None proposed.

<b>XIV. RECREATION:</b>	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	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 which might have an adverse physical effect on the environment?				✓

**Discussion:** Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

a) The project would not 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. The County does not have a neighborhood or regional parks system or other recreational facilities.

b) The project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. School facilities are typically used for sports and recreation. The City of Redding also has a number of recreational facilities. In addition, there are tens of thousands of acres of rivers, lakes, forests, and other public land available for recreation in Lassen National Park, the Shasta and Whiskeytown National Recreation Areas, the National Forests, and other public land administered by Bureau of Land Management.

**Mitigation/Monitoring:** None proposed.

<b>XV. TRANSPORTATION/TRAFFIC:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?			✓	
b) Exceed, either individually or cumulatively, a level of service standard established by the County congestion management agency for designated roads or highway?				✓

<b>XV. TRANSPORTATION/TRAFFIC:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 uses (e.g., farm equipment)?				✓
e) Result in inadequate emergency access?				✓
f) Result in inadequate parking capacity?				✓
g) Conflict with adopted policies, plans or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?				✓

**Discussion:** Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system. The project will result in the construction of a maximum of four additional residences, which would be expected to generate ten vehicle trips per day, per residence. The Department of Public Works has indicated that this would not produce a significant increase in traffic. The project would not generate enough traffic to significantly reduce the volume-to-capacity ratio of adjacent roadways to a reduced level of service.
- b) The project would not exceed, either individually or cumulatively, a level-of-service standard established by the County congestion management agency for designated roads or highway.
- c) The project would result in the construction of single-family residences which would not affect air traffic patterns.
- d) The project would not substantially increase hazards due to a design feature or incompatible uses.
- e) The project would not result in inadequate emergency access. Emergency access to the project is provided by an existing Emergency Fire Escape Road which provides through access through the project site from Maynard Road to Skylark Lane. The project has been reviewed by the Shasta County Fire Department which has determined that there is adequate emergency access
- f) The project would not result in inadequate parking capacity. There is more than adequate parking available for on-site parking.
- g) The project would not conflict with adopted policies, plans or programs supporting alternative transportation. The project is consistent with the Shasta County General Plan Circulation Element policies for transit and pedestrian bicycle modes, the 1998 Shasta County Bikeway Plan, and with the Regional Transportation Plan.

**Mitigation/Monitoring:** None proposed.

<b>XVI. UTILITIES AND SERVICE SYSTEMS:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	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 storm water				✓

<b>XVI. UTILITIES AND SERVICE SYSTEMS:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 which serves or may 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?				✓

**Discussion:** Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. On-site septic systems will be used. Each parcel has an identified site for sewage disposal. No other wastewater treatment system would be affected by the project.
- b) The project would not 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. The project will be served by individual wells. Well log data from the vicinity indicates that there is sufficient groundwater to serve the project. On-site septic systems will be used. Each parcel has an identified site for sewage disposal. No new construction or expansion of existing water or wastewater treatment facilities will be needed.
- c) The project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. This is a rural large-lot land division that does not require any drainage facilities.
- d) The project will be served by individual wells. Well log data from the vicinity indicates that there is sufficient groundwater to serve the project.
- e) On-site septic systems will be used. Each parcel has an identified site for sewage disposal. No other wastewater treatment system would be affected by the project.
- f) The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. The West Central Landfill has sufficient capacity to accommodate the additional residence and is in compliance with Federal, State, and local statutes and regulations related to solid waste.
- g) The project would comply with Federal, State, and local statutes and regulations related to solid waste. The project will not generate any solid waste other than common household waste. Recycling facilities are available in the major shopping areas available to the project site.

**Mitigation/Monitoring:** None proposed.

<b>XVII. MANDATORY FINDINGS OF SIGNIFICANCE:</b>	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife		✓		

<b>XVII. <u>MANDATORY FINDINGS OF SIGNIFICANCE:</u></b>	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
species, cause a fish or wildlife population to drop below the self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or 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 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?				✓

**Discussion:**

- a) With the incorporation of the mitigation measures into the project specified in Section IV. Biological Resources, there is evidence to support a finding that the project would not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below the self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal.  
  
Based on the discussion and findings in Section V. Cultural Resources, there is evidence to support a finding that the project would not have the potential to eliminate important examples of the major periods of California history or prehistory.
- b) Based on the discussion and findings in all Sections above, there is evidence to suggest that the project would not have impacts that are cumulatively considerable.
- c) With the incorporation of the mitigation measures into the project specified in Section VI. Geology and Soils, there is no evidence to support a finding that the project would have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly.

## INITIAL STUDY COMMENTS

PROJECT NUMBER Parcel Map 15-004- Knott

### GENERAL COMMENTS:

**Special Studies:** The following project-specific studies have been completed for the proposal and will be considered as part of the record of decision for the Negative Declaration. These studies are available for review through the Shasta County Planning Division.

1. On-Site Sewage Disposal Analysis, Olson Consulting, 11/24/2001;
2. Archeology Report, 02/01/2002, Jensen and Associates; Peer review, Genesis Society Administrator, Sean Jensen, September 2015
3. Wetland Report, Realm Engineering, December 2016
4. Biological Analysis, Eastside Environmental, 03/13/2016

**Agency Referrals:** Prior to an environmental recommendation, referrals for this project were sent to agencies thought to have responsible agency or reviewing agency authority. The responses to those referrals (attached), where appropriate, have been incorporated into this document and will be considered as part of the record of decision for the Negative Declaration. Copies of all referral comments may be reviewed through the Shasta County Planning Division. To date, referral comments have been received from the following State agencies or any other agencies which have identified CEQA concerns:

1. California Department of Fish and Wildlife, January 25, 2016

**Conclusion/Summary:** Based on a field review by the Planning Division and other agency staff, early consultation review comments from other agencies, information provided by the applicant, and existing information available to the Planning Division, the project, as revised and mitigated, is not anticipated to result in any significant environmental impacts.

## SOURCES OF DOCUMENTATION FOR INITIAL STUDY CHECKLIST

All headings of this source document correspond to the headings of the initial study checklist. In addition to the resources listed below, initial study analysis may also be based on field observations by the staff person responsible for completing the initial study. Most resource materials are on file in the office of the Shasta County Department of Resource Management, Planning Division, 1855 Placer Street, Suite 103, Redding, CA 96001, Phone: (530) 225-5532.

### GENERAL PLAN AND ZONING

1. Shasta County General Plan and land use designation maps.
2. Applicable community plans, airport plans and specific plans.
3. Shasta County Zoning Ordinance (Shasta County Code Title 17) and zone district maps.

### ENVIRONMENTAL IMPACTS

#### I. AESTHETICS

1. Shasta County General Plan, Section 6.8 Scenic Highways, and Section 7.6 Design Review.
2. Zoning Standards per Shasta County Code, Title 17.

#### II. AGRICULTURAL RESOURCES

1. Shasta County General Plan, Section 6.1 Agricultural Lands.
2. Soil Survey of Shasta County Area, California, published by U.S. Department of Agriculture, Soil Conservation Service and Forest Service, August 1974.

#### III. AIR QUALITY

1. Shasta County General Plan Section, 6.5 Air Quality.
2. Northern Sacramento Valley Air Basin, 2006 Air Quality Attainment Plan.
3. Records of, or consultation with, the Shasta County Department of Resource Management, Air Quality Management District.

#### IV. BIOLOGICAL RESOURCES

1. Shasta County General Plan, Section 6.2 Timberlands, and Section 6.7 Fish and Wildlife Habitat.
2. Designated Endangered, Threatened, or Rare Plants and Candidates with Official Listing Dates, published by the California Department of Fish and Game.
3. Natural Diversity Data Base Records of the California Department of Fish and Game.
4. Federal Listing of Rare and Endangered Species.
5. Shasta County General Plan, Section 6.7 Fish and Wildlife Habitat.
6. State and Federal List of Endangered and Threatened Animals of California, published by the California Department of Fish and Game.
7. Natural Diversity Data Base Records of the California Department of Fish and Game.

#### V. CULTURAL RESOURCES

1. Shasta County General Plan, Section 6.10 Heritage Resources.
2. Records of, or consultation with, the following:
  - a. The Northeast Information Center of the California Historical Resources Information System, Department of Anthropology, California State University, Chico.
  - b. State Office of Historic Preservation.
  - c. Local Native American representatives.
  - d. Shasta Historical Society.

#### VI. GEOLOGY AND SOILS

1. Shasta County General Plan, Section 5.1 Seismic and Geologic Hazards, Section 6.1 Agricultural Lands, and Section 6.3 Minerals.
2. County of Shasta, Erosion and Sediment Control Standards, Design Manual
3. Soil Survey of Shasta County Area, California, published by U.S. Department of Agriculture, Soil Conservation Service and Forest Service, August 1974.
4. Alquist - Priolo, Earthquake Fault Zoning Maps.

#### VII. HAZARDS AND HAZARDOUS MATERIALS

1. Shasta County General Plan, Section 5.4 Fire Safety and Sheriff Protection, and Section 5.6 Hazardous Materials.
2. County of Shasta Multi-Hazard Functional Plan
3. Records of, or consultation with, the following:
  - a. Shasta County Department of Resource Management, Environmental Health Division.
  - b. Shasta County Fire Prevention Officer.

- c. Shasta County Sheriff's Department, Office of Emergency Services.
- d. Shasta County Department of Public Works.
- e. California Environmental Protection Agency, California Regional Water Quality Control Board, Central Valley Region.

**VIII. HYDROLOGY AND WATER QUALITY**

- 1. Shasta County General Plan, Section 5.2 Flood Protection, Section 5.3 Dam Failure Inundation, and Section 6.6 Water Resources and Water Quality.
- 2. Flood Boundary and Floodway Maps and Flood Insurance Rate Maps for Shasta County prepared by the Federal Emergency Management Agency, as revised to date.
- 3. Records of, or consultation with, the Shasta County Department of Public Works acting as the Flood Control Agency and Community Water Systems manager.

**IX. LAND USE AND PLANNING**

- 1. Shasta County General Plan land use designation maps and zone district maps.
- 2. Shasta County Assessor's Office land use data.

**X. MINERAL RESOURCES**

- 1. Shasta County General Plan Section 6.3 Minerals.

**XI. NOISE**

- 1. Shasta County General Plan, Section 5.5 Noise and Technical Appendix B.

**XII. POPULATION AND HOUSING**

- 1. Shasta County General Plan, Section 7.1 Community Organization and Development Patterns.
- 2. Census data from U.S. Department of Commerce, Bureau of the Census.
- 3. Census data from the California Department of Finance.
- 4. Shasta County General Plan, Section 7.3 Housing Element.
- 5. Shasta County Department of Housing and Community Action Programs.

**XIII. PUBLIC SERVICES**

- 1. Shasta County General Plan, Section 7.5 Public Facilities.
- 2. Records of, or consultation with, the following:
  - a. Shasta County Fire Prevention Officer.
  - b. Shasta County Sheriff's Department.
  - c. Shasta County Office of Education.
  - d. Shasta County Department of Public Works.

**XIV. RECREATION**

- 1. Shasta County General Plan, Section 6.9 Open Space and Recreation.

