INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

WINGO RANCH, LLC.

Prepared for: **CALIFORNIA DEPARTMENT OF CANNABIS CONTROL**

Prepared by: **MONTROSE ENVIRONMENTAL SOLUTIONS, INC.**

January 2026

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TABLE OF CONTENTS

1 Introduction and Purpose 1-1
1.1 Intent and Scope of this Document 1-1
1.1.1 Scope of the Analysis 1-1
1.1.2 Public Comment Period 1-2
1.2 Organization of This Document 1-2
1.3 Impact Terminology 1-3
1.4 Regulatory Background 1-3
1.5 Environmental Baseline of Analysis 1-4
2 Project Description 2-1
2.1 Overview 2-1
2.2 Proposed Project Purpose and Objectives 2-5
2.3 Proposed Project Location and Setting 2-5
2.4 General Description of Regulated Commercial Cannabis Cultivation Processes and Cannabis Business Activities 2-6
2.4.1 Overview of Commercial Cultivation Operations 2-6
2.4.2 State Cannabis Regulations 2-9
2.4.3 Local Cannabis Ordinances and Regulations 2-9
2.4.4 Site Specific Approval 2-10
2.5 Proposed Project Characteristics 2-10
2.5.1 Proposed Project Facilities 2-10
2.5.2 Proposed Project Site Development 2-13
2.6 Construction Activities 2-17
2.6.1 Construction Methods 2-17
2.7 Permits and Approvals 2-17
3 Environmental Checklist 3-1
3.1 Aesthetics 3.1-1
3.1.1 Regulatory Setting 3.1-1
3.1.2 Environmental Setting 3.1-3
3.1.3 Discussion of Checklist Responses 3.1-4
3.2 Agriculture and Forestry Resources 3.2-1
3.2.1 Regulatory Setting 3.2-1
3.2.2 Environmental Setting 3.2-3
3.2.3 Discussion of Checklist Responses 3.2-3
3.3 Air Quality 3.3-5
3.3.1 Regulatory Setting 3.3-5
3.3.2 Environmental Setting 3.3-14
3.3.3 Discussion of Checklist Responses 3.3-20

3.4 Biological Resources 3.4-1
3.4.1 Regulatory Setting 3.4-1
3.4.2 Environmental Setting 3.4-4
3.4.3 Discussion of Checklist Responses 3.4-8
3.5 Cultural Resources 3.5-1
3.5.1 Regulatory Setting 3.5-1
3.5.2 Environmental Setting 3.5-4
3.5.3 Discussion of Checklist Responses 3.5-8
3.6 Energy 3.6-1
3.6.1 Regulatory Setting 3.6-1
3.6.2 Environmental Setting 3.6-6
3.6.3 Discussion of Checklist Responses 3.6-6
3.7 Geology, Soils, and Seismicity 3.7-1
3.7.1 Regulatory Setting 3.7-2
3.7.2 Environmental Setting 3.7-4
3.7.3 Discussion of Checklist Responses 3.7-5
3.8 Greenhouse Gas Emissions 3.8-1
3.8.1 Regulatory Setting 3.8-1
3.8.2 Environmental Setting 3.8-10
3.8.3 Discussion of Checklist Responses 3.8-12
3.9 Hazards and Hazardous Materials 3.9-1
3.9.1 Regulatory Setting 3.9-2
3.9.2 Environmental Setting 3.9-10
3.9.3 Discussion of Checklist Responses 3.9-11
3.10 Hydrology and Water Quality 3.10-1
3.10.1 Regulatory Setting 3.10-1
3.10.2 Environmental Setting 3.10-7
3.10.3 Discussion of Checklist Responses 3.10-9
3.11 Land Use and Planning 3.11-1
3.11.1 Regulatory Setting 3.11-1
3.11.2 Environmental Setting 3.11-2
3.11.3 Discussion of Checklist Responses 3.11-2
3.12 Mineral Resources 3.12-1
3.12.1 Regulatory Setting 3.12-1
3.12.2 Environmental Setting 3.12-1
3.12.3 Discussion of Checklist Responses 3.12-2
3.13 Noise 3.13-1
3.13.1 Overview of Noise and Vibration Concepts and Terminology 3.13-1
3.13.2 Regulatory Setting 3.13-3
3.13.3 Environmental Setting 3.13-6

3.13.4 Discussion of Checklist Reponses 3.13-7
3.14 Population and Housing 3.14-1
3.14.1 Regulatory Setting 3.14-1
3.14.2 Environmental Setting 3.14-1
3.14.3 Discussion of Checklist Responses 3.14-1
3.15 Public Services 3.15-1
3.15.1 Regulatory Setting 3.15-1
3.15.2 Environmental Setting 3.15-4
3.15.3 Discussion of Checklist Responses 3.15-4
3.16 Recreation 3.16-1
3.16.1 Regulatory Setting 3.16-1
3.16.2 Environmental Setting 3.16-1
3.16.3 Discussion of Checklist Responses 3.16-2
3.17 Transportation 3.17-1
3.17.1 Regulatory Setting 3.17-1
3.17.2 Environmental Setting 3.17-3
3.17.3 Discussion of Checklist Responses 3.17-3
3.18 Tribal Cultural Resources 3.18-1
3.18.1 Regulatory Setting 3.18-1
3.18.2 Environmental Setting 3.18-3
3.18.3 Discussion of Checklist Responses 3.18-4
3.19 Utilities and Service Systems 3.19-1
3.19.1 Regulatory Setting 3.19-1
3.19.2 Environmental Setting 3.19-7
3.19.3 Discussion of Checklist Responses 3.19-8
3.20 Wildfire 3.20-1
3.20.1 Regulatory Setting 3.20-1
3.20.2 Environmental Setting 3.20-7
3.20.3 Discussion of Checklist Responses 3.20-7
3.21 Mandatory Findings of Significance 3.21-1
3.21.1 Discussion of Checklist Responses 3.21-1
4 Report Preparation 4-1
5 References 5-1

FIGURES

Figure 2.1-1. Regional Location 2-16
Figure 2.1-2. 2021 Baseline Condition (Aerial View) 2-17
Figure 2.5-1. Proposed Project Site (Aerial View) 2-25
Figure 2.5-2. Proposed Project Site Plan (Detail) 2-26

TABLES

Table 2.1-1. Facilities and Operations by License 2-1
Table 2.5-1. Local Utility Agencies Serving the Proposed Project Area 2-13
Table 2.7-1. Applicable Permit and Regulatory Requirements 2-18
Table 3.3-1. California and National Ambient Air Quality Standards 3.3-6
Table 3.3-2. Criteria Air Pollutants and Precursors Screening Level Sizes 3.3-11
Table 3.3-3. Sonoma County Attainment Status for the SFAAB 3.3-15
Table 3.4-1. Special-status Plant and Wildlife Species Known to Occur in or near the Project Area 3.4-7
Table 3.8-1. Statewide GHG Emissions by Economic Sector (2022) 3.8-11
Table 3.8-2. Sonoma County GHG Emissions by Sector (2022) 3.8-12
Table 3.13-1. Examples of Common Noise Levels 3.13-2
Table 3.13-2. State Land Use Compatibility Standards for Community Noise Environment 3.13-4
Table 3.13-3. Maximum Allowable Exterior Noise Exposures for Non-transportation Noise Sources 3.13-6
Table 3.18-1. Native American Outreach 3.18-4

APPENDICES

Appendix A – Biological Resources Report
Appendix B – Cultural Resources and Tribal Cultural Resources Evaluation

ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AFVs	alternative fuel vehicles
ALUCP	Airport Land Use Compatibility Plan
Applicant	Wingo Ranch
AST	aboveground storage tank
BMPs	best management practices
BOS	Stanislaus County Board of Supervisors
CAC	county agricultural commissioner
CalARP	California Accidental Release Prevention
CalEPA	California Environmental Protection Agency
California Energy Code	Title 24, Part 6, Building Energy Efficiency Standards
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
CALTRANS	California Department of Transportation
Cal/OSHA	California Occupational Safety and Health
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDPR	California Department of Pesticide Regulation
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDPR	California Department of Pesticide Regulation
CEC	California Energy Commission
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFC	California Fire Code
CNEL	Community noise equivalent level
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CUPAs	Certified Unified Program Agencies
CRHR	California Register of Historical Resources
CTR	California Toxics Rule
CWA	Clean Water Act
CO	carbon monoxide
DA	Development Agreement
dBA	A-weighted decibel
DCC	Department of Cannabis Control
DER	Department of Environmental Resources
DOC	California Department of Conservation
DPR	Department of Pesticide Regulation
DTSC	Department of Toxic Substances Control
EPAct	Energy Policy Act
EO	Executive Order

ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zones
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GSA	groundwater sustainability agencies
GSP	groundwater sustainability plan
HAPs	hazardous air pollutants
HCP	Habitat Conservation Plan
HMAP	Hazardous Materials Area Plan
HMBP	Hazardous Materials Business Plan
HMIS	Hazardous Materials Inventory Statement
HMMP	Hazardous Materials Management Plan
Hz	Hertz
IS/ND	Initial Study/ Negative Declaration
kW	kilowatt
kWh	kilowatt per hour
LAFCO	Local Agency Formation Commission
Ldn	Day-night sound level
Leq	Equivalent sound level
LRA	Local Responsibility Area
MAUCRSA	Medicinal and Adult-Use Cannabis Regulation and Safety Act
MBTA	Migratory Bird Treaty Act
MCRSA	Medical Cannabis Regulation and Safety Act
MS4s	municipal separate storm sewer systems
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NEHRP	National Earthquake Hazards Reduction Program
NHPS	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_X	nitrous oxides
NHTSA	National Highway Traffic Safety Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTR	National Toxics Rule
NWIC	Northwest Information Center
NWSRS	National Wild and Scenic Rivers System
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
$PM_{2.5}$	2.5 micrometers or less
PM_{10}	10 micrometers or less
PPE	personal protective equipment
PPV	Peak Particle Velocity

PV	photovoltaic
RCRA	Resource Conservation and Recovery Act
RMP	risk management plan
RO	reverse osmosis
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SR-12	State Route 12
SR-121	State Route 121
SDWA	Safe Drinking Water Act
SGMA	Sustainable Groundwater Management Act
RHNP	Regional Housing Needs Plan
SMARA	Surface Mining and Reclamation Act
SOI	Sphere of Influence
SPCC	Spill Prevention, Control, and Countermeasure
SRA	State Responsibility Area
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SVCSD	Sonoma Valley County Sanitation District
TACs	toxic air contaminants
TCPs	Traditional Cultural Properties
TCRs	tribal cultural resources
TISG	Transportation Impact Study Guide
TPZs	timber protection zones
TTC	temporary traffic control
UID	Universal Identification
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
VdB	Vibration Decibel
VMT	Vehicle Miles Traveled
WDRs	waste discharge requirements
VHFHSZ	Very High Hazard Severity Zones

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1 INTRODUCTION AND PURPOSE

The California Department of Cannabis Control (DCC) has prepared this initial study/negative declaration (IS/ND) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental impacts of the proposed Wingo Ranch project (Proposed Project). This document has been prepared in accordance with the requirements of the California Environmental Quality Act of 1970, as amended (CEQA) (Pub. Resources Code, § 21000 et seq.) and the CEQA Guidelines (Cal. Code Regs., tit. 14 [CEQA Guidelines], § 15000 et seq.).

Wingo Ranch (Applicant) proposes to cultivate two one-acre plots on a site in unincorporated Sonoma County. Sonoma County approved the projects using ministerial zoning permits in 2021. DCC issued provisional licenses for project activities in 2022.

Applicant has applied to DCC for annual commercial cannabis cultivation licenses to conduct operations at the project site. DCC is the lead agency under CEQA with respect to the project activity because it has discretionary authority over the approval of the Applicant's state commercial cannabis cultivation licenses.

This chapter describes the intent and scope of this IS/ND, the public involvement process, the organization and scope of the document, and specific impact-related terminology used in the document.

1.1 Intent and Scope of this Document

1.1.1 Scope of the Analysis

This IS/ND has been prepared in accordance with CEQA, under which the Proposed Project is evaluated at a project level (CEQA Guidelines, § 15378). DCC, as the lead agency under CEQA, will consider the Proposed Project's potential environmental impacts when considering whether to approve the project. This IS/ND is an informational document to be used in the planning and decision-making process for the Proposed Project and does not recommend approval or denial of the Proposed Project.

This IS/ND describes the Proposed Project; its environmental setting, including existing conditions and regulatory setting, as necessary; and the potential environmental impacts of the Proposed Project on or with regard to the following topics:

- Aesthetics
- Agriculture/Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Tribal Cultural Resources
- Transportation
- Utilities and Service Systems
- Wildfire

1.1.2 Public Comment Period

Public disclosure and dialogue are priorities under CEQA. CEQA Guidelines sections 15073 and 15105, subdivision (b) require that the lead agency designate a period during the IS/ND process when agencies and the public can provide comments on the potential impacts of the Proposed Project. Accordingly, DCC is circulating this document for a 30-day public and agency review period. The beginning and ending dates of the comment period are identified in the Notice of Intent to Adopt a Negative Declaration.

Comments on this IS/ND can be submitted by mail or email to the following contact:

Kevin Ponce, Senior Environmental Scientist Supervisor
California Department of Cannabis Control
2920 Kilgore Rd. Rancho Cordova, CA 95670-6157
kevin.ponce@cannabis.ca.gov

All comments received before 5:00 p.m. on the date identified for closure of the public comment period in the Notice of Availability will be considered by DCC during its deliberations on whether to approve the Proposed Project.

1.2 Organization of This Document

This IS/ND contains the following components:

Chapter 1, *Introduction*, provides a brief description of the intent and scope of this IS/ND, the public involvement process under CEQA, the organization of the document, and terminology used in this IS/ND.

Chapter 2, *Project Description*, describes the Proposed Project, including its purpose and goals, the project site where the Proposed Project would be constructed and operated, construction methods, operation-related activities, and related permits and approvals.

Chapter 3, *Environmental Checklist*, presents the environmental checklist used to assess the Proposed Project's potential environmental effects, which is based on the model provided in Appendix G of the CEQA Guidelines. This chapter includes brief regulatory environmental setting descriptions for each resource topic, evaluates the Proposed Project's anticipated environmental impacts, and identifies mitigation measures that would be required to reduce potentially significant impacts to a less-than-significant level.

Chapter 4, *Report Preparers*, identifies the individuals who prepared portions of this document.

Chapter 5, *References*, provides a bibliography of printed references, websites, and personal communications used in preparing this IS/ND.

Appendices

Appendix A. *Biological Resources Report*
Appendix B. *Cultural Resources and Tribal Cultural Resources Evaluation*

1.3 Impact Terminology

This IS/ND uses the following terminology to describe the environmental effects of the Proposed Project:

- A finding of *no impact* is made when the analysis concludes that the Proposed Project would not affect the particular environmental resource or issue.
- An impact is considered *less than significant* if the analysis concludes that no substantial adverse change in the environment would result and that no mitigation is needed.
- A cumulative impact refers to one that can result when a change in the environment would result from the incremental impacts of a project along with other related past, present, or reasonably foreseeable future projects. Significant cumulative impacts might result from impacts that are individually minor but collectively significant. The cumulative impact analysis in this IS/ND focuses on whether the Proposed Project's incremental contribution to significant cumulative impacts caused by the project in combination with past, present, or probable future projects is cumulatively considerable.
- Because the term "significant" has a specific usage in evaluating the impacts under CEQA, it is used to describe only the significance of impacts and is not used in other contexts within this document. Synonyms such as "substantial" are used when not discussing the significance of an environmental impact.

1.4 Regulatory Background

Until 1996, the cultivation, use, and sale of cannabis for any purpose was illegal in the State of California. In 1996, California voters approved Proposition 215, the Compassionate Use Act of 1996, which allowed seriously ill Californians the right to obtain and use cannabis for medical purposes when recommended by a physician. The passage of Senate Bill (SB) 420 (Statutes of 2003) enacted the Medical Marijuana Program Act, which clarified the scope and application of the Compassionate Use Act and established a voluntary program for the issuance of identification cards to qualified patients and established procedures under which a qualified patient with an identification card may use cannabis for medical purposes to protect patients and their caregivers from arrest.

In 2015, the State Legislature enacted the Medical Cannabis Regulation and Safety Act (MCRSA) through a series of three separate bills (Assembly Bill (AB) 266, AB 243, and Senate Bill (SB) 643; former Bus. & Prof. Code, § 19300 et seq.), which established a comprehensive State licensure and regulatory framework for commercial cannabis cultivation, manufacturing, distribution, transportation, testing, and retail sale. As the State was developing regulations in compliance with MCRSA, California voters in 2016 approved Proposition 64 (Adult Use of Marijuana Act [AUMA]), which legalized the use and possession of non-medicinal cannabis within California by adults 21 years and older. In June 2017, the State Legislature passed a budget trailer bill, SB 94, which integrated MCRSA with AUMA to create the Medicinal and Adult-Use Cannabis Regulation and Safety Act (MAUCRSA). (Bus. & Prof Code, § 26000 et. seq.) MAUCRSA provides the regulatory structure for commercial cannabis activities in California. In December 2017, the licensing authorities began accepting applications for temporary commercial cannabis licensure and on January 1, 2018, the first temporary licenses for medicinal and adult-use cannabis became effective.

On July 12, 2021, the governor signed AB 141 (Chapter 70, statutes of 2021), which consolidated the three former cannabis licensing authorities – the Department of Consumer Affairs' Bureau of Cannabis Control, which was charged with the licensing, regulation, and enforcement of commercial cannabis distribution, retail,

microbusinesses, testing laboratories, and temporary cannabis events; the Department of Food and Agriculture's CalCannabis Cultivation Licensing Division, which was responsible for the licensing regulation, and enforcement of commercial cannabis cultivation; and the Department of Public Health's Manufactured Cannabis Safety Branch, which was responsible for the regulation of commercial cannabis manufacturing. DCC inherited all the powers, duties, purposes, functions, responsibility, and jurisdiction of the legacy licensing authorities and serves as the single regulatory and enforcement entity for all licensed and commercial cannabis in California.

Notably, MAUCRSA also recognizes the authority of local governments to regulate cannabis businesses located in their jurisdictions. (See Bus. & Prof Code, § 26032.) Local governments have the authority to impose restrictions and/or requirements on commercial cannabis businesses, or to ban them entirely.

DCC's regulations pertaining to State-licensed cannabis businesses are codified in the California Code of Regulations, Title 4, Division 19. These regulations establish a licensing and regulatory program for licensed commercial cannabis cultivation, manufacturing, retail sale, distribution, transport, and laboratory testing of medicinal and adult-use cannabis. The regulations specify a tiered system of license types, and requirements related to the qualifications for state commercial cannabis licensure and conducting cannabis business activities, including environmental protection requirements.

1.5 Environmental Baseline of Analysis

Some of the activities that are described in the Project Description (Chapter 2) are currently ongoing. MAUCRSA authorized DCC to issue "provisional" licenses to applicants that allow for the conduct of commercial cannabis activities prior to the completion of CEQA analysis, provided that applicants submitted a completed application to the DCC and met certain application milestones. MAUCRSA specifies that CEQA "does not apply to the issuance of a [provisional] license pursuant to [Bus. & Prof. Code, § 26050.2] by the department, except as otherwise provided in [Bus & Prof. Code, § 26050.2]." (Bus. & Prof. Code, § 26050.2, subd. (l).)

Consistent with the legislature's establishment of provisional licensing under MAUCRSA, there are some projects for which state provisional licensure of legal cannabis activities proceeded prior to the DCC becoming the lead agency. Upon issuance of a provisional license from DCC and any additional local approvals, cannabis businesses were able to begin operations, which sometimes included construction of permanent facilities. For the purposes of fully analyzing the impacts of the Proposed Project, this document presents an analysis of all impacts that would result from the development and operation of the legal cannabis activity if DCC approves issuance of an annual license, while recognizing that some impacts may have already occurred or may be impossible to analyze due to construction, development, and operational activities already undertaken by Applicant pursuant to local approvals and a provisional license.

For the Proposed Project, the site was previously used primarily for cattle grazing and hay production. As such, the previous activities or operations would have resulted in certain environmental impacts. These activities and resulting impacts would be considered to represent existing conditions as the environmental baseline. The impact analysis in this document, therefore, focuses on the increment of change that would result from the development and operation of the cannabis operation since the time of the application for an annual license, and therefore will analyze impacts of both current and future cannabis business development and operations.

The Proposed Project received local approval to begin development and operation of the Proposed Project in June 2021 upon issuance of a ministerial Zoning Permit. The Proposed Project received provisional commercial cultivation, nursery, and distribution licenses from the State of California in 2022 (see **Table 2.1-1**). Based on these approvals, the Applicant began legal cannabis business operations at the project site. Although it is possible that development of the site may have resulted in impacts to the environment, there is no way to complete an analysis of every potential impact to the environment that could have occurred as a result of the site development.

Among the basic purposes of CEQA are to identify potential significant environmental effects of proposed decisions and identify ways to avoid or significantly reduce environmental damage. (Cal. Code Regs., tit.14, § 15002.) If an activity has already occurred in compliance with law (and without any intent to circumvent CEQA) and damage cannot be avoided or mitigated, the analysis is mooted. (See, e.g., *Hixon v. Cnty. of Los Angeles* (1974) 38 Cal.App.3d 370, 378; *Santa Monica Baykeeper v. City of Malibu* (2011) 193 Cal.App.4th 1538, 1549-51.) Further, to the extent certain types of activities were conducted in accordance with law (and without any intent to circumvent CEQA) but may have had an impact on the environment, it may be the case that it is currently impossible to do a CEQA analysis of those impacts that already occurred. As an example, if grading of soils or surfaces for the construction of a building that has already been built caused impacts to subsurface resources (such as unknown archeological resources), there will sometimes be no way to analyze those impacts or to undo or mitigate those impacts following the building's construction, and therefore there is no reason under CEQA to attempt to analyze those impacts. However, if the building that was constructed may have ongoing aesthetics impacts (such as creating glare), there may be opportunities to mitigate such impacts and those ongoing impacts should be examined.

This document, therefore, will analyze the impacts of the construction (including already completed construction) and operation of the Proposed Project that could potentially be avoided or mitigated. If there are impacts that cannot be analyzed, those impacts and the reasons they cannot be analyzed will be discussed in the individual resource sections.

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2 PROJECT DESCRIPTION

2.1 Overview

The Department of Cannabis Control (DCC) is evaluating the proposed development of a commercial cannabis cultivation facility on two parcels, both located at 1495 Fremont Drive in unincorporated Sonoma County, California, 95476 (Proposed Project). The APN numbers of the parcels are 128-444-002and 128-471-006. **Figure 2.1-1** presents the Proposed Project's location in the region.

On March 3, 2021, Wingo Ranch, LLC (Applicant or Wingo Ranch) applied to the California Department of Food and Agriculture (CDFA)[1] for eight Small Outdoor commercial cannabis cultivation licenses. Each license would permit the Applicant to cultivate up to 10,000 square feet of canopy, for a total of 40,000 square feet on each parcel.

DCC issued State provisional licenses for these activities in June 2022. Sonoma County approved the Proposed Project using ministerial Zoning Permits. The local and state approval dates and information are shown in **Table 2.1-1.** Based on those state and local approvals, the facility began legal operations. As discussed in Section 1.5, the CEQA baseline for this environmental analysis is the date the Proposed Project applied for the eight annual cultivation licenses with the State of California, March 2021. **Figure 2.1-2** presents the project site as it existed at the time of the application. Therefore, facilities and settings described as "existing" in this chapter are intended to refer to items that existed as of that date. As of February 2022, the 40,000 square foot commercial cannabis cultivation operation has been constructed and operational on each parcel. Subsequently, the Applicant applied to DCC for the addition of 3,560 square feet of canopy to the current 40,000 square foot of operation for a total of 43,560 square feet (or 1 acre) on each parcel. The Applicant is also requesting an additional 10,890 square foot area for immature plants on each parcel. The total canopy for the Proposed Project at full buildout would be no more than 2.5 acres of outdoor commercial cannabis cultivation; 1.25 acres on each of the two parcels.

DCC is the lead agency under CEQA with respect to the project activity because it has discretionary authority over the approval of the state annual commercial cannabis business licenses.

Table 2.1-1. Facilities and Operations by License

Business Name	APN	Sonoma County Approval Date	DCC Annual License Application Date	DCC Provisional License Issuance Date	DCC License Number
Wingo Ranch A[2]	128-444-002	6/25/2021	3/3/21	6/29/22	CCL21-0001306
Wingo Ranch B	128-444-002	6/25/2021	3/3/21	6/29/22	CCL21-0001307
Wingo Ranch C	128-444-002	6/25/2021	3/3/21	6/29/22	CCL21-0001308
Wingo Ranch D	128-444-002	6/25/2021	3/3/21	6/29/22	CCL21-0001309
Wingo Ranch A	128-471-006	6/25/2021	3/3/21	6/29/22	CCL21-0001319

[1] CDFA was the predecessor licensing agency to DCC in California for state cultivation licenses. In 2021, commercial cannabis regulation and licensing previously under the California Department of Food and Agriculture, the California Department of Public Health, and the Bureau of Cannabis Control were consolidated into a new agency, the California Department of Cannabis Control.

[2] In 2021, at the time the Applicant applied for provisional licenses, there were four business names for each of the two parcels: "Wingo Ranch A, B, C, and D" on each of two parcels. Since the time of the original application the business names have changed so that APN 128-471-006 is known as "Wingo Ranch B" and APN 128-444-002 is known as "Wingo Ranch D."

Business Name	APN	Sonoma County Approval Date	DCC Annual License Application Date	DCC Provisional License Issuance Date	DCC License Number
Wingo Ranch B	128-471-006	6/25/2021	3/3/21	6/29/22	CCL21-0001320
Wingo Ranch C	128-471-006	6/25/2021	3/3/21	6/29/22	CCL21-0001321
Wingo Ranch D	128-471-006	6/25/2021	3/3/21	6/29/22	CCL21-0001322

This chapter describes the Proposed Project and discusses its purpose, objectives, location, proposed actions, and necessary permits and approvals.

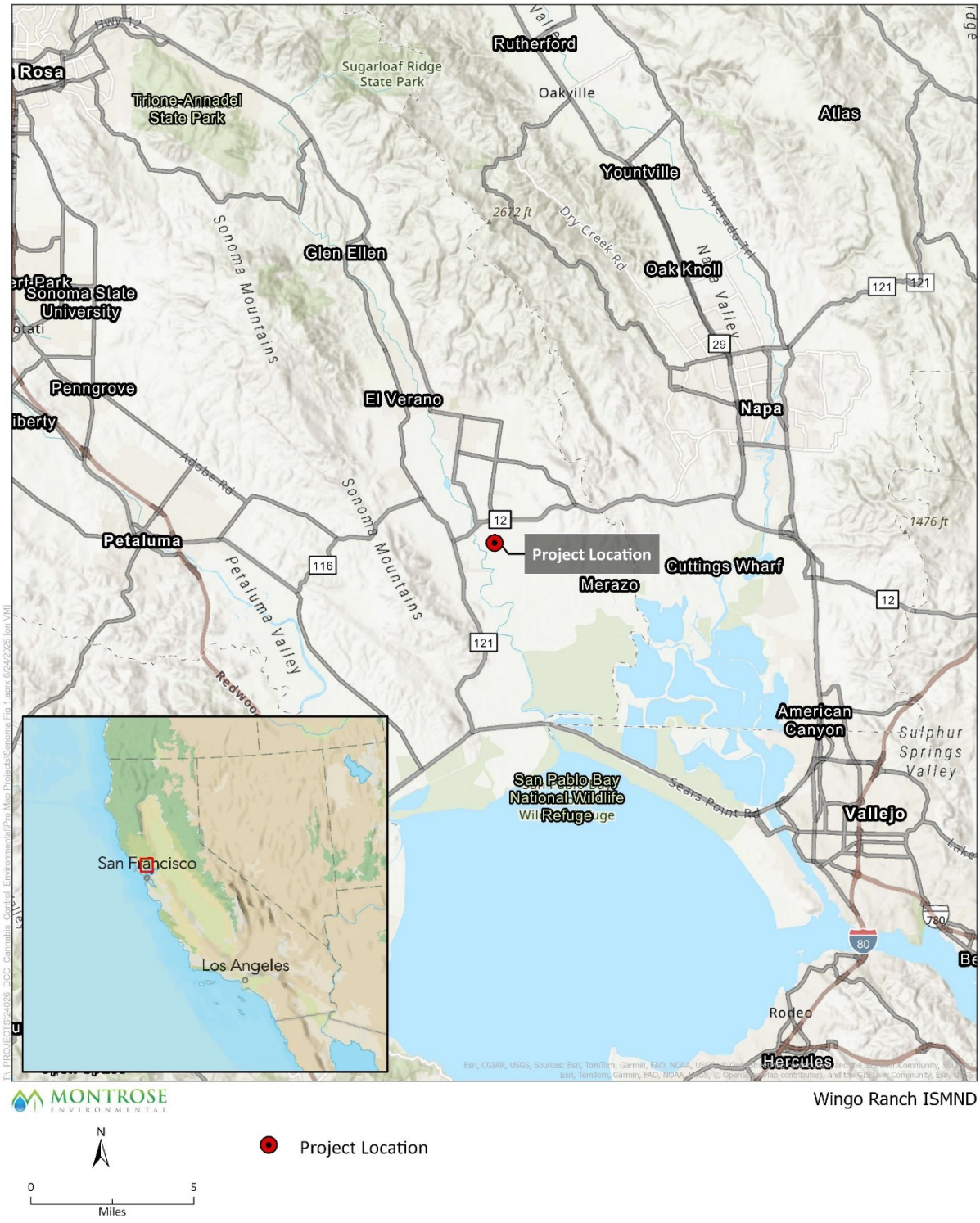


Figure 2.1-1
Regional Location



Figure 2.1-2
2021 Baseline Condition (Aerial View)

2.2 Proposed Project Purpose and Objectives

The Proposed Project is a commercial cannabis cultivation business made up of two outdoor cultivation areas located on two adjoining parcels, each measuring 1.25 acres.

Specific project objectives are as follows:

- Develop the Proposed Project area into a commercial cannabis cultivation facility;
- Establish a facility that meets all state and local requirements for commercial cannabis cultivation and business activities, including security and environmental standards required by the State of California, including issuance of one or more annual cultivation licenses;
- Develop a facility that meets all local laws, regulations, and ordinances that may apply to site development and building standards (e.g., building codes, local ordinances); and
- Build a facility that provides employment for a maximum of three full-time employees and a maximum of three additional employees employed onsite during the annual harvest period.

2.3 Proposed Project Location and Setting

The Proposed Project site is located on two adjoining parcels in unincorporated Sonoma County at 1495 Fremont Drive. The APN numbers of the parcels are: 128-444-002 and 128-471-006. The Proposed Project is approximately 3.5 miles south of the City of Sonoma and 18 miles southwest of the City of Santa Rosa. The site is approximately 100 feet west of the intersection of 8th Street East and Fremont Drive (also referred to as State Highway 121/12).

The commercial cannabis cultivation areas on this project site are located within two different watersheds. APN 128-444-002 is in the Schell Creek-Frontal San Pablo Bay Estuaries (HUC 12-180500020502) and APN 128-471-006 straddles the San Pablo Bay Estuaries and the Schell Creek-Frontal San Pablo Bay Estuaries. Both watersheds drain to the San Pablo Bay by Schell Creek which turns into the Schell Slough. Schell Slough in turn becomes Steamboat Slough which joins several other sloughs before eventually draining into the San Pablo Bay at Sears Point Road. (Hurvitz Environmental Services 2022.)

The topography of the site is flat with a maximum elevation of 17 feet along the northeast corner of the parcel near the entrance, and a minimum elevation of 10 feet above sea level in the southwest corner of the parcel. (Pinecrest Environmental Consulting 2021.)

Most of the parcel is within County-designated Valley Oak Habitat, although there is no County-designated biotic habitat on the parcel. There are County-designated riparian corridors and several jurisdictional watercourses and wetlands onsite. The parcel is in the Napa-Sonoma Valley high priority groundwater basin as designated by the California Department of Water Resources (DWR).

The parcel consists almost entirely of annually seeded and cut hayfields. The furthest east portion of the site contains a partially covered stock feed yard. Due to the high intensity hay production, in the remainder of the site there is very little living plant or animal life. Between the hayfield and the stock yard is a narrow swale and potential wetland feature that drains the central portion of the site towards a culvert that passes beneath CA-12 and into a settling basin on the adjacent parcel. Although there are vernal pools in the vicinity, the soils onsite are well-drained and have been continuously disked, seeded, and cut for hay production for many years and there is no remaining topographic relief and no native vegetation present in the center of the cultivation area. Overall,

the Study Area consists of approximately 75% seeded and cut hayfield, 20% developed area including stock yards, and 5% wetland or drainage swale.

The predominant land use at the time of the March 2021 baseline was cattle grazing and hay production. The project site includes single-family residences, numerous outbuildings and stockyard structures, all of which are associated with the landowner's existing agricultural operation.

There are no watercourses or riparian habitats within 150-feet of the project footprint. There is one location at the Proposed Project site that may qualify as jurisdictional wetlands. The potential wetlands are a minimum of approximately 180 feet from the project area. There is a drainage swale with some vegetation with wetland characteristics present, between the hayfield and the stock yard. This area alternates between upland swale and potential wetland and drains to the north, before being conveyed beneath CA-12 via concrete culvert/bridge and passing into a drainage basin offsite to the north. (Wingo Ranch 2025.)

The General Plan designation and zoning for both parcels comprising the project site is Land Extensive Agriculture (LEA). The proposed use is consistent with the General Plan and Zoning Ordinance. The parcels do not have a Williamson Act contract. (Hurvitz Environmental Services 2022.)

The area surrounding the project site is located within unincorporated Sonoma County and is rural, with a mixture of agricultural and light industry. The surrounding parcels are zoned Diverse Agriculture (DA), Land Extensive Agriculture (LEA), Land Intensive Agriculture (LIA), Agriculture and Residential (AR), Limited Rural Industrial (M3), Limited Commercial (LC), and Public Facilities (PF).

The nearest existing commercial uses open to the public are Larson Family Winery, approximately 2,300 feet southwest of the project site, Kivelstadt Cellars, approximately 2,250 feet west of the site, Ceja Vineyards Winery, approximately 3,000 feet east of the site, and Valley of the Moon Trap Club approximately 3,300 feet east of the site. There is a vacant 250,000 square-foot warehouse approximately 1,030 feet directly north of the site, and a Sonoma County waste treatment facility exists approximately 3,000 feet to the north.

2.4 General Description of Regulated Commercial Cannabis Cultivation Processes and Cannabis Business Activities

This section provides an overview of the types of activities typically associated with commercial cannabis cultivation processes and business activities. DCC issues licenses to outdoor, indoor, and mixed-light cannabis cultivators; cannabis nurseries; and cannabis processing, manufacturing, and distribution facilities, where the local jurisdiction authorizes these activities. (Bus. & Prof. Code, § 26012(a).) The Applicant would be required to obtain one or more licenses from DCC to operate the Proposed Project, as identified below.

The environmental impact evaluation in Chapter 3, *Environmental Checklist*, of this IS/ND addresses these activities as they apply to the Proposed Project, unless otherwise indicated.

2.4.1 Overview of Commercial Cultivation Operations

Commercial cannabis cultivation begins with the selection and planting of cannabis cuttings or seeds. The cuttings or seeds are typically planted in pots with either a growing medium, soil, or an inert material used in hydroponic cultivation methods. Cuttings are preferred over seeds when the cultivator wishes to guarantee the genetics of a plant and ensure the consistency of the cannabis product.

After the plants have developed their first leaves and a root system that extends through the bottom of the growth medium, the cannabis plants are transplanted or repotted to larger pots, where they continue to grow in a vegetative stage (i.e., the period of growth between germination and flowering during which the plant has no observable flowers or buds). During this stage, the plants are given water and nutrients (through compost teas, which are created by steeping compost material in water, or other amendments) and exposed to natural and/or artificial light to maintain the vegetative stage (18 hours of daylight and 6 hours of darkness). Other climate conditions (e.g., temperature, humidity, airflow) are often controlled to meet the plant's growth needs. In addition, once the plants have a healthy root system, older leaves (identified by their pale green or yellow coloring) can be selectively removed (pruned) from the plants to improve airflow, decrease shading, increase light penetration, and allow plants to focus valuable energy on new leaves (rather than on the removed older leaves).

Pest monitoring and, if necessary, pest management activities occur throughout the cultivation period. DCC regulates the types of pesticides, rodenticides, and herbicides that may be applied to cannabis plants in the cultivation process and regulates the methods by which these chemicals are used.

Once plants reach a desirable size, they are transitioned to the flowering phase, either as a result of natural changes in the period of light (photoperiod) for outdoor cultivation or by altering the light pattern so that the plants are exposed to 12 hours of light and 12 hours of darkness for indoor or Small Outdoor cultivation. In approximately 6-14 weeks, the flowers will ripen and be ready for harvesting.

Harvesting is the next step in producing the raw cannabis material and occurs when most of the plant's trichomes3 have changed from clear to either a light amber or cloudy white color. The primary portion of the plant that is harvested is the cannabis flowers, which are generally located at the top of the plant. Flowers are removed using a sharp pair of pruners. Since flowers at the top of the plant may be riper than those lower on the plant, harvesting of the top flowers may precede harvesting of the lower flowers.

Once cannabis plants are harvested, they go through a series of processing steps to become cannabis products. Processing operations may consist of trimming, drying, curing, labeling, and packaging of cannabis, as described in Section 2.4.2 below.

More information is provided below about the various types of cultivation processes.

2.4.1.1 Outdoor Cultivation

Outdoor cannabis cultivation is conducted without the use of artificial lighting for plant growth, with the exception that artificial lighting is permissible to maintain immature plants as a source for plant propagation. Cannabis can be grown outdoors in fabric pots, grow bags, planters, or raised beds; directly in the ground (natural soils); and in greenhouses. Cannabis strains typically used for outdoor cannabis cultivation operations are bred to require less time to reach the flowering stage (How to Marijuana 2016). Cannabis plants grown outdoors may grow to be much taller (15 feet or more) compared to those grown in mixed-light or indoor environments because indoor cultivators can control plant height by topping or training the plants and controlling the height at which the plant will flower.

[3] Trichomes are small resin glands protruding from the buds, leaves, and other areas on the plant. This is the only part of the plant that produces the cannabinoids (i.e., the chemical compounds in cannabis that affect neurotransmitters in the brain). There are multiple types of trichomes on a cannabis plant.

Outdoor cannabis cultivation typically involves planting rooted cannabis cuttings or seeds in the early spring and harvesting the plants in the fall (mid-September through November), after the plants flower. Soils used in the pots or grow bags are typically amended to ensure that nutrients are available to the plants throughout the growing season. Compost teas may also be used to fulfill nutrient needs (Ingham 2014). Water and nutrient supplement needs for outdoor cultivation may vary depending on the type of growing container selected. For example, raised beds typically require more watering and additional liquid nutrient application compared to other growing container options.

Immature plant propagation

Cultivators that produce immature plants onsite (rather than sourcing plants from a licensed nursery) maintain plants in their vegetative stage, the period of growth between germination and flowering during which the plant has no observable flowers or buds. During this stage, plants focus on photosynthesis and accumulating resources that will be needed for flowering and reproduction. While some cultivators propagate from seed, most create clones by taking cuttings from "mother plants." The immature plant propagation process generally involves the following steps:

- **Preparing cutting materials and growth medium** includes sterilizing the tools that are used to remove the cuttings (e.g., razor or sharp scissors) to reduce the possibility of fungi, viruses, or diseases affecting the cuttings, and presoaking the growing medium in pH-balanced water.
- **Taking cuttings from the mother plant** involves selecting branch tips that have at least three nodes (areas where the leaves come out of an individual stem), cutting off one or two leaves at the nodes (farthest from the branch tip), and making a cut at an approximately 45-degree angle (approximately 0.25 inch below the last node). Branch tips selected typically range from 2 to 6 inches in length.
- **Treating and planting the cuttings** may involve applying a rooting product (gel or powder) to the tip of the cutting to stimulate root growth. The cutting is then gently placed in the growth medium (typically rockwool cubes, but possibly other media such as a mix of perlite and peat moss), and multiple cuttings are placed in a plastic tray. Some cultivators may use a layer of perlite between the tray and the growing medium to allow space for roots to grow once they emerge from the growth medium. Metal shelving units can be used to hold multiple trays at one time
- **Growing the cuttings until roots are well established** involves daily adjustments to lighting, temperature, and moisture. Once all cuttings and their growth medium have been placed on a tray, the cuttings and (when used) the inside of a humidity dome are misted with water and the humidity dome is placed over the tray. To ensure ideal climate conditions for the cuttings, they are kept at a temperature range of approximately 72-80 degrees Fahrenheit (°F) and remain covered, apart from removing the humidity dome temporarily two to three times each day to mist the cuttings and allow fresh air under the dome. The cuttings are watered to prevent the growth medium from drying out. For faster root development, heating pads can be placed underneath the trays, as long as the temperatures are maintained in the ideal range. The cuttings are typically exposed to bright, but not intense, light for approximately 18-24 hours per day. Fluorescent lighting can be placed within a few inches of the cannabis plants, or more intense lighting can be used if placed farther away from the plants (2-6 feet, depending on bulb wattage).
- **Preparing the rooted cuttings for transport and distribution** is the final step in the cultivation process. Once the cuttings have established roots, a quality assurance/quality control check is completed to verify the health of the plant, check for the presence of established roots, and inspect for pests.

Immature plant propagation activities have similar equipment, nutrient/resource, lighting, and air ventilation/ circulation needs as the other cultivation methods.

2.4.2 State Cannabis Regulations

DCC is responsible for the licensing, regulation, and enforcement of commercial cannabis business activities, as defined in the Medicinal and Adult Use Cannabis Regulation and Safety Act (MAUCRSA) and DCC's implementing regulations. (Bus. & Prof. Code, § 26012, subd. (a).) DCC has jurisdiction over the issuance of licenses to cultivate, propagate, and process commercial cannabis in California. DCC issues licenses to outdoor, indoor, and mixed-light commercial cannabis cultivators; nurseries; processing; manufacturing; and distribution facilities, where the local jurisdiction authorizes these activities. (Bus. & Prof. Code, § 26012, subd. (a).) All commercial cannabis businesses within California require a license from DCC for each associated type of business activity.[4]

The State Water Resources Control Board (SWRCB) Order WQ 2023-0102-DWQ, General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (Attachment A, Section 1, "General Requirements and Prohibitions"), includes several requirements for state-licensed cultivation sites. These provisions include best management practices for cultivation businesses related to the protection of water quality.

The California Department of Pesticide Regulation (DPR) oversees state pesticide laws, including pesticide labeling, and is vested by EPA to enforce federal pesticide laws in California. DPR also oversees the activities of the county agricultural commissioners related to enforcement of pesticide regulations and related environmental laws and regulations locally. These regulations include permitting requirements and limitations on the use of "restricted" pesticides (pesticides considered to be dangerous to human health or the environment if not used correctly) and non-restricted pesticides that may require permitting or must be handled consistent with the pesticide's specifications. Pesticides legal for use on commercial cannabis must have active ingredients that are exempt from residue tolerance requirements and are either exempt from registration requirements or registered for a use that is broad enough to include use on cannabis. (CDPR 2021)

2.4.3 Local Cannabis Ordinances and Regulations

On December 20, 2016, Sonoma County adopted the Personal Use and Medical Cannabis Use Ordinance. The ordinance allowed ministerial approval of zoning permits for commercial medicinal outdoor cultivation projects measuring up to 10,000 square feet of cultivation area in agricultural zones. It further allowed a property owner to sublease to multiple small-scale operators with ministerial permits if requirements regarding minimum lot size and total area were not exceeded. It also allowed a single entity to obtain multiple cultivation permits so long as the total did not exceed one acre.

Subsequently, the Sonoma County Board of Supervisors adopted additional ordinance amendments addressing commercial cannabis cultivation activities. On October 16, 2018, the Board of Supervisors adopted Ordinance number 6245, amending Chapter 26 to allow commercial adult use cannabis in Sonoma County in addition to medical use, enhance neighborhood compatibility with a 10-acre minimum parcel size for cultivation, add new

[4] For more information pertaining to commercial cannabis business license requirements, including DCC regulations, please visit: https://cannabis.ca.gov/cannabis-laws/dcc-regulations/.

definitions, and make minor non-substantive amendments to align with California state law and regulations, where appropriate.

On September 21, 2021, the Board adopted Ordinance No. 6354 to establish a temporary (45-day) moratorium on multi-tenant cannabis cultivation permits. On September 28, 2021, the Board received a report summarizing results of community engagement conducted in August and early September 2021, which included a request that the Board adopt a Resolution of Intention and Cannabis Program Update Framework to direct and guide staff in preparation of a draft ordinance, potential General Plan Amendments, and a Programmatic Environmental Impact Report (PEIR) to amend the Cannabis Land Use Ordinance and related regulations. Preparation of the PEIR is ongoing.

On October 26, 2021, the Board adopted Ordinance No. 6356 to extend Ordinance No. 6354 and amend the cannabis ordinance to prohibit large-scale multi-tenant cannabis cultivation permits, so that multiple zoning permits may only be issued on a single parcel if the aggregate cultivation area does not require a use permit.

The ordinance requires a biotic assessment for all cannabis cultivation projects at the time of application (Sonoma County Code, § 26-88-254(f)(11)). It also requires that all operations in a historic district undergo review by the landmarks commission, unless exempt, and that all operations involving ground disturbance must complete a cultural resources survey which is referred to the Northwest Information Center and local tribes (Sonoma County Code, § 26-88-254(f)(14)). Finally, the ordinance also requires cultivators to demonstrate that the water source for the project is adequate to meet all uses on a sustainable basis. (Sonoma County Code § 26-88-254(g)(10)).

Refer to each resource section in Chapter 3, *Environmental Checklist*, for the local laws, regulations, and policies pertaining to specific environmental resources.

2.4.4 Site Specific Approval

The Proposed Project site is zoned Land Extensive Agriculture (LEA). Pursuant to Section 26-06-020(B)(2) of the Sonoma County Zoning Ordinance, commercial cannabis distribution, and cultivation or nursery activities (small outdoor or indoor) are permitted, subject to the approval of a Zoning Permit per Sections 26-88-250; 26-88-254. Sonoma County ministerially approved the Proposed Project using Zoning Permits and County Agricultural Permits, on the dates shown in Table 2.1-1**.**

2.5 Proposed Project Characteristics

This section describes the facilities and construction activities that would occur with the Proposed Project.

2.5.1 Proposed Project Facilities

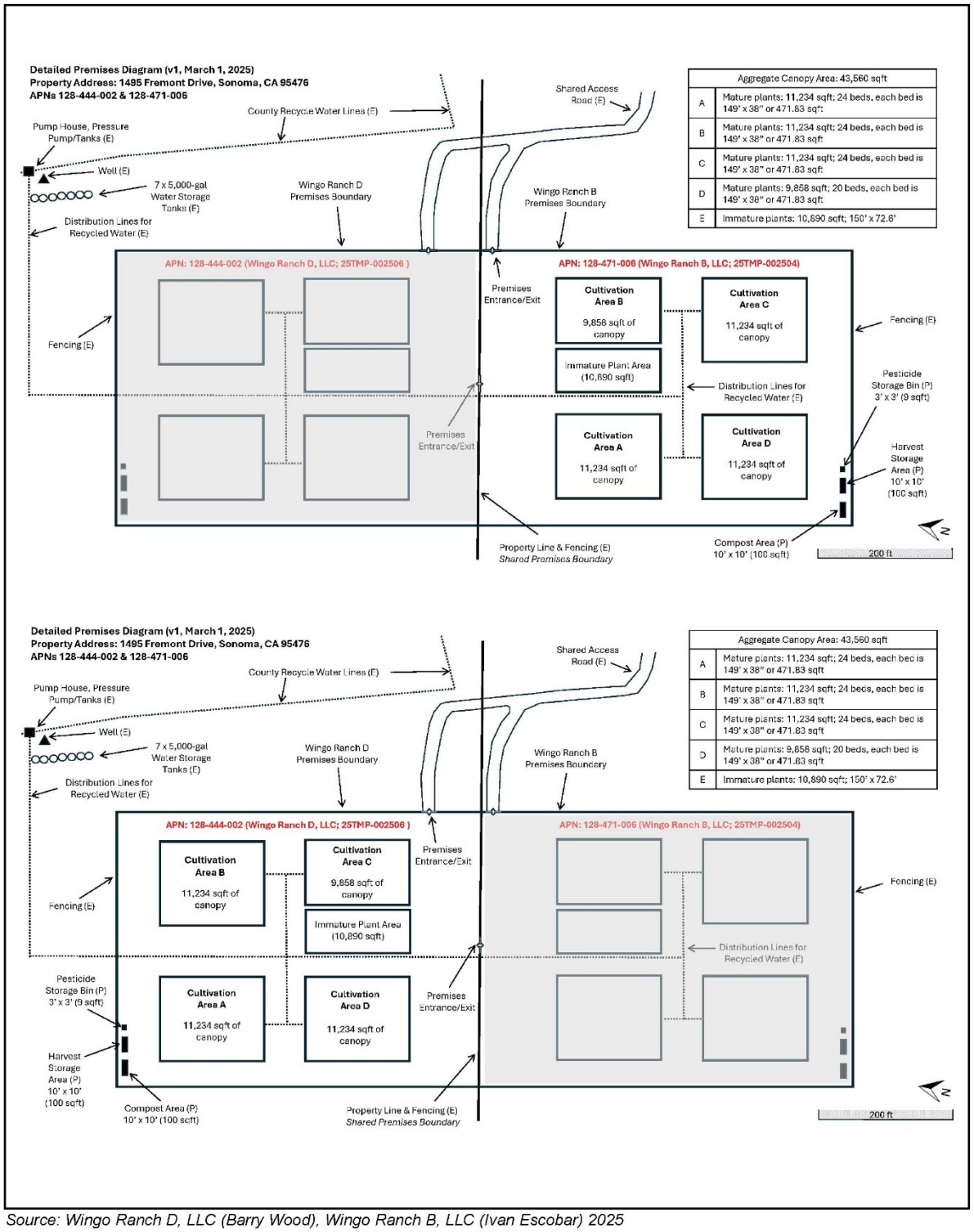
The Proposed Project is an outdoor commercial cannabis cultivation business, including two outdoor plots for cannabis cultivation, each measuring approximately one acre. The commercial cannabis cultivation operations would entail immature plants being transferred from a licensed cannabis facility (e.g., nursery, retail store, etc.) to the commercial cannabis cultivation sites and planted in the designated canopy areas, either directly in the ground or in growing pots placed on the ground surface. Harvested plants will be immediately transferred offsite to a licensed cannabis facility for further processing (e.g., drying, trimming, packaging, etc.). None of the existing structures will be used to support onsite commercial cannabis activities, and no construction activities or site modifications such as grading, new roads, vegetation removal, and new drainage systems are proposed for this

project. Existing agricultural uses (cattle grazing, hay production, etc.) will continue to operate independently from the commercial cannabis operation at the two parcels.

Figure 2.5-1 provides an aerial depiction of the project site. **Figure 2.5-2** illustrates the site plan of the Proposed Project's two commercial cannabis cultivation plots.



Figure 2.5-1
Proposed Project Site (Aerial View)



Source: Wingo Ranch D, LLC (Barry Wood), Wingo Ranch B, LLC (Ivan Escobar) 2025

Figure 2.5-2
Proposed Project Site Plan (Detail)

The Proposed Project site is located on two adjoining parcels. A summary of the relevant features for each parcel follows:

APN 128-444-002 (Wingo Ranch D)

The parcel has a total area of 45.72 acres. Within this acreage, the Proposed Project footprint would be a total of 5 acres situated in the southern portion of the parcel. The project footprint includes the commercial cannabis cultivation area, immature plant area, access roads, parking, compost area, and common area for portable toilets, and trash and recycle bins. Currently, the mature canopy area measures 40,000 square feet. At full buildout, the commercial cannabis cultivation area, including immature and mature canopy area, would consist of 1.25-acres. Project construction has already been mostly completed and is fully operational; however, the mature canopy area is likely to expand in the future from 40,000 square feet to 43,560 square feet with an additional 10,890 square feet utilized for immature plants. Therefore, the total cultivation area would be 1.25 acres.

In addition to the Proposed Project, the property contains three single-family residences, a 3,000-square-foot barn, and numerous outbuildings and stockyard structures, all associated with the landowner's existing agricultural operation. The existing structures and operations would not be part of the Proposed Project.

APN 128-471-006 (Wingo Ranch B)

The parcel has a total area of 320.57 acres. Within this acreage, the Proposed Project footprint would be a total of 5 acres, situated in the northern portion of the parcel. The project footprint includes the commercial cannabis cultivation area, immature plant area, access roads, parking, compost area, and common area for portable toilets, and trash and recycle bins. Currently, the commercial cannabis cultivation area measures 40,000 square feet. Project construction has already been mostly completed and is fully operational; however, the mature canopy area is likely to expand in the future from 40,000 square feet to 43,560 square feet with an additional 10,890 square feet utilized for immature plants. Therefore, the total cultivation area would be 1.25 acres.

In addition to the Proposed Project, the property is undeveloped except for one stockyard structure in the northeast corner that supports the landowner's existing agricultural operation. The existing structure and operations would not be part of the Proposed Project.

2.5.2 Proposed Project Site Development

2.5.2.1 Utilities

The Proposed Project would require access to the following utilities. **Table 2.5-1** lists anticipated utility service agencies that would serve the Proposed Project, as required.

Table 2.5-1. Local Utility Agencies Serving the Proposed Project Area

Utility Service	Utility Agency
Water Supply	Recycled water system operated by Sonoma County Water Agency and/or from wells onsite. Water for employee consumption will be brought in from off site.
Sanitary Sewer	None. On-site portable toilets
Electrical Service	PG&E
Natural Gas Service	Not Applicable
Fire Protection Service	Schell Vista Fire Protection District
Police Protection Service	Sonoma County Sheriff's Office

Electrical Power

The commercial cannabis cultivation site will be entirely outdoors; however, grid power is required to operate a water pump. The project site will be equipped with solar and/or battery-powered motion-sensor security lights and cameras. It will not require additional energy resources. Generators would not be used.

Water Supply System and Use

The Applicants have consolidated their canopy areas under a single-use permit. This allows them the option to add 3,560 square feet of canopy area, bringing them closer to the one-acre limit. However, they do not plan to expand the area covered by the use permit, which means there will be no significant increase in onsite water usage.

The landowner has an agreement to receive recycled water from the Sonoma Valley County Sanitation District (SVCSD), which is operated by the Sonoma County Water Agency. This Recycled Water Use Agreement allows for the irrigation of 300 acres of farmland, including 212 acres of pasture, 10 acres of greenhouse space, and 78 acres of vineyard. In July 2024, the agreement was amended to permit the allocation of up to 30 acre-feet of recycled water per calendar year for a five-year period specifically for commercial cannabis cultivation. The operator anticipates using about 1.5 acre-feet of recycled water annually for irrigation. Recycled water is the sole water source for the cannabis operation, and there are seven 5,000-gallon water storage tanks on site. (Wingo Ranch 2025.)

Irrigation Runoff

The Proposed Project would use hand and/or drip irrigation to ensure that no water is lost to throughflow and wasted, and that only a minimal amount of water is lost due to evaporation and leaching. The project may also use water conservation practices such as mulching, soil moisture meters, weather monitoring, etc. to minimize discharge of irrigation water nutrients. The Proposed Project would use BMPs to provide dust control and prevent discharges from dust control activities and water supply equipment such as mulch, water application, and hydroseeding. The project expects zero runoff as a result of irrigation runoff. (Hurvitz Environmental Services 2022.)

Sewer System

No wastewater treatment facilities are proposed, and none are necessary. Two portable toilets with handwashing stations will be provided and cleaned on a weekly basis.

Telecommunications

The Proposed Project does not require communications infrastructure or improvements to communications infrastructure.

2.5.2.2 Stormwater Drainage

No new drainage systems are proposed for the Proposed Project. It would not add any new impervious surfaces.

The commercial cannabis cultivation areas on both parcels are flat with less than 5 percent grade and therefore, the Proposed Project areas will require minimal sediment controls and employment of Best Management Practices (BMPs). Sediment controls are structural measures that are intended to complement and enhance the selected erosion control measures and reduce sediment discharges from active construction areas. Sediment

controls are designed to intercept and settle out soil particles that have been detached and transported by the force of water. The BMPs for this project would include loose straw distributed in downslope areas to avoid fugitive dust and rain-mediated sediment transport to near-site creeks and streams. Straw wattles could also be placed on the downslopes of graded areas during site development procedures, the Proposed Project will additionally incorporate sediment control measures as needed including but not limited to common sediment management techniques such as silt fencing, sediment traps, fiber rolls, gravel bag berms, sandbag barriers, and straw bales, as appropriate. (Wingo Ranch 2022; Hurvitz Environmental Services 2022.)

2.5.2.3 Site Access and Circulation

Access to the proposed commercial cannabis production site is from an existing private driveway off Fremont Drive/State Highway 121/12. The private driveway connects numerous existing farm roads used and maintained by the landowner to support the ongoing non-cannabis agricultural activities (e.g., cattle grazing, hay production, etc.) across the two parcels. None of the access roads cross any watercourses or riparian areas. There is an existing parking area within the project site. The parking area is not paved, and there are no plans to pave it in the future.

2.5.2.4 Other Site Elements

The following site elements of the Proposed Project would support its operations.

Staffing and Hours of Operation

The Proposed Project would involve a maximum of two full-time employees and a maximum of four additional employees who would be employed onsite during the annual harvest period.

The project site would operate from March to November (maximum 274 days per year). Outdoor commercial cannabis cultivation activities will take place 6 to 7 days a week during the planting season (April-May) and harvest season (October-November), and 5 to 6 days per week during the growing season. All commercial cannabis cultivation activities will be carried out during one shift, which will be limited to daylight hours, typically between 7:00 a.m. and 7:00 p.m.

The Proposed Project anticipates six vehicle trips per day (average daily trips) per day to the site during the planting and grow seasons, and up to 18 vehicle trips (average daily trips) per day when harvest activities are occurring. Average daily trips are based on Sonoma County's Trip Generation Guidelines. Employees will ride share when possible to minimize vehicle traffic to and from the site.

Deliveries

The Proposed Project would have one truck trip to the site during the planting season when immature plants are delivered to the site, and six truck trips during the harvest season when plants are transferred offsite for processing. The project would have one truck trip per month to the site during the grow season to deliver supplies. Deliveries and shipments would be limited to the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday.

Solid Waste

Non-cannabis waste bins and containers will be stored in receptacles located on each of the two parcels. The trash receptacles would be provided and maintained by the operators. The operators would be responsible for keeping the site area clean of debris as well as appropriately segregated for recycling. Other areas designated for cannabis waste and other organic material will be contained in secure compost areas. Both the non-cannabis waste bins

and compost receptacles will be demarcated for temporary storage prior to disposal at an approved waste management site. (Hurvitz Environmental Services 2022.)

The Applicant would ensure all garbage and refuse on the site is stored in non-absorbent, water-tight, vector resistant, durable, easily cleanable, galvanized metal or heavy plastic containers with tight fitting lids. No refuse container would be filled beyond the capacity to completely close the lid.

The Proposed Project anticipates generating less than three cubic yards of solid waste annually. Solid waste would not be stored for more than seven calendar days and will be properly disposed of at a County transfer station or County landfill before the end of the seventh day. Soil would be delivered to the site as needed. Used soil would be composted along with cannabis green waste and re-used in the operation. Cannabis green waste would be ground up in a small woodchipper and mixed with soil and/or mulch prior to composting.

Hazardous Materials and Storage

This Proposed Project does not intend to permanently store hazardous materials onsite. If the operator must bring flammable materials such as gasoline onto the site to support operations, the operator will remove the materials from the site at the end of the working day. While onsite, all flammable materials will be property stored in labeled containers, will comply with the riparian setback requirements, be in a location in compliance with label instructions, and be protected from accidental ignition, weather, and wildlife. All hazardous materials will be placed is appropriate secondary containment vessels, as necessary, to protect water quality and prevent spillage, mixing, discharge, or seepage. Storage containers will be of suitable material and construction to be compatible with the substances stored and conditions of storage, such as pressure and temperature.

Organic farming and integrated pest management are considered Best Practicable Treatments and Controls and would be used for this commercial cannabis cultivation operation as much as possible. Weed control using mechanical control methods (mulching, weed mats, hand pulling or hoeing or line trimming of weeds) would be used. It is the policy of the Applicant to use only organic-certified pesticides or herbicides. Organic pesticides will be used at this site, as needed. (Hurvitz Environmental Services 2022). The following chemicals may be used on site: 30% Chromo bacterium substage strain PRAA4-1 and spent fermentation media; 94.46% Heat-killed Burkholderia spp, strain A396 cells and spent fermentation media; 90% Cocodiethanolamide; Hydrophobic Extract of Neem Oil; 6% Azadirachtin; and Trichoderma asperellum and Trichoderma gamsii.

Prior to applying fertilizers, the operator will evaluate and test the irrigation water, grow media and plant tissue to determine the appropriate products and quantities that are needed to optimize plant growth and avoid over fertilization. The operator will apply fertilizers below label rates in conjunction with variables received from prior testing and will not apply fertilizers in a way that will result in runoff that may contaminate ground or surface water. Fertilizers will not be mixed, prepared, over applied, or disposed of in any location where they could enter the riparian setback or waters of the state. Disposal of unused product and containers shall be consistent with labels. During a typical growing season, the following nutrients and fertilizers may be used onsite: Biodynamic Compost; Mykos Granular; Tappin Roots Grow (6-1.5-1.4); Tappin Roots Bloom Liquid (0-3-1.3); Tappin Roots All Stages (0.01-0-0.01); Tappin Roots Sea Nectar (0-0-20); Tappin Roots Magnesium (0-0-0).

All hazardous materials will be placed is appropriate secondary containment vessels, as necessary, to protect water quality and prevent spillage, mixing, discharge, or seepage. Storage containers will be of suitable material

and construction to be compatible with the substances stored and conditions of storage, such as pressure and temperature. The Applicant will implement the following spill and leak prevention and response measures:

- Establish procedures and/or controls to minimize spills and leaks.
- Develop and implement spill and leak response procedures to prevent industrial materials from discharging through the stormwater conveyance system. Spilled or leaked industrial materials will be cleaned promptly and disposed of properly.
- Identify and describe all necessary and appropriate spill and leak response equipment, location(s) of spill and leak response equipment, and spill or leak response equipment maintenance procedures.
- Identify and train appropriate spill and leak response personnel.

2.5.2.5 Ancillary Improvements

Fencing

The perimeter of the Proposed Project area would be surrounded with a six feet high wire mesh fence. A secure, passcode-protected gate at the entrance to the site would prevent unauthorized entry into the facility.

Security Lighting

The project site would be equipped with solar and/or battery powered motion-sensor security lights and cameras. Applicant will ensure security lights are motion-sensor lights, fully shielded and installed downward casting, and located at the lowest possible point to the ground to prevent spill over onto other properties or the night sky. A Lighting Plan and Site Security Plan have been prepared for the Proposed Project.

Security Cameras

Applicant proposes to install multiple security cameras at the project site that would meet the standards required by local and state regulations. Security cameras would be mounted around the perimeter of the facility to monitor all activity in and around the facility, prevent unauthorized entry into the facility, and deter potential criminal activity. The project site will be equipped with solar and/or battery powered motion-sensor security lights and cameras.

2.6 Construction Activities

2.6.1 Construction Methods

The site was previously used for hay production and grazing. There would be no construction of new buildings or structures or modification of existing buildings or structures for the Proposed Project. No construction activities or site modifications such as grading, new roads, vegetation removal, and new drainage systems are proposed for this project. There would be no demolition of existing structures on the project site. The project would require no additional clearing, tree removal, or demolition of structures.

2.7 Permits and Approvals

CEQA defines a responsible agency as “a public agency, other than the lead agency, which has responsibility for carrying out or approving a project” (Pub. Resources Code, § 21069). A trustee agency is “a state agency that has jurisdiction by law over natural resources affected by a project, that are held in trust for the people of the State of California” (Pub. Resources Code, § 21070). For the Proposed Project, the California Department of Fish and

Wildlife, Bay Delta Region, is considered a trustee agency. Responsible agencies for the Proposed Project are San Francisco Bay Regional Water Quality Control Board, Bay Area Air Quality Management Control District, California Department of Transportation (Caltrans), and Sonoma County.

The Proposed Project would require permits and/or approvals from various state and local regulatory agencies. The permits and regulatory compliance requirements for the Proposed Project are described in **Table 2.7-1**.

Table 2.7-1. Applicable Permit and Regulatory Requirements

Regulatory Agency	Law/Regulation	Purpose	Permit/Authorization Type
California Department of Cannabis Control	Medical and Adult-Use Cannabis Regulation and Safety Act (MAUCRSA)	State licensing of commercial cannabis cultivation, distribution, transportation, and manufacturing	Commercial Cannabis License(s)
Sonoma County	General Plan, zoning ordinance, development requirements	Establish requirements related to building, landscaping, and other construction- and design-related activities; establish sewer connections and drainage plans; establish water supply	Water Resource Monitoring, Use Permit

3 ENVIRONMENTAL CHECKLIST

This chapter of the Initial Study/Negative Declaration (IS/ND) assesses the environmental impacts of the Wingo Ranch, LLC. (Proposed Project) based on the environmental checklist provided in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The environmental resources and potential environmental impacts of the Proposed Project are described in the individual subsections below. Each section includes a discussion of the rationale used to determine the significance level of the Proposed Project's environmental impact for each checklist question.

1.	Project Title	Wingo Ranch, LLC.
2.	Lead Agency Name and Address	Department of Cannabis Control, 2920 Kilgore Road, Rancho Cordova, CA 95670
3.	Contact Person, Phone Number and Email	Kevin Ponce, Senior Environmental Scientist Supervisor, (916) 247-1659, kevin.ponce@cannabis.ca.gov
4.	Project Location and Assessor's parcel number (APN)	1495 Fremont Drive in unincorporated Sonoma County, California, 95476; APNs 128-444-002 and 128-471-003
5.	General Plan Designation	Land Extensive Agriculture (LEA)
6.	Zoning	Land Extensive Agriculture (LEA)
7.	Description of Project	The Proposed Project is an outdoor commercial cannabis cultivation business, including two outdoor plots for cultivation, each measuring approximately one acre. The cultivation operations would entail immature plants being transferred from a licensed cannabis facility (e.g., nursery, retail store, etc.) to the cultivation sites and planted in the designated canopy areas, either directly in the ground or in growing pots placed on the ground surface.
8.	Surrounding Land Uses and Setting	The area surrounding the project site is rural, with a mixture of agricultural and light industry. The surrounding parcels are zoned Diverse Agriculture (DA), Land Extensive Agriculture (LEA), Land Intensive Agriculture (LIA), Agriculture and Residential (AR), Limited Rural Industrial (M3), Limited Commercial (LC), and Public Facilities (PF).
9.	Other Public Agencies whose Approval or Input May Be Needed	Sonoma County

10. Native American Consultation

An email request was made to the Native American Heritage Commission (NAHC) on February 3, 2025, to review its files for the presence of recorded sacred sites on the project area. The NAHC responded on February 6, 2025. The results of the Sacred Lands database review were negative for any sacred sites within the project area.

On April 24 and May 1, 2025, letters were sent to the six tribal contacts provided by the NAHC. The letters requested any additional information regarding tribal resources and to notify DCC if they wished to initiate consultation regarding the project actions. A response was received from Lytton Rancheria, who stated that the Tribe is not requesting further consultation based on the information provided by DCC. In addition, DCC received a response from the Federated Indians of Graton Rancheria (FIGR) on June 5, 2025, requesting consultation regarding the Proposed Project. DCC sent responses to FIGR via e-mail on July 14, August 4, August 15, August 27, and September 8, 2025, and called FIGR on September 4, 2025, to provide additional information about the Proposed Project and schedule a consultation. Results of the consultation are described in the Tribal Cultural Resources section.

Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by the Proposed Project, as indicated by the checklist on the following pages.

- ☐ Aesthetics
- ☐ Agriculture and Forestry Resources
- ☐ Air Quality
- ☐ Biological Resources
- ☐ Cultural Resources
- ☐ Energy
- ☐ Geology/Soils
- ☐ Greenhouse Gas Emissions
- ☐ Hazards and Hazardous Materials
- ☐ Hydrology/Water Quality
- ☐ Land Use/Planning
- ☐ Mineral Resources
- ☐ Noise
- ☐ Population/Housing
- ☐ Public Services
- ☐ Recreation
- ☐ Transportation
- ☒ Tribal Cultural Resources
- ☐ Utilities/Service Systems
- ☐ Wildfire
- ☐ Mandatory Findings of Significance

Determination

The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. They are based on a review of sources of information cited in this document, and the comments received, conversations with knowledgeable individuals; the preparer's personal knowledge of the area; and, where necessary, a visit to the site.

On the basis of this 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 (EIR) 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.

Signature Kevin Ponce Digitally signed by Kevin Ponce Date: 2026.01.15 09:08:31 -08'00' _____ Date _January 15, 2026_____

Kevin Ponce
Senior Environmental Scientist Supervisor
Department of Cannabis Control

3.1 Aesthetics

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
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. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Regulatory Setting

3.1.1.1 Federal Laws, Regulations, and Policies

The Wild and Scenic Rivers Act

The Act provides federal protection for certain free-flowing, wild, scenic, and recreational rivers designated as components or potential components of the National Wild and Scenic Rivers System (NWSRS). NWSRS was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. § 1271 et seq., as amended) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection.

Each river or river segment in the NWSRS is administered with the goal of protecting and enhancing the values that caused it to be eligible for inclusion in the system. Designated rivers need not include the entire river and may include tributaries.

3.1.1.2 State Laws, Regulations, and Policies

California Scenic Highway Program

The Department of Transportation (Caltrans) manages the State Scenic Highway Program. California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment (Caltrans 2025). The State laws governing the Scenic Highway Program are found in the Streets and Highways Code, sections 260 through 263.

A highway may be designated as scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. Caltrans manages and maintains a listing of officially designated State Scenic Highways.

DCC Commercial Cannabis Business Regulations

DCC regulations implementing MAUCRSA include environmental protection measures requiring that all outdoor lighting be downward facing and shielded to minimize the visual effects of the presence of lighting (Cal. Code Regs., tit. 4, § 16304, subd. (a)(6)), and that lighting for mixed-light operations must be shielded between sunset and sunrise to minimize nighttime glare (Cal. Code Regs., tit. 4, § 16304, subd. (a)(7)).

3.1.1.3 Local Laws, Regulations, and Policies

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-254 (f)(6). Property Setbacks - Outdoor. Outdoor cultivation areas and all structures associated with the cultivation shall not be located in the front yard setback area and shall be screened from public view. Outdoor cultivation areas shall not be visible from a public right of way. Outdoor cultivation areas shall be setback a minimum of one hundred feet (100') from property lines and a minimum of three hundred feet (300') from residences and business structures on surrounding properties.

Outdoor cultivation sites shall be setback a minimum of one thousand feet (1,000') from a school providing education to K-12 grades, a public park, childcare centers, or an alcohol or drug treatment facility. The distance shall be measured in a straight line from the property line of the protected site to the closest property line of the parcel with the cannabis cultivation use. This park setback may be reduced with a use permit when it is determined that an actual physical equivalent separation exists due to topography, vegetation or slope, that no offsite impacts will occur, and that the cannabis operation is not accessible or visible from the park.

Sonoma County Code section 26-88-254 (f)(7). Property Setbacks - Indoor. All structures used for indoor cultivation shall comply with the setbacks for the base zone and any applicable combining zone. Structures associated with cultivation shall not be located in the front yard setback area and shall be screened from public view. There shall be no exterior evidence of cultivation either within or outside the structure.

Indoor cultivation within agricultural and resource zones shall be setback a minimum of six hundred feet (600') from a school providing education to K-12 grades. The distance shall be measured in a straight line from the property line of the protected site to the closest property line of the parcel with the cannabis cultivation use.

Sonoma County Code section 26-88-254(f)(8). Property Setbacks- Mixed Light. Mixed light structures shall be setback a minimum of one hundred feet (100') from property lines and a minimum of three hundred feet (300')

from residences and business structures on surrounding properties in agricultural and resource zones. Mixed Light structures in industrial zones shall be setback three hundred feet (300') from residences on surrounding properties.

Mixed light structures in all zones shall be setback a minimum of one thousand feet (1,000') from a school providing education to K-12 grades, a public park, childcare centers, or an alcohol or drug treatment facility. The distance shall be measured in a straight line from the property line of the protected site to the closest property line of the parcel with the cannabis cultivation use. This park setback may be reduced with a use permit when it is determined that an actual physical equivalent separation exists due to topography, vegetation or slope, that no offsite impacts will occur, and that the cannabis operation is not accessible or visible from the park.

Sonoma County Code section 26-88-254(f)(12). Conversion of Timberland. Cannabis cultivation activities, including associated structures, may only be located within a non-forested area that was in existence prior to December 20, 2016, and there shall be no tree removal or timber conversions to accommodate cultivation sites, unless a use permit is obtained.

Sonoma County Code section 26-88-254(f)(19). Lighting. All lighting shall be fully shielded, downward casting and not spill over onto structures, other properties or the night sky. All indoor and mixed light operations shall be fully contained so that little to no light escapes. Light shall not escape at a level that is visible from neighboring properties between sunset and sunrise.

Sonoma County Code section 26-64. SR Scenic Resources Combining District. Outlines the purpose and development criteria for the Scenic Resources Combining District. The purpose is to preserve the visual character and scenic resources of lands in the county and to implement the provisions of Sections 2.1, 2.2 and 2.3 of the General Plan Open Space and Resources Conservation Element. Article 64 provides specific provisions that impact development for scenic landscape units and scenic corridors within the county. Such requirements include that structures should be sited below ridgelines, be screened by vegetation, and that development should be clustered.

In addition, Article 64 outlines requirements regarding Community Separators. The Community Separators help to achieve the County's General Plan Land Use Element goal to maintain natural character and low intensities of development in open spaces between cities and communities.

3.1.2 Environmental Setting

3.1.2.1 Visual Character and Quality of the Site

The Proposed Project is located within unincorporated Sonoma County, in a low density rural residential area. The project area is visually defined by the low-density buildings, open fields, and flat topography with fields in the distance.

3.1.2.2 Light and Glare

Existing sources of light and glare within the project site and wider area include safety lighting, light spillage from windows and open doors, and light from vehicles. Sources of glare include reflections from glass and metal surfaces on buildings and vehicles in the area.

3.1.2.3 Scenic Highways and Corridors

The Proposed Project site is located approximately 2,000 feet from State Route 12 (SR-12)/ State Route 121 (SR-121) which is eligible for scenic designation (Caltrans 2018). The closest officially designated scenic highway is another segment of SR-12 located approximately 6.5 miles northwest of the project site (Caltrans 2018). Furthermore, Fremont Drive/SR-12/SR-121 has a buffer of approximately 180 feet on each side which is designated as "SR Scenic Resource" scenic corridor overlay by Sonoma County (Permit Sonoma 2025).

3.1.2.4 Viewer Groups and Viewer Sensitivity

The primary viewers of the site would be passing motorists, employees of neighboring agricultural developments, and local residents.

Due to proximity and duration of time spent in the area, it is expected that local residents would be most sensitive to changes to the viewshed, employees of neighboring businesses would be somewhat less sensitive, and when taking into consideration the speed of travel for passing motorists, and the distance of the main road from the project site, it is expected that they would be least sensitive to changes to the viewshed.

3.1.3 Discussion of Checklist Responses

a. Have substantial adverse effects on scenic vistas (Less than Significant Impact)

A scenic vista is generally considered a view of an area that has remarkable scenery or a natural or cultural resource that is indigenous to the area. Presently, there are no designated scenic vistas on or near the project site. However, the project site is approximately 2,000 feet from a highway which is eligible for scenic designation, and approximately 715 feet from a road with a scenic corridor overlay.

The Proposed Project would be visible from Fremont Drive due to the relatively close proximity in conjunction with the lack of vegetation and the flat topography. However, it would not fall within the scenic corridor buffer. It would also not be easily visible from either the eligible or designated scenic highways due to distance and vegetation.

Further, Sonoma County municipal code requires that all outdoor commercial cannabis cultivation sites should be screened with native, fire-resistant vegetation and fenced with locking gates (Sonoma County Code, § 26.88.254). The Proposed Project's compliance with local and state regulations would ensure that the Proposed Project would not be as visible from offsite, and would therefore not have a significant impact on local scenery. Therefore, impacts would be **less than significant**.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway (No Impact)

As discussed above, there is no officially designated California Scenic Highway in the vicinity of the Proposed Project. There is a segment of highway eligible for designation within 2,000 feet of the Proposed Project. However, given the distance, existing vegetation, and existing development, the Proposed Project site is unlikely to be visible from the eligible state scenic highway. Further, as parts of the Proposed Project site have previously been used for agricultural purposes, there are no potentially significant scenic resources at the site which would be impacted. Therefore, the Proposed Project would have **no impact** on scenic resources within a state scenic highway.

c. In non-urbanized areas, substantially degrade the existing visual character or quality of the site or surroundings (Less than Significant Impact)

The site is located in a rural residential area, approximately two miles south of the main urban area of the City of Sonoma. The project site is set back from public roads and rights of way so project buildings and operations would only be visible from public views at a distance. Further, Sonoma County municipal code requires that all outdoor commercial cannabis cultivation sites should be screened with native, fire-resistant vegetation and fenced with locking gates (Sonoma County Code, § 26.88.254). While the project site is in relatively close proximity to both an eligible state scenic highway and a scenic corridor, the distance and existing buildings in conjunction with the speed of travel will reduce potential visual impacts. The Proposed Project's location and compliance with local and state regulations would ensure that the Proposed Project would not be as visible from offsite and would therefore have a **less-than-significant** impact on local scenery.

d. Create new sources of substantial light or glare (Less than Significant Impact)

As described in Chapter 2, *Project Description*, construction associated with the Proposed Project is complete, and no additional clearing, tree removal, or demolition of structures is proposed. As discussed in Section 1.5, the analysis of construction impacts which have already been completed is mooted.

The Proposed Project would not utilize any grow lights for commercial cannabis cultivation activities. During operation, motion sensor lights would be used at both parcels around the fence line of the commercial cannabis cultivation site on each property. All lighting would be fully shielded, downward casting, located at the lowest possible point to the ground to prevent spill over onto other properties or the night sky. Existing onsite development and vegetation would help to screen the lights, and any glare generated by metal components on site. Therefore, impacts relating to light and glare would be **less than significant**.

3.2 Agriculture and Forestry Resources

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 Regulatory Setting

3.2.1.1 Federal Laws, Regulations, and Policies

No federal regulations are applicable to agricultural or forestry resources in relation to the Proposed Project.

3.2.1.2 State Laws, Regulations, and Policies

Farmland Mapping and Monitoring Program

The California Department of Conservation (DOC) established the Farmland Mapping and Monitoring Program (FMMP) in 1982 as a nonregulatory program to provide a consistent and impartial analysis of agricultural land use and land use changes throughout California. Creation of the FMMP was supported by the California State Legislature and a broad coalition of building, business, government, and conservation interests. The first Important Farmland maps, produced in 1984, covered 30.3 million acres in 38 counties. This is an ongoing data set; CDOC collects data every 2 years to assist in understanding changes in agricultural land in the state. Data now span more than 32 years and have expanded to 49.1 million acres as modern soil surveys have been completed

by the U.S. Department of Agriculture (USDA). The FMMP now maps agricultural and urban land use for nearly 98 percent of California's privately held land (DOC 2024a).

The FMMP has developed categorical definitions of Important Farmland that incorporate the land's suitability for agricultural production rather than solely relying on the physical and chemical characteristics of the soil. The FMMP includes data on the location of agricultural land, land use changes from agriculture to urban development, and soil quality. Land that is identified as Important Farmland is mapped as one of the following four categories (DOC 2024b):

- **Prime Farmland.** Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. These lands have the soil quality, growing season, and moisture supply needed to produce sustained high yields. Prime Farmland must have been used for irrigated agricultural production at some time during the 4 years before the FMMP's mapping date.
- **Farmland of Statewide Importance.** Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Farmland of Statewide Importance must have been used for irrigated agricultural production at some time during the 4 years before the FMMP's mapping date.
- **Unique Farmland.** Farmland of lesser quality soils used for the production of the state's leading agricultural crops. These lands usually are irrigated but may include nonirrigated orchards or vineyards as found in some climatic zones. Unique Farmland must have been cropped at some time during the 4 years before the FMMP's mapping date.
- **Farmland of Local Importance.** Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965, better known as the Williamson Act, is California's primary program to protect agricultural land. The Williamson Act discourages premature and unnecessary conversion of agricultural land to urban uses. The legislation benefits landowners by allowing them to enter into long-term contracts (10 or 20 years) with the State of California to keep agricultural land in production. In return, the State reduces property taxes based on a complex calculation tied to agricultural income. The State implements the Williamson Act when a city or county creates an agricultural preserve. The purpose of an agricultural preserve is the long-term conservation of agricultural and open space lands; the lands are restricted to agricultural, open space, or recreational uses in exchange for reduced property tax assessments. After a preserve is established, the landowner enters into a contract with a city or county. The landowner and any successors-in-interest are obligated to adhere to the contract's enforceable restrictions unless the contract is rescinded or cancelled.

3.2.1.3 Local Laws, Regulations, and Policies

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-254(f)(15). Farmland Protection. Where a commercial cultivation site is located within an agricultural zone (LIA, LEA, DA), the operation shall be consistent with General Plan Policy AR-4a. Indoor and mixed light cultivation facilities shall not remove agricultural production within important

farmlands, including prime, unique and farmlands of statewide importance as designated by the state farmland mapping and monitoring program, but may offset by relocating agricultural production on a 1:1 ratio.

If the premises is located on a site under a Land Conservation Act (Williamson Act) contract, the use must comply with the Land Conservation Act contract, any applicable land conservation plan, and the Sonoma County Uniform Rules for Agricultural Preserves and Farmland Security Zones, including provisions governing the type and extent of compatible uses listed therein.

3.2.2 Environmental Setting

The Proposed Project is located in a rural area. The project site is located on land classified by the California Department of Conservation as "Prime Farmland," "Farmland of Statewide Importance," "Unique Farmland," and "Farmland of Local Importance" (DOC 2022). The Proposed Project is not identified as being under a Williamson Act contract (Permit Sonoma 2025a). There is no timberland or forest zoning designation which applies to the project site.

3.2.3 Discussion of Checklist Responses

a. Convert farmland to non-agriculture use, or result in conflicts with or loss of agricultural or forest lands (No Impact)

According to DOC, the project site is situated on lands designated as "Prime Farmland," "Farmland of Statewide Importance," "Unique Farmland," and "Farmland of Local Importance" (DOC 2022). The purpose of the Proposed Project is to use the land for agricultural purposes and any development would be to support commercial cannabis cultivation on-site. Therefore, the Proposed Project would not convert the site to non-agricultural use or result in a loss of agricultural lands. There would be **no impact**.

b. Conflict with existing zoning for agriculture use, or a Williamson Act Contract (No Impact)

The project site has an agricultural zoning classification. The Proposed Project, as it involves growing cannabis, would be consistent with this zoning designation, which is supported by the issuance of a use permit by Sonoma County. Therefore, the Proposed Project would not conflict with existing agricultural zoning. Furthermore, the project site is not enrolled under a Williamson Act Contract. Therefore, there would be no conflict with a Williamson Act Contract. There would be **no impact**.

c. Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production (No Impact)

There is no timberland or forest zoning designation which applies to the Project site. However, VOH - Valley Oak Habitat and OAK – Oak Woodland zoning designations both intersect the Proposed Project (Permit Sonoma 2025b). As discussed in Chapter 2, *Project Description*, the site was cleared prior to commencement of the Proposed Project and no tree removal would be required. Therefore, there would be no conflict with forest or timberland zoned land. There would be **no impact**.

d. Result in the loss of forest land or conversion of forest land to non-forest use (No Impact)

As discussed above, the Proposed Project would not affect forest land or convert forest land to non-forest use. Therefore, there would be **no impact**.

e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agriculture use, or result in conflicts with or loss of agricultural or forest lands (No Impact)

There are no forests on the site of the Proposed Project. The purpose of the Proposed Project is to use the land for agricultural purposes and development would be to support commercial cannabis cultivation on-site. Therefore, the Proposed Project would not convert the site to non-agricultural use or result in a loss of agricultural or forest lands. There would be **no impact**.

3.3 Air Quality

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
When available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. 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?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Regulatory Setting

3.3.1.1 Federal and State Laws, Regulations, and Policies

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) has been charged with implementing national air quality programs. EPA's air quality mandates draw primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments were made by Congress in 1990. EPA's air quality efforts address both criteria air pollutants (CAPs) and hazardous air pollutants (HAPs). EPA regulations concerning CAPs and HAPs are presented in greater detail below.

Criteria Air Pollutants

The CAA required EPA to establish national ambient air quality standards (NAAQS) for common air pollutants found all over the United States. EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter with aerodynamic diameter of 10 micrometers or less (PM_{10}), fine particulate matter with aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), and lead. The NAAQS are shown in **Table 3.3-1**. The primary standards protect public health, and the secondary standards protect public welfare. The CAA also required each state to prepare a state implementation plan (SIP) for attaining and maintaining the NAAQS. The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to

incorporate additional control measures to reduce air pollution. California's SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, EPA may prepare a federal implementation plan that imposes additional control measures. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basin.

Table 3.3-1. California and National Ambient Air Quality Standards

Pollutant	Averaging Time	California (CAAQS)[a,b]	National	(NAAQS)[c]
			Primary[b,d]	Secondary[b,e]
Ozone	1-hour	0.09 ppm (180 µg/m^3)	–	Same as primary standard
	8-hour	0.070 ppm (137 µg/m^3)	0.070 ppm (147 µg/m^3)	
Carbon monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
	8-hour	9 ppm[f] (10 mg/m^3)	9 ppm (10 mg/m^3)	Same as primary standard
Nitrogen dioxide (NO_2)	Annual arithmetic mean	0.030 ppm (57 µg/m^3)	53 ppb (100 µg/m^3)	Same as primary standard
	1-hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)	—
Sulfur dioxide (SO_2)	24-hour	0.04 ppm (105 µg/m^3)	—	—
	3-hour	—	—	0.5 ppm (1300 µg/m^3)
	1-hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	—
Respirable particulate	Annual arithmetic mean	20 µg/m^3	—	Same as primary standard
matter (PM_{10})	24-hour	50 µg/m^3	150 µg/m^3	
Fine particulate	Annual arithmetic mean	12 µg/m^3	9.0 µg/m^3	15.0 µg/m^3
matter ($PM_{2.5}$)	24-hour	—	35 µg/m^3	Same as primary standard
Lead[f]	Calendar quarter	—	1.5 µg/m^3	Same as primary standard
	30-day average	1.5 µg/m^3	—	—
	Rolling 3-month average	–	0.15 µg/m^3	Same as primary standard
Hydrogen sulfide	1-hour	0.03 ppm (42 µg/m^3)		
Sulfates	24-hour	25 µg/m^3		No
Vinyl chloride[f]	24-hour	0.01 ppm (26 µg/m^3)		national
Visibility-reducing particulate matter	8-hour	Extinction of 0.23 per km		standards

Notes: CAAQS = California ambient air quality standards; NAAQS = national air quality standards; µg/m^3 = micrograms per cubic meter; km = kilometers; ppb = parts per billion; ppm = parts per million.

[a] California standard for ozone, carbon monoxide, SO_2 (1- and 24-hour), NO_2, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in CCR, Title 17 , Section 70200.

[b] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[c] National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth-highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. The $PM_{2.5}$ 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current federal policies.

[d] National primary standards: The levels of air quality necessary, with an adequate margin of safety to protect public health.

[e] National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Sources: CARB 2024

Hazardous Air Pollutants and Toxic Air Contaminants

Toxic air contaminants (TACs), or in federal parlance "hazardous air pollutants" (HAPs), are a defined set of airborne pollutants that may pose a present or potential hazard to human health. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

A wide range of sources, from industrial plants to motor vehicles, emit TACs. The health effects associated with TACs are quite diverse and generally are assessed locally rather than regionally. TACs can cause long-term health effects, such as cancer, birth defects, neurological damage, asthma, bronchitis, and genetic damage, or short-term acute affects, such as eye watering, respiratory irritation (a cough), runny nose, throat pain, and headaches.

For evaluation purposes, TACs are separated into carcinogens and noncarcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. This contrasts with criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 3.3-1). Cancer risk from TACs is expressed as excess cancer cases per one million exposed individuals, typically over a lifetime of exposure.

EPA regulates HAPs through its National Emission Standards for Hazardous Air Pollutants. The standards for a particular source category require the maximum degree of emission reduction that EPA determines to be achievable, which is known as the Maximum Achievable Control Technology standards. These standards are authorized by Section 112 of the 1970 CAA and the regulations are published in Title 40 of the Code of Federal Regulations (CFR), Parts 61 and 63.

3.3.1.2 State Laws, Regulations, and Policies

California Clean Air Act

The California Clean Air Act (CCAA) of 1988 requires nonattainment areas to achieve and maintain the California ambient air quality standards (CAAQS) by the earliest practicable date and local air districts to develop plans for attaining the state ozone, CO, SO_2, and NO_2 standards. The California Air Resources Board (CARB) sets the CAAQS.

Under the CCAA, areas not in compliance with the standard must prepare plans to reduce ozone. Noncompliance with the state ozone standard does not affect the ability to proceed with any transportation plan, program, or project. The first Bay Area Clean Air Plan was adopted in 1991, and updates to the Clean Air Plan have occurred since then, with the most recent adopted version being the *2017 Clean Air Plan: Spare the Air, Cool the Climate*. The *2017 Clean Air Plan* provides "all feasible measures" to reduce ozone precursors—reactive organic gasses (ROG) and oxides of nitrogen (NO_x)—and reduce transport of ozone and its precursors to neighboring air basins.

In addition, the 2017 Clean Air Plan builds upon and enhances the Bay Area Air District's (formerly the Bay Area Air Quality Management District [BAAQMD]) efforts to reduce emissions of $PM_{2.5}$ and TACs (BAAQMD 2017).

Senate Bill 656 (Chapter 738, Statues of 2003)

In 2003, the California Legislature enacted SB 656 (Chapter 738, Statutes of 2003), codified as Health and Safety Code Section 39614, to reduce public exposure to PM_{10} and $PM_{2.5}$. SB 656 required CARB, in consultation with local air pollution control and air quality management districts (air districts), to develop and adopt, by January 1, 2005, a list of the most readily available, feasible, and cost-effective control measures that could be employed by CARB and the air districts to reduce PM_{10} and $PM_{2.5}$ (collectively referred to as PM). The legislation established a process for achieving near-term reductions in PM throughout California ahead of federally required deadlines for $PM_{2.5}$ and provided new direction on PM reductions in those areas not subject to federal requirements for PM. Measures adopted as part of SB 656 complement and support those required for federal $PM_{2.5}$ attainment plans, as well as for state ozone plans. This ensures continuing focus on PM reduction and progress toward attaining California's more health protective standards. This list of air district control measures was adopted by CARB on November 18, 2004.

The Bay Area Air District also complied with this legislation; staff developed a Particulate Matter Implementation Schedule that was adopted by the Bay Area Air District in November 2005, and the Bay Area Air District adopted the measures identified in the Implementation Schedule (Bay Area Air District 2012).

Toxic Air Contaminant Identification and Control Act of 1983

The Toxic Air Contaminant Identification and Control Act (AB 1807, Tanner 1983) created California's program to reduce exposure to air toxics. The program involves a two-step process: risk identification and risk management.

In the risk identification step, and upon CARB's request, the Office of Environmental Health Hazard Assessment (OEHHA) evaluates the health effects of substances other than pesticides and their pesticidal uses. Substances with the potential to be emitted or that are currently being emitted into the ambient air may be identified as a TAC.

In the risk management step, once a substance is identified as a TAC, and with the participation of local air districts, industry, and interested public, CARB prepares a report that outlines the need and degree to regulate the TAC through a control measure (CARB 2025a).

Assembly Bill 2588: Air Toxics "Hot Spots" Information and Assessment Act of 1987

The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly) was enacted in September 1987. Under this act, stationary sources are required to report the types and quantities of certain substances their facilities routinely release into the air. Emissions of interest are those that result from the routine operation of a facility or that are predictable, including but not limited to continuous and intermittent releases and process upsets or leaks.

The goals of the Air Toxics "Hot Spots" Act are to collect emission data, identify facilities having localized impacts, ascertain health risks, and notify nearby residents of significant risks. In September 1992, the "Hot Spots" Act was amended by SB 1731 (Calderon) to address the reduction of significant risks. The bill requires that owners of significant-risk facilities reduce their risks below the level of significance (CARB 2025b).

Diesel Risk Reduction Plan

In August 1998, CARB identified particulate emissions from diesel-fueled engines (diesel PM) as TACs, based on data linking diesel PM emissions to increased risks of lung cancer and respiratory disease. Following the identification process, CARB was required to determine if there was a need for further control, which led to creation of the Diesel Advisory Committee to assist in the development of a risk management guidance document and risk reduction plan. In September 2000, CARB adopted the Diesel Risk Reduction Plan, which recommended control measures to reduce the risks associated with diesel PM and achieve a goal of 75-percent diesel PM reduction by 2010 and 85 percent by 2020. It is estimated that by 2035, emissions of diesel PM will be less than half of those in 2010 (CARB n.d.).

Specific statewide regulations designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles are continuing to be evaluated and developed. The goal of these regulations is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions.

California Health and Safety Code

Under the California Health and Safety Code, Division 26 (Air Resources), CARB is authorized to adopt regulations to protect public health and the environment through the reduction of TACs and other air pollutants with adverse health effects. CARB has promulgated several mobile and stationary source airborne toxic control measures (ATCMs) pursuant to this authority. For instance, effective as of July 2003, CARB approved an ATCM that limits school bus idling and idling at or near schools to only when necessary for safety or operational concerns (Cal. Code Regs., tit. 13, § 2480). This ATCM is intended to reduce diesel PM and other TACs and air pollutants from heavy-duty motor vehicle exhaust. It applies to school buses, transit buses, school activity buses, youth buses, general public paratransit vehicles, and other commercial motor vehicles. This ATCM focuses on reducing public exposure to diesel PM and other TACs, particularly for children riding in and playing near school buses and other commercial motor vehicles, who are disproportionately exposed to pollutants from these sources (CARB 2010). In addition, effective February 2005, CARB approved an ATCM to limit the idling of diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds, regardless of the state or country in which the vehicle is registered (Cal. Code Regs., tit. 13, § 2485).

Advanced Clean Trucks Regulation

CARB adopted the Advanced Clean Trucks Regulation (ACT) in 2020. ACT requires manufacturers to sell an increasing percentage of heavy-duty zero-emission vehicles between 2024 and 2035 where, by 2035, 40 percent of Class 8 truck purchases will be required to be zero emission. Fleets with 50 or more vehicles will be required to report on their fleet's composition and activities to help CARB craft new strategies to hasten the adoption of zero-emission vehicles.