**XV. TRANSPORTATION/TRAFFIC**

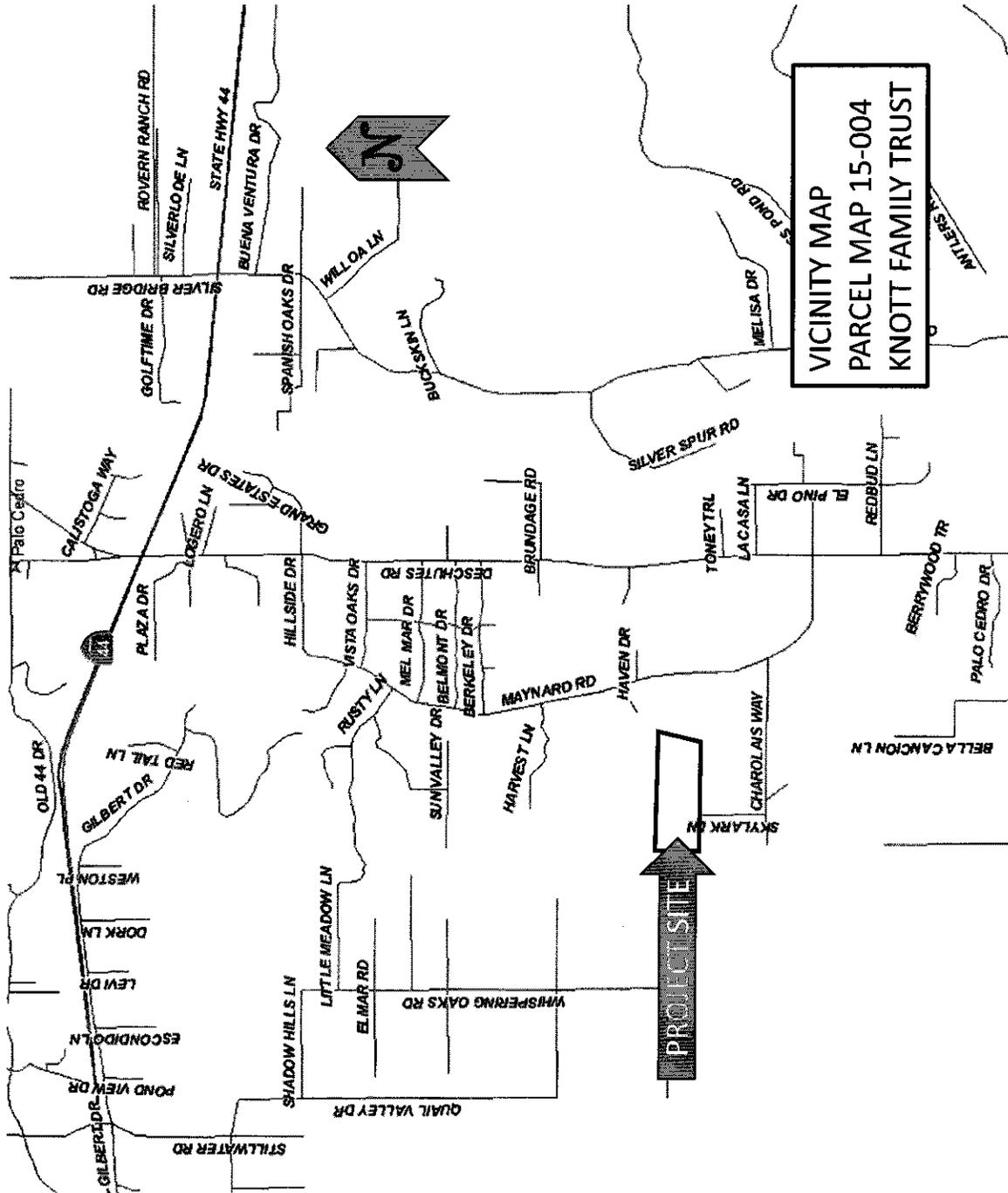
- 1. Shasta County General Plan, Section 7.4 Circulation.
- 2. Records of, or consultation with, the following:
  - a. Shasta County Department of Public Works.
  - b. Shasta County Regional Transportation Planning Agency.
  - c. Shasta County Congestion Management Plan/Transit Development Plan.
- 3. Institute of Transportation Engineers, Trip Generation Rates.

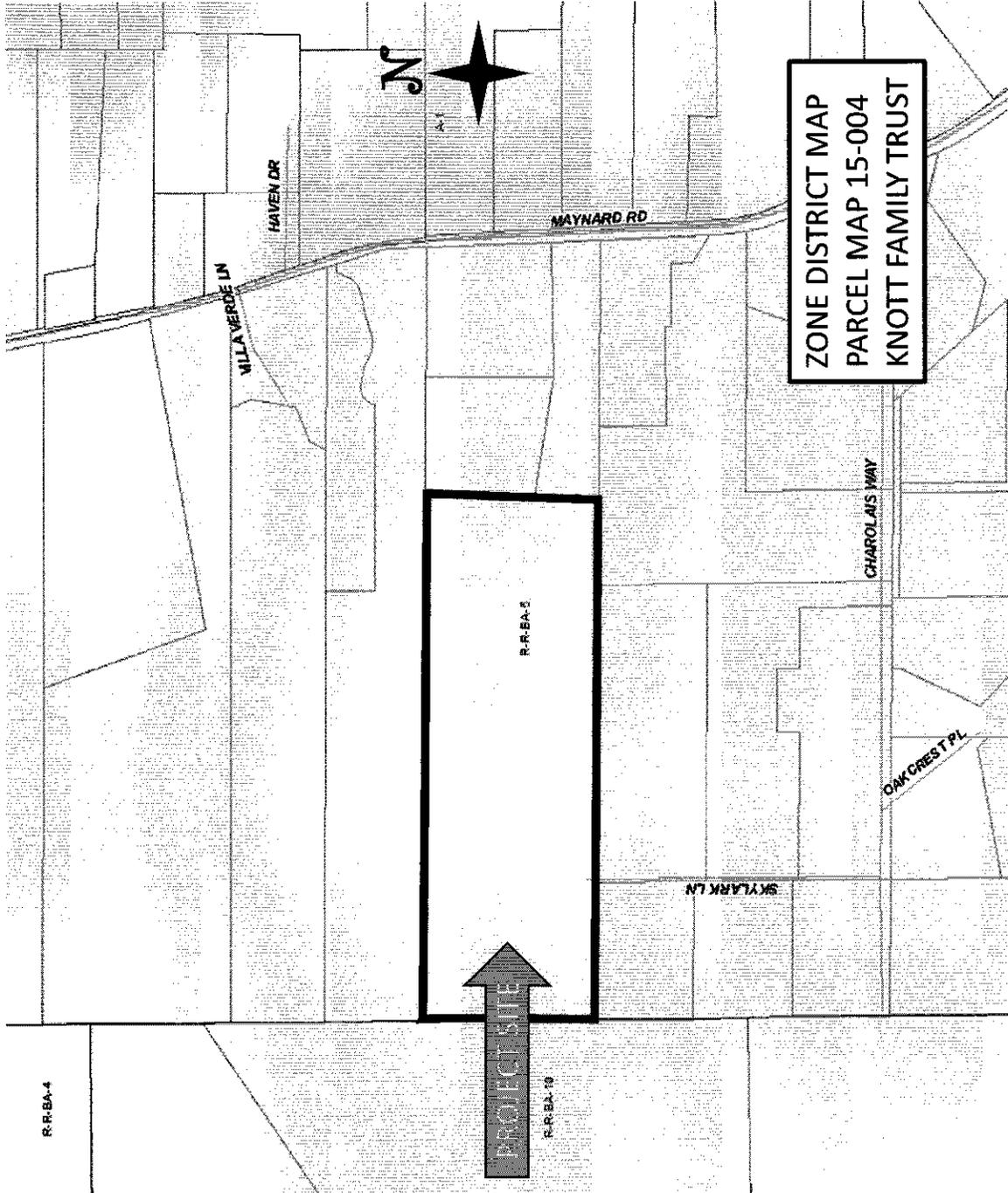
**XVI. UTILITIES AND SERVICE SYSTEMS**

- 1. Records of, or consultation with, the following:
  - a. Pacific Gas and Electric Company.
  - b. Pacific Power and Light Company.
  - c. Pacific Bell Telephone Company.
  - d. Citizens Utilities Company.
  - e. T.C.I.
  - f. Marks Cablevision.
  - g. Shasta County Department of Resource Management, Environmental Health Division.
  - h. Shasta County Department of Public Works.

**MITIGATION MONITORING PROGRAM (MMP)  
FOR PARCEL MAP 15-004 -KNOTT**

Mitigation Measure/Condition	Timing/Implementation	Enforcement/Monitoring	Verification (Date & Initials)
<p><b>IV. BIOLOGICAL RESOURCES</b>  Mitigation 1: The parcel map attachment sheet shall depict the 0.44-acre vernal pool and the 250-foot buffer which shall be designated as non-building, non-disturbance on the recorded map. Any future Certificate of Compliance for the remainder parcel shall include a condition that all development and disturbance shall be outside the designated buffer area, or the appropriate biological studies shall be conducted as recommended in the observation study prepared by Eastside Environmental, March 13, 2016, and the proposed actions approved by Shasta County Planning Division in consultation with the California Department of Fish and Wildlife.</p>	<p>Prior to the issuance of any development permits or any on-site disturbance.</p>	<p>Department of Fish and Wildlife,  Planning Division</p>	
<p><b>IV. BIOLOGICAL RESOURCES</b>  Mitigation 2: Note on the parcel map attachment sheet: Show the area within 50 feet on both sides of the drainage swale measured from the centerline of the drainage courses as non-building, non-disturbance areas on parcels 1 through 4. Vegetation with in the non-building, non-disturbance areas shall not be removed or disturbed, except as allowed by prior approval of the Department of Fish and Wildlife.</p>	<p>Prior to the issuance of any development permits or any on-site disturbance.</p>	<p>Department of Fish and Wildlife,  Planning Division</p>	

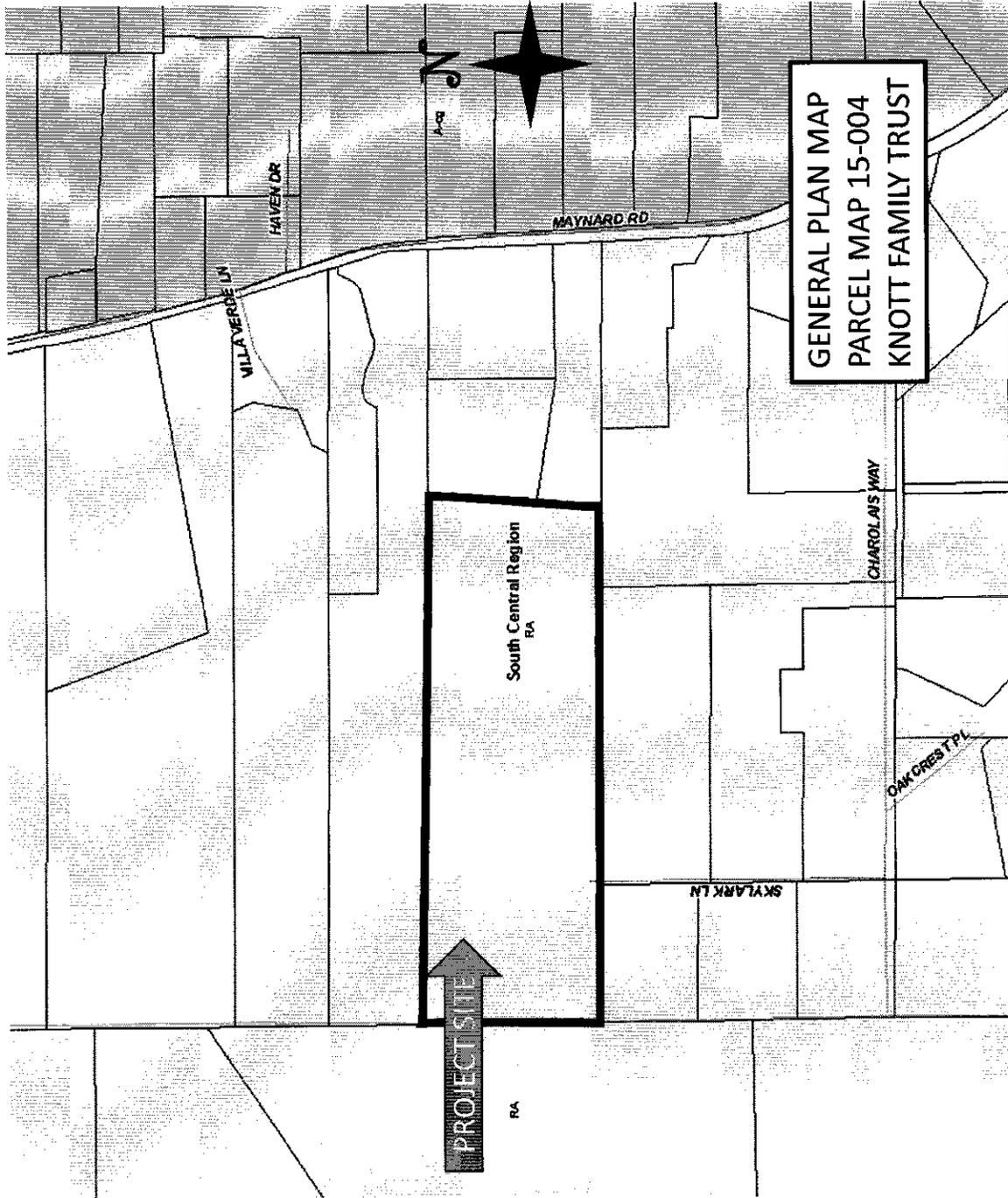




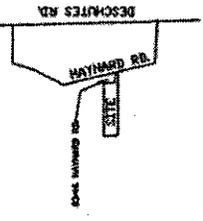
ZONE DISTRICT MAP  
PARCEL MAP 15-004  
KNOTT FAMILY TRUST

R.R. BA-4  
MAYNARD RD  
MILL VERDE LN  
HAVEN DR  
SKYLARK LN  
OAKCREST PL  
CHAROLAIS WAY  
PROJECT  
R.R. BA-10

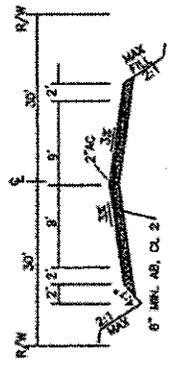




STATE HWY. 44



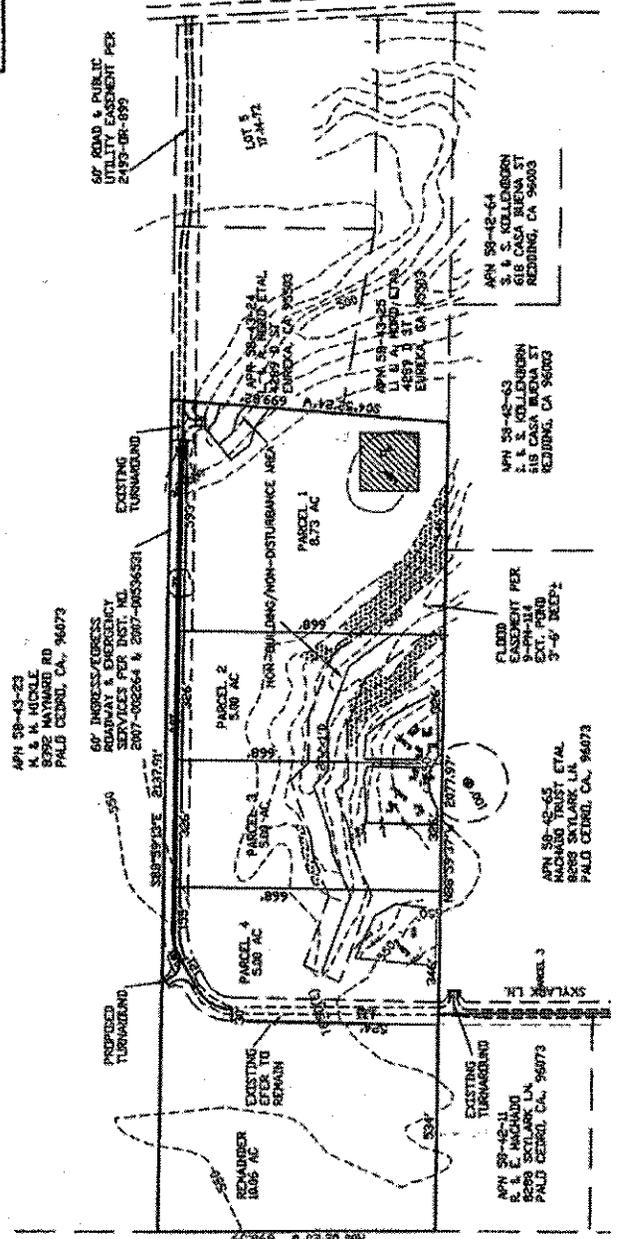
VICINITY MAP  
N.T.S.



TYPICAL ROAD SECTION  
N.T.S.

NOTE:  
1. THE ELECTRIC LIGHT & POWER POLE LINE EASEMENT PER 87-08-635 CANNOT BE LOCATED PER RECORD.

SLOPE TABLE (AC)	
PARCEL 0	2.00
PARCEL 1	2.00
PARCEL 2	2.00
PARCEL 3	2.00
PARCEL 4	2.00
PARCEL 5	2.00
PARCEL 6	2.00
PARCEL 7	2.00
PARCEL 8	2.00
PARCEL 9	2.00
PARCEL 10	2.00
PARCEL 11	2.00
PARCEL 12	2.00
PARCEL 13	2.00
PARCEL 14	2.00
PARCEL 15	2.00
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PARCEL 91	2.00
PARCEL 92	2.00
PARCEL 93	2.00
PARCEL 94	2.00
PARCEL 95	2.00
PARCEL 96	2.00
PARCEL 97	2.00
PARCEL 98	2.00
PARCEL 99	2.00
PARCEL 100	2.00



**SITE PLAN**  
**PARCEL MAP 15-004**  
**KNOTT FAMILY TRUST**

NOTE:  
THIS MAP DOES NOT REPRESENT A SURVEY. ALL DISTANCES, LOCATIONS AND CORNER ARE APPROXIMATE AND ARE INTENDED FOR THE USE OF THIS TENTATIVE MAP ONLY. THIS MAP IS NOT TO BE USED FOR LEGAL DESCRIPTIONS.

**NOTES:**

1. NO LOT GRADING IS PLANNED. PROPOSED GRADING IS FOR DRIVEWAY CONSTRUCTION.
2. WATER SUPPLY - WELL
3. SEWER - SEPTIC
4. TOTAL PARCEL SIZE - 33.70 ACRES  
PROPOSED DENSITY: 0.12 UNITS/AC.
5. CONTOUR INTERVAL = 10 FEET.

ZONING - RR-3A-5  
AP. NO. 88A-03-28



**KNOTT FAMILY TRUST**  
2261 CLUBHOUSE DR  
REDDING, CA 96003

**WEITSON ENGINEERING, INC.**  
1055 EUREKA WAY  
REDDING, CALIFORNIA 96001  
CSBO 240-0081

DATE: 9-24-15  
SCALE: 1" = 200'

SHEET 1 OF 1

PM 15-004  
RECEIVED  
JUL 11 2015  
Survey of Grading  
Parcel/Contour  
Revised #5

TENTATIVE MAP  
P.M. # 15-004

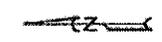
BEING A REVISION OF PARCEL 0 OF 37 PM 26, IN THE NORTH ONE-HALF OF SECTION 18, T32N, R31W, ALLEN, LYING IN THE UNINCORPORATED TERRITORY OF SHASTA COUNTY, CALIFORNIA.

2873 AC  
PARCEL 0  
APN 54-23-23  
J. KELLY  
POB 3848  
HALF MOON BAY, CA 94019

APN 58-43-23  
S. & S. KILLENBORN  
518 CASA BUENA ST  
REDDING, CA 96003

60' INGRESS/EGRESS  
ROADWAY & EMERGENCY  
SERVICES PER DIST. NO.  
2007-082864 & 2007-082853

60' ROAD & PUBLIC  
UTILITY EASEMENT PER  
2413-08-893



**DELINEATION OF WATERS OF THE UNITED STATES**

Skylark Dr. Residential Development  
Shasta County, California



December 2015

*Prepared for:*

*Prepared by:*

Realm Engineering  
1447 Market St, Suite B  
Redding, California  
(530) 526-7493

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# DELINEATION OF WATERS OF THE UNITED STATES

## **Skylark Drive Way Residential Development**

APN WAY Residential Development  
APN 058-430-026  
Shasta County, California

December 2015

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### Introduction and Project Location

Realm Engineering has performed a delineation of the Waters of the United States within Shasta County, California. The proposed project is located in the western ½ of Section 19, T31N R31N, Enterprise USGS quadrangle and is approximately 30 acres in size. Jason Realm, P.E. Biologist Meredith Feamster, Aaron Athey, Botanist and John Alderson, Certified Arborist and Biologist performed a survey of the botany, biology, trees, soils, hydrology and made determinations of wetlands delineation and characteristics based on the U. S. Army Corps of Engineers Wetlands Delineation Manual (1987) October 29, 2015 and on subsequent dates to locate wet land and geographical features.

This report addressed the type, jurisdictional status and location of the wetlands on the site. This report does not address the suitability or structural analysis of soils for construction, flood plain delineation, or other purposes. The wetland acreages in this report should be considered to be reasonably accurate estimates subject to review and modification by the U.S. Army Corps of Engineers (ACOE) during the wetland delineation and verification process.

#### Site Conditions

The project site is located south of Palo Cedro, California in the Northern Sacramento Valley, in Shasta County (**Figure 1**). The topography of the site is generally flat but includes areas with gently sloping terrain at an elevation of 550 above sea level. A visual survey of surface soil revealed mostly gravelly clay loam interspersed with areas of gravelly loam and stony sandy loam. The vegetation can be described as an oak savanna woodland populated by native and Mediterranean grasses that have been heavily grazed and impacted by drought at the time of the field survey. The oaks are almost exclusively blue oaks (*Quercus douglasii*). Site hydrology of the proposed construction site includes one (1) vernal pool. Surrounding land use include residential, agriculture and open space.

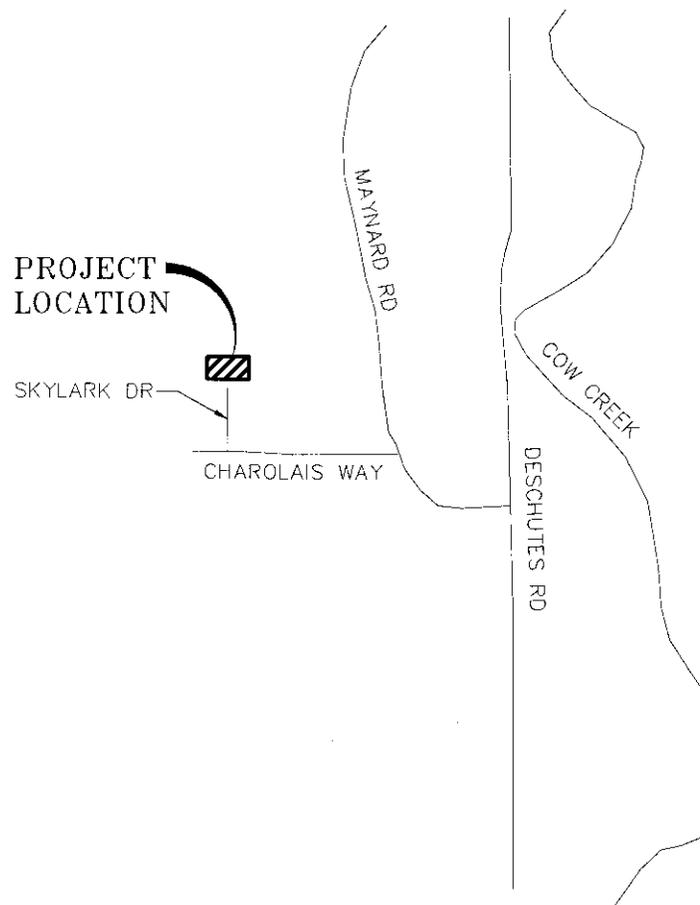


FIGURE 1 - PROJECT LOCATIO

## Survey Methodology

The terms used in this report have definitions that are contained in the Army Corps of Engineers delineation manual (Environmental Laboratory 1987). The following terms relate to the delineation of Waters of the United States as prescribed by section 404 of the Clean Water Act (CWA).

### *Terminology*

**Atypical situation (significantly disturbed).** In an atypical (significantly disturbed) situation, recent human activities or natural events have created conditions where positive indicators for hydrophytic vegetation, hydric soil, or wetland hydrology are not present or observable.

**Growing Season.** The growing season is the portion of the year when soil temperatures above biologic zero (41 degrees Fahrenheit.) as defined by soil taxonomy.

**Hydric Soil.** Soil is hydric that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic (oxygen-depleted) conditions within the shallow rooting zone of herbaceous plants.

**Intermittent Stream.** An intermittent stream has flowing water during certain times of the year, when ground water provides water for stream flow. During dry periods intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

**Jurisdictional wetland.** Sites that meet the definition of wetland provided below and that fall under ACOE regulations pursuant to Section 404 of the Clean Water Act are considered jurisdictional wet lands.

**Normal Circumstances.** This term refers to the soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed.

**Other Waters of the United States (Other Waters).** Other waters of the United States are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one of the three wetland parameters (i.e. hydrophytic vegetation, hydric soil, and wetland parameters (i.e., hydrophytic vegetation, hydric soil and wetland hydrology) (33CFR 328.4).

**Ponded.** Ponding is a condition in which free water covers the soil surface (e.g., in a closed depression and is removed only by percolation, evaporation, or transpiration).

**Problem site.** Problem sites are those where one or more wetland parameters may be lacking because of normal seasonal or annual variations in environmental conditions that result from causes other than human activities or catastrophic natural events.

**Waters of the United States.** This is the encompassing term for sites under federal jurisdiction pursuant to Section 404 of the CWA. Waters of the United States are divided into "Wetlands" and "Other Waters of the United States".