3.3.1.3 Local Laws, Regulations, and Policies

Local air quality districts are responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws and for ensuring that NAAQS and CAAQS are met. Responsibilities of local air quality districts also include overseeing stationary source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, and overseeing agricultural burning permits.

Sonoma County is served by two air quality districts: the Bay Area Air District and Northern Sonoma County Air Pollution Control District (NSCAPCD). NSCAPCD covers the northern and coastal areas of Sonoma County, including, Annapolis, Bodega, Bodega Bay, Camp Meeker, Cazadero, Cloverdale, Duncans Mills, Forestville, Geyserville, Gualala, Guerneville, Healdsburg, Jenner, Monte Rio, Rio Nido, and The Sea Ranch. The Bay Area Air District covers the southern portion of Sonoma County, including, Bloomfield, Cotati, Glen Ellen, Graton, Kenwood, Penngrove, Petaluma, Rohnert Park, Santa Rosa, and Sonoma. The project is located within the Bay Area Air District's boundaries and is thus subject to its jurisdictions, rules, and policies (discussed below).

Bay Area Air Quality Management District

The Bay Area Air District attains and maintains air quality conditions in the San Francisco Bay Area Air Basin (SFBAAB) through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the Bay Area Air District includes the preparation of plans and programs for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The Bay Area Air District also inspects stationary sources, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements other programs and regulations required by the CAA and CCAA.

As mentioned above, the Bay Area Air District adopts rules and regulations. All projects are subject to the Bay Area Air District's rules and regulations in effect at the time of construction. Specific rules applicable to project construction and operation may include, but are not limited to, the following rules:

- **Regulation 2, Rule 1, General Permit Requirements.** This rule includes criteria for issuance or denial of permits, exemptions, appeals against decisions of the air pollution control officer, and the Bay Area Air District actions on applications.
- **Regulation 6, Rule 1, General Requirements.** Regulation 6 limits the quantity of PM in the atmosphere by controlling emission rates, concentration, visible emissions, and opacity.
- **Regulation 7, Odorous Substances.** Regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds. A person (or facility) must meet all limitations of this regulation but meeting such limitations shall not exempt such person from any other requirements of the Bay Area Air District, state, or national law. The limitations of this regulation shall not be applicable until the Bay Area Air District receives odor complaints from 10 or more complainants within a 90-day period, alleging that a person has caused odors perceived at or beyond the property line of such person and deemed to be objectionable by the complainants in the normal course of their work, travel, or residence. When the limits of this regulation become effective, as a result of the citizen complaints described above, the limits shall remain effective until such time as no citizen complaints have been received by BAAQMD for 1 year. The limits of this regulation shall become applicable again if BAAQMD receives odor complaints from five or more complainants within a 90-day period. BAAQMD staff investigate and track all odor complaints it receives and make attempts to visit the site and identify the source of the objectionable odor and assist the owner or facility in finding a way to reduce the odor.

The Bay Area Air District developed screening criteria to provide lead agencies and project applicants with a conservative indication of whether a proposed project could result in potentially significant air quality impacts. If all screening criteria are met by a proposed project, then the lead agency or applicant would not need to perform a detailed air quality assessment of their project's air pollutant emissions. These screening levels are generally

representative of new development on greenfield sites without any form of mitigation measures taken into consideration, and the screening criteria do not account for project design features, attributes, or local development requirements that could also result in lower emissions. For projects that are mixed-use, infill, and/or proximate to transit service and local services, emissions would be less than the greenfield type project that these screening criteria are based on.

According to the Bay Area Air District CEQA Guidelines (2023), if a proposed project includes any of the following screening criteria, then the lead agency or applicant would not need to perform a detailed assessment of the proposed project's criteria air pollutant and precursor emissions:

- The project size is at or below the applicable operational screening level size shown in Table 4-1 of the Bay Area Air District CEQA Guidelines and reproduced as **Table 3.3-2** below.
- Operational activities would not include stationary engines (e.g., backup generators) and industrial sources subject to the Bay Area Air District rules and regulations.
- Operational activities would not overlap with construction-related activities.

Table 3.3-2. Criteria Air Pollutants and Precursors Screening Level Sizes

Land Use Category	Land Use Subcategory	Land Use Unit	Construction Screening Level	Operation Screening Level
Commercial	Bank	KSF	452	102
Commercial	General Office Building	KSF	452	765
Commercial	Government (Civic Center)	KSF	452	314
Commercial	Government Office Building	KSF	452	445
Commercial	Hospital	KSF	452	611
Commercial	Medical Office Building	KSF	452	293
Commercial	Office Park	KSF	452	706
Commercial	Pharmacy-Drug Store	KSF	452	89
Commercial	Research & Development	KSF	452	692
Education	Daycare Center	KSF	452	232
Education	School – Elementary	KSF	452	488
Education	School – Junior High	KSF	452	475
Education	School – High School	KSF	452	579
Education	College – Junior (2-year)	KSF	452	426
Education	College – University (4-year)	KSF	452	779
Education	Library	KSF	452	123
Education	Worship Place	KSF	452	642
Industrial	General Heavy Industry	KSF	452	1,009
Industrial	General Light Industry	KSF	452	998
Industrial	Industrial Park	KSF	452	1,247
Industrial	Manufacturing	KSF	452	1,009
Industrial	Warehouse[1]	KSF	452	1,423

Land Use Category	Land Use Subcategory	Land Use Unit	Construction Screening Level	Operation Screening Level
Recreational	Arena	KSF	732	600
Recreational	City Park	Acres	10	175
Recreational	Fast Food Restaurant	KSF	452	21
Recreational	Health Club	KSF	452	261
Recreational	Hotel	Rooms	312	633
Recreational	Motel	Rooms	230	767
Recreational	Movie Theater	KSF	458	80
Recreational	Restaurant – High Turnover (Sit-Down)	KSF	452	75
Recreational	Restaurant – Quality (Fine Dining)	KSF	452	105
Recreational	Racquet Club	KSF	452	457
Recreational	Recreational Swimming Pool	KSF	452	376
Residential	Apartments	DU	416	638
Residential	Condo-Townhouse	DU	416	637
Residential	Mobile Home Park	DU	377	721
Residential	Congregate Care/Retirement Community	DU	416	1,008
Residential	Single Family Housing	DU	254	421
Retail	Auto Care Center	KSF	452	356
Retail	Convenience Market	KSF	452	11
Retail	Discount Store	KSF	452	150
Retail	Home Improvement Superstore/ Hardware-Paint Store	KSF	452	221
Retail	Regional Shopping Center	KSF	452	221
Retail	Strip Mall	KSF	452	204
Retail	Supermarket	KSF	452	72

Notes: DU = dwelling unit; KSF = thousand square feet.
[1] The use of the warehouse land is not appropriate for a logistics or distribution center. These types of projects should use p roject-specific traffic data or a more land use-specific trip generation rate. Source: BAAQMD 2022.

Clean Air Plan

The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest practical date. The act specifies that local air districts should focus particular attention on reducing the emissions from transportation and areawide emission sources and provides districts with the authority to regulate indirect sources.

For state air quality planning purposes, the Bay Area is classified as a serious nonattainment area for the 1-hour ozone standard. The "serious" classification triggers various plan submittal requirements and transportation performance standards. One such requirement is that the Bay Area update the Clean Air Plan every 3 years to

reflect progress in meeting the air quality standards and to incorporate new information regarding the feasibility of control measures and new emission inventory data.

The 2017 Clean Air Plan (adopted April 19, 2017) provides a regional strategy to protect public health and protect the climate. To protect public health, the plan describes how the Bay Area Air District will continue making progress toward attaining all state and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities. To protect the climate, the plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious GHG reduction targets for 2030 and 2050 and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG reduction targets.

The 2017 plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as PM, ozone, and TACs; reduce emissions of methane and other "super-GHGs" that are potent climate pollutants in the near term; and decrease emissions of carbon dioxide by reducing fossil fuel combustion.

Highlights of the 2017 plan include the following goals and measures:

- Limit Fossil Fuel Combustion: Develop a regionwide strategy to increase fossil fuel combustion efficiency at industrial facilities, beginning with the three largest sources of industrial emissions: oil refineries, power plants, and cement plants.
- Stop Methane Leaks: Reduce methane emissions from landfills and from oil and natural gas production, storage, and distribution.
- Reduce Exposure to Toxics: Reduce emissions of TACs by adopting more stringent limits and methods for evaluating toxic risks at existing and new facilities.
- Put a Price on Driving: Implement pricing measures to reduce travel demand.
- Advance Electric Vehicles: Accelerate the widespread adoption of electric vehicles.
- Promote Clean Fuels: Promote the use of clean fuels and low- or zero-carbon technologies in trucks and heavy-duty vehicles.
- Accelerate the Production of Low-Carbon Buildings: Expand the production of low-carbon, renewable energy by promoting on-site technologies, such as rooftop solar and ground-source heat pumps.
- Support More Energy Choices: Support community choice energy programs throughout the Bay Area.
- Make Buildings More Efficient: Promote energy efficiency in both new and existing buildings.
- Make Space and Water Heating Cleaner: Promote the switch from natural gas to electricity for space and water heating in Bay Area buildings. (BAAQMD 2020).

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-254(f)(6) Property Setbacks - Outdoor. Outdoor cultivation areas and all structures associated with the cultivation shall not be located in the front yard setback area and shall be screened from public view. Outdoor cultivation areas shall not be visible from a public right of way. Outdoor cultivation areas shall be setback a minimum of one hundred feet (100') from property lines and a minimum of three hundred feet (300') from residences and business structures on surrounding properties.

Sonoma County Code section 26-88-254(g)(2) Operating Standards - Air Quality and Odor. All indoor and mixed light cultivation operations and any drying, aging, trimming and packing facilities shall be equipped with odor control filtration and ventilation system(s) to control odors, humidity, and mold. All cultivation sites shall utilize dust control measures on access roads and all ground disturbing activities.

3.3.2 Environmental Setting

As stated above, the project is located in the southern portion of Sonoma County, which is within the San Francisco Bay Area Air Basin (SFBAAB). The ambient concentrations of air pollutant emissions are determined by the amount of emissions released by the sources of air pollutants and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by natural factors, such as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources, as discussed separately below.

Table 3.3-2 shows the attainment status for each criteria pollutant with respect to the CAAQS and the NAAQS in Sonoma County.

3.3.2.1 Climate, Meteorology, and Topography

Climate

The Mediterranean climate type of Sonoma County is characterized by warm, dry summers and cool, rainy winters. During the summer, daily temperatures range from 70 degrees Fahrenheit (°F) to more than 90°F. The inland location and surrounding hills shelter some areas from the ocean breezes that keep the coastal regions moderate in temperature. Most precipitation in the area results from air masses that move in from the Pacific Ocean, usually from the west or northwest, during the winter months. More than half the total annual precipitation falls during the winter rainy season (November through February); the average winter temperature is a moderate 50°F. Also characteristic of Sonoma County, winters consist of periods of dense and persistent low-level fog, which are most prevalent between storms. However, microclimates within the county vary significantly due to topographic and elevational differences. Coastal areas experience cooler temperatures and more fog, while inland valleys are warmer and drier. The region is also suspectable to periodic droughts and wildfires.

Topography

Sonoma County presents a diverse landscape encompassing valleys, mountains, coastal plains, and redwood forests. Bounded by the Pacific Ocean to the west, the Mayacamas Mountains to the east, and the Sonoma Mountains to the south, the County's topography influences its Mediterranean climate with warm, dry summers and cool, wet winters. The Russian River, the largest in the county, flows southward through prominent valleys: Alexander Valley, Russian River Valley, and Sonoma Valley, each known for viticulture. Other significant valleys include Dry Creek Valley and Bennett Valley. The Mayacamas Mountains, with Mount Saint Helena as its highest peak, define the eastern county line. The Sonoma Mountains extend along the southern portion. This varied terrain supports diverse ecosystems, including coastal redwood forests, oak woodlands, grasslands, and wetlands, providing habitat for numerous species. Furthermore, the complex topography can create barriers to airflow, which can lead to the entrapment of air pollutants when meteorological conditions are unfavorable for transport and dilution. The highest frequency of poor air movement occurs in the fall and winter when high-pressure cells are often present over the SFBAAB. The lack of surface wind during these periods, combined with the reduced

vertical flow caused by a decline in surface heating, reduces the influx of air and leads to the concentration of air pollutants under stable meteorological conditions. Surface concentrations of air pollutant emissions are highest when these conditions occur in combination with wood-burning activities or with temperature inversions, which hamper dispersion by creating a ceiling over the area and trapping air pollutants near the ground.

Meteorology

May through October is ozone season in the SFBAAB. This period is characterized by high temperatures, abundant sunlight, and low humidity, which create favorable conditions for ozone formation. In addition, longer daylight hours provide a plentiful amount of sunlight to fuel photochemical reactions between ROG and NO_X, which result in ozone formation. Typically, the prevailing westerly winds and the Delta Breeze transport air pollutants northward and eastward out of the SFBAAB, but under certain conditions, they can become trapped within the basin. The local meteorology of the project area and surrounding vicinity is represented by measurements recorded at the Western Regional Climate Center (WRCC) station at the Charles M. Schulz – Sonoma County Airport (STS) weather station. The normal annual precipitation is approximately 29.43 inches. January temperatures range from a normal minimum of 37°F to a normal maximum of 57°F. July temperatures range from a normal minimum of 51°F to a normal maximum of 89°F (WRCC 2023). The prevailing wind direction (1991-2020) in Sonoma County is northwest (WRCC 2023).

Air Pollution Potential

Sonoma County's potential for air pollution is influenced by its topography and meteorology. The surrounding mountains can trap pollutants under stable atmospheric conditions. Prevailing winds can transport pollutants from other areas into the county, while local wind patterns may recirculate them. However, the county's air quality is generally good due to the limited sources of pollution. The primary sources of pollution are associated with agricultural activities, motor vehicles emissions, and residential wood burning. As the county's population grows and tourism increases, motor vehicle emissions and wood smoke are likely to become more significant contributors to air pollution.

3.3.2.2 Criteria Air Pollutants

Concentrations of criteria air pollutants are used to indicate the quality of the ambient air. A brief description of key criteria air pollutants in the SFBAAB is provided below. Sonoma County's attainment status for the CAAQS and NAAQS is shown in **Table 3.3-3**. The SFBAAB is currently in attainment or unclassified for criteria air pollutants under CAAQS and NAAQS.

Table 3.3-3. Sonoma County Attainment Status for the SFAAB

Pollutant	National Ambient Air Quality Standard	California Ambient Air Quality Standard
Ozone	Nonattainment – Marginal (8-hour) (2008 standard)	Nonattainment - transitional
Ozone	Nonattainment – Marginal (8-hour) (2015 standard)	Nonattainment - transitional
Respirable particulate matter (PM_{10})	Attainment	Nonattainment
Fine particulate matter ($PM_{2.5}$)	Attainment (2012 standard)	Nonattainment
Fine particulate matter ($PM_{2.5}$)	Nonattainment – Moderate (2006 standard)	Nonattainment
Carbon monoxide (CO)	Maintenance – Moderate <= 12.7ppm	Attainment
Nitrogen dioxide (NO_2)	Unclassified/attainment	Attainment

Pollutant	National Ambient Air Quality Standard	California Ambient Air Quality Standard
Sulfur dioxide (SO_2)	Attainment	Attainment
Lead (particulate)	Attainment	Attainment
Hydrogen sulfide	No federal standard	Unclassified
Sulfates	No federal standard	Attainment
Visibility-reducing particles	No federal standard	Unclassified
Vinyl chloride	No federal standard	Unclassified

Note: This table represents the attainment status of Sonoma County for only the SFAAB.
Sources: EPA 2025b; CARB 2023.

Ozone

Ozone is a reactive pollutant that is not emitted directly into the atmosphere but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_X. sources (e.g., motor vehicle exhaust) and area sources (e.g., industrial emissions, gasoline vapors, architectural coatings, various consumer products, and chemical solvents) are some of the main sources of ROG and NO_X that contribute to the formation of ozone. Ozone is a regional air pollutant because it is formed downwind of sources of ROG and NO_X under the influence of wind and sunlight. During summertime (particularly on hot, sunny days with little or no wind), ozone levels are at their highest.

Short-term exposure to elevated concentrations of ozone is linked to such health effects as eye irritation and breathing difficulties. Repeated exposure to ozone can make people more susceptible to respiratory infections and aggravate preexisting respiratory diseases. Long-term exposures to ozone can cause more serious respiratory illnesses. Ozone also damages trees and other natural vegetation; reduces agricultural productivity; and causes deterioration of building materials, surface coatings, rubber, plastic products, and textiles.

Nitrogen Dioxide

NO_2 is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X and are reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be representative of the local sources of NO_X emissions (EPA 2025a). Most of the Bay Area's NO_2 comes from on-road motor vehicles. Since the year 2010, the Bay Area has had three exceedances of the national NO_2 standard – one exceedance each in 2012 and 2017, with nine days above the national standard in 2023.

Particulate Matter

Particulate matter (PM) includes dirt, dust, soot, smoke, and liquid droplets found in the air. PM_{10} is primarily composed of large particles from sources such as road dust, residential wood burning, construction/demolition activities, and emissions from on- and off-road engines. Some sources of PM, such as demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. $PM_{2.5}$ contains particles formed in the air from primary gaseous emissions. Examples include sulfates formed from SO_2 emissions

from power plants and industrial facilities; nitrates formed from NO_X emissions from power plants, automobiles, and other combustion sources; and carbon formed from organic gas emissions from automobiles and industrial facilities.

The Bay Area experiences its highest PM concentrations in the winter, especially during evening and night hours, because of the cool temperatures, low wind speeds, low inversion layers, and high humidity. Specifically, $PM_{2.5}$ is viewed as a major component of the region's total PM problem because $PM_{2.5}$ accounts for roughly half of PM_{10} annually. On winter days when the PM standards are exceeded, $PM_{2.5}$ from wood burning at residential land uses are the most likely contributors daily PM emissions (BAAQMD 2012: 89, 135).

Coarse and fine PM is small enough to get into the lungs and can cause numerous health problems, including respiratory conditions, such as asthma and bronchitis, and heart and lung disease. People with heart or lung disease, the elderly, and children are at the highest risk from exposure to PM.

Carbon Monoxide

CO is an odorless and invisible gas. It is a nonreactive pollutant that is a product of incomplete combustion of gasoline in automobile engines. CO is a localized pollutant, and the highest concentrations are found near the source. Ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic and are influenced by wind speed and atmospheric mixing. CO concentrations are highest in flat areas on still winter nights when temperature inversions trap the CO near the ground. When inhaled at high concentrations, CO reduces the oxygen-carrying capacity of the blood, which, in turn, results in reduced oxygen reaching parts of the body. Most of the Bay Area's CO comes from on-road motor vehicles, although a large amount also comes from burning wood in fireplaces.

3.3.2.3 Toxic Air Contaminants

According to the *California Almanac of Emissions and Air Quality* (CARB 2013), the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being diesel PM. Diesel PM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene. It's important to note that the term "Toxic Air Contaminant" refers specifically to air pollutants that are known to cause or suspected of causing cancer or other serious health effects. Naturally occurring plants compounds that have not been concentrated or manufactured for commercial purposes are generally not considered TACs. For example, beta-myrcene, a common terpene found in many plants, including hops and cannabis, is not classified as a TAC by the state. There are no existing TAC sources within 1,000 feet of the project site. Sensitive receptors exist near the project site and are disclosed in Section 3.3.2.5, "Sensitive Receptors," below.

3.3.2.4 Odors

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population. Some individuals can smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity. Land uses typically associated with odor complaints include wastewater treatment plants, sanitary landfills, composting facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting operations, rendering plants, and food packaging plants. Some agricultural operations may also generate nuisance odors as well from sources such as the crop itself and manure application as fertilizer. The Proposed Project is surrounded by land uses also zoned for Diverse Agriculture (DA) and Ag and Residential (AR) and are predominantly pastureland, dairy farms, horse training and boarding facilities. The closest of these agricultural uses are located directly against the project boundary.

Cannabis Odor

The typical smell of cannabis originates from roughly 140 different terpenes. A terpene is a volatile, unsaturated hydrocarbon that is found in essential oils of plants, especially conifers and citrus trees. Some terpenes are identified explicitly in research (myrcene, pinene, limonene). The "skunk" odor is primarily volatile thiols. Cannabis contains alpha-linolenic acid, which may break down under ultraviolet rays of sunlight into methyl and butyl thiols (Yolo County 2019).

Some researchers define an "odor activity value" (OAV), which is the chemical compound concentration divided by the chemical compound odor detection threshold (which is a literature-based value). A higher OAV could mean a more significant odor. One shortcoming of the OAV is that the quality of the odor detection thresholds may be low. Highly odorous compounds in low concentrations that may have a more potent OAV include nonanal, decanol, o-cymene, and benzaldehyde. In other research findings, it is believed the majority of the odor in cannabis flowers is linked to pinene, limonene, and terpinolene. Terpenes that are commonly identified and thought to warrant further evaluation for odor impacts include myrcene, pinene, limonene, b-caryophyllene, terpinolene, and o-cymene (Yolo County 2019). Research indicates that cannabis has a range of OAV depending on the age of the plant, proximity to it, and nature in which it is kept (i.e., loose leaf compared to enclosed in plastic); fresh, loose-leaf cannabis is considered to have high OAV (Rice and Koziel 2015).

Currently, there is not a clear or consistent numerical threshold to use for cannabis odors. Because odor is a perception-based phenomenon and involves complex mixtures of substances rather than single chemically defined substances, it is important to evaluate odors comprehensively rather than breaking down individual chemical constituents of the odor. Dispersion modeling has been conducted to determine the distance from which cannabis odor may be detected. The results of modeling by Kern County indicated that specific cannabis compounds may be detectable at a distance of two miles or more depending on weather conditions (Kern County 2017). Nevada County released an EIR (State Clearinghouse No. 2018082023) for its Commercial Cannabis

Cultivation Ordinance in 2019 and identified in their odor detection modeling that cannabis odors could be detected in some circumstances between 100 feet and as far 1 mile from the source of the odor (Nevada County 2019). Typically, the odor is detectable much closer to the source, such as adjacent to or on a cannabis cultivation site. The distance for odor detection is very site-specific and can be affected by many variables, including meteorology, topography, and plant stages of plant growth. In addition, human perception of cannabis plant odors may be influenced by personal views regarding cannabis. Whether the odor is acceptable and the level at which it should be defined as objectionable varies by the individual sensitive receptor depending on various strengths and distances.

When cannabis is grown in enclosed, indoor environments (buildings and greenhouses), odor-causing chemicals are concentrated and have been found to generate significant odors within the air space. Cannabis grown in greenhouses can generate odor with strengths ranging from 30,000 to 50,000 odor units ((First Canadian Odour Conference 2018).

Public Health/Nuisance Issues

A review of scientific publications identified no studies that evaluated the health effects associated with exposure to cannabis odors. An evidence brief prepared by Public Health Ontario (Public Health Ontario 2018) states that "most substances responsible for odors in the outdoor air are not present at levels that can cause long-term health effects. However, exposure to unpleasant odors may affect an individual's quality of life and sense of well-being." This statement was made in reference to odors in general and not cannabis odors in particular. The City of Denver prepared a Cannabis Environmental Best Management Practices document (City of Denver 2021), which states that "VOCs alone do not typically pose a direct threat to human health or the environment." Although research is limited, the research that is available demonstrates that the concentration of cannabis odors is not significant enough to create a public health concern for off-property residential receptors.

As noted above, cannabis odors are attributed to terpenes that include beta-myrcene. Beta-myrcene is listed as a chemical that causes cancer under Proposition 65. Beta-myrcene is part of a class of terpene hydrocarbons which are commercially manufactured and naturally occurs in hundreds of plants and spices including but not limited to parsley, basil, mangoes, wild thyme, apricot, bell pepper, cinnamon, carrots, celery, and grapes. It is also present in the emissions of many trees. The concentration of beta-myrcene in essential oils of plants varies considerably between plant species and varieties, geographical areas, season of harvesting, part of the plant and agronomical factors (Safebridge Consultants 2025).

California Code of Regulations, title 27, section 25501 states that human consumption of a food shall not constitute an "exposure" for purposes of section 25249.6 of the Safe Drinking Water and Toxic Enforcement Act to a listed chemical in the food to the extent that the person responsible for the exposure can show that the chemical is naturally occurring in the food, meaning that beta-myrcene found inherently in a plant or spice consumed as food, rather than used as an additive, is not subject to Proposition 65. This listing was based on the use of beta-myrcene as a refined component in essential oils to produce aroma and flavor chemicals; as a flavoring agent in food and beverages; and as a fragrance in cosmetics, soaps, and detergents (Office of Environmental Health Hazard Assessment 2012).

The safety of beta-myrcene has also been reviewed by the Food and Drug Administration (FDA). This review was based on the perceived risk of beta-myrcene as a potential human carcinogen as a result of studies conducted by

the National Toxicology Program (NTP). Those studies reported increased incidence of neoplasms in rodents upon exposure to extremely high levels of beta-myrcene. The FDA concluded beta-myrcene does not pose a risk to public health, is unlikely to induce tumors in humans and is safe under its conditions of intended use as a flavor. Similar conclusions upon review of the toxicological data for beta-myrcene have also been made by the European Food Safety Authority, Joint Expert Committee on Food Additives and the Expert Panel of the Flavor and Extract Manufacturers Association (Safebridge Consultants 2025).

It is important to note that exposure of commercially manufactured beta-myrcene differs from the natural occurrence and associated concentration of beta-myrcene in cannabis that generates detectable odors near harvest.

3.3.2.5 Sensitive Receptors

Sensitive receptors include land uses where exposure to pollutants could result in health-related risks to sensitive individuals, such as children or the elderly. Residential dwellings, schools, hospitals, playgrounds, and similar facilities are of primary concern because of the presence of individuals particularly sensitive to pollutants or the potential for increased and prolonged exposure of individuals to pollutants. There are three residences northwest of the Proposed Project Site, with the closes being located approximately 550 feet from the edge of the project boundary.

3.3.3 Discussion of Checklist Responses

a. Conflict with or obstruct implementation of the applicable air quality plan (Less than Significant Impact)

Air quality impacts from exposure to criteria air pollution are inherently regional. The location of criteria air pollutants emissions affects the attainment and nonattainment designation of an air basin (i.e., the SFBAAB).

The southern portion of Sonoma County is located in the SFBAAB and is under the jurisdiction of the Bay Area Air District. The Bay Area Air District's thresholds are inherently tied to long-term regional air quality planning (i.e., the Bay Area Air District's 2017 Clean Air Plan). To fulfill state ozone planning requirements, the 2017 control strategy includes all feasible measures to reduce emissions of ozone precursors (ROG and NOX) and reduce the transport of ozone and its precursors to neighboring air basins. In addition, the 2017 Clean Air Plan builds upon and enhances the Bay Area Air District's efforts to reduce emissions of $PM_{2.5}$ and TACs.

The SFBAAB is currently designated as nonattainment for the ozone, $PM_{10,}$ and $PM_{2.5}$ NAAQS and the ozone and $PM_{2.5}$ CAAQS. The Bay Area Air District has developed the 2017 Clean Air Plan, which presents comprehensive strategies to reduce criteria pollutant emissions from stationary, area, mobile, and indirect sources to achieve attainment status of the NAAQS and CAAQS. The emission inventories used to develop air quality action plans (AQAPs) are based primarily on projected population and employment growth and associated vehicle miles travelled (VMT) for the SFBAAB. This growth is estimated for the region based, in part, on the planned growth identified in regional and local land use plans, such as general plans and community plans. Therefore, projects that would result in population or employment growth beyond what is projected in regional or local plans could result in increases in VMT above that forecasted in the attainment plans, further resulting in mobile source emissions that could conflict with or obstruct implementation of the AQAP. Increases in VMT beyond what is projected in the Association of Bay Area Government's (ABAG) regional VMT modeling, the County General Plan,

and the 2017 Clean Air Plan generally would be considered to have a significant adverse incremental effect on the SFBAAB's ability to attain CAAQS and NAAQS for all criteria air pollutants.

The Proposed Project does not include any changes to the LEA 160 land use designation and the site is currently permitted and used for cannabis cultivation activities. Existing and future cannabis uses would be required to comply with all County and state cannabis requirements. Because cannabis use applicants would be required to obtain necessary approvals, the County would have a mechanism for control of land uses. Proposed cannabis cultivation operations are required to comply with all applicable regulations included in Section 26-88-254, "Cannabis cultivation—commercial," of the Sonoma County Code and detailed in Section 3.3.1.3 "Local Laws, Regulations, and Policies," above. Because the proposed project does not alter the land use designations of the County General plan, the growth assumed in the County, as determined by the General Plan, is already accounted for in the emissions inventorying and projections of the 2017 Clean Air Plan.

Because implementation of the Proposed Project would not result in changes to land use designations, emissions from these land uses have already been accounted for in the regional emissions modeling conducted by ABAG, which informs the emissions reduction targets, strategies, and measures of the 2017 Clean Air Plan. Therefore, implementation of the Proposed Project would not obstruct the Bay Area Air District's efforts to attain and maintain the NAAQS and CAAQS in the SFBAAB. This impact would be **less than significant.**

b. Cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area (Less than Significant Impact)

Construction

As described in Chapter 2, Project Description, construction associated with the Proposed Project is complete, and no additional construction, clearing, tree removal, or demolition of structures is proposed. As discussed in Section 1.5, the analysis of construction impacts which have already been completed is mooted.

Operation

Operation of the proposed project could result in operational emissions of ROG, NO_X, $PM_{2.5}$, and PM_{10} related to activities such as maintenance, fertilizer application, or potential use of on road or offroad vehicles such as light-duty pickups and ATVs. Emissions would also be generated by employee vehicle trips. Daily employee trips would be minimal, with the greatest number of daily employee trips occurring during harvesting operations. Harvesting operations would require approximately 18 average daily trips per day for approximately two months (harvest season occurs from October to November). Operation of the project would involve maintenance using a combination of machine and hand tools as needed. Harvesting operations would primarily be accomplished using hand tools. Air pollutant emissions would also occur from outgoing cannabis product transportation during operations. Cannabis product would be transported offsite using trucks with sufficient cargo space. As stated in Chapter 2, *Project Description*, the greatest number of truck trips would occur during harvest operations, which would involve six total truck trips occurring during the two-month harvest season.

As stated above, while the Bay Area Air District CEQA Guidelines do not have specific screening criteria for a project identical to the proposed project, Table 4-1 of the Bay Area Air District CEQA Guidelines show that a city park not exceeding 175 acres would not exceed the Bay Area Air District's average daily mass emissions thresholds (BAAQMD 2022: Table 4-1). Regarding operations, the Proposed Project would involve similar emissions-

generating activities to a park such as maintenance and landscaping-type activities (e.g., watering, trimming, planting). As detailed above, Table 4-1 of the Bay Area Air District CEQA Guidelines, titled "Single Land Use Construction and Operational Criteria Air Pollutant and Precursor Screening Levels," was developed by the Bay Area Air District to aid in screening out projects which would not contribute to excess emissions based on the size and type of land use. Table 4-1 of the Bay Area Air District CEQA Guidelines shows that a general office building less than 765,000 sf would not result in operational emissions exceeding the Bay Area Air District's average daily mass emissions thresholds (BAAQMD 2022: Table 4-1). As Table 4-1 of the Bay Area Air District identifies that a much larger 752,000 sf office building would be screened from further analysis of criteria air pollutants and precursors, it can be reasoned that the Proposed Project, involving agricultural operations in a 2.5-acre cultivation area would not result in operational emissions in excess of the Bay Area Air District's thresholds. Therefore, operation of the project would not 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.

Conclusion

Because the Proposed Project would not include any construction activities, the Proposed Project would not generate construction-related criteria pollutants emissions and would not result in adverse health impacts. Further, operation of the Proposed Project would not result in in a cumulatively considerable net increase of any criteria pollutant. This impact would be **less than significant**.

c. Expose sensitive receptors to substantial pollutant concentrations (Less than Significant Impact)

Toxic Air Contaminants

No construction activities or site modifications such as site preparation or earthwork, grading, new roads, vegetation removal, or new drainage systems are proposed for the Proposed Project. There would be no demolition of existing structures and no construction of new buildings or structures as part of the Proposed Project.

Because no construction activities would occur, receptors would not be exposed to construction-related TAC emissions. Operational activities would not include any major sources of stationary TACs such as smokestacks, and all operations would be required to comply with setback distances specified in County Code Section 26-88-254(f)(6), which requires cannabis cultivation to be setback a minimum of 100 feet from property lines and a minimum of 300 feet from residences and business structures on surrounding properties a minimum of 1,000 feet from a school providing education to K-12 grades, a public park, childcare centers, or an alcohol or drug treatment facility. Notably, the Proposed Project is not located within 1,000 feet of schools with K-12 grades, a public park, childcare centers, or an alcohol or drug treatment facility. Because the project does not include construction and does not change operation of the site, implementation of the Proposed Project would not substantially affect pollutant concentration levels that could affect sensitive receptors.

CO Hot Spots

The Bay Area Air District recommends that local "hot spots" of CO resulting from traffic congestion must be accounted for using a health-based screening approach. The Bay Area Air District recommends screening criteria for CO hotspots that can be applied to the project because emissions of CO are generally similar statewide, and

those criteria have been applied here. Regarding the potential for CO hot spots at local intersections, these types of effects have the potential to occur only at intersections experiencing extremely high volumes of traffic. For instance, the Bay Area Air District has determined that CO hot spots have the potential to occur only at intersections that experience a traffic volume greater than 44,000 vehicles per hour (BAAQMD 2022). Based on the extent of cannabis uses identified in Chapter 2, *Project Description*, the greatest number of truck trips would occur during harvest operations, which would involve a total of six truck trips across the two-month harvest season, while the greatest number of average daily employee trips would occur during harvesting operations and would be approximately 18 trips per day throughout the two-month harvest season. Operational activities associated with the Proposed Project would not be anticipated to generate traffic volumes at this level. Thus, it would not be anticipated that operations-related vehicle trips would result in congestion at any intersection that experiences high volumes of vehicles or long wait times exceeding the Bay Area Air District's CO hot spot threshold of 44,000 vehicles per hour at any one intersection. For these reasons, additional trips associated with new cannabis operations would not contribute substantially to traffic congestion at affected intersections such that local CO "hot spots" occur in exceedance of the CAAQS or NAAQS.

Beta Myrcene

Beta-myrcene is part of a class of terpene hydrocarbons that are commercially manufactured and occur naturally at high levels in a large variety of foods. Despite its long history of use as a flavoring substance and wide consumption via its natural occurrence in foods, the safety of beta-myrcene was reviewed by the FDA in 2018. FDA concluded that beta-myrcene was unlikely to induce tumors in humans and safe under its conditions of intended use as a flavoring (SafeBridge Consultant 2025). Before this conclusion, in March 2015, the State of California, OEHHA added beta-myrcene to the list of chemicals known to the state to cause cancer, for the purposes of Safe Drinking Water and Toxic Enforcement Act of 1986, Health and Safety Code section 25249.5 et seq. (i.e., California Proposition 65). Beta-myrcene remains listed under California Proposition 65 at the time of the writing of this analysis.

Generally, a person may be exposed to chemicals via inhalation, ingestion, or skin contact. The route of exposure determines where/how the substance first contacts the body, how it is absorbed, distributed throughout the body, broken down, and eliminated from the body. Some substances cause toxic effects where they are absorbed (lungs damaged by breathing wildfire smoke), while others need to be absorbed and distributed to distant sites throughout the body to exert toxic effects (the liver is damaged after repeatedly ingesting alcohol). Because of its long-standing use as a flavoring, the majority of beta-myrcene data was based on oral intake; however, EPA has provided specific guidance to allow for consideration of other exposure routes. Thus, data generated using an oral route can be applied to an inhalation route by considering both physicochemical properties of beta-myrcene and use of conservative conversion factors.

In preparation of the Sonoma County Comprehensive Cannabis Program Update Draft EIR (Sonoma County 2025), Sonoma County commissioned Trinity Consultants to evaluate the potential for toxics risk and community exposure of beta-myrcene related to cannabis cultivation under the Cannabis Program Update (Trinity Consultants 2020). The study included the development of an occupation exposure level (OEL), with the intent of determining the potential to adversely affect members of the public with proximity to cannabis cultivation. Based on a review of readily available clinical and nonclinical data an OEL of 5 milligrams per cubic meter (mg/m^3) as an 8-hour time-weighted average was recommended. The OEL provides a threshold at which no pharmacological and other

adverse effects (e.g., sneezing, itching, nasal congestion and irritation, drowsiness, moderate skin and eye irritations), as well as nonclinical effects (reproductive and developmental effects at extremely high doses [>145,000 times higher than human exposures] irrelevant to human exposures) may affect in an exposed worker (i.e., somebody within proximity to the chemical in question for the duration of a normal work schedule: 8 hours per day). To address public exposure, the OEL was lowered by a factor of 10 to develop the chronic risk exposure level (REL)) (i.e., exposure 24 hours per day, 7 days per year, year-round). The REL reflects the exposure threshold for which the general public would experience pharmacological and nonclinical effects. Thus, this analysis assumed an REL of 0.5 mg/m^3 or less would not present an adverse effect.

To determine the potential for exposure on the general public, air dispersion modeling was completed to estimate ground-level beta myrcene concentrations at a distance of 100 feet for two hypothetical outdoor cannabis growing operations: a 1-acre facility and a 10-acre facility. These scenarios were modeled to estimate the ground-level concentration of beta-myrcene from a cannabis growing area at various distances using the US EPA regulatory model, AERSCREEN. In an effort to be conservative (i.e., more protective of public health), the analysis assumes that all of the cannabis plants are emitting beta-myrcene at the highest possible rate all of the time, which presents a worst-case analysis of actual ground-level concentration.

The results showed that the maximum concentration of airborne beta-myrcene generated by 1-acre and 10-acre cannabis fields would be 0.1 mg/m^3 (23 percent of REL) and 0.3 mg/m^3 (64 percent of REL), respectively, at 100 feet from the edge of a field. Additionally, at a 600-foot setback, the study found that airborne concentrations of beta myrcene would be reduced to 0.04 mg/m^3 for a 1-acre site and 0.1 mg/m^3 for a 10-acre site. As stated in Section 3.3.2.5, “Sensitive Receptors,” the nearest residence to the Proposed Project site is a residence approximately 550 feet northwest of the project site. The total grow area (based on canopy area) would be 2.5 acres. Thus, based on the findings of the toxics risk and community exposure study, the nearest receptor to the Proposed Project site would not be exposed to concentrations of beta myrcene exceeding the REL because of project implementation. As the established REL was developed by experts and relies on substantial evidence (i.e., scientific research), emissions of beta-myrcene would not be at a concentration high enough to cause the community harms related to pharmacological and other adverse effects (e.g., sneezing, itching, nasal congestion and irritation, drowsiness, moderate skin and eye irritations). Moreover, effects such as reproductive and developmental effects may occur at levels higher than 145,000 times higher than the REL. As stated above, the Proposed Project would expose the nearest receptor to less than 23 percent of the REL and would therefore not result in considerable risks regarding reproductive or developmental effects.

For the reasons discussed above, the potential for exposure of sensitive receptors to substantial pollutant concentrations would be **less than significant**.

d. Result in other emissions affecting a substantial number of people (Less than Significant Impact)

As described in Section 3.3.2, “Environmental Setting,” the typical smell of cannabis originates from roughly 140 different terpenes (volatile, unsaturated hydrocarbon that is found in essential oils of plants, especially conifers and citrus trees). Some terpenes are identified explicitly in research (myrcene, pinene, limonene). The “skunk” odor attributable to cannabis is primarily volatile thiols. Cannabis cultivation, processing, distribution, and the smoking of cannabis have the potential to generate nuisance odors.

The furthest distance cannabis odors from cultivation uses may be recognizable or detectable is approximately 2 miles, depending on topography and meteorology (Kern County 2017). However, recognition of an odor does not imply that the odor is a nuisance, only that it can be identified or detected as cannabis. Typically, the odor is detectable much closer to the source, such as adjacent to or on a cannabis cultivation site. The distance for odor detection is site-specific and can be affected by many variables, including meteorology, topography, and stages of plant growth. In addition, human perception of cannabis plant odors may be influenced by personal views regarding cannabis. Whether the odor is acceptable and the level at which it should be defined as objectionable varies by the individual sensitive receptor depending on various strengths and distances.

Implementation of the Proposed Project would involve the growing and handling of cannabis. As identified above, cannabis plants are known to emit odors, most prominently during the final stages of the growing cycle (i.e., typically beginning in August and continuing through the harvest season, in September and October), which may be detectable at two miles or more depending on topography and meteorology.

Bay Area Air District Regulation 7, "Odorous Substances," places general limitations on odorous substances as well as specific emissions limitations on odorous compounds within the Bay Area Air District's jurisdictional boundaries. While the Proposed Project could generate nuisance odors perceptible to nearby receptors, BAAQMD Regulation 7-110.5 specifies agricultural operations as described in the California Health and Safety Code, Section 41705, are exempt from this regulation. California Health and Safety Code Section 41705 (a)(1) defines agricultural operations as "…operations necessary for the growing of crops or the raising of fowl or animals". As the Proposed Project would facilitate the growth of cannabis as a crop, Regulation 7 would not apply to the project.

The Proposed Project would be required to comply with all County setback requirements to reduce exposure of receptors to odors. Specifically, County Code Section 26-88-254(f)(6) requires cannabis premises to be setback a minimum of 100 feet from property lines and a minimum of 300 feet from residences and business structures on surrounding properties. Section 26-88-254(f)(6) also requires outdoor cultivation sites to be setback a minimum of 1,000 feet from a school providing education to K-12 grades, a public park, childcare centers, or an alcohol or drug treatment facility. Notably, the Proposed Project is not located within 1,000 feet of schools with K-12 grades, a public park, childcare centers, or an alcohol or drug treatment facility. Generally, odor perception tends to decrease with distance; thus, County setback requirements would place limits on odor perceptibility on parcels supporting sensitive land uses and residences. While cannabis odors are often attributed to cultivation activities, they are also associated with the handling of cannabis that has been harvested, is drying, and has been dried before packaging (e.g., stored in air-tight containers as flower or other product). As stated above, odor control systems are not feasible for outdoor commercial cannabis cultivation operations. Thus, odor emissions and the potential for offsite objectionable odor perception would be limited only through setback requirements for these uses.

As discussed above in Section 2.1, "Overview," the project site has been used for cannabis cultivation since 2021. During this time, there have been no odor complaints associated with cannabis cultivation on the Project Site (BAAQMD pers. comm., 2025). Under the Proposed Project, outdoor commercial cannabis cultivation would continue to operate similarly to the existing conditions. Thus, there would not be a substantial change in cannabis-related odor emissions associated with the site and implementation of the Proposed Project would not introduce substantial new odors to the project site and surrounding area. For these reasons, impacts related to odors would be **less than significant**.

3.4 Biological Resources

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

3.4.1 Regulatory Setting

3.4.1.1 Federal Laws, Regulations, and Policies

Endangered Species Act

The Endangered Species Act (ESA) (16 U.S.C. § 1531 et seq.; 50 C.F.R. Parts 17 and 222) provides for conservation of species that are endangered or threatened throughout all or a substantial portion of their range, as well as protection of the habitats on which they depend. The U.S. Fish and Wildlife Service (USFWS) and the National

Marine Fisheries Service (NMFS) share responsibility for implementing the ESA. In general, USFWS manages terrestrial and freshwater species, whereas NMFS manages marine and anadromous species.

Section 9 of the ESA and its implementing regulations prohibit the "take" of any fish or wildlife species listed under the ESA as endangered or threatened, unless otherwise authorized by federal regulations. The ESA defines the term "take" to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 U.S.C. § 1532). Section 7 of the ESA (16 U.S.C. § 1531 et seq.) outlines the procedures for federal interagency cooperation to conserve federally listed species and designated critical habitats. Section 10(a)(1)(B) of the ESA provides a process by which non-federal entities may obtain an incidental take permit from USFWS or NMFS for otherwise lawful activities that incidentally may result in "take" of endangered or threatened species, subject to specific conditions. A habitat conservation plan (HCP) must accompany an application for an incidental take permit.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C., Chapter 7, Subchapter II) protects migratory birds. Most actions that result in take, or the permanent or temporary possession of, a migratory bird constitute violations of the MBTA. The MBTA also prohibits destruction of occupied nests. USFWS is responsible for overseeing compliance with the MBTA.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. § 668; 50 C.F.R. Part 22) prohibits take of bald and golden eagles and their occupied and unoccupied nests. USFWS administers the Bald and Golden Eagle Protection Act.

Clean Water Act

Clean Water Act (CWA) Section 404 regulates the discharge of dredged and fill materials into waters of the U.S., which include all navigable waters, their tributaries, and some isolated waters, as well as some wetlands adjacent to the aforementioned waters (33 C.F.R. § 328.3). Areas typically not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial waterbodies such as swimming pools, vernal pools, and water-filled depressions (33 C.F.R. Part 328). Areas meeting the regulatory definition of waters of the U.S. are subject to the jurisdiction of U.S. Army Corps of Engineers (USACE) under the provisions of CWA Section 404. Construction activities involving placement of fill into jurisdictional waters of the U.S. are regulated by USACE through permit requirements. No USACE permit is effective in the absence of state water quality certification pursuant to Section 401 of CWA.

Section 401 of the CWA requires an evaluation of water quality when a proposed activity requiring a federal license or permit could result in a discharge to waters of the U.S. In California, the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs) issue water quality certifications. Each RWQCB is responsible for implementing Section 401 in compliance with the CWA and its water quality control plan (also known as a Basin Plan). Applicants for a federal license or permit to conduct activities that may result in the discharge to waters of the U.S. (including wetlands or vernal pools) must also obtain a Section 401 water quality certification to ensure that any such discharge will comply with the applicable provisions of the CWA.

3.4.1.2 State Laws, Regulations, and Policies

California Fish and Game Code

The California Fish and Game Code (Fish & G. Code) includes various statutes that protect biological resources, including the Native Plant Protection Act of 1977 (NPPA) and the California Endangered Species Act (CESA). The NPPA (Fish & G. Code §§ 1900-1913) authorizes the Fish and Game Commission to designate plants as endangered or rare and prohibits take of any such plants, except as authorized in limited circumstances.

CESA (Fish & G. Code §§ 2050–2098) prohibits state agencies from approving a project that would jeopardize the continued existence of a species listed under CESA as endangered or threatened. Section 2080 of the Fish and Game Code prohibits the take of any species that is state listed as endangered, threatened, or designated as a candidate for such listing. California Department of Fish and Wildlife (CDFW) may issue an incidental take permit authorizing the take of listed and candidate species if that take is incidental to an otherwise lawful activity, subject to specified conditions.

Fish and Game Code sections 3503 and 3513 protect native and migratory birds, including their active or inactive nests and eggs, from all forms of take. In addition, sections 3511, 4700, 5050, and 5515 identify species that are fully protected from all forms of take. Section 3511 lists fully protected birds, section 5515 lists fully protected fish, section 4700 lists fully protected mammals, and section 5050 lists fully protected amphibians.

DCC Commercial Cannabis Business Regulations

The following DCC commercial cannabis regulations are applicable to the Proposed Project:

- California Business and Professions Code section 26060.1(b)(3) requires all cultivators to comply with section 1602 of the Fish and Game Code or receive written verification from CDFW that a streambed alteration agreement is not required.
- DCC regulations implementing MAUCRSA include environmental protection measures requiring that all outdoor lighting be downward facing and shielded to minimize the visual effects of the presence of lighting (Cal. Code Regs., tit. 4, § 16304, subd. (a)(6)), and that lighting for mixed-light operations must be shielded between sunset and sunrise to minimize nighttime glare (Cal. Code Regs., tit. 4, § 16304, subd. (a)(7)).
- Section 16307(a) requires all cultivators to comply with all CDPR laws and regulations. (Cal. Code Regs., tit. 4 § 16307, subd. (a).)
- Section 16307(b) contains protocols to reduce potential effects from pesticide use including: comply with all label requirements, store chemicals in a secure building, contain leaks and spills, apply the minimum amount necessary to control the target pest, and prevent off-site drift. (Cal. Code Regs., tit. 4 § 16307 subd. (b).)

3.4.1.3 Local Laws, Regulations, and Policies

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-254(f)(11) Biotic Resources. Proposed cultivation operations, including all associated structures, shall require a biotic assessment at the time of application that demonstrates that the project is not located within, and will not impact sensitive or special status species habitat, unless a use permit is obtained. Any proposed cultivation operation, including all associated structures, located within adopted federal critical habitat areas must have either all appropriate permits from the applicable state and federal agencies with

jurisdiction over the listed species, or a biotic assessment concluding that the project will not result in "take" of a protected wildlife species within the meaning of either the federal or California Endangered Species Acts. There shall be no tree removal or timber conversions to accommodate cultivation sites, unless a use permit is obtained. Outdoor cultivation areas and related processing structures shall be located outside the Riparian Corridor Stream Conservation Areas (RC combining zone) and outside any designated Biotic Habitat area (BH combining zone). Outdoor cultivation areas shall conform to the agricultural Riparian Corridor setback set forth in Section 26-65-040. Proposed cultivation operations shall comply with the wetland setbacks set forth in Section 11-16-150, unless a use permit is obtained.

Sonoma County Code section 26-88-254(f)(13). Property Setbacks - Riparian Corridor Stream Conservation Areas. Structures used for cultivation shall be located outside the Riparian Corridor Stream Conservation Areas (RC combining zone) and outside any designated Biotic Habitat area (BH combining zone). Outdoor cultivation areas shall conform to the agricultural Riparian Corridor setback set forth in Section 26-65-040. Outdoor cultivation areas shall conform to the wetland setback set forth in Section 36-16-120, unless a use permit is obtained.

Sonoma County Code section 26-88-254(f)(19). Lighting. All lighting shall be fully shielded, downward casting and not spill over onto structures, other properties or the night sky. All indoor and mixed light operations shall be fully contained so that little to no light escapes. Light shall not escape at a level that is visible from neighboring properties between sunset and sunrise.

Sonoma County Code section 26-88-010(m). Tree Protection Ordinance. Projects shall be designed to minimize the destruction of protected trees. With development permits, a site plan shall be submitted that depicts the location of all protected trees greater than nine inches (9") diameter at breast height (DBH), which is 4.5 feet about grade, and their protected perimeters in areas that will be impacted by the proposed development, such as the building envelopes, access roads, leach fields, etc. Projects are subject to construction standard established to prevent harm or removal of protected trees, including prohibitions on dumping harmful substances in proximity of protected trees, marking the location of roots prior to construction and other measures.

3.4.2 Environmental Setting

The Proposed Project site is located on two adjoining parcels in unincorporated Sonoma County at 1495 Fremont Drive. The project site consists of 10 acres, located on two adjoining parcels. The project area occupies approximately 5 acres on each of the two parcels, with 1.25 acres of mature and immature cultivation canopy on each parcel. The project site includes single-family residences, numerous outbuildings and stockyard structures, all of which are associated with the landowner's existing agricultural operation. The predominant land use at the time of the March 2021 baseline was cattle grazing and hay production.

The two adjoining parcels (APN 128-444-002 and 128-471-006) fall within County-designated Valley Oak Habitat, although there is no County-designated biotic habitat on the parcel as the parcel entirely consists of annually seeded and cut hayfields. The furthest east portion of the site contains a partially covered stock feed yard. Due to the high intensity hay production, in the remainder of the site there is very little living plant or animal life. Between the hayfield and the stock yard is a narrow swale and potential wetland feature that drains the central portion of the site towards a culvert that passes beneath SR-12 and into a settling basin on the adjacent parcel. Although there are vernal pools in the vicinity, the soils onsite are well-drained and have been continuously disked, seeded,

and cut for hay production for many years and there is no remaining topographic relief and no native vegetation present in the center of the commercial cannabis cultivation area. The Proposed Project area does not contain any watercourses or riparian habitat within 150 feet of the proposed commercial cannabis cultivation area. (Pinecrest Environmental Consulting 2021.)

Overall, the project site consists of approximately 75 percent seeded and cut hayfield, 20 percent developed area including stock yards, and 5 percent wetland or drainage swale. (Pinecrest Environmental Consulting 2021.) The area surrounding the project site is located within unincorporated Sonoma County and is rural, with a mixture of agricultural and light industry. The site is approximately 100 feet west of the intersection of 8th Street East and Fremont Drive/State Highways 121/12.

3.4.2.1 Special-status Species

Definitions and Methods of Assessment

For the purposes of this assessment, special-status plant and wildlife species refers to those species that meet one or more of the following criteria:

- Species that are listed as threatened or endangered under the ESA (50 C.F.R. Part 17.12 for listed plants, 50 C.F.R. Part 17.11 for listed animals);
- Species that are candidates for possible future listing as threatened or endangered under the ESA (76 Federal Register [Fed. Reg.] 66370);
- Species that are listed or proposed for listing by the State of California as threatened or endangered under CESA (14 Cal Code Regs. § 670.5);
- Plants listed as rare under the California Native Plant Protection Act of 1977 (Fish & G. Code § 1900 et seq.); California Rare Plant Rank (CRPR) List 1 and 2 species;
- Species that meet the definitions of rare or endangered under CEQA (CEQA Guidelines § 15380); or
- Animals fully protected in California (Fish & G. Code § 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

A reconnaissance-level Biological Assessment (Biological Assessment) to evaluate for Special-Status Species (Pinecrest Environmental Consulting 2021) was prepared for the commercial cannabis cultivation activities for Proposed Project. The Biological Assessment generated a list of 92 special-status plant species and 67 special-status wildlife species as known or having the potential to occur within the vicinity of the Proposed Project. **(Appendix A.)** Each of these species were assessed to determine the potential to occur on the Project site. Special-status plant and animal species with the potential to occur in the project area were identified through a review of the following resources:

- USFWS list of federally listed endangered and threatened species that occur within the vicinity of the project site (Pinecrest Environmental Consulting 2021);
- California Natural Diversity Database (CNDDB) queries for the U.S. Geological Survey (USGS) 7.5-minute quadrangle containing the project area and the quadrangles immediately adjacent to it: Glenn Ellen, Sonoma, Napa, Petaluma River, Sears Point, Cuttings Wharf, Novato, Petaluma Point and Mare Island (Pinecrest Environmental Consulting 2021); and

- California Native Plant Society's (CNPS's) *Inventory of Rare and Endangered Plants of California* (Pinecrest Environmental Consulting 2021) and CRPR listing.

The potential for special-status species to occur in areas affected by the Proposed Project was evaluated according to the following criteria:

None: indicates that the area contains a complete lack of suitable habitat, the local range for the species is restricted, and/or the species is extirpated in this region.

Not Expected: indicates situations where suitable habitat or key habitat elements may be present but may be of poor quality or isolated from the nearest extant occurrences. Habitat suitability refers to factors such as elevation, soil chemistry and type, vegetation communities, microhabitats, and degraded/substantially altered habitats.

Possible: indicates the presence of suitable habitat or key habitat elements that potentially support the species.

Present: indicates that either the target species was observed directly, or its presence was confirmed by field investigations or in previous studies in the area.

Threatened, Endangered, and Special-status Species

A 1892 occurrence of Dwarf downingia (*Downingia pusilla)* overlaps with the parcel, however, the occurrence is over 100 years old and there is no suitable vernal pool habitat in the project area to support this species (Pinecrest Environmental Consulting 2021). Database records show a historic 1893 occurrence of Bank swallow (*Riparia riparia)* within Sonoma Creek, northeast of the project site, and overlaps with the parcel, however, there is no suitable nesting habitat in the project area that would support this species (**Table 3.4-1**). Records show a 2023 occurrence Northwestern pond turtle (*Actinemys marmorata)* within the adjacent dairy property, south of CA-12, west of Schell Creek, and directly adjacent to the project site, however, there is no suitable pond habitat, or suitable upland habitat to support this species within the project site and the proposed commercial cannabis cultivation area. Additionally, the Northwestern Pacific Railroad dissects and runs parallel to adjacent dairy property and the project site (Table 3.4-1).

Based on the review and site characteristics of the project site, no special-status plant and wildlife species are anticipated to occur within the project site due to the project site being located in a previously disturbed cultivated landscape with a predominant land use of cattle grazing and hay production. From its developed nature and having previous significant historical alteration of the natural landscape, the site lacks native habitat, with no natural vegetation or ecological features that would typically support special-status wildlife and plant species known to occur in the vicinity of the project site. Similarly, no special-status reptiles, bird species, fish, amphibians, or mammals are anticipated to occur at the project area. (Pinecrest Environmental Consulting 2021.)

Although Critical habitat is mapped within the footprint of the Proposed Project for Chinook salmon (*Oncorhynchus tshawytscha)* in Schell Slough, Sonoma Creek, and Railroad Slough. However, there is no aquatic habitat within the footprint Proposed Project site to support the species, nor would there be discharges of sediment that would adversely affect these species from Project activities. (Pinecrest Environmental Consulting 2021.)

A reconnaissance-level Biological Assessment (Pinecrest Environmental Consulting 2021) **(Appendix A)** provides tables showing the California Natural Diversity Database occurrences of special-status plant species and special-

status wildlife within a 5-mile radius of the project site. Table 3.4-1 lists the special-status wildlife species that are known to occur in or near the project area (Appendix A). Species that are possible or known to be present, are discussed further below; species not expected and with no suitable habitat are not discussed further.

Table 3.4-1. Special-status Plant and Wildlife Species Known to Occur in or near the Project Area

Scientific name	Listing status* (Federal/ State)	Habitat	Potential to Occur in the Project Area
Reptile			
Actinemys marmorata Northwestern pond turtle	PT/SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**None.** No suitable pond habitat or suitable upland habitat occurs within the project site and the proposed commercial cannabis cultivation area. There are no watercourses or riparian habitats within 150-feet of the project footprint. Additionally, adjacent areas of the project site and the project area have had significant historical alteration of the natural landscape, and the Proposed Project would take place on land which has been used for agricultural purposes of cattle grazing and various types of agriculture. CNDDB records from 2023 in adjacent dairy property, south of CA-12, west of Schell Creek, and directly adjacent to project site has been observed.
Birds			
Scientific name	**Listing status* (Federal/ State)**	**Habitat**	**Potential to Occur in the Project Area**
Riparia riparia Bank swallow	FE/SE	Migratory and colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**Not expected.** (Absent as nester). Suitable nesting habitat with sand banks and vertical embankments for nesting purposes is not present within project area. Additionally, adjacent areas of the project site and the project area have had significant historical alteration of the natural landscape, and the Proposed Project would take place on land which has been used for agricultural purposes of cattle grazing and various types of agriculture. A historic CNDDB record from 1893 within Sonoma Creek, northeast of the project site has been observed.

3.4.2.2 Wetlands and Other Waters

There is one location at the Proposed Project site that may qualify as jurisdictional wetland. There is a drainage swale with some vegetation with wetland characteristics present, between the hayfield and the stock yard. This area alternates between upland swale and potential wetland and drains to the north, before being conveyed beneath CA-12 via concrete culvert/bridge and passing into a drainage basin offsite to the north. However, the Proposed Project area does not contain any watercourses or riparian habitats within 150-feet of the proposed commercial cannabis cultivation area.

3.4.3 Discussion of Checklist Responses

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species (No Impact)

Based on the results of the Biological Assessment that was completed for the Proposed Project, no special-status plant and wildlife species are anticipated to occur within the project site as it is located in a previously disturbed cultivated landscape with a predominant land use of cattle grazing and hay production. (Pinecrest Environmental Consulting 2021.) From its developed nature and having previous significant historical alteration of the natural landscape, the site lacks native habitat, with no natural vegetation or ecological features that would typically support special-status wildlife and plant species known to occur in the vicinity of the project site.

The Proposed Project commercial cannabis cultivation area would be an outdoor commercial cannabis cultivation, including two outdoor plots for cannabis cultivation, each measuring approximately one acre. The commercial cannabis cultivation operations would entail immature plants being transferred from a licensed cannabis facility (e.g., nursery, retail store, etc.) to cannabis cultivation sites and planted in the designated canopy areas, either directly in the ground or in growing pots placed on the ground surface. None of the existing structures will be used to support onsite commercial cannabis activities.

Additionally, the Proposed Project would not include any construction activities or site modifications such as grading, new roads, vegetation removal, and new drainage systems are proposed for this project. Any construction required for the Proposed Project has already been completed, in accordance with local approvals and issuance of a provisional license by DCC. As described in Section 1.5, this IS/MND does not analyze impacts that may have already occurred if they cannot be mitigated.

Existing agricultural uses (cattle grazing, hay production, etc.) will continue to operate independently from the cannabis operation at the two parcels. Based on the Biological Assessment completed for the Proposed Project and because the Proposed Project would not include ground disturbance or any structural building modifications, the project conditions would be the same as existing conditions. No substantial adverse effect to any special-status species or its habitat would occur. Therefore, there would be **no impact** to on special-status species.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community (No Impact)

Based on the Biological Assessment completed for the Proposed Project there is no sensitive natural community within the footprint of the Proposed Project, nor does the Proposed Project area contain any watercourses or riparian habitats within 150 feet of the proposed commercial cannabis cultivation area. The Proposed Project does

not include any ground disturbance or any structural building modifications, and the project conditions would be the same as existing conditions. Therefore, there would be **no impact** to on these resources.

c. Have substantial adverse effects on state or federally protected wetlands (No Impact)

There is one location at the Proposed Project site that may qualify as jurisdictional wetland. There is a drainage swale with some vegetation with wetland characteristics present, between the hayfield and the stock yard (Pinecrest Environmental Consulting 2021). This area alternates between upland swale and potential wetland and drains to the north, before being conveyed beneath CA-12 via concrete culvert/bridge and passing into a drainage basin offsite to the north. The Biological Assessment indicated that the potential wetlands onsite were assessed visually by estimating the cover of wetland plants and examining site hydrology; however, a protocol-level wetland delineation was not performed. The Biological Assessment did not recommend that a wetland delineation be required since the wetlands are protected within the 100-foot setbacks mandated by the State Water Resources Control Board. (Pinecrest Environmental Consulting 2021.) Additionally, the drainage swale does not occur in the Proposed Project area and no project activities would occur within the footprint of the drainage swale. Therefore, no state or federally protected wetlands would be impacted on the project site; therefore, there will would be **no impact** to on these resources.

d. Interfere substantially with wildlife movement, established wildlife corridors, or the use of native wildlife nursery sites (No Impact)

The project site is not located within an established wildlife corridor or a native wildlife nursery site. The project site is in a rural area surrounded by agriculturally zoned parcels in the unincorporated Sonoma County. The area surrounding the project site is located within unincorporated Sonoma County containing a mixture of agricultural and light industry. The surrounding parcels are zoned Diverse Agriculture (DA), Land Extensive Agriculture (LEA), Land Intensive Agriculture (LIA), Agriculture and Residential (AR), Limited Rural Industrial (M3), Limited Commercial (LC), and Public Facilities (PF).

The nearest existing commercial uses open to the public are Larson Family Winery, approximately 2,300 feet southwest of the project site, Kivelstadt Cellars, approximately 2,250 feet west of the site, Ceja Vineyards Winery, approximately 3,000 feet east of the site, and Valley of the Moon Trap Club approximately 3,300 feet east of the site. There is a vacant 250,000 square-foot warehouse approximately 1,030 feet directly north of the site, and a Sonoma County waste treatment facility exists approximately 3,000 feet to the north.

Due to its developed nature, the project site limits native habitat with ecological features and lacks aquatic habitat that would typically support special-status wildlife and plant species known to occur in the vicinity of the project site. As described in Section 1.5, this IS/MND does not analyze impacts that may have already occurred if they cannot be mitigated. The Proposed Project would have no further construction or ground disturbance to occur because of the Proposed Project's actions. Therefore, the Proposed Project would have **no impact** associated with the movement of native resident or migratory wildlife species, or wildlife corridors.

e. Conflict with local policies or ordinances protecting biological resources (No Impact)

The Proposed Project does not involve the removal of any trees, nor are there any substantial conflicts with the County's local policies and ordinances pertaining to biological resources. Therefore, there would be **no impact**.

f. Conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP (No Impact)

The project site is not within the covered plan area of any adopted HCP or natural community conservation plan (NCCP). There would be **no impact** related to conflicts with an adopted HCP or NCCP.

3.5 Cultural Resources

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☐	☒
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

3.5.1 Regulatory Setting

Federal Laws, Regulations, and Policies

The Proposed Project does not require any federal permits, and it is not located on federal lands; therefore, federal laws do not apply to the Proposed Project. The following laws are provided for context only.

National Historic Preservation Act

Projects that require federal permits, receive federal funding, or are located on federal lands must comply with 54 U.S. Code section 306108, formally and more commonly known as Section 106 of the National Historic Preservation Act (NHPA). To comply with Section 106, a federal agency must "take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places [NRHP]." The implementing regulations for Section 106 are found in 36 C.F.R. Part 800, as amended (2004).

The implementing regulations of the NHPA require that cultural resources be evaluated for NRHP eligibility if they cannot be avoided by an undertaking or project. To determine if a site, district, structure, object, and/or building is significant, the NRHP Criteria for Evaluation are applied. A resource is significant and considered a historic property when it:

A. Is associated with events that have made a significant contribution to the broad patterns of our history; or

B. Is associated with the lives of persons significant in our past; or

C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or that possesses high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction; or

D. Yields, or may be likely to yield, information important in prehistory or history.

In addition, 36 C.F.R. section 60.4 requires that, to be considered significant and historic, resources must also exhibit the quality of significance in American history, architecture, archaeology, engineering, or culture and must possess integrity of location, design, setting, materials, workmanship, feeling, and association.

Other "criteria considerations" need to be applied to religious properties, properties that are less than 50 years old, a resource no longer situated in its original location, a birthplace or grave of a historical figure, a cemetery, a reconstructed building, and commemorative properties. These types of properties are typically not eligible for NRHP inclusion unless the criteria for evaluation and criteria considerations are met.

For archaeological sites evaluated under criterion D, "integrity" requires that the site remain sufficiently intact to convey the expected information to address specific important research questions.

Tribal cultural properties (TCPs) are locations of cultural value that are historic properties. A place of cultural value is eligible as a TCP "because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community" (Parker and King 1990, rev. 1998). A TCP must be a tangible property, meaning that it must be a place with a referenced location, and it must have been continually a part of the community's cultural practices and beliefs for the past 50 years or more.

State Laws, Regulations, and Policies

CEQA and CEQA Guidelines

Section 21083.2 of CEQA requires that the lead agency determine whether a project may have a significant effect on unique archaeological resources. A unique archaeological resource is defined in CEQA as an archaeological artifact, object, or site about which it can be clearly demonstrated that there is a high probability that it:

- Contains information needed to answer important scientific research questions, and there is demonstrable public interest in that information;
- Has a special or particular quality, such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Although not specifically inclusive of paleontological resources, these criteria may also help to define "a unique paleontological resource or site." Measures to avoid, conserve, preserve, or mitigate significant effects on these resources are also provided under CEQA section 21083.2.

Section 15064.5 of the CEQA Guidelines notes that "a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Substantial adverse changes include physical changes to the historic resource or to its immediate surroundings, such that the significance of the historic resource would be materially impaired. Lead agencies are expected to identify potentially feasible measures to mitigate significant adverse changes in the significance of a historic resource before they approve such projects. Historical resources are those that are:

- listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (Pub. Resources Code § 5024.1(e));

- included in a local register of historic resources (Pub. Resources Code, § 5020.1 subd. (k)) or identified as significant in an historic resource survey meeting the requirements of Public Resources Code section 5024.1(g); or
- determined by a lead agency to be historically significant.

CEQA Guidelines section 15064.5 also prescribes the processes and procedures found under Health and Safety Code section 7050.5 and Public Resources Code section 5097.95 for addressing the existence of, or probable likelihood of, Native American human remains, as well as the unexpected discovery of any human remains within the project site. This includes consultation with the appropriate Native American tribes.

CEQA Guidelines section 15126.4 provides further guidance about minimizing effects to historical resources through the application of mitigation measures. Mitigation measures must be legally binding and fully enforceable.

The lead agency having jurisdiction over a project is also responsible to ensure that paleontological resources are protected in compliance with CEQA and other applicable statutes. Paleontological and historical resource management is also addressed in Public Resources Code section 5097.5, "Archaeological, Paleontological, and Historical Sites." This statute defines as a misdemeanor any unauthorized disturbance or removal of a fossil site or remains on public land and specifies that state agencies may undertake surveys, excavations, or other operations as necessary on state lands to preserve or record paleontological resources. This statute would apply to any construction or other related project impacts that would occur on state-owned or state-managed lands.

California Register of Historical Resources

Public Resources Code section 5024.1 establishes the CRHR. The register lists all California properties considered to be significant historical resources. The CRHR includes all properties listed as or determined to be eligible for listing in the NRHP, including properties evaluated under section 106 of the National Historic Preservation Act. The criteria for listing are similar to those of the NRHP. Criteria for listing in the CRHR include resources that:

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

The regulations set forth the criteria for eligibility as well as guidelines for assessing historical integrity and resources that have special considerations.

Local Laws, Regulations, and Policies

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-254(f)(14) Cultural and Historic Resources. Cultivation sites shall avoid impacts to significant cultural and historic resources by complying with the following standards. Sites located within a historic district shall be subject to review by the landmarks commission, unless otherwise exempt,

consistent with Section 26-68-020 and shall be required to obtain a use permit. Cultivation operations involving ground disturbing activities, including but not limited to, new structures, roads, water storage, trenching for utilities, water, wastewater, or drainage systems shall be subject to design standards and referral to the Northwest Information Center and local tribes. A use permit will be required if mitigation is recommended by the cultural resource survey or local tribe.

The following minimum standards shall apply to cultivation permits involving ground disturbance. All grading and building permits shall include the following notes on the plans:

- If paleontological resources or prehistoric, historic-period or tribal cultural resources are encountered during ground-disturbing work at the project location, all work in the immediate vicinity shall be halted and the operator must immediately notify the agency having jurisdiction of the find. The operator shall be responsible for the cost to have a qualified paleontologist, archaeologist and tribal cultural resource specialist under contract to evaluate the find and make recommendations in a report to the agency having jurisdiction.
- Paleontological resources include fossils of animals, plants or other organisms. Historic-period resources include backfilled privies, wells, and refuse pits; concrete, stone, or wood structural elements or foundations; and concentrations of metal, glass, and ceramic refuse. Prehistoric and tribal cultural resources include obsidian and chert flaked-stone tools (e.g., projectile points, knives, choppers), midden (culturally darkened soil containing heat-affected rock, artifacts, animal bone, or shellfish remains), stone milling equipment, such as mortars and pestles, and certain sites features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe.
- If human remains are encountered, work in the immediate vicinity will stop and the operator shall notify the agency having jurisdiction and the Sonoma County Coroner immediately. At the same time, the operator shall be responsible for the cost to have a qualified archaeologist under contract to evaluate the discovery. If the human remains are determined to be of Native American origin, the Coroner must notify the Native American Heritage Commission within twenty-four (24) hours of this identification.

3.5.2 Environmental Setting

Pre-Contact

The pre-contact (or prehistoric) era of the Project Area reflects information known about the indigenous population from the time the region was first populated with humans until the arrival of the first Europeans, who visited and recorded their journeys through the written record. The pre-contact record is derived from over a century of archaeological research, and while much has been gleaned from these studies, large gaps in the data record remain. The following pre-contact culture sequence, derived from Milliken et al. (2007:114-118) and Milliken et al. (2009:70-74), briefly outlines the pre-contact chronology of the North Bay region of the San Francisco Bay Area.

The Early Holocene (Lower Archaic; 9950 to 5450 Before Present[5] (B.P.)) is considered a time when populations continued to be very mobile as they practiced a foraging subsistence pattern around the region. Artifacts that characterize this period include the milling slab and handstone to process seeds, as well as large wide-stemmed and leaf-shaped projectile points. These artifacts are associated with the Borax Lake Pattern, of which the local

[5] B.P. = 1950+B.C. or 1950-A.D., where 1950 represents the "present" in terms of radiocarbon dating development.

Sonoma County variation is represented in the Spring Lake Aspect. CA-SON-20 is the type-site of the Spring Lake Aspect and has yielded millingslabs, flaked stone tools, and large wide-stemmed projectile points, the majority of which are made from Borax Lake obsidian. The Spring Lake Aspect is thought to represent a mobile forager economic pattern in Sonoma County.

The Early Period (Middle Archaic; 5450 to 2450 B.P.) is marked by the appearance of cut shell beads in the archaeological record, as well as the presence of the mortar and pestle for processing acorns. House floors with postholes indicate substantial living structures, which suggests a move toward establishing a more sedentary lifestyle and an increasing population. The Berkeley Pattern emerged in the San Francisco Bay Area at approximately 4950 B.P., and later spread into surrounding coastal and interior areas. The Berkeley Pattern is characterized by abundant stone mortars and pestles, flexed burials, and a highly developed bone tool industry. In the North Bay, forager economies persisted for much of the Early Period and lowland sedentary collectors lived side by side with upland mobile foragers. The Berkeley Pattern spread to the Santa Rosa area by 2950 B.P.

The Middle Period, which includes the Lower Middle Period (Initial Upper Archaic; 2450-1520 B.P.) and Upper Middle Period (Late Upper Archaic; 1520-900 B.P.), appears to be a time when geographic mobility may have continued, although groups began to establish longer-term base camps in localities from which a more diverse range of resources could be exploited. The first rich black middens are recorded from the Early/Middle Period Transition sites. The Berkeley Pattern continued through the San Francisco Bay Area during the Middle Period but became increasingly complex. The addition of milling tools, obsidian and chert concave-base projectile points, and the occurrence of sites in a wider range of environments suggest that the economic base was more diverse. By the Upper Middle Period, mobility was being replaced by the development of numerous small villages. Around 1520 B.P. a “dramatic cultural disruption” occurred, as evidenced by the sudden collapse of the Olivella saucer bead trade network.

The Initial Late Period (Lower Emergent; 900 to 400 B.P.) reflects a social complexity that had developed toward lifeways of large, central villages with resident political leaders and specialized activity sites. A major cultural shift, or the Middle/Late Period Transition, began in the San Francisco Bay Area around 950 B.P. A majority of bone tool and ornament types from the Middle Period disappeared, and several new shell bead types emerge. By around 700 years ago the San Francisco Bay Area had transitioned to the Augustine Pattern. Artifacts associated with this pattern include the bow and arrow, small corner-notched projectile points, and a diversity of beads and ornaments. Increased social stratification, complex exchange systems, and elaborate ceremonialism are also characteristic of the Augustine Pattern.

The Terminal Late Period (Upper Emergent; 400 to 200 years B.P.) generally represents the indigenous cultures that were encountered by the Spanish when they first arrived in San Francisco Bay. A shift in the Augustine Pattern occurred soon after 450 B.P. (A.D. 1500). Clam shell beads, potentially representing a form of currency, and widespread cremations are characteristic markers of the later phase of the Augustine Pattern. The artifacts found at contact-era sites, including clamshell beads, abalone pendants, flanged steatite pipes, etched bone whistles and tubes, flowerpot mortars, and basketry awls – reflect the complexity of indigenous culture at the time of Spanish arrival.

Sometime around 450 to 400 years B.P. (calendar year A.D. 1500 to 1550), the North Bay became the seat of innovation in the Bay Area. The first appearances of the toggle harpoon, hopper mortar, corner-notched arrow projectile points, clamshell disk beads, and secondary cremation are observed in the North Bay. The production

of clam shell disk beads, which are believed to represent a form of standardized currency, also appears to have centered around the Santa Rosa Plain and Napa Valley during this period.

Ethnography

The Coast Miwok were one of the California Penutian Language speaking groups and closely related to the Lake Miwok (Kelly 1978:414). The Coast Miwok occupied the northwest coast of California from the mouth of the Golden Gate in the south, to approximately 5 miles north of Bodega Bay in the north, to approximately 4 miles east of Sonoma Creek (Barrett 1908; Kelly 1978). Barrett (1908) divides Coast Miwok speakers into two distinct dialects: Western/Bodega and Southern/Marin.

There were historically 44 recorded villages within the Coast Miwok territory, many of which provide present place names (Kelly 1978:415). Ethnographic accounts indicate that the Coast Miwok resided in large villages, each of which had a headman, but cannot be said to have a universal tribal organization. According to informant Tom Smith, a headman (hóypuh), a "woman chief" (hóypuh kulé(·)yih) and a third female leader (máien) split responsibilities of tending to people and organizing religious ceremonies (Kelly 1978:419).

The Coast Miwok were among the first California Native peoples to encounter Euro-Americans, greeting Sir Francis Drake in 1579. During the late eighteenth and early nineteenth century, many Coast Miwoks were subjected to missionization at San Francisco, San Rafael, and Sonoma, as well as labor at Fort Ross under the Russians. In 1850, a year after the end of the American conquest of California, the Coast Miwok population was estimated at 250 (Kelly 1978:414).

The Coast Miwok followed a cyclical pattern of subsistence, exploiting resources that were available on a seasonal basis. The Coast Miwok had a diversified subsistence economy based on fishing, hunting and gathering with a particular dependence on acorns. Important marine resources included fish, eels, clams, mussels, and seaweed, while terrestrial resources included acorns, bear, deer, elk, and small game (Kelly 1978:416). The Coast Miwok had a rich culture of religion, ritual and dance, with music and games being a large part of their cultural expression.

The Project area is associated with what the Franciscan missionaries referred to as the Chocuyen community. Milliken (2009) suggests that the Chocuyens were centered along Sonoma Creek in the present-day area of Sonoma, with their southern boundary extending to the San Pablo Bay marsh edge in the Huichica Creek vicinity. The estimated pre-Hispanic population of the Chocuyen community was about 296 people.

History

As previously mentioned, the first encounter between the Coast Miwok and Europeans appears to have occurred in 1579 when Sir Francis Drake landed somewhere in the Point Reyes Peninsula. The next known contact occurs sixteen years later in 1595, when Sebastian Cermeno anchored in Drake's Bay. The Spanish later returned in 1603, at which point Sebastian Vizcaino landed in Tomales Bay (National Park Service 2020). There appears to be no further European contact until the arrival of Spanish explorers in the late 1760s and 1770s, which traditionally marks the beginning of the historic era in the San Francisco Bay Area.

Members of the Portola expedition were the first to arrive in present-day San Francisco Bay Area after following the coast from San Diego. Multiple Spanish expeditions followed, including Juan de Ayala's landing in the San Francisco Bay in 1775. By 1793, the area encompassing the northern and central peninsula was no longer inhabited

by tribal villages and the local San Francisco Bay Costanoan-speaking local tribes of the area had been absorbed into Mission Dolores, which had been established in present-day San Francisco in 1776 (Milliken et al. 2009).

While conversion efforts at Mission Dolores first focused on the indigenous people of the San Francisco Peninsula and the East Bay, the percentage of Coast Miwok speakers rose from 7.9% of the mission population to 45% at the end of 1808. Coast Miwok speakers were also sent to Mission San Jose, Mission San Rafael, and Mission San Francisco Solano (Milliken et al. 2009).

In 1812, the Russian-American Fur Company, which represented Russia's interest in the Pacific fur trade, founded Fort Ross twelve miles north of the mouth of the Russian River. Fort Ross operated as the base of Russia's sea otter and fur seal hunting operations and also became a prosperous agricultural community. The Russians recruited Coast Miwok, Kashaya Pomo, and Southern Pomo peoples to work at Fort Ross. The smallpox epidemic of 1837 is believed to have originated from a Russian ship docked at Fort Ross. This epidemic, which lasted until 1839, decimated the indigenous population of the Sonoma-Napa region. Fort Ross was disbanded in 1841 after it was purchased by John Sutter (Kyle 2002, Lightfoot et al. n.d.).

Mexico, including California, became independent from Spain in 1822, and after that time, the government began to issue grants of land to favored citizens. The Mexican government secularized the mission system in 1834, after which mission lands were also redistributed as land grants, or Ranchos. The Project area is located within the 18,704-acre Huichica land grant, which was originally granted to Jacob P. Leese in 1841 (Cultural Resources Practitioners 2021a). The discovery of gold in 1849 brought an influx of settlers to Sonoma County. Agriculture dominated the economy of nineteenth and twentieth century Sonoma County, primarily viticulture, hops, dairy ranching, and poultry production. Today, Sonoma County is known for its vineyards and premier wine industry.

The Project is located in Schellville, which is one of Sonoma County's oldest communities and was once a main transfer point on the route to and from San Francisco. The community was named Schellville in 1888 by the Northwestern Pacific Railroad, who named their station there after a local merchant named Theodore L. Schell. The Schellville station connected the Northwestern and Southern Railroads and therefore remained an important railroad junction into the late twentieth century (Cultural Resources Practitioners 2021a).

Cultural Resources Studies

Archival Search

A record search was requested at the Northwest Information Center to determine whether any portions of the project area had been previously surveyed for cultural resources and to identify the presence of any previously recorded cultural resources within the Project area, as well as a 0.25-mile buffer (the search radius). The records search was received on February 26, 2025 (NWIC File No. 24-1147).

Other sources of information reviewed included, but were not limited to, the current listings of properties on the National Register of Historic Places, California Historical Landmarks, California Register of Historical Resources, California Points of Historical Interest, as listed in the Office of Historic Preservation's (OHP's) Historic Property Directory, and the Built Environment Resource Directory (BERD) for Sonoma County.

One resource, P-49-002834, has been previously recorded within the parcels containing the project area. P-49-002834 is a historic-era segment of the Northwestern Pacific Railroad and was constructed between 1878 and 1880. P-49-002834 is currently listed in the CRHR and has previously been recommended as eligible for listing in

the NRHP. Project activities will not intersect with the previously recorded boundaries of P-49-002834 as the resource is located approximately 0.25 miles northeast and 0.2 miles east of the two outdoor cultivation plots.

Three resources (P-49-000195, -49-001043, and -49-005193) have been previously recorded within the 0.25-mile search radius. P-49-005193 has been previously recommended as not eligible for listing in both the NRHP and CRHR; the NRHP/CRHR evaluation statuses of P-49-000195 and P-49-001043 are unknown. All three resources within the 0.25-mile search radius would not be affected by the Proposed Project's activities.

According to the record search results, the boundaries of five previous studies intersect with the project area. An additional sixteen previous studies have boundaries that intersect with the 0.25-mile search radius.

Native American Communication

An email request was made to the Native American Heritage Commission (NAHC) on February 3, 2025, to review its files for the presence of recorded sacred sites on the project area. The NAHC responded on February 3, 2025. The results of the Sacred Lands database review were negative for any sacred sites within the project area.

On April 24 and May 1, 2025, letters were sent to the six tribal contacts provided by the NAHC. The letters requested any additional information regarding tribal resources and to notify DCC if they wished to initiate consultation regarding the project actions. A response was received from Lytton Rancheria, who stated that the Tribe is not requesting further consultation based on the information provided by DCC. DCC also received a response from the Federated Indians of Graton Rancheria (FIGR) on June 5, 2025, requesting consultation regarding the Proposed Project. DCC sent responses to FIGR via e-mail on July 14, August 4, August 15, August 27, and September 8, 2025, and called FIGR on September 4, 2025, to provide additional information about the Proposed Project and schedule a consultation. FIGR responded on September 8, 2025 to schedule a consultation for October 1, 2025. As planning proceeds, DCC will continue to consult with FIGR and any other interested tribal representatives regarding the Proposed Project and incorporate their concerns into project planning and mitigation as warranted.

In addition, coordination with tribes is described further in Section 3.18, "Tribal Cultural Resources."

Archaeological Survey and Results

A cultural pedestrian survey of the project area was conducted on January 14, 2021, by Cultural Resources Practitioners, LLC. The survey area included the areas of the two outdoor cultivation plots and portions of both APN 128-444-002 and APN 128-471-006. No cultural resources or archaeological deposits were identified as a result of the survey (Cultural Resources Practitioners 2021a; 2021b).

3.5.3 Discussion of Checklist Responses

a. Cause a substantial adverse change in the significance of a historical resource (No Impact)

A cultural resource review was conducted to address the responsibilities of CEQA, as codified in Public Resource Code sections 5097 and its implementing guidelines 21082 and 21083.2. As stated above, one historic-era resource (P-49-002834) has been previously recorded within the parcels containing the project area. P-49-002834 is currently listed in the CRHR and has previously been recommended as eligible for listing in the NRHP. An additional historic-era resource (P-49-005193) has been previously recorded within the 0.25-mile search radius. P-49-005193 has previously been recommended as ineligible for listing in the CRHR and NRHP. However, both

previously recorded resources will not be affected by the Proposed Project's activities as they are not located within the outdoor commercial cannabis cultivation area.

All construction activities are complete and were performed in accordance with local approval by Sonoma County and issuance of a provisional license by DCC. As such, no historical resources that are archaeological in nature would be discovered. As described in Section 1.5, this IS/ND does not analyze impacts that may have already occurred if they cannot be mitigated. Therefore, the Proposed Project would have **no impact** on historic resources (built environment).

b. Cause a substantial adverse change in the significance of an archaeological resource (No Impact)

As discussed above, no archaeological resources, as defined in Section 15064.5 of the CEQA Guidelines, have been identified within the project areas. Two archaeological resources (P-49-000195 and P-49-001043) have been identified within the search radius; the NRHP and CRHR evaluation statuses of both resources are unknown. However, the Proposed Project will not affect P-49-000195 and P-49-001043. As such, no significant impacts to known archaeological resources would be expected to occur as a result of the Proposed Project. Additionally, all construction activities are complete and were performed in accordance with local approval by Stanislaus County and issuance of a provisional license by DCC. No additional ground disturbance is anticipated as part of the Proposed Project, and therefore, no archaeological resources would be discovered. As described in Section 1.5, this IS/ND does not analyze impacts that may have already occurred, if they cannot be mitigated. Therefore, the Proposed Project would have **no impact** on archaeological resources.

c. Disturb any human remains, including those interred outside of dedicated cemeteries (No Impact)

Given that no further ground disturbance or construction is expected to occur as a result of the Proposed Project's actions, the discovery of human remains is not anticipated during the implementation of the Proposed Project. All construction activities were performed in accordance with local approval by Sonoma County and issuance of a provisional license by DCC. As described in Section 1.5, this IS/ND does not analyze impacts that may have already occurred, if they cannot be mitigated. Therefore, the Proposed Project would have **no impact** on human remains.

3.6 Energy

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

3.6.1 Regulatory Setting

Federal Laws, Regulations, and Policies

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Pursuant to this act, the National Highway Traffic and Safety Administration, part of the U.S. Department of Transportation (DOT), is responsible for revising fuel economy standards and establishing new vehicle economy standards.

The Corporate Average Fuel Economy (CAFE) program was established to determine vehicle manufacturers' compliance with the government's fuel economy standards. Compliance with the CAFE standards is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the country. The US Environmental Protection Agency calculates a CAFE value for each manufacturer based on the city and highway fuel economy test results and vehicle sales. Based on information generated under the CAFE program, DOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 and 2005

The Energy Policy Act (EPAct) of 1992 was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAct. Federal tax deductions are allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs. The EPAct of 2005 provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

State Laws, Regulations, and Policies

Warren-Alquist Act

The 1975 Warren-Alquist Act (Pub. Resources Code, § 25000 et seq.), established the California Energy Resources Conservation and Development Commission, now known as the California Energy Commission (CEC). The act established state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission regulates privately owned utilities in the energy, rail, telecommunications, and water fields.

State of California Energy Action Plan

The California Energy Commission (CEC) is responsible for preparing the state energy plan, which identifies emerging trends related to energy supply, demand, and conservation; public health and safety; and the maintenance of a healthy economy (CPUC and CEC 2008). The current plan is the 2003 California Energy Action Plan (2008 update). The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies several strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs, as well as the encouragement of urban design that reduces vehicle miles traveled (VMT) and accommodates pedestrian and bicycle access.

Assembly Bill 2076: Reducing Dependence on Petroleum

Pursuant to Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000), CEC and the California Air Resources Board (CARB) prepared and adopted a joint agency report in 2003, Reducing California's Petroleum Dependence. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita VMT (CEC and CARB 2003). A performance-based goal of AB 2076 was to reduce petroleum demand to 15 percent below 2003 demand by 2030.

Integrated Energy Policy Report

Senate Bill (SB) 1389 (Chapter 568, Statutes of 2002) required CEC to "conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The Energy Commission shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety" (Pub. Resources Code, §25301(a)). This work culminated in the Integrated Energy Policy Report (IEPR).

CEC adopts an IEPR every 2 years and an update every other year. The 2023 IEPR is the most recent IEPR. The 2023 IEPR provides a summary of priority energy issues currently facing the state, outlining strategies and recommendations to further the state's goal of ensuring reliable, affordable, and environmentally responsible energy sources. The report contains an assessment of major energy trends and issues in California's electricity, natural gas, and transportation fuel sectors. The report provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. Topics covered in the 2023 IEPR include building decarbonization, coordination between state energy agencies, decarbonizing the state's natural gas system, increasing transportation

efficiencies, and improving energy reliability. The IEPR also presents an assessment of the California Energy Demand Forecast (CEC 2023).

Renewables Portfolio Standard

The state passed legislation referred to as the Renewables Portfolio Standard (RPS), which requires increasing the use of renewable energy to produce electricity for consumers. California utilities are required to generate 33 percent of their electricity from renewables by 2020 (SB X1-2, Chapter 1, Statutes of 2011), 52 percent by 2027 (SB 100, Chapter 312, Statutes of 2018), 60 percent by 2030 (also SB 100, Chapter 312, Statutes of 2018), and 100 percent by 2045 (also SB 100, Chapter 312, Statutes of 2018). On September 16, 2022, SB 1020 (Chapter 361, Statutes of 2022) was signed into law. This bill supersedes the goals of SB 100 by requiring that eligible renewable energy resources and zero-carbon resources supply 90 percent of all retail sales of electricity to California end-use customers by December 31, 2035; 95 percent by December 31, 2040; and 100 percent by December 31, 2045, and supply 100 percent of electricity procured to serve all state agencies by December 31, 2035.

Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015

The Clean Energy and Pollution Reduction Act of 2015 (SB 350, Chapter 547, Statutes of 2015)) requires that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030. It also establishes energy efficiency targets that achieve statewide, cumulative doubling of the energy efficiency savings in electricity and natural gas end uses by the end of 2030.

Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statues of 2005) required CEC to prepare a state plan to increase the use of alternative fuels in California. CEC prepared the State Alternative Fuels Plan in partnership with CARB and in consultation with other state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative nonpetroleum fuels in a manner that minimizes the costs to California and maximizes the economic benefits of in-state production. The plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuel use, reduce greenhouse gas (GHG) emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

California Building Energy Efficiency Standards (Title 24, Part 6 and Part 11)

The energy consumption of new residential and non-residential buildings in California is regulated by the state's Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code). CEC updates the California Energy Code every three years with more stringent design requirements for reduced energy consumption, which results in the generation of fewer GHG emissions. The current California Energy Code will require builders to use more energy efficient building technologies for compliance with increased restrictions on allowable energy use. The core focus of the building standards has been efficiency, but the 2019 Energy Code ventured into on-site generation by requiring solar photovoltaic (PV) systems on new homes, providing significant GHG savings. The 2022 California Energy Code, the most recent version advances the on-site energy generation progress started in the 2019 California Energy Code by encouraging electric heat pump technology and use, establishing electric-ready requirements when natural gas is installed, expanding solar PV system and battery storage standards, and strengthening ventilation standards to improve indoor air quality. CEC estimates that the 2022 California Energy

Code will save consumers $1.5 billion and reduce GHG emissions by 10 million metric tons of carbon dioxide-equivalent emissions over the next 30 years.

The California Green Building Standards Code, known as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code. It became mandatory effective January 1, 2011 (as part of the 2010 California Building Standards Code). The current version is the 2022 CALGreen Code, which took effect on January 1, 2023. As compared to the 2019 CALGreen Code, the 2022 CALGreen Code strengthened sections pertaining to electric vehicle and bicycle parking, water efficiency and conservation, and material conservation and resource efficiency, among other sections of the CALGreen Code. The CALGreen Code sets design requirements equivalent to or more stringent than those of the California Energy Code for energy efficiency, water efficiency, waste diversion, and indoor air quality. These codes are adopted by local agencies that enforce building codes and used as guidelines by state agencies for meeting the requirements of Executive Order B-18-12.

AB 1279 and 2022: Scoping Plan for Achieving Carbon Neutrality

On September 16, 2022, the state legislature passed AB 1279 (Chapter 337, Statutes of 2022), which codified the stringent emission targets for the state of achieving carbon neutrality and an 85 percent reduction in 1990 emissions level by 2045. CARB released the Final 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) on November 16, 2022, as also directed by AB 1279 (CARB 2022). The 2022 Scoping Plan traces the pathway for the state to achieve its carbon neutrality goal and an 85-percent reduction in 1990 emissions goal by 2045. CARB adopted the 2022 Scoping Plan on December 16, 2022.

California Energy Efficiency Action Plan

The 2019 California Energy Efficiency Action Plan (CEC 2019) has three primary goals for the state: double energy efficiency savings by 2030 relative to a 2015 base year (per SB 350, Chapter 547, Statutes of 2015), expand energy efficiency in low-income and disadvantaged communities, and reduce GHG emissions from buildings. This plan provides guiding principles and recommendations related to how the state would achieve those goals. These recommendations include:

- Identifying funding sources that support energy efficiency programs,
- Identifying opportunities to improve energy efficiency through data analysis,
- Using program designs to encourage increased energy efficiency on the consumer end,
- Improving energy efficiency through workforce education and training, and
- Supporting rulemaking and programs that incorporate energy demand flexibility and building decarbonization.

The 2021 Energy Efficiency Action Plan, the most recent version, was covered in two documents, 1) The 2021 California Building Decarbonization Assessment (CEC 2021), and 2) The final 2021 Integrated Energy Policy Report Volume I Building Decarbonization (CEC 2022).

DCC Commercial Cannabis Business Regulations

DCC regulations include the following requirements regarding energy use for commercial cannabis businesses.

Section 16305: Renewable Energy Requirements

(a) Beginning January 1, 2023, all holders of indoor, tier 2 mixed-light license types of any size, and all holders of nursery licenses using indoor or tier 2 mixed-light techniques shall ensure that electrical power used for commercial cannabis activity meets the average electricity greenhouse gas emissions intensity required by their local utility provider pursuant to the California Renewables Portfolio Standard Program in division 1, part 1, Chapter 2.3, article 16 (commencing with section 399.11) of the Public Utilities Code.

(b) If a licensed cultivator's average weighted greenhouse gas emission intensity, as calculated and reported upon license renewal pursuant to section 15020, is greater than the local utility provider's greenhouse gas emission intensity, the licensee shall obtain carbon offsets to cover the excess in carbon emissions from the previous annual licensed period. The carbon offsets shall be purchased from one or more of the following recognized voluntary carbon registries:

(1) American Carbon Registry;
(2) Climate Action Reserve; or
(3) Verified Carbon Standard.

Section 16306: Generator Requirements

(a) For the purposes of this section, "generator" means a stationary or portable compression ignition engine, also known as a diesel engine, as defined in Title 17, California Code of Regulations, section 93115.4.