**Wetland.** Wetlands are defined as "sites that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3) (b), wo cfr 230.3). To be considered under federal jurisdiction, a wetland must support positive indicators for hydrophytic vegetation, hydric soil, and wetland hydrology.

#### *Determination of Hydrophytic Vegetation*

The presence of hydrophytic vegetation was determined using the methods outlined in the ACOE 1989 (Federal Interagency Committee for Wetland Delineation 1989 manual (Federal Interagency Committee for Wetland Delineation 1989), a method approved by the Corps for use in conjunction with the 1987 manual. Under this method , sites are considered to have positive indicators of hydrophytic vegetation if 50 percent or more of the dominant plant species are present (defined as plants that comprise 20 percent or more of the cover value observed at a site include FAS, GACW, or OBL, species) (Reed 1988).

#### *Determination of Hydric Soils*

Soil survey information was reviewed for the site and representatives from the NRCS (Natural Resources Conservation Service) in Redding, California were consulted on the local soil conditions. Field samples were evaluated using the Munsell soil color chart, hand texturing, and assessment of soil features (e.g., oxidized root channels, evidence of hardpan, Mn and Fe concretions). Information regarding local soil and series descriptions and mapping are provided in **Appendix A**.

#### *Determination of Wetland Hydrology*

Wetland hydrology was determined to be present if a site supported one or more of the following characteristics:

- Landscape position and surface topography (e.g., position of the site relative to an up-slope water source, location within a distinct wetland drainage pattern, and concave surface topography.
- Inundation or saturation for a long duration either inferred based on field indicator or observed during site visits, and
- Residual evidence of ponding or flooding resulting in field indicators such as scour marks, sediment deposits, algal matting and drift lines.

The presence of water or saturated soil for approximately 12 days during the growing season typically creates anaerobic conditions in the soil, and these conditions affect the types of plants that can grow on the types of soils that develop (Wetland Training Institute 1995).

*Ephemeral and Intermittent Stream Delineation*

Streams are drainage features that change from ephemeral to intermittent to perennial and possibly back to intermittent along a gradient or continuum-often times with no single distinct point demarcation for these transitions. Based on the definitions of ephemeral and intermittent streams the objective of delineating between these features is 1) determining if ground water is or is not a source of water for the streams, 2) determining the duration of flow following precipitation events in a typical year. Ephemeral and intermittent stream delineations are performed during the rainy season during a normal precipitation period.

*Jurisdictional Boundary Determination and Acreage Calculation*

The wetland-upland boundaries were determined based on the presence or inference of vegetation, elevation and visual inspection of the surface soils. The site was traversed on foot to identify wetlands and pin-flags were placed along wetland boundaries and surveyed with GPS equipment.

Table 1. Wetland Acreage Calculation

<b>Feature</b>	<b>Label</b>	<b>Area (Sq Ft)</b>	<b>Area (Acres)</b>
Vernal Pool	WF01	19,163	0.44

**Figure 2. Wet Land Delineation Map**

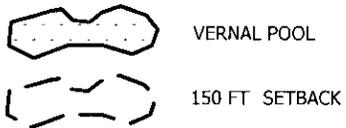
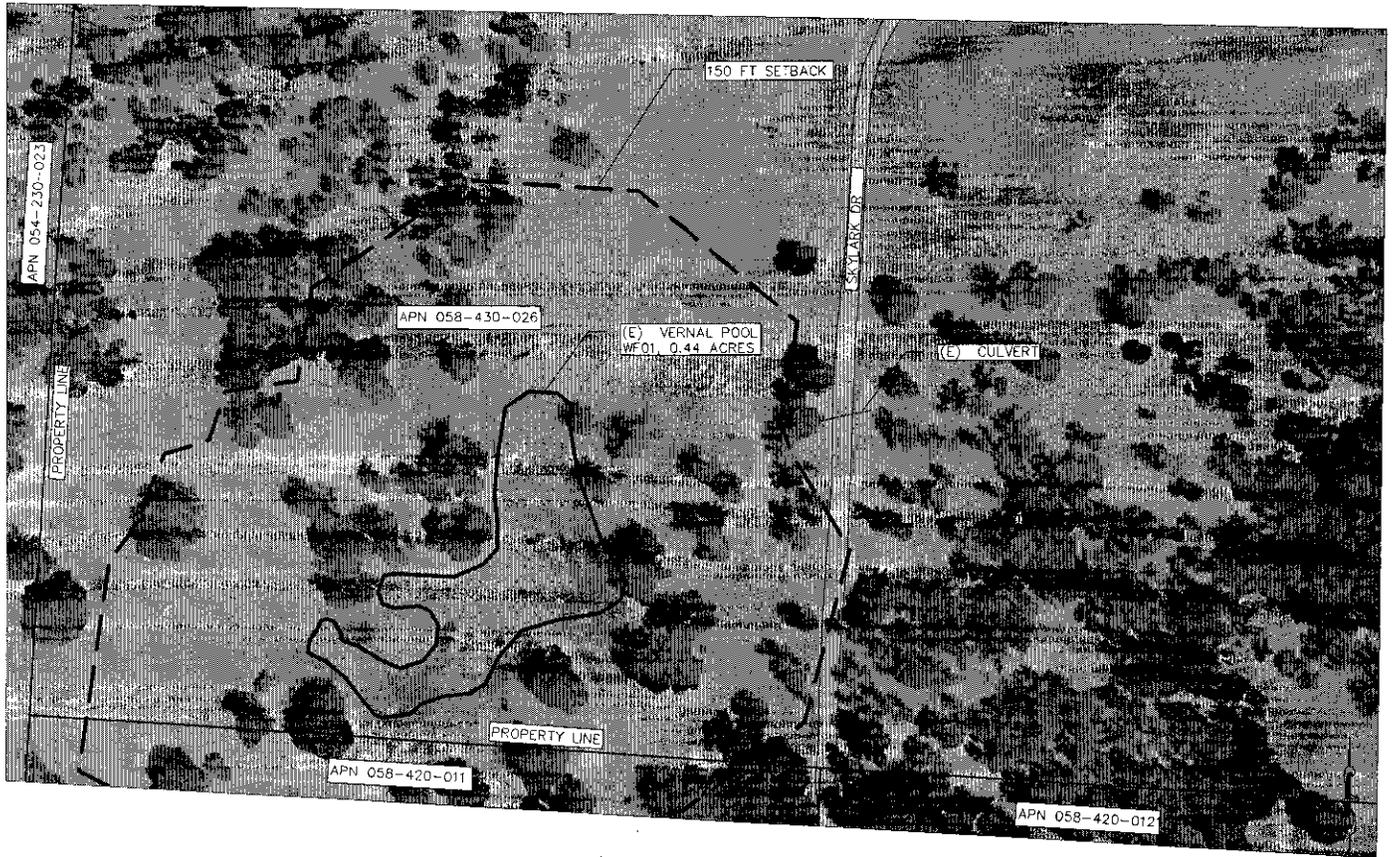
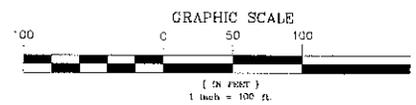


FIGURE 2 - WETLAND DELINEATION MAP



## Results

Wetland project types identified within the proposed project area consist of a vernal pool with 0.44 acres of jurisdictional features (See Table 1). These features are mapped at a 1" 200' scale and are presented in **Figure 2**. Jurisdictional acreages presented in this report should be considered preliminary and may be modified by the ACOE during the wet land delineation and verification process. A description of the wetlands, the methods of field data collection, interpretation and delineation of their boundaries are described as follows.

### *Jurisdictional Wetlands*

#### **Fresh Emergent Wetlands**

Fresh emergent wet lands (FEW) are those that can be defined as containing emergent vegetation such as *Typha* and *Juncus*. Emergent vegetation consists of rooted plants that have parts extending above the water surface for a least part of the year and are intolerant of complete inundation over prolonged periods. Water depths vary but rarely exceed 2 meters (6.6 feet) for long periods. The fresh emergent wet lands WFO2 occur at the fringe of a small lake, off property, near the southeast boundary of the property. Water levels in the FEW fluctuate with lake levels.

#### **Vernal Pools**

Vernal pools exhibit positive supporting indicators for hydrophytic vegetation, hydric soils, and wetland hydrology. They exist when there is a surface or sub-surface soil layer that is impermeable or nearly impermeable. These depressions may form within annual grasslands occurring on hardpan soils such as the Redding soils found on site. Precipitation and surface runoff become suspended above this hardpan creating a depression. Vernal pools typically occur in landscapes that may appear nearly level but are actually quite uneven as is the case within the survey area. Vernal pools may remain inundated until spring or early summer, sometimes filling and emptying numerous times during the wet season. Characteristic bands of endemic flowers that bloom in rings that have been observed on this property and in the area of the vernal pool in this project area include the following: *Hordeum marinum*, *Juncus bufonius*, *Plagiobothrys stipitatus*, *Deschampsia sp.* and *Psilocarphus brevissimus*.

### *Other Water of the United States*

Other waters of the United States are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wet land hydrology) (33CFR 328.4) This definition was applied when delineating Other Waters of the United States onsite. Other Waters flowed in an easterly direction into the fresh emergent wetland WFO2 described above.

### *Soils*

According to the NRCS, Redding and the Inks-Pentz complex soil series occur over the majority of the project site. Red Bluff soil series also occurred in small areas within the project boundaries. A vernal pool soil sample was consistent with the Redding Series, and included well to moderately well drained gravely loams, on slopes ranging from 0 to 3 percent with moderately slow permeability. Soil series descriptions are presented in **Appendix A**.

### *Vegetation*

Wetland vegetation present in the vernal pools wetlands consisted of *Eleocharis sp.* (OBL), *rumex crispus* (FACW), *Plagiobothruys stipitatus* (OBL), *Deschampia sp.*, *Juncus bufonius* (FACW), *Juncus patens* (FAC+), *Hordeum marin* (FAC+) and *Triteleia lilancia* (NI). Upland and wetland boundaries were readily distinguishable by vegetation associated with each feature and changes in slope, soil surface and cattle hoof prints.

### *Hydrology*

Transitions between different wet land classifications on this site were clearly defined by species associated with upland and vernal pools.

Site Photos



Oak/Savana Grass Lands with Vernal Pool



Blue Oaks with Vernal pool in background.

## References

*California Natural Diversity Data Base (CNDDDB) Quadrangle reports (February 2017) for Lamoine, Wisky Bill Peak, Chicken Hawk Hill, Tombstone mtn., Damnation Pear, Hanland Peak, O'Brien, Bohemotash Mtn., USGS 7.5-minute quadrangles.*

Hickman, J.C. (ED.). 1993. *The Jepson Manual of Higher Plants of California*. University of California Press. Berkeley.

Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. Non-game Heritage Program. California Department of Fish and Game. Sacramento.

Mayer, K. E. Laudenslayer, W.F. 1988. *A Guide to Wildlife Habitats of California*. State of California Resources Agency. Department of Fish and Game. Sacramento. Ca. 166pp.