(b) Licensed cultivators using generators rated at fifty (50) horsepower and greater shall demonstrate compliance with the Airborne Toxic Control Measure for stationary or portable engines, as applicable, established in title 17, California Code of Regulations, sections 93115-93116.5. Compliance shall be demonstrated by providing a copy of one of the following to the Department upon request:

(1) For portable engines, a Portable Equipment Registration Certificate provided by the California Air Resources Board; or

(2) For portable or stationary engines, a Permit to Operate or other proof of engine registration, obtained from the Local Air District with jurisdiction over the licensed premises.

(c) Licensed cultivators using generators rated below fifty (50) horsepower shall comply with the following by 2023:

(1) Either subsection (1)(A) or (1)(B):

(A) Meet the "emergency" definition for portable engines in title 17, California Code of Regulations, section 93116.2(a)(12), or the "emergency use" definition for stationary engines in title 17, California Code of Regulations, section 93115.4(a)(30); or

(B) Operate eighty (80) hours or less in a calendar year; and

(2) Either subsection (2)(A) or (2)(B):

(A) Meet Tier 3 with Level 3 diesel particulate filter requirements in title 13, California Code of Regulations, sections 2700-2711; or

(B) Meet Tier 4 requirements, or current engine requirements if more stringent, in title 40, Code of Federal Regulations, Chapter I, subchapter U, part 1039, subpart B, section 1039.101.

(d) All generators used by licensed cultivators shall be equipped with non-resettable hour-meters. If a generator does not come equipped with a non-resettable hour-meter, an aftermarket non-resettable hour-meter shall be installed.

Local Laws, Regulations, and Policies

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-254(g)(3). Operating Standards - Energy Use. Electrical power for indoor cultivation, mixed light operations, and processing including but not limited to illumination, heating, cooling, and ventilation, shall be provided by any combination of the following: (i) on-grid power with one hundred percent (100%) renewable source; (ii) on-site zero net energy renewable source; or (iii) purchase of carbon offsets of any portion of power not from renewable sources. The use of generators for indoor and mixed light cultivation is prohibited, except for portable temporary use in emergencies only.

Sonoma County Code section 7A-29. - California Model Codes to be a basis of approval. Except as otherwise required by this chapter, dwellings and appurtenant structures constructed pursuant to this part shall conform with the latest applicable editions of the California Building, Residential, Electrical, Plumbing, Mechanical, Energy, Fire and Green Building Standards Codes. Such codes shall be a basis for approval.

3.6.2 Environmental Setting

The commercial cannabis cultivation site is entirely outdoors and commercial cannabis cultivation activities would not require supplemental lighting. The project site is connected to the grid, and power is required to operate a water pump. Power for the water pump is supplied by Pacific Gas and Electric Company (PG&E). The project site will be equipped with solar and/or battery-powered motion-sensor security lights and cameras. It will not require additional energy resources. Generators would not be used.

3.6.3 Discussion of Checklist Responses

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources (Less than Significant Impact)

The Proposed Project is connected to the utility grid but uses power only to operate a water pump. The Proposed Project would utilize solar and/or battery-powered motion-sensor security lights and cameras for security. Energy uses for project facilities would be minimal.

Commercial cannabis cultivation activities would include the use of vehicles for occasional deliveries of products to and from the site, which would require electricity and/or gasoline to operate. Materials delivery for commercial cannabis cultivation operations would include only two round trip vehicle trips per day during the growing season, with up to 24 round trips per day during short periods of time for site preparation and harvesting activities. In addition, state laws requiring vehicle fuel efficiency would help to minimize impacts.

Compliance with state requirements would ensure that the Proposed Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with applicable energy policies. Therefore, impacts would be **less than significant.**

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency (No Impact)

The Proposed Project is connected to the utility grid, but has very limited needs for energy. Vehicle transportation to and from the site would be minimal. The Proposed Project would not conflict with or obstruct a state or local plan for renewable energy. There would be **no impact**.

3.7 Geology, Soils, and Seismicity

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☐	☐	☐	☒
iii Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

3.7.1 Regulatory Setting

Federal Laws, Regulations, and Policies

National Earthquake Hazards Reduction Act

The National Earthquake Hazards Reduction Act of 1977 (Public Law 95-124) established the National Earthquake Hazards Reduction Program (NEHRP), which is a long-term earthquake risk reduction program to better understand, predict, and mitigate risks associated with seismic events. The following four federal agencies are responsible for coordinating activities under NEHRP:

1. USGS;
2. National Science Foundation (NSF);
3. Federal Emergency Management Agency (FEMA); and
4. National Institute of Standards and Technology.

Since its inception, NEHRP has shifted its focus from earthquake prediction to hazard reduction. Nevertheless, the four basic NEHRP goals remain unchanged (NEHRP 2021):

1. Develop effective practices and policies for earthquake loss reduction and accelerate their implementation;
2. Improve techniques for reducing earthquake vulnerabilities of facilities and systems;
3. Improve earthquake hazards identification and risk assessment methods, and their use; and
4. Improve the understanding of earthquakes and their effects.

Implementation of NEHRP objectives is accomplished primarily through original research, publications, and recommendations and guidelines for state, regional, and local agencies in the development of plans and policies to promote safety and emergency planning.

State Laws, Regulations, and Policies

Alquist–Priolo Earthquake Fault Zoning Act

The Alquist–Priolo Earthquake Fault Zoning Act (Alquist–Priolo Act) (Pub. Resources Code § 2621 et seq.) was passed to reduce the risk to life and property from surface faulting in California. The Alquist–Priolo Act prohibits construction of most types of structures intended for human occupancy on the surface traces of active faults and strictly regulates construction in the corridors along active faults (earthquake fault zones). It also defines criteria for identifying active faults, giving legal weight to terms such as “active,” and establishes a process for reviewing building proposals situated in and adjacent to earthquake fault zones. Under the Alquist–Priolo Act, faults are zoned, and construction along or across them is strictly regulated if they are “sufficiently active” and “well defined.” Before a project can be permitted, cities and counties require completion of a geologic investigation to demonstrate that the proposed buildings would not be constructed across active faults.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (Pub. Resources Code §§ 2690–2699.6) establishes statewide minimum public safety standards for mitigation of earthquake hazards. While the Alquist–Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist–Priolo Act. The state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other seismic hazards; cities and counties are required to regulate development within mapped seismic hazard zones. In addition, the act addresses not only seismically induced hazards but also expansive soils, settlement, and slope stability. Under the Seismic Hazards Mapping Act, cities and counties may withhold the development permits for a site within seismic hazard zones until appropriate site-specific geologic and/or geotechnical investigations have been carried out and measures to reduce potential damage have been incorporated into the development plans.

California Building Standards Code

Title 24 of the California Code of Regulations, also known as the California Building Standards Code (CBC), specifies standards for geologic and seismic hazards other than surface faulting. These codes are administered and updated by the California Building Standards Commission. CBC specifies criteria for open excavation, seismic design, and load-bearing capacity directly related to construction in California.

Paleontological Resources

Paleontological resources are classified as non-renewable scientific resources and are protected by state statute (Pub. Resources Code, § 5097.5; State CEQA Guidelines, Appendix G). No state or local agencies have specific jurisdiction over paleontological resources. No state or local agency requires a paleontological collecting permit to allow for the recovery of fossil remains discovered as a result of construction-related earthmoving on state or private land on a project site.

Local Laws, Regulations, and Policies

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-250(c)(2). Limitations on Use. Commercial cannabis activities shall only be allowed in compliance with all applicable county codes, including but not limited to, grading, building, plumbing, septic, electrical, fire, hazardous materials, and public health and safety.

Sonoma County Code section 26-88-250(c)(3). Limitations on Use. The permit holder shall comply with all laws and regulations applicable to the type of use and shall comply with all permit, license, approval, inspection, reporting and operational requirements of other local, state, or other agencies having jurisdiction over the type of operation. The permit holder shall provide copies of other agency and department permits, licenses, or certificates to the review authority to serve as verification for such compliance.

Sonoma County Code section 26-88-254(f)(17). Grading and Access. Cultivation sites shall be prohibited on natural slopes steeper than fifteen percent (15%), as defined by Section 11-22-020, unless a use permit is obtained. Grading shall be subject to a grading permit in compliance with Chapter 11 of the county code.

3.7.2 Environmental Setting

Geology

The project area is located in the North Coast Ranges geomorphic province of California. The North Coast Ranges are part of the larger Coast Range Geomorphic Province. The Coast Ranges are northwest-trending mountain ranges, varying from 2,000 to 4,000 above sea level and occasionally 6,000 feet elevation above sea level, and valleys. The ranges and valleys trend northwest, subparallel to the San Andreas Fault. The Coast Ranges are composed of thick Mesozoic and Cenozoic sedimentary strata. The northern and southern ranges are separated by a depression containing the San Francisco Bay. The northern Coast Ranges are dominated by irregular, knobby, landslide-topography of the Franciscan Complex. The eastern border is characterized by strike-ridges and valleys in Upper Mesozoic strata. In several areas, Franciscan rocks are overlain by volcanic cones and flows of the Quien Sabe, Sonoma and Clear Lake volcanic fields. The Coast Ranges are subparallel to the active San Andreas Fault (DOC 2002).

The project area is situated within the Sonoma Valley, which lies within a northwest trending structural depression in the coast ranges immediately north of San Pablo Bay. This area is one of three coastal alluvial subbasins of the Napa-Sonoma Valley Groundwater Basin. It is generally bounded on the west by the Sonoma Mountains and on the east by the Mayacamas Mountains. (Sonoma County Water Agency 2021).

Soils

Sonoma County has a diverse range of soil types, ranging from volcanic ash, sand to clay, and gravel due to its varied topography, geology, and climate. The project site is primarily underlain by silty clay loam (Zamora silty clay loam, moist, 0 to 2 percent slopes, MLRA 14, ZaA), clay loam (Haire clay loam, 0 to 9 percent slopes, HcC), and clay (Reyes clay, 0 to 2 percent slopes, 301). (NRCS 2025). In addition, Sonoma County identifies the following soil types in the project area: Haire Clay Loam, 0 to 9 percent slopes, HcC, and Rhinebeck silty clay loam, stratified substratum, 0 to 3 percent slopes, RmA. According to the Natural Resources Conservation Service (NRCS), the soils underlying the project site and in the immediate vicinity are classified as an expansive soil. The California Department of Conservation (DOC) classifies ZaA as prime farmland and HcC as farmland of statewide importance (DOC 2025).

Seismicity

Similar to most of California, Sonoma County is a seismically active region. According to the Sonoma County General Plan, Public Safety Element (Public Safety Element Figure PS-1b), The project site is not located within an Alquist-Priolo Earthquake Fault Zone; however, the Rodgers Creek Fault, which is delineated as an Alquist-Priolo Fault Zone, is located approximately 3.75 miles to the west of the project site and the San Andres Fault is delineated as an Alquist-Priolo Fault Zone and is located approximately 16 miles to the west of the project site (Sonoma County 2014).

Ground Shaking

Ground shaking from earthquakes affects the most people and can cause the most damage of any geologic hazard. The intensity of the seismic shaking during an earthquake would depend on the distance to the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the area. Earthquakes occurring on faults closest to the project area would have the potential to generate the largest

ground motions. Figure PS-1a in the General Plan Public Safety Element illustrates the expected relative intensity of ground shaking and damage in Sonoma County from potential future earthquakes. As shown on Figure PS-1a, the project site could be subject to "very strong" ground shaking as designated on the Modified Mercalli Intensity Scale (VIII – Very Strong) (Sonoma County 2014).

Liquefaction and Differential Settlement

Damage from ground shaking can be increased by ground failure due to liquefaction. Liquefaction changes water saturated soil to a semi-liquid state, removing support from foundations and causing buildings and utilities to shift or subside. Areas in the County most prone to liquefaction are valleys and tidal marshes with high water tables and sandy soils (Sonoma County 2014). According to the General Plan Public Safety Element, the project area is not susceptible to liquefaction hazards (Sonoma County 2014). According to the Metropolitan Transportation Commission/Association of Bay Area Governments (MTC/ABAG's) Hazard Viewer Map, the project site is in a liquefaction susceptibility area designated as "very low." (MTC/ABAG 2025).

Landslide, Slope Failure, and Lateral Spreading

Strong ground shaking can destabilize slopes resulting in landslides. According to the Sonoma General Plan, the most common type of ground failure in Sonoma County is landslides, which could occur in areas of weak rock and in increase in saturated soils. Extensive land areas of the County are subject to this hazard. (Sonoma County 2014). Landslide risk is greatest in areas of weak soil and rock and on steep slopes.

The topography of the site is flat with a maximum elevation of 17 feet along the northeast corner of the parcel near the entrance, and a minimum elevation of 10 feet above sea level in the southwest corner of the parcel. According to the General Plan Public Safety Element, the project area is not located in area in an area susceptible to deep-seated landslides. According to MTC/ABAG's Hazard Viewer, the project site is located on flat land and not in a designated landslide hazard area. (MTC/ABAG 2025).

Paleontological Resources

The Proposed Project consists of an outdoor commercial cannabis cultivation operation; however, all construction activities are complete and no additional ground disturbance is expected. As described in Section 1.5, this IS/ND does not analyze impacts that may have already occurred, if they cannot be mitigated.

3.7.3 Discussion of Checklist Responses

a. Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:

i. Seismic-related rupture of a known earthquake fault (No Impact)

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The project site is not located within a fault hazard zone as defined by the Alquist-Priolo fault maps. The nearest fault hazard zone is the Rodgers Creek Fault, delineated as an Alquist-Priolo Fault Zone, is located approximately 3.75 miles to the east of the project site. In addition, the Proposed Project consists of an outdoor commercial cannabis cultivation operation. No construction of new buildings or structures are included as part of the Proposed Project. Therefore, there would be **no impact** related to fault rupture.

ii. Strong seismic ground shaking (No Impact)

As with most of California, the project site is in a seismically active region. Sonoma County is subject to seismic shaking resulting from earthquakes along the San Andreas, Rodgers Creek, and other faults. The intensity of ground shaking and damage from potential earthquakes in the project area is categorized as "very strong" according to the County's General Plan Public Safety Element. (Sonoma County 2014.) While the project area could experience very strong motion, resulting in negligible damage to buildings with proper design and construction to considerable damage in poorly designed structures (USGS 2025), the outdoor commercial cannabis operation would not include any new buildings or structures on-site. Since project conditions at full build out would be the same as existing conditions and no new buildings or structures would be constructed, the Proposed Project would not result in an increase in seismic hazards related to ground shaking. There would be **no impact.**

iii. Seismic-related ground failure, including liquefaction (No Impact)

Liquefaction is the process in which soils and sediments lose shear strength and fail during seismic ground shaking. Strong ground shaking along faults in the project area could result seismic-related ground failure, including liquefaction. The project site is not located within a high liquefaction hazard area according to the Sonoma County General Plan Public Safety Element. (Sonoma County 2014.) In addition, the MTC/ABAG designates the site's liquefaction susceptibility as "very low." Since project conditions at full build out would be the same as existing conditions and no new buildings or structures would be constructed, the Proposed Project would not result in an increase in seismic hazards related to liquification. There would be **no impact.**

iv. Landslides (No Impact)

The topography of the project site is relatively flat with a maximum elevation of 17 feet along the northeast corner of the parcel near the entrance and does not contain any steep slopes or other features that could result in landslide potential. According to the General Plan Public Safety Element, the project site is not located in area in an area susceptible to deep-seated landslides. In addition, the site is designated as "very low" risk for landslides by MTC/ABAG. As such, the project site is considered unlikely to be susceptible to landslides. Since project conditions at full build out would be the same as existing conditions and no new buildings or structures would be constructed, the Proposed Project would not expose people or structures to substantial adverse effects involving landslides. There would be **no impact.**

b. Result in substantial soil erosion or the loss of topsoil (Less than Significant Impact)

No construction activities would occur; therefore, the Proposed Project would not result in soil erosion or the loss of topsoil. Because no further ground disturbing construction activities would be required, the Proposed Project would have **no impact** related to soil erosion or loss of topsoil.

Operation of the Proposed Project is not expected to result in substantial soil erosion or the loss of topsoil; however, operation and maintenance of the cannabis cultivation facility would comply the SWRCB's *General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities*, Order WQ 2023-0102-DWQ and requirements of the *Cannabis Cultivation Policy – Principles and Guidelines for Cannabis Cultivation* (SWRCB 2023). The project would implement BMPs and erosion control measures designed to cover areas of exposed soil in the event of storms which could produce

runoff. With adherence to the cannabis cultivation policy and requirements, impacts related to soil erosion would be **less than significant**.

c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the Proposed Project and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse (No Impact)

The project site is not located in an area subject to on- or off-site landslides or liquefaction. In addition, project conditions at full build out would be the same as existing conditions and no new buildings or structures would be constructed. The Proposed Project does not include operational features that have the potential to result in unstable soil conditions. There would be **no impact.**

d. Be located on expansive soil, creating substantial direct or indirect risks to life or property (Less than Significant Impact)

Expansive soils are usually associated with a high clay content and are prone to large volume changes, they expand when there is a high-water content and shrink when the water evaporates or is dried out (swelling and shrinking). Expansive soil is generally a concern when designing building foundations and the installation of underground infrastructure. Expansive soils occur in the county; the project site may be underlain by silty clay loam and clay soils. Clay soils present a potential for expansion (NRCS 2025). Project conditions at full build out would be the same as existing conditions and no new buildings or structures would be constructed, the Proposed Project would not exacerbate conditions related to ground shaking at the site and would not represent a significant new hazard to people. In addition, the CBC requirements applicable to the Proposed Project ensures that no substantial risks to life or property would result related to expansive soils, and therefore, the impact would be **less than significant**.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater (No Impact)

No wastewater treatment facilities are proposed for the cultivation activities, and none are necessary. Two portable toilets with handwashing stations would be provided and cleaned on a weekly basis. No changes or modifications to the existing septic system would be required for the Proposed Project. Therefore, the Proposed Project would have **no impact** related to soil adequacy for sewage.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geological feature (No Impact)

All construction activities are complete. As described in Section 1.5, this IS/ND does not analyze impacts that may have already occurred, if they cannot be mitigated. The Proposed Project is the operation of a outdoor commercial cannabis cultivation operation and would not result in the destruction of a unique paleontological resource or site or unique geological feature. Therefore, the Proposed Project would have **no impact** on paleontological resources or unique geological features.

3.8 Greenhouse Gas Emissions

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.8.1 Regulatory Setting

Federal Laws, Regulations, and Policies

Massachusetts v. Environmental Protection Agency

The US Supreme Court ruled in Massachusetts v. Environmental Protection Agency, 127 S. Ct. 1438 (2007), that carbon dioxide (CO_2) and other greenhouse gases (GHGs) are pollutants under the federal Clean Air Act (CCA), which the US Environmental Protection Agency (EPA) must regulate if it determines those GHGs pose an endangerment to public health or welfare.

Fuel Economy Standards

The National Highway Traffic Safety Administration (NHTSA) regulates vehicle emissions through the Corporate Average Fuel Economy (CAFE) Standards. On June 24, 2024, NHTSA, on behalf of the US Department of Transportation (DOT), announced it was finalizing CAFE standards for passenger cars and light trucks that increase at a rate of 2 percent per year for passenger cars in model years 2027-31, 0 percent per year for light trucks in model years 2027-28, and 2 percent per year for light trucks in model years 2029-31. NHTSA also announced that it was finalizing fuel efficiency standards for heavy-duty pickup trucks and vans for model years 2030-2032 that increase at a rate of 10 percent per year and model years 2033-2035 that increase at a rate of 8 percent per year. These new standards went into effect on August 23, 2024. The CAFE Standards apply to all on-road vehicle use.

EPA and NHTSA have set fuel economy and GHG emission standards for medium- and heavy-duty vehicles. In 2011, EPA and NHTSA finalized a joint rule that established a national program to reduce GHG emissions and improve the fuel economy for new medium- and heavy-duty vehicles manufactured in model years 2014 through 2018. In 2016, EPA and NHTSA finalized Phase 2 standards, which require fuel efficiency improvements and pollution reduction for medium- and heavy-duty vehicles for model years 2019 through 2027. On March 29, 2024, a final rule was issued to revise existing standards to reduce GHG emissions from heavy-duty vehicles in model year 2027 and set new, more stringent standards for model years 2028 through 2032 (EPA 2024).

EPA established a series of increasingly strict emission standards for new non-road diesel engines. Tier 1 standards were phased in on newly manufactured equipment from 1996 through 2000, depending on the engine horsepower category. Tier 2 standards were phased in on newly manufactured equipment from 2001 through 2006. Tier 3 standards were phased in on newly manufactured equipment from 2006 through 2008. Tier 4 standards, which require advanced emission control technology to attain them, were phased in between 2008 and 2015 (EPA 2025).

Heavy-Duty Vehicle Program

EPA and NHTSA also set fuel efficiency and GHG standards for medium- and heavy-duty trucks. In 2011, EPA and NHTSA finalized a joint rule that established a national program to reduce GHG emissions and improve fuel economy for new medium- and heavy-duty engines and vehicles. This rule—called the Phase 1 standards—requires fuel efficiency standards for engines in model years 2014 through 2018. In 2016, EPA and NHTSA adopted the Phase 2 standards, which require fuel efficiency standards for engines in model years 2018 through 2027 (EPA 2016b).

State Laws, Regulations, and Policies

The State has adopted various laws addressing various aspects of climate change, GHG mitigation, energy efficiency, and renewable energy. Much of this establishes a broad framework for the State's long-term GHG and energy reduction goals and climate change adaptation program. Governors have also issued several EOs related to the State's evolving climate change policy. A summary of key laws, regulations, plans, and policies relevant to the proposed plan is provided below, organized by general categories.

Executive Orders

There are four primary executive orders (EOs) related to the State's GHG reduction efforts. In general, EOs provide direction to State government agencies but do not place mandates on regional or local governments or the private sector.

EO S-03-05:

Issued by Governor Arnold Schwarzenegger on June 1, 2005, California Governor's EO S-3-05 set intermittent emissions reduction targets intended to provide incremental progress toward Assembly Bill (AB) 32's GHG emissions reduction target of reducing emissions to 1990 levels by 2020. EO S-3-05 set forth the following GHG reduction targets:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

EO S-30-15:

On April 15, 2015, Governor Edmund G. Brown Jr. issued EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. EO B-30-15 was issued to align California's GHG emissions reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference

in Paris, held in 2015. The emissions reduction target of 40 percent below 1990 levels by 2030 is intended to keep California on track to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050.

EO B-55-18:

This EO established a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." It directs the California Air Resources Board (CARB) to ensure future Climate Change Scoping Plans (discussed below) identify and recommend measures to achieve the carbon neutrality goal.

EO N-19-19:

Among other things, this EO required the Department of Finance to create a Climate Investment Framework; and required the State Transportation Agency to align transportation spending with achieving objectives of the Climate Change Scoping Plan, and to reduce vehicle miles traveled (VMT) through strategic discretionary investments. In July 2021, the California State Transportation Agency adopted the Climate Action Plan for Transportation Infrastructure (CAPTI). The CAPTI was prepared in the wake of EO N-19-19 and serves an integrated climate change infrastructure plan (CalSTA 2021).

Legislative GHG Reduction Targets

State law sets forth the following requirements for reducing Statewide levels of GHG emissions by 2020 and 2030.

Assembly Bill 32, Health & Safety Code Section 38500 et seq.

AB 32 required CARB to develop a Scoping Plan that describes California's strategy for achieving the 2020 target and to update it every 5 years.

Senate Bill 32, Health & Safety Code Section 38566.

Adopted in tandem with Senate Bill (SB) 32, AB 197 of 2016 (Chapter 250, Statutes of 2016) required CARB, in implementing SB 32's 2030 GHG reduction target, to (1) prioritize emissions reductions to consider the "social costs" of GHG emissions and (2) prioritize "direct emission reductions" at large stationary sources and at mobile sources.

AB 1279, Health and Safety Code Section 38562.2.

On September 16, 2022, the California Legislature enacted AB 1279, which codified stringent emissions targets for the State of achieving carbon neutrality no later than 2045 and negative emissions thereafter, and an 85 percent reduction in 1990 emissions level by 2045. (This superseded the previous GHG emissions reduction target set forth by EO S-3-05.)

Scoping Plan

Adopted in 2008 and updated in 2014, the initial Scoping Plan and First Update recommended measures to reduce emissions from a variety of activities and sources, including on-road transportation, electricity generation, building energy use, and uses of high global warming potential (GWP) gases. It also recommended that local governments set goals to reduce their municipal and communitywide emissions to 15 percent below existing (at the time of

scoping plan adoption) levels by 2020 to match the State's 2020 reduction target (CARB 2008). The initial Scoping Plan and its First Update were replaced by the 2017 Scoping Plan, which was approved by CARB in 2017. The 2017 Scoping Plan identifies measures for how California can achieve the 2030 target set forth in SB 32, and substantially advance toward the 2050 reduction goal identified in EO-S-3-05.

After AB 1279 was enacted, CARB released the *Final 2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan) on November 16, 2022, as also directed by AB 1279 (CARB 2022). The 2022 Scoping Plan traces the pathway for the State to achieve its carbon neutrality and an 85 percent reduction in 1990 emissions goal by 2045, as well as the short-term GHG reduction goal of 40 percent below 1990 emissions by 2030 pursuant to SB 32. Notably, the 2022 Scoping Plan pathway to carbon neutrality by 2045 demonstrates that the State would need to achieve a 48 percent reduction in statewide emissions by 2030 to meet this ambitious target by 2045. CARB adopted the 2022 Scoping Plan on December 16, 2022.

Transportation Refrigeration Units Regulation

CARB's 2022 amendments to the 2004 Transportation Refrigeration Unit (TRU) Airborne Toxic Control Measure increases the stringency of TRU fine particulate matter ($PM_{2.5}$) regulations and require the electrification of diesel-powered TRU trucks by 2029. While the regulation targets emissions of $PM_{2.5}$, the regulation would have the co-benefit of reducing GHG emissions by increasing utilization of electric TRUs and, thereby, reducing fossil fuel consumption. On January 3, 2025, EPA granted California Clean Air Act authorization of elements of its TRU Regulation. However, in its action, EPA did not act on the zero-emission elements of the TRU Regulation regarding requirements for the turnover of at least 15 percent of the diesel-fueled truck TRU fleet to zero-emission TRU by December 31, 2023, (and each year thereafter). On January 13, 2025, CARB withdrew its request for authorization of these zero-emission TRU requirements (USEPA 2025).

Mobile Source Strategy

Developed by CARB to provide an integrated planning perspective and common vision for transforming the mobile sector to achieve air quality and climate change goals, this strategy uses conceptual scenarios to illustrate the emissions reduction potential of different vehicle technology mixes and VMT reductions to inform State policy development (CARB 2016a). The Mobile Source Strategy addresses on-road vehicles including passenger cars and light duty trucks, medium and heavy-duty trucks, buses, as well as off-road vehicles and equipment, including locomotives, cargo handling equipment, and construction equipment. It supports multiple planning efforts, including the State Implementation Plans for criteria air pollutants, the Scoping Plan, the Short-Lived Climate Pollution (SLCP) Reduction Strategy (discussed below), and the Sustainable Freight Action Plan (discussed below). The 2020 Mobile Source Strategy was approved by CARB and released on October 28, 2021, and will be updated every 5 years. Notably, CARB has rescinded its waiver request for some regulations concerning mobile-source emissions, either partially or in their entirety. This includes the Advanced Clean Fleets (ACF) Regulation and TRU Regulation. Because the ACF Regulation was not granted a waiver authorizing its addition to CARB's emissions control program, potential reductions in mobile source emissions related to implementation of the ACF Regulation would not be realized as assumed in the 2020 Mobile Source Strategy. Similarly, EPA did not grant California Clean Air Act authorization for some elements of the TRU Regulation until January 2025 (discussed below). Thus, the 2020 Mobile Source Strategy, which relied on emissions reductions from these regulations, may not be capable of meeting its ultimate targets. It is foreseeable that future iterations of the Mobile Source Strategy would not

include emissions reductions estimates related to regulations/rules or portions of regulations/rules for which CARB's waiver request has been rescinded or would include other regulatory mechanisms to reduce mobile source emissions.

Short-Lived Climate Pollutant Strategy

SB 1383 (Chapter 395, Statutes of 2016) requires CARB to develop and implement a SLCP Strategy with the following reductions in emissions by 2030 compared to 2013 levels: methane by 40 percent, HFCs by 40 percent, and black carbon (non-forest) by 50 percent. The bill also specifies targets for reducing organic waste in landfills. SB 1383 also requires CARB to adopt regulations to be implemented on or after January 1, 2024, specific to the dairy and livestock industry, requiring a 40 percent reduction in methane emissions below 2013 levels by 2030, if certain conditions are met. Lastly, the bill requires CalRecycle to adopt regulations to take effect on or after January 1, 2022, to achieve specified targets for reducing organic waste in landfills.

Per its directive, CARB adopted the SLCP Strategy in 2017, establishing a path to decrease SLCPs from various sectors of the economy. Strategies span from wastewater and landfill practices and methane recovery to reducing natural gas leaks and consumption. The SLCP strategy also identifies measures that can reduce HFC emissions through incentive programs and limitations on the use of high-GWP refrigerants in new refrigeration and air-conditioning equipment (CARB 2017b).

Advanced Clean Cars Program (Passenger Vehicles)

AB 1493 of 2002 (known as Pavley I, Chapter 200, Statutes of 2002) provided the nation's first GHG standards for automobiles. AB 1493 required CARB to adopt vehicle standards that lowered GHG emissions from new light-duty autos to the maximum extent feasible beginning in 2009. Additional strengthening of the Pavley standards referred to as the Advanced Clean Cars (ACC) Program's Low Emission Vehicle (LEV) III Regulation was adopted for vehicle model years 2017–2025 in 2012 (Cal. Code Regs., tit. 13 § 1900 et seq.).

The ACC Program also includes the Zero Emission Vehicle Program and the Clean Fuels Outlet Regulation. The Zero Emission Vehicle Program is designed to achieve California's long-term emission reduction goals by requiring manufacturers to offer for sale specific numbers of zero-emission vehicles (ZEVs), which include battery electric, fuel cell, and plug-in hybrid electric vehicles. The Clean Fuels Outlet regulation is intended to ensure that fuels such as electricity and hydrogen are available to meet the fueling needs of new advanced technology vehicles as they come to market. The ACC II Program was adopted by CARB in August 2022, and provides the regulatory framework for ensuring the sales requirement goal of EO N-79-20 to ultimately reach 100 percent ZEV sales in the state by 2035.

The ACC II Program builds upon the existing ACC program and establishes more stringent ZEV sales requirements for future benchmark years. CARB also established more stringent GHG emission standards and fuel efficiency standards for fossil fuel–powered on-road vehicles than the US Environmental Protection Agency. In addition, the program's ZEV regulation requires battery, fuel cell, and plug-in hybrid EVs to account for up to 15 percent of California's new vehicle sales by 2025 (CARB 2018a). The ACC II Program also sets sales requirements to ultimately reach the goal of 100 percent ZEV sales in the state by 2035.

Low Carbon Fuel Standard

In September 2018, to help achieve SB 32's emission reduction target, the LCFS regulation was amended to increase the statewide goal to a 20 percent reduction in carbon intensity of California's transportation fuels by at least 2030. Note that most of the emissions benefits due to the LCFS come from the production cycle (upstream emissions) of the fuel rather than the combustion cycle (tailpipe) (CARB 2020e).

Medium- and Heavy-Duty Vehicles

In 2008, CARB approved the Phase 1 Tractor-Trailer Greenhouse Gas Regulation to reduce GHG emissions by requiring the use of aerodynamic tractors and trailers that are also equipped with low rolling resistance tires (Cal. Code Regs., tit. 13, § 2020 et seq.). The regulation applies to certain Class 8 tractors manufactured for use in California and is harmonized with the parallel EPA and NHTSA Phase 1 heavy-duty truck standards. CARB amended the Tractor-Trailer Greenhouse Gas Regulation in 2019 (Phase 2 standards) to align with EPA and NHTSA Phase 2 heavy-duty truck standards.

Zero Emission Trucks

CARB adopted the Advanced Clean Trucks (ACT) Regulation in June 2020, which aims to accelerate the sales of heavy-duty EVs. It consists of two parts, a manufacturer component and a fleet reporting component. Manufacturers are required to sell an increasing percentage of heavy-duty zero-emission vehicles between 2024 and 2035. By 2035, 40 percent of Class 8 truck purchases will be required to be zero emission. Fleets with 50 or more vehicles will be required to report on their fleet's composition and activities in order to help CARB craft new strategies to hasten the adoption of zero-emission vehicles (CARB 2023).

Advanced Clean Fleets

CARB's 2022 ACF Regulation was developed to reduce diesel PM through the transition of medium- and heavy-duty trucks to become fully electric by 2045. At the time of the writing of this Draft EIR, California has withdrawn its request for a waiver and authorization for the addition of the ACF Regulation to its emissions control program (CARB 2025b). CARB is not enforcing the existing portions of the ACF Regulation that require a federal waiver or authorization, such as the portions of the ACF Regulation that apply to high priority and drayage fleets. However, not all elements of the Advanced Clean Fleets regulation require a federal waiver or authorization (CARB 2025c). The state and local government fleets portion of the ACF Regulation remains unaffected.

California Governor's Office of Land Use and Climate Innovation Technical Advisory

In December 2018, the California Governor's Office of Land use and Climate Innovation (LCI) (formerly the Governor's Office of Planning and Research or OPR) published the most recent version of the Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory), which provides guidance for VMT analysis. For office uses or other employment sites, the Technical Advisory recommends a threshold of at least 15 percent below the regional average VMT per employee. This would include most of the uses to which the Proposed Project would apply, including cultivation, processing, and distribution. The Technical Advisory also provides a screening threshold for small projects. According to the Technical Advisory, absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities

Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant transportation impact (OPR 2018).

DCC Commercial Cannabis Business Regulations

California Code of Regulations, title 4, division 19 includes the following requirements regarding energy use for commercial cannabis uses.

Section 16305: Renewable Energy Requirements

(a) Beginning January 1, 2023, all holders of indoor, tier 2 mixed-light license types of any size, and all holders of nursery licenses using indoor or tier 2 mixed-light techniques shall ensure that electrical power used for commercial cannabis activity meets the average electricity greenhouse gas emissions intensity required by their local utility provider pursuant to the California Renewables Portfolio Standard Program in division 1, part 1, Chapter 2.3, article 16 (commencing with section 399.11) of the Public Utilities Code.

(b) If a licensed cultivator's average weighted greenhouse gas emission intensity, as calculated and reported upon license renewal pursuant to section 15020, is greater than the local utility provider's greenhouse gas emission intensity, the licensee shall obtain carbon offsets to cover the excess in carbon emissions from the previous annual licensed period. The carbon offsets shall be purchased from one or more of the following recognized voluntary carbon registries:

(1) American Carbon Registry;
(2) Climate Action Reserve; or
(3) Verified Carbon Standard.

Section 16305: Generator Requirements

(a) For the purposes of this section, “generator” means a stationary or portable compression ignition engine, also known as a diesel engine, as defined in California Code of Regulations, title 17, section 93115.4.

(b) Licensed cultivators using generators rated at fifty (50) horsepower and greater shall demonstrate compliance with the Airborne Toxic Control Measure for stationary or portable engines, as applicable, established in title 17, California Code of Regulations, sections 93115-93116.5. Compliance shall be demonstrated by providing a copy of one of the following to the Department upon request:

(1) For portable engines, a Portable Equipment Registration Certificate provided by the California Air Resources Board; or

(2) For portable or stationary engines, a Permit to Operate or other proof of engine registration, obtained from the Local Air District with jurisdiction over the licensed premises.

(c) Licensed cultivators using generators rated below fifty (50) horsepower shall comply with the following by 2023:

(1) Either subsection (1)(A) or (1)(B):

(A) Meet the “emergency” definition for portable engines in title 17, California Code of Regulations, section 93116.2(a)(12), or the “emergency use” definition for stationary engines in title 17, California Code of Regulations, section 93115.4(a)(30); or

(B) Operate eighty (80) hours or less in a calendar year; and

(2) Either subsection (2)(A) or (2)(B):

(A) Meet Tier 3 with Level 3 diesel particulate filter requirements in title 13, California Code of Regulations, sections 2700-2711; or

(B) Meet Tier 4 requirements, or current engine requirements if more stringent, in title 40, Code of Federal Regulations, Chapter I, subchapter U, part 1039, subpart B, section 1039.101.

(d) All generators used by licensed cultivators shall be equipped with non-resettable hour-meters. If a generator does not come equipped with a non-resettable hour-meter, an aftermarket non-resettable hour-meter shall be installed.

Local Laws, Regulations, and Policies

Sonoma County Climate Change Action Resolution

The Regional Climate Protection Authority (RCPA) coordinates countywide protection efforts among Sonoma County's nine cities and multiple agencies. In 2016, RCPA published the Climate Action 2020 Plan that sets forth GHG reduction targets to reduce countywide GHG emissions. Climate Action 2020 Plan included regional actions to reduce GHG emissions to 25 percent below 1990 levels by 2020 and provide local jurisdictions resources and guidance for implementing local GHG emission reducing actions. The Regional Climate Protection Authority certified an Environmental Impact Report and adopted the Climate Action Plan in 2016 and was subsequently litigated. The California Supreme Court (Court) found the Environmental Impact Report inadequate, and the Regional Climate Protection Authority declined to appeal. Unable to adopt the Climate Action 2020 Plan, the Sonoma County Board of Supervisors adopted the Climate Change Action Resolution. This Resolution is intended to help create countywide consistency and clear guidance about coordinated implementation of the GHG reduction measures.

Key components of the Resolution include the following:

Sonoma County agrees to work towards the RCPA's countywide target to reduce greenhouse gas emissions by 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.

- Sonoma County adopts the following energy related goals to reduce greenhouse gas emissions, and will pursue local actions that support these goals:

    1. Increase building energy efficiency
    2. Increase renewable energy use
    3. Switch equipment from fossil fuel to electricity
    4. Reduce travel demand through focused growth
    5. Encourage a shift toward low-carbon transportation options
    6. Increase vehicle and equipment fuel efficiency
    7. Encourage a shift toward low-carbon fuels in vehicles and equipment
    8. Reduce idling
    9. Increase solid waste diversion
    10. Increase capture and use of methane from landfills
    11. Reduce water consumption
    12. Increase recycled water and graywater use
    13. Increase water and waste-water infrastructure efficiency
    14. Increase use of renewable energy in water and wastewater systems

15. Reduce emissions from livestock operations
16. Reduce emissions from fertilizer use
17. Protect and enhance the value of open and working lands
18. Promote sustainable agriculture
19. Increase carbon sequestration
20. Reduce emissions from the consumption of goods and services

- Sonoma County will continue to work to increase the health and resilience of social, natural, and built resources to withstand the impacts of climate change; and
- Sonoma County has the goal of increasing resilience by pursuing local actions that support the following goals:

1. Promote healthy, safe communities
2. Protect water resources
3. Promote as sustainable, climate-resilient economy
4. Mainstream the use of climate projections.

Sonoma County Transportation Authority

The Sonoma County Transportation Authority (SCTA) is a collaborative agency of the cities and County of Sonoma that provides comprehensive countywide transportation planning and programming. The SCTA coordinates the activities of local jurisdictions with regional, state, and federal entities. SCTA provides a VMT screening map to aid in assessing transportation-related impacts. The map depicts areas within Sonoma County where areawide VMT is 15 percent or more below the countywide average VMT per employee. Notably, Sonoma County has not adopted a VMT policy or thresholds of significance.

Sonoma County Zoning Ordinance

The following Sonoma County Code ordinances describe the existing County cannabis regulations. These ordinances would be repealed if the Cannabis Program Update is approved.

Section 26-88-254: Cannabis Cultivation—Commercial

(g) Operating Standards.

(3) Energy Use. Electrical power for indoor cultivation, mixed light operations, and processing including but not limited to illumination, heating, cooling, and ventilation, shall be provided by any combination of the following:

(i) on-grid power with one hundred percent (100 percent) renewable source;

(ii) on-site zero net energy renewable source; or

(iii) purchase of carbon offsets of any portion of power not from renewable sources. The use of generators for indoor and mixed light cultivation is prohibited, except for portable temporary use in emergencies only.

3.8.2 Environmental Setting

The Physical Scientific Basis of Greenhouse Gas Emissions and Climate Change

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected toward space. The absorbed radiation is then emitted from the earth as low-frequency infrared radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on Earth.

Prominent GHGs contributing to the greenhouse effect are CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Human-caused emissions of these GHGs in excess of natural ambient concentrations are found to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. The likely range of human-induced warming in global-mean surface air temperature in 2010–2019 relative to 1850–1900 is 0.8°C–1.3°C, encompassing the observed warming of 0.9°C–1.2°C, while the change attributable to natural forcings is only −0.1°C to +0.1°C. It is very likely that human-induced GHG increases were the main driver of tropospheric warming since comprehensive satellite observations started in 1979, and virtually certain that human-induced GHG forcing is the primary driver of the observed changes in hot and cold extremes on the global scale (IPCC 2021).

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 56 percent are estimated to be sequestered through ocean and land uptake every year, averaged over the last 50 years, whereas the remaining 44 percent of human-caused CO_2 emissions remain stored in the atmosphere (IPCC 2023).

The quantity of GHGs in the atmosphere responsible for climate change is not precisely known, but it is considered to be enormous. No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

Greenhouse Gas Emissions Sources and Sinks

Emissions of CO_2 are byproducts of fossil fuel combustion. Methane, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices, landfills, and forest fires. N_2O is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water) and are two of the most common processes for removing CO_2 from the atmosphere.

Effects of Climate Change on the Environment

The Intergovernmental Panel on Climate Change (IPCC) predicts that the global mean surface temperature increase by the end of the 21st century (2081–2100), relative to 1986–2005, could range from 0.5 to 8.7 degrees Fahrenheit. Additionally, IPCC projects that global mean sea level rise will continue during the 21st century, very likely at a faster rate than observed from 1901 to 2015. By 2100, the rise will likely range from 18 to 33 inches (0.48 to 0.84 meters) (IPCC 2019: 323-4).

According to IPCC, which was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme, global average temperature will increase by 3.7 to 4.8 °C (6.7 to 8.6 degrees Fahrenheit [°F]) by the end of the century unless additional efforts to reduce GHG emissions are made (IPCC 2014:10). According to *California's Fourth Climate Change Assessment*, with global GHGs reduced at a moderate rate California will experience average daily high temperatures that are warmer than the historic average by 2.5°F from 2006 to 2039, by 4.4°F from 2040 to 2069, and by 5.6°F from 2070 to 2100; and if GHG emissions continue at current rates then California will experience average daily high temperatures that are warmer than the historic average by 2.7°F from 2006 to 2039, by 5.8°F from 2040 to 2069, and by 8.8°F from 2070 to 2100 (OPR et al. 2018).

Greenhouse Gas Emission Sources

In 2022, statewide emitting activities accounted for 371.1 million metric tons (MMT) of CO_2-equivalent (CO_2e) $MMTCO_2e$, which is 10.2 $MMTCO_2e$ lower than 2021 levels and 59.9 $MMTCO_2e$ below the 2020 GHG limit of 431 $MMTCO_2e$ (CARB 2024). In 2014, statewide GHG emissions dropped below the 2020 GHG limit and have remained below the limit since that time. Overall trends in the *California Greenhouse Gas Emissions from 2000 to 2022: Trends of Emissions and Other Indicators* demonstrate that the CI of California's economy (the amount of carbon emissions per million dollars of gross state product [GSP]) is declining. From 2000 to 2022, the CI of California's economy decreased by 54.8 percent while the GSP increased by 77.5 percent. California's GSP increased 0.7 percent in 2022. Emissions per GSP declined by 3.1 percent from 2021 to 2022 (CARB 2024b). Overall trends in the AB 32 GHG Inventory also continue to demonstrate that the CI of California's economy is declining. The continuation of the downward GHG emissions trend from 2021 to 2022 indicates that the increase in emissions from 2020 to 2021 is likely an anomaly caused by broader economic trends related to the COVID-19 pandemic and associated recovery (CARB 2024b).

As discussed previously, GHG emissions are attributable in large part to human activities. **Table 3.8-1** summarizes the statewide GHG inventory for California; transportation, industry, and electricity generation are the largest GHG emission sectors.

Table 3.8-1. Statewide GHG Emissions by Economic Sector (2022)

Sector	Percent
Transportation	39
Industrial	23
Electricity generation (in state)	11
Electricity generation (imports)	5
Agriculture	8
Residential	8

Sector	Percent
Commercial	6
Not specified	<1

Source: CARB 2024.

Sonoma County GHG Emissions Inventory

As part of the preparation of the Climate Resilience Comprehensive Action Plan, Sonoma County conducted a GHG emissions inventory for the year 2022. **Table 3.8-2** below provides a summary of Sonoma County's GHG emissions by sector in 2022.

Table 3.8-2. Sonoma County GHG Emissions by Sector (2022)

Sector	$MTCO_2e$	Percent
Transportation	1,794,818	58
Buildings	732,091	24
Agriculture	392,185	13
Solid waste	176,877	6
Water	16,402	1
Total	**3,112,373**	**100**

Note: $MTCO_2e$ = metric tons of carbon dioxide equivalent.
Source: Sonoma County 2024.

The largest source of GHG emissions in Sonoma County was from the transportation sector (58 percent), followed by the buildings sector (24 percent). Sonoma County GHG emissions have decreased over 20 percent from 1990 (Sonoma County 2024).

3.8.3 Discussion of Checklist Responses

a. Generate a net increase in greenhouse gas emissions which may have a significant impact on the environment (Less than Significant Impact)

Site preparation for the Proposed Project has already been completed. No additional construction activities or site modifications such as site preparation or earthwork, grading, new roads, vegetation removal, or new drainage systems are proposed for the Proposed Project. There would be no demolition of existing structures and no construction of new buildings or structures as part of the Proposed Project.

The type and frequency of operational activities would be largely similar to baseline conditions, as the site previously was used for agricultural activities. As the Proposed Project involves implementing additional canopy space to expand cultivation operations, there would be some increase in GHG emissions associated with the Proposed Project. Operation of the Proposed Project would generate GHG emissions associated with worker commute trips (the greatest number of average daily trips during project operation would be 18 average daily trips throughout the two-month harvest season), hauling trips (a maximum of six total truck trips during harvesting season) landscaping and fertilizer use, water consumption, and waste and wastewater generation. Any use of on-site off-road equipment, such as a utility vehicle (e.g., John Deere Gator) would also generate GHG emissions. No electricity would be consumed on-site but would be consumed off-site to transport water from the utility to the

areas to be irrigated. GHG emissions would also occur from outgoing commercial cannabis product transportation during operations. As identified in Section 3.8.1.3, "Local Laws and Regulations," SCTA provides a pre-screening map to aid in identifying areas within the County whose areawide VMT is 15 percent below the regional average. This metric is based on LCI's guidance for employment projects within the Technical Advisory, which recommends a threshold of at least 15 percent below the regional average VMT per employee. The Proposed Project is located outside of the pre-screening areas identified in SCTA's screening map and thus is not screened from further analysis of transportation-related impacts. As Sonoma County has not adopted a VMT policy or thresholds of significance, this analysis utilizes the Technical Advisory's daily trip threshold, which states that projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant transportation impact (OPR 2018). As stated above, the Proposed Project would generate, at most, an average of 18 daily trips during harvest season. Operation of the Proposed Project would also generate a maximum of 6 total truck trips during harvest season. Thus, total daily vehicle trips (i.e., combined employee and product pick-up trips) would be below the 110 daily trip threshold recommended in the Technical Advisory. The Bay Area Air District recommends land use development projects incorporate these project design features: no natural gas infrastructure, meeting the Tier 2 electric vehicle requirements of the CalGreen Code, and meeting the VMT reduction targets of SB 743. However, these design features are not applicable to the proposed Project. Notably, the Proposed Project would not support any natural gas infrastructure, would not generate vehicle trips resulting in a transportation impact (see Section 3.17, "Transportation"), and would not introduce new parking and is, thus, not subject to the charging requirements of the CalGreen Code.

According to the BAAQMD CEQA Guide, projects which incorporate the design elements specified above would be considered to have done their "fair share" of implementing the goal of carbon neutrality by 2045. Project consistency with the emissions targets provided by AB 1279 (i.e., reducing statewide GHG emissions by 85 percent from a 1990 baseline inventory and achieving carbon neutrality by 2045) would result in consistency with emissions targets provided by SB 32 and AB 32, which are less stringent. The 2022 Scoping Plan details the framework for achieving the 85 percent reduction in 1990 emissions goal by 2045 and progress toward additional reductions. Appendix D of the 2022 Scoping Plan includes detailed GHG reduction measures and local actions that land use development projects can implement to support the Statewide goal. Appendix D identifies three sectors that local jurisdictions can address: 1) building carbonization (i.e., the prohibition of onsite natural gas infrastructure, 2) VMT reductions, and 3) the electrification of the mobile sector. The Project would not introduce any new natural gas infrastructure, would not contribute additional VMT that would conflict with OPR's requirements under SB 743 (see Section 3.17, "Transportation"), and would not introduce new parking spaces subject to the EV charging requirements of the CalGreen Code. Therefore, the Proposed Project would be consistent with the 2022 Scoping Plan.

In addition to the 2022 Scoping Plan, Plan Bay Area 2050 satisfies CARB's most recent SB 375 targets that require ABAG/MTC to achieve a 10 percent and a 19 percent per capita reduction by 2020 and 2035. The Proposed Project would not result in significant impacts related to VMT and would therefore not prevent ABAG/MTC from achieving its targets in Plan Bay Area 2050 as operation of the project would not generate substantial new vehicle trips above existing conditions (see Section 3.17, "Transportation").

Given the small size of the Proposed Project (approximately 2.5 acres of outdoor mature and immature combined cultivation canopy) and operational activities, and compliance with BAAQMD's project design features which

ensure that the Proposed Project contributes its "fair share" toward carbon neutrality by 2045, the Proposed Project's emissions of GHGs would not have a significant impact on the environment and the Proposed Project would not conflict with the 2022 Scoping Plan. Impacts would be **less than significant.**

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Less than Significant Impact)

See the discussion under criterion a) above.

3.9 Hazards and Hazardous Materials

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
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, create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. Be 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 and result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

3.9.1 Regulatory Setting

Federal Laws, Regulations, and Policies

Comprehensive Environmental Response, Compensation, and Liability Act – Superfund Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, also called the Superfund Act; 42 U.S.C. § 9601 et seq.) is intended to protect the public and the environment from the effects of past hazardous waste disposal activities and new hazardous material spills. Under CERCLA, USEPA has the authority to seek the parties responsible for hazardous materials releases and to ensure their cooperation in site remediation. CERCLA also provides federal funding (through the "Superfund") for the remediation of hazardous materials contamination. The Superfund Amendments and Reauthorization Act of 1986 (Public Law 99-499) amends some provisions of CERCLA and provides for a Community Right-to-Know program.

Resource Conservation and Recovery Act of 1976

The Resource Conservation and Recovery Act of 1976 (RCRA; 42 U.S.C. § 6901 et seq.), as amended by the Hazardous and Solid Waste Amendments of 1984, is the primary federal law for the regulation of solid waste and hazardous waste in the United States. These laws provide for the "cradle-to-grave" regulation of hazardous wastes, including generation, transport, treatment, storage, and disposal. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed of.

USEPA has primary responsibility for implementing RCRA, but individual states are encouraged to seek authorization to implement some or all RCRA provisions. California was delegated authority to implement the RCRA program in August 1992. The California Department of Toxic Substances Control (DTSC) is responsible for implementing the RCRA program in California, in addition to California's own hazardous waste laws, which are collectively known as the Hazardous Waste Control Law.

Federal Insecticide, Fungicide, and Rodenticide Act

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C. § 136 et seq.) was enacted in 1947, but has since been amended by the Federal Environmental Pesticide Control Act of 1972 and the Food Quality Protection Act of 1996. In its current form, FIFRA mandates USEPA to regulate the use and sale of pesticides to protect human health and the environment. USEPA achieves this mandate by registering and labeling pesticides.

Currently, no pesticides are registered for use on cannabis. California Department of Pesticide Regulation (CDPR) has published guidance that commercial cultivators can legally apply pesticides to cannabis that are exempt from residue-tolerance requirements and are either: (1) registered and labeled for a use that is broad enough to include use on cannabis (e.g., unspecified green plants), or (2) exempt from registration requirements as a minimum-risk pesticide under FIFRA Section 25(b). See additional discussion of CDPR's guidance with respect to cannabis under "State Laws, Regulations, and Policies" below.

Commercial cannabis cultivators using registered pesticides would be required to follow the label instructions developed pursuant to FIFRA. Under FIFRA, all new pesticides (with minor exceptions) must be registered by the Administrator of USEPA through a process in which appropriate crops and sites for use of the pesticide are identified and prescribed based on research data. Labeling requirements control when and under what conditions

pesticides can be applied, mixed, stored, loaded, or used; when a site can be re-entered after application; and when crops can be harvested.

Spill Prevention, Control, and Countermeasure Rule

USEPA's Spill Prevention, Control, and Countermeasure (SPCC) Rule (40 C.F.R. Part 112) applies to facilities that contain a single aboveground storage tank (AST) with a storage capacity greater than 660 gallons, or multiple tanks with a combined capacity greater than 1,320 gallons. The rule includes requirements for oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters and adjoining shorelines. The rule requires specific types of facilities to prepare, amend, and implement SPCC plans.

Worker Safety Regulations

The Occupational Safety and Health Administration (OSHA) is responsible at the federal level for ensuring worker safety. The agency sets federal standards for implementation of workplace training, exposure limits, and safety procedures for the handling of hazardous substances (as well as other hazards). These standards, codified in 29 C.F.R. Part 1910, address issues that range in scope from walking and working surfaces, to exit routes and emergency planning, to hazardous materials and personal protective equipment (PPE). They include exposure limits for a wide range of hazardous materials, including pesticides, as well as requirements that employers provide PPE (i.e., protective equipment for eyes, face, or extremities; protective clothing; respiratory devices) to their employees wherever it is necessary (i.e., when required by the label instructions) (29 C.F.R. § 1910.132). OSHA also establishes criteria by which each state can implement its own health and safety program.

State Laws, Regulations, and Policies

The Unified Program

The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. Statewide, DTSC has primary regulatory responsibility for management of hazardous materials, and it works with other state agencies and delegates its authority to local jurisdictions that enter into agreements with the state. Local agencies administer these laws and regulations. DTSC, CalEPA, and other state agencies set the standards for their programs while local governments implement the standards. These local implementing agencies, the Certified Unified Program Agencies (CUPAs), regulate and oversee the following for each county:

- Hazardous materials business plans;
- California accidental release prevention plans or federal risk management plans (RMPs);
- The operation of underground storage tanks (USTs) and ASTs;
- Universal waste and hazardous waste generators and handlers;
- On-site hazardous waste treatment;
- Inspections, permitting, and enforcement;
- Proposition 65 reporting (described below); and
- Emergency response.

California Health and Safety Code—Hazardous Waste and Hazardous Materials

Several sections of the California Health and Safety Code deal with hazardous waste and hazardous materials. Division 20, Chapter 6.5 addresses hazardous waste control and contains regulations on hazardous waste management plans, hazardous waste reduction, recycling and treatment, and hazardous waste transportation and hauling. Under Chapter 6.5, Article 6, persons generating hazardous wastes that are to be transported for off-site handling, treatment, storage, or disposal must complete a hazardous waste manifest before transport, indicating the facility to which the waste is being shipped for treatment, disposal, or other purposes.

Under Chapter 6.95, Article 1, areas and businesses that have a threshold amount of hazardous materials on site (55 gallons of liquid; 500 pounds of solid for businesses) must have plans in place for emergency response to an accidental release of materials. These Hazardous Materials Business Plans (HMBPs) and Hazardous Materials Area Plans (HMAPs) must include at least the following:

- A listing of the chemical name and common names of every hazardous substance or chemical product handled by the business;
- The category of waste, including the general chemical and mineral composition, of every hazardous waste handled by the business;
- The maximum amount of each hazardous material or mixture containing a hazardous material that is present on site;
- Sufficient information on how and where the hazardous materials are handled by the business to allow fire, safety, health, and other appropriate personnel to prepare adequate emergency responses to potential releases of the hazardous materials;
- Emergency response plans and procedures in the event of a reportable release or threatened release of a hazardous material; and
- Training for all new employees and annual training, including refresher courses, for all employees on safety procedures in the event of a release or threatened release of a hazardous material.

Under Chapter 6.95, Article 2, operators of stationary sources of hazardous materials are required (if they are deemed an accident risk) to prepare risk management plans (RMPs), detailing strategies to reduce the risk of accidental hazardous material release, and submit them to the California Emergency Management Agency.

California Accidental Release Prevention Program

First implemented in 1997, the California Accidental Release Prevention (CalARP) program was designed to prevent accidental releases of hazardous substances, minimize damage if releases occur, and satisfy community right-to-know laws. Like the chemical accident prevention provisions of the federal Clean Air Act, the CalARP program and implementing regulations (Cal. Code Regs., tit. 19, chapter 4.5) require businesses that handle more than a threshold quantity of regulated substances to develop an RMP.

In most cases, the CUPA is the administering agency responsible for implementing the CalARP program. When no CUPA exists, the administering agency is designated by the Secretary for Environmental Protection or the Office of Emergency Services. The administering agency determines the level of detail in the RMPs, reviews the RMPs, conducts facility site inspections, and provides public access to most of the information provided by facilities.

California Fire Code—Hazardous Materials Management Plans and Hazardous Materials Inventory Statements

The California Fire Code (Cal. Code Regs., tit. 29, part 9) requires businesses that handle more than a threshold quantity of hazardous materials to prepare a Hazardous Materials Management Plan (HMMP) and a Hazardous Materials Inventory Statement (HMIS). HMMPs and HMISs are similar to the HMBPs and HMAPs required under Chapter 6.95 of the California Health and Safety Code. Like business and area plans, the HMMP/HMIS requirement is an element of the Unified Program; however, the CAL FIRE Office of the State Fire Marshall is responsible for implementing the HMMP and HMIS.

The HMMP must include a facility site plan containing information such as the location of emergency equipment, hazardous material storage tanks, and emergency exits. The HMIS must include information on the hazardous materials at the site, such as product name, chemical components, amount in storage, and hazard classification. As part of an application for a permit, owners or operators of facilities that handle hazardous materials also must submit an emergency response plan and an emergency response training plan.

California Emergency Services Act

The California Emergency Services Act (Gov. Code, Chapter 7) established the California Emergency Management Agency and created requirements for emergency response training and planning. Under this act, the State is required to develop a statewide toxic disaster contingency plan that can facilitate an effective, multi-agency response to a situation in which toxic substances are dispersed in the environment so as to cause, or potentially cause, injury or death to a substantial number of persons or substantial harm to the natural environment (Gov. Code, § 8574.18). The California Emergency Services Act also requires the agency to develop and manage the California Hazardous Substances Incident Response Training and Education Program, which provides classes in hazardous substance response (Gov. Code, § 8574.20). Under the California Emergency Services Act, the California Emergency Management Agency would have the ability to provide an effective response to a catastrophic hazardous materials release, such as from an accident at a chemical pesticide manufacturing plant.

Hazardous Waste Generator Program

The Hazardous Waste Generator Program is administered by CUPAs under the Unified Program with oversight and assistance from DTSC. Under the program, CUPAs conduct inspections at hazardous waste generator facilities. Inspectors check hazardous waste generators for compliance with such requirements as having a USEPA identification number, contingency plan information posted near a telephone, containers in good condition and properly labeled, and authorized waste transport vehicles. If generators fail to comply with regulations or permit requirements, CUPAs may assess penalties.

CUPAs also administer on-site, tiered permitting programs. Based on the type of waste they treat and the treatment processes they employ, businesses are required to obtain a permit for the appropriate tier. Permits may require businesses to clean equipment or alter processes to improve safety.

Pesticides and Pest Control Operations

Detailed implementing regulations for CDPR's pesticide regulatory program are codified in the California Code of Regulations, title 3, division 6. CDPR is the state agency with primary responsibility for regulating pesticide use in California. CDPR oversees state pesticide laws, including pesticide labeling, and is vested by USEPA to enforce

federal pesticide laws in California. CDPR also oversees the activities of the county agricultural commissioners (CACs) related to enforcement of pesticide regulations and related environmental laws and regulations locally.

As identified in California Code of Regulations title 3, division 6, CDPR evaluates proposed pesticide products and registers those pesticides that it determines can be used safely. In addition, CDPR's oversight includes:

- Licensing of pesticide professionals;
- Site-specific permits required before restricted-use pesticides may be used in agriculture;
- Strict rules to protect workers and consumers;
- Mandatory reporting of pesticide use by agricultural and pest control businesses;
- Environmental monitoring of water and air; and
- Testing of fresh produce for pesticide residues.

The regulations require that employers of pesticide workers provide protective clothing, eyewear, gloves, respirators, and any other required protection, and also requires employers to ensure that protective wear is worn according to product labels during application. The regulations also require that employers provide workers with adequate training in pesticide application and safety; communicate pesticide-related hazards to workers; ensure that emergency medical services are available to workers; and ensure adherence to restricted-entry intervals between pesticide treatments. (Cal. Code Regs., tit. 3, § 6764.)

CDPR Guidance on Pesticide Use in Commercial Cannabis Cultivation

In accordance with MAUCRSA, CDPR is required to develop guidelines for the use of pesticides in the cultivation of cannabis and residue in harvested cannabis. (Bus. & Prof. Code, § 26060, subd. (d).) However, CDPR is pre-empted by federal law from registering a pesticide for sale and use that is not first registered by USEPA.

CDPR has advised CACs to issue a Unique Identifier (i.e., an operator identification data number) to any cannabis grower who submits a valid application, except in counties in which growing cannabis is prohibited by a local ordinance. The operator identification data would be used in the management of pesticide use data. CDPR has advised that the use of a pesticide for the cultivation of cannabis falls under the broad definition of "agricultural use" in the Food and Agricultural Code, even though the Food and Agricultural Code does not explicitly consider cannabis an agricultural commodity.

CDPR has also prepared guidance documents outlining the legal requirements for pesticide use on cannabis and providing guidance on legal pest management practices for California cannabis growers. Essentially, CDPR's guidance states that the only pesticide products allowable for use on cannabis are those that contain an active ingredient that is exempt from residue-tolerance requirements and are either (1) registered and labeled for a use that is broad enough to include use on cannabis (e.g., unspecified green plants), or (2) exempt from registration requirements as a minimum-risk pesticide under FIFRA section 25(b) and the California Code of Regulations, title 3, section 6147 (CDPR 2021).

Pesticide Contamination Prevention Act

The Pesticide Contamination Prevention Act (Food & Agr. Code, §§ 13145–13152) requires CDPR to:

- Obtain environmental fate and chemistry data for agricultural pesticides before they can be registered for use in California;
- Identify agricultural pesticides with the potential to pollute groundwater;
- Sample wells to determine the presence of agricultural pesticides in groundwater;
- Obtain, report, and analyze the results of well sampling for pesticides by public agencies;
- Formally review any detected pesticide to determine whether its use can be allowed; and
- Adopt use modifications to protect groundwater from pollution if formal review indicates that continued use can be allowed.

The act requires CDPR to develop numerical values for water solubility, soil adsorption coefficient, hydrolysis, aerobic and anaerobic soil metabolism, and field dissipation of pesticides to protect groundwater, based in part on data submitted by pesticide registrants.

The act also states that CDPR shall establish a list of pesticides that have the potential to pollute groundwater, called the Groundwater Protection List. Any person who uses a pesticide that is listed on the Groundwater Protection List is required to file a report with the CAC, and pesticide dealers are required to make quarterly reports to CDPR of all sales of pesticides on the list to persons not otherwise required to file a report. The Pesticide Contamination Prevention Act ensures that pesticides allowed for use in California, including those that may be used in commercial cannabis cultivation, will have been studied by CDPR for their potential to contaminate groundwater and the environment.

Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

The Safe Drinking Water and Toxic Enforcement Act, or Proposition 65, requires the Governor to maintain and publish a list of chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. Once a chemical has been listed, businesses are responsible for providing a warning before knowingly or intentionally exposing their employees or the public to an amount of the chemical that poses a significant risk. The California Office of Environmental Health Hazard Assessment (OEHHA) is the lead agency responsible for implementing Proposition 65, with input from CDPR and other agencies so that the best scientific information is used in listing chemicals. In its current state, the Proposition 65 list contains a wide variety of chemicals, including various pesticides and cannabis smoke (OEHHA 2025).

California Division of Occupational Safety and Health Regulations

The California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) regulations contain requirements for agricultural operations related to pesticide application. The regulations require that a notice be attached to all tanks larger than 100 gallons in capacity that are used for pesticides, providing precautionary instructions; controls on the tanks must be placed to minimize exposure to employees from ruptured or breaking lines (Cal. Code Regs., tit. 8, § 3453). Machines, applicators, and other equipment used for pesticide application must be decontaminated before they are overhauled or placed in storage (Cal. Code Regs., tit. 8, § 3451).

In addition, the Cal/OSHA regulations contain various provisions that require safe operation of equipment, safety instructions provided in a language that employees understand, and access to first aid.

California Fire Code

The California Fire Code (Cal. Code Regs., tit. 24, part 9) establishes minimum requirements to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings. The California Fire Code also contains requirements related to emergency planning and preparedness, fire service features, building services and systems, fire resistance–rated construction, fire protection systems, and construction requirements for existing buildings, as well as specialized standards for specific types of facilities and materials.

DCC Commercial Cannabis Business Regulations

DCC is responsible for regulating the producers of cannabis products for both medicinal and adult use. Sections 15714 through 15724 require all cannabis products to be tested by a licensed cannabis testing laboratory prior to sale. These regulations ensure that the cannabis product consistently meets the established specifications for cannabinoids, moisture content and water reactivity, residual pesticides, residual solvents and processing chemicals, microbial impurities, mycotoxins, foreign material, heavy metals, and if applicable, terpenoids. Products that do not meet regulatory specifications must not be sold. In addition, DCC regulations ensure that cannabis products have been processed, manufactured, packaged, labeled, and held under conditions to prevent adulteration and misbranding as defined in Business and Professions Code sections 26039.5 and 26039.5.

Local Laws, Regulations, and Policies

The Sonoma County Fire Prevention and HazMat Division, Hazardous Materials Unit is the designated CUPA for Sonoma County. The Hazardous Materials (HazMat) Unit implements hazardous materials and hazardous wastes regulations in Sonoma County through the California Environmental Reporting System (CERS) and DTSC. In 1993, the Board of Supervisors designated the Agricultural department to inspect all agricultural facilities for compliance with hazardous materials and hazardous waste laws and regulations.

As the CUPA, the Fire Prevention and HazMat Division administers the following Unified Programs:

- Hazardous Materials Release Response Plans and Inventory (Business Plan) Program
- Underground Storage Tank Program
- Hazardous Waste Generator Program
- Aboveground Petroleum Storage Act Program

Leaking Underground Storage Tank- Local Oversight Program

As of July 1, 2021, the Sonoma County Local Oversight Program (LOP) ended. All remaining open LOP sites have been transferred to the appropriate Regional Water Board for continued LUST cleanup oversight. LUST sites are those undergoing cleanup due to an unauthorized release from an underground storage tank (UST) system. UST regulations apply to underground tanks and piping storing any type of hazardous substance, with some exemptions.

Sonoma County Multijurisdictional Hazard Mitigation Plan

Sonoma County's Hazard Mitigation Plan identifies potential hazards that a planning area is most vulnerable to, assesses risk to populations, property, and critical facilities, and includes a mitigation strategy to reduce risks. The existing 2016 Sonoma County Hazard Mitigation (HMP) was prepared for the County only. The planning process

for updating the 2016 HMP leveraged a regional approach to prepare a Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) that comprises the hazard profiles, risk assessments, and mitigation strategies for multiple jurisdictions.

Sonoma County Community Wildfire Protection Plan

The Sonoma County Community Wildfire Protection Plan (CWPP) 2023 Update was signed by the Sonoma County Board of Supervisors on May 9, 2023. The CWPP Update reflects collaborative development with active public participation, identifies wildfire risks and mitigation measures across the County, and lists community-driven Risk Reduction Priorities and specific project recommendations that agencies and community groups can use to develop projects MJHMP recommendations are referenced in the CWPP.

Sonoma County Emergency Operations Plan

The Sonoma County Operational Area Emergency Operations Plan (EOP) is a guidebook for phases of an all-hazards emergency management process within the Operational Area (County). The phases of emergency management include preparedness, response, and recovery, and mitigation. The EOP is intended to facilitate coordination between agencies and jurisdictions within Sonoma County while ensuring the protection of life, property, and the environment during disasters. This Plan provides the framework for a coordinated effort among local community, county, city, special district, private sectors, regional, state, tribal, and federal partners.

Bay Area Air Quality Management District and Northern Sonoma County Air Pollution Control District

Regulates the stationary sources of air pollution such as residential wood burning and agricultural and industry emissions. Both air districts regulate renovation and demolition activities that may result in pollutants such as asbestos and lead being released to the environment.

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-250(f) Health and Safety. Commercial cannabis activity shall not create a public nuisance or adversely affect the health or safety of the nearby residents or businesses by creating dust, light, glare, heat, noise, noxious gasses, odor, smoke, traffic, vibration, unsafe conditions or other impacts, or be hazardous due to the use or storage of materials, processes, products, runoff or wastes.

Sonoma County Code section 26-88-254(f)(9). Airport Compatibility. All cannabis operations shall comply with the comprehensive airport land use plan.

Sonoma County Code section 26-88-254(f)(18). Hazardous Materials Sites. No commercial cannabis activity shall be sited on a parcel listed as a hazardous materials site compiled pursuant to Government Code Section 65962.5, unless a use permit is obtained.

Sonoma County Code section 26-88-254(g)(4) Hazardous Materials. All cultivation operations that utilize hazardous materials shall comply with applicable hazardous waste generator, underground storage tank, above ground storage tanks, and AB 185 (hazardous materials handling) requirements and maintain any applicable permits for these programs from the fire prevention division, certified unified program agency (CUPA) of Sonoma County Fire and Emergency Services Department, or agricultural commissioner.

3.9.2 Environmental Setting

Existing Hazards and Hazardous Materials

There are no active hazardous materials cleanup sites listed on EnviroStor or Geotracker (DTSC 2025; SWRCB 2025) within 5,000 feet of the project site. Geotracker lists seven LUST Cleanup Sites within 5,000 feet of the project site, but all are classified as Completed – Case Closed (SWRCB 2025). The project area is not located on a site listed pursuant to Government Code Section 65962.5 (also known as the Cortese List), and which is generally represented by the EnviroStor database (DTSC 2025).

Airports

The nearest airport to the project site is the Sonoma Skypark, which is located approximately 1.3 miles to the north. The Sonoma Valley Airport is located approximately 1.7 miles southwest of the Project site. Otherwise, the closest airports are the Petaluma Municipal Airport approximately 9 miles northwest of the site and the Napa County Airport approximately 9.1 miles southeast of the site.

Wildfire Hazards

The project site is in an agricultural area within unincorporated Sonoma County. The parcels are active farms with pastures, hay fields, and multiple structures to support farm operations. There are also several residences onsite. The area surrounding the project site is rural, with a mixture of agricultural and light industry. Vegetation in the wider area largely consists of agricultural crops and open grassy spaces. (Wingo Ranch 2022).

Fire Hazard Severity Zones (FHSZ) are developed by the Office of the State Fire Marshal and determined based on risk factors such as slope, winds, and fuel loading, and are classified based on the severity of the risk (moderate, high, and very high). The Proposed Project is not classified as being located within a FHSZ. The closest FHSZ are approximately 0.5 miles to the east, 0.7 miles to the north and northwest, 1 mile to southeast, and 1.2 miles to the west (Sonoma County 2025a).

The Proposed Project would be in an area in the jurisdiction of Schell-Vista Fire Protection District (Sonoma County 2025b), with the closest station located approximately 0.5 miles east of the site.

Sensitive Receptors

Sensitive receptors include facilities such as hospitals, schools, daycare facilities, elderly housing and convalescent facilities where the occupants are more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants. Except for parcel 128-471-003, which is zoned Diverse Agriculture (DA), the remaining project site is zoned Land Extensive Agriculture (LEA) (Hurvitz Environmental Services 2022). The nearest church is the Sonoma Alliance Church, located approximately 2.4 miles to the northwest of the site. The nearest school to the site is The Presentation School, located approximately 2.6 miles to the northwest and the nearest daycare is North Bay Children's Center, located approximately 3.4 miles to the north. The Sonoma Valley Chabad Jewish Center is located approximately 4 miles northwest of the site. The nearest hospital is Sonoma Valley Hospital, and the nearest elderly housing facility is Sonoma Hills Retirement Living Community. Both are located approximately 4.2 miles to the northwest of the site.

3.9.3 Discussion of Checklist Responses

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (Less than Significant Impact)

Construction

As discussed in Section 2.6, construction associated with the Proposed Project is now complete, and in accordance with Section 1.5 the analysis of construction impacts is mooted.

Operation

Licensed commercial cannabis cultivation, such as the Proposed Project, must comply with local and state hazardous materials handling, use procedures and regulations, and are regularly inspected for compliance by both local and state departments. Regulations to reduce impacts to Hazards and Hazardous Materials from commercial cannabis cultivation operations that are enforced by the DCC include Sections 15011(10), 15714-15724, 16307, and 16310 of the DCC regulations. In addition, the Proposed Project must comply with Sonoma County Best Management Practices for Cannabis Cultivation and the operating standards for hazardous materials for commercial cannabis cultivation set forth in section 26-88-254(g)(4) of the County Code. The Applicant has self-certified that the commercial cannabis cultivation activities are consistent with the requirements of the State Water Board Cannabis Cultivation Policy- Principles and Guidelines for Cannabis Cultivation (Policy) and General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities, Order No. WQ 2019-0001-DWQ, and any subsequent amendments thereto. (RWQCB 2021).

This Proposed Project does not intend to permanently store hazardous materials onsite. If the operator must bring pesticides, fertilizers, or flammable materials such as gasoline onto the site to support operations, the operator will remove the materials from the site at the end of the working day. While onsite, all pesticides or fertilizers will be in secondary containers and kept at least 100 feet from wellheads and 50 feet from wetlands or riparian areas. All hazardous materials will be placed in appropriate secondary containment vessels, as necessary, to protect water quality and prevent spillage, mixing, discharge, or seepage. Storage containers will be of suitable material and construction to be compatible with the substances stored and conditions of storage, such as pressure and temperature. While onsite, all flammable materials will be property stored in labeled containers, will comply with the riparian setback requirements, will be in a location in compliance with label instructions, and will be protected from accidental ignition, weather, and wildlife. (Hurvitz Environmental Services 2022.)

Organic farming and integrated pest management are considered Best Practicable Treatments and Controls and would be used for this cultivation operation as much as possible. It is the policy of the Applicant to use only organic-certified pesticides or herbicides, as needed. The following chemicals may be used on site: 30% Chromo bacterium substage strain PRAA4-1 and spent fermentation media; 94.46% Heat-killed Burkholderia spp, strain A396 cells and spent fermentation media; 90% Cocodiethanolamide; Hydrophobic Extract of Neem Oil; 6% Azadirachtin; and Trichoderma asperellum and Trichoderma gamsii. (Hurvitz Environmental Services 2022.)

Granular fertilizers consist primarily of 50-pound bags of organic soil amendments. Granular fertilizers and soil amendments will typically be mixed in with the soil at the beginning of the planting cycle. Liquid amendments consist primarily of 5-gallon buckets of fertilizer. Plastic tubing and driplines and pumps are used to feed the water,

liquid fertilizer, and compost tea to the plants in aqueous solution at a rate not more than the evapotranspiration demand of the plants, such that the volume of nitrogen leached into the soil should be negligible. Any pesticides or herbicides are applied by hand using a spray tank. The applicant will prepare a Nitrogen Management Plan (NMP) annually as outlined by the General Order. (Hurvitz Environmental Services 2022.)

Prior to applying fertilizers, the operator will evaluate and test the irrigation water, grow media, and plant tissue to determine the appropriate products and quantities that are needed to optimize plant growth and avoid over fertilization. The operator will apply fertilizers below label rates in conjunction with variables received from prior testing and will not apply fertilizers in a way that will result in runoff that may contaminate ground or surface water. Fertilizers will not be mixed, prepared, over applied, or disposed of in any location where they could enter the riparian setback or waters of the state. Disposal of unused product and containers shall be consistent with labels. During a typical growing season, the following nutrients and fertilizers may be used onsite: Biodynamic Compost; Mykos Granular; Tappin Roots Grow (6-1.5-1.4); Tappin Roots Bloom Liquid (0-3-1.3); Tappin Roots All Stages (0.01-0-0.01); Tappin Roots Sea Nectar (0-0-20); Tappin Roots Magnesium (0-0-0). (Hurvitz Environmental Services 2022.)

All watering is by hand or drip irrigation, thus the amount of runoff to the ground from this method is negligible. Plants are grown in raised bed using imported soil, thus there will be almost no exposure of the environment to the cultivation waters. There are no other discharges of wastewater or solid pollutants planned for the cultivation activities thus the impacts to water quality from point sources are considered negligible. (Hurvitz Environmental Services 2022.)

The Applicant would ensure all garbage and refuse on the site is stored in non-absorbent, water-tight, vector resistant, durable, easily cleanable, galvanized metal or heavy plastic containers with tight fitting lids. No refuse container would be filled beyond the capacity to completely close the lid. Any hazardous wastes will be stored in approved containers inside secondary containment and inside the proposed storage building onsite. Hazardous wastes will be appropriately and clearly marked in containers and segregated from other non-waste materials. Areas designated for commercial cannabis waste and other organic material will be contained in secure compost areas. Both the non-cannabis waste bins and compost receptacles will be demarcated for temporary storage prior to disposal at an approved waste management site. (Hurvitz Environmental Services 2022.)

In addition to the Applicant's best practices for handling organic materials and waste management to reduce or eliminate pollution of storm water, the following material handling and waste management measures will be implemented at all times:

- Prevent or minimize handling of chemical/industrial materials or wastes that can be readily mobilized by contact with stormwater during a storm event.
- Contain all stored non-solid chemical/industrial materials or wastes (e.g., particulates, powders, shredded paper, etc.) that can be transported or dispersed by the wind or contact with stormwater during handling.
- Cover waste disposal containers and material storage containers that contain chemical/industrial materials when not in use.
- Divert run-on and stormwater generated from within the site away from all stockpiled materials.

- Clean all spills of chemical/industrial materials or wastes that occur during handling in accordance with the spill response procedures).
- Observe and clean as appropriate, any outdoor material or waste handling equipment or containers that can be contaminated by contact with chemical/industrial materials or wastes. (Hurvitz Environmental Services 2022.)

Methods for managing commercial cannabis waste generated on the premises may include on-premises composting and reintroducing cannabis waste into an agricultural operation through on-premises organic-waste-recycling methods, including, but not limited to, tiling directly into agricultural land and no-till farming (Wingo Ranch n.d.) Non-cannabis waste disposal will be picked up and disposed of on a weekly basis. Solid waste shall be removed and disposed off-site at least monthly at an appropriately designated receiving facility (Hurvitz Environmental Services 2022.)

Portable restrooms and hand washing stations will be provided by a licensed sanitation company and therefore no domestic wastewater is expected to be discharged onsite. The portable bathrooms and hand wash stations are self-contained and will be serviced and maintained on a weekly basis. (Hurvitz Environmental Services 2022.)

Pickup trucks and the occasional farm tractor will be the only mechanized equipment used on site. Should vehicle and equipment fueling or maintenance be performed in the project area, the applicant has established Best Practices. (Hurvitz Environmental Services 2022.) In addition to employee traffic, the Proposed Project anticipates one truck trip (round trip) per day to the site during the planting season when immature plants are delivered to the site and six truck trips (round trip) per day during the harvest season when plants are transferred offsite for processing. The Proposed Project anticipates eight truck trips (round trip) per week to the site during the growing season to deliver supplies. (Wingo Ranch 2022).

Conclusion

Based on required compliance with existing State and County requirements and proposed practices, the Proposed Project would not result in significant hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials, thus the impact would be **less than significant**.

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 (Less than Significant Impact)

As discussed in Section 2.6, construction associated with the Proposed Project is now complete, and in accordance with Section 1.5 the analysis of construction impacts is mooted.

The Proposed Project does not intend to permanently store hazardous materials onsite. When they are onsite, all hazardous materials will be placed is appropriate secondary containment vessels, as necessary, to protect water quality and prevent spillage, mixing, discharge, or seepage. The operator will routinely check products for leaks and spills. Spill clean-up materials, material safety data sheets, a material inventory, and emergency contact numbers will be maintained and stored onsite. BMPs will be implemented to minimize storm water contact with waste materials and prevent waste discharges. Additional measures to prevent spills or discharges from the portable bathrooms and hand wash stations will be made by the site operator. (Hurvitz Environmental Services 2022.)

The following spill and leak prevention and response measures will be implemented:

- Establish procedures and/or controls to minimize spills and leaks,
- Develop and implement spill and leak response procedures to prevent industrial materials from discharging through the stormwater conveyance system,
- Spilled or leaked industrial materials will be cleaned promptly and disposed of properly,
- Identify and describe all necessary and appropriate spill and leak response equipment, location(s) of spill and leak response equipment, and spill or leak response equipment maintenance procedures,
- Identify and train appropriate spill and leak response personnel. (Hurvitz Environmental Services 2022.)

Additionally, the following material handling and waste management measures will be implemented:

- Prevent or minimize handling of chemical/industrial materials or wastes that can be readily mobilized by contact with stormwater during a storm event,
- Contain all stored non-solid chemical/industrial materials or wastes (e.g., particulates, powders, paper, etc.) that can be transported or dispersed by the wind or contact with stormwater during handling,
- Cover waste disposal containers and material storage containers that contain chemical/industrial materials when not in use,
- Divert run-on and stormwater generated from within the facility away from all stockpiled materials,
- Clean all spills of chemical/industrial materials or wastes that occur during handling in accordance with the spill response procedures,
- Observe and clean as appropriate, any outdoor material or waste handling equipment or containers that can be contaminated by contact with chemical/industrial materials or wastes. (Hurvitz Environmental Services 2022.)

Based on required compliance with California Code of Regulations, title 22, division 4.5, to minimize the risk associated with the use of hazardous substances and the applicant's proposed practices, the Proposed 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, and potential impacts would be **less than significant**.

c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (No Impact)

There are no schools located within 0.25 mile (1,320 feet) of the project site. The nearest school to the site is The Presentation School, located approximately 2.6 miles to the northwest of the project site. Therefore, the Proposed Project would have **no impact**.

d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, create a significant hazard to the public or the environment (No Impact)

The Proposed Project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 (DTSC 2025). Therefore, the Proposed Project would not create a significant hazard to the public or the environment. There would be **no impact**.

e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a private airport or public airport and result in a safety hazard or excessive noise for people residing or working in the study area (No Impact)

The project site is located approximately 1.2 miles from Sonoma Skypark. However, the Proposed Project would not construct any structures, create a safety hazard, or result in an increased use of areas near airports that would result in excessive noise for people working in the area. Therefore, the Project would have **no impact**.

f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant Impact)

The Proposed Project would not impair the implementation of, or physically interfere with the County's adopted emergency operations plan. There is no separate emergency evacuation plan for the County. The Proposed Project would not result in a significant change in existing circulation patterns, would not generate substantial new traffic, and would have no measurable effect on emergency response routes.

The project site is accessed via a private driveway off Fremont Drive/State Highway 121/12, a highway with one lane in each direction. Additional information regarding site access and circulation is detailed in Section 2.5, "Proposed Project Characteristics." The project site is in Sonoma County evacuation zone SON-6H3 - Skaggs Island/Hudeman Slough (Sonoma County 2025c).

Typically, construction impacts would be assessed. However, as discussed in Section 2.6, construction associated with this Project is now complete, and in accordance with Section 1.5 the analysis of construction impacts is mooted.

As discussed in more detail in Section 3.17, "Transportation," during operations there would be no physical changes to roadways and only a small increase in the volume of employee and delivery vehicles accessing the site that could impact emergency access. The limited amount of increased traffic generated by the Proposed Project would not significantly impact emergency access. Therefore, impacts would be **less than significant**.

g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires (Less than Significant Impact)

Construction

Typically, construction impacts would be assessed. However, as discussed in Section 2.6, construction associated with the Proposed Project is now complete, and in accordance with Section 1.5 the analysis of construction impacts is mooted.

Operation

The project site is in an agricultural area within unincorporated Sonoma County. The parcel consists almost entirely of annually seeded and cut hayfields. The furthest east portion of the site contains a partially covered stock feed yard. There is a drainage swale with some vegetation with wetland characteristics present, between the hayfield and the stock yard. The area surrounding the project site is rural, with a mixture of agricultural and light industry. Vegetation in the wider area largely consists of agricultural crops and open grassy spaces. (Wingo Ranch 2022).

Fire Hazard Severity Zones (FHSZ) are developed by the Office of the State Fire Marshal and determined based on risk factors such as slope, winds, and fuel loading, and are classified based on the severity of the risk (moderate, high, and very high). The Proposed Project is not classified as being located within a FHSZ. The closest FHSZ are approximately 0.5 miles to the east, 0.7 miles to the north and northwest, 1 mile to southeast, and 1.2 miles to the west (Sonoma County 2025a).

The Proposed Project would be in an area in the jurisdiction of Schell-Vista Fire Protection District (Sonoma County 2025b). The nearest fire station is located approximately 0.5 miles east of the site.

During operation, the Proposed Project would not introduce new activities to the area which would significantly exacerbate wildfire risks, as the area would be used for agriculture, consistent with its zoning and the surrounding area. Therefore, the Proposed Project is not expected to significantly exacerbate existing risks of wildfire.

Conclusion

The Proposed Project is not expected to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. Therefore, this impact would be **less than significant**.

3.10 Hydrology and Water Quality

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Proposed Project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. result in substantial erosion or siltation on- or off-site;	☐	☐	☐	☒
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

3.10.1 Regulatory Setting

Federal Laws, Regulations, and Policies

Clean Water Act and Associated Programs

The Federal Water Pollution Control Act of 1972, also known as the Clean Water Act (CWA), is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands (USEPA

2024a). The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." States, territories, and authorized Tribes establish water quality standards that describe the desired condition of a waterbody or the level of protection, which are then approved by USEPA; these standards form a legal basis for controlling pollution that enters the waters of the United States. Water quality standards consist of the designated beneficial uses of the waterbody, criteria to protect those designated uses, antidegradation requirements to protect existing uses and high-quality waters, and general policies regarding implementation (USEPA 2024b).

USEPA is responsible for implementing the CWA, although some sections are implemented by other federal agencies under USEPA's oversight, such as Section 404 dealing with discharge of dredged and fill material into waters of the United States (which is implemented by USACE). USEPA also has the option to delegate implementation of certain programs to a State agency. In California, the State Water Resources Control Board (SWRCB) and its nine regional water quality control boards (RWQCBs) administer various sections of the CWA.

Section 401

CWA Section 401 requires an evaluation of water quality when a proposed activity requiring a federal license or permit could result in a discharge to waters of the United States. In California, USEPA has delegated to SWRCB and the RWQCBs the authority to issue water quality certifications. Each RWQCB is responsible for implementing Section 401 in compliance with the CWA and that region's water quality control plan (also known as a Basin Plan). Applicants for a federal license or permit to conduct activities that might result in the discharge to waters of the United States must also obtain a Section 401 water quality certification to ensure that any such discharge would comply with the applicable provisions of the CWA.

Section 402

Section 402 of the CWA establishes the National Pollutant Discharge Elimination System (NPDES). Under Section 402, a permit is required for point-source discharges of pollutants into navigable waters of the United States (other than dredge or fill material, which are addressed under Section 404). In California, the NPDES permit program is also administered by the SWRCB. Permits contain specific water quality–based limits and establish pollutant monitoring and reporting requirements. Discharge limits in NPDES permits may be based on water quality criteria designed to protect designated beneficial uses of surface waters, such as recreation or supporting aquatic life. The various NPDES permits that may apply to the Proposed Program are discussed below.

General Construction Stormwater Permit

Most construction projects that disturb one acre or more of land are required to obtain coverage under the SWRCB's *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ), in accordance with CWA Section 402. The general permit requires the applicant to file a public notice of intent to discharge stormwater and prepare and implement a stormwater pollution prevention plan (SWPPP). The SWPPP must include a site map and a description of the proposed construction activities; demonstrate compliance with relevant local ordinances and regulations, and present a list of best management practices (BMPs) that will be implemented to prevent soil erosion and protect against discharge of sediment and other construction-related pollutants to surface waters. Permittees are further required to conduct monitoring and reporting to ensure that BMPs are correctly implemented and are effective in controlling the discharge of construction-related pollutants.

Municipal Stormwater Permitting Program

The SWRCB regulates stormwater discharges from municipal separate storm sewer systems (MS4s), in accordance with Section 402 of the CWA, through its Municipal Storm Water Permitting Program. As described above, the MS4 permitting requirements were developed in two phases: Phase I and II. MS4 permits continue to be issued under Phase I or Phase II depending on the size of the MS4 seeking authorization. Phase I permits for medium and large MS4s require the discharger to develop and implement a Storm Water Management Plan/Program with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP), including identifying what BMPs will be used to address specific program areas.

Section 404

Clean Water Act (CWA) Section 404 regulates the discharge of dredged and fill materials into waters of the U.S., which include all navigable waters, their tributaries, and some isolated waters, as well as some wetlands adjacent to the aforementioned waters (33 C.F.R. § 328.3). Areas typically not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial waterbodies such as swimming pools, vernal pools, and water-filled depressions (33 C.F.R. Part 328). Areas meeting the regulatory definition of waters of the U.S. are subject to the jurisdiction of U.S. Army Corps of Engineers (USACE) under the provisions of CWA Section 404. Construction activities involving placement of fill into jurisdictional waters of the U.S. are regulated by USACE through permit requirements. No USACE permit is effective in the absence of state water quality certification pursuant to Section 401 of CWA.

National Toxics Rule and California Toxics Rule

USEPA issued the National Toxics Rule (NTR) in 1992. The goal of the NTR is to establish numeric criteria for specific priority toxic pollutants, to ensure that all states comply with the requirements in CWA Section 303. A total of 126 priority toxic pollutants currently are specified in the NTR (USEPA 2024c).

In 2000, USEPA promulgated the California Toxics Rule (CTR), which contains additional numeric water quality criteria for priority toxic pollutants for waters in the state. The CTR fills a gap in California water quality standards that was created in 1994 when a State court overturned the State's water quality control plans containing water quality criteria for priority toxic pollutants. These federal criteria are legally applicable in California for inland surface waters, enclosed bays, and estuaries for all purposes and programs under the CWA (USEPA 2024d).

The NTR and CTR include toxicity thresholds for freshwater and saltwater systems and human health for a number of chemicals which may be used for licensed or unlicensed commercial cannabis cultivation, including heavy metals (which may be found in fertilizers, irrigation water, soils, and other grow media), hydrocarbons (found in fuels and lubricants for powered equipment used in cultivation), and pesticides.

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) is intended to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and groundwater wells that serve more than 25 individuals. The goal of the SDWA is to ensure that drinking water is safe for human consumption. Under the SDWA, USEPA has set drinking water standards for chemical, microbiological, radiological, and physical contaminants in its National Primary Drinking Water Regulations (40 C.F.R. Part 141). Runoff from cannabis cultivation sites has potential to contain water quality constituents that are regulated under the SDWA, such as nutrients and hydrocarbons.

State Laws, Regulations, and Policies

Porter-Cologne Water Quality Control Act

Effective in January 1970, the Porter-Cologne Act (California Water Code Division 7) created water quality regulation on the State level, establishing the SWRCB and dividing California into nine regions, each overseen by an RWQCB. The act establishes regulatory authority over waters of the State, defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." More specifically, the SWRCB and RWQCBs have jurisdiction over any surface water or groundwater to which a beneficial use may be assigned. Following enactment of the federal CWA in 1972, the Porter-Cologne Act assigned responsibility for implementing CWA Sections 303, 401, and 402 to the SWRCB and RWQCBs.

The Porter-Cologne Act requires the RWQCBs to adopt Basin Plans for the protection of surface water and groundwater quality. The act also authorizes the RWQCBs to issue waste discharge requirements (WDRs) for discharges to waters of the state, including NPDES permits. Any activity, discharge, or proposed activity or discharge from a property or business that could affect California's surface water, coastal waters, or groundwater will (in most cases) be subject to a WDR. The California Water Code authorizes the SWRCB and RWQCBs to conditionally waive WDRs if this is in the public interest.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA), passed in 2014, became law in 2015, and created a legal and policy framework to manage groundwater sustainably at a local level. SGMA allows local agencies to customize groundwater sustainability plans to their regional economic and environmental conditions and needs and establish new governance structures, known as groundwater sustainability agencies (GSAs) (DWR 2023). SGMA requires that a groundwater sustainability plan (GSP) be adopted for groundwater basins designated as high and medium priority under the California Statewide Groundwater Elevation Monitoring (CASGEM) program (described below) by 2020 for basins with critical overdraft of underground aquifers. GSPs are intended to facilitate the use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results. Undesirable results are defined as the following:

- Chronic lowering of groundwater levels (not including overdraft during a drought if a basin is otherwise managed);
- Significant and unreasonable reduction of groundwater storage;
- Significant and unreasonable seawater intrusion;
- Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies;
- Significant and unreasonable land subsidence that substantially interferes with surface land uses; and
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

GSPs are required to include measurable objectives, as well as interim milestones in 5-year increments, to achieve the sustainability goal for the basin for the long-term beneficial uses of groundwater. The GSP may, but is not required to, address undesirable results that occurred before, or had not been corrected prior to the date that the SGMA went into effect. The GSA has the discretion to decide whether to set measurable objectives and the

timeframes for achieving any objectives for undesirable results that occurred before 2015. Additionally, GSPs are required to include components related to the monitoring and management of groundwater levels within the basin, mitigation of overdraft, and a description of surface water supply used or available for use for groundwater recharge or in-lieu use.

As with other local regulatory requirements, GSP requirements may apply to licensed cultivators located within the boundaries of a GSA and using groundwater as a source; the source could include on- or off-site wells, as well as supplies from water purveyors or water delivery services that have groundwater as some component of their supply.

State Water Resources Control Board Order WQ 2025-0102-DWQ – Cannabis General Order

The SWRCB Cannabis Cultivation Policy establishes principles and guidelines (requirements) for the diversion and use of water, land disturbances, and the activities related to commercial cannabis cultivation to protect water quantity and quality. The requirements help to minimize the effects of commercial cannabis cultivation on fisheries, wildlife, and water quality, maintain healthy riparian corridors, and protect springs, wetlands, and aquatic habitat. (SWRCB 2019.)

The *General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities* (WQ 2023-0102-DWQ) implements the Cannabis Policy requirements; specifically, those requirements that address waste discharges associated with commercial cannabis cultivation activities (SWRCB 2023). Waste discharges regulated by the Order may be from irrigation runoff, over fertilization, pond failure, road construction, grading activities, or domestic and cultivation related waste. The Statewide Cannabis General Order classifies outdoor cannabis cultivation operations into two different tiers based on size, and three different Risk levels based upon site characteristics and threats to water resources. Cannabis cultivators are required to comply with a series of Best Management Practices designed to prevent impacts to water resources.