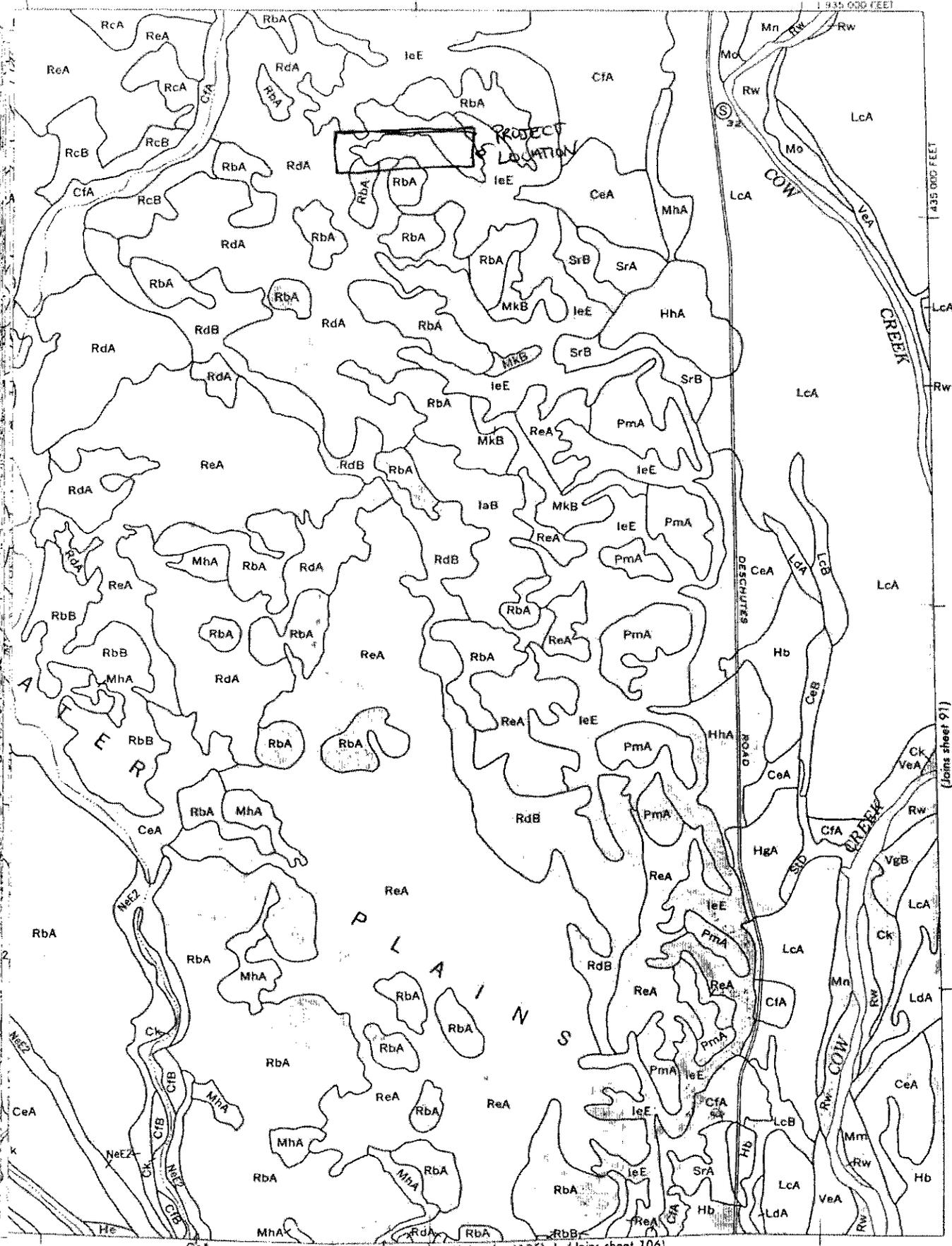
## Appendix A

### Relevant Soils Information

**Appendix A**  
**Pertinent Soils Information**

This information is available in hardcopy only. Please refer to the printed report for information contained in Appendix A.

PROJECT LOCATION



FER

PLAINS

COW CREEK

OSCHUTES ROAD

CREEK

COW CREEK

LOCATION RED BLUFF CA

Established Series  
Rev: SBJ/LCL/WCL/DJE  
6/86

## RED BLUFF SERIES

The Red Bluff series consists of very deep, well drained soils formed in old mixed alluvium. Red Bluff soils are on terraces and have 0 to 9 percent slopes. The mean annual precipitation is about 25 inches and the mean annual air temperature is about 62 degrees F.

**TAXONOMIC CLASS:** Fine, kaolinitic, thermic Ultic Palexeralfs

**TYPICAL PEDON:** Red Bluff gravelly loam - on a 2 percent south-facing slope in a pasture field under annual grasses at 350 feet elevation. (Colors are for dry soil unless otherwise stated).

**Ap**--0 to 6 inches; reddish brown (5YR 4/4) gravelly loam, dark reddish brown (2.5YR 3/4) moist; weak medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; few small (2-3mm) hard concretions which are yellowish red when crushed; 20 percent pebbles; very strongly acid (pH 5.0); abrupt smooth boundary. (4 to 8 inches thick)

**A1**--6 to 10 inches; reddish brown (5YR 4/4) gravelly loam, dark reddish brown (2.5YR 3/4) moist; weak medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many fine tubular pores; few small (2-3mm) hard concretions; 20 percent pebbles; very strongly acid (pH 4.9); clear wavy boundary.

**A2**--10 to 20 inches; reddish brown (5YR 4/4) loam, dark reddish brown (2.5YR 3/4) moist; weak medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine and fine tubular pores; common dark coatings on peds react strongly with peroxide; 10 percent pebbles; very strongly acid (pH 5.0); abrupt irregular boundary. (Combined thickness of the A horizons is 15 to 21 inches).

**Bt1**--20 to 27 inches; red (2.5YR 4/6) clay loam, weak red (10R 4/4) moist; strong medium and fine angular blocky structure; hard, firm, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; common clay films bridge mineral grains, thin continuous clay films in pores; many dark stains on ped faces; 10 percent pebbles; very strongly acid (pH 5.0); gradual wavy boundary.

**Bt2**--27 to 37 inches; red (2.5YR 4/6) clay loam, weak red (10R 4/4) moist; strong medium and fine angular blocky structure; hard, firm, slightly sticky and plastic; few very fine roots; many very fine tubular pores; common clay films bridge mineral grains, thin continuous clay films in pores; many dark stains on ped faces; brittle dry, weakly cemented with iron oxide; 10 percent pebbles; very strongly acid (pH 5.0); diffused wavy boundary. (Combined thickness of the Bt horizons is 15 to 20 inches).

**2Bt3**--37 to 55 inches; red (2.5YR 4/6) gravelly clay loam, weak red (10R 4/4) moist; strong medium and fine angular blocky structure; hard, firm, slightly sticky and plastic; few very fine roots; many very fine tubular pores; common clay films bridge mineral grains, thin continuous clay films in pores;

common dark stains on ped faces; brittle dry; very weakly cemented with iron oxide; 30 percent pebbles; strongly acid (pH 5.2); clear wavy boundary. (15 to 30 inches thick)

**2Bct**--55 to 72 inches; red (2.5YR 4/6) gravelly clay loam, weak red (1OR 4/4) moist; weak medium and fine angular blocky structure; hard, firm, slightly sticky and plastic; few very fine roots; many very fine tubular pores; common thin clay films bridge mineral grains, few thin clay films in pores; common dark stains on ped faces; 20 percent pebbles; strongly acid (pH 5.4).

**TYPE LOCATION:** Tehama County, California; west of Red Bluff Municipal Airport. About 0.4 miles west on Live Oak Road from the intersection with Paskenta Road and 200 feet south of road in a pasture; 2,300 feet west and 2,800 feet south from the northeast corner of sec. 36, T. 27 N., R. 4 W., Red Bluff West Quadrangle 7.5 minute series.

**RANGE IN CHARACTERISTICS:** Thickness of the solum is over 60 inches and the percentage of clay decrease from the maximum amount at 60 inches by 3 to 10 percent absolute. The mean annual soil temperature is 62 to 66 degrees F and exceeds 41 degrees F all year. The soil between a depth of 7 and 21 inches is dry in all parts from June to October and moist in some or all parts the rest of the year. The upper 20 inches of the argillic averages more than 35 percent clay and ranges from 27 to 60 percent clay. Base saturation (sum) ranges from 45 to 75 percent throughout the argillic horizon.

The A horizon is 5YR 4/4, 5/6; 6/6; 7.5YR 5/4, 4/4, 5/6, 6/6, and moist color of 2.5YR 3/4, 3/6; 5YR 3/3, 3/4, 4/4; 7.5YR 3/4 or 4/4. Texture is loam or gravelly loam with a clay content of 15 to 27 percent. Gravel content is 0 to 30 percent. Reaction is very strongly acid to medium acid.

The Bt ant 2Bt horizon color is 2.5YR 4/4, 4/6, 3/6, 3/4, 5/4, 5/6, or 4/8; 5YR 4/4, 4/6, 5/4, 5/6, 5/8, 6/4 ant moist colors of 2.5YR 3/4, 3/6, 4/4, 4/6; 5YR 3/4, 4/4, 4/6; 1OR 4/4 or 4/6. Texture is clay loam, gravelly clay loam, clay or gravelly clay with 27 to 60 percent clay content and 5 to 35 percent gravel. Clay content increases with depth. Reaction is very strongly acid to slightly acid. BS ranges from 45 to 75 percent (sum) throughout the argillic horizon.

Where present, the 2Bct horizon color is 2.5YR 4/6, 3/6, 3/4, 5/4, 5/6, 4/8; 5YR 4/4, 4/6, 5/4, 5/6, 5/8, 6/4 and moist colors of 2.5YR 3/4, 3/6, 4/6; 5YR 3/4, 4/4, 4/6; 1OR 4/4 or 4/6. Texture is gravelly clay loam, very gravelly clay loam, gravelly clay or very gravelly clay with 30 to 50 percent clay content and 15 to 60 percent gravel. Reaction is very strongly acid to slightly acid.

**COMPETING SERIES:** These are the Corning and Tehama series in other families. Corning and Tehama soils have mixed mineralogy.

**GEOGRAPHIC SETTING:** The Red Bluff soils are on terraces and have slopes of 0 to 9 percent. The soils formed in mixed alluvium at elevations of 75 to 1,500 feet. The climate is Mediterranean with hot dry summers and cool moist winters. Mean annual precipitation varies from 15 to 40 inches. Mean January temperature is about 45 degrees F; mean July temperature is about 80 degrees F; mean annual air temperature is about 62 degrees F. Frost-free season ranges from 250 to 280 days.

**GEOGRAPHICALLY ASSOCIATED SOILS:** These are the Corning, Redding, Tehama, and Yolo soils. Corning soils have thin gravelly clay subsoils. Redding soils have a duripan within 20 to 40 inches. Tehama soils have silty textured and slightly acid subsoils. Yolo soils are on low recent alluvial fans and have neutral loamy subsoils.

**DRAINAGE AND PERMEABILITY:** Well drained; slow to medium runoff; and moderately slow

permeability.

**USE AND VEGETATION:** Small grains and pasture are grown where dry farmed. Row crops, pasture and a few orchards are grown under irrigation. Native vegetation consists of blueoak, liveoak, manzanita, softchess, wild oats and annual forbs. In lower rainfall areas, oaks and brush are absent.

**DISTRIBUTION AND EXTENT:** Sacramento Valley, California. Red Bluff soils are moderately extensive.

**MLRA OFFICE RESPONSIBLE:** Davis, California

**SERIES ESTABLISHED:** Tehama County, California, 1961.

**REMARKS:** Laboratory data by National Soil Survey Laboratory Tehama County, California (S4557-6) and Shasta County, California (S4557-8). Also, Lincoln, Nebraska (84T7185) and Sacramento County, California (S79CA067-5).

**ADDITIONAL REMARKS:** Diagnostic horizons and features recognized in this pedon are: Ochric epipedon--extends from 0 to 20 inches. Argillic horizon 20 to 72 inches has an average of 36 percent clay and the clay distribution does not decrease from its maximum amount by as much as 20 percent of that maximum throughout to a depth of 1.5 m from the soil surface or skeletons are present if decrease is greater than 20 percent. The upper 20 inches average over 35 percent clay.

OSD scanned by SSQA. Last revised by state on 6/86.

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National Cooperative Soil Survey  
U.S.A.

LOCATION INKS

CA

Established Series  
Rev. SBJ/JHR/TDC/GMK/ET  
02/2003

## INKS SERIES

The Inks series consists of shallow, well drained soils that formed in material weathered from consolidated or cemented sediments from volcanic rocks. These soils are on undulating to hilly tubular volcanic ridges and steep sideslopes. The mean annual precipitation is about 30 inches and the mean annual air temperature is about 60 degrees F.

**TAXONOMIC CLASS:** Loamy-skeletal, mixed, superactive, thermic Lithic Argixerolls

**TYPICAL PEDON:** Inks cobbly loam, rangeland. (Colors are for dry soil unless otherwise noted.)

**A1**--0 to 6 inches; brown (10YR 5/3) cobbly loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and nonplastic; many very fine roots; many very fine pores; 20 percent gravel, mostly larger than 1/2 inch and 15 percent cobbles; moderately acid (pH 5.9); clear irregular boundary. (5 to 12 inches thick)

**B2t**--6 to 10 inches; brown (10YR 5/3) gravelly clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, friable, sticky and slightly plastic; common very fine roots; many very fine pores; thin, nearly continuous clay films on all face of peds and in pores; 35 percent gravel and 20 percent cobbles; moderately acid (pH 5.9); clear irregular boundary. (3 to 8 inches thick)

**B3t**--10 to 13 inches; dark brown (10YR 4/3) cobbly loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, firm, sticky and slightly plastic; common very fine roots; common very fine pores; thin continuous clay films on all faces of peds, in pores, and as bridges between sand grains; 10 percent gravel mostly 1/2 to 2 inches, and 25 percent cobbles; moderately acid (pH 5.9); abrupt irregular boundary. (0 to 6 inches thick)

**R**--13 to 18 inches; partly weathered consolidated tuff from basic igneous rock sources; few roots in cracks.

**TYPE LOCATION:** Tehama County, California; about 3 miles northwest of Dales in the SW1/4 of the NE1/4 of sec. 30, T.29N., R.2W.