DCC Commercial Cannabis Business Regulations

The following requirements contained in the DCC regulations are applicable to the Proposed Project:

- California Code of Regulations, title 4, section 16307, subdivision (a) requires all cultivators to comply with all CDPR laws and regulations.
- California Code of Regulations, title 4, section 16307, subdivision (b) contains cultivator protocols to reduce potential effects from pesticide use including: comply with all label requirements, store chemicals in a secure building, contain leaks and spills, apply the minimum amount necessary to control the target pest, and prevent off-site drift.
- California Code of Regulations, title 4, section 15011, subdivision (a)(3) requires that cultivator applicants provide proof of enrollment in or exemption from the applicable SWRCB or RWQCB program for water quality protection.
- California Code of Regulations, title 4, section 16311 requires cultivator applicants to identify all applicable water sources used for cultivation activities and the applicable supplemental information for each source.

Local Laws, Regulations, and Policies

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-254(f)(20). Runoff and Stormwater Control. Runoff containing sediment or other waste or by-products shall not be allowed to drain to the storm drain system, waterways, or adjacent lands. Prior to beginning grading or construction, the operator shall prepare and implement a storm water management plan and an erosion and sediment control plan, approved by the agency having jurisdiction. The plan must include best management practices for erosion control during and after construction and permanent drainage and erosion control measures pursuant to Chapter 11 of the County Code. All cultivation operators shall comply with the best management practices for cannabis cultivation issued by the agricultural commissioner for management of wastes, water, erosion control and management of fertilizers and pesticides.

Sonoma County Code section 26-88-254(g)(9). Wastewater Discharge. A wastewater management plan shall be submitted identifying the amount of wastewater, excess irrigation and domestic wastewater anticipated, as well as disposal. All cultivation operations shall comply with the best management practices issued by the agricultural commissioner and shall submit verification of compliance with the waste discharge requirements of the state water resource control board, or waiver thereof. Excess irrigation water or effluent from cultivation activities shall be directed to a sanitary sewer, septic, irrigation, graywater or bio-retention treatment systems. If discharging to a septic system, a system capacity evaluation by a qualified sanitary engineer shall be included in the management plan. All domestic waste for employees shall be disposed of in a permanent sanitary sewer or on-site septic system demonstrated to have adequate capacity.

Sonoma County Code section 26-88-254(g)(10). Water source. An on-site water supply source adequate to meet all on site uses on a sustainable basis shall be provided. Water use includes, but may not be limited to, irrigation water, and a permanent potable water supply for all employees. Trucked water shall not be allowed, except as provided below and for emergencies requiring immediate action as determined by the director. The onsite water supply shall be considered adequate with documentation of any one (1) of the following sources:

a. Municipal Water: A municipal water supplier as defined in California Water Code Section 13575. The applicant shall provide documentation from the municipal water source that adequate supplies are available to serve the proposed use.

b. Recycled Water: The use of recycled process wastewater or captured rainwater from an onsite use or connection to a municipal recycled water supply for non-potable use, provided that an adequate on-site water supply is available for employees and other uses.

c. Surface Water: An existing legal water right and, if applicable, a Streambed Alteration Agreement issued by the California Department of Fish and Wildlife.

d. Groundwater Well:

    1. The site is in Groundwater Availability Zone 1 or 2, and not within an area for which a groundwater management plan has been adopted or within a high or medium priority basin as defined by the state department of water resources; or

    2. Within Groundwater Availability Zone 3 or 4, or an area for which a groundwater management plan has been adopted or designated high or medium priority basin, the proposed use would:

a. The proposed use would not result in a net increase in water use on site through implementation of water conservation measures, rainwater catchment or recycled water reuse system, water recharge project, or participation in a local groundwater management project; or

b. Trucked recycled water may be considered for the cultivation area with a use permit, provided that adequate on-site water supplies are available for employees and other uses; or

c. A qualified professional prepares a hydro-geologic report providing supporting data and analysis and certifying that the onsite groundwater supply is adequate to meet the proposed uses and cumulative projected land uses in the area on a sustained basis, and that the operation will not:

   1. result in or exacerbate an overdraft condition in basin or aquifer;
   2. result in reduction of critical flow in nearby streams; or
   3. result in well interference at offsite wells.

Sonoma County Code section 26-88-254(g)(11). Groundwater Monitoring. Water wells used for cultivation shall be equipped with a meter and sounding tube or other water level sounding device and marked with a measuring reference point. Water meters shall be maintained in a calibrated state and documentation shall be submitted to the permit and resource management department at least once every five (5) years. Static water level and total quantity of water pumped shall be recorded quarterly and reported annually. Static water level is the depth from ground level to the well water level when the pump is not operating after being turned off. Static water level shall be measured by turning the pump off at the end of the working day and recording the water level at the beginning of the following day before turning the pump back on. Groundwater monitoring reports shall be submitted annually to the permit and resource management department by January 31 of each year. The annual report shall include water meter readings, the total quarterly quantities of water pumped from well(s) used in processing, and static water levels.

3.10.2 Environmental Setting

Topography and Climate

The project site is in Sonoma Valley. The site and the surrounding area are generally level. The topography of the site is flat with a maximum elevation of 17 feet along the northeast corner of the parcel near the entrance, and a minimum elevation of 10 feet above sea level in the southwest corner of the parcel. (Pinecrest Environmental Consulting 2021.) The project area is characterized by Mediterranean climate, with moderate temperatures and distinct wet and dry seasons. About 90 percent of the annual precipitation typically occurs during the months of November through April (Sonoma County Water 2021).

Surface Water Hydrology and Quality

The project area is located within the San Francisco Bay Hydrologic Region. The San Francisco Bay Hydrologic Region covers approximately 2.88 million acres (4,500 square miles) and includes all of San Francisco and portions of Marin, Sonoma, Napa, Solano, San Mateo, Santa Clara, Contra Costa, and Alameda counties. Significant geographic features include the Santa Clara, Napa, Sonoma, Petaluma, Suisun-Fairfield, and Livermore valleys; the Marin and San Francisco peninsulas; San Francisco, Suisun, and San Pablo bays; and the Santa Cruz Mountains, Diablo Range, Bolinas Ridge, and Vaca Mountains of the Coast Range (DWR 2003).

The water system of the San Francisco Bay Hydrologic Region is a complex network of surface water sources, including major rivers, smaller streams and creeks, as well as the San Francisco Bay. The Sacramento and San Joaquin Rivers, along with their tributaries, are the primary sources of freshwater inflow to the San Francisco Bay. Groundwater is an important component of the hydrologic system in the Region because it supplies high quality water for drinking, irrigation, and industrial uses (California Water Board 2024).

The quality of surface water resources in the Bay Area Region varies considerably and is locally affected by point-source (i.e., emitted from a single point) and nonpoint-source (i.e., diffuse) discharges. Point sources, such as wastewater treatment effluent and industrial waste discharges, are often regulated and monitored to avoid adverse effects on water quality. The region also faces challenges from human activities such as urban runoff, industrial discharges, and agricultural activities that can introduce pollutants like mercury, bacteria, and nutrients into the water (California Water Board 2024).

The SWRCB and nine RWQCBs oversee the protection of water quality in California. The SWRCB sets statewide policy for the implementation of state and federal laws and regulations. The RWQCBs adopt and implement Water Quality Control Plans (Basin Plans) which recognize regional differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities. The project site is located within the San Francisco Bay Regional Water Quality Control Board, Region 2.

Stormwater

The project site is located on two adjoining parcels (APN numbers 128-444-002 and 128-471-006). Both cultivation parcels are flat with less than 5 percent grade; therefore, minimal sediment controls would be required. However, sediment control devices, such as, loose straw, straw wattles, as silt fencing, sediment traps, fiber rolls, gravel bag berms, sandbag barriers, and straw bales, would be used as appropriate to avoid fugitive dust and stormwater runoff into nearby site creeks and streams. (Wingo Ranch 2022; Hurvitz Environmental Services 2022.). No new drainage systems are proposed for the Proposed Project; and no impervious surfaces would be added.

Groundwater Levels, Flows, and Quality

The project site is located within the Napa-Sonoma Valley Groundwater Basin. The Napa-Sonoma Valley Groundwater Basin occupies a northwest trending structural depression in the central Coast Ranges, approximately 40 miles northeast of San Francisco. Surface area encompasses approximately 46,000 acres (72 square miles) and is bounded to the north, east, and west by portions of the Coast Ranges and on the south by San Pablo Bay. The subbasin extends roughly from the city of Napa in the south, to the city of Calistoga in the north. Land surface elevations in the central plain of the subbasin range from 400 feet above sea level near Calistoga to approximately sea level south of Napa (DWR 2014).

Groundwater flow in the Napa-Sonoma Valley Groundwater Basin generally flows towards San Pablo Bay. Recharge occurs primarily from precipitation and seepage. Groundwater quality is generally good for most uses however, there are areas with poor quality, including the western portion of the basin where nitrate levels are elevated, and areas in the south with saltwater intrusion (DWR 2014).

The landowner has an agreement to receive recycled water from the Sonoma Valley County Sanitation District (SVCSD), which is operated by the Sonoma County Water Agency. The operator anticipates using about 1.5 acre-feet of recycled water annually for irrigation. Recycled water is the sole water source for the commercial cannabis operation, and there are seven 5,000-gallon water storage tanks on site.

Floodplains and Tsunamis

The project parcels are located within two different watersheds; APN 128-444-002 is located in the Schell Creek-Frontal San Pablo Bay Estuaries (HUC 12-180500020502) and APN 128-471-006 straddles the San Pablo Bay Estuaries and the Schell Creek-Frontal San Pablo Bay Estuaries. Both of these watersheds drain to the San Pablo Bay. (Hurvitz Environmental Services 2022.)

The project site is in a FEMA Flood Zone AE (FEMA 2023). FEMA's Flood Zone AE designation on a flood map indicates areas in high-risk flood areas. These zones have a 1 percent chance of flooding annually (also known as the 100-year flood). Properties in Zone AE may be subject to detailed flood studies, Base Flood Elevations, and mandatory flood insurance requirements. According to the California (DOC) Tsunami Hazard Area Map, the project site is not located with a tsunami hazard area (DOC 2025). In addition, the project site is not located within a dam failure inundation area as delineated in the County's Hazard Mitigation Plan (Sonoma County 2011).

3.10.3 Discussion of Checklist Responses

a. Violate any water quality standards, waste discharge requirements or otherwise substantially degrade water quality (Less than Significant Impact)

All construction activities are complete, there would be no construction of new buildings or structures or modification of existing buildings or structures for the Proposed Project. No construction activities (new buildings or demolition of structures) or site modifications such as grading, new roads, vegetation removal, and new drainage systems are proposed for this project. The site was cleared and prepared prior to the commencement of cultivation activities. As described in Section 1.5, this IS/ND does not analyze impacts that may have already occurred, if they cannot be mitigated. Because no further ground disturbing construction activities would be required, the Proposed Project would have no construction related water quality impact. **No impact** would occur.

Both parcels are flat with less than 5 percent grade; therefore, minimal sediment controls would be required. However, the Proposed Project would implement sediment control devices, such as, loose straw, straw wattles, as silt fencing, sediment traps, fiber rolls, gravel bag berms, sandbag barriers, and straw bales, as appropriate to avoid fugitive dust and stormwater runoff into nearby site creeks and streams. No new drainage systems are proposed for the Proposed Project. The Proposed Project would not result in new impervious surfaces. In addition, the Proposed Project would use hand and/or drip irrigation to ensure that no water is lost to throughflow and wasted, and that only a minimal amount of water is lost due to evaporation and leaching. The project may also use water conservation practices such as mulching, soil moisture meters, and weather monitoring to minimize discharge of irrigation water nutrients. With these BMPs, it is anticipated that zero runoff would occur as a result of irrigation runoff. (Hurvitz Environmental Services 2022.)

Further, the Proposed Project would be compliant with the applicable regulations set forth by the SWRCB *General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities*, Order WQ 2023-0102-DWQ and requirements of the *Cannabis Cultivation Policy – Principles and Guidelines for Cannabis Cultivation* (SWRCB 2023). Waste discharges regulated by the Order may be from irrigation runoff, over-fertilization, pond failure, road construction, grading activities, or domestic and cultivation related waste. The Statewide Cannabis General Order classifies outdoor cannabis cultivation operations into two different tiers based on size, and three different risk levels based upon site characteristics and

threats to water resources. Commercial cannabis cultivators are required to comply with a series of Best Management Practices designed to prevent impacts to water resources. Therefore, the Proposed Project is not expected to violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality. The impact during project operations would be **less than significant**.

b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge, such that the project may impede sustainable groundwater management of the basin (No Impact)

The landowner has an agreement to receive recycled water from the Sonoma Valley County Sanitation District (SVCSD), which is operated by the Sonoma County Water Agency. This Recycled Water Use Agreement allows for the irrigation of 300 acres of farmland, including 212 acres of pasture, 10 acres of greenhouse space, and 78 acres of vineyard. In July 2024, the agreement was amended to permit the allocation of up to 30 acre-feet of recycled water per calendar year for a five-year period specifically for commercial cannabis cultivation. The operator anticipates using about 1.5 acre-feet of recycled water annually for irrigation. Recycled water is the sole water source for the commercial cannabis operation and would be stored in seven 5,000-gallon water storage tanks on site.

The project developed a *Net Zero Groundwater Plan* to demonstrate that it would not result in a net increase in groundwater use on the site. The plan proposes to remove 5 acres of irrigated pasture on each parcel to offset the water needs for the Proposed Project. The *Net Zero Groundwater Plan* was approved by the Sonoma County Department of Agriculture during the local cannabis permitting process. (Wingo Ranch 2022.)

Water Use for APN 128-471-002

There are two wells on the parcel that supply the three existing residences and provide drinking water for the cattle and pasture irrigation water when recycled water is unavailable. Approximately 1 acre of these 30 acres of irrigated pasture will be taken out of production for the addition of commercial cannabis production at this site. In addition, the Applicant would remove an additional four acres of irrigated pasture on the parcel to offset the water use from commercial cannabis irrigation. Therefore, the proposed commercial cannabis project would remove a total of five acres of irrigated pasture on this parcel. A total of 3.13 acre-feet of water are used to water each acre annually, and by removing these 5 acres, the Proposed Project would result in a savings of 5,099,568 gallons per year, not including the additional water use by the project operations. (5 x 3.13 acre-feet/acre/year). (Wingo Ranch 2022.)

Water Use for APN 128-471-006

Approximately 1 acre of the existing 50 acres of irrigated pasture will be taken out of production for the addition of an acre of commercial cannabis production at this site. In addition, the Applicant would remove an additional four acres of irrigated pasture on the parcel to offset the water use from commercial cannabis irrigation. Therefore, the proposed commercial cannabis project would remove a total of five acres of irrigated pasture on this parcel. A total of 3.13 acre-feet of water are used to water each acre annually, and by removing these 5 acres, a water savings of 5,099,568 gallons per year would occur. (Wingo Ranch 2022.)

Based on estimates of water use, the existing well and existing connection to the SCWA recycled water system would meet the needs of the Proposed Project. In addition, the Applicant's compliance with the *Net Zero Groundwater Plan* and the resulting decrease in irrigated acreage would result in a decrease in overall water use.

The Proposed Project would not result in a decrease of groundwater supplies or interfere with groundwater recharge that would impede sustainable groundwater management of the basin; therefore, **no impact** would occur.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. result in substantial erosion or siltation on- or off-site *(No Impact)*

The project site is relatively flat, with minimal elevation change across the site. All construction activities are complete; no additional grading or trenching would occur. There are no streams or other water bodies within the commercial cannabis cultivation area. The Proposed Project area does not contain any watercourses or riparian habitat within 150-feet of the proposed commercial cannabis cultivation area. Because no further ground disturbing construction activities would be required, the Proposed Project would have **no impact** with respect to erosion and siltation.

ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite *(Less than Significant Impact)*

See response to 3.1.3(c)(iv), below.

iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff *(Less than Significant Impact)*

See response to 3.1.3(c)(iv), below.

iv. impede or redirect flood flows *(Less than Significant Impact)*

All construction activities are complete. With respect to existing drainage patterns and the potential for the Proposed Project to generate stormwater pollutants, the site is flat with less than 5 percent grade, with minimal elevation change across the site. The fenced commercial cannabis cultivation area does not contain any streams, rivers, or other water features. The project site would include erosion and sediment control measures to control stormwater during operations. The existing drainage is adequate and therefore runoff would not exceed the capacity of the existing storm drain system and runoff would continue to be conveyed to the existing storm drain system. The Proposed Project would not substantially alter stormwater runoff drainage patterns on-site or in the surrounding area nor would it result in an increase in the rate or amount of surface runoff in a manner which would result in flooding on- or off-site or impede or redirect flood flows. The impact on flood flows would be **less than significant.**

d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation (No Impact)

As shown on FEMA's flood hazard map, the project site is located within a 100-year flood hazard area (FEMA 2023). All project construction is complete and no additional grading or trenching would occur. Since project conditions at full build out would be the same as existing conditions and no new buildings or structures would be constructed, the Proposed Project would not result in an increase in flood hazards over existing conditions. There would be **no impact.**

The project site is not located with a tsunami hazard area (DOC 2025) or a dam inundation hazard area (Sonoma County 2011). Therefore, the Proposed Project would have **no impact** related to a release of pollutants due to inundation by flood, tsunami, or seiche.

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan (No Impact)

The project site is located within the Napa-Sonoma Valley Groundwater Basin. The Water Quality Control Plan (Basin Plan) for the North Basin is applicable to the Napa-Sonoma Valley Groundwater Basin. The State Water Resource Control Board's Cannabis General Order WQ 2023-0102-DWQ adheres to the water quality and management standards identified in the Basin Plan. Compliance with the Cannabis General Order would ensure that the Proposed Project would not conflict with or obstruct implementation of the Basin Plan. Therefore, the Proposed Project would have **no impact** with respect to conflicts with water quality control and groundwater management plans.

3.11 Land Use and Planning

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

3.11.1 Regulatory Setting

Federal Laws, Regulations, and Policies

No federal regulations are applicable to land use and planning in relation to the Proposed Project.

State Laws, Regulations, and Policies

DCC Commercial Cannabis Business Regulations

DCC regulations include requirements for annual license applications pertaining to minimum distance requirements between land uses (Cal. Code Regs., tit. 4, § 15002, subd. (c)(18)). According to section 26054, subdivision (b) of the Business and Professions Code, a commercial cannabis business may not be located within a 600-foot radius of a school providing instruction in kindergarten or any grades 1 through 12, daycare center, or youth center that is in existence at the time the license is issued, unless DCC or a local jurisdiction specifies a different radius.

Local Laws, Regulations, and Policies

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-250(d). Permit Requirements. Commercial cannabis activities shall be subject to the land use permit requirements as shown in Table 1A-D Allowed Cannabis Uses and Permit Requirements. No other type of commercial cannabis activities is permitted except as specified in Table 1A-D. The county may refuse to issue any discretionary or ministerial permit, license, variance or other entitlement, which is sought pursuant to this chapter, including zoning clearance for a building permit, where the property upon which the use or structure is proposed is in violation of the County Code. Commercial cannabis activities shall also be subject to permit requirements and regulations established by the Sonoma County Department of Health Services.

Sonoma County Code section 26-88-254(c). Permit Requirements. Commercial cannabis cultivation shall be subject to the land use permit requirements as shown in Table 1A-D Allowed Cannabis Uses and Permit Requirements. Zoning permits for outdoor cultivation may be issued by the Department of Agriculture/Weights, and Measures. Zoning permits and use permits for all other cultivation activities shall be issued by the permit and

resource management department. New structures, roads, and fences or conversion of existing structures or shipping containers, or similar structures, to cannabis cultivation shall be subject to design standards maintained by the review authority.

Sonoma County Code section 26-88-254 (f)(10). Building Requirements. All structures used in commercial cultivation shall comply with all applicable sections of the County Code.

3.11.2 Environmental Setting

The Proposed Project site is located on two adjoining parcels in unincorporated Sonoma County (APNs 063-150-024 and 063-150-010). The project site is approximately 3.5 miles south of the City of Sonoma and 18 miles southwest of the City of Santa Rosa. Access to the proposed commercial cannabis cultivation area is via an existing private driveway off Fremont Drive/ State Highways 121 and 12. The private driveway connects to numerous existing internal farm roads used and maintained by the landowner to support the ongoing non-cannabis agricultural activities.

The General Plan designation and zoning for both parcels comprising the project site is Diverse Agriculture (DA). Under the Sonoma County Code, the purpose of the DA zone is to "enhances and protects land where soil, climate, and water conditions support farming but where small acreage intensive farming and part-time farming activities are predominant, and where farming may not be the principal occupation of the farmer." (Sonoma County Code § 26-06-020.). This designation allows a variety of uses including commercial cannabis cultivation. The property is not within any Williamson Act contract.

Surrounding land uses contain a mix of rural residential, agricultural and light industry. The surrounding parcels are zoned Diverse Agriculture (DA), Land Extensive Agriculture (LEA), Land Intensive Agriculture (LIA), Agriculture and Residential (AR), Limited Rural Industrial (M3), Limited Commercial (LC), and Public Facilities (PF).

3.11.3 Discussion of Checklist Responses

a. Physically divide an established community (No Impact)

The outdoor commercial cannabis cultivation areas are located on two adjoining parcels zoned LEA which allows for a variety of agricultural uses. Land uses surrounding the site are characterized by large parcels zoned for diverse agricultural, agricultural and rural residential, limited commercial, and limited rural industrial uses. Access to the cultivation site would be via existing roads and existing internal roads. The Proposed Project would not alter or diminish access to adjacent properties. Operation of the Proposed Project would not physically divide an established community. Therefore, the Proposed Project would have **no impact** with respect to physical division of an established community.

b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect (No Impact)

According to the Sonoma County Zoning and Land Use GIS Map (Sonoma County 2025), the project site is designated as Diverse Agriculture (DA). The proposed outdoor commercial cannabis cultivation operation is consistent with the General Plan land use and zoning designation of diverse agriculture. The Proposed Project would not conflict with any land use plan, policy, or regulation. There would be **no impact** on land use.

3.12 Mineral Resources

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
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?	☐	☐	☐	☒

3.12.1 Regulatory Setting

Federal Laws, Regulations, and Policies

No federal regulations are applicable to mineral resources in relation to the Proposed Project.

State Laws, Regulations, and Policies

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act of 1975 (SMARA) provides comprehensive policies on surface mining and reclamation activities to ensure the minimization of adverse environmental impacts. Another responsibility of SMARA is to encourage the production, conservation, and protection of mineral resources of the state. (DOC 2022.) As part of SMARA, all mines in California are required to provide annual reports. The State Mining and Geology Board is required to identify, map, and classify any aggregate resources found throughout the state that contain significant mineral resources. Local jurisdictions are required to establish mineral resource management policies in their general plans that seek to enhance mineral conservation.

Local Laws, Regulations, and Policies

No local laws, regulations, and policies are applicable to mineral resources in relation to the Proposed Project.

3.12.2 Environmental Setting

The State Mining and Reclamation Act of 1975 (SMARA) identifies and protects California's mineral resources. The State Mining and Reclamation Act mandated the California Geological Survey to implement a classification-designation process. SMARA has developed mineral land classification maps and reports to assist in the protection and development of mineral resources. According to the SMARA, the following four mineral land use classifications are as follows:

- MRZ 1: Areas where adequate information indicates that no significant mineral deposits are present or likely to be present.

- MRZ 2: Areas where significant mineral deposits are present or likely to be present.
- MRZ 3: Areas with known mineral deposits that may qualify as mineral resources.
- MRZ 4: Areas of unknown or undetermined mineral resource potential.

According to Sonoma County Open Space and Resource Conservation Element, various minerals have historically been mined in Sonoma County over the past century, currently mining operations consist almost exclusively of the extraction and processing of rock, sand and earth products for use in construction and landscaping. (Sonoma County 2020.) Sonoma County has adopted the Aggregate Resources Management Plan that identifies aggregate resources of statewide or regional significance (areas classified as MRZ-2 by the State Geologist). The project site is not located within a known mineral resource deposit area. (Sonoma County 2025.)

3.12.3 Discussion of Checklist Responses

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 (No Impact)

According to the California Geological Survey there are no known significant mineral resources in or near the project site nor is the project site located within an area classified as MRZ-2 (Sonoma County 2025). There are also no mining operations in or near the project site (DOC 2025). The Proposed Project would have **no impact** on mineral resources 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 (No Impact)

There are no mineral resource recovery sites identified on or adjacent to the project site. The Proposed Project would not result in the loss of availability of a locally important mineral resource recovery site. The Proposed Project would have **no impact** on mineral resources delineated on a local general plan, specific plan, or other land use plan.

3.13 Noise

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c. For a project located within the vicinity of a private airstrip or an airport land use plan area, or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, would the project expose people residing or working in the project site to excessive noise levels?	☐	☐	☐	☒

3.13.1 Overview of Noise and Vibration Concepts and Terminology

Noise

In the CEQA context, noise can be defined as unwanted sound. Sound is characterized by various parameters, including the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient sound level, or sound intensity. The decibel (dB) scale is used to quantify sound intensity. Because sound pressure can vary enormously within the range of human hearing, a logarithmic scale is used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all frequencies in the spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive, creating the A-weighted decibel (dBA) scale.

Different types of measurements are used to characterize the time-varying nature of sound. Below are brief definitions of these measurements and other terminology used in this chapter.

Decibel (dB) is a measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.

A-weighted decibel (dBA) is an overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.

Maximum sound level (Lmax) is the maximum sound level measured during a given measurement period.

Minimum sound level (Lmin) is the minimum sound level measured during a given measurement period.

Equivalent sound level (Leq) is the equivalent steady-state sound level that, in a given period, would contain the same acoustical energy as a time-varying sound level during that same period.

Percentile-exceeded sound level (Lxx) is the sound level exceeded during *x* percent of a given measurement period. For example, L_{10} is the sound level exceeded 10 percent of the measurement period.

Day-night sound level (Ldn) is the energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels during the period from 10:00 p.m. to 7:00 a.m. (typical sleeping hours). This weighting adjustment reflects the elevated sensitivity of individuals to ambient sound during nighttime hours.

Community noise equivalent level (CNEL) is the energy average of the A-weighted sound levels during a 24-hour period, with 5 dB added to the A-weighted sound levels between 7:00 p.m. and 10:00 p.m. and 10 dB added to the A-weighted sound levels between 10:00 p.m. and 7:00 a.m.

In general, human sound perception is such that a change in sound level of 3 dB is barely noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level. **Error! R eference source not found.** presents approximate noise levels for common noise sources, measured adjacent to the source.

Table 3.13-1. Examples of Common Noise Levels

Common Outdoor Activities	Noise Level (dBA)
Jet flyover at 1,000 feet	110
Gas lawnmower at 3 feet	100
Diesel truck at 50 feet traveling 50 miles per hour	90
Noisy urban area, daytime	80
Gas lawnmower at 100 feet, commercial area	70
Heavy traffic at 300 feet	60
Quiet urban area, daytime	50
Quiet urban area, nighttime	40
Quiet suburban area, nighttime	30
Quiet rural area, nighttime	20

Source: Caltrans 2013.

Vibration

Ground-borne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be composed of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in Hertz (Hz). Most environmental vibrations consist of a composite, or "spectrum," of many frequencies. The normal frequency range of most ground-borne vibrations that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz.

Vibration information for this analysis has been described in terms of the peak particle velocity (PPV), measured in inches per second, or of the vibration level measured with respect to root-mean-square vibration velocity in decibels (VdB), with a reference quantity of 1 micro-inch per second.

Vibration energy dissipates as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. High-frequency vibrations reduce much more rapidly than do those characterized by low frequencies, so that in a far-field zone distant from a source, the vibrations with lower frequency amplitudes tend to dominate. Soil properties also affect the propagation of vibration. When ground-borne vibration interacts with a building, a ground-to-foundation coupling loss usually results but the vibration also can be amplified by the structural resonances of the walls and floors. Vibration in buildings is typically perceived as rattling of windows, shaking of loose items, or the motion of building surfaces. In some cases, the vibration of building surfaces also can be radiated as sound and heard as a low-frequency rumbling noise, known as ground-borne noise.

Ground-borne vibration is generally limited to areas within a few hundred feet of certain types of industrial operations and construction/demolition activities, such as pile driving. Road vehicles rarely create enough ground-borne vibration amplitude to be perceptible to humans unless the receiver is in immediate proximity to the source or the road surface is poorly maintained and has potholes or bumps. Human sensitivity to vibration varies by frequency and by receiver. Generally, people are more sensitive to low-frequency vibration. Human annoyance also is related to the number and duration of events; the more events or the greater the duration, the more annoying it becomes.

3.13.2 Regulatory Setting

Federal Laws, Regulations, and Policies

No federal laws, regulations, or policies for construction-related noise and vibration apply to the Proposed Project. However, the Federal Transit Administration (FTA) *Guidelines for Construction Vibration in Transit Noise and Vibration Impact Assessment* state that for evaluating daytime construction noise impacts in outdoor areas, noise thresholds of 90 dBA L_{eq} and 100 dBA L_{eq} should be used for residential and commercial/industrial areas, respectively (FTA 2018).

For construction vibration impacts, the FTA guidelines use an annoyance threshold of 80 VdB for infrequent events (fewer than 30 vibration events per day) and a damage threshold of 0.12 inch per second (in/sec) PPV for buildings susceptible to vibration damage (FTA 2018).

The US Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate Federal noise control activities. In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at more local levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to state and local governments. However, documents and research completed by the EPA Office of Noise Abatement and Control continue to provide value in the analysis of noise effects.

State Laws, Regulations, and Policies

California requires each local government entity to implement a noise element as part of its general plan. California Administrative Code, title 4, presents guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. The state land use compatibility guidelines are listed in **Table 3.13-2**.

For the protection of fragile, historic, and residential structures, Caltrans recommends a more conservative threshold of 0.2 in/sec PPV for normal residential buildings and 0.08 in/sec PPV for old or historically significant structures (Caltrans 2020).

Table 3.13-2. State Land Use Compatibility Standards for Community Noise Environment

Land Use Category	Community Noise Exposure - L_{dn} or CNEL (dB)						
	55	60	65	70	75	80	
Residential – Low Density Single Family, Duplex, Mobile Homes							
Residential – Multi-Family							
Transient Lodging – Motels, Hotels							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditoriums, Concert Halls, Amphitheaters							
Sports Arenas, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business Commercial and Professional							
Industrial, Manufacturing, Utilities, Agriculture							

Normally Acceptable:	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable:	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable:	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable:	New construction or development generally should not be undertaken.

Source: California Governor's Office of Planning and Research 2017.

Local Laws, Regulations, and Policies

Sonoma County Airport Land Use Compatibility Plan

The County's Comprehensive Airport Land Use Plan (CALUP) was adopted by the Sonoma County Airport Land Use Commission (ALUC) in January 2001. The Sonoma County CALUP is the official land use policy document within the airport influence areas for all six public use airports in the County. It establishes referral boundaries, airport influence area, air space protection standards, noise compatibility standards, safety compatibility standards, airspace protection standards, and other land use policies for the public use airports in the County.

Sonoma County General Plan

Noise Element

GOAL NE-1: Protect people from the adverse effects of exposure to excessive noise and to achieve an environment in which people and land uses may function without impairment from noise.

Objective NE-1.1: Provide noise exposure information so that noise impacts may be effectively evaluated in land use planning and project review.

Objective NE-1.2: Develop and implement measures to avoid exposure of people to excessive noise levels.

Objective NE-1.3: Protect the present noise environment and prevent intrusion of new noise sources which would substantially alter the noise environment.

Objective NE-1.4: Mitigate noise from recreational and visitor serving uses.

Policy NE-1a: Designate areas within Sonoma County as noise impacted if they are exposed to existing or projected exterior noise levels exceeding 60 dB Ldn, 60 dB CNEL, or the performance standards of **Table 3.13-3**.

Table 3.13-3. Maximum Allowable Exterior Noise Exposures for Non-transportation Noise Sources[6]

Hourly Noise Metric*, dBA	Daytime 7:00 a.m. to 10:00 p.m.	Nighttime 10:00 p.m. to 7:00 a.m.
	Daytime 7:00 a.m. to 10:00 p.m.	Nighttime 10:00 p.m. to 2:00 a.m.
L_{50} (30 minutes in any hour)	50	45
L_{25} (15 minutes in any hour)	55	50
L_{08} (4 minutes 48 seconds in any hour)	60	55
L_{02} (72 seconds in any hour)	65	6-

*The sound level exceeded n% of the time in any hour. For example, the L_{50} is the value exceeded 50% of the time or 30 minutes in any hour; this is the median noise level.

Source: Sonoma County Noise Element 2012.

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-254(f)(9). Airport Compatibility. All cannabis operations shall comply with the comprehensive airport land use plan.

Sonoma County Code section 26-88-254(g)(6). Noise Limits. Cultivation activities shall not exceed the general plan noise standards Table NE-2, measured in accordance with the Sonoma County noise guidelines.

3.13.3 Environmental Setting

The project site is located on two adjoining parcels in unincorporated Sonoma County, approximately 3.5 miles south of the City of Sonoma and 18 miles southwest of the City of Santa Rosa. The predominant land use at the time of the March 2021 baseline was cattle grazing and hay production. The project site includes single-family residences, numerous outbuildings and stockyard structures, all of which are associated with the landowner's existing agricultural operation. The site was previously used for cattle grazing and hay production.

Noise-sensitive land uses include areas where an excessive amount of noise would interfere with normal activities. Primary noise-sensitive land uses include residential uses, schools, public and private educational facilities, hospitals, convalescent homes, daycare facilities, places of worship, and libraries.

The project site is in a rural environment with a mix of commercial/industrial and agricultural residential uses. Noise levels are generally lower and more variable than in urban areas, and sources are typically natural or related to agricultural activities and low-density residential activities. The nearest sensitive receptors to the project site are: The Presentation School, approximately 2.6 miles to the northwest; North Bay Children's Daycare Center, approximately 3.4 miles to the north; The Sonoma Valley Chabad Jewish Center, approximately 4 miles northwest of the site Sonoma Valley Hospital; and the Sonoma Hills Retirement Living Community; both are located approximately 4.2 miles to the northwest of the site.

[6] Table NE-2 Maximum Allowable Exterior Noise Exposures for Non-transportation Noise Sources, in the General Plan Noise Element.

3.13.4 Discussion of Checklist Reponses

a. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (Less than Significant Impact)

The project site was cleared prior to the commencement of Proposed Project activities, and all construction activities are complete. The Proposed Project would not require additional clearing, tree removal, or demolition of structures. There would be no construction of new buildings or structures or modification of existing buildings or structures. As described in Section 1.5, this IS/ND does not analyze impacts that may have already occurred, if they cannot be mitigated. Therefore, the Proposed Project would have **no impact** from construction noise.

The Proposed Project consists of operation of an outdoor commercial cannabis cultivation including two outdoor plots for cultivation. The cultivation operations would entail immature plants being transferred from a licensed commercial cannabis facility (e.g., nursery, retail store, etc.) to the cultivation sites and planted in the designated canopy areas, either directly in the ground or in growing pots placed on the ground surface. Harvested plants will be immediately transferred offsite to a licensed commercial cannabis facility for further processing (e.g., drying, trimming, packaging, etc.).

Operation of the Proposed Project would involve a maximum of two full-time employees and a maximum of four additional employees employed onsite during the annual harvest period. The project site would operate from March to November (maximum 274 days per year). Outdoor cultivation activities will take place 6 to 7 days a week during the planting season (April-May) and harvest season (October-November), and 5 to 6 days per week during the growing season. All cultivation activities will be carried out during one shift, which will be limited to daylight hours, typically between 7:00 a.m. and 7:00 p.m. It is estimated that six vehicle trips per day (average daily trips) to the site during the planting and growing seasons, and up to 18 vehicle trips (average daily trips) per day when harvest activities are occurring would be required. The Proposed Project would have one truck trip to the site during the planting season when immature plants are delivered to the site, and six truck trips during the harvest season when plants are transferred offsite for processing. The Proposed Project would have one truck trip per month to the site during the grow season to deliver supplies. Deliveries and shipments would be limited to the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday.

The Proposed Project would generate noise during operating hours as a result of added project-related employee and delivery vehicle traffic. Cultivation activities would occur during daylight hours (typically between 7:00 a.m. and 7:00 p.m.) and would be consistent with previous agricultural activities on the properties. The Proposed Project is located in an existing agricultural area where the types of noises generated would be consistent with existing uses as well as previous agricultural use on the project site. The General Plan designation and zoning for both parcels comprising the project site is Land Extensive Agriculture (LEA). Parcels surrounding the project site consists of a mixture of agricultural and light industry. The surrounding parcels are zoned Diverse Agriculture (DA), Land Extensive Agriculture (LEA), Land Intensive Agriculture (LIA), Agriculture and Residential (AR), Limited Rural Industrial (M3), Limited Commercial (LC), and Public Facilities (PF). Since project conditions would be similar to previous agriculture uses, the Proposed Project would not result in an increase in ambient noise levels over existing conditions.

Due to the Proposed Project's location, operational noise is not expected to exceed daytime or nighttime exterior noise thresholds established in the Sonoma County Noise Control Ordinance. The Proposed Project's operational noise impact would be **less than significant.**

b. Generate excessive groundborne vibration or groundborne noise levels (No Impact)

Project construction has been completed, and all construction activities were performed in accordance with local approval by Sonoma County and issuance of a provisional license by DCC. As described in Section 1.5, this IS/ND does not analyze impacts that may have already occurred, if they cannot be mitigated.

Project operations are not expected to generate any significant groundborne vibration or groundborne noise levels. Therefore, the Proposed Project would have **no impact** as a result of construction or operational groundborne vibration or noise.

c. For a project located within the vicinity of a private airstrip or an airport land use plan area, or, within 2 miles of a public airport or public-use airport, expose people residing or working in the project site to excessive noise levels (No Impact)

The nearest airport to the Project site is the Sonoma Skypark, which is located approximately 1.3 miles to the north. The Sonoma Valley Airport is located approximately 1.7 miles southwest of the Project site. The project site is located within the County's CALUP. However, it would not expose people at the project site to excessive noise as it does not fall within a designated Noise Impact Zone according to the Stanislaus County CALUP. Therefore, the Proposed Project would have **no impact** with respect to airport noise.

3.14 Population and Housing

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Induce substantial unplanned 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 people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 Regulatory Setting

There are no federal, state, or local laws, regulations or policies applicable to population and housing in relation to the Proposed Project.

3.14.2 Environmental Setting

The project site is located in unincorporated Sonoma County. Sonoma County's population is currently estimated as being 481,812 as of July 1, 2024, a 1.4% decrease from the April 1, 2020, population of 488,850 (U.S. Census Bureau 2024). According to the General Plan Housing Element, as of 2019 there were estimated to be approximately 65,193 housing units and a population of 142,067 in unincorporated Sonoma County (Sonoma County 2023).

3.14.3 Discussion of Checklist Responses

a. Induce unplanned population growth (Less than Significant Impact)

The Proposed Project would have no future construction associated with development of commercial cannabis operations. The number of employees for project operations would be a maximum of three, with three additional employees employed onsite during harvest time. While it is likely that most employees would already reside locally, it is possible that employment at the project would draw people from outside the county to live in the area. However, the small business size and associated number of employes would not result in substantial unplanned population growth in the area. This impact would be **less than significant.**

b. Displace a substantial number of existing people or housing (No Impact)

The Proposed Project does not involve demolition or relocation of existing facilities. Therefore, the Proposed Project would not displace a substantial number of people or housing, there would be **no impact**.

3.15 Public Services

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. 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:				
i. Fire protection?	☐	☐	☒	☐
ii. Police protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☐	☒

3.15.1 Regulatory Setting

Federal Laws, Regulations, and Policies

Several federal agencies have jurisdiction over law enforcement and fire protection related to unlicensed commercial cannabis cultivation operations on federal lands in California. Because cannabis use and cultivation remain illegal under federal law, several federal agencies investigate and prosecute cannabis use, cultivation, and distribution on federally managed lands. Federal agencies involved in law enforcement in California include the U.S. Forest Service (USFS), whose Law Enforcement and Investigations division conducts law enforcement operations on federal lands, including eradication of unlicensed cannabis cultivation on national forest lands. Both the U.S. Bureau of Land Management and the National Park Service law enforcement programs target cannabis cultivation on federally managed lands.

In addition to law enforcement on federal lands, there are federal agencies that investigate and prosecute cannabis business activities, which is currently illegal at the federal level. The Federal Bureau of Investigation, as the nation's foremost law enforcement agency, also works in California to investigate federal crimes and crimes that occur across state lines, including drug trafficking. The U.S. Drug Enforcement Administration enforces federal controlled substances laws and regulations, including enforcement activities related to cannabis.

State Laws, Regulations, and Policies

California Health and Safety Code

State fire regulations are set forth in section 13000 et seq. of the Health and Safety Code. The Health and Safety Code includes requirements related to fire protection and notification systems, fire protection devices, such as extinguishers and smoke alarms, and fire suppression training.

California Division of Occupational Safety and Health Regulations

In accordance with California Code of Regulations, title 8, section 1270 (Fire Prevention) and section 6773 (Fire Protection and Fire Equipment), the California Division of Occupational Safety and Health (referred to as Cal/OSHA) has established minimum standards for fire suppression and emergency medical service (EMS). The standards include guidelines on the handling of highly combustible materials; fire hose sizing requirements; restrictions on the use of compressed air; access roads; and the testing, maintenance, and use of all firefighting and emergency medical equipment.

California Building, Electrical, and Fire Codes

The California Building Standards Code (Cal. Code Regs., tit. 24) serves as the basis for the design and construction of buildings in California. The California Building Standards Code (Cal. Code Regs., tit. 24, pt. 2) covers all aspects of building design and required safety features for all types of buildings, including fire protection systems, fire and smoke protection features, means of egress, and structural design and materials. California Code of Regulations title 24, part 3 is the Electrical Code, which contains standards for electrical systems, including safety features such as overcurrent protection, surge arresters, and proper wiring methods.

California Code of Regulations, title 24, part 9 is the California Fire Code. This portion of the code contains requirements related to emergency planning and preparedness, fire service features, building services and systems, fire-resistance-rated construction, fire protection systems, and construction requirements for existing buildings, as well as specialized standards for specific types of facilities and materials.

DCC Commercial Cannabis Business Regulations

MAUCRSA and its implementing regulations contain several provisions designed to reduce impacts to public services.

Under MAUCRSA, all cannabis business licensees in California must record activities on the state track-and-trace system, which will require unique identifiers of cannabis and cannabis products. Licensees are required to report the movement of immature and mature cannabis or cannabis products on the licensed premises and any movement associated with commercial cannabis activity between licensees through the track-and-trace system. This system is the primary recordkeeping and inventory system for recording all applicable commercial cannabis activities. Licensees are required to establish a functioning account in the track-and-trace system and must maintain an active account while licensed. The track-and-trace system is intended to reduce and report diversion of cannabis and cannabis products and thus reduces burdens on law enforcement services. (Cal. Code Regs., tit. 4, §§ 15047.1 - 15051.)

DCC regulations include minimum distance requirements between annual license holders and certain sensitive uses. (Cal. Code Regs., tit. 4, §15002 subd. (c)(18)). Section 26054 subdivision (b) of the Business and Professions Code specifies that a state-licensed cannabis business may not be located within a 600-foot radius of a school

providing instruction in kindergarten or any grades 1 through 12, daycare center, or youth center that is in existence at the time the license is issued, unless the DCC or a local jurisdiction specifies a different radius.

Local Laws, Regulations, and Policies

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-254(f)(16). Fire Code Requirements. The applicant shall prepare and implement a fire prevention plan for construction and ongoing operations and obtain any permits required from the fire and emergency services department. The fire prevention plan shall include, but not be limited to: emergency vehicle access and turn-around at the facility site(s), vegetation management and fire break maintenance around all structures.

Sonoma County Code section 26-88-254(f)(19). Lighting. All lighting shall be fully shielded, downward casting and not spill over onto structures, other properties or the night sky. All indoor and mixed light operations shall be fully contained so that little to no light escapes. Light shall not escape at a level that is visible from neighboring properties between sunset and sunrise.

Sonoma County Code section 26-88-254(f)(21). Security and Fencing. A site security plan shall be required. All site security plans shall be held in a confidential file, exempt from disclosure as a public record pursuant to Government Code Section 6255(a). Security cameras shall be motion-sensor and be installed with capability to record activity beneath the canopy but shall not be visible from surrounding parcels and shall not be pointed at or recording activity on surrounding parcels. Surveillance video shall be kept for a minimum of thirty (30) days. Video must use standard industry format to support criminal investigations. Lighting and alarms shall be installed to ensure the safety of persons and to protect the premises from theft. All outdoor and mixed light cultivation sites shall be screened by non-invasive fire-resistant vegetation and fenced with locking gates with a Knox lock. No outdoor or mixed light cultivation sites located on parcels adjacent to public parks shall be visible from trails or public access points. Razor wire and similar fencing shall not be permitted. Weapons and firearms at the cultivation site are prohibited. Security measures shall be designed to ensure emergency access in compliance with fire safe standards. All structures used for cultivation shall have locking doors to prevent free access.

Sonoma County Code Section 13-15. County Fire Code designated—Administration and enforcement—Amendment by local Fire Protection Districts.

(a). The 2022 California Fire Code as adopted by reference and amended in this article, shall constitute the county fire code.

(b). Except as otherwise provided in subsection (c), the administration and enforcement of the county fire code within a local fire protection district shall be the responsibility of the local fire chief. The county fire warden/fire marshal shall be responsible for the administration and enforcement of the county fire code within those portions of the unincorporated area of the county not in a local fire protection district.

(c). The county fire warden/fire marshal shall be responsible for plan checking and inspection of new construction and alterations subject to the county fire code, Chapter 13 within both those portions of the unincorporated area of the county not in a local fire protection district and those portions of the unincorporated area of the county in a local fire protection district which has adopted the county fire code, unless a local fire protection district notifies the county fire warden/fire marshal in writing that it has elected to have the local fire

chief exercise those responsibilities within its jurisdictional area, whether according to the county fire code or the district's amendment of the county fire code adopted per subsection (d). Any such action shall be effective if it is thereafter approved by the board of directors of the local fire protection district.

3.15.2 Environmental Setting

Fire Protection

The Proposed Project would be served by the Schell Vista Fire Protection District. The nearest fire station is approximately 0.7 miles from the Proposed Project and located at 22950 Broadway, Sonoma, California.

Police Protection

The Proposed Project would be served by the Sonoma County Sheriff's Office. Since 1850, the Sonoma County Sheriff's Office has been providing law enforcement, court security services, and detention services to the people of Sonoma County. The Sheriff's office is comprised of over 650 employees and approximately 100 volunteers. Servicing a county of over 1,600 square miles and population of over 500,000 people, the Sheriff's office is responsible for primary law enforcement services of the unincorporated area, the Town of Windsor, and the City of Sonoma. (Sonoma County 2025.)

Schools

The school nearest to the Proposed Project is the Presentation School. It is approximately 4.1 miles to the northeast at 20872 Broadway, Sonoma, California.

Parks

The closest park to the Proposed Project is Napa-Sonoma Marshes Wildlife Area – Ringstrom Bay Unit and Wingo Unit, both approximately one mile to the south of the site. The Proposed Project would not be adjacent to, nor physically impact any park.

Other Public Facilities

There were no other public facilities of any type (libraries, social services, etc.) identified within one mile of the Proposed Project.

3.15.3 Discussion of Checklist Responses

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities

i. Fire protection (Less than Significant Impact)

The Proposed Project would include outdoor cultivation plots and would not add structures and other facilities that could generate the possible need for fire protection services.

Fire protection may be required in the event of an accident, but such requirements would be short term and would not require increases in the level of public service offered. Considering the small size of the Proposed Project and there being no new structures there would not be the need to add fire stations, personnel, or fire fighting equipment. The impact would be **less than significant**.

ii. Police protection (Less than Significant Impact)

The Proposed Project would include land development that would add people and other activities that could generate the possible need for police protection services. The facility would be improved to comply with all state and local regulations pertaining to safety and security, including developing a security plan, installing security fencing; with 24-hour video surveillance and security lighting. Passcode-protected entry gates would be installed at vehicle and pedestrian entrances to the site to prevent unauthorized entry into the facility.

The California Department of Food and Agriculture Cannabis Cultivation Licensing PEIR (2017) noted that an elevated risk of crime associated with commercial cannabis cultivation operations was a concern noted in a review of available literature. However, the PEIR did not find any definitive evidence either that state-licensed cannabis operations were correlated with an increase in crime, or any evidence that licensed cannabis activity operations required construction of new or expanded police facilities. Rather, it concluded that demand may decrease due to a larger number of lawful cultivators and their coordination and cooperation with law enforcement authorities. (CDFA 2017.)[7]

Considering the small size of the Proposed Project there would not be the need to add new stations, personnel, or equipment. Adherence to the above listed laws, regulations and policies, as applicable, would aid in avoiding and minimizing the Proposed Project's impact on police protection services. The impact would be **less than significant**.

iii. Schools (No impact)

The Proposed Project would not generate new residents that would potentially use schools. It would place no demand on school services because it would not include the construction of facilities that require such services (i.e., residences) and would not involve the introduction of a temporary or permanent population into the area. There would be no adverse physical impacts associated with the provision of new or physically altered schools or a need for new or physically altered schools; the construction of which could cause significant environmental impacts, to maintain acceptable service ratios or other performance objectives. **No impact** would occur.

iv. Parks (No impact)

The Proposed Project would not generate new residents that would potentially use parks. It would place no demand on parks because it would not involve the construction of facilities that require such services (i.e., residences) and would not involve the introduction of a temporary or permanent population into the area. The Proposed Project would not be adjacent to, nor physically impact any park. **No impact** would occur.

v. Other public facilities (No impact)

The Proposed Project would not involve the introduction of a temporary or permanent population into this area. Accordingly, the Proposed Project would not result in impacts to other public facilities. **No impact** would occur.

[7] The CDFA CalCannabis Cultivation Licensing PEIR examined the impacts of the statewide cannabis cultivation licensing program for CEQA purposes. It was certified by CDFA in 2017, following the passage of MAUCRSA and at the time of issuance of statewide commercial cultivation licensing regulations.

3.16 Recreation

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. 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. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.16.1 Regulatory Setting

Federal Laws, Regulations, and Policies

No federal regulations are applicable to recreation resources in relation to the Proposed Project.

State Laws, Regulations, and Policies

No state laws, regulations or policies are applicable to recreation in relation to the Proposed Project.

Local Laws, Regulations, and Policies

No local laws, regulations, or policies apply to the Proposed Project.

3.16.2 Environmental Setting

Sonoma County has numerous regional parks, state parks, and beaches.

- Regional parks: Sonoma County has over 60 regional parks, including beaches, parks with trails, and parks with sports fields and playgrounds.
- State parks: Sonoma County has 11 state parks, each with unique terrain.
- Beaches: Sonoma County has beaches, including Healdsburg Veterans Memorial Beach.

None of these recreational facilities are within two miles of the Proposed Project. The closest recreational area is Arnold Field at approximately 4.5 miles away, via roadways. The Proposed Project would not be adjacent to, nor physically impact any recreational facility.

3.16.3 Discussion of Checklist Responses

a. Increase use of existing parks or recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated (No Impact)

The Proposed Project would not generate new residents that would 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 or other recreational facilities. Since there would be no increase in the number of recreational facility users, the Proposed Project would have **no impact**.

b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment (No Impact)

The Proposed Project would not generate new residents that would potentially increase the use of parks or other recreational facilities. It does not include recreational facilities. Since there would be no increase in the number of recreational facility users, nor include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment, the Proposed Project would have **no impact**.

3.17 Transportation

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d. Result in inadequate emergency access?	☐	☐	☒	☐

3.17.1 Regulatory Setting

Federal Laws, Regulations, and Policies

No federal regulations are applicable to transportation in relation to the Proposed Project.

State Laws, Regulations, and Policies

California Department of Transportation

The California Department of Transportation (Caltrans) is the state agency responsible for design, construction, maintenance, and operation of the California State Highway System, as well as the segments of the Interstate Highway System within California. Caltrans requires a transportation permit for any transport of heavy construction equipment or materials that necessitates the use of oversized vehicles on state highways.

The Caltrans Transportation Impact Study Guide (TISG) was prepared to provide guidance to Caltrans Districts, lead agencies, tribal governments, developers, and consultants regarding Caltrans review of a land use project or plan's transportation analysis using a VMT metric. This guidance is not binding on public agencies but is intended to be a reference and informational document. The TISG replaces the Guide for the Preparation of Traffic Impact Studies and is for use with local land use projects, not for transportation projects on the State Highway System (Caltrans 2020).

California Manual on Uniform Traffic Control Devices, Part 6: Temporary Traffic Control

The California Manual on Uniform Traffic Control Devices (CA-MUTCD), Part 6: Temporary Traffic Control provides principles and guidance for the implementation of temporary traffic control (TTC) to ensure the provision of reasonably safe and effective movement of all roadway users (e.g., motorists, bicyclists, pedestrians) through or

around TTC zones while reasonably protecting road users, workers, responders to traffic incidents, and equipment. Additionally, this document notes that TTC plans and devices shall be the responsibility of the authority of a public body or official having jurisdiction for guiding road users.

California Fire Code

The 2022 California Fire Code, which is found in California Code of Regulations title 24, incorporates by adoption the 2021 International Fire Code and contains regulations related to construction, maintenance, access, and use of buildings. Topics addressed in the California Fire Code include design standards for fire apparatus access (e.g., turning radii, minimum widths), standards for emergency access during construction, provisions intended to protect and assist fire responders, and several other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The California Fire Code contains specialized technical regulations related to fire and life safety. The California Building Standards Code, which includes the California Fire Code, contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. It is revised and published every three years by the California Building Standards Commission.

Senate Bill 743

Senate Bill (SB) 743 (Chapter 386, Statutes of 2023) requires the California Governor's Office of Planning and Research (OPR) to develop new State CEQA guidelines that address traffic metrics under CEQA. As stated in the legislation, upon adoption of the new guidelines, "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any."

OPR published its proposal for the comprehensive updates to the State CEQA Guidelines in November 2017 which included proposed updates related to analyzing transportation impacts pursuant to SB 743. These updates indicated that VMT would be the primary metric used to identify transportation impacts. In December of 2018, OPR and the State Natural Resources Agency submitted the updated State CEQA Guidelines to the Office of Administrative Law for final approval to implement SB 743. The Office of Administrative Law subsequently approved the updated State CEQA Guidelines and, as of July 1, 2020, implementation of updated State CEQA Guidelines, section 15064.3.

In December 2018, OPR published the most recent version of the Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018), which provides guidance for VMT analysis. The Office of Administrative Law approved the updated State CEQA Guidelines and lead agencies had an opt-in period until July 1, 2020, to implement the updated guidelines regarding VMT. Per the Governor's Office of Planning Research's *Technical Advisory on Evaluating Transportation Impacts in CEQA*, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than significant transportation impact.

Local Laws, Regulations, and Policies

Sonoma County Zoning Ordinance

Sonoma County's commercial parking requirements are outlined in Sonoma County Code section 26-86-010:

- 1 reserved space per unit, and 1 guest parking space for every 3 units or portion thereof.

- 1 space for every 2 SRO rooms, plus 1 space for the management unit or office and 1 space for each employee, if any, on maximum shift.
- New and/or expanded uses must meet Parking Regulations under Article 86, and parking lot layout dimensions shown in the Off-Street Parking Design Standards under Article 82.
- Compliance with accessibility elements within the California Building Code is required.
- Parking shall be designated for a minimum of three automobiles, located at least twenty feet (20') off the public right-of-way or twenty feet (20') from the front property line with no automobile maneuvering permitted in the public right-of-way.

3.17.2 Environmental Setting

The predominant land use at the time of the March 2021 baseline was cattle grazing and hay production. The project site includes single-family residences, numerous outbuildings and stockyard structures, all of which are associated with the landowner's existing agricultural operation.

Existing Transportation Access

Access to the proposed cannabis production site is from an existing private driveway off Fremont Drive/State Highway 121/12. The private driveway connects numerous existing farm roads used and maintained by the landowner to support the ongoing non-cannabis agricultural activities (e.g., cattle grazing, hay production, etc.) across the two parcels.

The project site is not served by mass transit, sidewalks, bicycle lanes, or similar non-automobile mode facilities.

Existing Vehicle Travel

Under the baseline condition, the site generated agricultural staff and equipment traffic to service existing operations.

3.17.3 Discussion of Checklist Responses

a. Conflict with applicable circulation plans, ordinances, or policies and applicable congestion management programs (No Impact)

The Proposed Project would not alter the physical configuration or operational characteristics at its existing access points to the existing, adjacent roadways.

There would be no conflict with any program, policy, ordinance, or plan during construction of operation. **No impact** would occur.

b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b) (Less than Significant Impact)

Vehicle trips generated by project operations would increase by an average of approximately 12 one-way employee trips per day over the baseline during operations. Thus, there would be a slight increase in vehicle miles traveled (VMT) over the baseline condition.

According to the Governor's Office of Planning Research's Technical Advisory on Evaluating Transportation Impacts in CEQA, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause

a less than significant transportation impact (OPR 2018). The volume of trips generated by the Proposed Project would be less than 110 trips per day. Therefore, it would cause a **less-than-significant impact**.

c. Substantially increase hazards resulting from geometric design features (No Impact)

The Proposed Project does not include any changes to any public roads or any aspect of the existing transportation network during project construction or operation. It would not create or increase hazards due to a geometric design feature and would not alter the geometrics of any public roadway. It would not introduce incompatible uses creating hazards. **No impact** would occur.

d. Result in inadequate emergency access (Less than Significant Impact)

The Proposed Project site would be accessed from an existing private driveway off Fremont Drive/State Highway 121/12. During operations, there would be no physical changes to roadways and only a small increase in the volume of employee and delivery vehicles accessing the site that could impact emergency access. The increase in traffic would be so small that it would be very unlikely to create any delays or access issues. The Proposed Project would cause a **less-than-significant impact**.

See also the analysis above in Hazards and Hazardous Materials, section 3.9.3(f).

3.18 Tribal Cultural Resources

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Proposed Project:				
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)	☐	☒	☐	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

3.18.1 Regulatory Setting

Federal Laws, Regulations, and Policies

Federal law does not address tribal cultural resources (TCRs), which are defined and regulated in the California Public Resources Code. However, similar resources, called Traditional Cultural Properties (TCPs), fall under the purview of Section 106 of the NHPA, as described in Section 3.5, "Cultural Resources." TCPs are locations of cultural value that are historic properties. A place of cultural value is eligible as a TCP "because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community" (Parker and King 1990, rev. 1998). A TCP must be a tangible property, meaning that it must be a place with a referenced location, and it must have been continually a part of the community's cultural practices and beliefs for the past 50 years or more. Unlike TCRs, TCPs can be associated with communities other than Native American tribes, although the resources are usually associated with tribes. Indeed, TCPs are historic properties; that is, they meet the eligibility criteria as a historic property for listing in the NRHP. Therefore, as historic properties, TCPs must be treated according to the implementing regulations found under Title 36 C.F.R. § 800, as amended in 2001.

State Laws, Regulations, and Policies

CEQA and State CEQA Guidelines

AB 52, which was approved by the California State Legislature in September 2014 and went into effect on January 1, 2015, requires lead agencies consult with any California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project, if requested by the tribe. The bill, chaptered in Public Resources Code section 21084.2, also specifies that a proposed project with an effect that may cause a substantial adverse change in the significance of a TCR may have a significant effect on the environment.

As defined in Public Resources Code section 21074 subdivision (a), TCRs are:

(a) (1) Sites, features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the California Register of Historical Resources; or

(B) Included in a local register of historical resources as defined in subdivision (k) of section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of section 5024.1. In applying the criteria set forth in subdivision (c) of section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

TCRs are further defined under Public Resources Code section 21074 as follows:

(b) A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape; and

(c) A historical resource described in section 21084.1, a unique archaeological resource as defined in subdivision (g) of section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Mitigation measures for TCRs must be developed in consultation with the affected California Native American tribe in accordance with Public Resources Code section 21080.3.2 or section 21084.3. The latter section identifies mitigation measures that include avoidance and preservation of TCRs and treating TCRs with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource.

California Register of Historical Resources

Public Resources Code section 5024.1 establishes the CRHR. See Section 3.5, "Cultural Resources," for a full description of the CRHR, criteria for listing eligibility, guidelines for assessing historical integrity, and resources that have special considerations.

DCC Commercial Cannabis Business Regulations

DCC regulations require cultivators to comply with Health and Safety Code section 7050.5 subdivision (b) if human remains are discovered during cultivation activities. (Cal. Code Regs., tit. 4, § 16304 subd. (a)(3)).

Local Laws, Regulations, and Policies

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-254(f)(14) Cultural and Historic Resources. Cultivation sites shall avoid impacts to significant cultural and historic resources by complying with the following standards. Sites located within a historic district shall be subject to review by the landmarks commission, unless otherwise exempt, consistent with Section 26-68-020 and shall be required to obtain a use permit. Cultivation operations involving ground disturbing activities, including but not limited to, new structures, roads, water storage, trenching for utilities, water, wastewater, or drainage systems shall be subject to design standards and referral to the Northwest Information Center and local tribes. A use permit will be required if mitigation is recommended by the cultural resource survey or local tribe.

The following minimum standards shall apply to cultivation permits involving ground disturbance. All grading and building permits shall include the following notes on the plans:

- If paleontological resources or prehistoric, historic-period or tribal cultural resources are encountered during ground-disturbing work at the project location, all work in the immediate vicinity shall be halted and the operator must immediately notify the agency having jurisdiction of the find. The operator shall be responsible for the cost to have a qualified paleontologist, archaeologist and tribal cultural resource specialist under contract to evaluate the find and make recommendations in a report to the agency having jurisdiction.
- Paleontological resources include fossils of animals, plants or other organisms. Historic-period resources include backfilled privies, wells, and refuse pits; concrete, stone, or wood structural elements or foundations; and concentrations of metal, glass, and ceramic refuse. Prehistoric and tribal cultural resources include obsidian and chert flaked-stone tools (e.g., projectile points, knives, choppers), midden (culturally darkened soil containing heat-affected rock, artifacts, animal bone, or shellfish remains), stone milling equipment, such as mortars and pestles, and certain sites features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe.
- If human remains are encountered, work in the immediate vicinity will stop and the operator shall notify the agency having jurisdiction and the Sonoma County Coroner immediately. At the same time, the operator shall be responsible for the cost to have a qualified archaeologist under contract to evaluate the discovery. If the human remains are determined to be of Native American origin, the Coroner must notify the Native American Heritage Commission within twenty-four (24) hours of this identification.

3.18.2 Environmental Setting

Please see the context discussion provided in Section 3.5, “Cultural Resources.”

3.18.3 Discussion of Checklist Responses

a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k) (Less than Significant with Mitigation)

Tribal cultural resources (TRCs) are defined in PRC section 21074 as sites, features, places, cultural landscapes, sacred places, and objects that hold cultural value to a California Native American Tribe.

No TCRs within the project area or mitigation area have been identified that are either listed or eligible for listing on the CRHR or on any other local register of historical resources as defined by PRC section 21074. However as described in section 3.18.3(a)(ii) below, there is a possibility that TCRs may be located in the project area. Implementation of **Mitigation Measures TCR-1 (Implement Measures to Avoid Damaging Effects on TCRs), TCR-2 (Conduct Cultural Awareness Training), TCR-3 (Tribal Monitoring), and TCR-4 (Implement Inadvertent Discovery Plan)** would minimize potential impacts to TCRs, should there be any additional ground disturbance including but not limited to new structures, roads, water storage, trenching for utilities, water, wastewater, or drainage systems. Therefore, impacts from the Proposed Project would be **less than significant with mitigation incorporated** on known TCRs.

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, and considering the significance of the resource to a California Native American tribe, to be significant pursuant to criteria set forth in Public Resources Code section 5024.1(c) (Less than Significant with Mitigation)

Montrose submitted a sacred lands file request to the Native American Heritage Commission (NAHC) on February 3, 2025. A response was received from the NAHC on February 3, 2025, which indicated the results of the sacred lands search were negative for this location. The NAHC also provided a list of 6 tribal contacts with a traditional and cultural affiliation with the project area for notification pursuant to Public Resources Code section 21080.3.1 (Assembly Bill 52). Letters were sent to each contact on April 24, 2025, and May 1, 2025, by DCC to elicit any concerns or information regarding any known tribal cultural resources within the Proposed Project area. A summary of the Native American Outreach contacts is included at **Table 3.18-1.**

Table 3.18-1. Native American Outreach

Organization/Tribe	Name of Contact	Letter Date	Tribal Response	Follow Up
Federated Indians of Graton Rancheria	Greg Sarris, Chairperson	4/24/25		5/29/25
Guidiville Rancheria of California	Bunny Tarin, Tribal Administrator	4/24/25	No response received to date.	5/29/25

Organization/Tribe	Name of Contact	Letter Date	Tribal Response	Follow Up
Guidiville Rancheria of California	Michael Derry, Historian	4/24/25	Undeliverable	5/29/25
Lytton Rancheria	Andy Mejia, Chairperson	4/24/25	See response for Brenda Tomaras.	N/A
Lytton Rancheria	Brenda Tomaras, Attorney	4/24/25	Responded on 5/01/25; Stated that the Tribe is not requesting further consultation based on the provided information.	N/A
Pinoleville Pomo Nation	Leona Willams, Chairperson	5/01/25 (Sent via Certified Mail as no email address was provided by the NAHC).	No response received to date.	N/A

A response was received from Lytton Rancheria, who stated that the Tribe is not requesting further consultation based on the information provided by DCC. In addition, DCC received a response from the Federated Indians of Graton Rancheria (FIGR) on June 5, 2025, requesting consultation regarding the Proposed Project. DCC sent responses to FIGR via e-mail on July 14, August 4, August 15, August 27, and September 8, 2025, and called FIGR on September 4, 2025, to provide additional information about the Proposed Project and schedule a consultation. FIGR responded on September 8, 2025, to schedule a consultation for October 1, 2025. The consulting Tribe was unable to survey the project area prior to implementation, but conducted a survey of the site in December, 2025. Although all construction activites have been completed and no further ground disturbance or other construction is expected to occur as a result of the project actions, the consulting Tribe has expressed concerns regarding the high probability for the existence of TCRs within the project area. As such, the consulting tribe has recommended **Mitigation Measures TCR-1 (Implement Measures to Avoid Damaging Effects on TCRs), TCR-2 (Conduct Cultural Awareness Training), TCR-3 (Tribal Monitoring), and TCR-4 (Implement Inadvertent Discovery Plan)** to mitigate impacts below a significant level, should any additional ground disturbance occur at the site, including but not limited to new structures, roads, water storage, trenching for utilities, water, wastewater, or drainage systems. The impacts from the Proposed Project related to additional ground disturbance would be **less than significant with mitigation incorporated** on known TCRs.

DCC has not received requests from any other individuals contacted for formal consultation under Public Resources Code section 21080.3.1, subdivision (b)(2).

Mitigation Measure TCR-1: Implement Mitigation Measures Recommended by Public Resources Code Section 21084.3 to Avoid Damaging Effects on Tribal Cultural Resources

Avoid and preserve the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

Treat the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

- Protecting the cultural character and integrity of the resource.
- Protecting the traditional use of the resource.
- Protecting the confidentiality of the resource.
- Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
- Protect the resource.

Mitigation Measure TCR-2: Conduct Cultural Awareness Training

All personnel conducting any additional ground-disturbing work within the licensed project area will complete a Cultural Awareness Training program lead by an SOI-Qualified Archaeologist and a Tribal Representative from a consulting Tribe, including but not necessarily limited to, an FIGR Tribal Monitor.

Mitigation Measure TCR-3: Tribal Monitoring

Prior to any additional ground-disturbing activities, applicants shall enter into Tribal monitoring agreement with FIGR, and any other consulting Tribe that has consulted with DCC prior to project approval and requests such agreement. Tribal monitors will be permitted to observe all ground-disturbing activities.

Mitigation Measure TCR-4: Implement Inadvertent Discovery Plan for the Treatment of Human Remains and Cultural Items

If unanticipated discoveries of human remains or associated grave goods, are discovered in the project area during ground disturbing activities, the following Inadvertent Discovery Plan will be implemented.

If unanticipated discoveries of California Register of Historic Resources (CRHR)-eligible resources are identified, the Agency will work with the consulting Tribes to determine affiliation and develop appropriate treatment.

If human remains or associated grave goods are discovered, the Agency will provide for the following actions:

1. Immediately cease ground-disturbing activities within a 100-foot radius of the discovery, secure the area, and notify the County coroner

2. If the County coroner determines the remains are those of a Native American, the coroner will notify the California Native American Heritage Commission (NAHC) to designate the most likely descendant and contact the culturally affiliated Tribe.
3. Allow the designated Tribal member(s) to inspect the site of the discovery and determine how the human remains and grave goods should be treated with appropriate dignity and respect.
4. The location of a reburial will be recorded with the California Historic Resources Inventory System.
5. The Agency, the licensee, any contractors and consultants, and the coroner will not disclose the location of the original burial or reburial site.
6. Treatment of all cultural items, including ceremonial items and archaeological items will reflect the religious beliefs, customs, and practices of the culturally affiliated Tribe. All cultural items, including ceremonial items and archaeological items, discovered during Project construction and operation will be turned over to the Tribe for appropriate treatment, unless otherwise ordered by a court or agency of competent jurisdiction. The Agency and Licensee will waive any and all claims to ownership of Tribal cultural items, including ceremonial items and archaeological items that may be found.

Treatment of human remains will proceed in accordance with treatment plans developed in consultation with the most likely descendant of the culturally affiliated Tribe as identified by the NAHC.

3.19 Utilities and Service Systems

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☐	☒
c. 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?	☐	☐	☐	☒
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.19.1 Regulatory Setting

Federal Laws, Regulations, and Policies

No federal regulations are applicable to utilities and service systems in relation to the Proposed Project.

State Laws, Regulations, and Policies

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (Pub. Resources Code, div. 30) requires all California cities and counties to implement programs to reduce, recycle, and compost at least 50 percent of wastes by 2000 (Pub. Resources Code, § 41780). The State, acting through the California Integrated Waste Management Board, determines compliance with this mandate. Per capita disposal rates are used to determine whether a jurisdiction's efforts are meeting the intent of the act.

Senate Bill (SB) 1383 (Chapter 395, Statutes of 2016) and AB 1826 (Chapter 727, Statutes of 2014) have established additional waste reductions for organic waste. SB 1383 was placed in code and requires 50-percent reduction in organic waste levels in landfills from 2014 levels by 2020 and 75-percent reduction by 2025. AB 1826 requires businesses to recycle organic waste and requires local jurisdictions to implement an organic waste recycling program to divert organic waste generated by businesses.

Urban Water Management Planning Act

California Water Code section 10610 et seq. requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet per year, prepare an urban water management plan. Urban water management plans must identify and quantify available water supplies and current and projected water use and demands, and plan for maintaining adequate water supply reliability during normal, dry, and multiple dry water years.

California Health and Safety Code—Hazardous Waste and Hazardous Materials

Several sections of the California Health and Safety Code deal with hazardous waste and hazardous materials. Division 20, chapter 6.5 addresses hazardous waste control and contains regulations on hazardous waste management plans, hazardous waste reduction, recycling and treatment, and hazardous waste transportation and hauling. These requirements are discussed in more detail in Section 3.8, “Hazards and Hazardous Materials.”

State Water Resources Control Board

The SWRCB Cannabis Cultivation Policy establishes requirements for commercial cannabis cultivation activities to protect water quality and instream flows. The purpose of the Cannabis Cultivation Policy is to ensure that the diversion of water and discharge of waste associated with commercial cannabis cultivation does not have a negative impact on water quality, aquatic habitat, riparian habitat, wetlands, and springs (SWRCB 2019). The Cannabis Cultivation Policy requires cultivators to contain and regularly remove all debris and trash associated with cannabis cultivation activities from the cannabis cultivation site. The SWRCB Cannabis Cultivation Policy also specifies that cannabis cultivators shall only dispose of debris and trash at an authorized landfill or other disposal site in compliance with state and local laws, ordinances, and regulations.

In 2023, the SWRCB issued a General Order, the purpose of which is to ensure that discharges to waters of the State do not adversely affect the quality and beneficial uses of such waters. The Cannabis Cultivation General Order is a simplified WDR available to cannabis cultivators to regulate discharges of waste associated with commercial cannabis cultivation. Threats of waste discharge may be from irrigation runoff, over fertilization, pond failure, road construction, grading activities, domestic and cultivation related waste (SWRCB 2023). SWRCB General Order WQ 2023-0102-DWQ requires that activities related to cannabis cultivation, which includes disposal of domestic sewage, must meet applicable County health standards, local agency management plans and ordinances, and/or the RWQCB Onsite Wastewater Treatment System policy.

DCC Commercial Cannabis Business Regulations

The following DCC regulations contain provisions related to water supply and solid waste.

Supplemental Water Source Information:

Section 16311 of the DCC regulations requires the following information to be provided for each water source identified by the applicant:

(a) Retail water supply sources:

(1) If the water source is a retail water supplier, as defined in section 13575 of the Water Code, such as a municipal provider, provide the following:

(A) Name of the retail water supplier; and

(B) A copy of the most recent water service bill or written documentation from the water supplier stating that service will be provided at the premises address.

(2) If the water source is a small retail water supplier, such as a delivery service, and is subject to section 26060.1(a)(1)(B) of the Business and Professions Code and the retail water supplier contract is for delivery or pickup of water from a surface water body or an underground stream flowing in a known and definite channel, provide all of the following:

(A) The name of the retail water supplier under the contract;

(B) The water source and geographic location coordinates, in either latitude and longitude or the California Coordinate System, of any point of diversion used by the retail water supplier to divert water delivered to the commercial cannabis business under the contract;

(C) The authorized place of use of any water right used by the retail water supplier to divert water delivered to the commercial cannabis business under the contract;

(D) The maximum amount of water delivered to the commercial cannabis business for cannabis cultivation in any year; and

(E) A copy of the most recent water service bill.

(3) If the water source is a small retail water supplier, such as a delivery service, and is subject to section 26060.1(a)(1)(B) of the Business and Professions Code and the retail water supplier contract is for delivery or pickup of water from a groundwater well, provide all of the following:

(A) The name of the retail water supplier under the contract;

(B) The geographic location coordinates for any groundwater well used to supply water delivered to the commercial cannabis business, in either latitude and longitude or the California Coordinate System;

(C) The maximum amount of water delivered to the commercial cannabis business for cannabis cultivation in any year;

(D) A copy of the well completion report filed with the Department of Water Resources pursuant to section 13751 of the Water Code for each percolating groundwater well used to divert water delivered to the commercial cannabis business. If no well completion report is available, the applicant shall provide evidence from the Department of Water Resources indicating that the Department of Water Resources does not have a record of the well completion report. When no well completion report is available, the State Water Resources Control Board may request additional information about the well; and

(E) A copy of the most recent water service bill.

(b) If the water source is a groundwater well, provide the following:

(1) The groundwater well's geographic location coordinates, in either latitude and longitude or the California Coordinate System; and

(2) A copy of the well completion report filed with the Department of Water Resources pursuant to section 13751 of the Water Code. If no well completion report is available, the applicant shall provide evidence from the Department of Water Resources indicating that the Department of Water Resources does not have a record of the well completion report. If no well completion report is available, the State Water Resources Control Board may request additional information about the well.

(c) If the water source is a rainwater catchment system, provide the following:

(1) The total square footage of the catchment footprint area(s).

(2) The total storage capacity, in gallons, of the catchment system(s).

(3) A detailed description and photographs of the rainwater catchment system infrastructure, including the location, size, and type of all surface areas that collect rainwater. Examples of rainwater collection surface areas include a rooftop and greenhouse.

(4) Geographic location coordinates of the rainwater catchment infrastructure in either latitude and longitude or the California Coordinate System.

(d) If the water source is a diversion from a waterbody (such as a river, stream, creek, pond, lake, etc.), provide any applicable water right statement, application, permit, license, or small irrigation use registration identification numb/er(s), and a copy of any applicable statement, registration certificate, permit, license, or proof of a pending application issued under part 2 (commencing with section 1200) of division 2 of the California Water Code as evidence of approval of a water diversion by the State Water Resources Control Board.

Waste Management

Section 17223 of the DCC regulations creates the following restrictions for cannabis business waste management:

(a) A licensee shall dispose of all waste in accordance with the Pub. Resources Code and any other applicable state and local laws. It is the responsibility of the licensee to properly evaluate waste to determine if it should be designated and handled as a hazardous waste, as defined in Pub. Resources Code section 40141.

(b) A licensee shall establish and implement a written cannabis waste management plan that describes the method or methods by which the licensee will dispose of cannabis waste, as applicable to the licensee's activities. A licensee shall dispose of cannabis waste using only the following methods:

(1) On-premises composting of cannabis waste.

(2) Collection and processing of cannabis waste by a local agency, a waste hauler franchised or contracted by a local agency, or a private waste hauler permitted by a local agency in conjunction with a regular organic waste collection route.

(3) Self-haul cannabis waste to one or more of the following:

(A) A staffed, fully permitted solid waste landfill or transformation facility;

(B) A staffed, fully permitted composting facility or staffed composting operation;

(C) A staffed, fully permitted in-vessel digestion facility or staffed in-vessel digestion operation;

(D) A staffed, fully permitted transfer/processing facility or staffed transfer/processing operation;

(E) A staffed, fully permitted chip and grind operation or facility; or

(F) A recycling center as defined in title 14, California Code of Regulations, section 17402.5(d) that meets the following:

(i) The cannabis waste received shall contain at least ninety (90) percent inorganic material;

(ii) The inorganic portion of the cannabis waste is recycled into new, reused, or reconstituted products that meet the quality standards necessary to be used in the marketplace; and

(iii) The organic portion of the cannabis waste shall be sent to a facility or operation identified in subsections (b)(3)(A)-(E).

(4) Reintroduction of cannabis waste back into agricultural operation through on-premises organic waste recycling methods including, but not limited to, tilling directly into agricultural land and no-till farming.

(c) The licensee shall maintain any cannabis waste in a secured waste receptacle or secured area on the licensed premises until the time of disposal. Physical access to the receptacle or area shall be restricted to the licensee, employees of the licensee, the local agency, waste hauler franchised or contracted by the local agency, or private waste hauler permitted by the local agency only. Nothing in this subsection prohibits licensees from using a shared waste receptacle or area with other licensees, provided that the shared waste receptacle or area is secured and access is limited as required by this subsection.

(d) A licensee that disposes of waste through an entity described in subsection (b)(2) shall do all of the following:

(1) Maintain and make available to the Department upon request the business name, address, contact person, and contact phone number of the entity hauling the waste; and

(2) Obtain documentation from the entity hauling the waste that evidences subscription to a waste collection service.

Local Laws, Regulations, and Policies

Countywide Integrated Waste Management Plan

Sonoma County, in cooperation with the cities in the County, prepared a Countywide Integrated Waste Management Plan (CoIWMP) in 1994. An amended CoIWMP was adopted in 2003. The California Integrated Waste Management Board approved the final 2003 CoIWMP in March of 2004.

The CoIWMP is the principal planning document for solid waste management in the County. Solid waste management facilities located in unincorporated areas, including landfills and transfer stations, are designated in the Land Use Element. Issues pertaining to solid waste management include:

- The need to temporarily close the Central landfill and transition from a landfill-based system to an outhaul-based system (truck and/or rail transport) due to the expense and regulatory uncertainty associated with expanding the Central landfill and securing flow-control agreements from the cities,
- The need to accommodate the sludge disposal needs of wastewater treatment facilities serving both cities and unincorporated areas and other types of waste matter, including compostable yard waste and organic matter, recyclable in-organics (plastic, glass, metal, etc.) and non-compostable organic matter, by treating them as a resource rather than a waste product, and
- Reduction of the quantity of waste deposited in landfills by 50% or greater after 2000, based on waste generation rates of 1990.

The CoIWMP contains goals, policies, and short, medium, and long-range objectives, together with measures designed to guide solid waste management and disposal actions of the County and other applicable agencies (Sonoma County 2003).

Sewer System Management Plan

The State Water Resources Control Board (SWRCB) requires public agencies that own or operate sanitary sewer systems longer than one mile to develop a Sewer System Management Plan (SSMP). The SSMP describes how the sewer collection system is operated, maintained, and evaluated. The SSMP includes a system evaluation and capacity assurance plan.

The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system to reduce and prevent sanitary sewer overflows (SSOs), as well as mitigate any SSOs that do occur. The goals of the Sonoma Valley County Sanitation District SSMP are to:

- Properly manage, operate and maintain all parts of the wastewater collection system
- Provide adequate capacity to convey peak design flows
- Mitigate the impact of SSOs
- Protect the health and safety of the residents of the Sonoma Valley
- Maintain cost effectiveness while maintaining high efficiency
- Be responsive to customers

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-254(g)(8) Waste Management. A waste management plan addressing the storing, handling, and disposing of all waste by-products of the cultivation and processing activities in compliance with the best management practices issued by the agricultural commissioner shall be submitted for review and approval by the agency having jurisdiction. The plan shall characterize the volumes and types of waste generated, and the operational measures that are proposed to manage and dispose, or reuse the wastes in compliance with best management practices and county standards. All garbage and refuse on the site shall be accumulated or stored in non-absorbent, water-tight, vector resistant, durable, easily cleanable, galvanized metal or heavy plastic containers with tight fitting lids. No refuse container shall be filled beyond the capacity to completely close the lid. All garbage and refuse on the site shall not be accumulated or stored for more than seven (7) calendar days, and shall be properly disposed of before the end of the seventh day in a manner prescribed by the solid waste local enforcement agency. All waste, including but not limited to refuse, garbage, green waste and recyclables, must be disposed of in accordance with local and state codes, laws and regulations. All waste generated from cannabis operations must be properly stored and secured to prevent access from the public.

Sonoma County Code section 26-88-254(g)(9) Wastewater Discharge. A wastewater management plan shall be submitted identifying the amount of wastewater, excess irrigation and domestic wastewater anticipated, as well as disposal. All cultivation operations shall comply with the best management practices issued by the agricultural commissioner and shall submit verification of compliance with the waste discharge requirements of the state water resource control board, or waiver thereof. Excess irrigation water or effluent from cultivation activities shall be directed to a sanitary sewer, septic, irrigation, graywater or bio-retention treatment systems. If discharging to

a septic system, a system capacity evaluation by a qualified sanitary engineer shall be included in the management plan. All domestic waste for employees shall be disposed of in a permanent sanitary sewer or on-site septic system demonstrated to have adequate capacity.

Sonoma County Code section 26-88-254(g)(10). Water Source. An on-site water supply source adequate to meet all on site uses on a sustainable basis shall be provided. Water use includes, but may not be limited to, irrigation water, and a permanent potable water supply for all employees. Trucked water shall not be allowed, except as provided below and for emergencies requiring immediate action as determined by the director. The onsite water supply shall be considered adequate with documentation of any one (1) of the following sources:

a. Municipal Water: A municipal water supplier as defined in California Water Code Section 13575. The applicant shall provide documentation from the municipal water source that adequate supplies are available to serve the proposed use.

b. Recycled Water: The use of recycled process wastewater or captured rainwater from an onsite use or connection to a municipal recycled water supply for non-potable use, provided that an adequate on-site water supply is available for employees and other uses.

c. Surface Water: An existing legal water right and, if applicable, a Streambed Alteration Agreement issued by the California Department of Fish and Wildlife.

Sonoma County's Agricultural Commissioner's BMPs for Cannabis operations include the following, as included on their website (Sonoma County 2025):

- Recycle or properly dispose of all plastic bags, containers, and irrigation materials.
- Properly dispose of green waste in a manner that does not discharge pollutants to a watercourse. This may be accomplished by composting, chipping, and/or shredding. The method of green waste disposal must be documented.
- Used growth medium (soil and other organic medium) shall be handled to minimize or prevent discharge of soil and residual nutrients and chemicals to watercourses. Proper disposal could include incorporating into garden beds, spreading on a stable surface and re-vegetating, storage in watertight dumpsters, or covering with tarps or plastic sheeting prior to proper disposal. The method of disposal must be documented.
- Compost piles are to be located outside of riparian setbacks for agricultural cultivation and in a manner that will not discharge pollutants to a watercourse. If necessary, construct a berm or install fiber roll around compost area to prevent runoff or use straw wattles around perimeter.
- Cover compost piles with tarp or impermeable surface prior to fall rains and continuously throughout the rainy season.

3.19.2 Environmental Setting

Water

The project site has an existing connection to the Sonoma County Water Agency (SCWA) recycled water system and has a Recycled Water Use Agreement that provides for irrigation of 300 acres of farmland, including 222 acres of pastures and 78 acres of vineyards. Although the agreement provides for up to 200 acre-feet of recycled water per year, in 2019 only 101 acre-feet were provided due to limited availability. There are two wells on the parcel that supply the three existing residences and provide drinking water for the cattle and pasture irrigation water

when recycled water is unavailable. Agricultural wells on the site serve the irrigation system by providing water when recycled water supply from SCWA is unavailable.

The site is within the Napa-Sonoma Valley Groundwater basin. The groundwater storage in this basin is considered to be high priority. (DWR 2025.) The Sonoma Valley Groundwater Sustainability Agency (GSA), as part of the Groundwater Sustainability Plan for the Sonoma Valley Groundwater Subbasin (GSP) has developed a plan for achieving sustainability of the basin by 2042. (SVGSA 2021.)

Sewer

The project site does not have a sewer connection and the Proposed Project does not anticipate installing a sewer system. No wastewater would be discharged from the facilities.

Stormwater

The cultivation areas on both parcels of the Proposed Project site are flat with less than five percent grade and would require minimal sediment controls or other Best Management Practices (BMPs). The site has limited impervious cover, so stormwater percolates into the ground.

Solid Waste

Under the baseline condition, the project site produced minimal solid waste, which was associated with existing pasture and vineyards.

Electricity and Natural Gas

The project site is connected to the grid, and power is required to operate a water pump. Power for the water pump is supplied by Pacific Gas and Electric Company (PG&E). The project site will be equipped with solar and/or battery-powered motion-sensor security lights and cameras.

Telecommunications

The Proposed Project site is not served by physical telecommunications infrastructure.

3.19.3 Discussion of Checklist Responses

a. Require the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities or expansion of existing facilities, the construction or relocation of which could cause significant environmental effects (No Impact)

Water

The Proposed Project would utilize the site's existing private agricultural wells and existing connection to the SCWA recycled water system for water supply to serve commercial cannabis cultivation and all on-site water uses. It would not require relocation or construction of new or expanded water supply infrastructure. Therefore, there would be **no impact**.

Sewer

No wastewater treatment facilities are proposed, and none are necessary. Two portable toilets with handwashing stations will be provided and cleaned on a weekly basis. Therefore, there would be **no impact**.

Stormwater

No new drainage systems are proposed for the Proposed Project. In addition, the Proposed Project would not add any new impervious surfaces.

The cultivation areas on both parcels are flat with less than five percent grade and therefore the Proposed Project areas would require minimal sediment controls or employment of Best Management Practices (BMPs). The BMPs for this project would include loose straw distributed in downslope areas to avoid fugitive dust and rain-mediated sediment transport to near-site creeks and streams. Straw wattles could also be placed on the downslopes of graded areas during site development procedures. The Proposed Project would additionally incorporate sediment control measures as needed, including but not limited to common sediment management techniques such as silt fencing, sediment traps, fiber rolls, gravel bag berms, sandbag barriers, and straw bales. (Wingo Ranch 2022; Hurvitz Environmental Services 2022.) Therefore, there would be **no impact**.

Electricity and Natural Gas

The project site is connected to the grid, and power is required to operate a water pump. Power for the water pump is supplied by Pacific Gas and Electric Company (PG&E). The project site will be equipped with solar and/or battery-powered motion-sensor security lights and cameras. No changes to the electric or natural gas infrastructure would be made as a result of the Proposed Project. Therefore, there would be **no impact**.

New or relocated natural gas lines would not be part of the Proposed Project. **No impact** would occur as it pertains to natural gas.

Telecommunications

Telecommunication lines (i.e., for telephone, cable, and internet) would not need to be installed. The Proposed Project does not require communications infrastructure improvements. It would not require relocation or construction of new or expanded telecommunications infrastructure. **No impact** would occur.

b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years (No Impact)

The Proposed Project proposes the use of recycled water and groundwater for irrigation and fire protection. The project site has an existing connection to the Sonoma County Water Agency (SCWA) recycled water system and a Recycled Water Use Agreement that provides for irrigation of 300 acres of farmland, including 222 acres of pastures and 78 acres of vineyards. Although the agreement provides for up to 200-acre feet of recycled water per year, in 2019, only 101-acre feet were provided due to limited availability. Agricultural wells on the site would serve the irrigation system by providing water when recycled water supply from SCWA is unavailable. The wells are located on APNs 128-444-002 and 128-471-003.

The Proposed Project developed a *Net Zero Groundwater Plan* to demonstrate that it would not result in a net increase in groundwater use on the site. The plan proposes to remove 5 acres of irrigated pasture on each parcel to offset the water needs for the Proposed Project. The *Net Zero Groundwater Plan* was approved by the Sonoma County Department of Agriculture during the local commercial cannabis permitting process. (Wingo Ranch 2022.)

Water Use for APN 128-471-002

There are two wells on the parcel that supply the three existing residences and provide drinking water for the cattle and pasture irrigation water when recycled water is unavailable. Approximately 1 acre of these 30 acres of irrigated pasture will be taken out of production for the addition of one acre of cannabis production at this site. In addition, the Applicant would remove an additional four acres of irrigated pasture on the parcel in order to offset the water use from cannabis irrigation. Therefore, the proposed cannabis project would remove a total of five acres of irrigated pasture on this parcel. A total of 3.13 acre-feet of water are used to water each acre annually, and by removing these 5 acres, the Proposed Project would result in a savings of 5,099,568 gallons per year, not including the additional water use by the project operations. (5 x 3.13 acre-feet/acre/year). (Wingo Ranch 2022.)

Water Use for APN 128-471-006

Approximately 1 acre of the existing 50 acres of irrigated pasture will be taken out of production for the addition of an acre of cannabis production at this site. In addition, the Applicant would remove an additional four acres of irrigated pasture on the parcel to offset the water use from cannabis irrigation. Therefore, the proposed cannabis project would remove a total of five acres of irrigated pasture on this parcel. A total of 3.13 acre-feet of water are used to water each acre annually, and by removing these 5 acres, a water savings of 5,099,568 gallons per year would occur. (Wingo Ranch 2022.)

Based on estimates of water use, the existing well and existing connection to the SCWA recycled water system would meet the needs of the Proposed Project. Finally, the Applicant's compliance with the *Net Zero Groundwater Plan* and the resulting decrease in irrigated acreage at the site would ensure the Proposed Project would have **no impact.**

c. 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 (No Impact)

Wastewater would not require conveyance to or treatment by a wastewater treatment provider, nor would it be reclaimed since the irrigation water delivered to each plant would be absorbed by the plants. Therefore, there would be no significant excess discharge. No wastewater would be discharged from the facility to a wastewater treatment provider. **No impact** would occur.

d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals (Less than Significant Impact)

With implementation of the Proposed Project, solid waste would be generated from cultivation activities (e.g., plant matter, soils, containers) and be processed and stored on site, in accordance with section 17223 of the DCC regulations. Waste would be hauled off site approximately once per month.

Because the Applicant would dispose waste in accordance with state and local regulations, and because the facility has a relatively small operation that would generate only a small volume of solid waste, the Proposed Project's impact would be **less than significant**.

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste (No Impact)

With the Applicant's preparation and fulfillment of an approved cannabis waste management plan as required by section 17223 of the DCC regulations, the Proposed Project would be in compliance with all regulations related to solid waste.

The Proposed Project would also comply with the SWRCB's Cannabis Cultivation Policy and DCC's solid waste reduction programs, which are designed to comply with federal, state, and local statutes and regulations related to solid waste. These statutes and regulations include the California Integrated Solid Waste Management Act, the California Beverage Container Recycling and Litter Reduction Act, and the County's solid waste disposal policies and practices. The Integrated Solid Waste Management Act requires that jurisdictions maintain a 50 percent or better diversion rate for solid waste.

Compliance with state and local requirements is required for issuance and maintenance of a state cannabis business license. (Bus. & Prof Code, § 26030.) **No impact** would occur.

3.20 Wildfire

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

3.20.1 Regulatory Setting

Federal Laws, Regulations, and Policies

No federal regulations are applicable to Wildfire in relation to the Proposed Project.

State Laws, Regulations, and Policies

Executive Order B-52-18

On May 10, 2018, in response to the changing environmental conditions and the increased risk to California's citizens, California Governor Brown issued Executive Order (EO) B-52-18 to support the state's resilience to wildfire and other climate impacts; to address extensive tree mortality; increase forests' capacity for carbon capture; and to improve forest and forest fire management (EO 2018). EO B-52-18 requires the California Natural Resources Agency, in coordination with other agencies including the State Board of Forestry and Fire Protection, the California Department of Forestry and Fire Protection (CAL FIRE), to increase the pace and scale of fire fuel treatments on state and private lands. Moreover, EO B-52-18 calls for doubling the land actively managed through vegetation thinning, prescribed burning, and restoration from 250,000 to 500,000 acres per year to reduce wildfire risk. To support these efforts, a May 11, 2018, budget revision committed $96 million in additional state funds.

Senate Bill 1260

On February 15, 2018, Governor Brown signed Senate Bill (SB) 1260 (Chapter 624, Statutes of 2018), which aims to help protect California communities from catastrophic wildfire by improving forest management practices to reduce the risk of wildfires in light of the changing climate. It recognizes that prescribed burning is an important tool to help mitigate and prevent the impacts of wildfire and includes provisions that encourage more frequent use of prescribed burns in managing California's forest lands. SB 1260 also includes provisions for the State Board of Forestry and Fire Protection's Vegetation Treatment Program PEIR, when certified, to serve as the programmatic environmental document for future prescribed burns in the Sierra-Cascade, Central Coast, and North Coast regions of the state.

Senate Bill 901

SB 901 (Chapter 626, Statutes of 2018) boosted the budget for government fire protection efforts. CAL FIRE will oversee those funds, generally divided into two categories: $165 million per year for fire prevention grants to landowners and for community prevention efforts, and $35 million to continue CAL FIRE's prescribed burning, research, and monitoring. In addition, under SB 901, landowners can help reduce overgrowth by cutting down small and mid-sized trees.

Assembly Bill 301

Assembly Bill (AB) 301 (Chapter 104, Statutes of 2015) was enacted to amend section 4213.1 and add section 4213.2, which are related to fire prevention, to the Public Resources Code. Section 4213.1 requires CAL FIRE to notify an owner of property, through the Fire Prevention Fee billing process, that if selling the habitable structure or structures, a division of the fee may be negotiated as one of the terms of sale. Section 4213.2 of the Public Resources Code allows the owner of a property with one or more habitable structures subject to the fee, if selling the property, to negotiate a division of the fee as one of the terms of the sale. However, payment of the total fee liability remains the responsibility of the person who owns the habitable structure on July 1 of the year the fee is due.

Assembly Bill X1 29

AB X1 29 (Chapter 8, Statutes of 2011) was enacted to add Chapter 1.5 (commencing with section 4210) to part 2 of Division 4 of the Public Resources Code. Existing law requires the state to have primary financial responsibility for preventing and suppressing fires within State Responsibility Areas (SRAs). An SRA is an area of the state where CAL FIRE has the primary financial responsibility for the prevention and suppression of wildland fires. AB X1 29 required the State Board of Forestry and Fire Protection to establish a regulatory program to impose a fire prevention fee for each structure on a parcel within a SRA.

Public Resources Code

CAL FIRE is required by law to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors (Pub. Resources Code, §§ 4201-4204; Gov. Code, §§ 51175–51189). Factors that increase an area's susceptibility to fire hazards include slope, vegetation type and condition, and atmospheric conditions. CAL FIRE has identified two types of wildland fire risk areas: (1) wildland areas that may contain substantial forest fire risks and hazards; and (2) very high fire hazard risk zones.

Public Resources Code section 4291 gives CAL FIRE the authority to enforce 100 feet of defensible space around all buildings and structures on SRA lands. Public Resources Code sections 4790 through 4799.04 provide the regulatory authority for CAL FIRE to administer the California Forest Improvement Program. Public Resources Code sections 4113 and 4125 give CAL FIRE the responsibility to prevent and extinguish wildland fires in SRAs. The Public Resources Code also includes fire safety statutes that restrict the use of equipment that may produce a spark, flame, or fire; requires the use of spark arrestors on construction equipment with internal combustion engines; specifies requirements for the safe use of gasoline-powered tools in fire hazard areas; and specifies fire suppression equipment that must be provided for various types of work in fire-prone areas.

New development located in SRAs are subject to the following requirements:

- Determination that new subdivisions are consistent with regulations adopted by the State Board of Forestry and Fire Protection pursuant to Public Resources Code sections 4290 and 4291 or are consistent with local ordinances certified by the State Board of Forestry and Fire Protection as meeting or exceeding the state regulations. (Cal. Code Regs., title 14, § 1266.01.)
- Defensible space of 100 feet around all buildings and structures. (Pub. Resources Code, § 4291; Cal. Code Regs., title 14, § 1299.03.)
- Provision of adequate emergency access and egress. (Pub. Resources Code, §§ 4290 and 4291; Cal. Code Regs., title 14, §§ 1273.01–1273.09.)
- Emergency water requirements. (Cal. Code Regs., title 14, §§ 1275.01–1275.04.)
- Building signing and number requirements. (Pub. Resources Code, §§ 4290 and 4291; Cal. Code Regs., title 14, §§ 1274.01-1274.04.)

California Building Code

California Code of Regulations, title 24, section 701A.3 (“New Buildings Located in Any Fire Hazard Severity Zone”) requires that new buildings located in any Fire Hazard Severity Zone within SRAs, any local agency Very-High Fire Hazard Severity Zone, or any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted, shall comply with all the requirements of Chapter 7A. These requirements include the following design elements:

- Roofing be designed to be fire resistant and constructed to prevent the intrusion of flames and embers (Cal. Code Regs., tit. 24, § 705A);
- Attic ventilation be designed to be resistant to the intrusion of flames and embers into the attic area of the structure (Cal. Code Regs., tit. 24, § 706A);
- Exterior walls design (including vents, windows, and doors) be designed with non-combustible or ignition-resistant material and to resist the intrusion of flame and ember (Cal. Code Regs., tit. 24, §§ 707A and 707A);
- Decking be designed with ignition-resistant material (Cal. Code Regs., tit.24, § 709A); and
- Ancillary buildings and structures comply with the above provisions (Cal. Code Regs., tit. 24, § 710A).

Board of Forestry and Fire Protection

The Board of Forestry and Fire Protection (Board) is a Governor-appointed body within CAL FIRE. It is responsible for developing the general forest policy of the state, determining the guidance policies of CAL FIRE, and

representing the state's interest in federal forestland in California. Together, the Board and CAL FIRE work to carry out the California Legislature's mandate to protect and enhance the state's unique forest and wildland resources.

The Board is charged with developing policy to protect all wildland forest resources in California that are not under federal jurisdiction. These resources include major commercial and non-commercial stands of timber, areas reserved for parks and recreation, woodlands, brush-range watersheds, and all private and state lands that contribute to California's forest resource wealth. In addition, the Board is responsible for identifying Very High Hazard Severity Zones (VHFHSZ) in the SRA and in the Local Responsibility Area (LRA)—cities, urban regions, and agriculture lands where the local government is responsible for wildfire protection. Local agencies are required to designate, by ordinance, VHFHSZ and to require landowners to reduce fire hazards adjacent to occupied buildings within these zones (Gov. Code, §§ 51179 and 51182). The intent of identifying areas with very high fire hazards is to allow CAL FIRE and local agencies to develop and implement measures that would reduce the loss of life and property from uncontrolled wildfires. (Gov. Code, § 51176.)

Public Resources Code sections 4114 and 4130 authorize the Board to establish a fire plan, which, among other things, determines the levels of statewide fire protection services for SRA lands. CAL FIRE's most recently adopted fire plan is the 2024 Strategic Fire Plan; Government Code section 65302.5 gives the Board the regulatory authority to evaluate General Plan safety elements for its land use policies in the SRA and VHFHSZs as well as methods and strategies for wildland fire risk reduction and prevention in those areas.

CAL FIRE

CAL FIRE is dedicated to the fire protection and stewardship of over 31 million acres of the state's privately owned wildlands. In addition, CAL FIRE provides emergency services in 36 of the state's 58 counties via contracts with local governments. Public Resources Code section 4291 gives CAL FIRE the authority to enforce 100 feet of defensible space around all buildings and structures on non-federal SRA lands, or non-federal forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material. Public Resources Code sections 4790 through 4799.04 provide the regulatory authority for CAL FIRE to administer the California Forest Improvement Program. Public Resources Code sections 4113 and 4125 give CAL FIRE the responsibility for preventing and extinguishing wildland fires in the SRA (Pub. Resources Code, §§ 4113 and 4125). The Public Resources Code, beginning with section 4427, includes fire safety statutes that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment with internal combustion engines; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided on site for various types of work in fire-prone areas.

CAL FIRE currently implements vegetation treatments under Public Resources Code sections 4475 through 4495. Public Resources Code sections 4461 through 4471 and 4491 through 4494 authorize CAL FIRE to implement its existing Chaparral Management Program, now known, in part, as the Vegetation Management Program (VMP). In addition, with the 2005 passage of SB 1084 (Chapter 5, Statutes of 2022), the Legislature modified, and in some cases, added language to Public Resources Code sections 4475 through 4480 that:

- Broadened CAL FIRE's range of vegetation treatment practices beyond those described for the existing CMP and VMP;
- Added a definition of "hazardous fuel reduction;" and

- Made other changes to the major statutory provisions guiding CAL FIRE's vegetation treatment authorities.

2024 Strategic Fire Plan for California

The 2024 Strategic Plan prepared by CAL FIRE and the California Natural Resources Agency lays out central goals for reducing and preventing the impacts of fire in the state (CAL FIRE 2024a). The goals are meant to establish, through local, state, federal, and private partnerships, a natural environment that is more resilient and human-made assets that are more resistant to the occurrence and effects of wildland fire. The goals of the 2024 Strategic Plan include: attract, hire, and retain quality employees; ensure all employees understand how the Department's various programs and job duties contribute towards efficiently achieving the CAL FIRE mission; promote a culture that values equitable access, embraces diverse backgrounds and experiences, and actively removes barriers to cultivate a more inclusive environment; leverage technology to modernize internal human resources processes and create efficient and effective innovative solutions to promote, support, and enhance the employee experience; strengthen the Department's physical and digital infrastructure and streamline equitable access to information across core services; and identify core capabilities and strengthen operational capacity.

In addition to the 2024 Strategic Plan, individual CAL FIRE units develop fire plans, which are major strategic documents that establish a set of tools for each CAL FIRE unit for its local area. Updated annually, unit fire plans identify wildfire protection areas, initial attack success, assets and infrastructure at risk, prefire management strategies, and accountability within their unit's geographical boundaries. The unit fire plan identifies strategic areas for prefire planning and fuel treatment as defined by the people who live and work locally. The plans include contributions from local collaborators and stakeholders and are aligned with other plans for the area.

California Fire Code

The California Fire Code (CFC) is contained within title 24 of the California Code of Regulations, title 24. The CFC establishes requirements for development design to safeguard public health, safety, and general welfare from the hazards of fire. This includes standards on building design, materials, fire flow, and other suppression provisions. The CFC also regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The CFC and the California Building Code use a hazard classification system to determine what protective measures are required to protect life and provide fire safety. These measures may include applying construction standards, requiring separation between structures and property lines, and using specialized equipment. To ensure that these safety measures are met, the CFC employs a permit system based on hazard classification. The CFC is updated every three years. Chapter 23 of the CFC provides specific standards for the construction and operation of motor fuel dispensing facilities that includes emergency shut-off systems, leak detection, secondary containment, and fuel delivery nozzle design requirements that includes vapor recovery to avoid fire hazards.

Emergency Response/Evacuation Plans

The draft 2024 California State Emergency Plan (SEP) plays a key role in guiding state agencies, local jurisdictions, and the public on emergency management. It describes the methods for conducting emergency operations, rendering mutual aid, emergency response capabilities of state agencies, resource mobilization, public information, and continuity of government during an emergency or disaster.

The 2017 State of California Emergency Plan was adopted by the Governor's Office of Emergency Services on October 1, 2017, and describes how state government mobilizes and responds to emergencies and disasters in

coordination with partners in all levels of government, the private sector, non-profits, and community-based organizations. The Plan also works in conjunction with the California Emergency Services Act and outlines a robust program of emergency preparedness, response, recovery, and mitigation for all hazards, both natural and human caused. All local governments with a certified disaster council are required to develop their own emergency operations plan (EOP) for their jurisdiction that meets state and federal requirements. Local EOPs contain specific emergency planning considerations, such as evacuation and transportation, sheltering, hazard specific planning, regional planning, public-private partnerships, and recovery planning. (OES 2017.)

DCC Commercial Cannabis Business Regulations

DCC regulations include the following requirements regarding wildfire:

A commercial cannabis business applying for a license to cultivate cannabis must provide an attestation that the local fire department has been notified of the cultivation site if the application is for an indoor license type. (Cal. Code Regs., tit. 4, § 15011 subd. (a)).

Local Laws, Regulations, and Policies

Sonoma County Community Wildfire Protection Plan

The 2016 Sonoma County Community Wildfire Protection Plan was developed with input from many organizations, including state and local fire departments, federal agencies, community groups, and land management agencies. The purpose of the Sonoma County Community Wildfire Protection Plan is to help reduce the potential loss of human life and damage to property, natural and cultural resources within Sonoma County due to wildfire.

The plan describes the wildfire risk and potential throughout the County, designates Wildland Urban Interface (WUI) areas, discusses assets at risk throughout the County, provides mitigation strategies, and discusses resources available.

Vision 2020 County Strategic Fire Plan

Vision 2020 County Strategic Fire Plan, adopted by the Board of Supervisors in October 2010, the Strategic Fire Plan contains recommended actions for improving and maintaining delivery of community-based fire suppression, rescue, and emergency medical services in County Service Area #40 (CSA #40) over a ten-year period. These recommended actions are based on the recommendations contained in the County CSA #40 Fire Services Analytical Review presented to the Board of Supervisors in August 2009.

Sonoma County Community Wildfire Protection Plan

The Sonoma County Community Wildfire Protection Plan (CWPP) 2023 Update was signed by the Sonoma County Board of Supervisors on May 9, 2023. The CWPP Update reflects collaborative development with active public participation, identifies wildfire risks and mitigation measures across the County, and lists community-driven Risk Reduction Priorities and specific project recommendations that agencies and community groups can use to develop projects MJHMP recommendations are referenced in the CWPP.

Sonoma County Zoning Ordinance

Sonoma County Code section 26-88-254(f)(16). Fire Code Requirements. The applicant shall prepare and implement a fire prevention plan for construction and ongoing operations and obtain any permits required from

the fire and emergency services department. The fire prevention plan shall include, but not be limited to: emergency vehicle access and turn-around at the facility site(s), vegetation management and fire break maintenance around all structures.

3.20.2 Environmental Setting

Fire Hazard Severity Zones (FHSZ) are developed by the Office of the State Fire Marshal and determined based on risk factors such as slope, winds, and fuel loading, and are classified based on the severity of the risk (moderate, high, and very high) (CAL FIRE 2024b).

The Proposed Project area is used for agriculture and is located in a rural residential area within unincorporated Sonoma County. The project is not classified as being located within a FHSZ, the closest FHSZ is classified as "moderate" approximately 1 mile to the east, with the closest "very high" FHSZ located approximately 4.5 miles to the northeast (CAL FIRE 2024c).

3.20.3 Discussion of Checklist Responses

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a. Substantially impair an adopted emergency response plan or emergency evacuation plan (Less than Significant Impact)

The site is accessed via accessed from an existing private driveway off Fremont Drive/State Highway 121/12, a two-lane road. The Proposed Project is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. Furthermore, as discussed in Section 2.6, construction associated with the Proposed Project is now complete, and as discussed in Section 1.5, the analysis of construction impacts is mooted. As discussed in more detail in Section 3.17, "Transportation," during operations, the limited amount of increased traffic generated by the Proposed Project would not significantly impact emergency access. Therefore, impacts would be **less than significant.**

b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire (Less than Significant Impact)

The Proposed Project is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. Typically, construction impacts would be assessed. However, as discussed in Section 2.6, construction is now complete, and as discussed in Section 1.5 the analysis of construction impacts is mooted.

During operation, the Proposed Project would not introduce new activities to the area which would significantly exacerbate wildfire risks, as the area would be used for agriculture, consistent with its zoning and the surrounding area, and the Proposed Project would be in an area in the jurisdiction of the Schell Vista Fire Protection District. The nearest fire station is approximately 0.7 miles from the Proposed Project. Therefore, this impact would be **less than significant**.

c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment (Less than Significant Impact)

The Proposed Project is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. As discussed in Section 2.6, construction associated with the Proposed Project is now complete. As described in Section 1.5, this IS/ND does not analyze impacts that may have already occurred, if they cannot be mitigated. During operation, except for grid power used to operate a water pump, the project site will be equipped with solar and/or battery-powered motion-sensor security lights and cameras within areas that have been cleared of other vegetation. Therefore, the Proposed Project is not expected to significantly exacerbate existing risks of wildfire. Therefore, this impact would be **less than significant**.

d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes (Less than Significant Impact)

There are some small areas in the wider area around the of the project site which have been observed to have a susceptibility to deep-seated landslides (DOC 2010). However, the topography of the site is relatively flat with minor elevation changes in the nearby vicinity. Furthermore, as discussed above, the Proposed Project site is not within a state or locally designated FHSZ. During operation, on-site coverage and uses would be an extension of existing on-site uses and would not include features that would substantially increase the risk to people or structures of flooding, landslides, post-fire slope instability, or drainage changes. Therefore, impacts would be ***less than significant***.

3.21 Mandatory Findings of Significance

Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a. Does the project have the potential to substantially 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 self- sustaining levels, threaten to eliminate a plan or animal community, substantially 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 with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

3.21.1 Discussion of Checklist Responses

a. Effects on environmental quality, fish or wildlife, and historic resources (Less than Significant Impact)

As discussed in each resource section above, the Proposed Project would not result in significant impacts to biological or cultural resources and would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below 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. Therefore, impacts would be **less than significant.**

b. Cumulative impacts (Less than Cumulatively Considerable Impacts)

The CEQA Guidelines define cumulative impacts as “two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts.” Cumulative impacts reflect “the change in the environment which results from the incremental impact of the Proposed Project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative

impacts can result from individually minor but collectively significant projects taking place over a period of time" (CEQA Guidelines § 15355[b]). CEQA Guidelines section 15355 further states that individual effects can be various changes related to a single project or the change involved in a number of other closely related past, present, and reasonably foreseeable future projects. The CEQA Guidelines state that the discussion of cumulative impacts should reflect the severity of the impacts as well as the likelihood of their occurrence. However, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. Furthermore, the discussion should remain practical and reasonable in considering other projects and related cumulatively considerable impacts.

Since recreational cannabis was legalized in Sonoma County, the County has approved permits for a total 281 commercial cannabis businesses. As of 2023, active permits within the County consisted of 126 cultivation permits and 38 noncultivation permits (Sonoma County 2025). In 2023, Sonoma County estimated there were 27 unpermitted (illegal) cannabis sites in the County, down from a high of 267 such sites in 2019. (Sonoma County 2025.)

Aesthetics

The project site is not located within view of a scenic vista and would not result in a substantial change to scenic resources in the area. Potential impacts to aesthetic resources would be less than significant, and no mitigation measures are necessary.

Surrounding proposed commercial cannabis cultivation operations would require discretionary permits and would be evaluated for their potential to result in potentially significant environmental effects, including potential impacts to visual resources. Based on the rural and agricultural visual character of the area, newly proposed structures visible from surrounding public roadways would undergo evaluation for consistency with the surrounding visual character and may be required to implement visual screening and/or other measures if County staff identify potential impacts to visual resources. Proposed commercial cannabis cultivation projects, including use of mixed-light growing techniques, would be subject to DCC regulations requiring that any lighting be shielded from sunset to sunrise.

Based on the less-than-significant aesthetic impacts of the Proposed Project and discretionary review of surrounding proposed commercial cannabis projects, the impacts to aesthetic and visual resources of this project, when considered with the potential impacts of other reasonably foreseeable development in the area, would be **less than cumulatively considerable**.

Agriculture and Forestry Resources

The analysis provided in Section 3.2, "Agriculture and Forestry Resources," indicates that the Proposed Project would not result in the permanent conversion of farmland and no potential impacts to forest land or timberland would occur. The Proposed Project would not result in a conflict with existing zoning for agricultural use or Williamson Act contract. Therefore, when considered with the potential impacts of other reasonably foreseeable commercial cannabis cultivation projects in the unincorporated county, the contribution of the Proposed Project's potential impacts to agriculture and forestry resources is considered **less than cumulatively considerable**.

Air Quality

The analysis provided in Section 3.3, "Air Quality," concludes that impacts related to air quality would be less than significant. Operational emissions would not exceed BAAQMD thresholds, a. Further, based on required setbacks and the size of the parcel, potential odors from proposed commercial cannabis cultivation activities would not result in nuisance odors above the threshold of significance.

The project is one of 281 land use permit applications for commercial cannabis cultivation activities located within the county. All proposed commercial cannabis cultivation operations located within the county would require discretionary permits and would be evaluated for their potential to result in potentially significant environmental effects, including potential impacts to air quality. These proposed commercial cannabis cultivation projects would undergo evaluation for their potential to exceed applicable BAAQMD thresholds and result in potentially cumulatively considerable contribution to the county's non-attainment status for ozone and/or fugitive dust. Proposed projects with the potential to exceed BAAQMD thresholds would be subject to standard BAAQMD mitigation measures to reduce potential air pollutant emissions to a less-than-significant level. These measures would also be applied for projects located within close proximity to sensitive receptor locations.

The analysis provided in Section 3.3, "Air Quality," concludes that the project's potential other emissions (such as those leading to odor) would be less than significant based on the distance of proposed odor-emitting uses from the project property lines and distance to surrounding receptors. All proposed commercial cannabis development projects in the project vicinity would be required to comply with County commercial cannabis odor control requirements, including minimum setback distances. Therefore, the contribution of the project's potential impacts to air quality are considered **less than cumulatively considerable**.

Biological Resources

The analysis provided in Section 3.4, "Biological Resources" concludes that implementation of the Proposed Project would not adversely affect biological resources.

The project site is located in an area that is fully developed for agricultural production. As a result, there is minimal undisturbed area surrounding the project site that would provide suitable habitat for special-status species. As compared to baseline conditions, implementation of the Proposed Project would have virutally no impacts to biological resources. All surrounding proposed commercial cannabis development projects would undergo evaluation for potential to impact biological resources. Proposed commercial cannabis projects that are determined to have the potential to impact sensitive species and/or their habitats, sensitive natural communities, federal or state wetlands, migratory corridors, native trees, or conflict with state or local policies or habitat conservation plans would be required to implement mitigation measures to reduce these impacts.

Based on the very limited impacts of the Proposed Project and discretionary review of surrounding projects, when considered with the potential impacts of other reasonably foreseeable development in the area, project impacts associated with biological resources would be **less than cumulatively considerable**.

Hydrology and Water Quality

As discussed in Section 3.10, "Hydrology and Water Quality," the Proposed Project would not result in adverse impacts related to water quality, groundwater quality, or stormwater runoff. The project site is not within a flood hazard, tsunami, or seiche zone and would not risk release of pollutants due to project inundation.

All proposed commercial cannabis cultivation projects located in the county would be subject to standard County requirements for drainage, sedimentation, and erosion control for construction and operation. All potentially hazardous materials (e.g., pesticides, fertilizers) proposed to be utilized for these projects would be required to comply with CDPR requirements, DCC regulations, and the SWRCB Cannabis Cultivation Policy and General Order.

The project developed a *Net Zero Groundwater Plan* to demonstrate that it would not result in a net increase in groundwater use on the site. The plan proposes to remove 5 acres of irrigated pasture on each parcel to offset the water needs for the Proposed Project. The *Net Zero Groundwater Plan* was approved by the Sonoma County Department of Agriculture during the local cannabis permitting process. (Wingo Ranch 2022.)

Because the Proposed Project would comply with state and local regulations related to water quality, and because the Proposed Project would result in an overall reduction in water use, impacts to hydrology and water quality would be **less than cumulatively considerable.**

Noise

As discussed in Section 3.13, "Noise," operation of the Proposed Project would result in less than significant impacts.

Reasonably foreseeable future commercial cannabis cultivation projects would require discretionary permits and would be reviewed by County staff for potentially significant environmental impacts, including impacts associated with noise. Future projects with potential to generate noise above County standards or noise that would adversely affect surrounding sensitive receptors would be required to implement measures to reduce associated impacts.

There is no additional project construction required that would generate noise. Noise impacts from operations would be minimal, and similar both to surrounding agricultural activities as well as to agricultural activities that existed in the baseline condition.

The project-related operational contribution to traffic noise levels would be negligible. When combined with cumulative traffic, which is not likely to change from existing conditions, the project's contribution to traffic, and associated noise levels, would not represent an audible contribution to cumulative traffic noise levels. Therefore, the project's contribution to regional traffic noise impacts would be **less than cumulatively considerable**.

Transportation

As discussed in Section 3.16, "Transportation," the Proposed Project would be consistent with existing circulation and traffic plans and would not generate vehicle trips that would exceed existing VMT thresholds. In addition, the project would be consistent with CAL FIRE/County Fire Department and County Public Works Department standards for site access and driveway design. Therefore, the Proposed Project's potential impacts associated with these thresholds would be less than significant.

The total VMT for the county is estimated to be approximately 14,700,000 per day. (SCTA 2023.) Accordingly, the VMT associated with proposed commercial cannabis cultivation projects throughout the county is estimated to result in a very marginal increase in the total county VMT. Moreover, each project will be required to mitigate the project-specific impacts to the transportation network through standardized public facilities fees and other mitigation measures, based on the potential impacts. Such mitigation may include, but is not limited to, the installation of roadway and intersection improvements necessary to serve the project. Therefore, based on the size and scope of the Proposed Project, when considered with the potential impacts of other reasonably

foreseeable commercial cannabis cultivation projects in the unincorporated county, the contribution of the Proposed Project to roadway impacts would be **less than cumulatively considerable**.

Other Impact Issue Areas

Based on the project's less-than-significant impacts and the discretionary review of all surrounding reasonably foreseeable future commercial cannabis cultivation projects, the project's potential impacts associated with the following issue areas would be **less than cumulatively considerable**:

- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Land Use Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

c. Effects on human beings (Less than Significant Impact)

Environmental impacts that may have an adverse effect on human beings, either directly or indirectly, are analyzed in each environmental resource section in this Initial Study. As described in this document, the Proposed Project would not have any environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. Impacts would be **less than significant.**

4 REPORT PREPARATION

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Appendix A

Biological Resources Report
(Pinecrest Environmental Consulting 2021)

BIOLOGICAL ASSESSMENT

1495 FREMONT DRIVE [APN 128-444-002]
SONOMA COUNTY, CALIFORNIA

PREPARED FOR:

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PROJECT № SON015d

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JANUARY 30, 2021

TABLE OF CONTENTS

1.0 INTRODUCTION 3
1.1 PURPOSE 3
1.2 LOCATION 3
1.2.1 Site Overview 3
1.2.2 Landforms & Topography 3
1.2.3 Federal Critical Habitat 4
1.2.4 Special-Status Species Occurrences 4
1.3 METHODS 5
1.3.1 Records Search & Literature Review 5
1.3.2 Field Surveys 5
2.0 RESULTS 7
2.1 REGIONAL ECOLOGICAL COMMUNITIES 7
2.2 NATURAL COMMUNITIES WITHIN THE STUDY AREA 7
2.2.1 Seeded Hayfield 7
2.2.2 Drainage Swale & Potential Wetland 8
2.3 WILDLIFE 8
2.4 WETLANDS & WATERCOURSES 8
2.5 SOILS 9
3.0 SUMMARY & CONCLUSIONS 10
4.0 REGULATORY FRAMEWORK 11
4.1 FEDERAL ENDANGERED SPECIES ACT 11
4.2 CALIFORNIA ENDANGERED SPECIES ACT 11
4.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT 11
4.4 CLEAN WATER ACT 12
4.5 CALIFORNIA WATER QUALITY REGULATORY PROGRAMS 12
5.0 REFERENCES 13

FIGURE 1: REGIONAL LOCATION 14
FIGURE 2: 40 FOOT CONTOURS 15
FIGURE 3: WATERCOURSES 16
FIGURE 4: PHOTOGRAPH OF SOUTH FENCELINE 17
FIGURE 5: PHOTOGRPAH OF EAST FENCELINE 18
FIGURE 6: PHOTOGRAPH OF NORTH FENCELINE 19
FIGURE 7: PHOTOGRAPH OF POTENTIAL CULTIVATION AREA 20
FIGURE 8: PHOTOGRAPH OF CULVERT 21
FIGURE 9: PHOTOGRAPH OF DRAINAGE SWALE 22
FIGURE 10: PHOTOGRAPH OF POTENTIAL WETLAND 23

APPENDIX A: SPECIAL-STATUS SPECIES CONSIDERED 24
APPENDIX B: SPECIES ENCOUNTERED 36
APPENDIX C: CNDDB OCCURRENCES MAP 38
APPENDIX D: MAP OF FEDERAL CRITICAL HABITAT 39
APPENDIX E: STREAM CLASSIFICATION CRITERIA 40
APPENDIX F: CANNABIS CULTIVATION BEST MANAGEMENT PRACTICES 41
F.1 CANNABIS CULTIVATION 41
F.2 EROSION & SEDIMENT CONTROL 43
F.3 WATER USE & POLLUTION 45
F.4 ROAD MAINTENANCE & GENERAL CONSTRUCTION 47
F.5 SWALE & VEGETATION MANAGEMENT 48
F.6 IRRIGATION & CULTIVATION MANAGEMENT 50
APPENDIX G: COUNTY-DESIGNATED RIPARIAN CORRIDORS 53

1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this reconnaissance-level Biological Assessment (BA) is to evaluate the existence of special-status species (SSS) and/or habitats, as well as assess the potential for SSS listed in Appendix A to occur on or near the site of commercial cultivation activities, pursuant to applicable regulations from County of Sonoma and the State of California. This BA also analyzes the potential for jurisdictional wetlands and other waters of the U.S. to exist onsite, and classifies landforms that may potentially convey sediment to waters of the U.S. including dry creeks, washes, swales, gullys, and other erosional features. Also included is a set of Best Management Practices (BMPs) that are adapted from a variety of sources including State Water Resources Control Board *Cannabis* General Order No. WQ 2019-0001-DWQ and other state and local ordinances.

1.2 LOCATION

1.2.1 Site Overview

The project site is located at 1495 Fremont Drive in unincorporated Sonoma County, approximately 3.5 miles south of the town of Sonoma, and 18 miles southwest of the City of Santa Rosa (Figure 1). The parcel is designated Assessor's Parcel Number (APN) 128-444-002, is deeded 45.72 acres, is zoned LEA, and is located in Groundwater Availability Zone 1. The parcel is under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB) and the Bay-Delta Region (Region 3) of the California Department of Fish & Wildlife (CDFW). Most of the parcel is within County-designated Valley Oak Habitat, although there is no County-designated Biotic Habitat on the parcel. There are County-designated Riparian Corridors (Appendix G), and several jurisdictional watercourses and/or wetlands onsite (Figure 3). The parcel is in the Napa-Sonoma Valley high-priority groundwater basin as designated by the California Department of Water Resources (DWR).

1.2.2 Landforms & Topography

The topography of the site is flat with a maximum elevation of 17 feet along the northeast corner of the parcel near the entrance, and a minimum elevation of 10 feet above sea level in the southwest corner of the parcel (Figure 2). The parcel is located in an unsectioned portion of Township 5 N, Range 5 West, on the USGS Sears Point 7.5 minute quadrangle. The approximate latitude and longitude of the parcel is 38.243 (W), -122.437 (N). Water generally flows towards the center of the parcel towards a small swale (Figure 9) that exists between the stock yard to the east and the seeded hayfield to the west, after which it passes beneath CA-12 via concrete culvert (Figure 10) that eventually flows into a settling basin on the adjacent business park to the north. See §2.4 for additional discussion of wetlands and watercourses onsite.

1.2.3 Federal Critical Habitat

Federal Critical Habitat (FCH) is designated by the U.S. Fish & Wildlife Service (USFWS) and provides special protections for habitats considered important for long-term population persistence of endangered or threatened species. A map of regional FCH is provided in Appendix D. The nearest FCH is located 0.25 miles east, 0.45 miles west, and 1.1 miles south of the project parcel for Chinook salmon (*Oncorhynchus tshawytscha*) in Schell Slough, Sonoma Creek, and Railroad Slough, respectively. There is additional FCH for Chinook salmon in most of the anadromous waters surrounding the San Francisco Bay. The next nearest Federal Critical Habitat is located 5.7 miles southeast of the parcel for Western snowy plover (*Charadrius nivosus nivosus*) and Soft bird's beak (*Cordylanthus mollis* spp. *mollis*) in the Napa-Sonoma Marsh. The next nearest Federal Critical Habitat is located 5.6 miles north of the parcel for Northern spotted owl (*Strix occidentalis*; NSO) near Arroyo Seco. The next nearest Federal Critical Habitat is located 7.9 miles northwest of the parcel for California red-legged frog (*Rana draytonii*; CRLF) in the Sonoma Mountains. The next nearest Federal Critical Habitat is located 9.2 miles northwest of the parcel for Contra Costa goldfields (*Lasthenia conjugens*) along CA-29. There is no other Federal Critical Habitat within 10 miles of the project parcel.

1.2.4 Special-Status Species Occurrences

Special-status species (SSS) are those species that receive special protections under either local, State, or Federal law and include both State and Federally Endangered and Threatened species of animals and plants, as well as candidate listing species and other species or populations of special concern for which additional information is required. The California Natural Diversity Database (CNDDB) provides information on most known SSS occurrences in the State of California. A description of the habitat requirements and likelihood of occurrence of potential SSS on the project parcel based the CNDDB database, published scientific literature, and the expertise of PEC staff, is provided in Appendix A, with a description of the nearest locality of all SSS known from within a 5 mile radius around the project parcel. Additionally, map-based representation of all of the SSS within an approximately 5 mile radius around the project site is provided in Appendices C & D.

1.2.4.1 SSS Animals

There are three special-status animal species with CNDDB polygons that include the entire USGS 7.5-minute quad that includes the project parcel. These species are Bank swallow (*Riparia riparia*) observed in 2000, California red-legged frog (*Rana draytonii*; CRLF) observed in 2004, and the Sonoma zerene fritillary butterfly (*Speyeria zerene sonomensis*) last observed in 1893. There are also two CNDDB polygons that are more specific that overlap with the project parcel and are centered on Schellville: Bank swallow (*Riparia riparia*) observed in 1893, and San Pablo song sparrow (*Melospiza melodia samuelis*) observed in 1901. The next nearest special-status animal species to the project parcel is Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) observed in 1985 located 1.9 miles south of the parcel.

1.2.4.2 SSS Plants

There is one special-status plant species whose CNDDB polygon overlaps with the project parcel, Dwarf downingia (*Downingia pusilla*). This species is not listed as Endangered or Threatened by the State or Federal Governments but is a California Native Plant Society (CNPS) List 2B.2 species and is thus included in Appendix A. This occurrence was observed in 1892 and the locality is listed as "Schellville" although the exact location is not known and the species has not been observed in the vicinity since then. The next nearest occurrence of dwarf downingia is 2.8 miles to the south near Arnold Drive observed in 1961. The next nearest special-status plant to the project parcel is Sonoma sunshine (*Blennosperma bakeri*), with two occurrences located 1.1 miles west and 1.2 miles southwest of the project parcel. The next nearest known occurrence of special-status plant species is Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*) located approximately 1.4 miles north of the project parcel near the town of Sonoma. The next nearest known occurrence of special-status plant species is Saline clover (*Trifolium hydrophilum*) located approximately 2.0 miles south of the project parcel near Arnold Drive.

1.3 METHODS

1.3.1 Records Search & Literature Review

Based on a review of the literature and all relevant databases, we compiled a list of special-status plant and animal species that are known to occur within 5 miles of the project site, or that occupy habitats that are known to be present on or near the project site (Appendix A). Sources of information referenced include the California Natural Diversity Database (CNDDB 2020), U.S. Fish and Wildlife Service Environmental Conservation Online System (USFWS 2020), the California Native Plants Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS 2020), and the knowledge of PEC staff familiar with the species and habitats of Sonoma County. Additional information on sensitive habitats including wetlands was obtained from the USFWS National Wetlands Inventory (NWI 2020), and County of Sonoma Geographic Information System Portal. Plant species included here are State or Federally Endangered or Threatened, and/or considered Rare by CDFW, and/or are recognized as special-status species by the CNPS or CDFW. Animal species included here are designated as State or Federally Endangered or Threatened, and/or California Species of Special Concern, and/or Fully Protected species by the CDFW. In addition, nests of most native bird species, regardless of their regulatory status, are protected from take or harassment under the Migratory Bird Treaty Act (MBTA) and California Fish and Wildlife Code.

1.3.2 Field Surveys

Two wildlife and botanical surveys were conducted at the site in 2020 on December 5th and 28th. The weather was clear and cool on both site visits, with temperature of 68 degF, relative humidity of 45% and wind speed of 2-4 mph, as measured by Kestrel 3000 handheld weather station. Approximately 1 inch of rain fell the preceding month (NWS 2020), and most perennial and annual vegetation was green, although few species had begun flowering. Due to the temperature and seasonal conditions, animal activity was moderately high at the time of the surveys. Starting with the portion

of the property nearest the proposed cultivation area, the entire project site was surveyed on foot by PEC Senior Biologist Dr. Christopher T. DiVittorio, recording the location and identity of all plant and animal species encountered. Plant voucher specimens were taken of any species that were not identifiable in the field, and that were not likely to be special-status. The vast majority of species were identifiable at the time of the survey, although some had to be identified based on vegetative parts. Photographs and voucher specimens were taken of any plants that were identified solely based on vegetative characters. The field survey was conducted by dividing the outdoor portions of the parcel into zones and cataloging all of the species found in each zone. Each zone was surveyed by walking in parallel lines until the whole zone was covered. Notes were also taken in each zone documenting the general site characteristics and current land uses, as well as any surface erosional features that may require remediation. Botanical specimens were taken back to the laboratory for identification if identification was not possible in the field. If species were not flowering at the time of the survey and morphological characteristics indicated that the species may be special-status, notes were made for a follow-up visit. Birds and nests were identified by call and with binoculars. Vocalizations, scat, tracks, feathers, burrows, nests, and molts were used for identification of animals present onsite. Any onsite aquatic habitats were observed for a minimum of ten minutes without movement in order to observe animals that may hide when approached.

2.0 RESULTS

2.1 REGIONAL ECOLOGICAL COMMUNITIES

Using field surveys, a review of published literature, and the knowledge of PEC staff, all of the natural communities present on and around the project site were assessed. Regionally, the dominant vegetation type is seeded and cut hayfields, vineyards, tidal marshland, and developed light industrial developments. Further to the north are vernal pools and increasing density of rural residences and vineyards (Figure 3).

2.2 NATURAL COMMUNITIES WITHIN THE STUDY AREA

The parcel consists almost entirely of annually seeded and cut hayfields (Figure 7). The furthest east portion of the site contains a partially covered stock feed yard (Figure 5). Due to the high intensity hay production, in the remainder of the site there is very little living plant or animal life. Between the hayfield and the stock yard is a narrow swale and potential wetland feature (Figures 9 & 10) that drains the central portion of the site towards a culvert that passes beneath CA-12 (Figure 8) and into a settling basin on the adjacent parcel. Although there are vernal pools in the vicinity, the soils onsite are well-drained and have been continuously disked, seeded, and cut for hay production for many years and there is no remaining topographic relief and no native vegetation present in the center of the cultivation area (Figure 7). There is also no evidence of salt marsh vegetation on this parcel, including pickleweed or saltgrass, although this habitat type is present on adjacent parcels. The specific community descriptions below are organized based on the zones that were surveyed, and the floristic results presented in Appendix B. We use as guidance the *Manual of California Vegetation* (Sawyer et al. 2009) for community classification. Overall, the Study Area consists of approximately 75% seeded and cut hayfield, 20% developed area including stock yards, and 5% wetland or drainage swale (Figure 3).

2.2.1 Seeded Hayfield

Approximately three-quarters of the parcel is covered by leveled and seeded hayfield that is cut several times per year. Species encountered in this area contain few native species and are primarily agricultural weeds. Species observed onsite include slender oats (***Avena barbata***), soft chess (***Bromus hordeaceous***), dogstail grass (*Cynosurus echinatus*), medusahead (*Elymus caput-medusae*), Italian rye (***Festuca perennis***), meadow barley (***Hordeum murinum***), Harding grass (*Phalaris aquatica*), yellow star thistle (***Centaurea solstitialis***), Italian thistle (*Circium pycnocephalus*), bull thistle (*Cirsium vulgare*), smooth cat's ear (***Hypochaeris glabra***), spiny sowthistle (***Sonchus asper***), common geranium (*Geranium molle*), broad leaf filaree (***Erodium botrys***), crane's bill geranium (***Geranium molle***), birds foot trefoil (***Acmispon americanus***), sheep sorrel (*Rumex acetocella*), field mustard (***Brassica rapa***), turkey-mullein (*Croton setiger*), cultivated radish (***Raphanus sativus***), rose clover

(*Trifolium hirtum*), white clover (*Trifolium repens*), alfalfa (*Medicago sativa*), foxglove (*Digitalis purpurea*), Queen Anne's lace (*Daucus carota*), hedge parsley (*Torilis nodosa*), common plantain (*Plantago major*), spring vetch (*Vicia sativa*), and field bindweed (*Convolvulus arvensis*).

2.2.2 Drainage Swale & Potential Wetland

The central swale that drains the parcel contains mostly upland grasses and forbs such as those present in the hayfield to the west and the developed areas to the east, however there are some areas where water appears to pond (e.g. Figure 10) and where sufficient cover of hydrophytic vegetation may exist to qualify as jurisdictional wetland. Species in these areas include velvet grass (*Holcus lanatus*), Canada horseweed (*Erigeron canadensis*), coyote brush (*Baccharis pilularis*), bristly ox-tongue (*Helminthotheca echioides*), common cattail (*Typha latifolia*), Fuller's teasel (*Dipsacus fullonum*), bog rush (*Juncus patens*), spotted spurge (*Euphorbia maculata*), spiny cocklebur (*Xanthium spinosum*), cheeseweed (*Malva parviflora*), nut sedge (*Cyperus eragrostis*), pennyroyal (*Mentha pulegium*), corn spurry (*Spergula arvensis*), curly dock (*Rumex crispus*), nit grass (*Gastridium phleoides*), and Himalayan blackberry (*Rubus armeniacus*).

2.3 WILDLIFE

Wildlife activity was moderate due to the time of year and the weather. Few bird species were observed in the cultivation area, however there were numerous bird species in wetland areas surrounding the parcel and flying over head due to the proximity to San Francisco Bay marshlands. Species of bird observed during the two site visits include crow (*Corvus brachyrhynchos*), turkey vulture (*Cathartes aura*), barn swallow (*Hirundo rustica*), mourning dove (*Zenaida macroura*), Western bluebird (*Sialia mexicana*), lesser goldfinch (*Spinus psaltria*), Western scrub jay (*Aphelocoma californica*), red-tailed hawk (*Buteo jamaicensis*), great blue heron (*Ardea herodias*), snowy egret (*Egretta thula*), Anna's hummingbird (*Calypte anna*), white-crowned sparrow (*Zonotrichia leucophrys*), Western gull (*Larus occidentalis*), Great cormorant (*Phalacrocorax carbo*), White-tailed kite (*Elanus leucurus*), Brewer's blackbird (*Euphagus cyanocephalus*), and red-shouldered blackbird (*Agelaius phoeniceus*). Other species observed directly or indirectly include excavation mounds of pocket gopher (*Thomomys bottae*), runways of California vole (*Microtus californicus*), scat of black-tailed jackrabbit (*Lepus californicus*), and scat of coyote (*Canis latrans*).

2.4 WETLANDS & WATERCOURSES

Potential wetlands onsite were assessed based on the likelihood to satisfy the three-tier wetland delineation criteria used by the Army Corps of Engineers *Wetland Delineation Manual* (ACOE 1987), however a protocol-level wetland delineation was not performed. For this BA, we identified potential wetlands in Figure 3 based on the presence of one of the three ACOE criteria, usually hydrophytic vegetation cover but sometimes soil indicators or hydrology or a combination of these. Based on these criteria, there is one location onsite that appears to qualify as jurisdictional wetlands.

There is a drainage swale with some vegetation with wetland characteristics present, between the hayfield and the stock yard. This area alternates between upland swale (Figure 9) and potential wetland (Figure 10), and drains to the north, before being conveyed beneath CA-12 via concrete culvert/bridge (Figure 8) and passing into a drainage basin offsite to the north.

2.5 SOILS

The parent materials on the project parcel are typical of southwestern Sonoma County, with easily erodible sediments of the Franciscan Formation dissected by highly seasonal rivers (USGS 1968). The majority of the project parcel is mapped as Zamora silty clay loam, moist, 0-2% slopes, MLRA 14 (ZaA). This soil type also has lesser proportions of Sebastopol (8%), Steinbeck (7%) and is designated prime farmland if irrigated. The very southwest and corner of the parcel is designated Reyes clay, 0-2% slopes (#301), with lesser proportions of Novato (3%) and Clear Lake (3%) soils. This soil type is designated not prime farmland. The far eastern side of the site at the stock yard is mapped as Haire clay loam, 0-9%, HcC. This soil type also has lesser proportions of Diablo (4%), Arbuckle (2%), and Zamora (2%) soils, and is designated farmland of statewide importance. Parent materials of all of the above soil types are alluvium. There are no serpentine or other ultramafic rock types onsite and no serpentine-derived soils. There are no alkalai or vernal pool soil types onsite, although the entire parcel was historically tidal marsh.

3.0 SUMMARY & CONCLUSIONS

No special-status plant species were observed during the surveys performed at the site in December 2020. No impacts are predicted for any of the State or Federal special-status plant species in Appendix A based on lack of actual sightings, and lack of suitable habitat in the proposed cultivation area. Although there is an occurrence of Dwarf downingia that overlaps with the parcel, that occurrence was over 100 years old and there is no suitable vernal pool habitat in the project area to support this species. There is a small amount of potential wetland habitat in the central swale, however there are 100-foot setbacks required as per State Water Resources Control Board (SWRCB) *Cannabis* General Order, and as long as no work occurs within these setback areas there should be no impacts to the wetland or any species in it. The whole parcel is also in Valley Oak Habitat however there are no individuals of Valley oak onsite.

No special-status animal species were observed during the surveys performed at the site in December 2020. No impacts are predicted for any of the State or Federal special-status animal species or their habitats listed in Appendix A based on lack of actual sightings, and lack of suitable habitat in the proposed cultivation area. Although there is Federal Critical Habitat for Chinook salmon on watercourses nearby, there should be no discharges of sediment that would adversely affect these species. The parcel is also in the same quad as CRLF, however there is no suitable breeding or estivation habiat onsite for this or any other amphibian species due to the extensive history of hay cultivation onsite. Ploughing and seeding and leveling the fields eliminates any topography for vernal pools, and also eliminates any cracks or burrows that would be used for estivation. No impacts are predicted to any bird species as well as long as standard BMPs related to wildlife conservation are observed including no aerial wires and not using anticoagulant rodenticides as described in Appendix F.

Potential wetlands onsite were assessed visually by estimating the cover of wetland plants, and by examining site hydrology, however a protocol-level wetland delineation was not performed. Based on these results, we do not recommend that a wetland delineation should be required since any wetlands shown in Figure 3 are protected inside the aforementioned 100-foot setbacks required by the SWRCB. There is a channel shown in Appendix G on the County riparian corridor database running along the western boundary of the parcel, however this appears to be out of date since there is no channel on this property line any more. Numerous other channels in this area that were based on the USGS topographic maps are out of date since hayfield cultivation generally redirected drainage in these parcels. No discharge of sediment is anticipated as long as cultivation remains in previously cultivated areas.

4.0 REGULATORY FRAMEWORK

4.1 FEDERAL ENDANGERED SPECIES ACT

The U.S. Fish and Wildlife Service (USFWS) has jurisdiction over federally-listed threatened and endangered species under the federal Endangered Species Act (FESA). The USFWS also maintains a list of 'proposed' species and candidate species that are not legally protected under the FESA, but are often included in their review of a project as they may become listed in the near future. The FESA protects listed animal species from harm or "take" which is broadly defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Take can also include habitat modification or degradation that results in death or injury to a listed species. An activity can be defined as a "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under FESA if they occur on federal lands. Pursuant to the requirements of the FESA, a federal agency reviewing a proposed project within its jurisdiction must determine whether any federally-listed threatened or endangered species (plants and animals) may be present in the project area and determine whether the proposed project may affect such species. Any activities that could result in the take of a federally-listed species will require formal consultation with the USFWS.

4.2 CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) protects any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the California Department of Fish and Wildlife (CDFW) has jurisdiction over state-listed species (California Fish and Wildlife Code 2070). Take of state-listed species requires a permit from CDFW, which is granted only under strictly limited circumstances. Additionally, the CDFW maintains lists of "species of special concern" that are defined as animal species that appear to be vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats. Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed or proposed endangered or threatened species may be present in the project area and determine whether the proposed project may result in a significant impact on such species.

4.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 15380(b) of the California Environmental Quality Act (CEQA) Guidelines provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in FESA and CESA and the section of the California Fish and Wildlife Code dealing with rare or endangered plants or animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts, if it finds that the species meets the criteria of a threatened or endangered species.

4.4 CLEAN WATER ACT

Under Section 404 of the federal Clean Water Act, the U.S. Army Corps of Engineers (Corps) is responsible for regulating the discharge of fill material into waters of the United States. Waters of the U.S. and their lateral limits are defined in 33 CFR Part 328.3 (a) and include streams that are tributary to navigable waters and their adjacent wetlands. Wetlands that are not adjacent to waters of the U.S. are termed "isolated wetlands" and, depending on the circumstances, may also be subject to Corps jurisdiction. In general, a Corps permit must be obtained before placing fill in wetlands or other waters of the U.S. The type of permit depends on the acreage involved and the purpose of the proposed fill. Minor amounts of fill are sometimes covered by Nationwide Permits, which were established to streamline the permit process for projects with "minimal" impacts on wetlands or other waters of the U.S. An Individual Permit is required for projects that result in more than a minimal impact on jurisdictional areas. The Individual Permit process requires evidence that fill of jurisdictional areas has been minimized to the extent "practicable" and provides an opportunity for public review of the project.

4.5 CALIFORNIA WATER QUALITY REGULATORY PROGRAMS

Pursuant to Section 401 of the federal Clean Water Act and the state's Porter-Cologne Act, projects that are regulated by the Corps must obtain water quality certification from the Regional Water Quality Control Board (RWQCB). This certification ensures that the project will uphold state water quality standards. The RWQCB sometimes asserts jurisdiction over wetlands that the Corps does not (e.g. certain isolated wetlands) and may impose mitigation requirements even if the Corps does not. The CDFW also exerts jurisdiction over the bed and banks of watercourses and water bodies according to provisions of Section 1601 to 1603 of the Fish and Wildlife Code. The Fish and Wildlife Code requires a Stream Alteration Agreement for the fill or removal of material within the bed and banks of a watercourse or water body.

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FIGURE 1: REGIONAL LOCATION

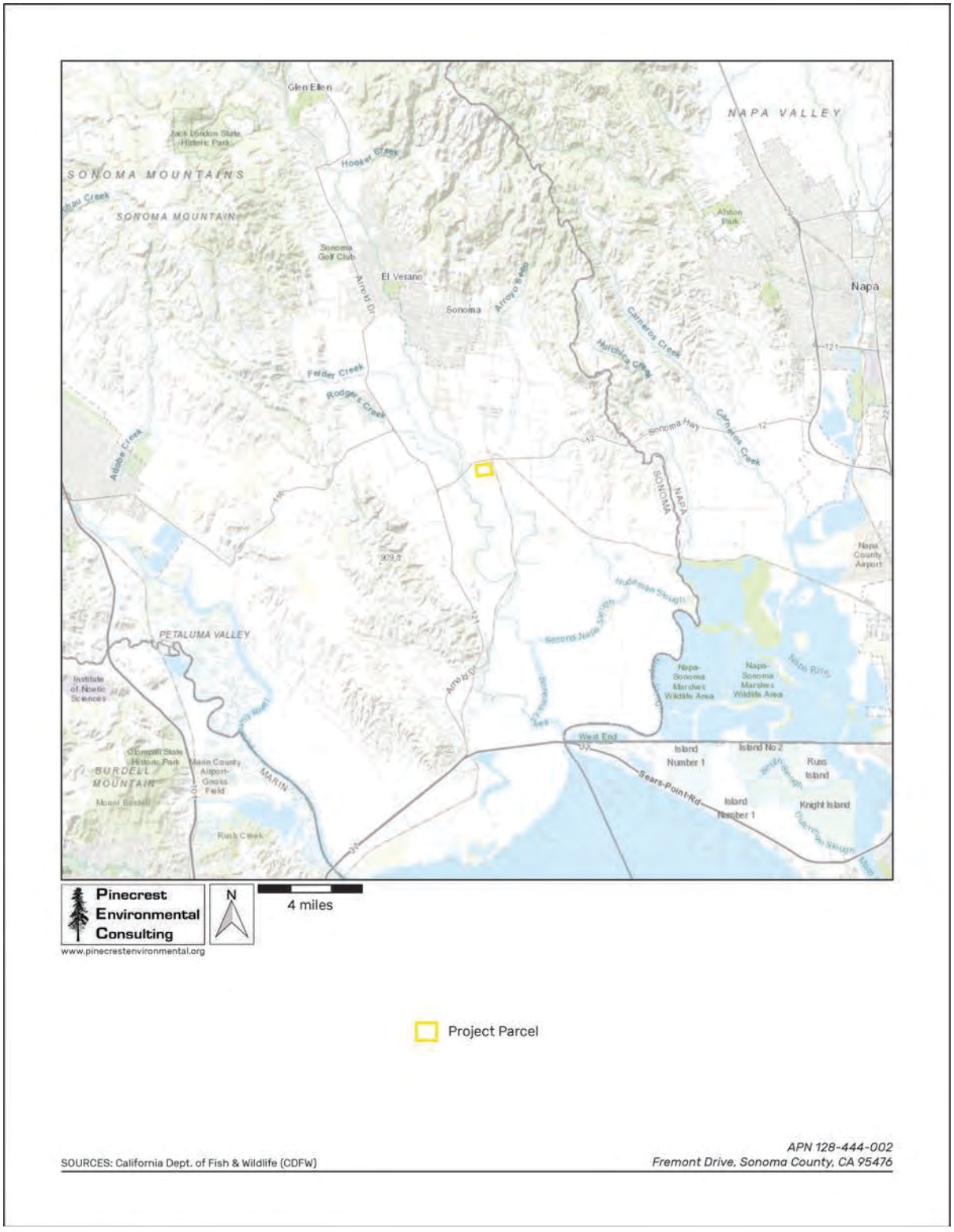


FIGURE 2: 40 FOOT CONTOURS



FIGURE 3: WATERCOURSES



FIGURE 4: PHOTOGRAPH OF SOUTH FENCELINE



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-444-002
Fremont Drive, Sonoma County, CA 95476

FIGURE 5: PHOTOGRPAH OF EAST FENCELINE



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-444-002
Fremont Drive, Sonoma County, CA 95476

FIGURE 6: PHOTOGRAPH OF NORTH FENCELINE



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-444-002
Fremont Drive, Sonoma County, CA 95476

FIGURE 7: PHOTOGRAPH OF POTENTIAL CULTIVATION AREA



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-444-002
Fremont Drive, Sonoma County, CA 95476

FIGURE 8: PHOTOGRAPH OF CULVERT



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-444-002
Fremont Drive, Sonoma County, CA 95476

FIGURE 9: PHOTOGRAPH OF DRAINAGE SWALE



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-444-002
Fremont Drive, Sonoma County, CA 95476

FIGURE 10: PHOTOGRAPH OF POTENTIAL WETLAND



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-444-002
Fremont Drive, Sonoma County, CA 95476

APPENDIX A: SPECIAL-STATUS SPECIES CONSIDERED

The following is a list of special-status plant and animal species generated based on knowledge of the species and habitats of Sonoma County by PEC staff, from various State and Federal databases, and from the California Natural Diversity Database (CNDDB). CNDDB occurrences within 5 miles of the project site are shown in bold.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
PLANTS			
Alkalai milk-vetch (*Astragalus tener* var. *tener*)	—/—/1B.2	Valley grasslands, alkali sinks	None: No suitable alkalai habitat exists onsite.
Baker's goldfields (*Lasthenia californica* ssp. *bakeri*)	—/—/1B.2	Coastal grasslands	Low: Some grassland habitat exists, although this species prefers coastal habitats.
Baker's larkspur (*Delphinium bakeri*)	—/—/1B.1	Coastal scrub	None: No coastal scrub habitat exists onsite.
Baker's manzanita (*Arctostaphylos bakeri* ssp. *bakeri*)	—/—/1B.1	Serpentine chaparral, mixed evergreen forest	None: No serpentine, chaparral, or forest habitat exists onsite.
Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*)	—/—/1B.1	Vernal pools, riparian woodland	None: No vernal pools or other wetlands exist onsite.
Bent flowered fiddleneck (*Amsinckia lunaris*)	—/—/1B.2	Valley grassland, foothill woodland	Low: Some grassland habitat exists onsite.
Big scale balsamroot (*Balsamorhiza macrolepis*)	**—/—/1B.2**	**Valley grassland**	**Low: Some grassland habitat exists onsite.**
Big tarplant (*Blepharizonia plumosa*)	—/—/1B.1	Foothill woodland, chaparral	Very Low: Some grassland habitat exists onsite.
Blasdale's bent grass (*Agrostis blasdalei*)	—/—/1B.2	Coastal prairie	Low: Some grassland habitat exists onsite.
Blue coast gilia (*Gilia capitata* ssp. *chamissonis*)	—/—/1B.1	Coastal sand dunes	None: No sand dune habitat exists onsite.
Bogg's Lake hedge-hyssop (*Gratiola heterosepala*)	—/—/1B.2	Freshwater marsh, riparian	None: No suitable wetland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Bristly sedge (*Carex comosa*)	—/—/2B.1	Freshwater marsh, riparian	Low: Some potential wetland habitat exists onsite.
Brownish beaked-rush (*Rhynchospora capitellata*)	—/—/2B.2	Freshwater marsh, riparian	Very Low: Some potential habitat exists onsite.
Burke's goldfields (*Lasthenia burkei*)	FE/SE/1B.1	Vernal pools	None: No vernal pool habitat exists onsite.
California alkalai grass (*Puccinellia simplex*)	—/—/1B.2	Grassland, riparian	Very Low: No suitable alkalai habitat exists onsite.
California beaked-rush (*Rhynchospora californica*)	—/—/1B.1	Freshwater wetlands	Very Low: Some potential wetland habitat exists onsite.
Calistoga ceanothus (*Ceanothus divergens*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Caper-fruited tropidocarpum (*Tropidocarpum capparideum*)	—/—/1B.1	Valley grassland	Very Low: Some grassland habitat exists onsite.
Clara Hunt's milk vetch (*Astragalus claranus*)	—/—/1B.1	Chaparral, grassland	None: No chaparral habitat exists onsite.
Coast lily (*Lilium maritimum*)	—/—/1B.1	Coastal prairie	Low: Some grassland habitat exists onsite.
Coastal bluff morning glory (*Calystegia purpurata* ssp. *saxicola*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite, although this species prefers coastal habitats.
Cobb Mountain lupine (*Lupinus sericatus*)	—/—/1B.2	Chaparral, pine forest	None: No chaparral or pine forest habitat exists onsite.
Colusa layia (*Layia septentrionalis*)	—/—/1B.2	Chaparral, valley grassland	Low: Some grassland habitat exists onsite; no chaparral habitat onsite.
Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*)	—/—/1B.1	Valley grassland, wetlands	Low: Some grassland habitat exists onsite.
Congested hayfield tarplant (*Hemizonia congesta* ssp. *congesta*)	**—/—/1B.2**	**Grassland, coastal scrub**	**Low: Some grassland habitat exists onsite.**
Contra Costa goldfields (*Lasthenia conjugens*)	**FE/—/1B.1**	**Vernal pool**	**None: No vernal pool habitat exists onsite.**
Cunningham marsh cinquefoil (*Potentilla uliginosa*)	—/—/1A	Freshwater marsh	None: No suitable wetland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Deceiving sedge (*Carex saliniformis*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Dwarf downingia (*Downingia pusilla*)	**—/—/2B.2**	**Vernal pool, freshwater wetland**	**None: No vernal pool habitat exists onsite.**
Fragrant fritillary (*Fritillaria liliacea*)	—/—/1B.2	Freshwater wetland, coastal prairie	Low: No wetlands exist onsite, and this species prefers coastal habitats.
Franciscan onion (*Allium peninsulare* var. *franciscanum*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Golden larkspur (*Delphinium luteum*)	FE/SR/1B.1	Chaparral, coastal prairie	Very Low: Some grassland habitat exists onsite; no chaparral onsite.
Greene's narrow-leaved daisy (*Erigeron greenei*)	—/—/1B.2	Serpentine grassland	None: No serpentine habitat exists onsite.
Holly-leaved ceanothus (*Ceanothus purpureus*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*)	—/—/1B.2	Foothill woodland	None: No woodland habitat exists onsite.
Jepson's coyote thistle (*Eryngium jepsonii*)	—/—/4.2	Wetlands and vernal pools	None: No vernal pool habitat exists onsite.
Jepson's leptosiphon (*Leptosiphon jepsonii*)	—/—/1B.2	Chaparral, serpentine grassland	None: No chaparral or serpentine habitat exists onsite.
Kenwood marsh checkerbloom (*Sidalcea oregana* ssp. *valida*)	FE/SE/1B.1	Freshwater wetlands	None: No suitable wetland habitat exists onsite.
Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*)	—/—/1B.3	Chaparral, foothill woodland	None: No woodland or chaparral habitat exists onsite.
Legenere (*Legenere limosa*)	—/—/1B.1	Freshwater wetland, valley grassland	None: No suitable wetland habitat exists onsite.
Livermore tarplant (*Deinandra bacigalupii*)	—/—/1B.1	Grassland	Low: Some grassland habitat exists onsite.
Loch Lomond button-celery (*Eryngium constancei*)	FE/SE/1B.1	Freshwater wetland	Very Low: Some potential wetland habitat exists onsite.
Many-flowered navarretia (*Navarretia leucocephala* spp. *plieantha*)	—/—/1B.2	Vernal pools	None: No vernal pool habitat exists onsite.
Maple leaved checkerbloom (*Sidalcea malachroides*)	—/—/4.2	Coastal prairie, coniferous forest	Very Low: Some grassland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Marin knotweed (*Polygonum marinense*)	—/—/3.1	Coastal salt marsh	None: No coastal salt marsh habitat exists onsite.
Marsh microseris (*Microseris paludosa*)	—/—/1B.2	Northern coastal scrub	None: No scrub habitat exists onsite, and this species prefers coastal habitats.
Marsh pea (*Lathyrus palustris*)	—/—/2B.1	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Mt. St. Helena morning-glory (*Calystegia collina* ssp. *oxyphylla*)	—/—/4.2	Serpentine chaparral	None: No serpentine habitat exists onsite.
Napa checkerbloom (*Sidalcea hickmanii* ssp. *napensis*)	—/—/1B.1	Chaparral	None: No woodland habitat exists onsite.
Napa false indigo (*Amorpha californica* var. *napensis*)	**—/—/1B.2**	**Forest, woodland**	**None: No woodland habitat exists onsite.**
Narrow-anthered brodiaea (*Brodiaea leptandra*)	**—/—/1B.2**	**Foothill woodland, grassland**	**None: No woodland habitat exists onsite.**
North Coast semaphore grass (*Pleuropogon hooverianus*)	—/—/1B.1	Freshwater wetland, vernal pools	None: No vernal pool habitat exists onsite.
Oregon polemonium (*Polemonium carneum*)	—/—/2B.2	Coastal scrub, yellow pine forest	None: No forest or coastal scrub habitat exists onsite.
Oval-leaved viburnum (*Viburnum ellipticum*)	**—/—/2B.3**	**Chaparral**	**None: No chaparral habitat exists onsite.**
Pacific gilia (*Gilia capitata* ssp. *pacifica*)	—/—/1B.2	Coastal prairie, woodland, chaparral	Low: Few open areas exist onsite, and species prefers coastal habitats.
Pappose tarplant (*Centromadia parryi* ssp. *parryi*)	**—/—/1B.2**	**Grassland, chaparral**	**None: No chaparral habitat exists onsite.**
Pennell's bird's beak (*Cordylanthus tenuis* ssp. *capillaris*)	—/—/1B.2	Chaparral	Very Low: No chaparral habitat exists onsite.
Perennial goldfields (*Lasthenia californica* ssp. *macrantha*)	—/—/1B.2	Northern coastal scrub	Very Low: Some grassland habitat exists onsite.
Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*)	—/—/1B.2	Grassland, chaparral	Very Low: Parasitic plant, typical host plants not known from the property, no chaparral onsite.
Petaluma popcornflower (*Plagiobothrys mollis* var. *vestitus*)	—/—/1A	Coastal salt marsh	None: No coastal salt marsh habitat exists onsite.
Pink sand verbena (*Abronia umbellata* var. *breviflora*)	—/—/1B.1	Coastal sand dunes	None: No sand dune habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Pitkin Marsh lily (*Lilium pardalinum* ssp. *pitkinense*)	FE/SE/1B.1	Freshwater wetlands	None: No suitable wetland habitat exists onsite. Presumed extinct.
Pitkin Marsh paintbrush (*Castilleja uliginosa*)	FE/SE/1A	Freshwater wetlands	None: No suitable wetland habitat exists onsite. Presumed extinct.
Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*)	—/—/1B.2	Coastal salt marsh	None: No salt marsh habiat exists onsite.
Point Reyes salty bird's beak (*Chloropyron maritimum* ssp. *palustre*)	**—/—/1B.2**	**Coastal salt marsh**	**None: No salt marsh habitat exists onsite.**
Purple-stemmed checkerbloom (*Sidalcea malviflora* spp. *purpurea*)	—/—/1B.2	Wetlands	None: No suitable wetland habitat exists onsite.
Raiche's red ribbons (*Clarkia concinna* spp. *raichei*)	—/—/1B.1	Coastal scrub	None: No coastal scrub habitat exists onsite.
Rincon Ridge ceanothus (*Ceanothus confusus*)	**—/—/1B.1**	**Chaparral**	**None: No chaparral habitat exists onsite.**
Rincon Ridge manzanita (*Arctostaphylos stanfordiana* ssp. *decumbens*)	—/—/1B.1	Chaparral	None: No chaparral habitat exists onsite.
Round-headed beaked-rush (*Rhynchospora globularis*)	—/—/2B.1	Freshwater wetlands, riparian	Very Low: Some potential wetland habitat exists onsite.
Round-leaved filaree (*California macrophylla*)	—/—/1B.2	Foothill grassland	Medium: Some grassland habitat exists onsite.
Saline clover (*Trifolium hydrophilum*)	**—/—/1B.2**	**Wetland, riparian**	**None: No wetland habitat exists onsite.**
Sebastopol meadowfoam (*Limnanthes vinculans*)	FE/SE/1B.1	Freshwater wetland, vernal pools	None: No vernal pool habitat exists onsite.
Short-leaved evax (*Hesperevax sparsiflora var. brevifolia*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Soft salty bird's beak (*Chloropyron molle* ssp. *molle*)	FE/ST/1B.2	Coastal salt marsh	None: No salt marsh habitat exists onsite.
Sonoma alopecurus (*Alopecurus aequalis* var. *sonomensis*)	FE/—/1B.1	Freshwater wetland, vernal pools	None: No vernal pool habitat exists onsite.
Sonoma beardtongue (*Penstemon newberryi* var. *sonomensis*)	—/—/1B.3	Chaparral	Very Low: Some grassland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Sonoma ceanothus (*Ceanothus sonomensis*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Sonoma spineflower (*Chorizanthe valida*)	—/—/1B.1	Coastal prairie	Low: Some grassland habitat exists onsite.
Sonoma sunshine (*Blennosperma bakeri*)	**—/—/1B.1**	**Valley grassland, freshwater wetland**	**Very Low: Some grassland habitat exists onsite, although this species prefers wetlands.**
Supple daisy (*Erigeron supplex*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Swamp harebell (*Campanula californica*)	—/—/1B.2	Coastal prairie, freshwater wetlands	None: No wetlands exist on site, and this species prefers coastal habitats.
Thin-lobed horkelia (*Horkelia tenuiloba*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Thurber's reed grass (*Calamagrostis crassiglumis*)	—/—/2B.1	Coastal scrub, freshwater wetland	Very Low: Some wetland habitat exists outside of the project area, although this species prefers coastal habitats.
Two-fork clover (*Trifolium amoenum*)	—/—/1B.1	Grassland, wetland	Medium: Some grassland habitat exists onsite.
Western leatherwood (*Dirca occidentalis*)	—/—/1B.2	Foothill woodland, chaparral	None: No chaparral or woodland habitat exists onsite.
White beaked-rush (*Rhynchospora alba*)	—/—/2B.2	Wetlands, riparian	None: No suitable wetland habitat exists onsite.
White flowered rein orchid (*Piperia candida*)	—/—/1B.2	Yellow pine forest	None: No forest habitat exists onsite.
Wolly headed gilia (*Gilia capitata* ssp. *tomentosa*)	—/—/1B.1	Coastal prairie	Low: Some grassland habitat exists onsite.
MOSSES, LICHENS & LIVERWORTS			
Methuselah's beard lichen (*Dolichousnea longissima*)	—/—/4.2	Old growth conifer and hardwood forests	None: No old growth Douglas fir forest exists onsite.
Slender silver moss (*Anomobryum julaceum*)	—/—/4.2	Rocky substrates in forests	None: No forest habitat exists onsite.
Coastal triquetrella (*Triquetrella californica*)	—/—/1B.2	Forest, woodland	None: No forest habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
FISH			
Chinook Salmon Sacramento River Winter Run (*Oncorhynchus kisutch*)	FE/SE/—	Freshwater streams, open ocean and estuaries	None: No streams exist onsite.
Chinook Salmon Central Valley Spring Run (*Oncorhynchus kisutch*)	FT/SE/—	Freshwater streams, open ocean and estuaries	None: No streams exist onsite.
Coho Salmon Central California Coast ESU (*Oncorhynchus kisutch*)	FE/SE/—	Freshwater streams, open ocean and estuaries	None: No streams exist onsite.
Gualala roach (*Lavinia symmetricus parvipinnis*)	—/SSC/—	Freshwater streams	None: No streams exist onsite.
Longfin smelt (*Spirinchus thaleichthys*)	FT/ST/—	Estuaries and coastal lakes	None: No suitable estuary habitat exists onsite.
Navarro roach (*Lavinia symmetricus navarroensis*)	—/SSC/—	Freshwater streams	None: No streams exist onsite.
Sacramento splittail (*Pogonichthys macrolepidotus*)	—/SSC/—	Low gradient freshwater streams	None: No streams exist onsite.
Steelhead Central California Coast DPS (*Oncorhynchus mykiss irideus*)	**FT/—/—**	**Freshwater streams, open ocean and estuaries**	**None: No streams exist onsite.**
Steelhead Northern California DPS (*Oncorhynchus mykiss irideus*)	FT/—/—	Freshwater streams, open ocean and estuaries	None: No streams exist onsite.
Tidewater goby (*Eucyclogobius newberryi*)	FE/SSC/—	Brackish coastal lagoons and streams	None: No brackish coastal lagoons exist onsite.
AMPHIBIANS & REPTILES			
California giant salamander (*Dicamptodon ensatus*)	—/SSC/—	Wetlands and riparian areas	None: No suitable habitat exists onsite.
California glossy snake (*Arizona elegans occidentalis*)	—/SSC/—	Grasslands	Low: Some habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
California red-legged frog (*Rana draytonii*)	**FT/SSC/—**	**Vernal pools, seasonal pools, stock ponds, and associated grasslands**	**None: No suitable wetland habitat exists onsite.**
California tiger salamander (*Ambystoma californiense*)	FT/SSC/—	Ponds, streams, drainages, and associated uplands	Low: No suitable wetland habitat exists onsite, some estivation habitat may exist onsite.
Foothill yellow-legged frog (*Rana boylii*)	—/SSC/—	Wetlands, riparian, streams and ponds	None: No suitable wetland habitat exists onsite.
Red bellied newt (*Taricha rivularis*)	—/SSC/—	Woodland streams, riparian corridors	None: No suitable stream habitat exists onsite.
San Joaquin coachwhip (*Masticophis flagellum ruddocki*)	—/SSC/—	Grasslands	Medium: Some suitable grassland habitat exists onsite.
Western pond turtle (*Emys marmorata*)	**—/SSC/—**	**Slow-moving creeks, streams, ponds, rivers, ditches; sandy banks and fields for nesting**	**None: No suitable pond habitat exists onsite.**
INVERTEBRATES			
Behren's silverspot butterfly (*Speyeria zerene behrensii*)	FE/SSC/—	Coastal prairie	None: Requires blue violet to reproduce; none onsite.
California brackishwater snail (*Tryonia imitator*)	—/SSC/—	Brackish wetlands	None: No suitable wetland habitat exists onsite.
California floater (*Anodonta californiensis*)	—/SSC/—	Freshwater ponds, streams	None: No suitable stream habitat exists onsite.
California freshwater shrimp (*Syncaris pacifica*)	**FE/SE/—**	**Freshwater ponds, streams**	**None: No suitable vernal pool habitat exists onsite.**
California linderiella (*Linderiella occidentalis*)	—/SSC/—	Vernal pools	None: No vernal pool habitat exists onsite.
Crotch bumble bee (*Bombus crotchii*)	—/SSC/—	Grassland and chaparral	Medium: Some grassland habitat exists onsite.
Leech's skyline diving beetle (*Hydroporus leechi*)	—/SSC/—	Freshwater ponds	None: No suitable pond habitat exists onsite.
Myrtle silverspot butterfly (*Speyeria zerene myrtleae*)	FE/SSC/—	Coastal prairie, chaparral	None: Requires western dog violet for reproduction; none onsite.
Monarch butterfly California overwintering Population #1 (*Danaus plexippus*)	**—/SSC/—**	**Large trees required for roosting.**	**None: Site does not have trees suitable for roosting.**

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Obscure bumble bee (*Bombus caliginosus*)	—/SSC/—	Grassland, foothill woodland, chaparral	Medium: Some grassland habitat exists onsite.
Opler's longhorn moth (*Adela oplerella*)	**—/SSC/—**	**Usually associated with *Platystemon* (creamcups)**	**Very Low: No suitable host plants onsite.**
Oregon floater (*Anodonta oregonensis*)	—/SSC/—	High order freshwater streams	None: No suitable stream habitat exists onsite.
Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*)	—/SSC/—	Freshwater ponds	None: No pond habitat exists onsite.
Sonoma zerene fritillary (*Speyeria zerene sonomensis*)	**—/SSC/—**	**Grasslands and meadows**	**None: Requires *Viola* for reproduction; none onsite.**
Tomales isopod (*Caecidotea tomalensis*)	—/SSC/—	Ponds and streams	None: No pond or stream habitat exists onsite.
Western bumblebee (*Bombus occidentalis*)	**—/SSC/—**	**Grassland**	**Medium: Some grassland habitat exists onsite.**
Vernal pool andrenid bee (*Andrena blennospermatis*)	**—/SSC/—**	**Upland areas near vernal pools**	**None: No vernal pool habitat exists onsite.**
BIRDS			
American perigrine falcon (*Falco peregrinus anatum*)	—/SSC/—	Forages in open grasslands, nests in trees	Very Low: No suitable nesting or foraging habitat exists.
Bank swallow (*Riparia riparia*)	**FE/SE/—**	**Migratory, typically found near lakes and streams**	**Medium: One very old occurrence of this species from the site.**
Black swift (*Cypseloides niger*)	—/SSC/—	Cliff faces near water	None: No suitable stream habitat exists onsite.
Burrowing owl (*Athene cunicularia*)	**—/SSC/—**	**Grasslands**	**None: No suitable grassland habitat exists onsite.**
California black rail (*Laterallus jamaicensis coturniculus*)	**FE/SE/—**	**Coastal salt marshes and mudflats**	**None: No suitable salt marsh habitat exists onsite.**
California horned lark (*Eremophila alpestris actia*)	—/SSC/—	Herbaceous vegetation, chaparral	None: No suitable scrub or chaparral habitat exists onsite.
Cooper's hawk (*Accipiter cooperii*)	—/WL/—	Forages over open grassland.	Low: Some suitable foraging habitat exists onsite. No suitable nesting habitat onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Ferruginous hawk (***Buteo regalis***)	—/SSC/—	Forages over open grassland. Nests in old-growth trees.	Low: Little suitable foraging habitat exists onsite. No suitable nesting habitat onsite.
Golden eagle (*Aquila chrysaetos*)	—/SSC/—	Forages over open grassland. Nests in old-growth trees.	Very Low: Little suitable foraging habitat exists onsite. No suitable nesting habitat.
Grasshopper sparrow (*Ammodramus savannarum*)	—/SSC/—	Forages over open grassland.	Low: Some suitable foraging habitat exists onsite.
Great egret (*Ardea alba*)	FE/SE/—	Nests in colonies in trees, forages in wetlands and grasslands	Medium: Some suitable habitat exists onsite.
Ridgway's rail (*Rallus obsoletus obsoletus*)	**FE/SE/—**	**Mudflats and tidal sloughs**	**None: No suitable tidal habitat exists onsite.**
Salt marsh common yellowthroat (*Geothlypis trichas sinuosa*)	**—/SSC/—**	**Forages in grasslands and nests in dense freshwater marshes**	**Very Low: No suitable nesting habitat exists. Some suitable foraging habitat.**
San Pablo song sparrow (*Melospiza melodia samuelis*)	**—/SSC/—**	**Forages in grasslands and nests in dense freshwater marshes**	**Very Low: No suitable nesting habitat exists. Some suitable foraging habitat.**
Tricolored blackbird (*Agelaius tricolor*)	—/SSC/—	Forages in grasslands and nests in dense freshwater marshes	Low: Some suitable nesting habitat exists onsite. Some suitable foraging habitat onsite.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	—/SE/—	Woodland, riparian	Very Low: No suitable nesting habitat exists. Some suitable foraging habitat exists.
White-tailed kite (*Elanus leucurus*)	—/CFP/—	Prefers to nest in marshes adjacent to deciduous forests.	Very Low: No suitable nesting habitat exists. Some suitable foraging habitat exists.
Yellow rail (*Coturnicops noveboracensis*)	**—/SSC/—**	**Breeds in marshes, forages in wet meadows.**	**None: No marsh habiat onsite.**
MAMMALS			
American badger (*Taxidea taxus*)	—/SSC/—	Open grassland habitats with plenty of prey. Prefers complex topography for burrows and cover.	Low: Insufficient habitat complexity exists for this territorial animal.
Big free-tailed bat (*Nyctinomops macrotis*)	—/SSC/—	Forages over open areas, roots in trees or caves	Low: Some suitable foraging habitat available.
Fringed myotis (*Myotis thysanodes*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Low: Some foraging habitat exists in the project area.
Hoary bat (*Lasiurus cinereus*)	—/SSC/—	Forages over open areas, roots in trees or caves at high altitude.	None: Foraging limited to high altitudes; no suitable roosts in the project area.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Long-eared myotis (*Myotis evotis*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Low: Some foraging habitat exists; some suitable roosts in the project area.
Long-legged myotis (*Myotis volans*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Very Low: Some foraging habitat exists; no suitable roosts in the project area.
North American porcupine (*Erethizon dorsatum*)	—/SSC/—	Require rocky areas or trees for dens, abundant open space for foraging.	Very Low: Some foraging habitat exists; little suitable den habitat in the project area.
Pallid bat (*Antrozous pallidus*)	**—/SSC/—**	**Common in open dry habitats with rocky areas for roosting.**	**Very Low: Some foraging habitat exists; no suitable roosts in the project area.**
Salt marsh harvest mouse (*Reithrodontomys raviventris*)	**FE/SE/—**	**Salt marshes**	**None: No salt marsh habitat exists onsite.**
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE/ST/—	Grasslands	Very Low: No suitable burrowing habitat exists.
Sonoma tree vole (*Arborimus pomo*)	—/SSC/—	Old growth Douglas fir canopies.	None: No forest habitat exists onsite.
Townsend's big-eared bat (*Corynorhinus townsendii*)	—/SSC/—	Hibernate in mines or caves, roost in man made structures and caves, forages at night.	Low: Few man-made structures or caves exist onsite that are suitable for roosting. Some habitat for foraging exists.
Western red bat (*Lasiurus blossevillii*)	—/SSC/—	Forages over open areas, roots in trees or caves.	Very Low: No suitable nesting habitat exists, some suitable foraging habitat exists.
Yuma myotis (*Myotis yumanensis*)	—/SSC/—	Forages over open areas, roots in trees or caves.	Very Low: No suitable nesting habitat exists, some suitable foraging habitat exists.
HABITATS			
Coastal & Valley Freshwater Marsh (CVFM)	—	—	None: No marsh habitat exists onsite.
Coastal Brackish Marsh (CVFM)	**—**	**—**	**None: No brackish marshes exist onsite.**
Northern Coastal Salt Marsh (NCSM)	**—**	**—**	**None: No salt marsh habitat exists onsite.**
Northern Hardpan Vernal Pool (NHVP)	—	—	None: No hardpan vernal pool habitat exists onsite.
Northern Vernal Pool (NVP)	**—**	**—**	**None: No vernal pool habitat exists onsite.**

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Sycamore Alluvial Woodland (SAW)	—	—	None: No woodland habitat exists onsite.
Valley Needlegrass Grassland (VNG)	—	—	Low: Some grassland habitat exists onsite.
Valley Sink Scrub (VSS)	—	—	None: No sink habitat exists onsite.

[1] Status:

Federal
FE = Federally Endangered Species
FT = Federally Threatened Species

State
SE = State Endangered Species
ST = State Threatened Species
SR = State Rare (applies to plants only)
SSC = California Species of Special Concern
CFP = California Fully Protected Species

CNPS (applies to plants only)
List 1B = plants considered rare, threatened, or endangered in California and elsewhere
List 2B = plants rare, threatened or endangered in California, but more common elsewhere
List 4 = plants of limited distribution

[2] USFWS

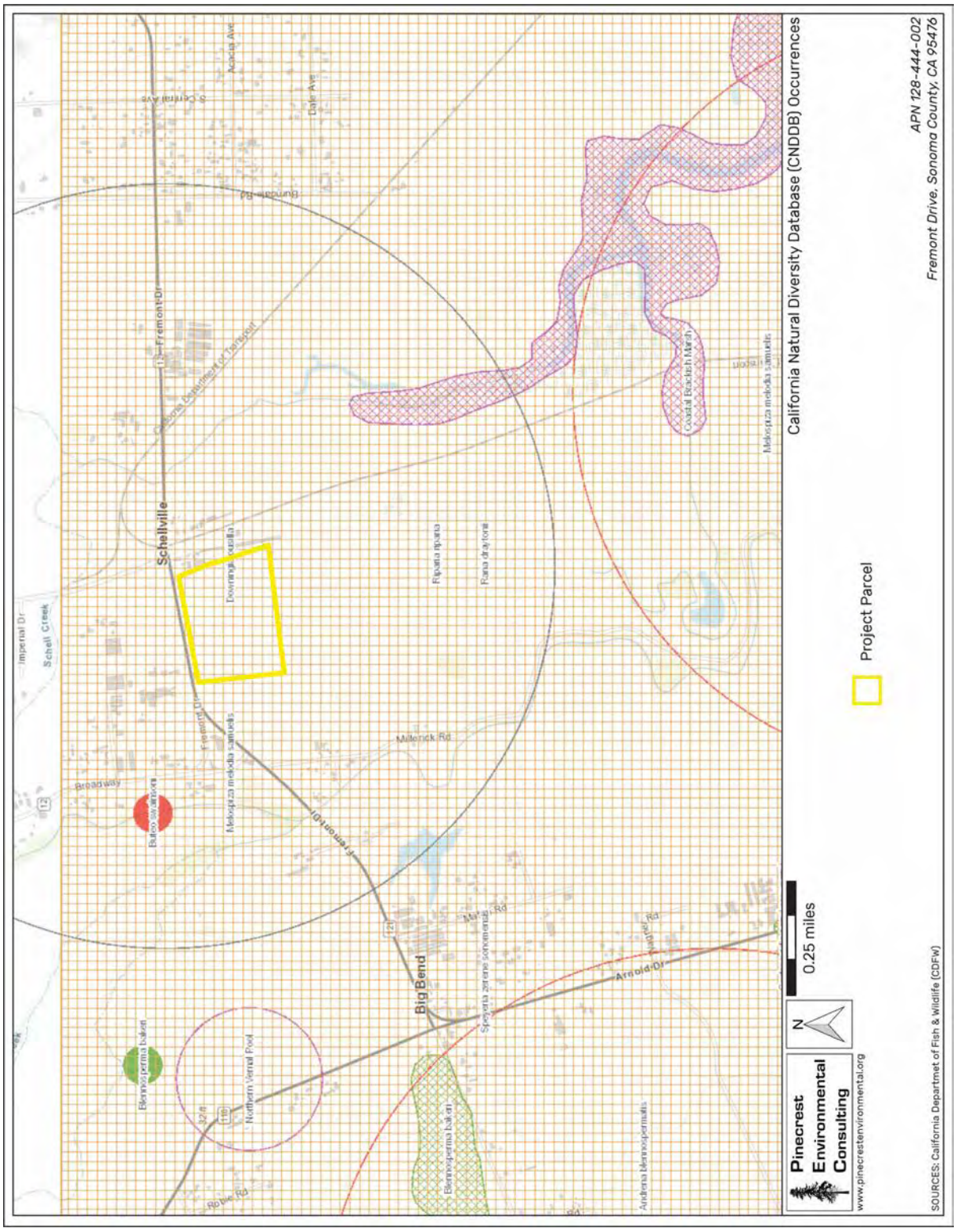
APPENDIX B: SPECIES ENCOUNTERED

PLANTS
Acmispon americanus
Avena barbata
Baccharis pilularis
Brassica rapa
Bromus hordeaceous
Centaurea solstitialis
Circium pycnocephalus
Cirsium vulgare
Convolvulus arvensis
Croton setiger
Cynosurus echinatus
Cyperus eragrostis
Daucus carota
Digitalis purpurea
Dipsacus fullonum
Elymus caput-medusae
Erigeron canadensis
Erodium botrys
Euphorbia maculata
Festuca perennis
Gastridium phleoides
Geranium molle
Geranium molle
Helminthotheca echioides
Holcus lanatus
Hordeum murinum
Hypochaeris glabra
Juncus patens
Malva parviflora
Medicago sativa
Mentha pulegium
Phalaris aquatica
Plantago major
Raphanus sativus
Rubus armeniacus
Rumex acetocella
Rumex crispus
Sonchus asper
Spergula arvensis

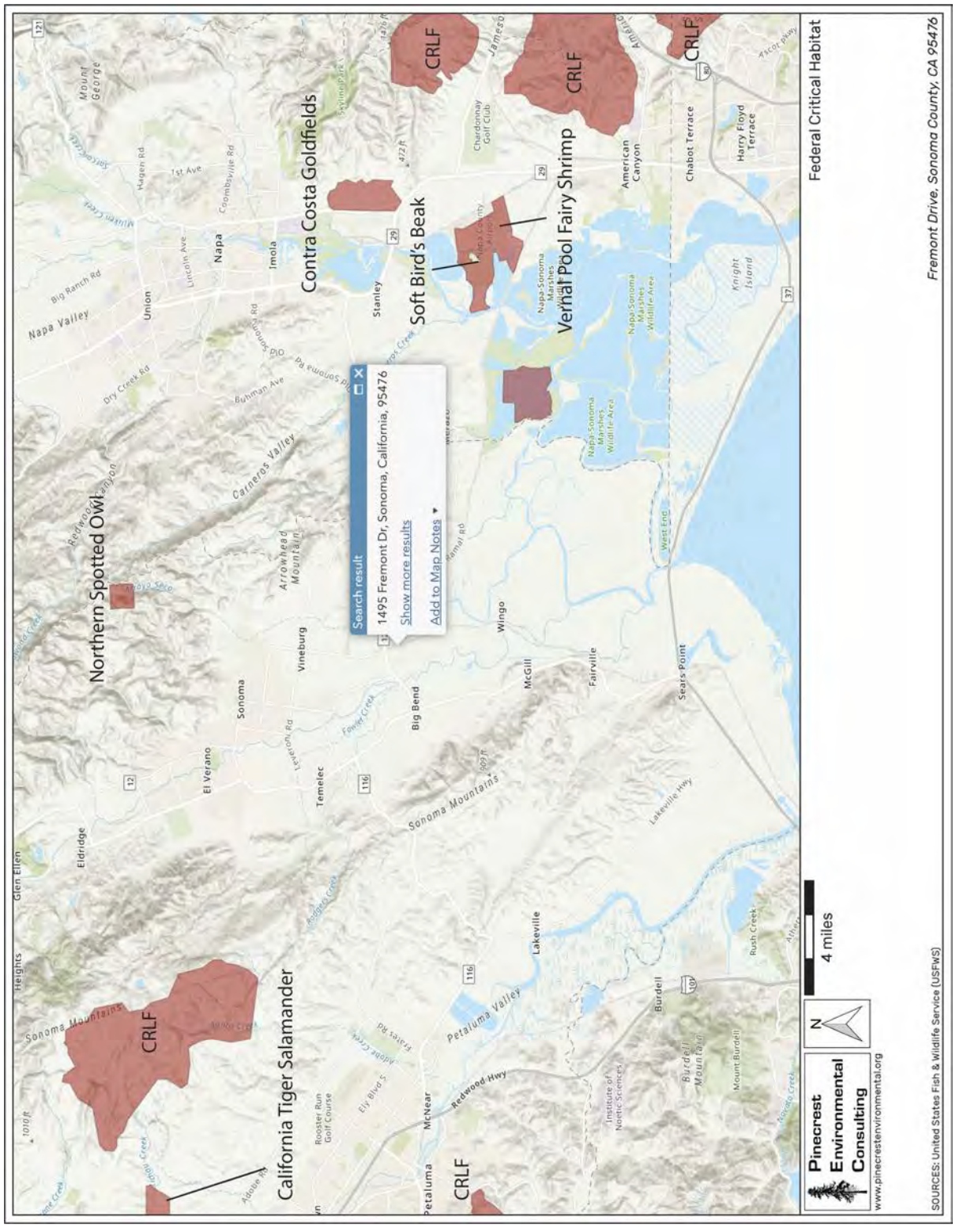
Torilis nodosa
Trifolium hirtum
Trifolium repens
Typha latifolia
Vicia sativa
Xanthium spinosum

ANIMALS
Agelaius phoeniceus
Aphelocoma californica
Ardea herodias
Buteo jamaicensis
Calypte anna
Canis latrans
Cathartes aura
Corvus brachyrhynchos
Egretta thula
Elanus leucurus
Euphagus cyanocephalus
Hirundo rustica
Larus occidentalis
Lepus californicus
Microtus californicus
Phalacrocorax carbo
Sialia mexicana
Spinus psaltria
Thomomys bottae
Zenaida macroura
Zonotrichia leucophrys

APPENDIX C: CNDDB OCCURRENCES MAP



APPENDIX D: MAP OF FEDERAL CRITICAL HABITAT



APPENDIX E: STREAM CLASSIFICATION CRITERIA

The following stream classification criteria were copied form the California Department of Forestry & Fire Protection *Forest Practice Rules* (CALFIRE 2017) and is widely used by many state and local agencies. Most state and local jurisdictions require setbacks of 50, 100, and 150 feet from Class III, II, and I streams, respectively (as shown in Figure 3) although greater setbacks may be required in some jurisdictions.

Watercourse – a natural or artificial channel through which water flows.

- Perennial watercourse (Class I*):
  1. In the absence of diversions, water is flowing for more than nine months during a typical year,
  2. Fish always or seasonally present onsite or includes habitat to sustain fish migration and spawning, and/or
  3. Spring: an area where there is concentrated discharge of ground water that flows at the ground surface. A spring may flow any part of the year. For the purpose of this Policy, a spring does not have a defined bed and banks.
- Intermittent watercourse (Class II*):
  1. In the absence of diversions, water is flowing for three to nine months during a typical year,
  2. Provides aquatic habitat for non-fish aquatic species,
  3. Fish always or seasonally present within 1,000 feet downstream, and/or
  4. Water is flowing less than three months during a typical year and the stream supports riparian vegetation.
- Ephemeral watercourse (Class III*): In the absence of diversion, water is flowing less than three months during a typical year and the stream does not support riparian vegetation or aquatic life. Ephemeral watercourses typically have water flowing for a short duration after precipitation events or snowmelt and show evidence of being capable of sediment transport.
- Other watercourses (Class IV*): Class IV watercourses do not support native aquatic species and are man-made, provide established domestic, agricultural, hydroelectric supply, or other beneficial use.

*Except where more restrictive, stream class designations are equivalent to the Forest Practice Rules Water Course and Lake Protection Zone definitions (California Code of Regulations, title 14, Chapter 4. Forest Practice Rules, Subchapters 4, 5, and 6 Forest District Rules, Article 6 Water Course and Lake Protection).

APPENDIX F: CANNABIS CULTIVATION BEST MANAGEMENT PRACTICES

Best management practices (BMPs) are designed to prevent, minimize, and control the discharge of waste and pollutants associated with site operations and maintenance for the aforementioned project. Many of these BMPs are considered enforceable conditions under North Coast Regional Water Quality Board Order No. R1-2015-0023 and applicable State Water Resources Control Board *Cannabis* General Order No. WQ 2019-0001-DWQ.

F.1 CANNABIS CULTIVATION

- Pesticide and fertilizer storage facilities shall be located outside of the Riparian Corridor setbacks for structures.
- Pesticide and fertilizer storage facilities shall not be located within 100 feet of a wellhead, or within 50 feet of identified wetlands.
- Pesticide and fertilizer storage facilities shall be adequate to protect pesticide and fertilizer containers from the weather.
- Store all bags and boxes of pesticides and fertilizers off the ground on pallets or shelves.
- If the structure does not have an impermeable floor, store all liquid pesticides and fertilizers on shelves capable of containing spills or provide appropriate secondary containment.
- Routinely check for leaks and spills.
- Have spill cleanup kit onsite to be able to respond to any leaks or spills.
- Inspect planting stock for pests and diseases prior to planting. Avoid planting stock with pests and disease and notify the supplier of the planting stock of the infestation.
- Comply with all pesticide laws and regulations as enforced by the California Department of Pesticide Regulation and Sonoma County Agricultural Commissioner.
- For pesticides with the signal word CAUTION that have listed food uses, comply with all pesticide label directions as they pertain to personal protective equipment, application method, and rate, environmental hazards, longest reentry intervals and greenhouse and indoor use directions.
- For all other pesticides, use must comply with all label requirements including site and crop restrictions.
- Prior to the use of any registered pesticide on cannabis, Operator Identification Number should be obtained from the County Agricultural Commissioner if required.
- Submit monthly pesticide use reports to the County Agricultural Commissioner if required.

- Prior to applying fertilizers, evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over fertilization.
- Apply fertilizers at label rates and no higher.
- Do not apply fertilizers in a way that will result in runoff that may contaminate ground or surface water or escape via airborne drift or fugitive dust.
- Observe riparian corridor setbacks for agricultural cultivation as applicable. These shall be maintained as "no touch" areas. The removal of vegetation is prohibited within these setback areas.
- No equipment, vehicles, or other materials shall be stored in the riparian setback areas.
- Composting areas shall not be located in the riparian setback areas.
- Irrigation must be conducted in a manner that does not result in runoff from the cultivated area.
- Any water tanks or storage facilities must obtain all necessary permits from the Sonoma County Permit and Resource Management Department (PRMD).
- The use of membrane based water bladders is prohibited.
- If using an irrigation system, inspect for and repair leaks prior to planting each year and continuously during the season.
- Irrigation systems shall be equipped with a backflow prevention devices and shutoff valves.
- Recycle or properly dispose of all plastic bags, containers, and irrigation materials.
- Properly dispose of green waste in a manner that does not discharge pollutants to a watercourse. This may be accomplished by composting, chipping, and/or shredding. The method of green waste disposal must be documented.
- Used growth medium (soil and other organic medium) shall be handled to minimize or prevent discharge of soil and residual nutrients and chemicals to watercourses. Proper disposal could include incorporating into garden beds, spreading on a stable surface and re-vegetating, storage in watertight dumpsters, or covering with tarps or plastic sheeting prior to proper disposal. The method of disposal must be documented.
- Compost piles are to be located outside of riparian setbacks for agricultural cultivation and in a manner that will not discharge pollutants to a watercourse. If necessary, construct a berm or install fiber roll around compost area to prevent runoff or use straw wattles around perimeter.
- Cover compost piles with tarp or impermeable surface prior to fall rains and continuously throughout the rainy season.
- Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
- Avoid soil disturbance between November 1 and April 15 and during times of active precipitation.
- All exposed and disturbed soil must be covered with a minimum of 2 inches of mulch, such as straw, bark, wood chips, etc., by November 15. Alternatively, establish a thick cover crop over disturbed areas composed of native species.

- Erosion control materials shall be available on site at all times in the form of straw or appropriate mulch adequate to cover area of disturbed soil.
- In the event of a forecast storm event likely to produce runoff, apply mulch to disturbed areas prior to rain event.
- Any grading or drainage conducted as part of site preparation shall have the appropriate permits from the Sonoma County PRMD.