**RANGE IN CHARACTERISTICS:** Depth to a lithic contact is 10 to 20 inches. The mean annual soil temperature is about 60 degrees to 65 degrees F. and the soil temperature usually is not below 47 degrees F. at any time. The soil between depths of 4 to 20 inches is usually dry all of the time from June until October and is moist in some or all parts all the rest of the year. Coarse fragments make up 15 to 50 percent of the A horizon and 35 to 70 percent of the B horizon.

The A horizon is brown, dark brown, or yellowish brown in 10YR or 7.5YR hue and has value of 3, 4, or 5 dry, 2 or 3 moist, and chroma of 2, 3, or 4 dry and 2 or 3 moist. It is loam or fine sandy loam and is gravelly or cobbly. This horizon has granular or subangular blocky structure or it is massive. It ranges

from soft to hard but is only slightly hard when massive. It is neutral to moderately acid.

The Bt horizon is light brown, brown, dark brown, strong brown, or reddish brown and has dry value of 3, 4, or 5 in 10YR or 7.5YR hue and 4 or 5 in 5YR hue. Chroma is usually 3 in 10YR hue, 2, 4, or 6 in 7.5YR hue, and 3 or 4 in 5YR hue. This horizon is heavy loam or clay loam and is gravelly or very gravelly or cobbly. It is neutral to moderately acid and commonly the reaction is constant in all horizons or the acidity increases slightly as depth increases.

**COMPETING SERIES:** These are the Exchequer, Friant, Pentz, Supan, Toomes, and Tuscan series. Exchequer, Pentz, and Toomes soils have ochric epipedons and lack argillic horizons. Also, Pentz soils have a paralithic contact at depths of less than 20 inches and are dominated by amorphous materials. Friant soils lack argillic horizons. Supan soils have mollic epipedons more than 20 inches thick and have mesic soil temperatures. Tuscan soils have ochric epipedons, fine argillic horizons and duripans.

**GEOGRAPHIC SETTING:** Inks soils are on undulating to hilly tabular volcanic ridges and their steep side slopes associated with the Mehrten Formation and on rounded hills and steep slopes associated with the Tuscan Formation. Slopes are 2 to 50 percent. Elevations are 200 to 2,000 feet. These soils formed in residuum from consolidated or cemented sediments from volcanic rocks. The underlying material is tuff, breccia, or conglomerates. The climate is subhumid mesothermal with hot, dry summers and cool, moist winters. Mean annual precipitation is 20 to 40 inches. Average January temperature is 46 degrees F.; average July temperature is 81 degrees F.; mean annual temperature is 58 degrees to 62 degrees F. The freeze-free season is 175 to 270 days.

**GEOGRAPHICALLY ASSOCIATED SOILS:** These are the competing Exchequer, Pentz, Supan, Toomes, and Tuscan soils and the Guenoc, Keefers, Lobitos, and Montara soils. Guenoc soils have ochric epipedons and have fine argillic horizons with 2.5YR or 10R hue. Keefers soils have clayey-skeletal control sections, ochric epipedons, and lack a lithic or paralithic contact. Lobitos soils lack a lithic contact at depths of less than 20 inches and have mesic soil temperature. Montara soils lack argillic horizons and have serpentinitic mineralogy.

**DRAINAGE AND PERMEABILITY:** Well drained; medium or rapid runoff; moderate permeability.

**USE AND VEGETATION:** Used for grazing. Natural vegetation is mainly oaks with scattered digger pine, ceanothus, manzanita, poison oak, and annual grasses and forbs.

**DISTRIBUTION AND EXTENT:** The soils occur on lower slopes of the Cascade and Sierra Nevada Ranges in northern California. The soils are moderately extensive.

**MLRA OFFICE RESPONSIBLE:** Davis, California

**SERIES ESTABLISHED:** Tehama County, California, 1962.

**REMARKS:** The Inks soils were formerly classified as Noncalcic Brown soil.

The activity class was added to the classification in February of 2003. Competing series were not checked at that time. - ET

OSD scanned by SSQA. Last revised by state on 2/75.

National Cooperative Soil Survey  
U.S.A.

LOCATION PENTZ

CA

Established Series

Rev. AJT-WBS-MAM-CEJ-ET

03/2003

## PENTZ SERIES

The Pentz series consists of shallow, well drained soils that formed in material weathered from weakly consolidated basic andesitic tuffaceous sediments. Pentz soils are on hills with mound, intermound microrelief and on backslopes of hills. These soils are on the mound position. Slopes are 2 to 50 percent. The mean annual precipitation is about 19 inches and the mean annual temperature is about 60 degrees F.

**TAXONOMIC CLASS:** Loamy, mixed, superactive, thermic, shallow Ultic Haploxerolls

**TYPICAL PEDON:** Pentz fine sandy loam - on a convex mound that is on an east facing complex slope of 5 percent under soft chess, filaree and medusahead at an elevation of 245 feet. (Colors are for dry soil unless otherwise stated. When described on September 29, 1982, the soil was moist throughout).

**A1**--0 to 4 inches; brown (10YR 5/3) fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine, common fine roots; many very fine and few fine interstitial and common very fine tubular pores; 5 percent rounded and subrounded pebbles; moderately acid (pH 6.0); clear smooth boundary. (3 to 6 inches thick)

**A2**--4 to 9 inches; brown (10YR 5/3) fine sandy loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; many very fine roots, common very fine and few fine tubular and many very fine interstitial pores; 5 percent rounded and subrounded pebbles, moderately acid (pH 6.0); clear smooth boundary. (4 to 9 inches thick)

**Bw**--9 to 13 inches; brown (10YR 5/3) fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine roots; many medium and common very fine tubular and many very fine interstitial pores; few thin clay films bridging mineral grains; 5 percent rounded and subrounded pebbles; slightly acid (pH 6.5); clear smooth boundary. (2 to 12 inches thick)

**Bt**--13 to 16 inches; brown (10YR 5/3) fine sandy loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; hard, friable, slightly sticky, slightly plastic; few very fine roots; many medium and common very fine tubular pores and many fine interstitial pores; few thin clay films on ped faces bridging mineral grains and lining pores; 5 percent rounded and subrounded pebbles; slightly acid (pH 6.5); abrupt wavy boundary. (1 to 3 inches thick)

**Cr**--16 to 23 inches; variegated pale yellow (2.5Y 7/4) very dark grayish brown (2.5Y 3/2) and grayish brown (2.5Y 5/2) weakly consolidated andesitic sandstone, olive brown (2.5Y 4/4), very dark grayish brown (2.5Y 3/2) and light olive brown (2.5Y 5/4) moist; slightly acid (pH 6.5).

**TYPE LOCATION:** Sacramento County, California; about 3 miles south of Bridge House, 2.3 miles

west of Meiss Road and Ione Road intersection, about 225 feet east of north-south fence, 320 feet north of Meiss Road, and 1,550 feet south and 2,435 feet west of the northeast corner of sec. 22, T. 7 N., R. 8 E., MDB&M.

**RANGE IN CHARACTERISTICS:** Depth to paralithic contact and thickness of the solum is 10 to 20 inches. The soil is dry between a depth of 8 inches and the paralithic contact in most years from May 15 to October 15, is moist in all parts from December 1 to May 1 and moist in some part the rest of the year. The mean annual soil temperature varies from 64 degrees F to 67 degrees F and the temperature remains above 47 degrees F throughout the year. The weighted average clay content of the particle-size control section ranges from 10 to 20 percent. Coarse fragments are subrounded or rounded metamorphic rock, quartz or quartzite. Content of coarse fragments is 0 to 35 percent with 0 to 25 percent cobbles or stones. Organic matter in the upper 7 inches mixed is 1 to 3 percent. The base saturation by sum of cations method is 60 to 75 percent in the A horizon and greater than 75 percent below this depth. This soil is influenced by small amounts of ash inherited from the parent material.

The A horizon is 10YR 4/2, 4/3, 5/2, or 5/3. Moist color is 10YR 2/2, 3/2, 3/3; 7.5YR 3/2, or 3/3. It is fine sandy loam, sandy loam or loam with 8 to 18 percent clay and with gravelly and cobbly equivalents. Reaction is strongly acid to slightly acid.

The Bw horizon is 10YR 4/3, 5/2, 5/3, 5/4, 6/3, 6/4; or 7.5YR 5/2. Moist color is 10YR 2/2, 3/2, 3/3, 4/3, 4/4, 5/3; 7.5YR 3/2 or 3/3. It is fine sandy loam, sandy loam or loam with 10 to 20 percent clay. The clay content is 1 to 3 percent more than the A horizon. Organic matter content is less than 1 percent. Reaction is moderately acid to neutral.

A Bt horizon 1 to 3 inches thick is in some of the deepest pedons. Color and reaction are similar to the Bw horizon. It is fine sandy loam, sandy loam, loam or sandy clay loam.

The Cr horizon is commonly the color of individual sand grains. Dominant hue is 10YR or 2.5Y or it is N 6/0 or 5/0. It is weakly to moderately consolidated.

**COMPETING SERIES:** There are no other soils in this family. Similar soils in other families are the Amador, Hadselville, Tunehill and Tunis series. Amador soils have an ochric epipedon. Hadselville soils are 4 to 10 inches deep and lack a cambic horizon. Tunehill and Tunis soils have greater than 75 percent base saturation throughout and have soil temperature of less than 47 degrees F part of the year.

**GEOGRAPHIC SETTING:** Pentz soils are on undulating to hilly hills with mound, intermound microrelief and on steep backslopes of hills. The microrelief is most strongly expressed on slopes of less than 20 percent. These soils are on the mound and Hadselville soils are in the intermound. Slopes are convex or plane and are 2 to 50 percent. Elevation is 110 to 600 feet. The soils formed in material weathered from consolidated tuffaceous sediments of the Mehrten formation. The sediments are dominantly composed of basic andesitic sands that are stratified with conglomerate or andesitic coarse fragments in some areas. Strongly consolidated strata may outcrop as bands across a hill slope. Coarse fragments in the soil are commonly a lag deposit from the overlying Arroyo Seco in China Hat Formations. The climate is subhumid with hot dry summers and cool moist winters. Mean annual precipitation is 12 to 22 inches. Mean annual temperature is 60 to 61 degrees F; average January temperature is about 44 degrees F; and average July temperature is about 77 to 81 degrees F. Frost-free period is 250 to 300 days.

**GEOGRAPHICALLY ASSOCIATED SOILS:** These are the similar Amador and Hadselville soils and the Gillender, Keyes, Pardee, Peters and Redding soils. Gillender soils have an ochric epipedon.

Keyes and Redding soils have a fine textured argillic horizon and a duripan. Pardee soils have a loamy-skeletal argillic horizon. Peters soils are clayey and are on concave hill slopes.

**DRAINAGE AND PERMEABILITY:** Well drained; slow to rapid runoff; moderately rapid permeability.

**USE AND VEGETATION:** Used mainly for livestock grazing. Vegetation is soft chess, ripgut brome, filaree and other annual grasses and forbs.

**DISTRIBUTION AND EXTENT:** Hills along eastern edge of the Sacramento and San Joaquin Valleys, California. The soils are moderately extensive in MLRA-18.

**MLRA OFFICE RESPONSIBLE:** Davis, California

**SERIES ESTABLISHED:** Chico Area, Butte County, California, 1925.

**REMARKS:** The Pentz series was formerly classified as medial, thermic, shallow Typic Vitrandepts. Although these soils are formed in material that is weathered from tuffaceous sediments, the ash influence is very minor. The type location has been moved from Merced County to Sacramento County, California. Pentz clay (adobe) as mapped in the Chico and Lodi Areas, California, conforms to the subsequently established Peters series. Soils mapped as Pentz in Shasta County Area and those mapped on slopes of greater than 50 percent in Eastern Stanislaus County Area need further study to determine if the contact is lithic or paralithic. In addition, those mapped in Shasta County Area are underlain by tuff and may have a stronger ash influence. Some or all of the soils mapped as Pentz in the Amador Area, California are formed in material weathered from rhyolitic tuffaceous sediments and would not be identified as the Pentz series today.

Diagnostic horizons and features recognized in this pedon are:

Mollic epipedon - the zone from the surface of the soil to a depth of 7 inches (A1, A2)

Cambic horizon - the zone from 9 to 16 inches (Bw, Bt)

Paralithic contact - the boundary at 16 inches (Cr)

**ADDITIONAL DATA:** This pedon sampled for complete characterization by Lincoln, Nebraska NSSL in 1982. Pedon number is S82-CA-067-6-1 through 5.

The activity class was added to the classification in February of 2003. Competing series were not checked at that time. - ET

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National Cooperative Soil Survey  
U.S.A.

LOCATION REDDING

CA

Established Series

Rev. SBJ/DJL/DJE/MAV/AJT/SBS/FJP

06/2003

## REDDING SERIES

The Redding series consists of moderately deep to duripan, well or moderately well drained soils that formed in alluvium derived from mixed sources. They are on nearly level or dissected and undulating to hilly high terraces. Slopes are 0 to 30 percent. The average annual precipitation is about 22 inches and the average annual temperature is about 61 degrees F.

**TAXONOMIC CLASS:** Fine, mixed, active, thermic Abruptic Durixeralfs

**TYPICAL PEDON:** Redding gravelly loam - on an east facing slope of 1 percent in a mound-intermound landscape, about halfway between a mound and intermound, under annual grasses and forbs, at 315 feet elevation. (Colors are for dry soil unless otherwise noted. When described on April 2, 1945, the soil was moist throughout.)

**A1**--0 to 8 inches; yellowish red (5YR 5/6) gravelly loam, dark reddish brown (2.5YR 3/4) moist; weak medium granular structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine roots, many very fine pores; 17 percent gravel; moderately acid (pH 5.7); gradual smooth boundary.

**A2**--8 to 19 inches; yellowish red (5YR 5/6) gravelly loam, red (2.5YR 4/6) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; common very fine roots; many very fine, few fine pores; 15 percent gravel; moderately acid (pH 5.6); abrupt wavy boundary. (Combined thickness of the A horizon is 4 to 30 inches)

**2Bt**--19 to 22 inches; yellowish red (5YR 4/6) clay, red (2.5YR 4/6) with dark red (2.5YR 3/6) coatings moist; weak medium prismatic structure parting to moderate, medium subangular blocky; extremely hard, extremely firm, sticky and very plastic; few very fine roots, common very fine tubular pores; 10 percent gravel; thick continuous clay films on vertical faces of peds; colloid nearly fills all voids; numerous nearly black stains on faces of peds; strongly acid (pH 5.3); abrupt wavy boundary. (3 to 12 inches thick)

**3Bqm**--22 to 35 inches; yellowish red (5YR 4/6) duripan; massive, indurated with iron-silica; red (2.5YR 4/6) moist with dark red (2.5YR 3/6) clay films and black stains on fracture faces; very few fine pores; 35 percent gravel, very strongly acid in upper part, neutral below.

**TYPE LOCATION:** Tehama County, California; 0.42 miles north of benchmark 311, about 5 miles south of Red Bluff. 40 degrees, 6 minutes, 17 seconds N latitude and 122 degrees, 13 minutes, 55 seconds W longitude, Gerber Quad.

**RANGE IN CHARACTERISTICS:** Depth to the duripan is 20 to 40 inches. The mean annual soil temperature is about 62 to 67 degrees F. The soil between depths of 4 and 18 inches is usually dry all of the time from June until September or early October, and is moist in some or all parts all the rest of the year. Weighted average clay content of the upper 20 inches of the argillic horizon is 35 to 60 percent.

Some pedons have a BA horizon.

The A horizon has dry colors of 7.5YR 6/4, 6/6, 5/4, 4/4, 5/8, 5/6, 5YR 6/4, 6/3, 5/8, 5/6, 5/4, 5/3, 4/8 or 4/6 and moist color of 7.5YR 4/6, 4/4, 3/4, 3/3 5YR 3/3, 5YR or 2.5YR 3/4, 3/5, 3/6, 4/2, 4/3, 4/4, 4/5, 4/6, 5/4, 5/5 or 5/6, 10YR 3/4. It is loam, sandy loam gravelly sandy loam, gravelly loam, gravelly clay loam, cobbly sandy loam, cobbly loam or cobbly clay loam, sandy clay loam, or gravelly sandy clay loam. Clay content ranges from 10 to 30 percent. Coarse fragments range from 5 to 30 percent. Base saturation (sum) is 35 to 75 percent. Reaction is neutral slightly acid to strongly acid.

Some pedons have a Bt horizon with 18 to 30 percent clay above the 2Bt horizon. Where present, it has dry color of 5YR 5/4, 4/6, 5/6, 5/8, 6/6, 6/8; or 2.5YR or 4/6, 7.5YR 5/4 and moist color of 5YR 3/4, 4/4, 4/6; 2.5YR 3/4, 3/6, 4/6. It is loam, gravelly loam, cobbly loam, sandy clay loam, gravelly sandy clay loam, cobbly sandy clay loam, gravelly clay loam, cobbly clay loam, or clay loam. Content of coarse fragments is 0 to 35 percent with 0 to 15 percent cobbles. Base saturation (SUM) is 35 to 75 percent. It is strongly acid to slightly acid neutral. The lower boundary is abrupt.

In some pedons a thin E or AB horizon is present above the argillic.

The 2Bt horizon has dry colors of 7.5YR 6/4, 5/6, 5/4, 4/4; 5YR 6/8, 6/6, 5/8, 5/6, 5/4, 4/6, 4/4; 2.5YR 5/8, 5/6, 5/4, 4/8, 4/6 or 4/4 and moist color of 7.5YR 4/4, 4/2; 5YR 3/4, 4/6, 4/4, 4/3; 2.5YR 3/4, 3/6, 4/3, 4/4, 4/6 or 4/8. It is clay loam, clay, gravelly clay loam, gravelly clay, cobbly clay loam or cobbly clay with 35 to 60 percent clay. It has an abrupt upper boundary with an absolute clay increase of 15 to 40 percent. Coarse fragments range from 5 to 35 percent. Base saturation (sum) is 75 to 95 percent. Reaction is strongly acid to slightly acid to neutral.

The 3Bqm horizons have colors of 10YR 7/6, 5/3, 7.5YR 7/6, 4/4, 4/6, 5/4, 5/6, 6/6, 7/4, 7/6; 5YR 4/6, 5/6 or 6/6. Moist color is 10YR 4/3, 3/4; 7.5YR 4/4, 5/4; 5YR 4/6, 4/4, 5/4, 5/6; 2.5YR 3/6, 4/6, or 4/8. Coarse fragments range from 15 to 75 percent. Strength of cementation decreases with depth.

Stratified 2C or 3C horizons underlie the duripan in some pedons.

**COMPETING SERIES:** These are the Oroville(T), San Joaquin (CA) and Yuvas (CA) series. Oroville (T) soils are in swales, somewhat poorly drained, and have redoximorphic features throughout. San Joaquin soils have base saturation (sum) of 75 to 100 percent in some part of the soil above the argillic. Yuvas soils have a paralithic contact at 21 to 40 inches.

**GEOGRAPHIC SETTING:** Redding soils are on nearly level or dissected and undulating to hilly high terraces. Microrelief may be hummocky. Gravel and cobbles tend to concentrate in the intermound in hummocky areas. Vernal pools with relief that is greater than the intermound are common in areas with slopes of 0 to 3 percent. Slopes are 0 to 30 percent. Elevations are 40 to 2,000 feet. The soils formed in stratified alluvium of mixed sediments that are gravelly or cobbly. These sediments vary considerably over short distances and may be unrelated to the overlying soil. Climate is subhumid with hot dry summers and cool moist winters. Mean annual precipitation is 10 to 35 inches. Average January temperature is 45 degrees F; average July temperature is 80 degrees F; mean annual temperature is 60 to 63 degrees F. The frost-free season is 230 to 320 days.

**GEOGRAPHICALLY ASSOCIATED SOILS:** These are the competing San Joaquin soils and the Anderson, Auburn, Corning, Kimball, Newton, Newville, Perkins and Red Bluff. San Joaquin soils are on lower, relatively younger terraces. Auburn soils have bedrock at 10 to 25 inches and are usually on foothills above Redding soils. Anderson soils lack a duripan and are on flood plains. Corning soils lack a

duripan and are in similar landscape positions, often in complex with Redding. Kimball soils lack a duripan at 20 to 40 inches and are on lower, relatively younger terraces. Newton, Newville, Perkins and Red Bluff soils lack a duripan.

**DRAINAGE AND PERMEABILITY:** Well or moderately well drained, very slow to rapid runoff, except for local ponding in intermound areas; very slow to slow permeability.

**USE AND VEGETATION:** Used for rangeland and dryland small grain. A few areas are used for irrigated pasture. Natural vegetation is annual grasses and forbs.

**DISTRIBUTION AND EXTENT:** High terraces along the northern and eastern edge of the Central Valley in California. The soils are extensive in MLRA-17.

**MLRA OFFICE RESPONSIBLE:** Davis, California

**SERIES ESTABLISHED:** Redding Area, California, 1907.

**REMARKS:** The Redding soils were formerly classified as having kaolinitic mineralogy.

Diagnostic horizons and features recognized in this pedon are:

Ochric epipedon - the zone from the surface to a depth of 19 inches (A1,A2).

Argillic horizon - the zone from 19 to 22 inches (2Bt).

Duripan - the zone from 22 to 35 inches (3Bqm).

Abruptic subgroup - the argillic horizon has an abrupt upper boundary with an absolute clay increase of 15 to 40 percent.

Edit log: 5/04/2003 proposed edits for use in Butte County: change hardpan to duripan, expand thickness of the A horizon from 10 to 4 inches; Range in Characteristics-added some pedons have a BA horizon, to the A horizon added 7.5YR 4/6, 3/3, and 10YR 3/4 moist, added sandy clay loam or gravelly sandy clay loam; expanded reaction from slightly acid to neutral; in the Bt horizon added 7.5YR 5/4 dry, 5YR 4/6, 2.5YR 3/4 moist, added gravelly loam, cobbly loam, sandy clay loam, gravelly sandy clay loam, cobbly sandy clay loam, gravelly clay loam, and cobbly clay loam, expanded reaction from slightly acid to neutral; in the 2 Bt horizon expanded reaction from slightly acid to neutral; in the 3 Bqm added 10YR 3/4 moist; Drainage and Permeability; expand range to include very slow to slow permeability. In Butte County, Redding will be used only on mounds. The competing Oroville(T) series is in swales. Added Oroville(T) to the competing section. For future update work, mound-swale topography needs to be redescribed and the Oroville series considered to representative swale positions

**ADDITIONAL DATA:** Data from the type location (sampled as reference project) established mineralogy as mixed. Redding mapped in San Diego County is outside the range for the series.

Other lab data to support this classification are samples S45CA-57-005 and S79CA-067-001. This data is in the NSSL data base. NSSL pedon S45CA-103-005 is the type location.

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National Cooperative Soil Survey



## **EASTSIDE ENVIRONMENTAL**

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Mr. Jason Vine  
Realm Engineering  
1447 Market Street, Suite B  
Redding, CA 96001

March 13, 2016

Dear Mr. Vine:

At your request, Eastside Environmental is offering our professional biological opinion regarding setback distances from potential sensitive natural resources within a 33.70-acre residential development project, located on vacant land at the end of Skylark Drive in Palo Cedro, Shasta County, CA. An address for the site has not been assigned; Shasta County Assessor's Parcel Number is: 058430026000.

Ms. Lisa Lozier, Senior Planner for Shasta County Resource Management, requested "retaining the services of a qualified biologist to prepare a response to the County discussing mitigation by avoidance including outlining why the recommended setbacks will be sufficient to avoid impacts."<sup>1</sup>

Our research included a March 3, 2016 query of the California Natural Diversity Database (CNDDDB), a March 13, 2016 query of the US Fish and Wildlife Service Information for Planning and Conservation (IPaC) database, a site visit conducted on March 4, 2016, and a review of available correspondence and literature regarding the project, including a January 25, 2016 comment letter from the California Department of Fish and Wildlife (CDFW) regarding the December 2015 Wetland Delineation conducted by Realm Engineering.