F.2 EROSION & SEDIMENT CONTROL

- Erosion control and sediment detention devices and materials shall be incorporated into the cleanup/restoration work design and installed prior to the end of project work and before the beginning of the rainy season or any predicted rain events.
- Any continuing, approved project work conducted after October 15 shall have erosion control measures completed and up-to-date.
- All erosion control measures shall be inspected daily during severe rain events.
- Erosion control materials shall be, at minimum, stored on-site at all times during approved project work between May 1 and October 15.
- Approved project work within the 5-year flood plain shall not begin until all temporary erosion controls (straw bales or silt fences that are effectively keyed-in) are installed downslope of cleanup/restoration activities.
- Native species appropriate to the local habitat shall be used for all revegetation purposes. Non-invasive, non-persistent grass species (e.g., barley grass) may be used for their temporary erosion control benefits to stabilize disturbed slopes and prevent exposure of disturbed soils to rainfall.
- Upon work completion, all exposed soil present in and around the cleanup/restoration sites shall be stabilized within 7 days.
- The disturbed area will be minimized at all times to only that which is essential for the completion of the project.
- Provide temporary cover over disturbed areas that are not currently being worked on.
- Heavy equipment shall not be used in flowing water.
- Use of heavy equipment shall be avoided or minimized in a channel bottom with rocky or cobbled substrate.
- Heavy equipment shall not introduce chemicals or foreign sediment to the channel (e.g., remove mud from tracks or cover channel work area with plastic sheeting prior to heavy equipment entry).
- When heavy equipment is used, any woody debris and stream bank or streambed vegetation disturbed shall be replaced to a pre-project density with native species appropriate to the site.
- When possible, existing ingress or egress points shall be used or work shall be performed remotely from the top of the creek banks.

- Divert runoff away from unprotected slopes or loose soils using a combination of mats, geotextiles, silt fencing, wattling, check dams, sediment basins, vegetated buffers, or rock armor.
- Deploy appropriate erosion control measures such as silt fencing or straw wattles around all temporary exposed piles or soil or surface disturbances.
- All temporary exposed piles or soil or surface disturbances shall have tarping and sand bags or other stabilization materials deployed in order to prevent discharge of sediments in the event of a rain or wind event.
- Geotechnical fabric shall be deployed on all exposed dirt surfaces with a slope of greater than 15% and staked in place during ground disturbing activities, and silt fencing deployed on slopes of greater than 15% where appropriate.
- Sand bags, straw bales, or other devices shall be placed at appropriate locations near and alongside the roadsides and swales in anticipation of large storm events.
- Bioswales and cultivation areas including parking areas shall be maintained free of trash including empty soil and pesticide or fertilizer containers.
- Locations of sediment sources shall be identified during rain events and mitigated where appropriate.
- Protect ditch inlets and outlets from erosion using rock armor.
- Silt fencing shall be installed downstream of rock piles, stockpiles, and temporary soils storage areas.
- Desilting or retention basins shall be installed if the capacity of the natural percolation exceeds the inputs during routine storm events.
- Sediment traps shall be used on all exposed driveway surfaces where natural vegetation is not able to be established.
- Exposed unvegetated surfaces will be graveled where appropriate.
- Rock placed for slope protection shall be the minimum necessary to avoid erosion, and shall be part of a design that provides for native plant revegetation and minimizes bank armoring.
- Soil exposed as a result of project work, soil above rock riprap, and interstitial spaces between rocks shall be revegetated with native vegetation by live planting, seed casting, or hydroseeding prior to the rainy season of the year work is completed.
- Avoidance of earthwork on steep slopes and minimization of cut/fill volumes, combined with proper compaction, shall occur to ensure the area is resilient to issues associated with seismic events and mass wasting. If cracks are observed, or new construction is anticipated, consultation with a qualified professional is recommended.
- Culvert fill slopes shall be constructed at a 2:1 slope or shall be armored with rock.
- If it is necessary to conduct work in or near a live stream, the work space shall be isolated to avoid project activities in flowing water.
- Any spoils associated with site maintenance shall be placed in a stable location where it cannot enter a watercourse.

- Sidecasting shall be minimized and shall be avoided on unstable areas or where it has the potential to enter a watercourse.
- Entrance to the project site shall be maintained in a condition that will prevent tracking or flowing of sediment into the public right-of-way.
- All sediment spilled, dropped, washed, or tracked onto the public right-of-ways shall be removed immediately.
- When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-ways.
- When wheel washing is required, it shall be done in an area stabilized with crushed stone that drains into a sediment trap fitted with appropriate erosion control measures.
- To control surface water runoff in and around cultivation areas use fiber rolls or wattling and stake appropriately and perpendicular to the flow path.
- Cover crops should be utilized on all exposed slopes that are not able to be protected by other means.
- Cover crops should be native species as described in the associated biological resources report.
- Rip compacted soils prior to placing spoils to prevent the potential for ponding under the spoils that could result in spoil site failure and subsequent sedimentation.
- Compact and contour stored spoils to mimic the natural slope contours and drainage patterns to reduce the potential for fill saturation and failure.
- Ensure that spoil materials are free of woody debris, and not placed on top of brush, logs or trees.
- Inspect all roads and culverts regularly for blockages.

F.3 WATER USE & POLLUTION

- Ensure that all appropriate water rights permits are filed with the State Water Resources Control Board.
- Notify the California Department of Fish and Wildlife by submitting a Lake and Streambed Alteration (LSA) notification package if the proposed activities involve substantial diversion from or alteration of the bed or bank of a stream or other waterbody.
- Ensure that all water storage features are permitted from the Department of Water Rights if necessary.
- All refueling and pesticide and chemical storage and transfer shall occur greater than 100 feet away from any swales, creeks, or natural areas.
- All refueling and pesticide and chemical storage and transfer shall occur on top of an impermeable metal or other fabric mat that is no less than 2 inches high on all sides and capable of completely containing any spillage.

- Concrete truck and other vehicles shall not be washed out in natural areas or directly onto soil and shall be washed out into a metal or other impermeable basin and disposed of properly such that no water is discharged to the soil.
- All waste shall be kept in plastic drums with tight fitting lids so that water is not able to make contact with the contents and potentially leach to the environment.
- All pesticide sprays shall occur on windless nights for outdoor facilities.
- Chemical or fertilizer wastes shall never be disposed of into swales or creeks and shall be contained inside closed-roof facilities and designated with appropriate labeling until it is possible to dispose of properly.
- Septic leach fields and graywater mulch fields shall be maintained free of large vegetation and not used for aboveground storage that may impact their proper functioning.
- Chemical contamination (fuel, grease, oil, hydraulic fluid, solvents, etc.) of water and soils is prohibited during routine equipment operation and maintenance.
- The use or storage of petroleum-powered equipment shall be accomplished in a manner that prevents the potential release of petroleum materials into waters of the state (Fish and Game Code 5650).
- Schedule excavation and grading activities for dry weather periods.
- Designate a contained area for equipment storage, short-term maintenance, and refueling. Ensure it is located at least 50 feet from waterbodies.
- Inspect vehicles for leaks and repair immediately.
- Clean up leaks, drips and other spills immediately to avoid soil or groundwater contamination.
- Conduct major vehicle maintenance and washing offsite.
- Ensure that all spent fluids including motor oil, radiator coolant, or other fluids and used vehicle batteries are collected, stored, and recycled as hazardous waste offsite.
- Ensure that all construction debris is taken to appropriate landfills and all sediment disposed of in upland areas or offsite, beyond the 100-year floodplain.
- Use dry cleanup methods (e.g., absorbent materials, cat litter, and/or rags) whenever possible. If necessary for dust control, use only a minimal amount of water.
- Sweep up spilled dry materials immediately.
- Separate organic material (e.g., roots, stumps) from the dirt fill and store separately. Place this material in long-term, upland storage sites, as it cannot be used for fill.
- Spoils shall not be placed or stored in locations where soils are wet or unstable, or where slope stability could be adversely affected.
- Do not locate spoil piles in or immediately adjacent to wetlands and watercourses.
- Store spoil piles in a manner (e.g. cover pile with plastic tarps and surround base of pile with straw wattle) or location that would not result in any runoff from the spoil pile ending up in wetlands and watercourses.

- Keep temporary disposal sites out of wetlands, adjacent riparian corridors, and ordinary high water areas as well as high risk zones, such as 100-year floodplain and unstable slopes.
- Conduct operations on a size and scale that considers available water sources and other water use and users in the planning watershed.
- Implement water conservation measures such as rainwater catchment systems, drip irrigation, mulching, or irrigation water recycling where possible.
- Hauled water utilized for irrigation shall be documented via receipt or similar, and show the date, name, and license plate of the water hauler, and the quantity of water purchased.
- If using a water storage tank, do not locate the tank in a flood plain or next to equipment that generates heat. Locate the tank so it is easy to install, access, and maintain.
- Vertical tanks should be installed according to manufacturer's specifications and placed on firm, compacted soil that is free of rocks/sharp objects and capable of bearing the weight of the tank and its maximum contents.
- Install float valves on tanks to prevent them from overflowing.
- Place proper lining or sealing in ponds to prevent water loss.

F.4 ROAD MAINTENANCE & GENERAL CONSTRUCTION

- Always limit work to the appropriate work date windows considering wet weather, migratory bird and other biological and environmental constrains that may be placed on the project.
- Proper design and location of roads and other features is critical to ensuring that a road or other feature be adequately drained and is best accomplished through consultation with a qualified professional.
- Placement of temporary access roads, staging areas, and other facilities shall avoid or minimize disturbance to habitat.
- If inspection identifies surface rills or ruts, then surfacing and drainage likely needs maintenance. Consultation should be made with a licensed professional to design appropriate erosion control strategies.
- Design of roads should allow for sheet flow of water and use water bars and rolling dips to break up slope length.
- Vehicle speed shall be kept to a maximum of 10 mph while onsite to minimize dust generation.
- All unvegetated and unpaved roadways and vehicle turnarounds shall be graveled to a depth of not less than 1" in order to prevent dust and sediment entrainment.
- Applicant will use geotechnical fabric or similar materials on exposed slopes, and distribute weed-free straw mulch wherever possible on exposed surfaces on the perimeter of all graded roads and graveled areas.

- Roads and the berms alongside all roads shall be maintained free of headcuts, gullies, stutter bumps, and other erosion features capable of discharging sediment to adjacent grassland areas.
- Roads will be graveled with clean rock whenever required to prevent dust and sediment erosion during the wet season.
- Whenever possible, road maintenance activities shall be performed from May 1 to October 15.
- Work performed outside of this window should take extra precautions for winter weather erosion control prevention beyond that which is described in this Plan.
- A 48 hour advance forecast for rain shall trigger a temporary cessation of work, and all soils piles will need to be covered and secured with sandbags or other materials.
- Placement of temporary access roads, staging areas, and other facilities shall avoid or minimize disturbance to habitat.
- Whenever feasible, finished grades shall not exceed 1.5:1 side slopes. In circumstances where final grades cannot achieve 1.5:1 slope, additional erosion control or stabilization methods shall be applied as appropriate for the project location.
- Spoils and excavated material not used during project activities shall be removed and placed outside of 100-year floodplains.
- Upon completion of grading, slope protection of all disturbed sites shall be provided prior to the rainy season through a combination of permanent vegetative treatment, mulching, geotextiles, and/or rock, or equivalent.
- Position vehicles and other apparatus so as to not block emergency vehicle access.
- After construction is complete, all storm drain systems and culverts shall be inspected and cleared of accumulated sediment and debris.
- Sediment barriers including wattles and silt fencing should be checked for sediment accumulation following each significant rainfall and sediment removed or the feature replaced as needed.
- Road drainage shall be discharged to a stable location away from a watercourse.
- Use sediment control devices, such as check dams, sand/gravel bag barriers, and other acceptable techniques, when it is neither practical nor environmentally sound to disperse ditch water immediately before the ditch reaches a stream.
- Within areas with potential to discharge to a watercourse (i.e. within riparian areas of at least 200 feet of a stream) road surface drainage shall be filtered through vegetation, slash, or other appropriate material or settled into a depression with an outlet with adequate drainage.

F.5 SWALE & VEGETATION MANAGEMENT

- The work area shall be restored to pre-project work condition or better.

- Any stream bank area left barren of vegetation as a result of cleanup/restoration activities shall be stabilized by seeding, replanting, or other means with native trees, shrubs, and/or grasses appropriate to the site prior to the rainy season in the year work was conducted.
- Ensure that vegetated swales are properly formed, allow moderate velocity water passage without causing sediment entrainment, and are otherwise functioning properly.
- Create and expand vegetated bioswales where necessary, should additional construction or road maintenance be required, in order to maintain flow without scour.
- All bioswales and other drainage features requiring revegetation will be seeded with native vegetation and lawns and hedgerows maintained in good health and watered in dry years.
- Vegetation including grasses shall be mowed as necessary to create fire breaks and to prevent the accumulation of fuels that would be able to sustain a ground fire.
- All vegetation shall be surveyed on foot once a year by staff and new outbreaks of any invasive weeds identified by the California Invasive Plant Council as noxious or invasive to be removed by the owner or qualified landscaping professionals.
- Channels and swales that show evidence of overland flow and scour (e.g. bare of vegetation) shall be seeded with native grasses such as *Stipa pulchra*, *Hordeum brachyantherum*, *Elymus glaucus*, and *Bromus carinatus*, and kept vegetated at all times.
- If shrubs and non-woody riparian vegetation are disturbed, they shall be replaced with similar native species appropriate to the site.
- Disturbance to native shrubs, woody perennials or tree removal on the streambank or in the stream channel shall be avoided or minimized.
- If riparian trees over six inches dbh (diameter at breast height) are to be removed, they shall be replaced by native species appropriate to the site at a 3:1 ratio.
- Where physical constraints in the project area prevent replanting at a 3:1 ratio and canopy cover is sufficient for habitat needs, replanting may occur at a lesser replacement ratio.
- Vegetation planting for slope protection purposes shall be timed to require as little irrigation as possible for ensuring establishment by the commencement of the rainy season.
- The spread or introduction of exotic plant species shall be avoided to the maximum extent possible by avoiding areas with established native vegetation during cleanup/restoration activities, restoring disturbed areas with appropriate native species, and post-project monitoring and control of exotic species.
- Removal of invasive exotic species after construction activities is strongly recommended. Mechanical removal (hand tools, weed whacking, hand pulling) of exotics shall be done in preparation for establishment of native plantings.
- Where permanent soil stabilization is required a locally-appropriate mix of native grass species shall be used such as a mix containing *Nassella pulchra*, *Hordeum brachyantherum*, *Elymus glaucus*, and *Bromus carinatus* or as described in the site's Biological Resources Assessment.
- Entire cultivation site shall be seeded and maintained as a permanent non-tilled cover crop during non-usage times. Straw mulch shall be used where native seeding is not practicable.

- Use mulches (e.g. wood chips or bark) in cultivation areas that do not have ground cover to prevent erosion and minimize evaporative loss.
- Mulch shall be applied at a rate of 4000 lbs / acre and seeding shall be applied to achieve 70% cover in the first year or approximately 200 lbs / acre.
- Annual inspections for the purpose of assessing the survival and growth of revegetated areas and the presence of exposed soil shall be conducted for three years following project work.
- Dischargers and/or their consultant(s) or third party representative(s) shall note the presence of native/non-native vegetation and extent of exposed soil, and take photographs during each inspection.
- Dischargers and/or their consultant(s) or third party representative(s) shall provide the location of each work site, pre- and post-project work photos, diagram of all areas revegetated and the planting methods and plants used, and an assessment of the success of the revegetation program in the annual monitoring report as required under relevant state and local water board regulations.

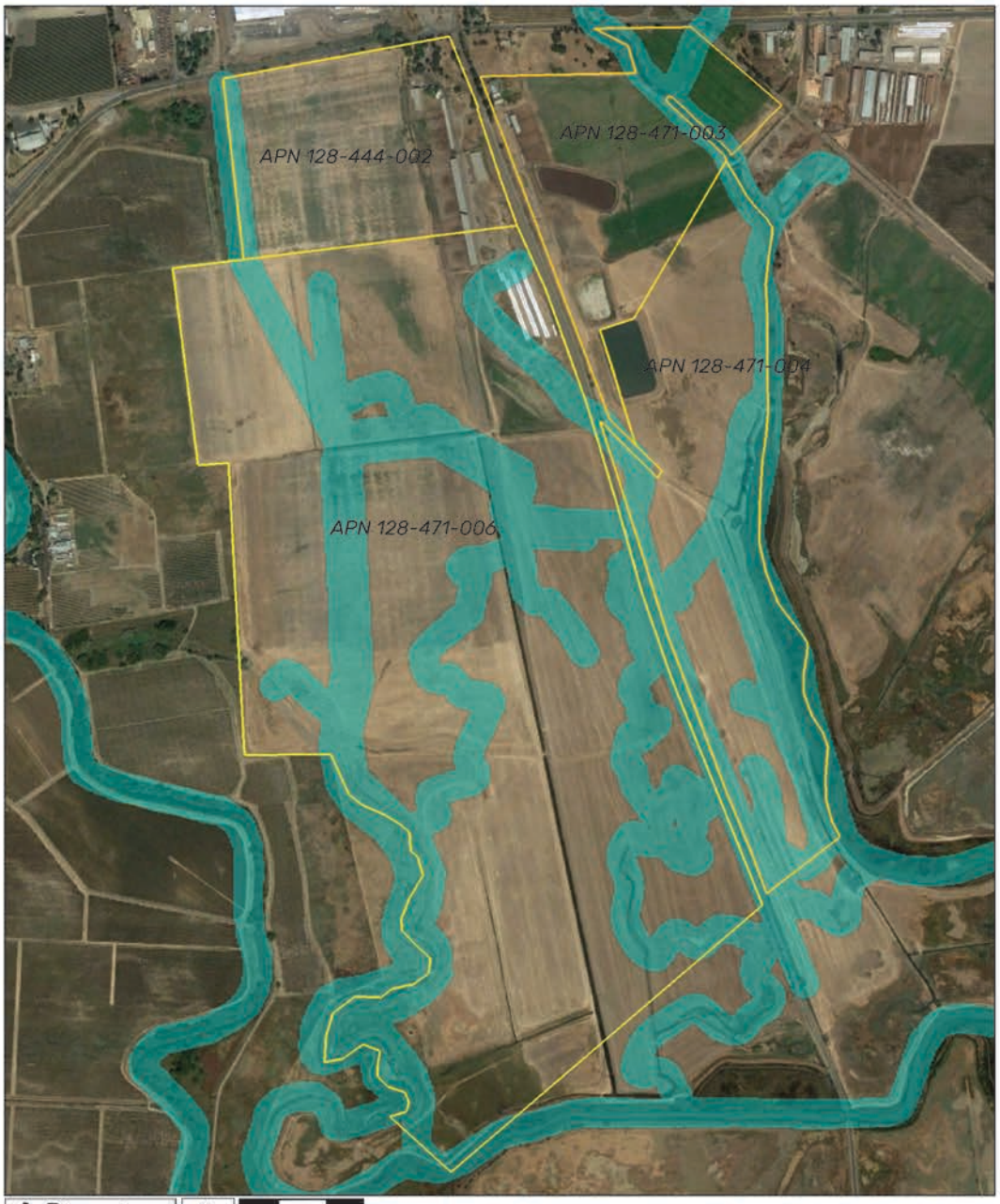
F.6 IRRIGATION & CULTIVATION MANAGEMENT

- Cultivation-related waste shall be stored in a place where it will not enter a stream.
- Soil bags and other garbage shall be collected, contained, and disposed of at an appropriate facility, including for recycling where available.
- Pots shall be collected and stored where they will not enter a waterway or create a nuisance.
- Plant waste and other compostable materials be stored (or composted, as applicable) at locations where they will not enter or be blown into surface waters, and in a manner that ensures that residues and pollutants within those materials do not migrate or leach into surface water or groundwaters.
- Imported soil for cultivation purposes shall be minimized. In the event that containers (e.g. grow bags or grow pots) are used for cultivation, reuse of soil shall be maximized to the extent feasible.
- Spent growth medium (i.e. soil and other organic medium) shall be handled to minimize discharge of soil and residual nutrients and chemicals to watercourses. Proper handling of spent soil could include incorporating into garden beds, spreading on a stable surface and revegetation, storage in watertight dumpsters, covering with tarps or plastic sheeting prior to proper disposal.
- Trash containers of sufficient size and number shall be provided and properly serviced to contain the solid waste generated by the project.
- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Use lined bins or dumpsters to reduce leaking of liquid waste. Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on.

- Make sure trash container areas are screened or walled to prevent off-site transport of trash. Consider using refuse containers that are bear-proof and/or secure from wildlife.
- Refuse shall be removed from the site on a frequency that does not result in nuisance conditions, transported in a manner that they remain contained during transport, and the contents shall be disposed of properly at a proper disposal facility.
- Ensure that human waste disposal systems do not pose a threat to surface or ground water quality or create a nuisance. Onsite treatment systems should follow applicable County ordinances for human waste disposal requirements, consistent with the applicable tier under the State Water Resources Control Board Onsite Waste Treatment System Policy.
- Install buffer strips, bioswales, or vegetation downslope of cultivation areas to filter runoff of chemicals from irrigation.
- Irrigate at rates to avoid or minimize runoff.
- Regularly inspect and repair leaks in mains and laterals, in irrigation connections, or at the ends of drip tape and feeder lines.
- Design irrigation system to include redundancy (i.e., safety valves) in the event that leaks occur, so that waste of water is prevented and minimized.
- Recapture and reuse irrigation runoff (tailwater) where possible, through passive (gravity-fed) or active (pumped) means.
- Construct retention basins for tailwater infiltration; percolation medium may be used to reduce pollutant concentration in infiltrated water. Constructed treatment wetlands may also be effective at reducing nutrient loads in water.
- Ensure that drainage and/or infiltration areas are located away from unstable or potentially unstable features.
- Regularly replace worn, outdated or inefficient irrigation system components and equipment.
- Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over-fertilization.
- All chemicals shall be stored in a manner, method, and location that ensures that there is no threat of discharge to waters of the State.
- Products shall be labeled properly and applied according to the label.
- Use integrated pest management strategies that apply pesticides only to the area of need, only when there is an economic benefit to the grower, and at times when runoff losses are least likely.
- Periodically calibrate pesticide application equipment.
- Use anti-backflow devices on water supply hoses, and other mixing/loading practices designed to reduce the risk of runoff and spills.

- Petroleum products shall be stored with a secondary containment system such as a pan or a tub
- Throughout the rainy season, any temporary containment facility shall have a permanent cover and side-wind protection, or be covered during non-working days and prior to and during rain events.
- Materials shall be stored in their original containers and the original product labels shall be maintained in place in a legible condition. Damaged or otherwise illegible labels shall be replaced immediately.
- Bagged and boxed materials shall be stored on pallets and shall not be allowed to accumulate on the ground. To provide protection from wind and rain throughout the rainy season, bagged and boxed materials shall be covered during non-working days and prior to rain events.
- Have proper chemical and fertilizer storage instructions posted at all times in an open and conspicuous location.
- Prepare and keep a spill prevention and cleanup plan onsite when dealing with any hazardous materials.
- Keep ample supply of appropriate spill clean-up material near storage areas.
- Plant cover crops to boost soil fertility, improve soil texture, and protect from storm caused sediment runoff.

APPENDIX G: COUNTY-DESIGNATED RIPARIAN CORRIDORS



BIOLOGICAL ASSESSMENT

1515 FREMONT DRIVE [APN 128-471-003]
SONOMA COUNTY, CALIFORNIA

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FEBRUARY 6, 2021

TABLE OF CONTENTS

1.0 INTRODUCTION 3
1.1 PURPOSE 3
1.2 LOCATION 3
1.2.1 Site Overview 3
1.2.2 Landforms & Topography 3
1.2.3 Federal Critical Habitat 4
1.2.4 Special-Status Species Occurrences 4
1.3 METHODS 5
1.3.1 Records Search & Literature Review 5
1.3.2 Field Surveys 5
2.0 RESULTS 7
2.1 REGIONAL ECOLOGICAL COMMUNITIES 7
2.2 NATURAL COMMUNITIES WITHIN THE STUDY AREA 7
2.2.1 Seeded Hayfield 7
2.2.2 Wetland & Brackish Marsh 8
2.3 WILDLIFE 8
2.4 WETLANDS & WATERCOURSES 9
2.5 SOILS 9
3.0 SUMMARY & CONCLUSIONS 10
4.0 REGULATORY FRAMEWORK 11
4.1 FEDERAL ENDANGERED SPECIES ACT 11
4.2 CALIFORNIA ENDANGERED SPECIES ACT 11
4.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT 11
4.4 CLEAN WATER ACT 12
4.5 CALIFORNIA WATER QUALITY REGULATORY PROGRAMS 12
5.0 REFERENCES 13

FIGURE 1: REGIONAL LOCATION 14

FIGURE 2: 40 FOOT CONTOURS 15

FIGURE 3: WATERCOURSES & POTENTIAL WETLANDS 16

FIGURE 4: PHOTOGRAPH OF POTENTIAL CULTIVATION AREA 17

FIGURE 5: PHOTOGRPAH OF SOUTH FENCELINE 18

FIGURE 6: PHOTOGRAPH OF WEST FENCELINE 19

FIGURE 7: PHOTOGRAPH OF RESERVOIR 20

APPENDIX A: SPECIAL-STATUS SPECIES CONSIDERED 21

APPENDIX B: SPECIES ENCOUNTERED 33

APPENDIX C: CNDDB OCCURRENCES MAP 35

APPENDIX D: MAP OF FEDERAL CRITICAL HABITAT 36

APPENDIX E: STREAM CLASSIFICATION CRITERIA 37

APPENDIX F: CANNABIS CULTIVATION BEST MANAGEMENT PRACTICES 38

F.1 CANNABIS CULTIVATION 38

F.2 EROSION & SEDIMENT CONTROL 40

F.3 WATER USE & POLLUTION 42

F.4 ROAD MAINTENANCE & GENERAL CONSTRUCTION 44

F.5 SWALE & VEGETATION MANAGEMENT 45

F.6 IRRIGATION & CULTIVATION MANAGEMENT 47

APPENDIX G: COUNTY-DESIGNATED RIPARIAN CORRIDORS 50

1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this reconnaissance-level Biological Assessment (BA) is to evaluate the existence of special-status species (SSS) and/or habitats, as well as assess the potential for SSS listed in Appendix A to occur on or near the site of commercial cultivation activities, pursuant to applicable regulations from County of Sonoma and the State of California. This BA also analyzes the potential for jurisdictional wetlands and other waters of the U.S. to exist onsite, and classifies landforms that may potentially convey sediment to waters of the U.S. including dry creeks, washes, swales, gullys, and other erosional features. Also included is a set of Best Management Practices (BMPs) that are adapted from a variety of sources including State Water Resources Control Board *Cannabis* General Order No. WQ 2019-0001-DWQ and other state and local ordinances.

1.2 LOCATION

1.2.1 Site Overview

The project site is located at 1515 Fremont Drive in unincorporated Sonoma County, approximately 3.5 miles south of the town of Sonoma, and 18 miles southwest of the City of Santa Rosa (Figure 1). The parcel is designated Assessor's Parcel Number (APN) 128-471-003, is deeded 45.49 acres, is zoned DA-20, and is located in Groundwater Availability Zone 1. The parcel is under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB) and the Bay-Delta Region (Region 3) of the California Department of Fish & Wildlife (CDFW). Most of the parcel is within County-designated Valley Oak Habitat, although there is no County-designated Biotic Habitat on the parcel. There are County-designated Riparian Corridors (Appendix G), and several jurisdictional watercourses and/or wetlands onsite (Figure 3). The parcel is in the Napa-Sonoma Valley high-priority groundwater basin as designated by the California Department of Water Resources (DWR).

1.2.2 Landforms & Topography

The topography of the site is flat with a maximum elevation of 17 feet along the northeast corner of the parcel near the entrance, and a minimum elevation of 10 feet above sea level in the southwest corner of the parcel (Figure 2). The parcel is located in an unsectioned portion of Township 5 N, Range 5 West, on the USGS Sears Point 7.5 minute quadrangle. The approximate latitude and longitude of the parcel is 38.243 (W), -122.437 (N). Water generally flows towards the south and east, where it enters a series of drainage canals and swales (Figure 9) that convey water generally south towards San Francisco Bay. There is also a culvert underneath CA-23 (Figure 8) that drains

water in the northeast corner of the parcel. See §2.4 for additional discussion of wetlands and watercourses onsite.

1.2.3 Federal Critical Habitat

Federal Critical Habitat (FCH) is designated by the U.S. Fish & Wildlife Service (USFWS) and provides special protections for habitats considered important for long-term population persistence of endangered or threatened species. A map of regional FCH is provided in Appendix D. The nearest FCH is located 0.1 miles east, 0.6 miles west, and 1.0 miles south of the project parcel for Chinook salmon (*Oncorhynchus tshawytscha*) in Schell Slough, Sonoma Creek, and Railroad Slough, respectively. There is additional FCH for Chinook salmon in most of the anadromous waters surrounding the San Francisco Bay. The next nearest Federal Critical Habitat is located 5.6 miles southeast of the parcel for Western snowy plover (*Charadrius nivosus nivosus*) and Soft bird's beak (*Cordylanthus mollis* spp. *mollis*) in the Napa-Sonoma Marsh. The next nearest Federal Critical Habitat is located 5.5 miles north of the parcel for Northern spotted owl (*Strix occidentalis*; NSO) near Arroyo Seco. The next nearest Federal Critical Habitat is located 7.9 miles northwest of the parcel for California red-legged frog (*Rana draytonii*; CRLF) in the Sonoma Mountains. The next nearest Federal Critical Habitat is located 9.2 miles northwest of the parcel for Contra Costa goldfields (*Lasthenia conjugens*) along CA-29. There is no other Federal Critical Habitat within 10 miles of the project parcel.

1.2.4 Special-Status Species Occurrences

Special-status species (SSS) are those species that receive special protections under either local, State, or Federal law and include both State and Federally Endangered and Threatened species of animals and plants, as well as candidate listing species and other species or populations of special concern for which additional information is required. The California Natural Diversity Database (CNDDB) provides information on most known SSS occurrences in the State of California. A description of the habitat requirements and likelihood of occurrence of potential SSS on the project parcel based the CNDDB database, published scientific literature, and the expertise of PEC staff, is provided in Appendix A, with a description of the nearest locality of all SSS known from within a 5 mile radius around the project parcel. Additionally, map-based representation of all of the SSS within an approximately 5 mile radius around the project site is provided in Appendices C & D.

1.2.4.1 SSS Animals

There are three special-status animal species with CNDDB polygons that include the entire USGS 7.5-minute quad that includes the project parcel. These species are Bank swallow (*Riparia riparia*) observed in 2000, California red-legged frog (*Rana draytonii*; CRLF) observed in 2004, and the Sonoma zerene fritillary butterfly (*Speyeria zerene sonomensis*) last observed in 1893. There are also two CNDDB polygons that are more specific that overlap with the project parcel and are centered on Schellville: Bank swallow (*Riparia riparia*) observed in 1893, and San Pablo song sparrow (*Melospiza melodia samuelis*) observed in 1901. The next nearest special-status animal species to the

project parcel is Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) observed in 1985 located 1.9 miles south of the parcel.

1.2.4.2 SSS Plants

There is one special-status plant species whose CNDDB polygon overlaps with the project parcel, Dwarf downingia (*Downingia pusilla*). This species is not listed as Endangered or Threatened by the State or Federal Governments but is a California Native Plant Society (CNPS) List 2B.2 species and is thus included in Appendix A. This occurrence was observed in 1892 and the locality is listed as "Schellville" although the exact location is not known and the species has not been observed in the vicinity since then. The next nearest occurrence of dwarf downingia is 2.8 miles to the south near Arnold Drive observed in 1961. The next nearest special-status plant to the project parcel is Sonoma sunshine (*Blennosperma bakeri*), with two occurrences located 1.1 miles west and 1.2 miles southwest of the project parcel. The next nearest known occurrence of special-status plant species is Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*) located approximately 1.4 miles north of the project parcel near the town of Sonoma. The next nearest known occurrence of special-status plant species is Saline clover (*Trifolium hydrophilum*) located approximately 2.0 miles south of the project parcel near Arnold Drive.

1.3 METHODS

1.3.1 Records Search & Literature Review

Based on a review of the literature and all relevant databases, we compiled a list of special-status plant and animal species that are known to occur within 5 miles of the project site, or that occupy habitats that are known to be present on or near the project site (Appendix A). Sources of information referenced include the California Natural Diversity Database (CNDDB 2021), U.S. Fish and Wildlife Service Environmental Conservation Online System (USFWS 2021), the California Native Plants Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS 2021), and the knowledge of PEC staff familiar with the species and habitats of Sonoma County. Additional information on sensitive habitats including wetlands was obtained from the USFWS National Wetlands Inventory (NWI 2021), and County of Sonoma Geographic Information System Portal. Plant species included here are State or Federally Endangered or Threatened, and/or considered Rare by CDFW, and/or are recognized as special-status species by the CNPS or CDFW. Animal species included here are designated as State or Federally Endangered or Threatened, and/or California Species of Special Concern, and/or Fully Protected species by the CDFW. In addition, nests of most native bird species, regardless of their regulatory status, are protected from take or harassment under the Migratory Bird Treaty Act (MBTA) and California Fish and Wildlife Code.

1.3.2 Field Surveys

Wildlife and botanical surveys were conducted at the site on December 5 and again on December 28, 2020. The weather was clear and cool on both site visits, with temperature of 68 degF, relative

humidity of 45% and wind speed of 2-4 mph, as measured by Kestrel 3000 handheld weather station. No rain fell the preceding two months (NWS 2021), and although most perennial and riparian vegetation was green, most annual vegetation was past flowering, although most still retained identifiable flowering parts. Due to the temperature and seasonal conditions, animal activity was moderately high at the time of the surveys. Starting with the portion of the property nearest the proposed cultivation area, the entire project site was surveyed on foot by PEC Senior Biologist Dr. Christopher T. DiVittorio, recording the location and identity of all plant and animal species encountered. Plant voucher specimens were taken of any species that were not identifiable in the field, and that were not likely to be special-status. The vast majority of species were identifiable at the time of the survey, although some had to be identified based on vegetative parts. Photographs and voucher specimens were taken of any plants that were identified solely based on vegetative characters. The field survey was conducted by dividing the outdoor portions of the parcel into zones and cataloging all of the species found in each zone. Each zone was surveyed by walking in parallel lines until the whole zone was covered. Notes were also taken in each zone documenting the general site characteristics and current land uses, as well as any surface erosional features that may require remediation. Botanical specimens were taken back to the laboratory for identification if identification was not possible in the field. If species were not flowering at the time of the survey and morphological characteristics indicated that the species may be special-status, notes were made for a follow-up visit. Birds and nests were identified by call and with binoculars. Vocalizations, scat, tracks, feathers, burrows, nests, and molts were used for identification of animals present onsite. Any onsite aquatic habitats were observed for a minimum of ten minutes without movement in order to observe animals that may hide when approached.

2.0 RESULTS

2.1 REGIONAL ECOLOGICAL COMMUNITIES

Using field surveys, a review of published literature, and the knowledge of PEC staff, all of the natural communities present on and around the project site were assessed. Regionally, the dominant vegetation type is seeded and cut hayfields, vineyards, tidal marshland, and developed light industrial developments. Further to the north are vernal pools and increasing density of rural residences and vineyards (Figure 3).

2.2 NATURAL COMMUNITIES WITHIN THE STUDY AREA

The parcel consists of seeded and cut hayfields bisected by a levee-bound brackish wetland slough called Schell Slough running across the eastern portion of the parcel (Figure 3). Due to the high intensity hay production, in the central portion of the site was chosen as the location of the proposed cultivation area since there is very little living plant life and no native species presently growing in that area (Figure 4). The soils onsite are well-drained and have been continuously disked, seeded, and cut for hay production for many years and there is no remaining topographic relief and no native vegetation present in the center of the cultivation area precluding the presence of wetlands such as exist along the slough, although there is a small wetland fragment near the southern fenceline that is mostly muddy but does have some hydrophilic plants such as pickleweed and saltgrass (Figure 5). There are also two non-jurisdictional agricultural reservoirs that do not exhibit any inlet or outlet facilities and are filled by well water (e.g. Figure 7). The specific community descriptions below are organized based on the zones that were surveyed, and the floristic results presented in Appendix B. We use as guidance the *Manual of California Vegetation* (Sawyer et al. 2009) for community classification. Overall, the Study Area consists of approximately 50% seeded and cut hayfield, 40% developed area including reservoirs, 5% wetland and brackish marsh, and 5% residential areas (Figure 3).

2.2.1 Seeded Hayfield

The majority of the parcel is covered by leveled and seeded hayfield that is seeded and cut several times per year. Species encountered in this area contain few native species and are primarily agricultural weeds. There is a small fragment of semi-natural grassland between the isolated wetland fragment in the east and the southern reservoir in the west, that does not appear to have been disked recently (Figure 3). Species observed onsite include slender oats (*Avena barbata*), soft chess (*Bromus hordeaceous*), dogstail grass (*Cynosurus echinatus*), medusahead (*Elymus caput-medusae*), Italian rye (*Festuca perennis*), velvet grass (*Holcus lanatus*), meadow barley (*Hordeum murinum*), Harding grass (*Phalaris aquatica*), yellow star thistle (*Centaurea solstitialis*), Italian thistle (*Circium pycnocephalus*), bull thistle (*Cirsium vulgare*), bristly ox-tongue (*Helminthotheca echioides*), smooth

cat's ear (*Hypochaeris glabra*), spiny sowthistle (*Sonchus asper*), common geranium (*Geranium molle*), broad leaf filaree (*Erodium botrys*), crane's bill geranium (*Geranium molle*), birds foot trefoil (*Acmispon americanus*), sheep sorrel (*Rumex acetocella*), field mustard (*Brassica rapa*), turkey-mullein (*Croton setiger*), cultivated radish (*Raphanus sativus*), rose clover (*Trifolium hirtum*), white clover (*Trifolium repens*), spring vetch (*Vicia sativa*), alfalfa (*Medicago sativa*), variable-leaved pepperweed (*Lepidium heterophyllum*), Queen Anne's lace (*Daucus carota*), hedge parsley (*Torilis nodosa*), common plantain (*Plantago major*), spring vetch (*Vicia sativa*), and field bindweed (*Convolvulus arvensis*).

2.2.2 Wetland & Brackish Marsh

The wetland and marsh areas (Figure 3) are limited mostly to the areas surrounding Schell Slough between the levees. There is also a small fragment of wetland along the southern property line (Figure 3) that contains pickleweed (*Salicornia pacifica*), saltgrass (*Distichlis spicata*), fat-hen (*Atriplex prostrata*), and alkali heath (*Frankenia salina*). Other species associated with the Schell Slough wetlands include New Zealand spinach (*Tetragonia tetragonioides*), coyote brush (*Baccharis pilularis*), common cattail (*Typha latifolia*), tall flatsedge (*Cyperus eragrostis*), alkali bulrush (*Bolboschoenus maritimus*), bog rush (*Juncus patens*), Himalayan blackberry (*Rubus armeniacus*), bitter cress (*Cardamine californica*), lamb's quarters (*Chenopodium album*), rabbitsfoot grass (*Polypogon monspeliensis*), hairy bitter cress (*Cardamine hirsuta*), Chinese parsley (*Heliotropium curassavicum*), Hyssop loosestrife (*Lythrum hyssopifolia*), curly dock (*Rumex crispus*), Canada horseweed (*Erigeron canadensis*), bristly ox-tongue (*Helminthotheca echioides*), Fuller's teasel (*Dipsacus fullonum*), spotted spurge (*Euphorbia maculata*), spiny cocklebur (*Xanthium spinosum*), cheeseweed (*Malva parviflora*), pennyroyal (*Mentha pulegium*), brass buttons (*Cotula coronopifolia*), corn spurry (*Spergula arvensis*), mugwort (*Artemisia douglasiana*), and tumbleweed (*Salsola tragus*).

2.3 WILDLIFE

Wildlife activity was moderate due to the time of year and the weather. Few bird species were observed in the cultivation area, however there were numerous bird species in wetland areas surrounding the parcel and flying over head due to the proximity to San Francisco Bay marshlands. Species of bird observed during the two site visits include crow (*Corvus brachyrhynchos*), turkey vulture (*Cathartes aura*), barn swallow (*Hirundo rustica*), mourning dove (*Zenaida macroura*), Western bluebird (*Sialia mexicana*), lesser goldfinch (*Spinus psaltria*), Western scrub jay (*Aphelocoma californica*), red-tailed hawk (*Buteo jamaicensis*), great blue heron (*Ardea herodias*), snowy egret (*Egretta thula*), Anna's hummingbird (*Calypte anna*), white-crowned sparrow (*Zonotrichia leucophrys*), Western gull (*Larus occidentalis*), Great cormorant (*Phalacrocorax carbo*), White-tailed kite (*Elanus leucurus*), Brewer's blackbird (*Euphagus cyanocephalus*), and red-shouldered blackbird (*Agelaius phoeniceus*). Other species observed directly or indirectly include excavation mounds of pocket gopher (*Thomomys bottae*), runways of California vole (*Microtus californicus*), scat of black-tailed jackrabbit (*Lepus californicus*), and scat of coyote (*Canis latrans*).

2.4 WETLANDS & WATERCOURSES

Jurisdictional watercourses onsite were classified according to the three-tier method used by the California Department of Forestry & Fire Protection (CALFIRE 2017) and included as a reference in Appendix E. According to these criteria, there is one Class I brackish slough known as Schell Slough that flows through the center-east portion of the site. There is also a single Class II tributary with wetland vegetation tributary to this slough. There is one reservoir that is non-jurisdictional in the northwest corner of the parcel (Figure 5).

Potential wetlands onsite were assessed based on the likelihood to satisfy the three-tier wetland delineation criteria used by the Army Corps of Engineers *Wetland Delineation Manual* (ACOE 1987), however a protocol-level wetland delineation was not performed. For this BA, we identified potential wetlands in Figure 3 based on the presence of one of the three ACOE criteria, usually hydrophytic vegetation cover but sometimes soil indicators or hydrology or a combination of these. Based on these criteria, there are several locations in the eastern and northern portions of the site that appear to qualify as jurisdictional wetlands and/or coastal brackish marsh (Figure 3). Most of the habitat surrounding the Class I (Schell Slough) and Class II (unnamed) watercourses are jurisdictional wetland. A patch of wetland vegetation measuring approximately 0.7 ac is also located on the edge of the southern parcel line and is approximately half mud and half vegetated with pickleweed and saltgrass.

2.5 SOILS

The parent materials on the project parcel are typical of southwestern Sonoma County, with easily erodible sediments of the Franciscan Formation dissected by highly seasonal rivers (USGS 1968). The near entirety of the project parcel is mapped as Haire clay loam, 0-9%, HcC. This soil type also has lesser proportions of Diablo (4%), Arbuckle (2%), and Zamora (2%) soils, and is designated farmland of statewide importance. There is also a portion of the northwest hayfield that is mapped as Wright loam, wet, 0-2% (WhA), with lesser proportions of Huichica (3%) and Yolo (3%) soils, and is designated farmland of statewide importance. There are no serpentine or other ultramafic rock types onsite and no serpentine-derived soils. There are no alkalai or vernal pool soil types onsite, although the entire parcel was historically tidal marsh.

3.0 SUMMARY & CONCLUSIONS

No special-status plant species were observed during the surveys performed at the site in December 2020. No impacts are predicted for any of the State or Federal special-status plant species in Appendix A based on lack of actual sightings, and lack of suitable habitat in the proposed cultivation area. Although there is an occurrence of Dwarf downingia that overlaps with the parcel, that occurrence was over 100 years old and there is no suitable vernal pool habitat in the project area to support this species. There is a some wetland habitat along the southern fenceline of the site (Figure 5), however the proposed cultivation areas is located in an area of seeded and cut hayfield that has much altered vegetation and hydrology and no longer supports any wetland species. Ploughing and seeding and leveling the fields eliminates the topographic conditions required for vernal pools. Furthermore the cultivation area is proposed to be located further than the require 150-foot setbacks for Class I watercourses and 100-foot setbacks from wetlands required by State Water Resources Control Board (SWRCB) *Cannabis* General Order.

No special-status animal species were observed during the surveys performed at the site in December 2020. No impacts are predicted for any of the State or Federal special-status animal species or their habitats listed in Appendix A based on lack of actual sightings, and lack of suitable habitat in the proposed cultivation area. Although there is Federal Critical Habitat for Chinook salmon on watercourses nearby, there should be no discharges of sediment that would adversely affect these species. The parcel is also in the same quad as CRLF, however there is no suitable breeding or estivation habiat near the cultivation area for this or any other amphibian species due to the extensive history of hay cultivation onsite, which involves grading (leveling) and seeding, that eliminates cracks and small mammal burrows and disrupts any topography present. No impacts are predicted to any bird species as well as long as standard BMPs related to wildlife conservation are observed including no aerial wires and not using anticoagulant rodenticides as described in Appendix F.

Potential wetlands onsite were assessed visually by estimating the cover of wetland plants, and by examining site hydrology, however a protocol-level wetland delineation was not performed. Based on these results, we do not recommend that a wetland delineation should be required since any wetlands shown in Figure 3 since the areas near tidal wetlands are over outside of the 150-foot setbacks for Class I watercourses and 100-foot setbacks from wetlands required by the SWRCB *Cannabis* General Order. Numerous other channels in this area that were based on the USGS topographic maps are out of date since hayfield cultivation generally redirected drainage in these parcels. No discharge of sediment is anticipated as long as cultivation remains in areas previously used for hay production.

4.0 REGULATORY FRAMEWORK

4.1 FEDERAL ENDANGERED SPECIES ACT

The U.S. Fish and Wildlife Service (USFWS) has jurisdiction over federally-listed threatened and endangered species under the federal Endangered Species Act (FESA). The USFWS also maintains a list of 'proposed' species and candidate species that are not legally protected under the FESA, but are often included in their review of a project as they may become listed in the near future. The FESA protects listed animal species from harm or "take" which is broadly defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Take can also include habitat modification or degradation that results in death or injury to a listed species. An activity can be defined as a "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under FESA if they occur on federal lands. Pursuant to the requirements of the FESA, a federal agency reviewing a proposed project within its jurisdiction must determine whether any federally-listed threatened or endangered species (plants and animals) may be present in the project area and determine whether the proposed project may affect such species. Any activities that could result in the take of a federally-listed species will require formal consultation with the USFWS.

4.2 CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) protects any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the California Department of Fish and Wildlife (CDFW) has jurisdiction over state-listed species (California Fish and Wildlife Code 2070). Take of state-listed species requires a permit from CDFW, which is granted only under strictly limited circumstances. Additionally, the CDFW maintains lists of "species of special concern" that are defined as animal species that appear to be vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats. Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed or proposed endangered or threatened species may be present in the project area and determine whether the proposed project may result in a significant impact on such species.

4.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 15380(b) of the California Environmental Quality Act (CEQA) Guidelines provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in FESA and CESA and the section of the California Fish and Wildlife Code dealing with rare or endangered plants or animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts, if it finds that the species meets the criteria of a threatened or endangered species.

4.4 CLEAN WATER ACT

Under Section 404 of the federal Clean Water Act, the U.S. Army Corps of Engineers (Corps) is responsible for regulating the discharge of fill material into waters of the United States. Waters of the U.S. and their lateral limits are defined in 33 CFR Part 328.3 (a) and include streams that are tributary to navigable waters and their adjacent wetlands. Wetlands that are not adjacent to waters of the U.S. are termed "isolated wetlands" and, depending on the circumstances, may also be subject to Corps jurisdiction. In general, a Corps permit must be obtained before placing fill in wetlands or other waters of the U.S. The type of permit depends on the acreage involved and the purpose of the proposed fill. Minor amounts of fill are sometimes covered by Nationwide Permits, which were established to streamline the permit process for projects with "minimal" impacts on wetlands or other waters of the U.S. An Individual Permit is required for projects that result in more than a minimal impact on jurisdictional areas. The Individual Permit process requires evidence that fill of jurisdictional areas has been minimized to the extent "practicable" and provides an opportunity for public review of the project.

4.5 CALIFORNIA WATER QUALITY REGULATORY PROGRAMS

Pursuant to Section 401 of the federal Clean Water Act and the state's Porter-Cologne Act, projects that are regulated by the Corps must obtain water quality certification from the Regional Water Quality Control Board (RWQCB). This certification ensures that the project will uphold state water quality standards. The RWQCB sometimes asserts jurisdiction over wetlands that the Corps does not (e.g. certain isolated wetlands) and may impose mitigation requirements even if the Corps does not. The CDFW also exerts jurisdiction over the bed and banks of watercourses and water bodies according to provisions of Section 1601 to 1603 of the Fish and Wildlife Code. The Fish and Wildlife Code requires a Stream Alteration Agreement for the fill or removal of material within the bed and banks of a watercourse or water body.

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FIGURE 1: REGIONAL LOCATION

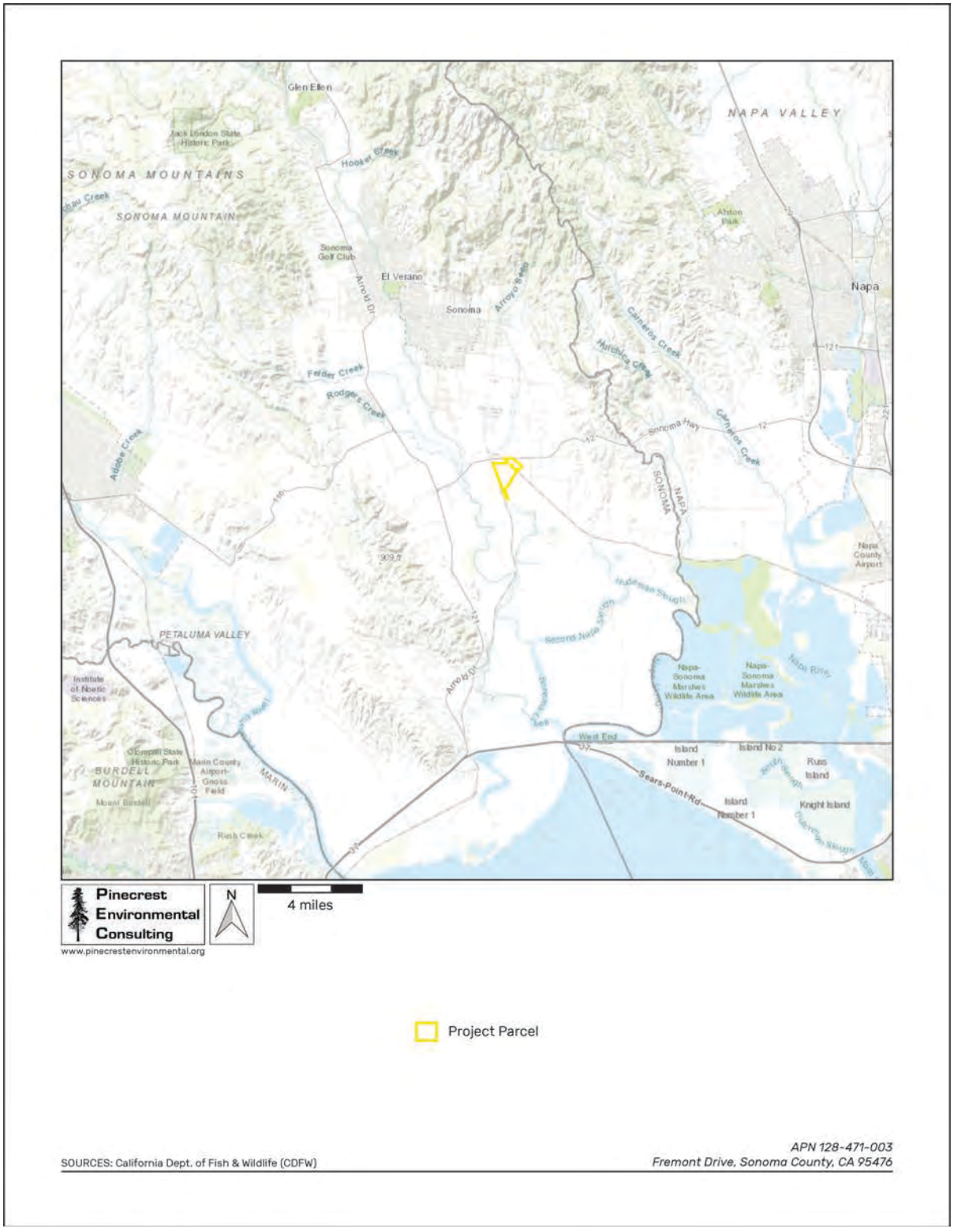


FIGURE 2: 40 FOOT CONTOURS



FIGURE 3: WATERCOURSES & POTENTIAL WETLANDS

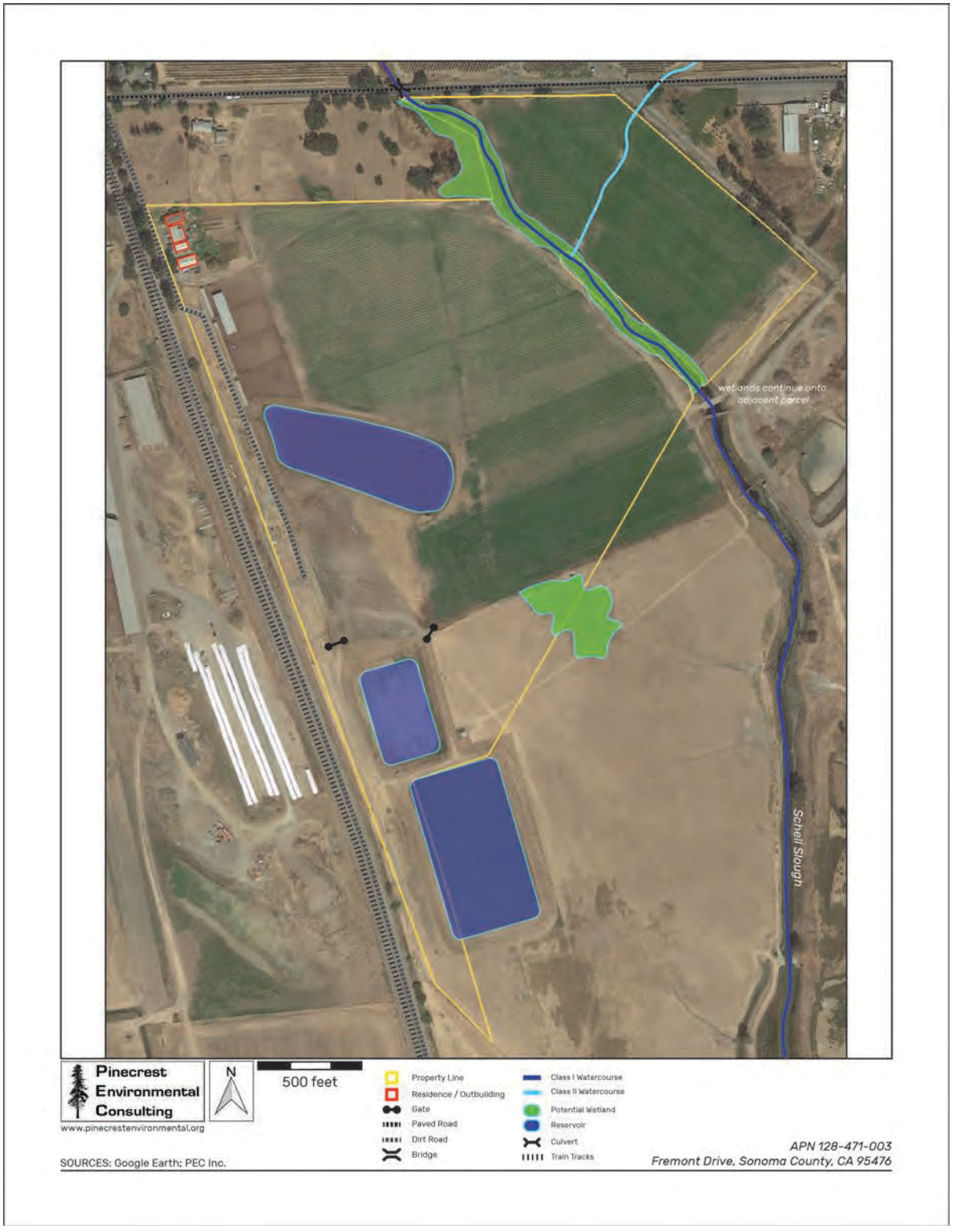


FIGURE 4: PHOTOGRAPH OF POTENTIAL CULTIVATION AREA



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-471-003
Fremont Drive, Sonoma County, CA 95476

FIGURE 5: PHOTOGRPAH OF SOUTH FENCELINE



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-471-003
Fremont Drive, Sonoma County, CA 95476

FIGURE 6: PHOTOGRAPH OF WEST FENCELINE



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-471-003
Fremont Drive, Sonoma County, CA 95476

FIGURE 7: PHOTOGRAPH OF RESERVOIR



Pinecrest Environmental Consulting
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SOURCES: PEC Inc.

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Fremont Drive, Sonoma County, CA 95476

APPENDIX A: SPECIAL-STATUS SPECIES CONSIDERED

The following is a list of special-status plant and animal species generated based on knowledge of the species and habitats of Sonoma County by PEC staff, from various State and Federal databases, and from the California Natural Diversity Database (CNDDB). CNDDB occurrences within 5 miles of the project site are shown in bold.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
PLANTS			
Alkalai milk-vetch (*Astragalus tener* var. *tener*)	—/—/1B.2	Valley grasslands, alkali sinks	Low: Some suitable alkalai habitat exists onsite.
Baker's goldfields (*Lasthenia californica* ssp. *bakeri*)	—/—/1B.2	Coastal grasslands	Low: Some grassland habitat exists onsite.
Baker's larkspur (*Delphinium bakeri*)	—/—/1B.1	Coastal scrub	None: No coastal scrub habitat exists onsite.
Baker's manzanita (*Arctostaphylos bakeri* ssp. *bakeri*)	—/—/1B.1	Serpentine chaparral, mixed evergreen forest	None: No serpentine, chaparral, or forest habitat exists onsite.
Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*)	—/—/1B.1	Vernal pools, riparian woodland	None: No vernal pools or other wetlands exist onsite.
Bent flowered fiddleneck (*Amsinckia lunaris*)	—/—/1B.2	Valley grassland, foothill woodland	Low: Some grassland habitat exists onsite.
Big scale balsamroot (*Balsamorhiza macrolepis*)	**—/—/1B.2**	**Valley grassland**	**Very Low: Some disturbed grassland habitat exists onsite.**
Big tarplant (*Blepharizonia plumosa*)	—/—/1B.1	Foothill woodland, chaparral	Low: Some grassland habitat exists onsite.
Blasdale's bent grass (*Agrostis blasdalei*)	—/—/1B.2	Coastal prairie	Low: Some grassland habitat exists onsite.
Blue coast gilia (*Gilia capitata* ssp. *chamissonis*)	—/—/1B.1	Coastal sand dunes	None: No sand dune habitat exists onsite.
Bogg's Lake hedge-hyssop (*Gratiola heterosepala*)	—/—/1B.2	Freshwater marsh, riparian	Low: Some suitable wetland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Bristly sedge (*Carex comosa*)	—/—/2B.1	Freshwater marsh, riparian	Low: Some potential wetland habitat exists onsite.
Brownish beaked-rush (*Rhynchospora capitellata*)	—/—/2B.2	Freshwater marsh, riparian	Very Low: Some potential habitat exists onsite.
Burke's goldfields (*Lasthenia burkei*)	FE/SE/1B.1	Vernal pools	None: No vernal pool habitat exists onsite.
California alkalai grass (*Puccinellia simplex*)	—/—/1B.2	Grassland, riparian	Low: Some suitable alkalai habitat exists onsite.
California beaked-rush (*Rhynchospora californica*)	—/—/1B.1	Freshwater wetlands	Low: Some potential wetland habitat exists onsite.
Calistoga ceanothus (*Ceanothus divergens*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Caper-fruited tropidocarpum (*Tropidocarpum capparideum*)	—/—/1B.1	Valley grassland	Very Low: Some grassland habitat exists onsite.
Clara Hunt's milk vetch (*Astragalus claranus*)	—/—/1B.1	Chaparral, grassland	None: No chaparral habitat exists onsite.
Coast lily (*Lilium maritimum*)	—/—/1B.1	Coastal prairie	Low: Some grassland habitat exists onsite.
Coastal bluff morning glory (*Calystegia purpurata* ssp. *saxicola*)	—/—/1B.2	Coastal prairie	Low: Some grassland habitat exists onsite.
Cobb Mountain lupine (*Lupinus sericatus*)	—/—/1B.2	Chaparral, pine forest	None: No chaparral or pine forest habitat exists onsite.
Colusa layia (*Layia septentrionalis*)	—/—/1B.2	Chaparral, valley grassland	Low: Some grassland habitat exists onsite; no chaparral habitat onsite.
Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*)	—/—/1B.1	Valley grassland, wetlands	Low: Some grassland habitat exists onsite.
Congested hayfield tarplant (*Hemizonia congesta* ssp. *congesta*)	**—/—/1B.2**	**Grassland, coastal scrub**	**Low: Some disturbed grassland habitat exists onsite.**
Contra Costa goldfields (*Lasthenia conjugens*)	**FE/—/1B.1**	**Vernal pool**	**None: No vernal pool habitat exists onsite.**
Cunningham marsh cinquefoil (*Potentilla uliginosa*)	—/—/1A	Freshwater marsh	Low: Some suitable wetland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Deceiving sedge (*Carex saliniformis*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Dwarf downingia (*Downingia pusilla*)	**—/—/2B.2**	**Vernal pool, freshwater wetland**	**None: No vernal pool habitat exists onsite.**
Fragrant fritillary (*Fritillaria liliacea*)	—/—/1B.2	Freshwater wetland, coastal prairie	Low: Some wetlands exist onsite.
Franciscan onion (*Allium peninsulare* var. *franciscanum*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Golden larkspur (*Delphinium luteum*)	FE/SR/1B.1	Chaparral, coastal prairie	Very Low: Some grassland habitat exists onsite; no chaparral onsite.
Greene's narrow-leaved daisy (*Erigeron greenei*)	—/—/1B.2	Serpentine grassland	None: No serpentine habitat exists onsite.
Holly-leaved ceanothus (*Ceanothus purpureus*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*)	—/—/1B.2	Foothill woodland	None: No woodland habitat exists onsite.
Jepson's coyote thistle (*Eryngium jepsonii*)	—/—/4.2	Wetlands and vernal pools	None: No vernal pool habitat exists onsite.
Jepson's leptosiphon (*Leptosiphon jepsonii*)	—/—/1B.2	Chaparral, serpentine grassland	None: No chaparral or serpentine habitat exists onsite.
Kenwood marsh checkerbloom (*Sidalcea oregana* ssp. *valida*)	FE/SE/1B.1	Freshwater wetlands	Low: Some suitable wetland habitat exists onsite.
Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*)	—/—/1B.3	Chaparral, foothill woodland	None: No woodland or chaparral habitat exists onsite.
Legenere (*Legenere limosa*)	—/—/1B.1	Freshwater wetland, valley grassland	Low: Some wetland habitat exists onsite.
Livermore tarplant (*Deinandra bacigalupii*)	—/—/1B.1	Grassland	Low: Some grassland habitat exists onsite.
Loch Lomond button-celery (*Eryngium constancei*)	FE/SE/1B.1	Freshwater wetland	Low: Some wetland habitat exists onsite.
Many-flowered navarretia (*Navarretia leucocephala* spp. *plieantha*)	—/—/1B.2	Vernal pools	None: No vernal pool habitat exists onsite.
Maple leaved checkerbloom (*Sidalcea malachroides*)	—/—/4.2	Coastal prairie, coniferous forest	Very Low: Some grassland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Marin knotweed (*Polygonum marinense*)	—/—/3.1	Coastal salt marsh	Low: Some coastal salt marsh habitat exists onsite.
Marsh microseris (*Microseris paludosa*)	—/—/1B.2	Northern coastal scrub	None: No scrub habitat exists onsite, and this species prefers coastal habitats.
Marsh pea (*Lathyrus palustris*)	—/—/2B.1	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Mt. St. Helena morning-glory (*Calystegia collina* ssp. *oxyphylla*)	—/—/4.2	Serpentine chaparral	None: No serpentine habitat exists onsite.
Napa checkerbloom (*Sidalcea hickmanii* ssp. *napensis*)	—/—/1B.1	Chaparral	None: No woodland habitat exists onsite.
Napa false indigo (*Amorpha californica* var. *napensis*)	**—/—/1B.2**	**Forest, woodland**	**None: No woodland habitat exists onsite.**
Narrow-anthered brodiaea (*Brodiaea leptandra*)	**—/—/1B.2**	**Foothill woodland, grassland**	**None: No woodland habitat exists onsite.**
North Coast semaphore grass (*Pleuropogon hooverianus*)	—/—/1B.1	Freshwater wetland, vernal pools	None: No vernal pool habitat exists onsite.
Oregon polemonium (*Polemonium carneum*)	—/—/2B.2	Coastal scrub, yellow pine forest	None: No forest or coastal scrub habitat exists onsite.
Oval-leaved viburnum (*Viburnum ellipticum*)	**—/—/2B.3**	**Chaparral**	**None: No chaparral habitat exists onsite.**
Pacific gilia (*Gilia capitata* ssp. *pacifica*)	—/—/1B.2	Coastal prairie, woodland, chaparral	Low: Little suitable habitat onsite.
Pappose tarplant (*Centromadia parryi* ssp. *parryi*)	**—/—/1B.2**	**Grassland, chaparral**	**None: No chaparral habitat exists onsite.**
Pennell's bird's beak (*Cordylanthus tenuis* ssp. *capillaris*)	—/—/1B.2	Chaparral	Very Low: No chaparral habitat exists onsite.
Perennial goldfields (*Lasthenia californica* ssp. *macrantha*)	—/—/1B.2	Northern coastal scrub	Very Low: Some grassland habitat exists onsite.
Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*)	—/—/1B.2	Grassland, chaparral	Low: Some suitable habitat onsite.
Petaluma popcornflower (*Plagiobothrys mollis* var. *vestitus*)	—/—/1A	Coastal salt marsh	Low: Some coastal salt marsh habitat exists onsite.
Pink sand verbena (*Abronia umbellata* var. *breviflora*)	—/—/1B.1	Coastal sand dunes	None: No sand dune habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Pitkin Marsh lily (*Lilium pardalinum* ssp. *pitkinense*)	FE/SE/1B.1	Freshwater wetlands	Low: Some suitable wetland habitat exists onsite. Presumed extinct.
Pitkin Marsh paintbrush (*Castilleja uliginosa*)	FE/SE/1A	Freshwater wetlands	Low: Some suitable wetland habitat exists onsite. Presumed extinct.
Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*)	—/—/1B.2	Coastal salt marsh	Low: Some salt marsh habiat exists onsite.
Point Reyes salty bird's beak (*Chloropyron maritimum* ssp. *palustre*)	**—/—/1B.2**	**Coastal salt marsh**	**Medium: Some salt marsh habitat exists onsite.**
Purple-stemmed checkerbloom (*Sidalcea malviflora* spp. *purpurea*)	—/—/1B.2	Wetlands	Low: Some suitable wetland habitat exists onsite.
Raiche's red ribbons (*Clarkia concinna* spp. *raichei*)	—/—/1B.1	Coastal scrub	Low: Some coastal scrub habitat exists onsite.
Rincon Ridge ceanothus (*Ceanothus confusus*)	**—/—/1B.1**	**Chaparral**	**None: No chaparral habitat exists onsite.**
Rincon Ridge manzanita (*Arctostaphylos stanfordiana* ssp. *decumbens*)	—/—/1B.1	Chaparral	None: No chaparral habitat exists onsite.
Round-headed beaked-rush (*Rhynchospora globularis*)	—/—/2B.1	Freshwater wetlands, riparian	Low: Some potential wetland habitat exists onsite.
Round-leaved filaree (*California macrophylla*)	—/—/1B.2	Foothill grassland	Medium: Some grassland habitat exists onsite.
Saline clover (*Trifolium hydrophilum*)	**—/—/1B.2**	**Wetland, riparian**	**Medium: Some wetland habitat exists onsite.**
Sebastopol meadowfoam (*Limnanthes vinculans*)	FE/SE/1B.1	Freshwater wetland, vernal pools	None: No vernal pool habitat exists onsite.
Short-leaved evax (*Hesperevax sparsiflora var. brevifolia*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Soft salty bird's beak (*Chloropyron molle* ssp. *molle*)	FE/ST/1B.2	Coastal salt marsh	Low: Some salt marsh habitat exists onsite.
Sonoma alopecurus (*Alopecurus aequalis* var. *sonomensis*)	FE/—/1B.1	Freshwater wetland, vernal pools	None: No vernal pool habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Sonoma beardtongue (*Penstemon newberryi* var. *sonomensis*)	—/—/1B.3	Chaparral	Very Low: Some grassland habitat exists onsite.
Sonoma ceanothus (*Ceanothus sonomensis*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Sonoma spineflower (*Chorizanthe valida*)	—/—/1B.1	Coastal prairie	Low: Some grassland habitat exists onsite.
Sonoma sunshine (*Blennosperma bakeri*)	**—/—/1B.1**	**Valley grassland, freshwater wetland**	**Medium: Some grassland and wetland habitat exists onsite.**
Supple daisy (*Erigeron supplex*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Swamp harebell (*Campanula californica*)	—/—/1B.2	Coastal prairie, freshwater wetlands	Low: Some wetlands exist on site.
Thin-lobed horkelia (*Horkelia tenuiloba*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Thurber's reed grass (*Calamagrostis crassiglumis*)	—/—/2B.1	Coastal scrub, freshwater wetland	Low: Some wetland habitat exists outside of the project area.
Two-fork clover (*Trifolium amoenum*)	—/—/1B.1	Grassland, wetland	Medium: Some grassland habitat exists onsite.
Western leatherwood (*Dirca occidentalis*)	—/—/1B.2	Foothill woodland, chaparral	None: No chaparral or woodland habitat exists onsite.
White beaked-rush (*Rhynchospora alba*)	—/—/2B.2	Wetlands, riparian	Low: Some suitable wetland habitat exists onsite.
White flowered rein orchid (*Piperia candida*)	—/—/1B.2	Yellow pine forest	None: No forest habitat exists onsite.
Wolly headed gilia (*Gilia capitata* ssp. *tomentosa*)	—/—/1B.1	Coastal prairie	Low: Some grassland habitat exists onsite.
MOSSES, LICHENS & LIVERWORTS			
Methuselah's beard lichen (*Dolichousnea longissima*)	—/—/4.2	Old growth conifer and hardwood forests	None: No old growth Douglas fir forest exists onsite.
Slender silver moss (*Anomobryum julaceum*)	—/—/4.2	Rocky substrates in forests	None: No forest habitat exists onsite.
Coastal triquetrella (*Triquetrella californica*)	—/—/1B.2	Forest, woodland	None: No forest habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
FISH			
Chinook Salmon Sacramento River Winter Run (*Oncorhynchus kisutch*)	**FE/SE/—**	**Freshwater streams, open ocean and estuaries**	**Medium: Some streams exist onsite but not near the proposed cultivation area.**
Chinook Salmon Central Valley Spring Run (*Oncorhynchus kisutch*)	**FT/SE/—**	**Freshwater streams, open ocean and estuaries**	**Medium: Some streams exist onsite but not near the proposed cultivation area.**
Coho Salmon Central California Coast ESU (*Oncorhynchus kisutch*)	**FE/SE/—**	**Freshwater streams, open ocean and estuaries**	**Medium: Some streams exist onsite but not near the proposed cultivation area.**
Gualala roach (*Lavinia symmetricus parvipinnis*)	—/SSC/—	Freshwater streams	None: No suitable streams exist onsite.
Longfin smelt (*Spirinchus thaleichthys*)	FT/ST/—	Estuaries and coastal lakes	None: No suitable estuary habitat exists onsite.
Navarro roach (*Lavinia symmetricus navarroensis*)	—/SSC/—	Freshwater streams	None: No suitable streams exist onsite.
Sacramento splittail (*Pogonichthys macrolepidotus*)	—/SSC/—	Low gradient freshwater streams	None: No suitable streams exist onsite.
Steelhead Central California Coast DPS (*Oncorhynchus mykiss irideus*)	**FT/—/—**	**Freshwater streams, open ocean and estuaries**	**Medium: Some streams exist onsite but not near the proposed cultivation area.**
Tidewater goby (*Eucyclogobius newberryi*)	**FE/SSC/—**	**Brackish coastal lagoons and streams**	**Low: Some streams exist onsite but not near the proposed cultivation area.**
AMPHIBIANS & REPTILES			
California giant salamander (*Dicamptodon ensatus*)	—/SSC/—	Wetlands and riparian areas	None: No suitable habitat exists onsite.
California glossy snake (*Arizona elegans occidentalis*)	—/SSC/—	Grasslands	Low: Some habitat exists onsite.
California red-legged frog (*Rana draytonii*)	**FT/SSC/—**	**Vernal pools, seasonal pools, stock ponds, and associated grasslands**	**Low: Some suitable wetland habitat exists onsite, but not near the proposed cultivation area.**
California tiger salamander (*Ambystoma californiense*)	FT/SSC/—	Ponds, streams, drainages, and associated uplands	Low: No suitable wetland habitat exists onsite, some estivation habitat may exist onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Foothill yellow-legged frog (*Rana boylii*)	—/SSC/—	Wetlands, riparian, streams and ponds	None: No suitable wetland habitat exists onsite.
Red bellied newt (*Taricha rivularis*)	—/SSC/—	Woodland streams, riparian corridors	None: No suitable stream habitat exists onsite.
San Joaquin coachwhip (*Masticophis flagellum ruddocki*)	—/SSC/—	Grasslands	Medium: Some suitable grassland habitat exists onsite.
Western pond turtle (*Emys marmorata*)	**—/SSC/—**	**Slow-moving creeks, streams, ponds, rivers, ditches; sandy banks and fields for nesting**	**None: No suitable pond habitat exists near the proposed cultivation area.**
INVERTEBRATES			
Behren's silverspot butterfly (*Speyeria zerene behrensii*)	FE/SSC/—	Coastal prairie	None: Requires blue violet to reproduce; none onsite.
California brackishwater snail (*Tryonia imitator*)	—/SSC/—	Brackish wetlands	None: No suitable wetland habitat exists onsite.
California floater (*Anodonta californiensis*)	—/SSC/—	Freshwater ponds, streams	None: No suitable stream habitat exists onsite.
California freshwater shrimp (*Syncaris pacifica*)	**FE/SE/—**	**Freshwater ponds, streams**	**None: No suitable vernal pool habitat exists onsite.**
California linderiella (*Linderiella occidentalis*)	—/SSC/—	Vernal pools	None: No vernal pool habitat exists onsite.
Crotch bumble bee (*Bombus crotchii*)	—/SSC/—	Grassland and chaparral	Medium: Some grassland habitat exists onsite.
Leech's skyline diving beetle (*Hydroporus leechi*)	—/SSC/—	Freshwater ponds	None: No suitable pond habitat exists onsite.
Myrtle silverspot butterfly (*Speyeria zerene myrtleae*)	FE/SSC/—	Coastal prairie, chaparral	None: Requires western dog violet for reproduction; none onsite.
Monarch butterfly California overwintering Population #1 (*Danaus plexippus*)	**—/SSC/—**	**Large trees required for roosting.**	**Medium: Site has some suitable trees for roosting.**
Obscure bumble bee (*Bombus caliginosus*)	—/SSC/—	Grassland, foothill woodland, chaparral	Medium: Some disturbed grassland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Opler's longhorn moth (*Adela oplerella*)	**—/SSC/—**	**Usually associated with *Platystemon* (creamcups)**	**Very Low: No suitable host plants onsite.**
Oregon floater (*Anodonta oregonensis*)	—/SSC/—	High order freshwater streams	None: No suitable stream habitat exists onsite.
Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*)	—/SSC/—	Freshwater ponds	None: No pond habitat exists onsite.
Sonoma zerene fritillary (*Speyeria zerene sonomensis*)	**—/SSC/—**	**Grasslands and meadows**	**None: Requires *Viola* for reproduction; none onsite.**
Tomales isopod (*Caecidotea tomalensis*)	—/SSC/—	Ponds and streams	None: No pond or stream habitat exists onsite.
Western bumblebee (*Bombus occidentalis*)	**—/SSC/—**	**Grassland**	**Medium: Some disturbed grassland habitat exists onsite.**
Vernal pool andrenid bee (*Andrena blennospermatis*)	**—/SSC/—**	**Upland areas near vernal pools**	**None: No vernal pool habitat exists onsite.**
BIRDS			
American perigrine falcon (*Falco peregrinus anatum*)	—/SSC/—	Forages in open grasslands, nests in trees	Very Low: No suitable nesting or foraging habitat exists.
Bank swallow (*Riparia riparia*)	**FE/SE/—**	**Migratory, typically found near lakes and streams**	**Medium: One occurrence of this species from the site.**
Black swift (*Cypseloides niger*)	—/SSC/—	Cliff faces near water	None: No suitable stream habitat exists onsite.
Burrowing owl (*Athene cunicularia*)	**—/SSC/—**	**Grasslands**	**Low: Some suitable grassland habitat exists onsite, but not near the proposed cultivation areas.**
California black rail (*Laterallus jamaicensis coturniculus*)	**FE/SE/—**	**Coastal salt marshes and mudflats**	**Medium: Some suitable salt marsh habitat exists onsite in the eastern portion of the site.**
California horned lark (*Eremophila alpestris actia*)	—/SSC/—	Herbaceous vegetation, chaparral	None: No suitable scrub or chaparral habitat exists onsite.
Cooper's hawk (*Accipiter cooperii*)	—/WL/—	Forages over open grassland.	Low: Some suitable foraging habitat exists onsite. No suitable nesting habitat onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Ferruginous hawk (*Buteo regalis*)	—/SSC/—	Forages over open grassland. Nests in old-growth trees.	Low: Little suitable foraging habitat exists onsite. No suitable nesting habitat onsite.
Golden eagle (*Aquila chrysaetos*)	—/SSC/—	Forages over open grassland. Nests in old-growth trees.	Very Low: Little suitable foraging habitat exists onsite. No suitable nesting habitat.
Grasshopper sparrow (*Ammodramus savannarum*)	—/SSC/—	Forages over open grassland.	Low: Some suitable foraging habitat exists onsite.
Great egret (*Ardea alba*)	FE/SE/—	Nests in colonies in trees, forages in wetlands and grasslands	Medium: Some suitable habitat exists onsite.
Ridgway's rail (*Rallus obsoletus obsoletus*)	**FE/SE/—**	**Mudflats and tidal sloughs**	**Low: Some suitable tidal habitat exists but not near the proposed cultivation area.**
Salt marsh common yellowthroat (*Geothlypis trichas sinuosa*)	**—/SSC/—**	**Forages in grasslands and nests in dense freshwater marshes**	**Medium: No suitable nesting habitat exists. Some suitable foraging habitat.**
San Pablo song sparrow (*Melospiza melodia samuelis*)	**—/SSC/—**	**Forages in grasslands and nests in dense freshwater marshes**	**Medium: No suitable nesting habitat exists. Some suitable foraging habitat.**
Tricolored blackbird (*Agelaius tricolor*)	—/SSC/—	Forages in grasslands and nests in dense freshwater marshes	Low: Some suitable nesting habitat exists onsite. Some suitable foraging habitat onsite.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	—/SE/—	Woodland, riparian	Very Low: No suitable nesting habitat exists. Some suitable foraging habitat exists.
White-tailed kite (*Elanus leucurus*)	—/CFP/—	Prefers to nest in marshes adjacent to deciduous forests.	Very Low: No suitable nesting habitat exists. Some suitable foraging habitat exists.
Yellow rail (*Coturnicops noveboracensis*)	**—/SSC/—**	**Breeds in marshes, forages in wet meadows.**	**Medium: Some marsh habiat exists onsite, but not near the proposed cultivation area.**
MAMMALS			
American badger (*Taxidea taxus*)	—/SSC/—	Open grassland habitats with plenty of prey. Prefers complex topography for burrows and cover.	Low: Insufficient habitat complexity exists for this territorial animal.
Big free-tailed bat (*Nyctinomops macrotis*)	—/SSC/—	Forages over open areas, roots in trees or caves	Low: Some suitable foraging habitat available.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Fringed myotis (*Myotis thysanodes*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Low: Some foraging habitat exists in the project area.
Hoary bat (*Lasiurus cinereus*)	—/SSC/—	Forages over open areas, roots in trees or caves at high altitude.	None: Foraging limited to high altitudes; no suitable roosts in the project area.
Long-eared myotis (*Myotis evotis*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Low: Some foraging habitat exists; some suitable roosts in the project area.
Long-legged myotis (*Myotis volans*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Very Low: Some foraging habitat exists; no suitable roosts in the project area.
North American porcupine (*Erethizon dorsatum*)	—/SSC/—	Require rocky areas or trees for dens, abundant open space for foraging.	Very Low: Some foraging habitat exists; little suitable den habitat in the project area.
Pallid bat (*Antrozous pallidus*)	**—/SSC/—**	**Common in open dry habitats with rocky areas for roosting.**	**Very Low: Some foraging habitat exists; no suitable roosts in the project area.**
Salt marsh harvest mouse (*Reithrodontomys raviventris*)	**FE/SE/—**	**Salt marshes**	**Low: Some salt marsh habitat exists onsite, although not near the project area.**
Sonoma tree vole (*Arborimus pomo*)	—/SSC/—	Old growth Douglas fir canopies.	None: No forest habitat exists onsite.
Townsend's big-eared bat (*Corynorhinus townsendii*)	—/SSC/—	Hibernate in mines or caves, roost in man made structures and caves, forages at night.	Low: Few man-made structures or caves exist onsite that are suitable for roosting. Some habitat for foraging exists.
Western red bat (*Lasiurus blossevillii*)	—/SSC/—	Forages over open areas, roots in trees or caves.	Very Low: No suitable nesting habitat exists, some suitable foraging habitat exists.
Yuma myotis (*Myotis yumanensis*)	—/SSC/—	Forages over open areas, roots in trees or caves.	Very Low: No suitable nesting habitat exists, some suitable foraging habitat exists.
HABITATS			
Coastal & Valley Freshwater Marsh (CVFM)	—	—	None: No marsh habitat exists onsite.
Coastal Brackish Marsh (CVFM)	**—**	**—**	**Medium: Some brackish marshes exists onsite.**

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Northern Coastal Salt Marsh (NCSM)	**—**	**—**	**Medium: Some salt marsh habitat exists onsite.**
Northern Hardpan Vernal Pool (NHVP)	—	—	None: No hardpan vernal pool habitat exists onsite.
Northern Vernal Pool (NVP)	**—**	**—**	**None: No vernal pool habitat exists onsite.**
Sycamore Alluvial Woodland (SAW)	—	—	None: No woodland habitat exists onsite.
Valley Needlegrass Grassland (VNG)	—	—	Low: Some grassland habitat exists onsite.
Valley Sink Scrub (VSS)	—	—	None: No sink habitat exists onsite.

[1] Status:

Federal
FE = Federally Endangered Species
FT = Federally Threatened Species

State
SE = State Endangered Species
ST = State Threatened Species
SR = State Rare (applies to plants only)
SSC = California Species of Special Concern
CFP = California Fully Protected Species

CNPS (applies to plants only)
List 1B = plants considered rare, threatened, or endangered in California and elsewhere
List 2B = plants rare, threatened or endangered in California, but more common elsewhere
List 4 = plants of limited distribution

[2] USFWS

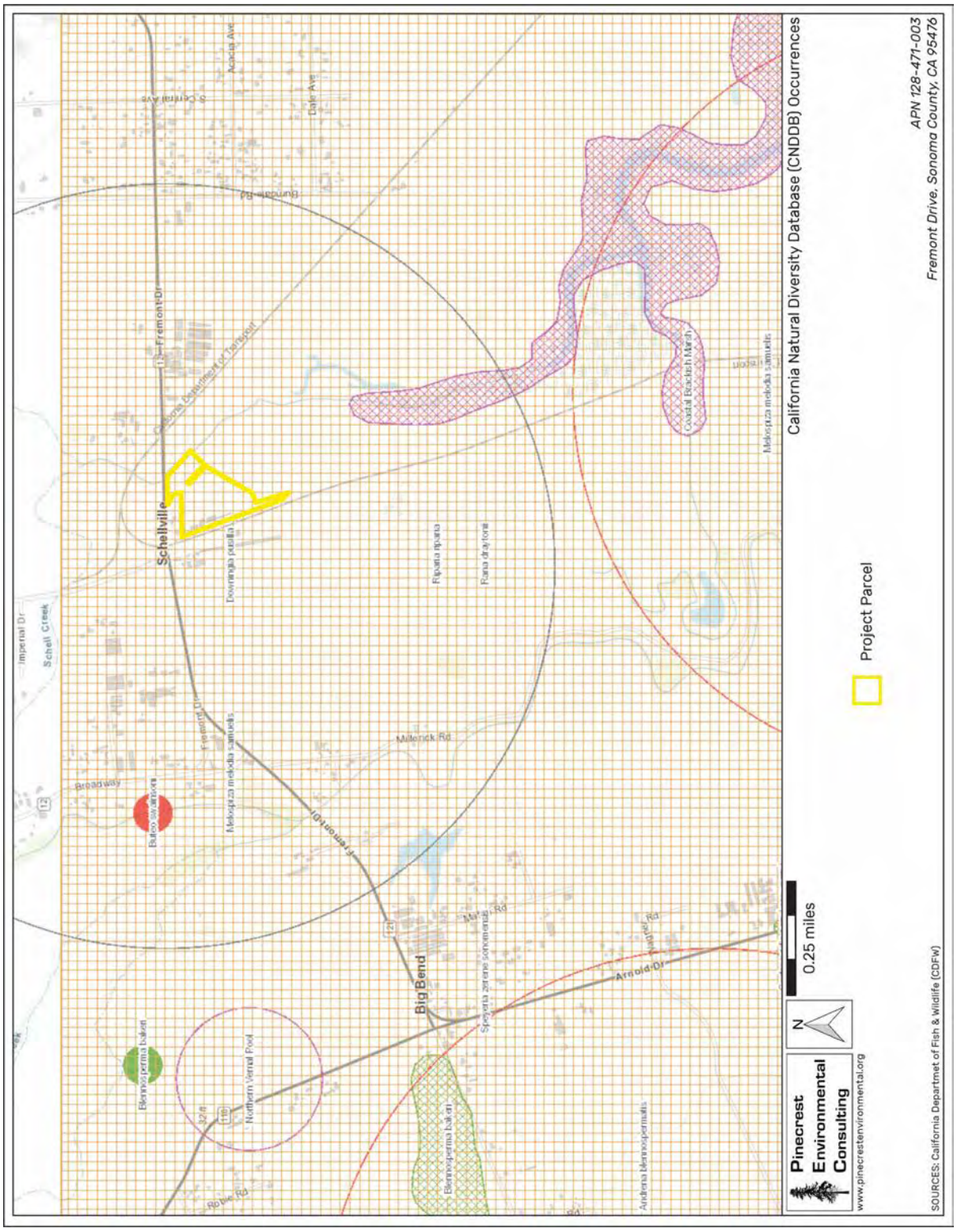
APPENDIX B: SPECIES ENCOUNTERED

PLANTS
Acmispon americanus
Artemisia douglasiana
Atriplex prostrata
Avena barbata
Baccharis pilularis
Bolboschoenus maritimus
Brassica rapa
Bromus hordeaceous
Cardamine californica
Cardamine hirsuta
Centaurea solstitialis
Chenopodium album
Circium pycnocephalus
Cirsium vulgare
Convolvulus arvensis
Cotula coronopifolia
Croton setiger
Cynosurus echinatus
Cyperus eragrostis
Daucus carota
Dipsacus fullonum
Distichlis spicata
Elymus caput-medusae
Erigeron canadensis
Erodium botrys
Euphorbia maculata
Festuca perennis
Frankenia salina
Geranium molle
Geranium molle
Heliotropium curassavicum
Helminthotheca echioides
Helminthotheca echioides
Holcus lanatus
Hordeum murinum
Hypochaeris glabra
Juncus patens
Lepidium heterophyllum
Lythrum hyssopifolia

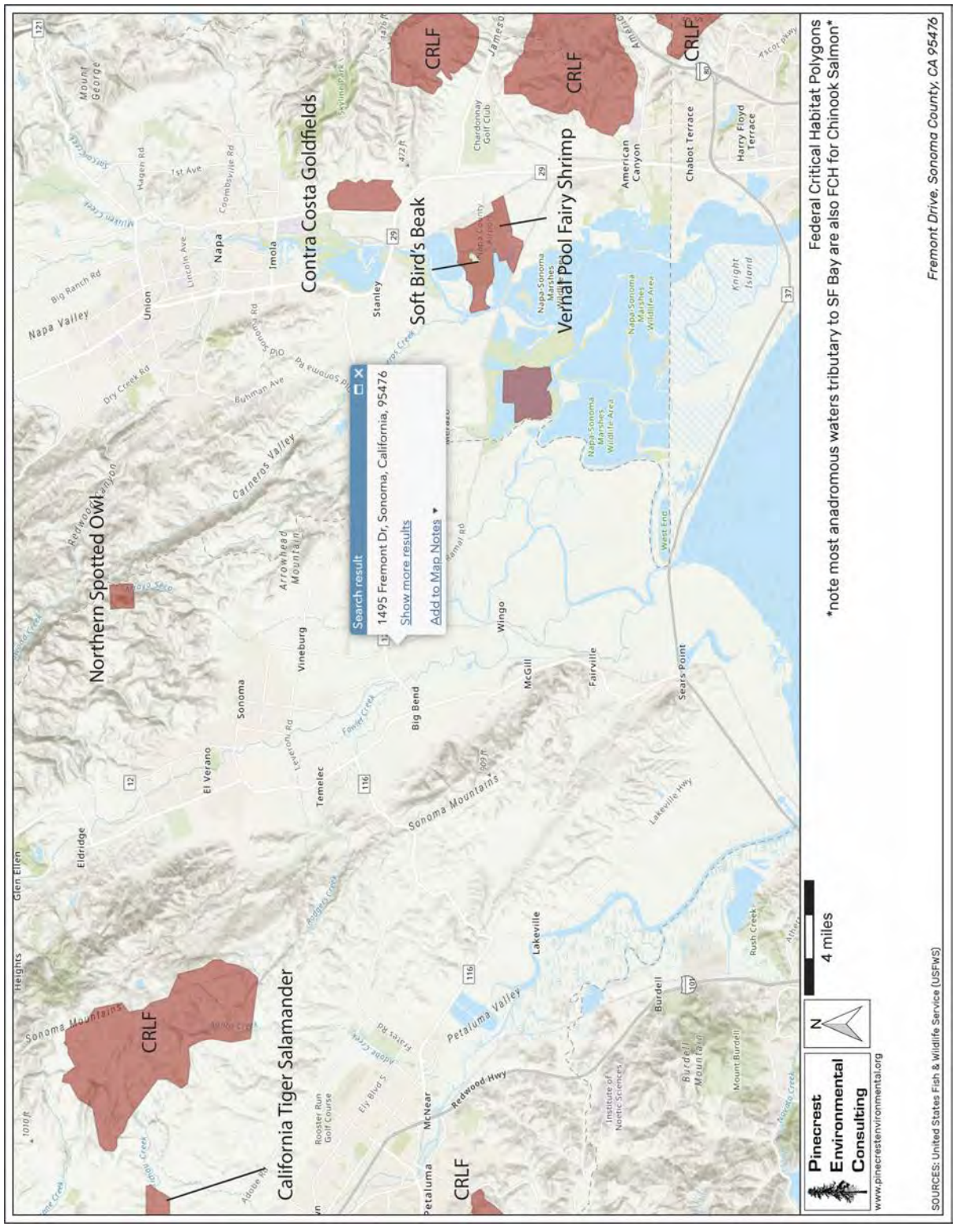
Malva parviflora
Medicago sativa
Mentha pulegium
Phalaris aquatica
Plantago major
Polypogon monspeliensis
Raphanus sativus
Rubus armeniacus
Rumex acetocella
Rumex crispus
Salicornia pacifica
Salsola tragus
Sonchus asper
Spergula arvensis
Tetragonia tetragonioides
Torilis nodosa
Trifolium hirtum
Trifolium repens
Typha latifolia
Vicia sativa
Vicia sativa
Xanthium spinosum

ANIMALS
Agelaius phoeniceus
Aphelocoma californica
Ardea herodias
Buteo jamaicensis
Calypte anna
Canis latrans
Cathartes aura
Corvus brachyrhynchos
Egretta thula
Elanus leucurus
Euphagus cyanocephalus
Hirundo rustica
Larus occidentalis
Lepus californicus
Microtus californicus
Phalacrocorax carbo
Sialia mexicana
Spinus psaltria
Thomomys bottae
Zenaida macroura
Zonotrichia leucophrys

APPENDIX C: CNDDB OCCURRENCES MAP



APPENDIX D: MAP OF FEDERAL CRITICAL HABITAT



APPENDIX E: STREAM CLASSIFICATION CRITERIA

The following stream classification criteria were copied form the California Department of Forestry & Fire Protection *Forest Practice Rules* (CALFIRE 2017) and is widely used by many state and local agencies. Most state and local jurisdictions require setbacks of 50, 100, and 150 feet from Class III, II, and I streams, respectively (as shown in Figure 3) although greater setbacks may be required in some jurisdictions.

Watercourse – a natural or artificial channel through which water flows.

- Perennial watercourse (Class I*):
  1. In the absence of diversions, water is flowing for more than nine months during a typical year,
  2. Fish always or seasonally present onsite or includes habitat to sustain fish migration and spawning, and/or
  3. Spring: an area where there is concentrated discharge of ground water that flows at the ground surface. A spring may flow any part of the year. For the purpose of this Policy, a spring does not have a defined bed and banks.
- Intermittent watercourse (Class II*):
  1. In the absence of diversions, water is flowing for three to nine months during a typical year,
  2. Provides aquatic habitat for non-fish aquatic species,
  3. Fish always or seasonally present within 1,000 feet downstream, and/or
  4. Water is flowing less than three months during a typical year and the stream supports riparian vegetation.
- Ephemeral watercourse (Class III*): In the absence of diversion, water is flowing less than three months during a typical year and the stream does not support riparian vegetation or aquatic life. Ephemeral watercourses typically have water flowing for a short duration after precipitation events or snowmelt and show evidence of being capable of sediment transport.
- Other watercourses (Class IV*): Class IV watercourses do not support native aquatic species and are man-made, provide established domestic, agricultural, hydroelectric supply, or other beneficial use.

*Except where more restrictive, stream class designations are equivalent to the Forest Practice Rules Water Course and Lake Protection Zone definitions (California Code of Regulations, title 14, Chapter 4. Forest Practice Rules, Subchapters 4, 5, and 6 Forest District Rules, Article 6 Water Course and Lake Protection).

APPENDIX F: CANNABIS CULTIVATION BEST MANAGEMENT PRACTICES

Best management practices (BMPs) are designed to prevent, minimize, and control the discharge of waste and pollutants associated with site operations and maintenance for the aforementioned project. Many of these BMPs are considered enforceable conditions under North Coast Regional Water Quality Board Order No. R1-2015-0023 and applicable State Water Resources Control Board *Cannabis* General Order No. WQ 2019-0001-DWQ.

F.1 CANNABIS CULTIVATION

- Pesticide and fertilizer storage facilities shall be located outside of the Riparian Corridor setbacks for structures.
- Pesticide and fertilizer storage facilities shall not be located within 100 feet of a wellhead, or within 50 feet of identified wetlands.
- Pesticide and fertilizer storage facilities shall be adequate to protect pesticide and fertilizer containers from the weather.
- Store all bags and boxes of pesticides and fertilizers off the ground on pallets or shelves.
- If the structure does not have an impermeable floor, store all liquid pesticides and fertilizers on shelves capable of containing spills or provide appropriate secondary containment.
- Routinely check for leaks and spills.
- Have spill cleanup kit onsite to be able to respond to any leaks or spills.
- Inspect planting stock for pests and diseases prior to planting. Avoid planting stock with pests and disease and notify the supplier of the planting stock of the infestation.
- Comply with all pesticide laws and regulations as enforced by the California Department of Pesticide Regulation and Sonoma County Agricultural Commissioner.
- For pesticides with the signal word CAUTION that have listed food uses, comply with all pesticide label directions as they pertain to personal protective equipment, application method, and rate, environmental hazards, longest reentry intervals and greenhouse and indoor use directions.
- For all other pesticides, use must comply with all label requirements including site and crop restrictions.
- Prior to the use of any registered pesticide on cannabis, Operator Identification Number should be obtained from the County Agricultural Commissioner if required.
- Submit monthly pesticide use reports to the County Agricultural Commissioner if required.

- Prior to applying fertilizers, evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over fertilization.
- Apply fertilizers at label rates and no higher.
- Do not apply fertilizers in a way that will result in runoff that may contaminate ground or surface water or escape via airborne drift or fugitive dust.
- Observe riparian corridor setbacks for agricultural cultivation as applicable. These shall be maintained as "no touch" areas. The removal of vegetation is prohibited within these setback areas.
- No equipment, vehicles, or other materials shall be stored in the riparian setback areas.
- Composting areas shall not be located in the riparian setback areas.
- Irrigation must be conducted in a manner that does not result in runoff from the cultivated area.
- Any water tanks or storage facilities must obtain all necessary permits from the Sonoma County Permit and Resource Management Department (PRMD).
- The use of membrane based water bladders is prohibited.
- If using an irrigation system, inspect for and repair leaks prior to planting each year and continuously during the season.
- Irrigation systems shall be equipped with a backflow prevention devices and shutoff valves.
- Recycle or properly dispose of all plastic bags, containers, and irrigation materials.
- Properly dispose of green waste in a manner that does not discharge pollutants to a watercourse. This may be accomplished by composting, chipping, and/or shredding. The method of green waste disposal must be documented.
- Used growth medium (soil and other organic medium) shall be handled to minimize or prevent discharge of soil and residual nutrients and chemicals to watercourses. Proper disposal could include incorporating into garden beds, spreading on a stable surface and re-vegetating, storage in watertight dumpsters, or covering with tarps or plastic sheeting prior to proper disposal. The method of disposal must be documented.
- Compost piles are to be located outside of riparian setbacks for agricultural cultivation and in a manner that will not discharge pollutants to a watercourse. If necessary, construct a berm or install fiber roll around compost area to prevent runoff or use straw wattles around perimeter.
- Cover compost piles with tarp or impermeable surface prior to fall rains and continuously throughout the rainy season.
- Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
- Avoid soil disturbance between November 1 and April 15 and during times of active precipitation.
- All exposed and disturbed soil must be covered with a minimum of 2 inches of mulch, such as straw, bark, wood chips, etc., by November 15. Alternatively, establish a thick cover crop over disturbed areas composed of native species.

- Erosion control materials shall be available on site at all times in the form of straw or appropriate mulch adequate to cover area of disturbed soil.
- In the event of a forecast storm event likely to produce runoff, apply mulch to disturbed areas prior to rain event.
- Any grading or drainage conducted as part of site preparation shall have the appropriate permits from the Sonoma County PRMD.

F.2 EROSION & SEDIMENT CONTROL

- Erosion control and sediment detention devices and materials shall be incorporated into the cleanup/restoration work design and installed prior to the end of project work and before the beginning of the rainy season or any predicted rain events.
- Any continuing, approved project work conducted after October 15 shall have erosion control measures completed and up-to-date.
- All erosion control measures shall be inspected daily during severe rain events.
- Erosion control materials shall be, at minimum, stored on-site at all times during approved project work between May 1 and October 15.
- Approved project work within the 5-year flood plain shall not begin until all temporary erosion controls (straw bales or silt fences that are effectively keyed-in) are installed downslope of cleanup/restoration activities.
- Native species appropriate to the local habitat shall be used for all revegetation purposes. Non-invasive, non-persistent grass species (e.g., barley grass) may be used for their temporary erosion control benefits to stabilize disturbed slopes and prevent exposure of disturbed soils to rainfall.
- Upon work completion, all exposed soil present in and around the cleanup/restoration sites shall be stabilized within 7 days.
- The disturbed area will be minimized at all times to only that which is essential for the completion of the project.
- Provide temporary cover over disturbed areas that are not currently being worked on.
- Heavy equipment shall not be used in flowing water.
- Use of heavy equipment shall be avoided or minimized in a channel bottom with rocky or cobbled substrate.
- Heavy equipment shall not introduce chemicals or foreign sediment to the channel (e.g., remove mud from tracks or cover channel work area with plastic sheeting prior to heavy equipment entry).
- When heavy equipment is used, any woody debris and stream bank or streambed vegetation disturbed shall be replaced to a pre-project density with native species appropriate to the site.
- When possible, existing ingress or egress points shall be used or work shall be performed remotely from the top of the creek banks.

- Divert runoff away from unprotected slopes or loose soils using a combination of mats, geotextiles, silt fencing, wattling, check dams, sediment basins, vegetated buffers, or rock armor.
- Deploy appropriate erosion control measures such as silt fencing or straw wattles around all temporary exposed piles or soil or surface disturbances.
- All temporary exposed piles or soil or surface disturbances shall have tarping and sand bags or other stabilization materials deployed in order to prevent discharge of sediments in the event of a rain or wind event.
- Geotechnical fabric shall be deployed on all exposed dirt surfaces with a slope of greater than 15% and staked in place during ground disturbing activities, and silt fencing deployed on slopes of greater than 15% where appropriate.
- Sand bags, straw bales, or other devices shall be placed at appropriate locations near and alongside the roadsides and swales in anticipation of large storm events.
- Bioswales and cultivation areas including parking areas shall be maintained free of trash including empty soil and pesticide or fertilizer containers.
- Locations of sediment sources shall be identified during rain events and mitigated where appropriate.
- Protect ditch inlets and outlets from erosion using rock armor.
- Silt fencing shall be installed downstream of rock piles, stockpiles, and temporary soils storage areas.
- Desilting or retention basins shall be installed if the capacity of the natural percolation exceeds the inputs during routine storm events.
- Sediment traps shall be used on all exposed driveway surfaces where natural vegetation is not able to be established.
- Exposed unvegetated surfaces will be graveled where appropriate.
- Rock placed for slope protection shall be the minimum necessary to avoid erosion, and shall be part of a design that provides for native plant revegetation and minimizes bank armoring.
- Soil exposed as a result of project work, soil above rock riprap, and interstitial spaces between rocks shall be revegetated with native vegetation by live planting, seed casting, or hydroseeding prior to the rainy season of the year work is completed.
- Avoidance of earthwork on steep slopes and minimization of cut/fill volumes, combined with proper compaction, shall occur to ensure the area is resilient to issues associated with seismic events and mass wasting. If cracks are observed, or new construction is anticipated, consultation with a qualified professional is recommended.
- Culvert fill slopes shall be constructed at a 2:1 slope or shall be armored with rock.
- If it is necessary to conduct work in or near a live stream, the work space shall be isolated to avoid project activities in flowing water.
- Any spoils associated with site maintenance shall be placed in a stable location where it cannot enter a watercourse.

- Sidecasting shall be minimized and shall be avoided on unstable areas or where it has the potential to enter a watercourse.
- Entrance to the project site shall be maintained in a condition that will prevent tracking or flowing of sediment into the public right-of-way.
- All sediment spilled, dropped, washed, or tracked onto the public right-of-ways shall be removed immediately.
- When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-ways.
- When wheel washing is required, it shall be done in an area stabilized with crushed stone that drains into a sediment trap fitted with appropriate erosion control measures.
- To control surface water runoff in and around cultivation areas use fiber rolls or wattling and stake appropriately and perpendicular to the flow path.
- Cover crops should be utilized on all exposed slopes that are not able to be protected by other means.
- Cover crops should be native species as described in the associated biological resources report.
- Rip compacted soils prior to placing spoils to prevent the potential for ponding under the spoils that could result in spoil site failure and subsequent sedimentation.
- Compact and contour stored spoils to mimic the natural slope contours and drainage patterns to reduce the potential for fill saturation and failure.
- Ensure that spoil materials are free of woody debris, and not placed on top of brush, logs or trees.
- Inspect all roads and culverts regularly for blockages.

F.3 WATER USE & POLLUTION

- Ensure that all appropriate water rights permits are filed with the State Water Resources Control Board.
- Notify the California Department of Fish and Wildlife by submitting a Lake and Streambed Alteration (LSA) notification package if the proposed activities involve substantial diversion from or alteration of the bed or bank of a stream or other waterbody.
- Ensure that all water storage features are permitted from the Department of Water Rights if necessary.
- All refueling and pesticide and chemical storage and transfer shall occur greater than 100 feet away from any swales, creeks, or natural areas.
- All refueling and pesticide and chemical storage and transfer shall occur on top of an impermeable metal or other fabric mat that is no less than 2 inches high on all sides and capable of completely containing any spillage.

- Concrete truck and other vehicles shall not be washed out in natural areas or directly onto soil and shall be washed out into a metal or other impermeable basin and disposed of properly such that no water is discharged to the soil.
- All waste shall be kept in plastic drums with tight fitting lids so that water is not able to make contact with the contents and potentially leach to the environment.
- All pesticide sprays shall occur on windless nights for outdoor facilities.
- Chemical or fertilizer wastes shall never be disposed of into swales or creeks and shall be contained inside closed-roof facilities and designated with appropriate labeling until it is possible to dispose of properly.
- Septic leach fields and graywater mulch fields shall be maintained free of large vegetation and not used for aboveground storage that may impact their proper functioning.
- Chemical contamination (fuel, grease, oil, hydraulic fluid, solvents, etc.) of water and soils is prohibited during routine equipment operation and maintenance.
- The use or storage of petroleum-powered equipment shall be accomplished in a manner that prevents the potential release of petroleum materials into waters of the state (Fish and Game Code 5650).
- Schedule excavation and grading activities for dry weather periods.
- Designate a contained area for equipment storage, short-term maintenance, and refueling. Ensure it is located at least 50 feet from waterbodies.
- Inspect vehicles for leaks and repair immediately.
- Clean up leaks, drips and other spills immediately to avoid soil or groundwater contamination.
- Conduct major vehicle maintenance and washing offsite.
- Ensure that all spent fluids including motor oil, radiator coolant, or other fluids and used vehicle batteries are collected, stored, and recycled as hazardous waste offsite.
- Ensure that all construction debris is taken to appropriate landfills and all sediment disposed of in upland areas or offsite, beyond the 100-year floodplain.
- Use dry cleanup methods (e.g., absorbent materials, cat litter, and/or rags) whenever possible. If necessary for dust control, use only a minimal amount of water.
- Sweep up spilled dry materials immediately.
- Separate organic material (e.g., roots, stumps) from the dirt fill and store separately. Place this material in long-term, upland storage sites, as it cannot be used for fill.
- Spoils shall not be placed or stored in locations where soils are wet or unstable, or where slope stability could be adversely affected.
- Do not locate spoil piles in or immediately adjacent to wetlands and watercourses.
- Store spoil piles in a manner (e.g. cover pile with plastic tarps and surround base of pile with straw wattle) or location that would not result in any runoff from the spoil pile ending up in wetlands and watercourses.

- Keep temporary disposal sites out of wetlands, adjacent riparian corridors, and ordinary high water areas as well as high risk zones, such as 100-year floodplain and unstable slopes.
- Conduct operations on a size and scale that considers available water sources and other water use and users in the planning watershed.
- Implement water conservation measures such as rainwater catchment systems, drip irrigation, mulching, or irrigation water recycling where possible.
- Hauled water utilized for irrigation shall be documented via receipt or similar, and show the date, name, and license plate of the water hauler, and the quantity of water purchased.
- If using a water storage tank, do not locate the tank in a flood plain or next to equipment that generates heat. Locate the tank so it is easy to install, access, and maintain.
- Vertical tanks should be installed according to manufacturer's specifications and placed on firm, compacted soil that is free of rocks/sharp objects and capable of bearing the weight of the tank and its maximum contents.
- Install float valves on tanks to prevent them from overflowing.
- Place proper lining or sealing in ponds to prevent water loss.

F.4 ROAD MAINTENANCE & GENERAL CONSTRUCTION

- Always limit work to the appropriate work date windows considering wet weather, migratory bird and other biological and environmental constrains that may be placed on the project.
- Proper design and location of roads and other features is critical to ensuring that a road or other feature be adequately drained and is best accomplished through consultation with a qualified professional.
- Placement of temporary access roads, staging areas, and other facilities shall avoid or minimize disturbance to habitat.
- If inspection identifies surface rills or ruts, then surfacing and drainage likely needs maintenance. Consultation should be made with a licensed professional to design appropriate erosion control strategies.
- Design of roads should allow for sheet flow of water and use water bars and rolling dips to break up slope length.
- Vehicle speed shall be kept to a maximum of 10 mph while onsite to minimize dust generation.
- All unvegetated and unpaved roadways and vehicle turnarounds shall be graveled to a depth of not less than 1" in order to prevent dust and sediment entrainment.
- Applicant will use geotechnical fabric or similar materials on exposed slopes, and distribute weed-free straw mulch wherever possible on exposed surfaces on the perimeter of all graded roads and graveled areas.

- Roads and the berms alongside all roads shall be maintained free of headcuts, gullies, stutter bumps, and other erosion features capable of discharging sediment to adjacent grassland areas.
- Roads will be graveled with clean rock whenever required to prevent dust and sediment erosion during the wet season.
- Whenever possible, road maintenance activities shall be performed from May 1 to October 15.
- Work performed outside of this window should take extra precautions for winter weather erosion control prevention beyond that which is described in this Plan.
- A 48 hour advance forecast for rain shall trigger a temporary cessation of work, and all soils piles will need to be covered and secured with sandbags or other materials.
- Placement of temporary access roads, staging areas, and other facilities shall avoid or minimize disturbance to habitat.
- Whenever feasible, finished grades shall not exceed 1.5:1 side slopes. In circumstances where final grades cannot achieve 1.5:1 slope, additional erosion control or stabilization methods shall be applied as appropriate for the project location.
- Spoils and excavated material not used during project activities shall be removed and placed outside of 100-year floodplains.
- Upon completion of grading, slope protection of all disturbed sites shall be provided prior to the rainy season through a combination of permanent vegetative treatment, mulching, geotextiles, and/or rock, or equivalent.
- Position vehicles and other apparatus so as to not block emergency vehicle access.
- After construction is complete, all storm drain systems and culverts shall be inspected and cleared of accumulated sediment and debris.
- Sediment barriers including wattles and silt fencing should be checked for sediment accumulation following each significant rainfall and sediment removed or the feature replaced as needed.
- Road drainage shall be discharged to a stable location away from a watercourse.
- Use sediment control devices, such as check dams, sand/gravel bag barriers, and other acceptable techniques, when it is neither practical nor environmentally sound to disperse ditch water immediately before the ditch reaches a stream.
- Within areas with potential to discharge to a watercourse (i.e. within riparian areas of at least 200 feet of a stream) road surface drainage shall be filtered through vegetation, slash, or other appropriate material or settled into a depression with an outlet with adequate drainage.

F.5 SWALE & VEGETATION MANAGEMENT

- The work area shall be restored to pre-project work condition or better.

- Any stream bank area left barren of vegetation as a result of cleanup/restoration activities shall be stabilized by seeding, replanting, or other means with native trees, shrubs, and/or grasses appropriate to the site prior to the rainy season in the year work was conducted.
- Ensure that vegetated swales are properly formed, allow moderate velocity water passage without causing sediment entrainment, and are otherwise functioning properly.
- Create and expand vegetated bioswales where necessary, should additional construction or road maintenance be required, in order to maintain flow without scour.
- All bioswales and other drainage features requiring revegetation will be seeded with native vegetation and lawns and hedgerows maintained in good health and watered in dry years.
- Vegetation including grasses shall be mowed as necessary to create fire breaks and to prevent the accumulation of fuels that would be able to sustain a ground fire.
- All vegetation shall be surveyed on foot once a year by staff and new outbreaks of any invasive weeds identified by the California Invasive Plant Council as noxious or invasive to be removed by the owner or qualified landscaping professionals.
- Channels and swales that show evidence of overland flow and scour (e.g. bare of vegetation) shall be seeded with native grasses such as *Stipa pulchra*, *Hordeum brachyantherum*, *Elymus glaucus*, and *Bromus carinatus*, and kept vegetated at all times.
- If shrubs and non-woody riparian vegetation are disturbed, they shall be replaced with similar native species appropriate to the site.
- Disturbance to native shrubs, woody perennials or tree removal on the streambank or in the stream channel shall be avoided or minimized.
- If riparian trees over six inches dbh (diameter at breast height) are to be removed, they shall be replaced by native species appropriate to the site at a 3:1 ratio.
- Where physical constraints in the project area prevent replanting at a 3:1 ratio and canopy cover is sufficient for habitat needs, replanting may occur at a lesser replacement ratio.
- Vegetation planting for slope protection purposes shall be timed to require as little irrigation as possible for ensuring establishment by the commencement of the rainy season.
- The spread or introduction of exotic plant species shall be avoided to the maximum extent possible by avoiding areas with established native vegetation during cleanup/restoration activities, restoring disturbed areas with appropriate native species, and post-project monitoring and control of exotic species.
- Removal of invasive exotic species after construction activities is strongly recommended. Mechanical removal (hand tools, weed whacking, hand pulling) of exotics shall be done in preparation for establishment of native plantings.
- Where permanent soil stabilization is required a locally-appropriate mix of native grass species shall be used such as a mix containing *Nassella pulchra*, *Hordeum brachyantherum*, *Elymus glaucus*, and *Bromus carinatus* or as described in the site's Biological Resources Assessment.
- Entire cultivation site shall be seeded and maintained as a permanent non-tilled cover crop during non-usage times. Straw mulch shall be used where native seeding is not practicable.

- Use mulches (e.g. wood chips or bark) in cultivation areas that do not have ground cover to prevent erosion and minimize evaporative loss.
- Mulch shall be applied at a rate of 4000 lbs / acre and seeding shall be applied to achieve 70% cover in the first year or approximately 200 lbs / acre.
- Annual inspections for the purpose of assessing the survival and growth of revegetated areas and the presence of exposed soil shall be conducted for three years following project work.
- Dischargers and/or their consultant(s) or third party representative(s) shall note the presence of native/non-native vegetation and extent of exposed soil, and take photographs during each inspection.
- Dischargers and/or their consultant(s) or third party representative(s) shall provide the location of each work site, pre- and post-project work photos, diagram of all areas revegetated and the planting methods and plants used, and an assessment of the success of the revegetation program in the annual monitoring report as required under relevant state and local water board regulations.

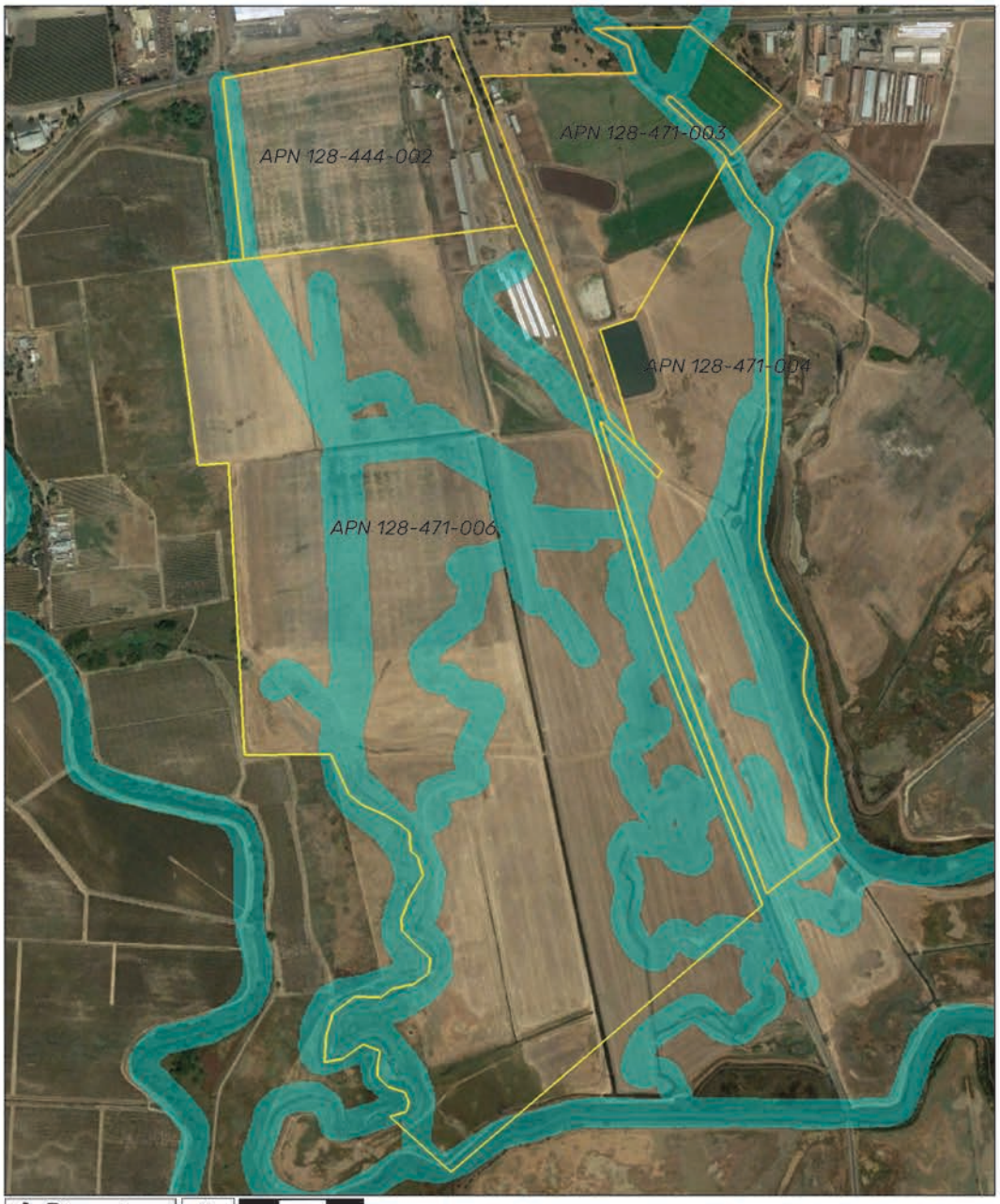
F.6 IRRIGATION & CULTIVATION MANAGEMENT

- Cultivation-related waste shall be stored in a place where it will not enter a stream.
- Soil bags and other garbage shall be collected, contained, and disposed of at an appropriate facility, including for recycling where available.
- Pots shall be collected and stored where they will not enter a waterway or create a nuisance.
- Plant waste and other compostable materials be stored (or composted, as applicable) at locations where they will not enter or be blown into surface waters, and in a manner that ensures that residues and pollutants within those materials do not migrate or leach into surface water or groundwaters.
- Imported soil for cultivation purposes shall be minimized. In the event that containers (e.g. grow bags or grow pots) are used for cultivation, reuse of soil shall be maximized to the extent feasible.
- Spent growth medium (i.e. soil and other organic medium) shall be handled to minimize discharge of soil and residual nutrients and chemicals to watercourses. Proper handling of spent soil could include incorporating into garden beds, spreading on a stable surface and revegetation, storage in watertight dumpsters, covering with tarps or plastic sheeting prior to proper disposal.
- Trash containers of sufficient size and number shall be provided and properly serviced to contain the solid waste generated by the project.
- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Use lined bins or dumpsters to reduce leaking of liquid waste. Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on.

- Make sure trash container areas are screened or walled to prevent off-site transport of trash. Consider using refuse containers that are bear-proof and/or secure from wildlife.
- Refuse shall be removed from the site on a frequency that does not result in nuisance conditions, transported in a manner that they remain contained during transport, and the contents shall be disposed of properly at a proper disposal facility.
- Ensure that human waste disposal systems do not pose a threat to surface or ground water quality or create a nuisance. Onsite treatment systems should follow applicable County ordinances for human waste disposal requirements, consistent with the applicable tier under the State Water Resources Control Board Onsite Waste Treatment System Policy.
- Install buffer strips, bioswales, or vegetation downslope of cultivation areas to filter runoff of chemicals from irrigation.
- Irrigate at rates to avoid or minimize runoff.
- Regularly inspect and repair leaks in mains and laterals, in irrigation connections, or at the ends of drip tape and feeder lines.
- Design irrigation system to include redundancy (i.e., safety valves) in the event that leaks occur, so that waste of water is prevented and minimized.
- Recapture and reuse irrigation runoff (tailwater) where possible, through passive (gravity-fed) or active (pumped) means.
- Construct retention basins for tailwater infiltration; percolation medium may be used to reduce pollutant concentration in infiltrated water. Constructed treatment wetlands may also be effective at reducing nutrient loads in water.
- Ensure that drainage and/or infiltration areas are located away from unstable or potentially unstable features.
- Regularly replace worn, outdated or inefficient irrigation system components and equipment.
- Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over-fertilization.
- All chemicals shall be stored in a manner, method, and location that ensures that there is no threat of discharge to waters of the State.
- Products shall be labeled properly and applied according to the label.
- Use integrated pest management strategies that apply pesticides only to the area of need, only when there is an economic benefit to the grower, and at times when runoff losses are least likely.
- Periodically calibrate pesticide application equipment.
- Use anti-backflow devices on water supply hoses, and other mixing/loading practices designed to reduce the risk of runoff and spills.

- Petroleum products shall be stored with a secondary containment system such as a pan or a tub
- Throughout the rainy season, any temporary containment facility shall have a permanent cover and side-wind protection, or be covered during non-working days and prior to and during rain events.
- Materials shall be stored in their original containers and the original product labels shall be maintained in place in a legible condition. Damaged or otherwise illegible labels shall be replaced immediately.
- Bagged and boxed materials shall be stored on pallets and shall not be allowed to accumulate on the ground. To provide protection from wind and rain throughout the rainy season, bagged and boxed materials shall be covered during non-working days and prior to rain events.
- Have proper chemical and fertilizer storage instructions posted at all times in an open and conspicuous location.
- Prepare and keep a spill prevention and cleanup plan onsite when dealing with any hazardous materials.
- Keep ample supply of appropriate spill clean-up material near storage areas.
- Plant cover crops to boost soil fertility, improve soil texture, and protect from storm caused sediment runoff.

APPENDIX G: COUNTY-DESIGNATED RIPARIAN CORRIDORS



BIOLOGICAL ASSESSMENT

APN 128-471-004

SONOMA COUNTY, CALIFORNIA

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TABLE OF CONTENTS

1.0 INTRODUCTION 3
1.1 PURPOSE 3
1.2 LOCATION 3
1.2.1 Site Overview 3
1.2.2 Landforms & Topography 3
1.2.3 Federal Critical Habitat 4
1.2.4 Special-Status Species Occurrences 4
1.3 METHODS 5
1.3.1 Records Search & Literature Review 5
1.3.2 Field Surveys 5
2.0 RESULTS 7
2.1 REGIONAL ECOLOGICAL COMMUNITIES 7
2.2 NATURAL COMMUNITIES WITHIN THE STUDY AREA 7
2.2.1 Seeded Hayfield 7
2.2.2 Wetland & Brackish Marsh 8
2.3 WILDLIFE 8
2.4 WETLANDS & WATERCOURSES 9
2.5 SOILS 9
3.0 SUMMARY & CONCLUSIONS 10
4.0 REGULATORY FRAMEWORK 11
4.1 FEDERAL ENDANGERED SPECIES ACT 11
4.2 CALIFORNIA ENDANGERED SPECIES ACT 11
4.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT 11
4.4 CLEAN WATER ACT 12
4.5 CALIFORNIA WATER QUALITY REGULATORY PROGRAMS 12
5.0 REFERENCES 13

FIGURE 1: REGIONAL LOCATION 14

FIGURE 2: 40 FOOT CONTOURS 15

FIGURE 3: WATERCOURSES & POTENTIAL WETLANDS 16

FIGURE 4: PHOTOGRAPH OF POTENTIAL CULTIVATION AREA 17

FIGURE 5: PHOTOGRPAH OF RESERVOIR 18

FIGURE 6: PHOTOGRAPH OF TIDAL GATE 19

FIGURE 7: PHOTOGRAPH OF TIDAL RESTORATION PROJECT 20

APPENDIX A: SPECIAL-STATUS SPECIES CONSIDERED 21

APPENDIX B: SPECIES ENCOUNTERED 33

APPENDIX C: CNDDB OCCURRENCES MAP 35

APPENDIX D: MAP OF FEDERAL CRITICAL HABITAT 36

APPENDIX E: STREAM CLASSIFICATION CRITERIA 37

APPENDIX F: CANNABIS CULTIVATION BEST MANAGEMENT PRACTICES 38

F.1 CANNABIS CULTIVATION 38

F.2 EROSION & SEDIMENT CONTROL 40

F.3 WATER USE & POLLUTION 42

F.4 ROAD MAINTENANCE & GENERAL CONSTRUCTION 44

F.5 SWALE & VEGETATION MANAGEMENT 45

F.6 IRRIGATION & CULTIVATION MANAGEMENT 47

APPENDIX G: COUNTY-DESIGNATED RIPARIAN CORRIDORS 50

1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this reconnaissance-level Biological Assessment (BA) is to evaluate the existence of special-status species (SSS) and/or habitats, as well as assess the potential for SSS listed in Appendix A to occur on or near the site of commercial cultivation activities, pursuant to applicable regulations from County of Sonoma and the State of California. This BA also analyzes the potential for jurisdictional wetlands and other waters of the U.S. to exist onsite, and classifies landforms that may potentially convey sediment to waters of the U.S. including dry creeks, washes, swales, gullys, and other erosional features. Also included is a set of Best Management Practices (BMPs) that are adapted from a variety of sources including State Water Resources Control Board *Cannabis* General Order No. WQ 2019-0001-DWQ and other state and local ordinances.

1.2 LOCATION

1.2.1 Site Overview

The entrance to the project site is located at 1515 Fremont Drive in unincorporated Sonoma County, approximately 3.6 miles south of the town of Sonoma, and 18 miles southwest of the City of Santa Rosa (Figure 1). The parcel is designated Assessor's Parcel Number (APN) 128-471-004, is deeded 84.81 acres, is zoned LEA, and is located in Groundwater Availability Zone 1. The parcel is under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB) and the Bay-Delta Region (Region 3) of the California Department of Fish & Wildlife (CDFW). There is some County-designated Valley Oak Habitat onsite, and no County-designated Biotic Habitat on the parcel. There are County-designated Riparian Corridors (Appendix G) although these differ from the actually existing several jurisdictional watercourses and/or wetlands onsite (Figure 3). The parcel is in the Napa-Sonoma Valley high-priority groundwater basin as designated by the California Department of Water Resources (DWR).

1.2.2 Landforms & Topography

The topography of the site is flat with a maximum elevation of 9 feet along the northeast corner of the parcel, and a minimum elevation of 2 feet above sea level in far southeast corner of the parcel where Schell Slough runs along the property line (Figure 2). The parcel is located in an unsectioned portion of Township 5 N, Range 5 West, on the USGS Sears Point 7.5 minute quadrangle. The approximate latitude and longitude of the proposed cultivation area is 38.237 (W), -122.434 (N). Water generally flows towards the south and east, where it enters a series of drainage canals and gates that convey water into and out of a tidal restoration project that was completed recently (Figures 6-7). Water onsite drains into a series of wetland (Figure 3) and then into a series of drainage canals, that

eventually lead into Railroad Slough and San Francisco Bay (Figure 2). Additionally, there is one reservoir that is non-jurisdictional in the northwest corner of the parcel (Figure 5).

1.2.3 Federal Critical Habitat

Federal Critical Habitat (FCH) is designated by the U.S. Fish & Wildlife Service (USFWS) and provides special protections for habitats considered important for long-term population persistence of endangered or threatened species. A map of regional FCH is provided in Appendix D. The nearest FCH is located 0.1 miles east, 0.6 miles west, and 0.6 miles south of the project parcel for Chinook salmon (*Oncorhynchus tshawytscha*) in Schell Slough, Sonoma Creek, and Railroad Slough, respectively. There is additional FCH for Chinook salmon in most of the anadromous waters surrounding the San Francisco Bay. The next nearest Federal Critical Habitat is located 5.3 miles southeast of the parcel for Western snowy plover (*Charadrius nivosus nivosus*) and Soft bird's beak (*Cordylanthus mollis* spp. *mollis*) in the Napa-Sonoma Marsh. The next nearest Federal Critical Habitat is located 5.8 miles north of the parcel for Northern spotted owl (*Strix occidentalis*; NSO) near Arroyo Seco. The next nearest Federal Critical Habitat is located 8.1 miles northwest of the parcel for California red-legged frog (*Rana draytonii*; CRLF) in the Sonoma Mountains. The next nearest Federal Critical Habitat is located 9.4 miles northwest of the parcel for Contra Costa goldfields (*Lasthenia conjugens*) along CA-29. There is no other Federal Critical Habitat within 10 miles of the project parcel.

1.2.4 Special-Status Species Occurrences

Special-status species (SSS) are those species that receive special protections under either local, State, or Federal law and include both State and Federally Endangered and Threatened species of animals and plants, as well as candidate listing species and other species or populations of special concern for which additional information is required. The California Natural Diversity Database (CNDDB) provides information on most known SSS occurrences in the State of California. A description of the habitat requirements and likelihood of occurrence of potential SSS on the project parcel based the CNDDB database, published scientific literature, and the expertise of PEC staff, is provided in Appendix A, with a description of the nearest locality of all SSS known from within a 5 mile radius around the project parcel. Additionally, map-based representation of all of the SSS within an approximately 5 mile radius around the project site is provided in Appendices C & D.

1.2.4.1 SSS Animals

There are three special-status animal species with CNDDB polygons that include the entire USGS 7.5-minute quad that includes the project parcel. These species are Bank swallow (*Riparia riparia*) observed in 2000, California red-legged frog (*Rana draytonii*; CRLF) observed in 2004, and the Sonoma zerene fritillary butterfly (*Speyeria zerene sonomensis*) last observed in 1893. There are also two CNDDB polygons that are more specific that overlap with the project parcel and are centered on Schellville: Bank swallow (*Riparia riparia*) observed in 1893, and San Pablo song sparrow (*Melospiza melodia samuelis*) observed in 1901. The next nearest special-status animal species to the

project parcel is Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) observed in 1985 located 1.9 miles south of the parcel.

1.2.4.2 SSS Plants

There is one special-status plant species whose CNDDB polygon overlaps with the project parcel, Dwarf downingia (*Downingia pusilla*). This species is not listed as Endangered or Threatened by the State or Federal Governments but is a California Native Plant Society (CNPS) List 2B.2 species and is thus included in Appendix A. This occurrence was observed in 1892 and the locality is listed as "Schellville" although the exact location is not known and the species has not been observed in the vicinity since then. The next nearest occurrence of dwarf downingia is 2.8 miles to the south near Arnold Drive observed in 1961. The next nearest special-status plant to the project parcel is Sonoma sunshine (*Blennosperma bakeri*), with two occurrences located 1.1 miles west and 1.2 miles southwest of the project parcel. The next nearest known occurrence of special-status plant species is Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*) located approximately 1.4 miles north of the project parcel near the town of Sonoma. The next nearest known occurrence of special-status plant species is Saline clover (*Trifolium hydrophilum*) located approximately 2.0 miles south of the project parcel near Arnold Drive.

1.3 METHODS

1.3.1 Records Search & Literature Review

Based on a review of the literature and all relevant databases, we compiled a list of special-status plant and animal species that are known to occur within 5 miles of the project site, or that occupy habitats that are known to be present on or near the project site (Appendix A). Sources of information referenced include the California Natural Diversity Database (CNDDB 2021), U.S. Fish and Wildlife Service Environmental Conservation Online System (USFWS 2021), the California Native Plants Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS 2021), and the knowledge of PEC staff familiar with the species and habitats of Sonoma County. Additional information on sensitive habitats including wetlands was obtained from the USFWS National Wetlands Inventory (NWI 2021), and County of Sonoma Geographic Information System Portal. Plant species included here are State or Federally Endangered or Threatened, and/or considered Rare by CDFW, and/or are recognized as special-status species by the CNPS or CDFW. Animal species included here are designated as State or Federally Endangered or Threatened, and/or California Species of Special Concern, and/or Fully Protected species by the CDFW. In addition, nests of most native bird species, regardless of their regulatory status, are protected from take or harassment under the Migratory Bird Treaty Act (MBTA) and California Fish and Wildlife Code.

1.3.2 Field Surveys

Wildlife and botanical surveys were conducted at the site on December 5 and again on December 28, 2020. The weather was clear and cool on both site visits, with temperature of 68 degF, relative

humidity of 45% and wind speed of 2-4 mph, as measured by Kestrel 3000 handheld weather station. No rain fell the preceding two months (NWS 2021), and although most perennial and riparian vegetation was green, most annual vegetation was past flowering, although most still retained identifiable flowering parts. Due to the temperature and seasonal conditions, animal activity was moderately high at the time of the surveys. Starting with the portion of the property nearest the proposed cultivation area, the entire project site was surveyed on foot by PEC Senior Biologist Dr. Christopher T. DiVittorio, recording the location and identity of all plant and animal species encountered. Plant voucher specimens were taken of any species that were not identifiable in the field, and that were not likely to be special-status. The vast majority of species were identifiable at the time of the survey, although some had to be identified based on vegetative parts. Photographs and voucher specimens were taken of any plants that were identified solely based on vegetative characters. The field survey was conducted by dividing the outdoor portions of the parcel into zones and cataloging all of the species found in each zone. Each zone was surveyed by walking in parallel lines until the whole zone was covered. Notes were also taken in each zone documenting the general site characteristics and current land uses, as well as any surface erosional features that may require remediation. Botanical specimens were taken back to the laboratory for identification if identification was not possible in the field. If species were not flowering at the time of the survey and morphological characteristics indicated that the species may be special-status, notes were made for a follow-up visit. Birds and nests were identified by call and with binoculars. Vocalizations, scat, tracks, feathers, burrows, nests, and molts were used for identification of animals present onsite. Any onsite aquatic habitats were observed for a minimum of ten minutes without movement in order to observe animals that may hide when approached.

2.0 RESULTS

2.1 REGIONAL ECOLOGICAL COMMUNITIES

Using field surveys, a review of published literature, and the knowledge of PEC staff, all of the natural communities present on and around the project site were assessed. Regionally, the dominant vegetation type is seeded and cut hayfields, vineyards, tidal marshland, and developed light industrial developments. Further to the north are vernal pools and increasing density of rural residences and vineyards (Figure 3).

2.2 NATURAL COMMUNITIES WITHIN THE STUDY AREA

The parcel consists of seeded and cut hayfield in the center half of the parcel, and brackish wetland in the northern and eastern portions of the parcel (Figure 3). Due to the high intensity hay production, in the central portion of the site was chosen as the location of the proposed cultivation area since there is very little living plant life and no native species presently growing in that area (Figure 4). The soils onsite are well-drained and have been continuously disked, seeded, and cut for hay production for many years and there is no remaining topographic relief and no native vegetation present in the center of the cultivation area precluding the presence of wetlands such as exist in the northern and southern portions of the site. There is also a Class I reach of Schell Slough that runs along the eastern side of the parcel and also a tidal restoration project (Figure 7) that connects with this slough via a series of levees and tidal gates (e.g. Figure 6). There is also a non-jurisdictional agricultural reservoir that does not exhibit any inlet or outlet facilities and is filled by well water (Figure 5). The specific community descriptions below are organized based on the zones that were surveyed, and the floristic results presented in Appendix B. We use as guidance the *Manual of California Vegetation* (Sawyer et al. 2009) for community classification. Overall, the Study Area consists of approximately 60% seeded and cut hayfield, 30% wetland and brackish marsh, and 10% developed area including stock yards (Figure 3).

2.2.1 Seeded Hayfield

The majority of the parcel is covered by leveled and seeded hayfield that is seeded and cut several times per year. Species encountered in this area contain few native species and are primarily agricultural weeds. Species observed onsite include slender oats (***Avena barbata***), soft chess (***Bromus hordeaceous***), dogstail grass (*Cynosurus echinatus*), medusahead (*Elymus caput-medusae*), Italian rye (***Festuca perennis***), velvet grass (***Holcus lanatus***), meadow barley (***Hordeum murinum***), Harding grass (*Phalaris aquatica*), yellow star thistle (***Centaurea solstitialis***), Italian thistle (*Circium pycnocephalus*), bull thistle (*Cirsium vulgare*), bristly ox-tongue (***Helminthotheca echioides***), smooth cat's ear (***Hypochaeris glabra***), spiny sowthistle (***Sonchus asper***), common geranium (*Geranium molle*), broad leaf filaree (***Erodium botrys***), crane's bill geranium (***Geranium molle***), birds foot trefoil

(*Acmispon americanus*), sheep sorrel (*Rumex acetocella*), field mustard (*Brassica rapa*), turkey-mullein (*Croton setiger*), cultivated radish (*Raphanus sativus*), rose clover (*Trifolium hirtum*), white clover (*Trifolium repens*), spring vetch (*Vicia sativa*), alfalfa (*Medicago sativa*), variable-leaved pepperweed (*Lepidium heterophyllum*), Queen Anne's lace (*Daucus carota*), hedge parsley (*Torilis nodosa*), common plantain (*Plantago major*), spring vetch (*Vicia sativa*), and field bindweed (*Convolvulus arvensis*).

2.2.2 Wetland & Brackish Marsh

The wetland and marsh areas (Figure 3) are separated into a heavily tidally-influenced area in the eastern portion of the parcel surrounding Schell Slough, and a marginally tidally-influenced area in the northern portion of the parcel near the restoration project. The northern wetlands are primarily dominated by pickleweed (*Salicornia pacifica*), saltgrass (*Distichlis spicata*), fat-hen (*Atriplex prostrata*), alkali heath (*Frankenia salina*), New Zealand spinach (*Tetragonia tetragonioides*) and other salt-adapted species. The southern wetland as well as the vegetation surrounding Schell Slough and other drainage canals includes a mix of freshwater and brackish wetland plants including coyote brush (*Baccharis pilularis*), common cattail (*Typha latifolia*), tall flatsedge (*Cyperus eragrostis*), alkali bulrush (*Bolboschoenus maritimus*), bog rush (*Juncus patens*), Himalayan blackberry (*Rubus armeniacus*), bitter cress (*Cardamine californica*), lamb's quarters (*Chenopodium album*), rabbitsfoot grass (*Polypogon monspeliensis*), hairy bitter cress (*Cardamine hirsuta*), Chinese parsley (*Heliotropium curassavicum*), Hyssop loosestrife (*Lythrum hyssopifolia*), curly dock (*Rumex crispus*), Canada horseweed (*Erigeron canadensis*), bristly ox-tongue (*Helminthotheca echioides*), Fuller's teasel (*Dipsacus fullonum*), spotted spurge (*Euphorbia maculata*), spiny cocklebur (*Xanthium spinosum*), cheeseweed (*Malva parviflora*), pennyroyal (*Mentha pulegium*), brass buttons (*Cotula coronopifolia*), corn spurry (*Spergula arvensis*), mugwort (*Artemisia douglasiana*), and tumbleweed (*Salsola tragus*).

2.3 WILDLIFE

Wildlife activity was moderate due to the time of year and the weather. Few bird species were observed in the cultivation area, however there were numerous bird species in wetland areas surrounding the parcel and flying over head due to the proximity to San Francisco Bay marshlands. Species of bird observed during the two site visits include crow (*Corvus brachyrhynchos*), turkey vulture (*Cathartes aura*), barn swallow (*Hirundo rustica*), mourning dove (*Zenaida macroura*), Western bluebird (*Sialia mexicana*), lesser goldfinch (*Spinus psaltria*), Western scrub jay (*Aphelocoma californica*), red-tailed hawk (*Buteo jamaicensis*), great blue heron (*Ardea herodias*), snowy egret (*Egretta thula*), Anna's hummingbird (*Calypte anna*), white-crowned sparrow (*Zonotrichia leucophrys*), Western gull (*Larus occidentalis*), Great cormorant (*Phalacrocorax carbo*), White-tailed kite (*Elanus leucurus*), Brewer’s blackbird (*Euphagus cyanocephalus*), and red-shouldered blackbird (*Agelaius phoeniceus*). Other species observed directly or indirectly include excavation mounds of pocket gopher (*Thomomys bottae*), runways of California vole (*Microtus californicus*), scat of black-tailed jackrabbit (*Lepus californicus*), and scat of coyote (*Canis latrans*).

2.4 WETLANDS & WATERCOURSES

Jurisdictional watercourses onsite were classified according to the three-tier method used by the California Department of Forestry & Fire Protection (CALFIRE 2017) and included as a reference in Appendix E. According to these criteria, there are several watercourses onsite that range between Class I and II (Figure 3) including several drainage canals that are connected to tidal sloughs. Additionally, there is one reservoir that is non-jurisdictional in the northwest corner of the parcel (Figure 5).

Potential wetlands onsite were assessed based on the likelihood to satisfy the three-tier wetland delineation criteria used by the Army Corps of Engineers *Wetland Delineation Manual* (ACOE 1987), however a protocol-level wetland delineation was not performed. For this BA, we identified potential wetlands in Figure 3 based on the presence of one of the three ACOE criteria, usually hydrophytic vegetation cover but sometimes soil indicators or hydrology or a combination of these. Based on these criteria, there are several locations in the eastern and northern portions of the site that appear to qualify as jurisdictional wetlands and/or coastal brackish marsh (Figure 3). There is also a newly constructed tidal restoration project (Figure 7) that does not contain vegetation yet but is hydrologically connected to the tidal channels via series of gates (e.g. Figure 6).

2.5 SOILS

The parent materials on the project parcel are typical of southwestern Sonoma County, with easily erodible sediments of the Franciscan Formation dissected by highly seasonal rivers (USGS 1968). The majority of the parcel is designated Reyes clay, 0-2% slopes (#301), with lesser proportions of Novato (3%) and Clear Lake (3%) soils. This soil type is designated not prime farmland. There is also a small portion of the northern corners of the parcel mapped as Haire clay loam, 0-9%, HcC. This soil type also has lesser proportions of Diablo (4%), Arbuckle (2%), and Zamora (2%) soils, and is designated farmland of statewide importance. There are no serpentine or other ultramafic rock types onsite and no serpentine-derived soils. There are no alkalai or vernal pool soil types onsite, although the entire parcel was historically tidal marsh.

3.0 SUMMARY & CONCLUSIONS

No special-status plant species were observed during the surveys performed at the site in December 2020. No impacts are predicted for any of the State or Federal special-status plant species in Appendix A based on lack of actual sightings, and lack of suitable habitat in the proposed cultivation area. Although there is an occurrence of Dwarf downingia that overlaps with the parcel, that occurrence was over 100 years old and there is no suitable vernal pool habitat in the project area to support this species. There is a extensive wetland habitat in the eastern portion of the site including the restoration site, however the proposed cultivation areas is located outside of the 150-foot setbacks for Class I watercourses and 100-foot setbacks from wetlands required by State Water Resources Control Board (SWRCB) *Cannabis* General Order.

No special-status animal species were observed during the surveys performed at the site in December 2020. No impacts are predicted for any of the State or Federal special-status animal species or their habitats listed in Appendix A based on lack of actual sightings, and lack of suitable habitat in the proposed cultivation area. Although there is Federal Critical Habitat for Chinook salmon on watercourses nearby, there should be no discharges of sediment that would adversely affect these species. The parcel is also in the same quad as CRLF, however there is no suitable breeding or estivation habiat onsite for this or any other amphibian species due to the extensive history of hay cultivation onsite. Ploughing and seeding and leveling the fields eliminates any topography for vernal pools, and also eliminates any cracks or burrows that would be used for estivation. No impacts are predicted to any bird species as well as long as standard BMPs related to wildlife conservation are observed including no aerial wires and not using anticoagulant rodenticides as described in Appendix F.

Potential wetlands onsite were assessed visually by estimating the cover of wetland plants, and by examining site hydrology, however a protocol-level wetland delineation was not performed. Based on these results, we do not recommend that a wetland delineation should be required since any wetlands shown in Figure 3 since the areas near tidal wetlands are over outside of the 150-foot setbacks for Class I watercourses and 100-foot setbacks from wetlands required by the SWRCB *Cannabis* General Order. Numerous other channels in this area that were based on the USGS topographic maps are out of date since hayfield cultivation generally redirected drainage in these parcels. No discharge of sediment is anticipated as long as cultivation remains in areas previously used for hay production.

4.0 REGULATORY FRAMEWORK

4.1 FEDERAL ENDANGERED SPECIES ACT

The U.S. Fish and Wildlife Service (USFWS) has jurisdiction over federally-listed threatened and endangered species under the federal Endangered Species Act (FESA). The USFWS also maintains a list of 'proposed' species and candidate species that are not legally protected under the FESA, but are often included in their review of a project as they may become listed in the near future. The FESA protects listed animal species from harm or "take" which is broadly defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Take can also include habitat modification or degradation that results in death or injury to a listed species. An activity can be defined as a "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under FESA if they occur on federal lands. Pursuant to the requirements of the FESA, a federal agency reviewing a proposed project within its jurisdiction must determine whether any federally-listed threatened or endangered species (plants and animals) may be present in the project area and determine whether the proposed project may affect such species. Any activities that could result in the take of a federally-listed species will require formal consultation with the USFWS.

4.2 CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) protects any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the California Department of Fish and Wildlife (CDFW) has jurisdiction over state-listed species (California Fish and Wildlife Code 2070). Take of state-listed species requires a permit from CDFW, which is granted only under strictly limited circumstances. Additionally, the CDFW maintains lists of "species of special concern" that are defined as animal species that appear to be vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats. Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed or proposed endangered or threatened species may be present in the project area and determine whether the proposed project may result in a significant impact on such species.

4.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 15380(b) of the California Environmental Quality Act (CEQA) Guidelines provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in FESA and CESA and the section of the California Fish and Wildlife Code dealing with rare or endangered plants or animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts, if it finds that the species meets the criteria of a threatened or endangered species.

4.4 CLEAN WATER ACT

Under Section 404 of the federal Clean Water Act, the U.S. Army Corps of Engineers (Corps) is responsible for regulating the discharge of fill material into waters of the United States. Waters of the U.S. and their lateral limits are defined in 33 CFR Part 328.3 (a) and include streams that are tributary to navigable waters and their adjacent wetlands. Wetlands that are not adjacent to waters of the U.S. are termed "isolated wetlands" and, depending on the circumstances, may also be subject to Corps jurisdiction. In general, a Corps permit must be obtained before placing fill in wetlands or other waters of the U.S. The type of permit depends on the acreage involved and the purpose of the proposed fill. Minor amounts of fill are sometimes covered by Nationwide Permits, which were established to streamline the permit process for projects with "minimal" impacts on wetlands or other waters of the U.S. An Individual Permit is required for projects that result in more than a minimal impact on jurisdictional areas. The Individual Permit process requires evidence that fill of jurisdictional areas has been minimized to the extent "practicable" and provides an opportunity for public review of the project.

4.5 CALIFORNIA WATER QUALITY REGULATORY PROGRAMS

Pursuant to Section 401 of the federal Clean Water Act and the state's Porter-Cologne Act, projects that are regulated by the Corps must obtain water quality certification from the Regional Water Quality Control Board (RWQCB). This certification ensures that the project will uphold state water quality standards. The RWQCB sometimes asserts jurisdiction over wetlands that the Corps does not (e.g. certain isolated wetlands) and may impose mitigation requirements even if the Corps does not. The CDFW also exerts jurisdiction over the bed and banks of watercourses and water bodies according to provisions of Section 1601 to 1603 of the Fish and Wildlife Code. The Fish and Wildlife Code requires a Stream Alteration Agreement for the fill or removal of material within the bed and banks of a watercourse or water body.

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FIGURE 1: REGIONAL LOCATION

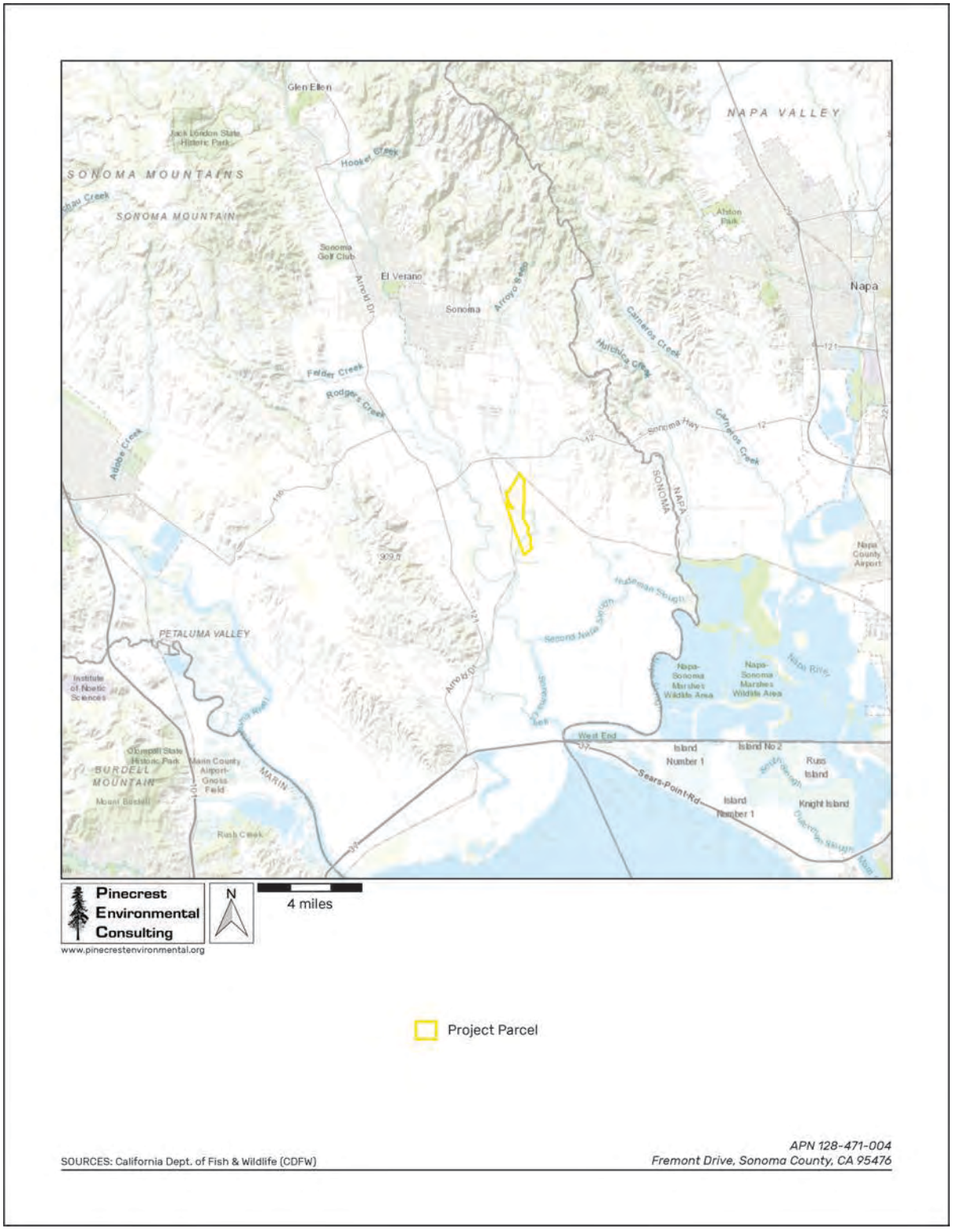


FIGURE 2: 40 FOOT CONTOURS

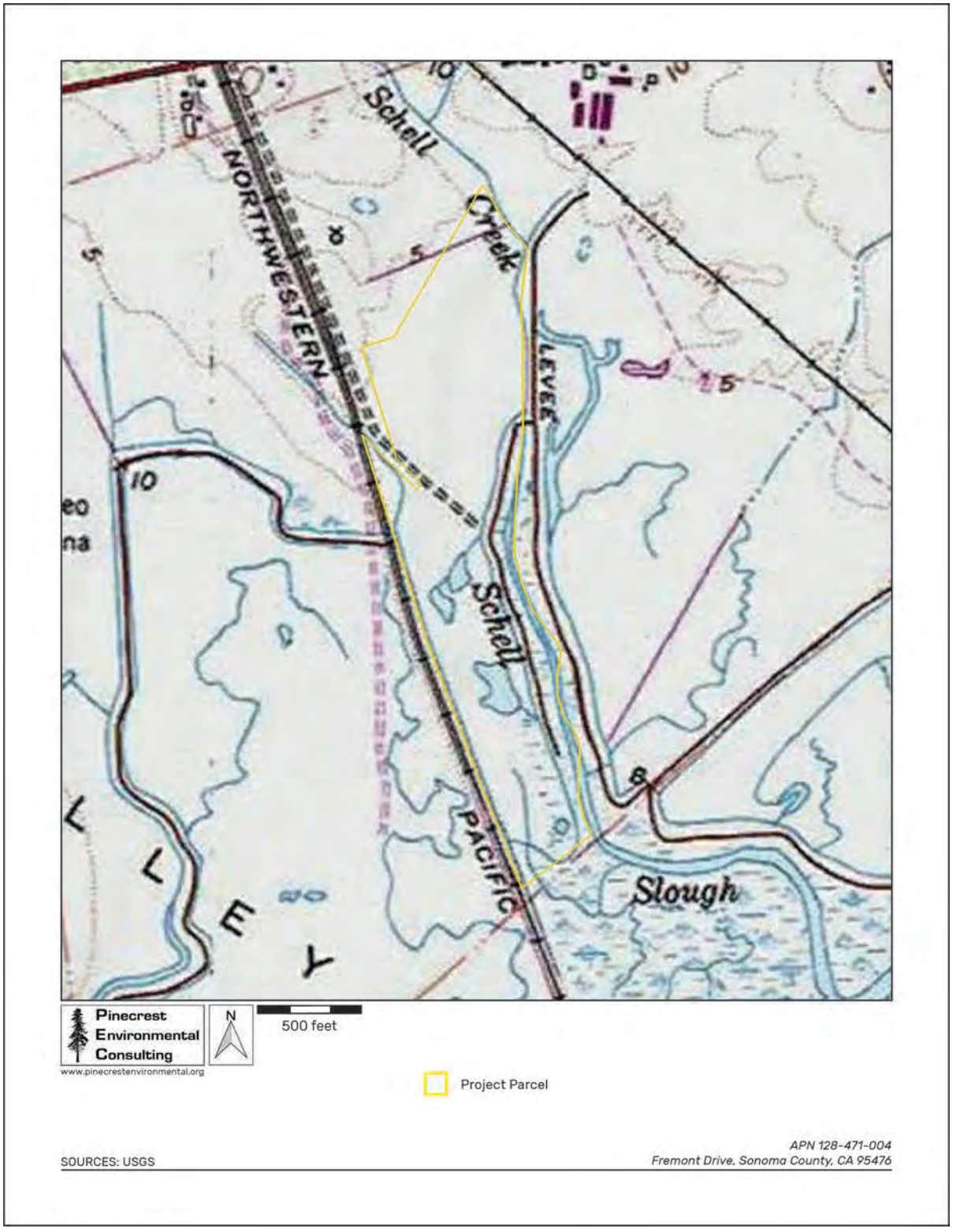


FIGURE 3: WATERCOURSES & POTENTIAL WETLANDS



FIGURE 4: PHOTOGRAPH OF POTENTIAL CULTIVATION AREA



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-471-004
Fremont Drive, Sonoma County, CA 95476

FIGURE 5: PHOTOGRPAH OF RESERVOIR



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-471-004
Fremont Drive, Sonoma County, CA 95476

FIGURE 6: PHOTOGRAPH OF TIDAL GATE



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-471-004
Fremont Drive, Sonoma County, CA 95476

FIGURE 7: PHOTOGRAPH OF TIDAL RESTORATION PROJECT



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-471-004
Fremont Drive, Sonoma County, CA 95476

APPENDIX A: SPECIAL-STATUS SPECIES CONSIDERED

The following is a list of special-status plant and animal species generated based on knowledge of the species and habitats of Sonoma County by PEC staff, from various State and Federal databases, and from the California Natural Diversity Database (CNDDB). CNDDB occurrences within 5 miles of the project site are shown in bold.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
PLANTS			
Alkalai milk-vetch (*Astragalus tener* var. *tener*)	—/—/1B.2	Valley grasslands, alkali sinks	Low: Some suitable alkalai habitat exists onsite.
Baker's goldfields (*Lasthenia californica* ssp. *bakeri*)	—/—/1B.2	Coastal grasslands	Low: Some grassland habitat exists onsite.
Baker's larkspur (*Delphinium bakeri*)	—/—/1B.1	Coastal scrub	None: No coastal scrub habitat exists onsite.
Baker's manzanita (*Arctostaphylos bakeri* ssp. *bakeri*)	—/—/1B.1	Serpentine chaparral, mixed evergreen forest	None: No serpentine, chaparral, or forest habitat exists onsite.
Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*)	—/—/1B.1	Vernal pools, riparian woodland	None: No vernal pools or other wetlands exist onsite.
Bent flowered fiddleneck (*Amsinckia lunaris*)	—/—/1B.2	Valley grassland, foothill woodland	Low: Some grassland habitat exists onsite.
Big scale balsamroot (*Balsamorhiza macrolepis*)	**—/—/1B.2**	**Valley grassland**	**Very Low: Some disturbed grassland habitat exists onsite.**
Big tarplant (*Blepharizonia plumosa*)	—/—/1B.1	Foothill woodland, chaparral	Low: Some grassland habitat exists onsite.
Blasdale's bent grass (*Agrostis blasdalei*)	—/—/1B.2	Coastal prairie	Low: Some grassland habitat exists onsite.
Blue coast gilia (*Gilia capitata* ssp. *chamissonis*)	—/—/1B.1	Coastal sand dunes	None: No sand dune habitat exists onsite.
Bogg's Lake hedge-hyssop (*Gratiola heterosepala*)	—/—/1B.2	Freshwater marsh, riparian	Low: Some suitable wetland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Bristly sedge (*Carex comosa*)	—/—/2B.1	Freshwater marsh, riparian	Low: Some potential wetland habitat exists onsite.
Brownish beaked-rush (*Rhynchospora capitellata*)	—/—/2B.2	Freshwater marsh, riparian	Very Low: Some potential habitat exists onsite.
Burke's goldfields (*Lasthenia burkei*)	FE/SE/1B.1	Vernal pools	None: No vernal pool habitat exists onsite.
California alkalai grass (*Puccinellia simplex*)	—/—/1B.2	Grassland, riparian	Low: Some suitable alkalai habitat exists onsite.
California beaked-rush (*Rhynchospora californica*)	—/—/1B.1	Freshwater wetlands	Low: Some potential wetland habitat exists onsite.
Calistoga ceanothus (*Ceanothus divergens*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Caper-fruited tropidocarpum (*Tropidocarpum capparideum*)	—/—/1B.1	Valley grassland	Very Low: Some grassland habitat exists onsite.
Clara Hunt's milk vetch (*Astragalus claranus*)	—/—/1B.1	Chaparral, grassland	None: No chaparral habitat exists onsite.
Coast lily (*Lilium maritimum*)	—/—/1B.1	Coastal prairie	Low: Some grassland habitat exists onsite.
Coastal bluff morning glory (*Calystegia purpurata* ssp. *saxicola*)	—/—/1B.2	Coastal prairie	Low: Some grassland habitat exists onsite.
Cobb Mountain lupine (*Lupinus sericatus*)	—/—/1B.2	Chaparral, pine forest	None: No chaparral or pine forest habitat exists onsite.
Colusa layia (*Layia septentrionalis*)	—/—/1B.2	Chaparral, valley grassland	Low: Some grassland habitat exists onsite; no chaparral habitat onsite.
Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*)	—/—/1B.1	Valley grassland, wetlands	Low: Some grassland habitat exists onsite.
Congested hayfield tarplant (*Hemizonia congesta* ssp. *congesta*)	**—/—/1B.2**	**Grassland, coastal scrub**	**Low: Some disturbed grassland habitat exists onsite.**
Contra Costa goldfields (*Lasthenia conjugens*)	**FE/—/1B.1**	**Vernal pool**	**None: No vernal pool habitat exists onsite.**
Cunningham marsh cinquefoil (*Potentilla uliginosa*)	—/—/1A	Freshwater marsh	Low: Some suitable wetland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Deceiving sedge (*Carex saliniformis*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Dwarf downingia (*Downingia pusilla*)	**—/—/2B.2**	**Vernal pool, freshwater wetland**	**None: No vernal pool habitat exists onsite.**
Fragrant fritillary (*Fritillaria liliacea*)	—/—/1B.2	Freshwater wetland, coastal prairie	Low: Some wetlands exist onsite.
Franciscan onion (*Allium peninsulare* var. *franciscanum*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Golden larkspur (*Delphinium luteum*)	FE/SR/1B.1	Chaparral, coastal prairie	Very Low: Some grassland habitat exists onsite; no chaparral onsite.
Greene's narrow-leaved daisy (*Erigeron greenei*)	—/—/1B.2	Serpentine grassland	None: No serpentine habitat exists onsite.
Holly-leaved ceanothus (*Ceanothus purpureus*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*)	—/—/1B.2	Foothill woodland	None: No woodland habitat exists onsite.
Jepson's coyote thistle (*Eryngium jepsonii*)	—/—/4.2	Wetlands and vernal pools	None: No vernal pool habitat exists onsite.
Jepson's leptosiphon (*Leptosiphon jepsonii*)	—/—/1B.2	Chaparral, serpentine grassland	None: No chaparral or serpentine habitat exists onsite.
Kenwood marsh checkerbloom (*Sidalcea oregana* ssp. *valida*)	FE/SE/1B.1	Freshwater wetlands	Low: Some suitable wetland habitat exists onsite.
Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*)	—/—/1B.3	Chaparral, foothill woodland	None: No woodland or chaparral habitat exists onsite.
Legenere (*Legenere limosa*)	—/—/1B.1	Freshwater wetland, valley grassland	Low: Some wetland habitat exists onsite.
Livermore tarplant (*Deinandra bacigalupii*)	—/—/1B.1	Grassland	Low: Some grassland habitat exists onsite.
Loch Lomond button-celery (*Eryngium constancei*)	FE/SE/1B.1	Freshwater wetland	Low: Some wetland habitat exists onsite.
Many-flowered navarretia (*Navarretia leucocephala* spp. *plieantha*)	—/—/1B.2	Vernal pools	None: No vernal pool habitat exists onsite.
Maple leaved checkerbloom (*Sidalcea malachroides*)	—/—/4.2	Coastal prairie, coniferous forest	Very Low: Some grassland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Marin knotweed (*Polygonum marinense*)	—/—/3.1	Coastal salt marsh	Low: Some coastal salt marsh habitat exists onsite.
Marsh microseris (*Microseris paludosa*)	—/—/1B.2	Northern coastal scrub	None: No scrub habitat exists onsite, and this species prefers coastal habitats.
Marsh pea (*Lathyrus palustris*)	—/—/2B.1	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Mt. St. Helena morning-glory (*Calystegia collina* ssp. *oxyphylla*)	—/—/4.2	Serpentine chaparral	None: No serpentine habitat exists onsite.
Napa checkerbloom (*Sidalcea hickmanii* ssp. *napensis*)	—/—/1B.1	Chaparral	None: No woodland habitat exists onsite.
Napa false indigo (*Amorpha californica* var. *napensis*)	**—/—/1B.2**	**Forest, woodland**	**None: No woodland habitat exists onsite.**
Narrow-anthered brodiaea (*Brodiaea leptandra*)	**—/—/1B.2**	**Foothill woodland, grassland**	**None: No woodland habitat exists onsite.**
North Coast semaphore grass (*Pleuropogon hooverianus*)	—/—/1B.1	Freshwater wetland, vernal pools	None: No vernal pool habitat exists onsite.
Oregon polemonium (*Polemonium carneum*)	—/—/2B.2	Coastal scrub, yellow pine forest	None: No forest or coastal scrub habitat exists onsite.
Oval-leaved viburnum (*Viburnum ellipticum*)	**—/—/2B.3**	**Chaparral**	**None: No chaparral habitat exists onsite.**
Pacific gilia (*Gilia capitata* ssp. *pacifica*)	—/—/1B.2	Coastal prairie, woodland, chaparral	Low: Little suitable habitat onsite.
Pappose tarplant (*Centromadia parryi* ssp. *parryi*)	**—/—/1B.2**	**Grassland, chaparral**	**None: No chaparral habitat exists onsite.**
Pennell's bird's beak (*Cordylanthus tenuis* ssp. *capillaris*)	—/—/1B.2	Chaparral	Very Low: No chaparral habitat exists onsite.
Perennial goldfields (*Lasthenia californica* ssp. *macrantha*)	—/—/1B.2	Northern coastal scrub	Very Low: Some grassland habitat exists onsite.
Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*)	—/—/1B.2	Grassland, chaparral	Low: Some suitable habitat onsite.
Petaluma popcornflower (*Plagiobothrys mollis* var. *vestitus*)	—/—/1A	Coastal salt marsh	Low: Some coastal salt marsh habitat exists onsite.
Pink sand verbena (*Abronia umbellata* var. *breviflora*)	—/—/1B.1	Coastal sand dunes	None: No sand dune habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Pitkin Marsh lily (*Lilium pardalinum* ssp. *pitkinense*)	FE/SE/1B.1	Freshwater wetlands	Low: Some suitable wetland habitat exists onsite. Presumed extinct.
Pitkin Marsh paintbrush (*Castilleja uliginosa*)	FE/SE/1A	Freshwater wetlands	Low: Some suitable wetland habitat exists onsite. Presumed extinct.
Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*)	—/—/1B.2	Coastal salt marsh	Low: Some salt marsh habiat exists onsite.
Point Reyes salty bird's beak (*Chloropyron maritimum* ssp. *palustre*)	**—/—/1B.2**	**Coastal salt marsh**	**Medium: Some salt marsh habitat exists onsite.**
Purple-stemmed checkerbloom (*Sidalcea malviflora* spp. *purpurea*)	—/—/1B.2	Wetlands	Low: Some suitable wetland habitat exists onsite.
Raiche's red ribbons (*Clarkia concinna* spp. *raichei*)	—/—/1B.1	Coastal scrub	Low: Some coastal scrub habitat exists onsite.
Rincon Ridge ceanothus (*Ceanothus confusus*)	**—/—/1B.1**	**Chaparral**	**None: No chaparral habitat exists onsite.**
Rincon Ridge manzanita (*Arctostaphylos stanfordiana* ssp. *decumbens*)	—/—/1B.1	Chaparral	None: No chaparral habitat exists onsite.
Round-headed beaked-rush (*Rhynchospora globularis*)	—/—/2B.1	Freshwater wetlands, riparian	Low: Some potential wetland habitat exists onsite.
Round-leaved filaree (*California macrophylla*)	—/—/1B.2	Foothill grassland	Medium: Some grassland habitat exists onsite.
Saline clover (*Trifolium hydrophilum*)	**—/—/1B.2**	**Wetland, riparian**	**Medium: Some wetland habitat exists onsite.**
Sebastopol meadowfoam (*Limnanthes vinculans*)	FE/SE/1B.1	Freshwater wetland, vernal pools	None: No vernal pool habitat exists onsite.
Short-leaved evax (*Hesperevax sparsiflora var. brevifolia*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Soft salty bird's beak (*Chloropyron molle* ssp. *molle*)	FE/ST/1B.2	Coastal salt marsh	Low: Some salt marsh habitat exists onsite.
Sonoma alopecurus (*Alopecurus aequalis* var. *sonomensis*)	FE/—/1B.1	Freshwater wetland, vernal pools	None: No vernal pool habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Sonoma beardtongue (*Penstemon newberryi* var. *sonomensis*)	—/—/1B.3	Chaparral	Very Low: Some grassland habitat exists onsite.
Sonoma ceanothus (*Ceanothus sonomensis*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Sonoma spineflower (*Chorizanthe valida*)	—/—/1B.1	Coastal prairie	Low: Some grassland habitat exists onsite.
Sonoma sunshine (*Blennosperma bakeri*)	**—/—/1B.1**	**Valley grassland, freshwater wetland**	**Medium: Some grassland and wetland habitat exists onsite.**
Supple daisy (*Erigeron supplex*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Swamp harebell (*Campanula californica*)	—/—/1B.2	Coastal prairie, freshwater wetlands	Low: Some wetlands exist on site.
Thin-lobed horkelia (*Horkelia tenuiloba*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Thurber's reed grass (*Calamagrostis crassiglumis*)	—/—/2B.1	Coastal scrub, freshwater wetland	Low: Some wetland habitat exists outside of the project area.
Two-fork clover (*Trifolium amoenum*)	—/—/1B.1	Grassland, wetland	Medium: Some grassland habitat exists onsite.
Western leatherwood (*Dirca occidentalis*)	—/—/1B.2	Foothill woodland, chaparral	None: No chaparral or woodland habitat exists onsite.
White beaked-rush (*Rhynchospora alba*)	—/—/2B.2	Wetlands, riparian	Low: Some suitable wetland habitat exists onsite.
White flowered rein orchid (*Piperia candida*)	—/—/1B.2	Yellow pine forest	None: No forest habitat exists onsite.
Wolly headed gilia (*Gilia capitata* ssp. *tomentosa*)	—/—/1B.1	Coastal prairie	Low: Some grassland habitat exists onsite.
MOSSES, LICHENS & LIVERWORTS			
Methuselah's beard lichen (*Dolichousnea longissima*)	—/—/4.2	Old growth conifer and hardwood forests	None: No old growth Douglas fir forest exists onsite.
Slender silver moss (*Anomobryum julaceum*)	—/—/4.2	Rocky substrates in forests	None: No forest habitat exists onsite.
Coastal triquetrella (*Triquetrella californica*)	—/—/1B.2	Forest, woodland	None: No forest habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
FISH			
Chinook Salmon Sacramento River Winter Run (*Oncorhynchus kisutch*)	**FE/SE/—**	**Freshwater streams, open ocean and estuaries**	**Medium: Some streams exist onsite but not near the proposed cultivation area.**
Chinook Salmon Central Valley Spring Run (*Oncorhynchus kisutch*)	**FT/SE/—**	**Freshwater streams, open ocean and estuaries**	**Medium: Some streams exist onsite but not near the proposed cultivation area.**
Coho Salmon Central California Coast ESU (*Oncorhynchus kisutch*)	**FE/SE/—**	**Freshwater streams, open ocean and estuaries**	**Medium: Some streams exist onsite but not near the proposed cultivation area.**
Gualala roach (*Lavinia symmetricus parvipinnis*)	—/SSC/—	Freshwater streams	None: No suitable streams exist onsite.
Longfin smelt (*Spirinchus thaleichthys*)	FT/ST/—	Estuaries and coastal lakes	None: No suitable estuary habitat exists onsite.
Navarro roach (*Lavinia symmetricus navarroensis*)	—/SSC/—	Freshwater streams	None: No suitable streams exist onsite.
Sacramento splittail (*Pogonichthys macrolepidotus*)	—/SSC/—	Low gradient freshwater streams	None: No suitable streams exist onsite.
Steelhead Central California Coast DPS (*Oncorhynchus mykiss irideus*)	**FT/—/—**	**Freshwater streams, open ocean and estuaries**	**Medium: Some streams exist onsite but not near the proposed cultivation area.**
Tidewater goby (*Eucyclogobius newberryi*)	**FE/SSC/—**	**Brackish coastal lagoons and streams**	**Low: Some streams exist onsite but not near the proposed cultivation area.**
AMPHIBIANS & REPTILES			
California giant salamander (*Dicamptodon ensatus*)	—/SSC/—	Wetlands and riparian areas	None: No suitable habitat exists onsite.
California glossy snake (*Arizona elegans occidentalis*)	—/SSC/—	Grasslands	Low: Some habitat exists onsite.
California red-legged frog (*Rana draytonii*)	**FT/SSC/—**	**Vernal pools, seasonal pools, stock ponds, and associated grasslands**	**Low: Some suitable wetland habitat exists onsite, but not near the proposed cultivation area.**
California tiger salamander (*Ambystoma californiense*)	FT/SSC/—	Ponds, streams, drainages, and associated uplands	Low: No suitable wetland habitat exists onsite, some estivation habitat may exist onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Foothill yellow-legged frog (*Rana boylii*)	—/SSC/—	Wetlands, riparian, streams and ponds	None: No suitable wetland habitat exists onsite.
Red bellied newt (*Taricha rivularis*)	—/SSC/—	Woodland streams, riparian corridors	None: No suitable stream habitat exists onsite.
San Joaquin coachwhip (*Masticophis flagellum ruddocki*)	—/SSC/—	Grasslands	Medium: Some suitable grassland habitat exists onsite.
Western pond turtle (*Emys marmorata*)	**—/SSC/—**	**Slow-moving creeks, streams, ponds, rivers, ditches; sandy banks and fields for nesting**	**None: No suitable pond habitat exists near the proposed cultivation area.**
INVERTEBRATES			
Behren's silverspot butterfly (*Speyeria zerene behrensii*)	FE/SSC/—	Coastal prairie	None: Requires blue violet to reproduce; none onsite.
California brackishwater snail (*Tryonia imitator*)	—/SSC/—	Brackish wetlands	None: No suitable wetland habitat exists onsite.
California floater (*Anodonta californiensis*)	—/SSC/—	Freshwater ponds, streams	None: No suitable stream habitat exists onsite.
California freshwater shrimp (*Syncaris pacifica*)	**FE/SE/—**	**Freshwater ponds, streams**	**None: No suitable vernal pool habitat exists onsite.**
California linderiella (*Linderiella occidentalis*)	—/SSC/—	Vernal pools	None: No vernal pool habitat exists onsite.
Crotch bumble bee (*Bombus crotchii*)	—/SSC/—	Grassland and chaparral	Medium: Some grassland habitat exists onsite.
Leech's skyline diving beetle (*Hydroporus leechi*)	—/SSC/—	Freshwater ponds	None: No suitable pond habitat exists onsite.
Myrtle silverspot butterfly (*Speyeria zerene myrtleae*)	FE/SSC/—	Coastal prairie, chaparral	None: Requires western dog violet for reproduction; none onsite.
Monarch butterfly California overwintering Population #1 (*Danaus plexippus*)	**—/SSC/—**	**Large trees required for roosting.**	**Medium: Site has some suitable trees for roosting.**
Obscure bumble bee (*Bombus caliginosus*)	—/SSC/—	Grassland, foothill woodland, chaparral	Medium: Some disturbed grassland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Opler's longhorn moth (*Adela oplerella*)	**—/SSC/—**	**Usually associated with *Platystemon* (creamcups)**	**Very Low: No suitable host plants onsite.**
Oregon floater (*Anodonta oregonensis*)	—/SSC/—	High order freshwater streams	None: No suitable stream habitat exists onsite.
Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*)	—/SSC/—	Freshwater ponds	None: No pond habitat exists onsite.
Sonoma zerene fritillary (*Speyeria zerene sonomensis*)	**—/SSC/—**	**Grasslands and meadows**	**None: Requires *Viola* for reproduction; none onsite.**
Tomales isopod (*Caecidotea tomalensis*)	—/SSC/—	Ponds and streams	None: No pond or stream habitat exists onsite.
Western bumblebee (*Bombus occidentalis*)	**—/SSC/—**	**Grassland**	**Medium: Some disturbed grassland habitat exists onsite.**
Vernal pool andrenid bee (*Andrena blennospermatis*)	**—/SSC/—**	**Upland areas near vernal pools**	**None: No vernal pool habitat exists onsite.**
BIRDS			
American perigrine falcon (*Falco peregrinus anatum*)	—/SSC/—	Forages in open grasslands, nests in trees	Very Low: No suitable nesting or foraging habitat exists.
Bank swallow (*Riparia riparia*)	**FE/SE/—**	**Migratory, typically found near lakes and streams**	**Medium: One occurrence of this species from the site.**
Black swift (*Cypseloides niger*)	—/SSC/—	Cliff faces near water	None: No suitable stream habitat exists onsite.
Burrowing owl (*Athene cunicularia*)	**—/SSC/—**	**Grasslands**	**Low: Some suitable grassland habitat exists onsite, but not near the proposed cultivation areas.**
California black rail (*Laterallus jamaicensis coturniculus*)	**FE/SE/—**	**Coastal salt marshes and mudflats**	**Medium: Some suitable salt marsh habitat exists onsite in the eastern portion of the site.**
California horned lark (*Eremophila alpestris actia*)	—/SSC/—	Herbaceous vegetation, chaparral	None: No suitable scrub or chaparral habitat exists onsite.
Cooper's hawk (*Accipiter cooperii*)	—/WL/—	Forages over open grassland.	Low: Some suitable foraging habitat exists onsite. No suitable nesting habitat onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Ferruginous hawk (*Buteo regalis*)	—/SSC/—	Forages over open grassland. Nests in old-growth trees.	Low: Little suitable foraging habitat exists onsite. No suitable nesting habitat onsite.
Golden eagle (*Aquila chrysaetos*)	—/SSC/—	Forages over open grassland. Nests in old-growth trees.	Very Low: Little suitable foraging habitat exists onsite. No suitable nesting habitat.
Grasshopper sparrow (*Ammodramus savannarum*)	—/SSC/—	Forages over open grassland.	Low: Some suitable foraging habitat exists onsite.
Great egret (*Ardea alba*)	FE/SE/—	Nests in colonies in trees, forages in wetlands and grasslands	Medium: Some suitable habitat exists onsite.
Ridgway's rail (*Rallus obsoletus obsoletus*)	**FE/SE/—**	**Mudflats and tidal sloughs**	**Low: Some suitable tidal habitat exists but not near the proposed cultivation area.**
Salt marsh common yellowthroat (*Geothlypis trichas sinuosa*)	**—/SSC/—**	**Forages in grasslands and nests in dense freshwater marshes**	**Medium: No suitable nesting habitat exists. Some suitable foraging habitat.**
San Pablo song sparrow (*Melospiza melodia samuelis*)	**—/SSC/—**	**Forages in grasslands and nests in dense freshwater marshes**	**Medium: No suitable nesting habitat exists. Some suitable foraging habitat.**
Tricolored blackbird (*Agelaius tricolor*)	—/SSC/—	Forages in grasslands and nests in dense freshwater marshes	Low: Some suitable nesting habitat exists onsite. Some suitable foraging habitat onsite.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	—/SE/—	Woodland, riparian	Very Low: No suitable nesting habitat exists. Some suitable foraging habitat exists.
White-tailed kite (*Elanus leucurus*)	—/CFP/—	Prefers to nest in marshes adjacent to deciduous forests.	Very Low: No suitable nesting habitat exists. Some suitable foraging habitat exists.
Yellow rail (*Coturnicops noveboracensis*)	**—/SSC/—**	**Breeds in marshes, forages in wet meadows.**	**Medium: Some marsh habiat exists onsite, but not near the proposed cultivation area.**
MAMMALS			
American badger (*Taxidea taxus*)	—/SSC/—	Open grassland habitats with plenty of prey. Prefers complex topography for burrows and cover.	Low: Insufficient habitat complexity exists for this territorial animal.
Big free-tailed bat (*Nyctinomops macrotis*)	—/SSC/—	Forages over open areas, roots in trees or caves	Low: Some suitable foraging habitat available.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Fringed myotis (*Myotis thysanodes*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Low: Some foraging habitat exists in the project area.
Hoary bat (*Lasiurus cinereus*)	—/SSC/—	Forages over open areas, roots in trees or caves at high altitude.	None: Foraging limited to high altitudes; no suitable roosts in the project area.
Long-eared myotis (*Myotis evotis*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Low: Some foraging habitat exists; some suitable roosts in the project area.
Long-legged myotis (*Myotis volans*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Very Low: Some foraging habitat exists; no suitable roosts in the project area.
North American porcupine (*Erethizon dorsatum*)	—/SSC/—	Require rocky areas or trees for dens, abundant open space for foraging.	Very Low: Some foraging habitat exists; little suitable den habitat in the project area.
Pallid bat (*Antrozous pallidus*)	**—/SSC/—**	**Common in open dry habitats with rocky areas for roosting.**	**Very Low: Some foraging habitat exists; no suitable roosts in the project area.**
Salt marsh harvest mouse (*Reithrodontomys raviventris*)	**FE/SE/—**	**Salt marshes**	**Low: Some salt marsh habitat exists onsite, although not near the project area.**
Sonoma tree vole (*Arborimus pomo*)	—/SSC/—	Old growth Douglas fir canopies.	None: No forest habitat exists onsite.
Townsend's big-eared bat (*Corynorhinus townsendii*)	—/SSC/—	Hibernate in mines or caves, roost in man made structures and caves, forages at night.	Low: Few man-made structures or caves exist onsite that are suitable for roosting. Some habitat for foraging exists.
Western red bat (*Lasiurus blossevillii*)	—/SSC/—	Forages over open areas, roots in trees or caves.	Very Low: No suitable nesting habitat exists, some suitable foraging habitat exists.
Yuma myotis (*Myotis yumanensis*)	—/SSC/—	Forages over open areas, roots in trees or caves.	Very Low: No suitable nesting habitat exists, some suitable foraging habitat exists.
HABITATS			
Coastal & Valley Freshwater Marsh (CVFM)	—	—	None: No marsh habitat exists onsite.
Coastal Brackish Marsh (CVFM)	**—**	**—**	**Medium: Some brackish marshes exists onsite.**

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Northern Coastal Salt Marsh (NCSM)	**—**	**—**	**Medium: Some salt marsh habitat exists onsite.**
Northern Hardpan Vernal Pool (NHVP)	—	—	None: No hardpan vernal pool habitat exists onsite.
Northern Vernal Pool (NVP)	**—**	**—**	**None: No vernal pool habitat exists onsite.**
Sycamore Alluvial Woodland (SAW)	—	—	None: No woodland habitat exists onsite.
Valley Needlegrass Grassland (VNG)	—	—	Low: Some grassland habitat exists onsite.
Valley Sink Scrub (VSS)	—	—	None: No sink habitat exists onsite.

[1] Status:

Federal
FE = Federally Endangered Species
FT = Federally Threatened Species

State
SE = State Endangered Species
ST = State Threatened Species
SR = State Rare (applies to plants only)
SSC = California Species of Special Concern
CFP = California Fully Protected Species

CNPS (applies to plants only)
List 1B = plants considered rare, threatened, or endangered in California and elsewhere
List 2B = plants rare, threatened or endangered in California, but more common elsewhere
List 4 = plants of limited distribution

[2] USFWS

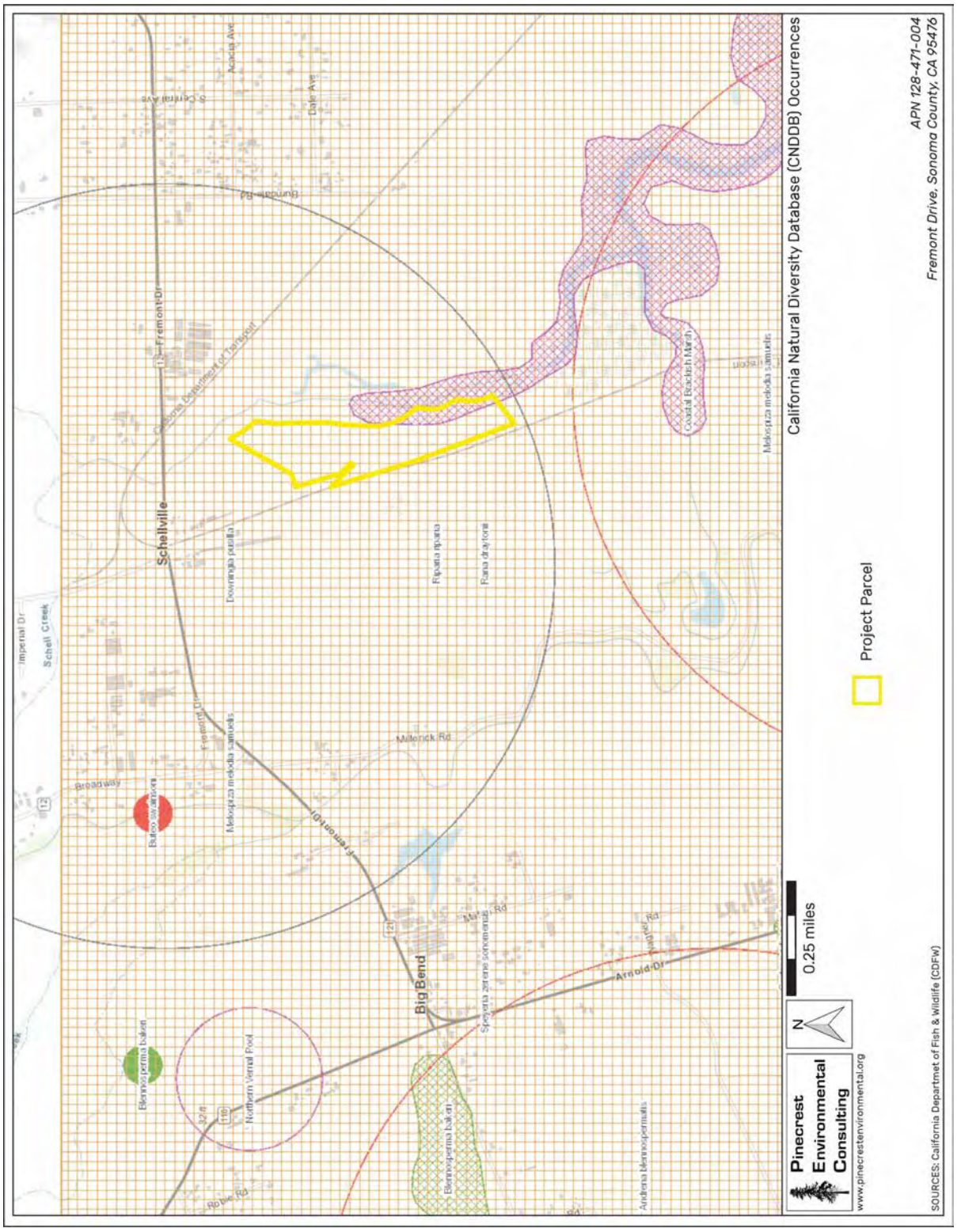
APPENDIX B: SPECIES ENCOUNTERED

PLANTS
Acmispon americanus
Artemisia douglasiana
Atriplex prostrata
Avena barbata
Baccharis pilularis
Bolboschoenus maritimus
Brassica rapa
Bromus hordeaceous
Cardamine californica
Cardamine hirsuta
Centaurea solstitialis
Chenopodium album
Circium pycnocephalus
Cirsium vulgare
Convolvulus arvensis
Cotula coronopifolia
Croton setiger
Cynosurus echinatus
Cyperus eragrostis
Daucus carota
Dipsacus fullonum
Distichlis spicata
Elymus caput-medusae
Erigeron canadensis
Erodium botrys
Euphorbia maculata
Festuca perennis
Frankenia salina
Geranium molle
Geranium molle
Heliotropium curassavicum
Helminthotheca echioides
Helminthotheca echioides
Holcus lanatus
Hordeum murinum
Hypochaeris glabra
Juncus patens
Lepidium heterophyllum
Lythrum hyssopifolia

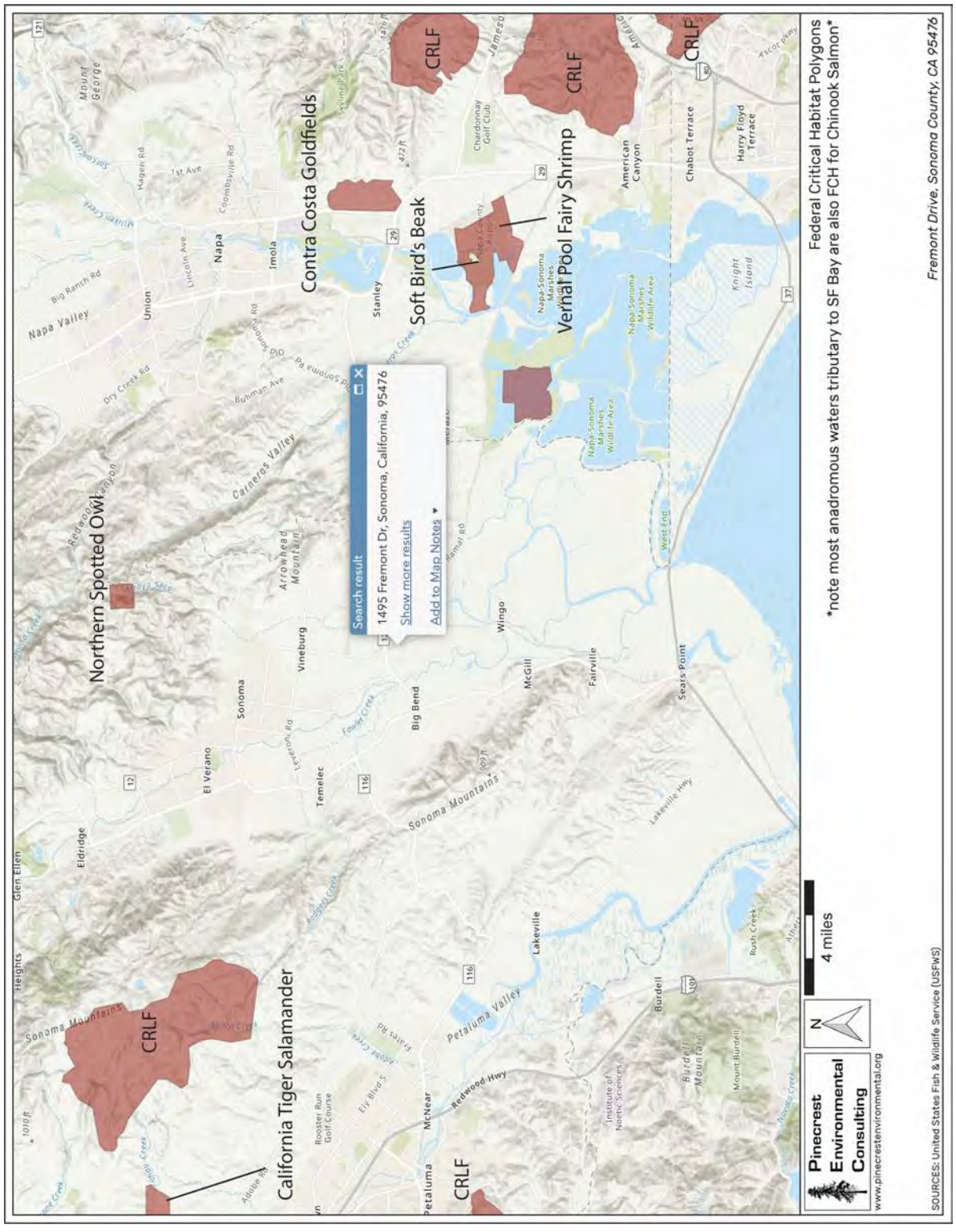
Malva parviflora
Medicago sativa
Mentha pulegium
Phalaris aquatica
Plantago major
Polypogon monspeliensis
Raphanus sativus
Rubus armeniacus
Rumex acetocella
Rumex crispus
Salicornia pacifica
Salsola tragus
Sonchus asper
Spergula arvensis
Tetragonia tetragonioides
Torilis nodosa
Trifolium hirtum
Trifolium repens
Typha latifolia
Vicia sativa
Vicia sativa
Xanthium spinosum

ANIMALS
Agelaius phoeniceus
Aphelocoma californica
Ardea herodias
Buteo jamaicensis
Calypte anna
Canis latrans
Cathartes aura
Corvus brachyrhynchos
Egretta thula
Elanus leucurus
Euphagus cyanocephalus
Hirundo rustica
Larus occidentalis
Lepus californicus
Microtus californicus
Phalacrocorax carbo
Sialia mexicana
Spinus psaltria
Thomomys bottae
Zenaida macroura
Zonotrichia leucophrys

APPENDIX C: CNDDB OCCURRENCES MAP



APPENDIX D: MAP OF FEDERAL CRITICAL HABITAT



APPENDIX E: STREAM CLASSIFICATION CRITERIA

The following stream classification criteria were copied form the California Department of Forestry & Fire Protection *Forest Practice Rules* (CALFIRE 2017) and is widely used by many state and local agencies. Most state and local jurisdictions require setbacks of 50, 100, and 150 feet from Class III, II, and I streams, respectively (as shown in Figure 3) although greater setbacks may be required in some jurisdictions.