### **Results**

Within a five-mile radius of the project site, CNDDDB lists known occurrences of the following Federal, State of California and California Native Plant Society (CNPS) species of special concern:

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<sup>1</sup> Via email dated February 19, 2016

Scientific Name	Common Name	Federal Status	State Status	CNPS Status	Site Potential
<i>Riparia Riparia</i>	Bank swallow		Threatened		None; no banks present
<i>Oncorhynchus mykiss irideus</i>	Central Valley Steelhead	Threatened			None, Sacramento River Species
<i>Oncorhynchus tshawytscha</i>	Sacramento River winter run Chinook salmon	Endangered	Endangered		None, Sacramento River species
<i>Rana draytonii</i>	California red-legged frog	Threatened			Low, no known occurrences within 5 mile radius
<i>Brachinecta conservatio</i>	Conservancy fairy shrimp	Endangered			Moderate, no known occurrences within 5 mile radius
<i>Lepidurus packardii</i>	Vernal pool tadpole shrimp	Endangered			High, due to VP on site
<i>Branchinecta lynchii</i>	Vernal pool fairy shrimp	Threatened			High, due to VP on site
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	Threatened			None, no <i>Sambucus mexicanus</i> (Blue elderberry) on site
<i>Orcuttia tenuis</i>	Slender Orcutt grass	Threatened	Endangered	1B.1	High, species found within 80 meters of project site in vernal pools
<i>Gratiola heterosepala</i>	Boggs Lake Hedge Hyssop		Endangered	1B.2	High, vernal pool species

<i>Juncus leiospermus</i> var. <i>leiospermus</i>	Red Bluff dwarf rush			1B.1	High, species found within 80 meters of project site in vernal pools
<i>Cryptantha crinita</i>	Silky cryptantha			1B.2	High, found in Foothill woodland & Valley Grassland
<i>Paronychia ahartii</i>	Ahart's paronychia			1B.1	High, vernal pool species
<i>Balsamorhiza macrolepis</i>	Big scale balsamroot			1B.2	High, found in Foothill woodland & Valley Grassland
<i>Legenere limosa</i>	False Venus's looking glass			1B.1	High, vernal pool species

During the site visit, no listed invertebrate species were found within the vernal pool; however, this was an informal, observational survey and in no way constitutes a USFWS protocol survey of vernal pool invertebrates that would be required to confirm the absence of listed invertebrate species. The site visit did indicate a high likelihood of potential habitat for listed plant species to occur within the project area; however, the March 4, 2016 site survey was conducted outside of the appropriate bloom window for the target species, so presence/absence of those species could not be confirmed.

### Recommendations

Due to the presence of a functioning vernal pool on the project site and the potential presence of Federal, State & CNPS Endangered and Threatened invertebrates and plant species, Eastside Environmental suggests the following:

1. "Assume presence" of the listed invertebrate species. To avoid impacts to these species, implement the US Fish & Wildlife Service (USFWS) standard 250' setback requirements from the vernal pool boundary, or
2. Hire a USFWS-permitted invertebrate specialist to perform protocol invertebrate sampling during the appropriate wet and dry season sampling windows. Should sampling indicate that the listed species are absent, setbacks of less than 250' may be implemented.
3. Conduct a rare plant survey during the appropriate bloom window for target species, ideally in early May 2016. Should any of the Federal/State endangered or threatened species be found to

occur within the project area, USFWS and/or CDFW setback and avoidance requirements will apply to the project, and formal consultation with both agencies may be necessary.

4. As per CDFW recommendations regarding the Wetland Delineation, refine the delineation to include US Army Corps of Engineers wetland delineation data sheets and submit to USACE for preliminary verification. This verification will serve two purposes: 1. to legally define the boundary of the vernal pool for avoidance mitigation requirements; and 2. provide a federal nexus for Endangered Species Act (ESA) consultation with the USFWS, should the invertebrate and rare plant technical surveys reveal the presence of special status species on the project site. Federal nexus will expedite (by two years or more) any necessary ESA consultation for the project.

It is our opinion that surveys for the Western Spadefoot Toad (*Spea hammondi*) are not necessary, as there are no known occurrences of the species within five miles of the project area.

In summary, Eastside Environmental cannot suggest setbacks of anything less than 250' without the appropriate biological technical studies recommended above. If no special status species are detected via these biological investigations, then setbacks of less than 250' could be considered.

Please do not hesitate to ask any questions you may have regarding Eastside Environmental's analysis of this Shasta County, CA development project.

Sincerely,



Crystal Keesey  
Owner



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Region 1 – Northern  
601 Locust Street  
Redding, CA 96001  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

EDMUND G. BROWN JR., Governor  
CHARLTON H. BONHAM, Director



January 25, 2016

Ms. Lisa Lozier  
Shasta County Department of Resource Management  
Planning Division  
1855 Placer Street, Suite 103  
Redding, CA 96001

**Subject: Informal Consultation Request for PM 14-004, Knott Family Trust,  
Shasta County**

Dear Ms. Lozier:

The California Department of Fish and Wildlife (Department) has reviewed the informal consultation request dated December 23, 2015, and the Delineation of Waters of the United States dated December 2015, for the above-referenced project (Project). The Department offers the following comments and recommendations on the Project in our role as the State's trustee for fish and wildlife resources, and as a responsible agency under the California Environmental Quality Act (CEQA), California Public Resources Codes §21000 *et seq.* The following are informal comments intended to assist the Lead Agency in making informed decisions early in the Project development and review process.

### **Project Description**

The Project is a "4 parcel subdivision of 33.7 acres. The project site is undeveloped with proposed parcels ranging in size from 5 acres to 12.05 acres." The Project is located on the west side of Maynard Road, Shasta County.

### **Comments and Recommendations**

The Department appreciates the completion of the Delineation of Waters of the United States (Delineation) report, and the inclusion of this report with the informal consultation request.

California Natural Diversity Database (CNDDDB) results from a cursory query identified many special-status species in the Project vicinity including several federal and State threatened and endangered species and many species of special concern and California Rare Plant Rank 1.B species. Additionally, the Project is located within U.S. Fish and Wildlife Service (USFWS) Final Critical Habitat for vernal pool habitat, vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), and slender Orcutt grass (*Orcuttia tenuis*). The Department recommends additional surveys and analysis to determine if special-status species are present on the Project site, as discussed below.

*Conserving California's Wildlife Since 1870*

In order to further assist in the Project review, the Department requests the following information:

1. Data sheets to accompany the Delineation of Waters of the United States report and a map depicting sampling locations.
2. The Delineation report states that "... a survey of the botany, biology, trees, soils, hydrology and made determinations of wetlands delineation and characteristics..." was conducted. The Department requests a copy of these botany, biology and tree survey results. If these surveys have not been completed, the Department requests their completion as discussed below.
3. Clarification and mapping of the fresh emergent wetland located near the southeast boundary of the property and "other waters of the United States" mentioned in the Delineation report and the consultation request documents.
4. A CNDDDB search to obtain current information on previously reported sensitive species and habitat. In order to provide an adequate assessment of special-status species potentially occurring within the Project vicinity, the search area for CNDDDB occurrences should include all U.S. Geological Survey 7.5-minute topographic quadrangles with Project activities, and all adjoining 7.5-minute topographic quadrangles. A discussion should be provided regarding how and when the CNDDDB search was conducted, including the names of each quadrangle queried, or why any areas may have been intentionally excluded from the CNDDDB query. Other electronic databases should be queried also, including those maintained by the USFWS and the California Native Plant Society.
5. Vernal pool branchiopod surveys to determine presence or absence of listed vernal pool species completed by a qualified, permitted biologist and conducted during the appropriate time of year.
6. Focused western spadefoot toad (*Spea hammondi*) surveys conducted by a qualified biologist during the appropriate time of year. Western spadefoot toads are known to occur in the Project vicinity and utilize seasonal rain pools, such as vernal pools, for breeding habitat.
7. Botanical surveys following the Department's November 2009 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (Attachment). These surveys must be completed by a qualified biologist during the appropriate time of year to detect all special-status species potentially occupying the Project site. The date of the survey, October 29, 2015, is outside the normal flowering period for many vernal pool species, including State and federally listed species. Additionally, 2015 was an exceptionally dry year so many species may not have flowered, or may have flowered during a shorter season than normal.

8. The Delineation report indicates that the delineation was conducted for the U.S. Army Corps of Engineers (Corps) jurisdiction. For the purposes of Department analysis, the delineation should also include wetlands identified pursuant to the USFWS wetland definition as adopted by the Department. Some wetland habitats subject to the Department's authority may extend beyond the jurisdictional limits of the Corps. In addition to federal jurisdictional wetlands (see CEQA Guidelines Appendix G), the Department considers impacts to any wetlands as potentially significant. The Department requests a revised Delineation that includes Department defined wetland acreage amounts.
9. Impacts to special-status species and sensitive natural communities should be analyzed and specific mitigation should be required to reduce any impacts to less than significant. If federally listed species are present on the Project site, the Department recommends consultation with the USFWS.

The additional survey reports requested above should include the following information:

1. Determination of the potential for special-status species and habitats to occur within the Project footprint by analyzing various electronic databases including the Department's CNDDDB, as well as those maintained by the California Native Plant Society and the USFWS.
2. Date/time/weather conditions during the survey(s).
3. A description of the natural environment.
4. Methodology of surveys including, but not limited to, protocols used such as the Department's 2009 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*.
5. A list of common and special status plant and wildlife species as well as habitats present onsite at the time of the survey(s).
6. Rare/local/unusual species and habitats present during the survey(s).
7. Focused species-specific surveys such as the vernal pool branchiopod, botanical, and spadefoot toad surveys discussed above, conducted at the appropriate time of year and time of day when the species are active or otherwise identifiable. Acceptable species-specific survey procedures should be developed in consultation with the Department and the U.S. Fish and Wildlife Service. Links to some survey procedures are provided on the Department's website.<sup>1</sup>

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<sup>1</sup> [http://www.dfg.ca.gov/wildlife/nongame/survey\\_monitor.html](http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html)

8. A map depicting the Project boundary, including the proposed or potential disturbance activities and the special-status species and habitats found on site.
9. A vegetation map that uses the National Vegetation Classification System, for example *A Manual of California Vegetation*, and highlights any special status natural communities. If another vegetation classification system is used, the report should reference the system, provide the reason for its use, and provide a crosswalk to the National Vegetation Classification System.
10. A discussion of impacts associated with increased lighting, noise, human activities, changes in drainage patterns, changes in water volume/velocity/quantity/quality, soil erosion and/or sedimentation in wetlands, streams and water courses on or near the Project, as applicable.
11. A table depicting the vegetation communities found onsite with their respective acreage and the acreage impacted by the Project (both directly and indirectly).
12. A table depicting special-status plant or wildlife species that may or will be impacted by the Project.
13. Avoidance, minimization, and mitigation measures to reduce significant impacts to less than significant.

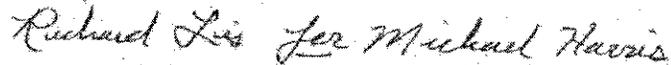
A thorough description of the regional setting and baseline habitat conditions at a proposed project site is critical to an assessment of environmental impacts, as well as development of specific measures to offset such impacts. CEQA requires that special emphasis be placed on resources that are rare or unique to the region (CEQA §15125 (a)). The Department's concurrence with the mitigation measures recommended or proposed will depend on the level of detail provided in the pre-project biological report, including a discussion of the methods, results, and level of survey effort. Surveys are one of the steps to detect a listed or special-status species or natural community and evaluate significant effects of a project. Adequate information about special-status species and natural communities present in a project area will enable reviewing agencies and the public to effectively assess potential impacts to special-status species and will guide the development of minimization and mitigation measures

The completion of the surveys and items above will assist in analyzing Project impacts and determining if the proposed 150-foot buffer around the existing vernal pool will be adequate protection.

If any special-status species are found during surveys, the Department requests that CNDDDB forms be filled out and submitted to the Biogeographic Data Branch in Sacramento. Instructions for providing data to the CNDDDB can be found at: <https://www.dfg.ca.gov/biogeodata/cnddb/>. Additionally, we request a copy of these forms be sent to the Regional office at: CEQA, 601 Locust Street, Redding, CA, 96001.

The Department appreciates the opportunity to provide comments early in the environmental review process. If you have any questions, please contact Kristin Hubbard, Environmental Scientist, at (530) 225-2138, or by email at [Kristin.Hubbard@wildlife.ca.gov](mailto:Kristin.Hubbard@wildlife.ca.gov).

Sincerely,



Michael R. Harris  
Interior Conservation Planning Supervisor

cc: Ms. Lisa Lozier  
Shasta County Department of Resource Management  
[llozier@shasta.ca.us](mailto:llozier@shasta.ca.us)

Mss. Kristin Hubbard and Amy Henderson  
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