Watercourse – a natural or artificial channel through which water flows.

- Perennial watercourse (Class I*):
  1. In the absence of diversions, water is flowing for more than nine months during a typical year,
  2. Fish always or seasonally present onsite or includes habitat to sustain fish migration and spawning, and/or
  3. Spring: an area where there is concentrated discharge of ground water that flows at the ground surface. A spring may flow any part of the year. For the purpose of this Policy, a spring does not have a defined bed and banks.
- Intermittent watercourse (Class II*):
  1. In the absence of diversions, water is flowing for three to nine months during a typical year,
  2. Provides aquatic habitat for non-fish aquatic species,
  3. Fish always or seasonally present within 1,000 feet downstream, and/or
  4. Water is flowing less than three months during a typical year and the stream supports riparian vegetation.
- Ephemeral watercourse (Class III*): In the absence of diversion, water is flowing less than three months during a typical year and the stream does not support riparian vegetation or aquatic life. Ephemeral watercourses typically have water flowing for a short duration after precipitation events or snowmelt and show evidence of being capable of sediment transport.
- Other watercourses (Class IV*): Class IV watercourses do not support native aquatic species and are man-made, provide established domestic, agricultural, hydroelectric supply, or other beneficial use.

*Except where more restrictive, stream class designations are equivalent to the Forest Practice Rules Water Course and Lake Protection Zone definitions (California Code of Regulations, title 14, Chapter 4. Forest Practice Rules, Subchapters 4, 5, and 6 Forest District Rules, Article 6 Water Course and Lake Protection).

APPENDIX F: CANNABIS CULTIVATION BEST MANAGEMENT PRACTICES

Best management practices (BMPs) are designed to prevent, minimize, and control the discharge of waste and pollutants associated with site operations and maintenance for the aforementioned project. Many of these BMPs are considered enforceable conditions under North Coast Regional Water Quality Board Order No. R1-2015-0023 and applicable State Water Resources Control Board *Cannabis* General Order No. WQ 2019-0001-DWQ.

F.1 CANNABIS CULTIVATION

- Pesticide and fertilizer storage facilities shall be located outside of the Riparian Corridor setbacks for structures.
- Pesticide and fertilizer storage facilities shall not be located within 100 feet of a wellhead, or within 50 feet of identified wetlands.
- Pesticide and fertilizer storage facilities shall be adequate to protect pesticide and fertilizer containers from the weather.
- Store all bags and boxes of pesticides and fertilizers off the ground on pallets or shelves.
- If the structure does not have an impermeable floor, store all liquid pesticides and fertilizers on shelves capable of containing spills or provide appropriate secondary containment.
- Routinely check for leaks and spills.
- Have spill cleanup kit onsite to be able to respond to any leaks or spills.
- Inspect planting stock for pests and diseases prior to planting. Avoid planting stock with pests and disease and notify the supplier of the planting stock of the infestation.
- Comply with all pesticide laws and regulations as enforced by the California Department of Pesticide Regulation and Sonoma County Agricultural Commissioner.
- For pesticides with the signal word CAUTION that have listed food uses, comply with all pesticide label directions as they pertain to personal protective equipment, application method, and rate, environmental hazards, longest reentry intervals and greenhouse and indoor use directions.
- For all other pesticides, use must comply with all label requirements including site and crop restrictions.
- Prior to the use of any registered pesticide on cannabis, Operator Identification Number should be obtained from the County Agricultural Commissioner if required.
- Submit monthly pesticide use reports to the County Agricultural Commissioner if required.

- Prior to applying fertilizers, evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over fertilization.
- Apply fertilizers at label rates and no higher.
- Do not apply fertilizers in a way that will result in runoff that may contaminate ground or surface water or escape via airborne drift or fugitive dust.
- Observe riparian corridor setbacks for agricultural cultivation as applicable. These shall be maintained as "no touch" areas. The removal of vegetation is prohibited within these setback areas.
- No equipment, vehicles, or other materials shall be stored in the riparian setback areas.
- Composting areas shall not be located in the riparian setback areas.
- Irrigation must be conducted in a manner that does not result in runoff from the cultivated area.
- Any water tanks or storage facilities must obtain all necessary permits from the Sonoma County Permit and Resource Management Department (PRMD).
- The use of membrane based water bladders is prohibited.
- If using an irrigation system, inspect for and repair leaks prior to planting each year and continuously during the season.
- Irrigation systems shall be equipped with a backflow prevention devices and shutoff valves.
- Recycle or properly dispose of all plastic bags, containers, and irrigation materials.
- Properly dispose of green waste in a manner that does not discharge pollutants to a watercourse. This may be accomplished by composting, chipping, and/or shredding. The method of green waste disposal must be documented.
- Used growth medium (soil and other organic medium) shall be handled to minimize or prevent discharge of soil and residual nutrients and chemicals to watercourses. Proper disposal could include incorporating into garden beds, spreading on a stable surface and re-vegetating, storage in watertight dumpsters, or covering with tarps or plastic sheeting prior to proper disposal. The method of disposal must be documented.
- Compost piles are to be located outside of riparian setbacks for agricultural cultivation and in a manner that will not discharge pollutants to a watercourse. If necessary, construct a berm or install fiber roll around compost area to prevent runoff or use straw wattles around perimeter.
- Cover compost piles with tarp or impermeable surface prior to fall rains and continuously throughout the rainy season.
- Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
- Avoid soil disturbance between November 1 and April 15 and during times of active precipitation.
- All exposed and disturbed soil must be covered with a minimum of 2 inches of mulch, such as straw, bark, wood chips, etc., by November 15. Alternatively, establish a thick cover crop over disturbed areas composed of native species.

- Erosion control materials shall be available on site at all times in the form of straw or appropriate mulch adequate to cover area of disturbed soil.
- In the event of a forecast storm event likely to produce runoff, apply mulch to disturbed areas prior to rain event.
- Any grading or drainage conducted as part of site preparation shall have the appropriate permits from the Sonoma County PRMD.

F.2 EROSION & SEDIMENT CONTROL

- Erosion control and sediment detention devices and materials shall be incorporated into the cleanup/restoration work design and installed prior to the end of project work and before the beginning of the rainy season or any predicted rain events.
- Any continuing, approved project work conducted after October 15 shall have erosion control measures completed and up-to-date.
- All erosion control measures shall be inspected daily during severe rain events.
- Erosion control materials shall be, at minimum, stored on-site at all times during approved project work between May 1 and October 15.
- Approved project work within the 5-year flood plain shall not begin until all temporary erosion controls (straw bales or silt fences that are effectively keyed-in) are installed downslope of cleanup/restoration activities.
- Native species appropriate to the local habitat shall be used for all revegetation purposes. Non-invasive, non-persistent grass species (e.g., barley grass) may be used for their temporary erosion control benefits to stabilize disturbed slopes and prevent exposure of disturbed soils to rainfall.
- Upon work completion, all exposed soil present in and around the cleanup/restoration sites shall be stabilized within 7 days.
- The disturbed area will be minimized at all times to only that which is essential for the completion of the project.
- Provide temporary cover over disturbed areas that are not currently being worked on.
- Heavy equipment shall not be used in flowing water.
- Use of heavy equipment shall be avoided or minimized in a channel bottom with rocky or cobbled substrate.
- Heavy equipment shall not introduce chemicals or foreign sediment to the channel (e.g., remove mud from tracks or cover channel work area with plastic sheeting prior to heavy equipment entry).
- When heavy equipment is used, any woody debris and stream bank or streambed vegetation disturbed shall be replaced to a pre-project density with native species appropriate to the site.
- When possible, existing ingress or egress points shall be used or work shall be performed remotely from the top of the creek banks.

- Divert runoff away from unprotected slopes or loose soils using a combination of mats, geotextiles, silt fencing, wattling, check dams, sediment basins, vegetated buffers, or rock armor.
- Deploy appropriate erosion control measures such as silt fencing or straw wattles around all temporary exposed piles or soil or surface disturbances.
- All temporary exposed piles or soil or surface disturbances shall have tarping and sand bags or other stabilization materials deployed in order to prevent discharge of sediments in the event of a rain or wind event.
- Geotechnical fabric shall be deployed on all exposed dirt surfaces with a slope of greater than 15% and staked in place during ground disturbing activities, and silt fencing deployed on slopes of greater than 15% where appropriate.
- Sand bags, straw bales, or other devices shall be placed at appropriate locations near and alongside the roadsides and swales in anticipation of large storm events.
- Bioswales and cultivation areas including parking areas shall be maintained free of trash including empty soil and pesticide or fertilizer containers.
- Locations of sediment sources shall be identified during rain events and mitigated where appropriate.
- Protect ditch inlets and outlets from erosion using rock armor.
- Silt fencing shall be installed downstream of rock piles, stockpiles, and temporary soils storage areas.
- Desilting or retention basins shall be installed if the capacity of the natural percolation exceeds the inputs during routine storm events.
- Sediment traps shall be used on all exposed driveway surfaces where natural vegetation is not able to be established.
- Exposed unvegetated surfaces will be graveled where appropriate.
- Rock placed for slope protection shall be the minimum necessary to avoid erosion, and shall be part of a design that provides for native plant revegetation and minimizes bank armoring.
- Soil exposed as a result of project work, soil above rock riprap, and interstitial spaces between rocks shall be revegetated with native vegetation by live planting, seed casting, or hydroseeding prior to the rainy season of the year work is completed.
- Avoidance of earthwork on steep slopes and minimization of cut/fill volumes, combined with proper compaction, shall occur to ensure the area is resilient to issues associated with seismic events and mass wasting. If cracks are observed, or new construction is anticipated, consultation with a qualified professional is recommended.
- Culvert fill slopes shall be constructed at a 2:1 slope or shall be armored with rock.
- If it is necessary to conduct work in or near a live stream, the work space shall be isolated to avoid project activities in flowing water.
- Any spoils associated with site maintenance shall be placed in a stable location where it cannot enter a watercourse.

- Sidecasting shall be minimized and shall be avoided on unstable areas or where it has the potential to enter a watercourse.
- Entrance to the project site shall be maintained in a condition that will prevent tracking or flowing of sediment into the public right-of-way.
- All sediment spilled, dropped, washed, or tracked onto the public right-of-ways shall be removed immediately.
- When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-ways.
- When wheel washing is required, it shall be done in an area stabilized with crushed stone that drains into a sediment trap fitted with appropriate erosion control measures.
- To control surface water runoff in and around cultivation areas use fiber rolls or wattling and stake appropriately and perpendicular to the flow path.
- Cover crops should be utilized on all exposed slopes that are not able to be protected by other means.
- Cover crops should be native species as described in the associated biological resources report.
- Rip compacted soils prior to placing spoils to prevent the potential for ponding under the spoils that could result in spoil site failure and subsequent sedimentation.
- Compact and contour stored spoils to mimic the natural slope contours and drainage patterns to reduce the potential for fill saturation and failure.
- Ensure that spoil materials are free of woody debris, and not placed on top of brush, logs or trees.
- Inspect all roads and culverts regularly for blockages.

F.3 WATER USE & POLLUTION

- Ensure that all appropriate water rights permits are filed with the State Water Resources Control Board.
- Notify the California Department of Fish and Wildlife by submitting a Lake and Streambed Alteration (LSA) notification package if the proposed activities involve substantial diversion from or alteration of the bed or bank of a stream or other waterbody.
- Ensure that all water storage features are permitted from the Department of Water Rights if necessary.
- All refueling and pesticide and chemical storage and transfer shall occur greater than 100 feet away from any swales, creeks, or natural areas.
- All refueling and pesticide and chemical storage and transfer shall occur on top of an impermeable metal or other fabric mat that is no less than 2 inches high on all sides and capable of completely containing any spillage.

- Concrete truck and other vehicles shall not be washed out in natural areas or directly onto soil and shall be washed out into a metal or other impermeable basin and disposed of properly such that no water is discharged to the soil.
- All waste shall be kept in plastic drums with tight fitting lids so that water is not able to make contact with the contents and potentially leach to the environment.
- All pesticide sprays shall occur on windless nights for outdoor facilities.
- Chemical or fertilizer wastes shall never be disposed of into swales or creeks and shall be contained inside closed-roof facilities and designated with appropriate labeling until it is possible to dispose of properly.
- Septic leach fields and graywater mulch fields shall be maintained free of large vegetation and not used for aboveground storage that may impact their proper functioning.
- Chemical contamination (fuel, grease, oil, hydraulic fluid, solvents, etc.) of water and soils is prohibited during routine equipment operation and maintenance.
- The use or storage of petroleum-powered equipment shall be accomplished in a manner that prevents the potential release of petroleum materials into waters of the state (Fish and Game Code 5650).
- Schedule excavation and grading activities for dry weather periods.
- Designate a contained area for equipment storage, short-term maintenance, and refueling. Ensure it is located at least 50 feet from waterbodies.
- Inspect vehicles for leaks and repair immediately.
- Clean up leaks, drips and other spills immediately to avoid soil or groundwater contamination.
- Conduct major vehicle maintenance and washing offsite.
- Ensure that all spent fluids including motor oil, radiator coolant, or other fluids and used vehicle batteries are collected, stored, and recycled as hazardous waste offsite.
- Ensure that all construction debris is taken to appropriate landfills and all sediment disposed of in upland areas or offsite, beyond the 100-year floodplain.
- Use dry cleanup methods (e.g., absorbent materials, cat litter, and/or rags) whenever possible. If necessary for dust control, use only a minimal amount of water.
- Sweep up spilled dry materials immediately.
- Separate organic material (e.g., roots, stumps) from the dirt fill and store separately. Place this material in long-term, upland storage sites, as it cannot be used for fill.
- Spoils shall not be placed or stored in locations where soils are wet or unstable, or where slope stability could be adversely affected.
- Do not locate spoil piles in or immediately adjacent to wetlands and watercourses.
- Store spoil piles in a manner (e.g. cover pile with plastic tarps and surround base of pile with straw wattle) or location that would not result in any runoff from the spoil pile ending up in wetlands and watercourses.

- Keep temporary disposal sites out of wetlands, adjacent riparian corridors, and ordinary high water areas as well as high risk zones, such as 100-year floodplain and unstable slopes.
- Conduct operations on a size and scale that considers available water sources and other water use and users in the planning watershed.
- Implement water conservation measures such as rainwater catchment systems, drip irrigation, mulching, or irrigation water recycling where possible.
- Hauled water utilized for irrigation shall be documented via receipt or similar, and show the date, name, and license plate of the water hauler, and the quantity of water purchased.
- If using a water storage tank, do not locate the tank in a flood plain or next to equipment that generates heat. Locate the tank so it is easy to install, access, and maintain.
- Vertical tanks should be installed according to manufacturer's specifications and placed on firm, compacted soil that is free of rocks/sharp objects and capable of bearing the weight of the tank and its maximum contents.
- Install float valves on tanks to prevent them from overflowing.
- Place proper lining or sealing in ponds to prevent water loss.

F.4 ROAD MAINTENANCE & GENERAL CONSTRUCTION

- Always limit work to the appropriate work date windows considering wet weather, migratory bird and other biological and environmental constrains that may be placed on the project.
- Proper design and location of roads and other features is critical to ensuring that a road or other feature be adequately drained and is best accomplished through consultation with a qualified professional.
- Placement of temporary access roads, staging areas, and other facilities shall avoid or minimize disturbance to habitat.
- If inspection identifies surface rills or ruts, then surfacing and drainage likely needs maintenance. Consultation should be made with a licensed professional to design appropriate erosion control strategies.
- Design of roads should allow for sheet flow of water and use water bars and rolling dips to break up slope length.
- Vehicle speed shall be kept to a maximum of 10 mph while onsite to minimize dust generation.
- All unvegetated and unpaved roadways and vehicle turnarounds shall be graveled to a depth of not less than 1" in order to prevent dust and sediment entrainment.
- Applicant will use geotechnical fabric or similar materials on exposed slopes, and distribute weed-free straw mulch wherever possible on exposed surfaces on the perimeter of all graded roads and graveled areas.

- Roads and the berms alongside all roads shall be maintained free of headcuts, gullies, stutter bumps, and other erosion features capable of discharging sediment to adjacent grassland areas.
- Roads will be graveled with clean rock whenever required to prevent dust and sediment erosion during the wet season.
- Whenever possible, road maintenance activities shall be performed from May 1 to October 15.
- Work performed outside of this window should take extra precautions for winter weather erosion control prevention beyond that which is described in this Plan.
- A 48 hour advance forecast for rain shall trigger a temporary cessation of work, and all soils piles will need to be covered and secured with sandbags or other materials.
- Placement of temporary access roads, staging areas, and other facilities shall avoid or minimize disturbance to habitat.
- Whenever feasible, finished grades shall not exceed 1.5:1 side slopes. In circumstances where final grades cannot achieve 1.5:1 slope, additional erosion control or stabilization methods shall be applied as appropriate for the project location.
- Spoils and excavated material not used during project activities shall be removed and placed outside of 100-year floodplains.
- Upon completion of grading, slope protection of all disturbed sites shall be provided prior to the rainy season through a combination of permanent vegetative treatment, mulching, geotextiles, and/or rock, or equivalent.
- Position vehicles and other apparatus so as to not block emergency vehicle access.
- After construction is complete, all storm drain systems and culverts shall be inspected and cleared of accumulated sediment and debris.
- Sediment barriers including wattles and silt fencing should be checked for sediment accumulation following each significant rainfall and sediment removed or the feature replaced as needed.
- Road drainage shall be discharged to a stable location away from a watercourse.
- Use sediment control devices, such as check dams, sand/gravel bag barriers, and other acceptable techniques, when it is neither practical nor environmentally sound to disperse ditch water immediately before the ditch reaches a stream.
- Within areas with potential to discharge to a watercourse (i.e. within riparian areas of at least 200 feet of a stream) road surface drainage shall be filtered through vegetation, slash, or other appropriate material or settled into a depression with an outlet with adequate drainage.

F.5 SWALE & VEGETATION MANAGEMENT

- The work area shall be restored to pre-project work condition or better.

- Any stream bank area left barren of vegetation as a result of cleanup/restoration activities shall be stabilized by seeding, replanting, or other means with native trees, shrubs, and/or grasses appropriate to the site prior to the rainy season in the year work was conducted.
- Ensure that vegetated swales are properly formed, allow moderate velocity water passage without causing sediment entrainment, and are otherwise functioning properly.
- Create and expand vegetated bioswales where necessary, should additional construction or road maintenance be required, in order to maintain flow without scour.
- All bioswales and other drainage features requiring revegetation will be seeded with native vegetation and lawns and hedgerows maintained in good health and watered in dry years.
- Vegetation including grasses shall be mowed as necessary to create fire breaks and to prevent the accumulation of fuels that would be able to sustain a ground fire.
- All vegetation shall be surveyed on foot once a year by staff and new outbreaks of any invasive weeds identified by the California Invasive Plant Council as noxious or invasive to be removed by the owner or qualified landscaping professionals.
- Channels and swales that show evidence of overland flow and scour (e.g. bare of vegetation) shall be seeded with native grasses such as *Stipa pulchra*, *Hordeum brachyantherum*, *Elymus glaucus*, and *Bromus carinatus*, and kept vegetated at all times.
- If shrubs and non-woody riparian vegetation are disturbed, they shall be replaced with similar native species appropriate to the site.
- Disturbance to native shrubs, woody perennials or tree removal on the streambank or in the stream channel shall be avoided or minimized.
- If riparian trees over six inches dbh (diameter at breast height) are to be removed, they shall be replaced by native species appropriate to the site at a 3:1 ratio.
- Where physical constraints in the project area prevent replanting at a 3:1 ratio and canopy cover is sufficient for habitat needs, replanting may occur at a lesser replacement ratio.
- Vegetation planting for slope protection purposes shall be timed to require as little irrigation as possible for ensuring establishment by the commencement of the rainy season.
- The spread or introduction of exotic plant species shall be avoided to the maximum extent possible by avoiding areas with established native vegetation during cleanup/restoration activities, restoring disturbed areas with appropriate native species, and post-project monitoring and control of exotic species.
- Removal of invasive exotic species after construction activities is strongly recommended. Mechanical removal (hand tools, weed whacking, hand pulling) of exotics shall be done in preparation for establishment of native plantings.
- Where permanent soil stabilization is required a locally-appropriate mix of native grass species shall be used such as a mix containing *Nassella pulchra*, *Hordeum brachyantherum*, *Elymus glaucus*, and *Bromus carinatus* or as described in the site's Biological Resources Assessment.
- Entire cultivation site shall be seeded and maintained as a permanent non-tilled cover crop during non-usage times. Straw mulch shall be used where native seeding is not practicable.

- Use mulches (e.g. wood chips or bark) in cultivation areas that do not have ground cover to prevent erosion and minimize evaporative loss.
- Mulch shall be applied at a rate of 4000 lbs / acre and seeding shall be applied to achieve 70% cover in the first year or approximately 200 lbs / acre.
- Annual inspections for the purpose of assessing the survival and growth of revegetated areas and the presence of exposed soil shall be conducted for three years following project work.
- Dischargers and/or their consultant(s) or third party representative(s) shall note the presence of native/non-native vegetation and extent of exposed soil, and take photographs during each inspection.
- Dischargers and/or their consultant(s) or third party representative(s) shall provide the location of each work site, pre- and post-project work photos, diagram of all areas revegetated and the planting methods and plants used, and an assessment of the success of the revegetation program in the annual monitoring report as required under relevant state and local water board regulations.

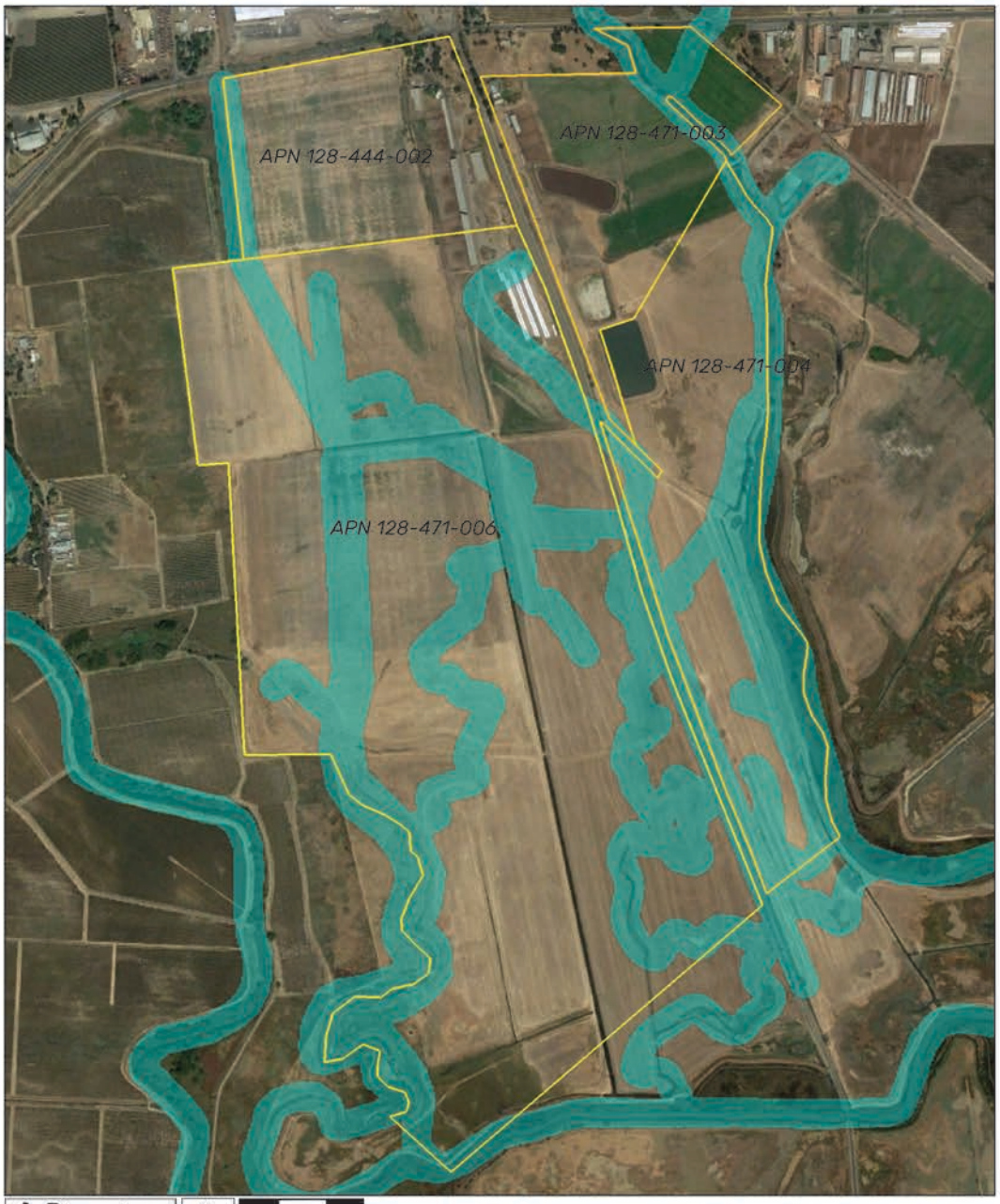
F.6 IRRIGATION & CULTIVATION MANAGEMENT

- Cultivation-related waste shall be stored in a place where it will not enter a stream.
- Soil bags and other garbage shall be collected, contained, and disposed of at an appropriate facility, including for recycling where available.
- Pots shall be collected and stored where they will not enter a waterway or create a nuisance.
- Plant waste and other compostable materials be stored (or composted, as applicable) at locations where they will not enter or be blown into surface waters, and in a manner that ensures that residues and pollutants within those materials do not migrate or leach into surface water or groundwaters.
- Imported soil for cultivation purposes shall be minimized. In the event that containers (e.g. grow bags or grow pots) are used for cultivation, reuse of soil shall be maximized to the extent feasible.
- Spent growth medium (i.e. soil and other organic medium) shall be handled to minimize discharge of soil and residual nutrients and chemicals to watercourses. Proper handling of spent soil could include incorporating into garden beds, spreading on a stable surface and revegetation, storage in watertight dumpsters, covering with tarps or plastic sheeting prior to proper disposal.
- Trash containers of sufficient size and number shall be provided and properly serviced to contain the solid waste generated by the project.
- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Use lined bins or dumpsters to reduce leaking of liquid waste. Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on.

- Make sure trash container areas are screened or walled to prevent off-site transport of trash. Consider using refuse containers that are bear-proof and/or secure from wildlife.
- Refuse shall be removed from the site on a frequency that does not result in nuisance conditions, transported in a manner that they remain contained during transport, and the contents shall be disposed of properly at a proper disposal facility.
- Ensure that human waste disposal systems do not pose a threat to surface or ground water quality or create a nuisance. Onsite treatment systems should follow applicable County ordinances for human waste disposal requirements, consistent with the applicable tier under the State Water Resources Control Board Onsite Waste Treatment System Policy.
- Install buffer strips, bioswales, or vegetation downslope of cultivation areas to filter runoff of chemicals from irrigation.
- Irrigate at rates to avoid or minimize runoff.
- Regularly inspect and repair leaks in mains and laterals, in irrigation connections, or at the ends of drip tape and feeder lines.
- Design irrigation system to include redundancy (i.e., safety valves) in the event that leaks occur, so that waste of water is prevented and minimized.
- Recapture and reuse irrigation runoff (tailwater) where possible, through passive (gravity-fed) or active (pumped) means.
- Construct retention basins for tailwater infiltration; percolation medium may be used to reduce pollutant concentration in infiltrated water. Constructed treatment wetlands may also be effective at reducing nutrient loads in water.
- Ensure that drainage and/or infiltration areas are located away from unstable or potentially unstable features.
- Regularly replace worn, outdated or inefficient irrigation system components and equipment.
- Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over-fertilization.
- All chemicals shall be stored in a manner, method, and location that ensures that there is no threat of discharge to waters of the State.
- Products shall be labeled properly and applied according to the label.
- Use integrated pest management strategies that apply pesticides only to the area of need, only when there is an economic benefit to the grower, and at times when runoff losses are least likely.
- Periodically calibrate pesticide application equipment.
- Use anti-backflow devices on water supply hoses, and other mixing/loading practices designed to reduce the risk of runoff and spills.

- Petroleum products shall be stored with a secondary containment system such as a pan or a tub
- Throughout the rainy season, any temporary containment facility shall have a permanent cover and side-wind protection, or be covered during non-working days and prior to and during rain events.
- Materials shall be stored in their original containers and the original product labels shall be maintained in place in a legible condition. Damaged or otherwise illegible labels shall be replaced immediately.
- Bagged and boxed materials shall be stored on pallets and shall not be allowed to accumulate on the ground. To provide protection from wind and rain throughout the rainy season, bagged and boxed materials shall be covered during non-working days and prior to rain events.
- Have proper chemical and fertilizer storage instructions posted at all times in an open and conspicuous location.
- Prepare and keep a spill prevention and cleanup plan onsite when dealing with any hazardous materials.
- Keep ample supply of appropriate spill clean-up material near storage areas.
- Plant cover crops to boost soil fertility, improve soil texture, and protect from storm caused sediment runoff.

APPENDIX G: COUNTY-DESIGNATED RIPARIAN CORRIDORS



BIOLOGICAL ASSESSMENT

1495 FREMONT DRIVE [APN 128-471-006]
SONOMA COUNTY, CALIFORNIA

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TABLE OF CONTENTS

1.0 INTRODUCTION 3
1.1 PURPOSE 3
1.2 LOCATION 3
1.2.1 Site Overview 3
1.2.2 Landforms & Topography 3
1.2.3 Federal Critical Habitat 4
1.2.4 Special-Status Species Occurrences 4
1.3 METHODS 5
1.3.1 Records Search & Literature Review 5
1.3.2 Field Surveys 5
2.0 RESULTS 7
2.1 REGIONAL ECOLOGICAL COMMUNITIES 7
2.2 NATURAL COMMUNITIES WITHIN THE STUDY AREA 7
2.2.1 Seeded Hayfield 7
2.2.2 Wetland & Brackish Marsh 8
2.3 WILDLIFE 8
2.4 WETLANDS & WATERCOURSES 9
2.5 SOILS 9
3.0 SUMMARY & CONCLUSIONS 10
4.0 REGULATORY FRAMEWORK 11
4.1 FEDERAL ENDANGERED SPECIES ACT 11
4.2 CALIFORNIA ENDANGERED SPECIES ACT 11
4.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT 11
4.4 CLEAN WATER ACT 12
4.5 CALIFORNIA WATER QUALITY REGULATORY PROGRAMS 12
5.0 REFERENCES 13

FIGURE 1: REGIONAL LOCATION 14
FIGURE 2: 40 FOOT CONTOURS 15
FIGURE 3: WATERCOURSES & POTENTIAL WETLANDS 16
FIGURE 4: PHOTOGRAPH OF POTENTIAL CULTIVATION AREA 17
FIGURE 5: PHOTOGRPAH OF CENTRAL FENCELINE 18
FIGURE 6: PHOTOGRAPH OF DRAINAGE CANAL 19
FIGURE 7: PHOTOGRAPH OF CANAL CROSSING 20
FIGURE 8: PHOTOGRAPH OF ACCESS GATE 21
FIGURE 9: PHOTOGRAPH OF NORTH FENCELINE 22

APPENDIX A: SPECIAL-STATUS SPECIES CONSIDERED 23
APPENDIX B: SPECIES ENCOUNTERED 35
APPENDIX C: CNDDB OCCURRENCES MAP 37
APPENDIX D: MAP OF FEDERAL CRITICAL HABITAT 38
APPENDIX E: STREAM CLASSIFICATION CRITERIA 39
APPENDIX F: CANNABIS CULTIVATION BEST MANAGEMENT PRACTICES 40
F.1 CANNABIS CULTIVATION 40
F.2 EROSION & SEDIMENT CONTROL 42
F.3 WATER USE & POLLUTION 44
F.4 ROAD MAINTENANCE & GENERAL CONSTRUCTION 46
F.5 SWALE & VEGETATION MANAGEMENT 47
F.6 IRRIGATION & CULTIVATION MANAGEMENT 49
APPENDIX G: COUNTY-DESIGNATED RIPARIAN CORRIDORS 52

1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this reconnaissance-level Biological Assessment (BA) is to evaluate the existence of special-status species (SSS) and/or habitats, as well as assess the potential for SSS listed in Appendix A to occur on or near the site of commercial cultivation activities, pursuant to applicable regulations from County of Sonoma and the State of California. This BA also analyzes the potential for jurisdictional wetlands and other waters of the U.S. to exist onsite, and classifies landforms that may potentially convey sediment to waters of the U.S. including dry creeks, washes, swales, gullys, and other erosional features. Also included is a set of Best Management Practices (BMPs) that are adapted from a variety of sources including State Water Resources Control Board *Cannabis* General Order No. WQ 2019-0001-DWQ and other state and local ordinances.

1.2 LOCATION

1.2.1 Site Overview

The project site is located at 1495 Fremont Drive in unincorporated Sonoma County, approximately 3.6 miles south of the town of Sonoma, and 18 miles southwest of the City of Santa Rosa (Figure 1). The parcel is designated Assessor's Parcel Number (APN) 128-471-006, is deeded 320.57 acres, is zoned LEA, and is located in Groundwater Availability Zone 1. The parcel is under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB) and the Bay-Delta Region (Region 3) of the California Department of Fish & Wildlife (CDFW). There is some County-designated Valley Oak Habitat, and no County-designated Biotic Habitat on the parcel. There are County-designated Riparian Corridors (Appendix G) and several jurisdictional watercourses and/or wetlands onsite (Figure 3). The parcel is in the Napa-Sonoma Valley high-priority groundwater basin as designated by the California Department of Water Resources (DWR).

1.2.2 Landforms & Topography

The topography of the site is flat with a maximum elevation of 14 feet along the northeast corner of the parcel near the stock yard, and a minimum elevation of 2 feet above sea level in the southwest corner of the parcel near Railroad Slough (Figure 2). The parcel is located in unsectioned portions of Townships 4 & 5 N, Range 5 West, on the USGS Sears Point 7.5 minute quadrangle. The approximate latitude and longitude of the proposed cultivation area in the north portion of the parcel is 38.241 (W), -122.440 (N). Water generally flows towards the center of the parcel where it is conveyed to the south via channelized drainage ditch, after which it eventually enters Railroad Slough before emptying into Schell Slough to the east, and then San Francisco Bay. See §2.4 for additional discussion of wetlands and watercourses onsite.

1.2.3 Federal Critical Habitat

Federal Critical Habitat (FCH) is designated by the U.S. Fish & Wildlife Service (USFWS) and provides special protections for habitats considered important for long-term population persistence of endangered or threatened species. A map of regional FCH is provided in Appendix D. The nearest FCH is for Chinook salmon (*Oncorhynchus tshawytscha*) and is located 0.25 miles east, 0.45 miles west, and 1.0 miles south of the proposed cultivation area in Schell Slough, Sonoma Creek, and Railroad Slough, respectively. There is additional FCH for Chinook salmon in most of the anadromous waters surrounding the San Francisco Bay. The next nearest Federal Critical Habitat is located 5.6 miles southeast of the parcel for Western snowy plover (*Charadrius nivosus nivosus*) and Soft bird's beak (*Cordylanthus mollis* spp. *mollis*) in the Napa-Sonoma Marsh. The next nearest Federal Critical Habitat is located 5.7 miles north of the parcel for Northern spotted owl (*Strix occidentalis*; NSO) near Arroyo Seco. The next nearest Federal Critical Habitat is located 8.0 miles northwest of the parcel for California red-legged frog (*Rana draytonii*; CRLF) in the Sonoma Mountains. The next nearest Federal Critical Habitat is located 9.3 miles northwest of the parcel for Contra Costa goldfields (*Lasthenia conjugens*) along CA-29. There is no other Federal Critical Habitat within 10 miles of the project parcel.

1.2.4 Special-Status Species Occurrences

Special-status species (SSS) are those species that receive special protections under either local, State, or Federal law and include both State and Federally Endangered and Threatened species of animals and plants, as well as candidate listing species and other species or populations of special concern for which additional information is required. The California Natural Diversity Database (CNDDB) provides information on most known SSS occurrences in the State of California. A description of the habitat requirements and likelihood of occurrence of potential SSS on the project parcel based the CNDDB database, published scientific literature, and the expertise of PEC staff, is provided in Appendix A, with a description of the nearest locality of all SSS known from within a 5 mile radius around the project parcel. Additionally, map-based representation of all of the SSS within an approximately 5 mile radius around the project site is provided in Appendices C & D.

1.2.4.1 SSS Animals

There are three special-status animal species with CNDDB polygons that include the entire USGS 7.5-minute quad that includes the project parcel. These species are Bank swallow (*Riparia riparia*) observed in 2000, California red-legged frog (*Rana draytonii*; CRLF) observed in 2004, and the Sonoma zerene fritillary butterfly (*Speyeria zerene sonomensis*) last observed in 1893. There are also three CNDDB polygons that are more specific that overlap with the project parcel: Bank swallow (*Riparia riparia*) observed in 1893, and two for San Pablo song sparrow (*Melospiza melodia samuelis*) observed in 1901 and 1947. The next nearest special-status animal species to the project parcel is Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) observed in 1985 located 1.9 miles south of the parcel.

1.2.4.2 SSS Plants

There is one special-status plant species whose CNDDB polygon overlaps with the project parcel, Dwarf downingia (*Downingia pusilla*). This species is not listed as Endangered or Threatened by the State or Federal Governments but is a California Native Plant Society (CNPS) List 2B.2 species and is thus included in Appendix A. This occurrence was observed in 1892 and the locality is listed as "Schellville" although the exact location is not known and the species has not been observed in the vicinity since then. The next nearest occurrence of dwarf downingia is 2.8 miles to the south near Arnold Drive observed in 1961. The next nearest special-status plant to the project parcel is Sonoma sunshine (*Blennosperma bakeri*), with two occurrences located 1.1 miles west and 1.2 miles southwest of the project parcel. The next nearest known occurrence of special-status plant species is Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*) located approximately 1.4 miles north of the project parcel near the town of Sonoma. The next nearest known occurrence of special-status plant species is Saline clover (*Trifolium hydrophilum*) located approximately 2.0 miles south of the project parcel near Arnold Drive.

1.3 METHODS

1.3.1 Records Search & Literature Review

Based on a review of the literature and all relevant databases, we compiled a list of special-status plant and animal species that are known to occur within 5 miles of the project site, or that occupy habitats that are known to be present on or near the project site (Appendix A). Sources of information referenced include the California Natural Diversity Database (CNDDB 2021), U.S. Fish and Wildlife Service Environmental Conservation Online System (USFWS 2021), the California Native Plants Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS 2020), and the knowledge of PEC staff familiar with the species and habitats of Sonoma County. Additional information on sensitive habitats including wetlands was obtained from the USFWS National Wetlands Inventory (NWI 2021), and County of Sonoma Geographic Information System Portal. Plant species included here are State or Federally Endangered or Threatened, and/or considered Rare by CDFW, and/or are recognized as special-status species by the CNPS or CDFW. Animal species included here are designated as State or Federally Endangered or Threatened, and/or California Species of Special Concern, and/or Fully Protected species by the CDFW. In addition, nests of most native bird species, regardless of their regulatory status, are protected from take or harassment under the Migratory Bird Treaty Act (MBTA) and California Fish and Wildlife Code.

1.3.2 Field Surveys

A wildlife and botanical survey was conducted at the site on December 5 and again on December 28, 2020. The weather was clear and cool on both site visits, with temperature of 68 degF, relative humidity of 45% and wind speed of 2-4 mph, as measured by Kestrel 3000 handheld weather station. No rain fell the preceding two months (NWS 2021), and although most perennial and riparian vegetation was green, most annual vegetation was past flowering, although most still retained identifiable flowering parts. Due to the temperature and seasonal conditions, animal activity was

moderately high at the time of the surveys. Starting with the portion of the property nearest the proposed cultivation area, the entire project site was surveyed on foot by PEC Senior Biologist Dr. Christopher T. DiVittorio, recording the location and identity of all plant and animal species encountered. Plant voucher specimens were taken of any species that were not identifiable in the field, and that were not likely to be special-status. The vast majority of species were identifiable at the time of the survey, although some had to be identified based on vegetative parts. Photographs and voucher specimens were taken of any plants that were identified solely based on vegetative characters. The field survey was conducted by dividing the outdoor portions of the parcel into zones and cataloging all of the species found in each zone. Each zone was surveyed by walking in parallel lines until the whole zone was covered. Notes were also taken in each zone documenting the general site characteristics and current land uses, as well as any surface erosional features that may require remediation. Botanical specimens were taken back to the laboratory for identification if identification was not possible in the field. If species were not flowering at the time of the survey and morphological characteristics indicated that the species may be special-status, notes were made for a follow-up visit. Birds and nests were identified by call and with binoculars. Vocalizations, scat, tracks, feathers, burrows, nests, and molts were used for identification of animals present onsite. Any onsite aquatic habitats were observed for a minimum of ten minutes without movement in order to observe animals that may hide when approached.

2.0 RESULTS

2.1 REGIONAL ECOLOGICAL COMMUNITIES

Using field surveys, a review of published literature, and the knowledge of PEC staff, all of the natural communities present on and around the project site were assessed. Regionally, the dominant vegetation type is seeded and cut hayfields, vineyards, tidal marshland, and developed light industrial developments. Further to the north are vernal pools and increasing density of rural residences and vineyards (Figure 3).

2.2 NATURAL COMMUNITIES WITHIN THE STUDY AREA

The parcel consists of annually seeded and cut hayfields in the north, a small portion of stock yard in the far northeast, and tidal slough and wetland in the far southern portion of the parcel. Due to the high intensity hay production, in the northern portion of the site in the location of the proposed cultivation area there is very little living plant life (Figure 4). Although there are vernal pools in the vicinity, the soils onsite are well-drained and have been continuously disked, seeded, and cut for hay production for many years and there is no remaining topographic relief and no native vegetation present in the center of the cultivation area. A series of historic drainage canals drained the northern portion of the site (Figure 6), and there are levees between Railroad Slough and the hayfield, so most of the parcel is no longer tidal wetland, although there is nontidal wetland in the southern portion of the site where moisture percolates up from the shallow water table. The specific community descriptions below are organized based on the zones that were surveyed, and the floristic results presented in Appendix B. We use as guidance the *Manual of California Vegetation* (Sawyer et al. 2009) for community classification. Overall, the Study Area consists of approximately 90% seeded and cut hayfield, 7% wetland and brackish marsh, and 3% developed area including stock yards, and 5% wetland or drainage swale (Figure 3).

2.2.1 Seeded Hayfield

The majority of the parcel is covered by leveled and seeded hayfield that is seeded and cut several times per year. Species encountered in this area contain few native species and are primarily agricultural weeds. Species observed onsite include slender oats (***Avena barbata***), soft chess (***Bromus hordeaceous***), dogstail grass (*Cynosurus echinatus*), medusahead (*Elymus caput-medusae*), Italian rye (***Festuca perennis***), velvet grass (***Holcus lanatus***), meadow barley (***Hordeum murinum***), Harding grass (*Phalaris aquatica*), yellow star thistle (***Centaurea solstitialis***), Italian thistle (*Circium pycnocephalus*), bull thistle (*Cirsium vulgare*), bristly ox-tongue (***Helminthotheca echioides***), smooth cat's ear (***Hypochaeris glabra***), spiny sowthistle (***Sonchus asper***), common geranium (*Geranium molle*), broad leaf filaree (***Erodium botrys***), crane's bill geranium (***Geranium molle***), birds foot trefoil (***Acmispon americanus***), sheep sorrel (*Rumex acetocella*), field mustard (***Brassica rapa***), turkey-

mullein (*Croton setiger*), cultivated radish (*Raphanus sativus*), rose clover (*Trifolium hirtum*), white clover (*Trifolium repens*), spring vetch (*Vicia sativa*), alfalfa (*Medicago sativa*), variable-leaved pepperweed (*Lepidium heterophyllum*), Queen Anne's lace (*Daucus carota*), hedge parsley (*Torilis nodosa*), common plantain (*Plantago major*), spring vetch (*Vicia sativa*), and field bindweed (*Convolvulus arvensis*).

2.2.2 Wetland & Brackish Marsh

The central drainage canal is connected to the network of sloughs and contains water year-round. Associated vegetation is a mix of freshwater and brackish wetland plants. Most of these same species are present in the marshy areas in the far southern portion of the site. Species in these areas include coyote brush (*Baccharis pilularis*), pickleweed (*Salicornia pacifica*), saltgrass (*Distichlis spicata*), fat-hen (*Atriplex prostrata*), alkali heath (*Frankenia salina*), New Zealand spinach (*Tetragonia tetragonioides*), common cattail (*Typha latifolia*), tall flatsedge (*Cyperus eragrostis*), alkali bulrush (*Bolboschoenus maritimus*), bog rush (*Juncus patens*), Himalayan blackberry (*Rubus armeniacus*), bitter cress (*Cardamine californica*), lamb's quarters (*Chenopodium album*), rabbitsfoot grass (*Polypogon monspeliensis*), hairy bitter cress (*Cardamine hirsuta*), Chinese parsley (*Heliotropium curassavicum*), Hyssop loosestrife (*Lythrum hyssopifolia*), curly dock (*Rumex crispus*), Canada horseweed (*Erigeron canadensis*), bristly ox-tongue (*Helminthotheca echioides*), Fuller's teasel (*Dipsacus fullonum*), spotted spurge (*Euphorbia maculata*), spiny cocklebur (*Xanthium spinosum*), cheeseweed (*Malva parviflora*), pennyroyal (*Mentha pulegium*), brass buttons (*Cotula coronopifolia*), corn spurry (*Spergula arvensis*), mugwort (*Artemisia douglasiana*), and tumbleweed (*Salsola tragus*).

2.3 WILDLIFE

Wildlife activity was moderate due to the time of year and the weather. Few bird species were observed in the cultivation area, however there were numerous bird species in wetland areas surrounding the parcel and flying over head due to the proximity to San Francisco Bay marshlands. Species of bird observed during the two site visits include crow (*Corvus brachyrhynchos*), turkey vulture (*Cathartes aura*), barn swallow (*Hirundo rustica*), mourning dove (*Zenaida macroura*), Western bluebird (*Sialia mexicana*), lesser goldfinch (*Spinus psaltria*), Western scrub jay (*Aphelocoma californica*), red-tailed hawk (*Buteo jamaicensis*), great blue heron (*Ardea herodias*), snowy egret (*Egretta thula*), Anna's hummingbird (*Calypte anna*), white-crowned sparrow (*Zonotrichia leucophrys*), Western gull (*Larus occidentalis*), Great cormorant (*Phalacrocorax carbo*), White-tailed kite (*Elanus leucurus*), Brewer's blackbird (*Euphagus cyanocephalus*), and red-shouldered blackbird (*Agelaius phoeniceus*). Other species observed directly or indirectly include excavation mounds of pocket gopher (*Thomomys bottae*), runways of California vole (*Microtus californicus*), scat of black-tailed jackrabbit (*Lepus californicus*), and scat of coyote (*Canis latrans*).

2.4 WETLANDS & WATERCOURSES

Jurisdictional watercourses onsite were classified according to the three-tier method used by the California Department of Forestry & Fire Protection (CALFIRE 2017) and included as a reference in Appendix E. According to these criteria, there are several watercourses onsite that range between Class I and II (Figure 3) including several drainage canals that are connected to tidal sloughs.

Potential wetlands onsite were assessed based on the likelihood to satisfy the three-tier wetland delineation criteria used by the Army Corps of Engineers *Wetland Delineation Manual* (ACOE 1987), however a protocol-level wetland delineation was not performed. For this BA, we identified potential wetlands in Figure 3 based on the presence of one of the three ACOE criteria, usually hydrophytic vegetation cover but sometimes soil indicators or hydrology or a combination of these. Based on these criteria, there are several extensive locations in the southern portion of the site that appear to qualify as jurisdictional wetlands (Figure 3). There also may be wetlands associated with the drainage channels running down the center of the property.

2.5 SOILS

The parent materials on the project parcel are typical of southwestern Sonoma County, with easily erodible sediments of the Franciscan Formation dissected by highly seasonal rivers (USGS 1968). The majority of the parcel is designated Reyes clay, 0-2% slopes (#301), with lesser proportions of Novato (3%) and Clear Lake (3%) soils. This soil type is designated not prime farmland. There is also a portion of the northeast corner of the parcel mapped as Zamora silty clay loam, moist, 0-2% slopes, MLRA 14 (ZaA). This soil type also has lesser proportions of Sebastopol (8%), Steinbeck (7%) and is designated prime farmland if irrigated. Parent materials of all of the above soil types are alluvium. There are no serpentine or other ultramafic rock types onsite and no serpentine-derived soils. There are no alkalai or vernal pool soil types onsite, although the entire parcel was historically tidal marsh.

3.0 SUMMARY & CONCLUSIONS

No special-status plant species were observed during the surveys performed at the site in December 2020. No impacts are predicted for any of the State or Federal special-status plant species in Appendix A based on lack of actual sightings, and lack of suitable habitat in the proposed cultivation area. Although there is an occurrence of Dwarf downingia that overlaps with the parcel, that occurrence was over 100 years old and there is no suitable vernal pool habitat in the project area to support this species. There is a large amount of potential wetland habitat in the southern portion of the site, however this area is over 0.7 miles away from the proposed cultivation areas.

No special-status animal species were observed during the surveys performed at the site in December 2020. No impacts are predicted for any of the State or Federal special-status animal species or their habitats listed in Appendix A based on lack of actual sightings, and lack of suitable habitat in the proposed cultivation area. Although there is Federal Critical Habitat for Chinook salmon on watercourses nearby, there should be no discharges of sediment that would adversely affect these species. The parcel is also in the same quad as CRLF, however there is no suitable breeding or estivation habiat onsite for this or any other amphibian species due to the extensive history of hay cultivation onsite. Ploughing and seeding and leveling the fields eliminates any topography for vernal pools, and also eliminates any cracks or burrows that would be used for estivation. No impacts are predicted to any bird species as well as long as standard BMPs related to wildlife conservation are observed including no aerial wires and not using anticoagulant rodenticides as described in Appendix F.

Potential wetlands onsite were assessed visually by estimating the cover of wetland plants, and by examining site hydrology, however a protocol-level wetland delineation was not performed. Based on these results, we do not recommend that a wetland delineation should be required since any wetlands shown in Figure 3 since the areas near tidal wetlands are over 0.7 miles south of the proposed cultivation areas. Although some of the drainage canals and associated wetland vegetation extend into the northern half of the parcel, there should be no impacts as long as 100-foot setbacks are observed, as per State Water Resources Control Board (SWRCB) *Cannabis* General Order. Numerous other channels in this area that were based on the USGS topographic maps are out of date since hayfield cultivation generally redirected drainage in these parcels. No discharge of sediment is anticipated as long as cultivation remains in areas previously used for hay production.

4.0 REGULATORY FRAMEWORK

4.1 FEDERAL ENDANGERED SPECIES ACT

The U.S. Fish and Wildlife Service (USFWS) has jurisdiction over federally-listed threatened and endangered species under the federal Endangered Species Act (FESA). The USFWS also maintains a list of 'proposed' species and candidate species that are not legally protected under the FESA, but are often included in their review of a project as they may become listed in the near future. The FESA protects listed animal species from harm or "take" which is broadly defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Take can also include habitat modification or degradation that results in death or injury to a listed species. An activity can be defined as a "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under FESA if they occur on federal lands. Pursuant to the requirements of the FESA, a federal agency reviewing a proposed project within its jurisdiction must determine whether any federally-listed threatened or endangered species (plants and animals) may be present in the project area and determine whether the proposed project may affect such species. Any activities that could result in the take of a federally-listed species will require formal consultation with the USFWS.

4.2 CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) protects any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the California Department of Fish and Wildlife (CDFW) has jurisdiction over state-listed species (California Fish and Wildlife Code 2070). Take of state-listed species requires a permit from CDFW, which is granted only under strictly limited circumstances. Additionally, the CDFW maintains lists of "species of special concern" that are defined as animal species that appear to be vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats. Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed or proposed endangered or threatened species may be present in the project area and determine whether the proposed project may result in a significant impact on such species.

4.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 15380(b) of the California Environmental Quality Act (CEQA) Guidelines provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in FESA and CESA and the section of the California Fish and Wildlife Code dealing with rare or endangered plants or animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts, if it finds that the species meets the criteria of a threatened or endangered species.

4.4 CLEAN WATER ACT

Under Section 404 of the federal Clean Water Act, the U.S. Army Corps of Engineers (Corps) is responsible for regulating the discharge of fill material into waters of the United States. Waters of the U.S. and their lateral limits are defined in 33 CFR Part 328.3 (a) and include streams that are tributary to navigable waters and their adjacent wetlands. Wetlands that are not adjacent to waters of the U.S. are termed "isolated wetlands" and, depending on the circumstances, may also be subject to Corps jurisdiction. In general, a Corps permit must be obtained before placing fill in wetlands or other waters of the U.S. The type of permit depends on the acreage involved and the purpose of the proposed fill. Minor amounts of fill are sometimes covered by Nationwide Permits, which were established to streamline the permit process for projects with "minimal" impacts on wetlands or other waters of the U.S. An Individual Permit is required for projects that result in more than a minimal impact on jurisdictional areas. The Individual Permit process requires evidence that fill of jurisdictional areas has been minimized to the extent "practicable" and provides an opportunity for public review of the project.

4.5 CALIFORNIA WATER QUALITY REGULATORY PROGRAMS

Pursuant to Section 401 of the federal Clean Water Act and the state's Porter-Cologne Act, projects that are regulated by the Corps must obtain water quality certification from the Regional Water Quality Control Board (RWQCB). This certification ensures that the project will uphold state water quality standards. The RWQCB sometimes asserts jurisdiction over wetlands that the Corps does not (e.g. certain isolated wetlands) and may impose mitigation requirements even if the Corps does not. The CDFW also exerts jurisdiction over the bed and banks of watercourses and water bodies according to provisions of Section 1601 to 1603 of the Fish and Wildlife Code. The Fish and Wildlife Code requires a Stream Alteration Agreement for the fill or removal of material within the bed and banks of a watercourse or water body.

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FIGURE 1: REGIONAL LOCATION

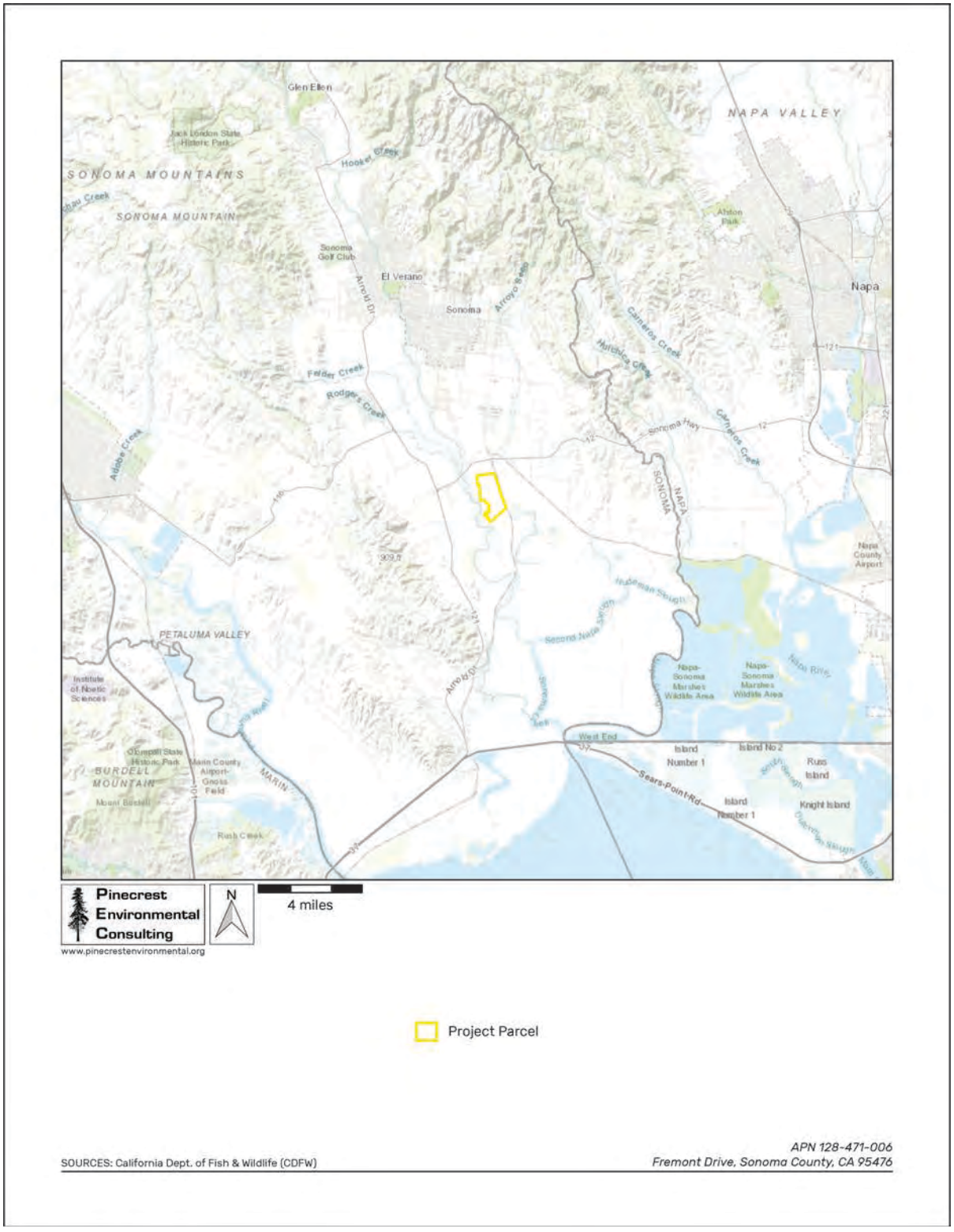


FIGURE 2: 40 FOOT CONTOURS

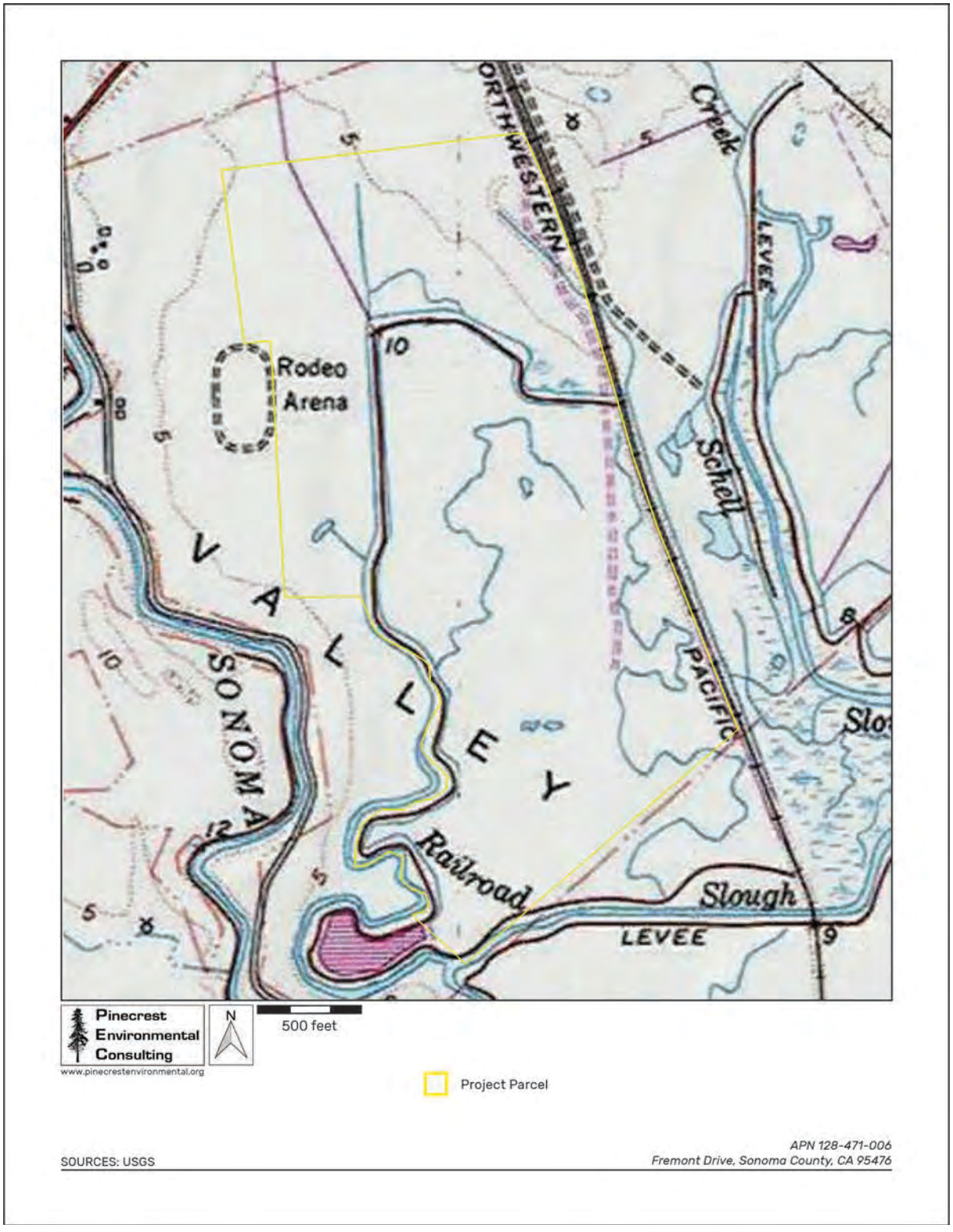


FIGURE 3: WATERCOURSES & POTENTIAL WETLANDS



FIGURE 4: PHOTOGRAPH OF POTENTIAL CULTIVATION AREA



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-471-006
Fremont Drive, Sonoma County, CA 95476

FIGURE 5: PHOTOGRPAH OF CENTRAL FENCELINE



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-471-006
Fremont Drive, Sonoma County, CA 95476

FIGURE 6: PHOTOGRAPH OF DRAINAGE CANAL



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-471-006
Fremont Drive, Sonoma County, CA 95476

FIGURE 7: PHOTOGRAPH OF CANAL CROSSING



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-471-006
Fremont Drive, Sonoma County, CA 95476

FIGURE 8: PHOTOGRAPH OF ACCESS GATE



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-471-006
Fremont Drive, Sonoma County, CA 95476

FIGURE 9: PHOTOGRAPH OF NORTH FENCELINE



Pinecrest Environmental Consulting
www.pinecrestenvironmental.org

SOURCES: PEC Inc.

APN 128-471-006
Fremont Drive, Sonoma County, CA 95476

APPENDIX A: SPECIAL-STATUS SPECIES CONSIDERED

The following is a list of special-status plant and animal species generated based on knowledge of the species and habitats of Sonoma County by PEC staff, from various State and Federal databases, and from the California Natural Diversity Database (CNDDB). CNDDB occurrences within 5 miles of the project site are shown in bold.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
PLANTS			
Alkalai milk-vetch (*Astragalus tener* var. *tener*)	—/—/1B.2	Valley grasslands, alkali sinks	Low: Some suitable alkalai habitat exists onsite.
Baker's goldfields (*Lasthenia californica* ssp. *bakeri*)	—/—/1B.2	Coastal grasslands	Low: Some grassland habitat exists onsite.
Baker's larkspur (*Delphinium bakeri*)	—/—/1B.1	Coastal scrub	None: No coastal scrub habitat exists onsite.
Baker's manzanita (*Arctostaphylos bakeri* ssp. *bakeri*)	—/—/1B.1	Serpentine chaparral, mixed evergreen forest	None: No serpentine, chaparral, or forest habitat exists onsite.
Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*)	—/—/1B.1	Vernal pools, riparian woodland	None: No vernal pools or other wetlands exist onsite.
Bent flowered fiddleneck (*Amsinckia lunaris*)	—/—/1B.2	Valley grassland, foothill woodland	Low: Some grassland habitat exists onsite.
Big scale balsamroot (*Balsamorhiza macrolepis*)	**—/—/1B.2**	**Valley grassland**	**Low: Some grassland habitat exists onsite.**
Big tarplant (*Blepharizonia plumosa*)	—/—/1B.1	Foothill woodland, chaparral	Low: Some grassland habitat exists onsite.
Blasdale's bent grass (*Agrostis blasdalei*)	—/—/1B.2	Coastal prairie	Low: Some grassland habitat exists onsite.
Blue coast gilia (*Gilia capitata* ssp. *chamissonis*)	—/—/1B.1	Coastal sand dunes	None: No sand dune habitat exists onsite.
Bogg's Lake hedge-hyssop (*Gratiola heterosepala*)	—/—/1B.2	Freshwater marsh, riparian	Low: Some suitable wetland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Bristly sedge (*Carex comosa*)	—/—/2B.1	Freshwater marsh, riparian	Low: Some potential wetland habitat exists onsite.
Brownish beaked-rush (*Rhynchospora capitellata*)	—/—/2B.2	Freshwater marsh, riparian	Very Low: Some potential habitat exists onsite.
Burke's goldfields (*Lasthenia burkei*)	FE/SE/1B.1	Vernal pools	None: No vernal pool habitat exists onsite.
California alkalai grass (*Puccinellia simplex*)	—/—/1B.2	Grassland, riparian	Low: Some suitable alkalai habitat exists onsite.
California beaked-rush (*Rhynchospora californica*)	—/—/1B.1	Freshwater wetlands	Low: Some potential wetland habitat exists onsite.
Calistoga ceanothus (*Ceanothus divergens*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Caper-fruited tropidocarpum (*Tropidocarpum capparideum*)	—/—/1B.1	Valley grassland	Very Low: Some grassland habitat exists onsite.
Clara Hunt's milk vetch (*Astragalus claranus*)	—/—/1B.1	Chaparral, grassland	None: No chaparral habitat exists onsite.
Coast lily (*Lilium maritimum*)	—/—/1B.1	Coastal prairie	Low: Some grassland habitat exists onsite.
Coastal bluff morning glory (*Calystegia purpurata* ssp. *saxicola*)	—/—/1B.2	Coastal prairie	Low: Some grassland habitat exists onsite.
Cobb Mountain lupine (*Lupinus sericatus*)	—/—/1B.2	Chaparral, pine forest	None: No chaparral or pine forest habitat exists onsite.
Colusa layia (*Layia septentrionalis*)	—/—/1B.2	Chaparral, valley grassland	Low: Some grassland habitat exists onsite; no chaparral habitat onsite.
Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*)	—/—/1B.1	Valley grassland, wetlands	Low: Some grassland habitat exists onsite.
Congested hayfield tarplant (*Hemizonia congesta* ssp. *congesta*)	**—/—/1B.2**	**Grassland, coastal scrub**	**Low: Some grassland habitat exists onsite.**
Contra Costa goldfields (*Lasthenia conjugens*)	**FE/—/1B.1**	**Vernal pool**	**None: No vernal pool habitat exists onsite.**
Cunningham marsh cinquefoil (*Potentilla uliginosa*)	—/—/1A	Freshwater marsh	Low: Some suitable wetland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Deceiving sedge (*Carex saliniformis*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Dwarf downingia (*Downingia pusilla*)	**—/—/2B.2**	**Vernal pool, freshwater wetland**	**None: No vernal pool habitat exists onsite.**
Fragrant fritillary (*Fritillaria liliacea*)	—/—/1B.2	Freshwater wetland, coastal prairie	Low: Some wetlands exist onsite.
Franciscan onion (*Allium peninsulare* var. *franciscanum*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Golden larkspur (*Delphinium luteum*)	FE/SR/1B.1	Chaparral, coastal prairie	Very Low: Some grassland habitat exists onsite; no chaparral onsite.
Greene's narrow-leaved daisy (*Erigeron greenei*)	—/—/1B.2	Serpentine grassland	None: No serpentine habitat exists onsite.
Holly-leaved ceanothus (*Ceanothus purpureus*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*)	—/—/1B.2	Foothill woodland	None: No woodland habitat exists onsite.
Jepson's coyote thistle (*Eryngium jepsonii*)	—/—/4.2	Wetlands and vernal pools	None: No vernal pool habitat exists onsite.
Jepson's leptosiphon (*Leptosiphon jepsonii*)	—/—/1B.2	Chaparral, serpentine grassland	None: No chaparral or serpentine habitat exists onsite.
Kenwood marsh checkerbloom (*Sidalcea oregana* ssp. *valida*)	FE/SE/1B.1	Freshwater wetlands	Low: Some suitable wetland habitat exists onsite.
Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*)	—/—/1B.3	Chaparral, foothill woodland	None: No woodland or chaparral habitat exists onsite.
Legenere (*Legenere limosa*)	—/—/1B.1	Freshwater wetland, valley grassland	Low: Some wetland habitat exists onsite.
Livermore tarplant (*Deinandra bacigalupii*)	—/—/1B.1	Grassland	Low: Some grassland habitat exists onsite.
Loch Lomond button-celery (*Eryngium constancei*)	FE/SE/1B.1	Freshwater wetland	Low: Some wetland habitat exists onsite.
Many-flowered navarretia (*Navarretia leucocephala* spp. *plieantha*)	—/—/1B.2	Vernal pools	None: No vernal pool habitat exists onsite.
Maple leaved checkerbloom (*Sidalcea malachroides*)	—/—/4.2	Coastal prairie, coniferous forest	Very Low: Some grassland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Marin knotweed (*Polygonum marinense*)	—/—/3.1	Coastal salt marsh	Low: Some coastal salt marsh habitat exists onsite.
Marsh microseris (*Microseris paludosa*)	—/—/1B.2	Northern coastal scrub	None: No scrub habitat exists onsite, and this species prefers coastal habitats.
Marsh pea (*Lathyrus palustris*)	—/—/2B.1	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Mt. St. Helena morning-glory (*Calystegia collina* ssp. *oxyphylla*)	—/—/4.2	Serpentine chaparral	None: No serpentine habitat exists onsite.
Napa checkerbloom (*Sidalcea hickmanii* ssp. *napensis*)	—/—/1B.1	Chaparral	None: No woodland habitat exists onsite.
Napa false indigo (*Amorpha californica* var. *napensis*)	**—/—/1B.2**	**Forest, woodland**	**None: No woodland habitat exists onsite.**
Narrow-anthered brodiaea (*Brodiaea leptandra*)	**—/—/1B.2**	**Foothill woodland, grassland**	**None: No woodland habitat exists onsite.**
North Coast semaphore grass (*Pleuropogon hooverianus*)	—/—/1B.1	Freshwater wetland, vernal pools	None: No vernal pool habitat exists onsite.
Oregon polemonium (*Polemonium carneum*)	—/—/2B.2	Coastal scrub, yellow pine forest	None: No forest or coastal scrub habitat exists onsite.
Oval-leaved viburnum (*Viburnum ellipticum*)	**—/—/2B.3**	**Chaparral**	**None: No chaparral habitat exists onsite.**
Pacific gilia (*Gilia capitata* ssp. *pacifica*)	—/—/1B.2	Coastal prairie, woodland, chaparral	Low: Little suitable habitat onsite.
Pappose tarplant (*Centromadia parryi* ssp. *parryi*)	**—/—/1B.2**	**Grassland, chaparral**	**None: No chaparral habitat exists onsite.**
Pennell's bird's beak (*Cordylanthus tenuis* ssp. *capillaris*)	—/—/1B.2	Chaparral	Very Low: No chaparral habitat exists onsite.
Perennial goldfields (*Lasthenia californica* ssp. *macrantha*)	—/—/1B.2	Northern coastal scrub	Very Low: Some grassland habitat exists onsite.
Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*)	—/—/1B.2	Grassland, chaparral	Low: Some suitable habitat onsite.
Petaluma popcornflower (*Plagiobothrys mollis* var. *vestitus*)	—/—/1A	Coastal salt marsh	Low: Some coastal salt marsh habitat exists onsite.
Pink sand verbena (*Abronia umbellata* var. *breviflora*)	—/—/1B.1	Coastal sand dunes	None: No sand dune habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Pitkin Marsh lily (*Lilium pardalinum* ssp. *pitkinense*)	FE/SE/1B.1	Freshwater wetlands	Low: Some suitable wetland habitat exists onsite. Presumed extinct.
Pitkin Marsh paintbrush (*Castilleja uliginosa*)	FE/SE/1A	Freshwater wetlands	Low: Some suitable wetland habitat exists onsite. Presumed extinct.
Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*)	—/—/1B.2	Coastal salt marsh	Low: Some salt marsh habiat exists onsite.
Point Reyes salty bird's beak (*Chloropyron maritimum* ssp. *palustre*)	**—/—/1B.2**	**Coastal salt marsh**	**Low: Some salt marsh habitat exists onsite.**
Purple-stemmed checkerbloom (*Sidalcea malviflora* spp. *purpurea*)	—/—/1B.2	Wetlands	Low: Some suitable wetland habitat exists onsite.
Raiche's red ribbons (*Clarkia concinna* spp. *raichei*)	—/—/1B.1	Coastal scrub	Low: Some coastal scrub habitat exists onsite.
Rincon Ridge ceanothus (*Ceanothus confusus*)	**—/—/1B.1**	**Chaparral**	**None: No chaparral habitat exists onsite.**
Rincon Ridge manzanita (*Arctostaphylos stanfordiana* ssp. *decumbens*)	—/—/1B.1	Chaparral	None: No chaparral habitat exists onsite.
Round-headed beaked-rush (*Rhynchospora globularis*)	—/—/2B.1	Freshwater wetlands, riparian	Low: Some potential wetland habitat exists onsite.
Round-leaved filaree (*California macrophylla*)	—/—/1B.2	Foothill grassland	Medium: Some grassland habitat exists onsite.
Saline clover (*Trifolium hydrophilum*)	**—/—/1B.2**	**Wetland, riparian**	**Low: Some wetland habitat exists onsite.**
Sebastopol meadowfoam (*Limnanthes vinculans*)	FE/SE/1B.1	Freshwater wetland, vernal pools	None: No vernal pool habitat exists onsite.
Short-leaved evax (*Hesperevax sparsiflora var. brevifolia*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Soft salty bird's beak (*Chloropyron molle* ssp. *molle*)	FE/ST/1B.2	Coastal salt marsh	Low: Some salt marsh habitat exists onsite.
Sonoma alopecurus (*Alopecurus aequalis* var. *sonomensis*)	FE/—/1B.1	Freshwater wetland, vernal pools	None: No vernal pool habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Sonoma beardtongue (*Penstemon newberryi* var. *sonomensis*)	—/—/1B.3	Chaparral	Very Low: Some grassland habitat exists onsite.
Sonoma ceanothus (*Ceanothus sonomensis*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Sonoma spineflower (*Chorizanthe valida*)	—/—/1B.1	Coastal prairie	Low: Some grassland habitat exists onsite.
Sonoma sunshine (*Blennosperma bakeri*)	**—/—/1B.1**	**Valley grassland, freshwater wetland**	**Very Low: Some grassland habitat exists onsite, although this species prefers wetlands.**
Supple daisy (*Erigeron supplex*)	—/—/1B.2	Coastal prairie	Very Low: Some grassland habitat exists onsite.
Swamp harebell (*Campanula californica*)	—/—/1B.2	Coastal prairie, freshwater wetlands	Low: Some wetlands exist on site.
Thin-lobed horkelia (*Horkelia tenuiloba*)	—/—/1B.2	Chaparral	None: No chaparral habitat exists onsite.
Thurber's reed grass (*Calamagrostis crassiglumis*)	—/—/2B.1	Coastal scrub, freshwater wetland	Low: Some wetland habitat exists outside of the project area.
Two-fork clover (*Trifolium amoenum*)	—/—/1B.1	Grassland, wetland	Medium: Some grassland habitat exists onsite.
Western leatherwood (*Dirca occidentalis*)	—/—/1B.2	Foothill woodland, chaparral	None: No chaparral or woodland habitat exists onsite.
White beaked-rush (*Rhynchospora alba*)	—/—/2B.2	Wetlands, riparian	Low: Some suitable wetland habitat exists onsite.
White flowered rein orchid (*Piperia candida*)	—/—/1B.2	Yellow pine forest	None: No forest habitat exists onsite.
Wolly headed gilia (*Gilia capitata* ssp. *tomentosa*)	—/—/1B.1	Coastal prairie	Low: Some grassland habitat exists onsite.
MOSSES, LICHENS & LIVERWORTS			
Methuselah's beard lichen (*Dolichousnea longissima*)	—/—/4.2	Old growth conifer and hardwood forests	None: No old growth Douglas fir forest exists onsite.
Slender silver moss (*Anomobryum julaceum*)	—/—/4.2	Rocky substrates in forests	None: No forest habitat exists onsite.
Coastal triquetrella (*Triquetrella californica*)	—/—/1B.2	Forest, woodland	None: No forest habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
FISH			
Chinook Salmon Sacramento River Winter Run (*Oncorhynchus kisutch*)	**FE/SE/—**	**Freshwater streams, open ocean and estuaries**	**Medium: Some streams exist onsite but not near the project areas.**
Chinook Salmon Central Valley Spring Run (*Oncorhynchus kisutch*)	**FT/SE/—**	**Freshwater streams, open ocean and estuaries**	**Medium: Some streams exist onsite but not near the project areas.**
Coho Salmon Central California Coast ESU (*Oncorhynchus kisutch*)	**FE/SE/—**	**Freshwater streams, open ocean and estuaries**	**Medium: Some streams exist onsite but not near the project areas.**
Gualala roach (*Lavinia symmetricus parvipinnis*)	—/SSC/—	Freshwater streams	None: No suitable streams exist onsite.
Longfin smelt (*Spirinchus thaleichthys*)	FT/ST/—	Estuaries and coastal lakes	None: No suitable estuary habitat exists onsite.
Navarro roach (*Lavinia symmetricus navarroensis*)	—/SSC/—	Freshwater streams	None: No suitable streams exist onsite.
Sacramento splittail (*Pogonichthys macrolepidotus*)	—/SSC/—	Low gradient freshwater streams	None: No suitable streams exist onsite.
Steelhead Central California Coast DPS (*Oncorhynchus mykiss irideus*)	**FT/—/—**	**Freshwater streams, open ocean and estuaries**	**Medium: Some streams exist onsite but not near the project areas.**
Tidewater goby (*Eucyclogobius newberryi*)	**FE/SSC/—**	**Brackish coastal lagoons and streams**	**Low: Some streams exist onsite but not near the project areas.**
AMPHIBIANS & REPTILES			
California giant salamander (*Dicamptodon ensatus*)	—/SSC/—	Wetlands and riparian areas	None: No suitable habitat exists onsite.
California glossy snake (*Arizona elegans occidentalis*)	—/SSC/—	Grasslands	Low: Some habitat exists onsite.
California red-legged frog (*Rana draytonii*)	**FT/SSC/—**	**Vernal pools, seasonal pools, stock ponds, and associated grasslands**	**Low: Some suitable wetland habitat exists onsite, but not near the project areas.**
California tiger salamander (*Ambystoma californiense*)	FT/SSC/—	Ponds, streams, drainages, and associated uplands	Low: No suitable wetland habitat exists onsite, some estivation habitat may exist onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Foothill yellow-legged frog (*Rana boylii*)	—/SSC/—	Wetlands, riparian, streams and ponds	None: No suitable wetland habitat exists onsite.
Red bellied newt (*Taricha rivularis*)	—/SSC/—	Woodland streams, riparian corridors	None: No suitable stream habitat exists onsite.
San Joaquin coachwhip (*Masticophis flagellum ruddocki*)	—/SSC/—	Grasslands	Medium: Some suitable grassland habitat exists onsite.
Western pond turtle (*Emys marmorata*)	**—/SSC/—**	**Slow-moving creeks, streams, ponds, rivers, ditches; sandy banks and fields for nesting**	**None: No suitable pond habitat exists onsite.**
INVERTEBRATES			
Behren's silverspot butterfly (*Speyeria zerene behrensii*)	FE/SSC/—	Coastal prairie	None: Requires blue violet to reproduce; none onsite.
California brackishwater snail (*Tryonia imitator*)	—/SSC/—	Brackish wetlands	None: No suitable wetland habitat exists onsite.
California floater (*Anodonta californiensis*)	—/SSC/—	Freshwater ponds, streams	None: No suitable stream habitat exists onsite.
California freshwater shrimp (*Syncaris pacifica*)	**FE/SE/—**	**Freshwater ponds, streams**	**None: No suitable vernal pool habitat exists onsite.**
California linderiella (*Linderiella occidentalis*)	—/SSC/—	Vernal pools	None: No vernal pool habitat exists onsite.
Crotch bumble bee (*Bombus crotchii*)	—/SSC/—	Grassland and chaparral	Medium: Some grassland habitat exists onsite.
Leech's skyline diving beetle (*Hydroporus leechi*)	—/SSC/—	Freshwater ponds	None: No suitable pond habitat exists onsite.
Myrtle silverspot butterfly (*Speyeria zerene myrtleae*)	FE/SSC/—	Coastal prairie, chaparral	None: Requires western dog violet for reproduction; none onsite.
Monarch butterfly California overwintering Population #1 (*Danaus plexippus*)	**—/SSC/—**	**Large trees required for roosting.**	**None: Site does not have trees suitable for roosting.**
Obscure bumble bee (*Bombus caliginosus*)	—/SSC/—	Grassland, foothill woodland, chaparral	Medium: Some grassland habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Opler's longhorn moth (*Adela oplerella*)	**—/SSC/—**	**Usually associated with *Platystemon* (creamcups)**	**Very Low: No suitable host plants onsite.**
Oregon floater (*Anodonta oregonensis*)	—/SSC/—	High order freshwater streams	None: No suitable stream habitat exists onsite.
Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*)	—/SSC/—	Freshwater ponds	None: No pond habitat exists onsite.
Sonoma zerene fritillary (*Speyeria zerene sonomensis*)	**—/SSC/—**	**Grasslands and meadows**	**None: Requires *Viola* for reproduction; none onsite.**
Tomales isopod (*Caecidotea tomalensis*)	—/SSC/—	Ponds and streams	None: No pond or stream habitat exists onsite.
Western bumblebee (*Bombus occidentalis*)	**—/SSC/—**	**Grassland**	**Medium: Some grassland habitat exists onsite.**
Vernal pool andrenid bee (*Andrena blennospermatis*)	**—/SSC/—**	**Upland areas near vernal pools**	**None: No vernal pool habitat exists onsite.**
BIRDS			
American perigrine falcon (*Falco peregrinus anatum*)	—/SSC/—	Forages in open grasslands, nests in trees	Very Low: No suitable nesting or foraging habitat exists.
Bank swallow (*Riparia riparia*)	**FE/SE/—**	**Migratory, typically found near lakes and streams**	**Medium: One very old occurrence of this species from the site.**
Black swift (*Cypseloides niger*)	—/SSC/—	Cliff faces near water	None: No suitable stream habitat exists onsite.
Burrowing owl (*Athene cunicularia*)	**—/SSC/—**	**Grasslands**	**Low: Some suitable grassland habitat exists onsite, but not near the proposed cultivation areas.**
California black rail (*Laterallus jamaicensis coturniculus*)	**FE/SE/—**	**Coastal salt marshes and mudflats**	**Medium: Some suitable salt marsh habitat exists onsite in the southern portion of the site.**
California horned lark (*Eremophila alpestris actia*)	—/SSC/—	Herbaceous vegetation, chaparral	None: No suitable scrub or chaparral habitat exists onsite.
Cooper's hawk (*Accipiter cooperii*)	—/WL/—	Forages over open grassland.	Low: Some suitable foraging habitat exists onsite. No suitable nesting habitat onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Ferruginous hawk (***Buteo regalis***)	—/SSC/—	Forages over open grassland. Nests in old-growth trees.	Low: Little suitable foraging habitat exists onsite. No suitable nesting habitat onsite.
Golden eagle (*Aquila chrysaetos*)	—/SSC/—	Forages over open grassland. Nests in old-growth trees.	Very Low: Little suitable foraging habitat exists onsite. No suitable nesting habitat.
Grasshopper sparrow (*Ammodramus savannarum*)	—/SSC/—	Forages over open grassland.	Low: Some suitable foraging habitat exists onsite.
Great egret (*Ardea alba*)	FE/SE/—	Nests in colonies in trees, forages in wetlands and grasslands	Medium: Some suitable habitat exists onsite.
Ridgway's rail (*Rallus obsoletus obsoletus*)	**FE/SE/—**	**Mudflats and tidal sloughs**	**Low: Some suitable tidal habitat exists onsite.**
Salt marsh common yellowthroat (*Geothlypis trichas sinuosa*)	**—/SSC/—**	**Forages in grasslands and nests in dense freshwater marshes**	**Medium: No suitable nesting habitat exists. Some suitable foraging habitat.**
San Pablo song sparrow (*Melospiza melodia samuelis*)	**—/SSC/—**	**Forages in grasslands and nests in dense freshwater marshes**	**Medium: No suitable nesting habitat exists. Some suitable foraging habitat.**
Tricolored blackbird (*Agelaius tricolor*)	—/SSC/—	Forages in grasslands and nests in dense freshwater marshes	Low: Some suitable nesting habitat exists onsite. Some suitable foraging habitat onsite.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	—/SE/—	Woodland, riparian	Very Low: No suitable nesting habitat exists. Some suitable foraging habitat exists.
White-tailed kite (*Elanus leucurus*)	—/CFP/—	Prefers to nest in marshes adjacent to deciduous forests.	Very Low: No suitable nesting habitat exists. Some suitable foraging habitat exists.
Yellow rail (*Coturnicops noveboracensis*)	**—/SSC/—**	**Breeds in marshes, forages in wet meadows.**	**Medium: Some marsh habiat exists onsite.**
MAMMALS			
American badger (*Taxidea taxus*)	—/SSC/—	Open grassland habitats with plenty of prey. Prefers complex topography for burrows and cover.	Low: Insufficient habitat complexity exists for this territorial animal.
Big free-tailed bat (*Nyctinomops macrotis*)	—/SSC/—	Forages over open areas, roots in trees or caves	Low: Some suitable foraging habitat available.
Fringed myotis (*Myotis thysanodes*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Low: Some foraging habitat exists in the project area.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Hoary bat (*Lasiurus cinereus*)	—/SSC/—	Forages over open areas, roots in trees or caves at high altitude.	None: Foraging limited to high altitudes; no suitable roosts in the project area.
Long-eared myotis (*Myotis evotis*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Low: Some foraging habitat exists; some suitable roosts in the project area.
Long-legged myotis (*Myotis volans*)	—/SSC/—	Roosts in caves or buildings and forages in open habitats	Very Low: Some foraging habitat exists; no suitable roosts in the project area.
North American porcupine (*Erethizon dorsatum*)	—/SSC/—	Require rocky areas or trees for dens, abundant open space for foraging.	Very Low: Some foraging habitat exists; little suitable den habitat in the project area.
Pallid bat (*Antrozous pallidus*)	**—/SSC/—**	**Common in open dry habitats with rocky areas for roosting.**	**Very Low: Some foraging habitat exists; no suitable roosts in the project area.**
Salt marsh harvest mouse (*Reithrodontomys raviventris*)	**FE/SE/—**	**Salt marshes**	**Low: Some salt marsh habitat exists onsite, although not near the project area.**
Sonoma tree vole (*Arborimus pomo*)	—/SSC/—	Old growth Douglas fir canopies.	None: No forest habitat exists onsite.
Townsend's big-eared bat (*Corynorhinus townsendii*)	—/SSC/—	Hibernate in mines or caves, roost in man made structures and caves, forages at night.	Low: Few man-made structures or caves exist onsite that are suitable for roosting. Some habitat for foraging exists.
Western red bat (*Lasiurus blossevillii*)	—/SSC/—	Forages over open areas, roots in trees or caves.	Very Low: No suitable nesting habitat exists, some suitable foraging habitat exists.
Yuma myotis (*Myotis yumanensis*)	—/SSC/—	Forages over open areas, roots in trees or caves.	Very Low: No suitable nesting habitat exists, some suitable foraging habitat exists.
HABITATS			
Coastal & Valley Freshwater Marsh (CVFM)	—	—	None: No marsh habitat exists onsite.
Coastal Brackish Marsh (CVFM)	**—**	**—**	**Medium: Some brackish marshes exists onsite.**
Northern Coastal Salt Marsh (NCSM)	**—**	**—**	**Medium: Some salt marsh habitat exists onsite.**
Northern Hardpan Vernal Pool (NHVP)	—	—	None: No hardpan vernal pool habitat exists onsite.

Taxon	Status[1] Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Northern Vernal Pool (NVP)	—	—	**None: No vernal pool habitat exists onsite.**
Sycamore Alluvial Woodland (SAW)	—	—	None: No woodland habitat exists onsite.
Valley Needlegrass Grassland (VNG)	—	—	Low: Some grassland habitat exists onsite.
Valley Sink Scrub (VSS)	—	—	None: No sink habitat exists onsite.

[1] Status:

Federal
FE = Federally Endangered Species
FT = Federally Threatened Species

State
SE = State Endangered Species
ST = State Threatened Species
SR = State Rare (applies to plants only)
SSC = California Species of Special Concern
CFP = California Fully Protected Species

CNPS (applies to plants only)
List 1B = plants considered rare, threatened, or endangered in California and elsewhere
List 2B = plants rare, threatened or endangered in California, but more common elsewhere
List 4 = plants of limited distribution

[2] USFWS

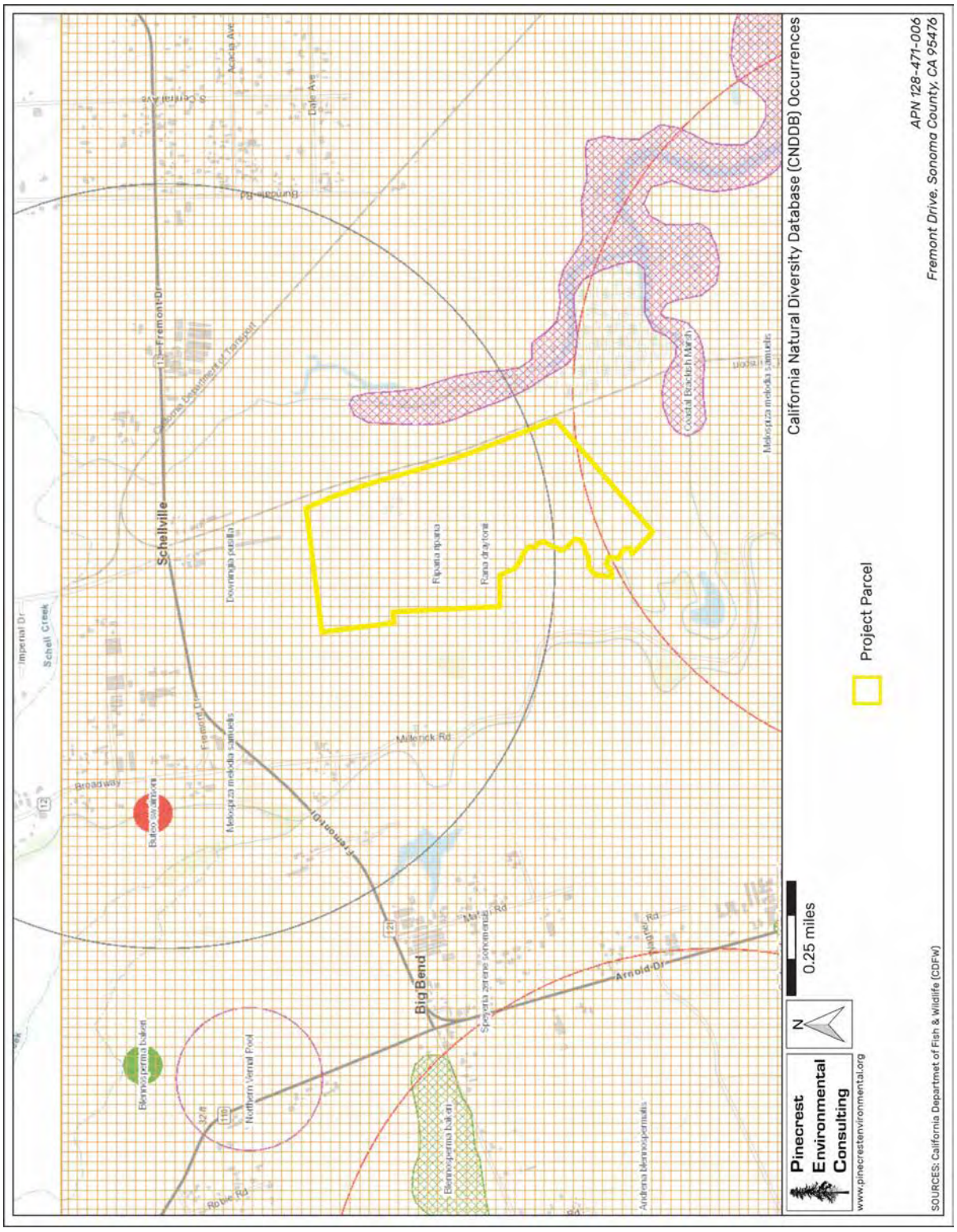
APPENDIX B: SPECIES ENCOUNTERED

PLANTS
Acmispon americanus
Artemisia douglasiana
Atriplex prostrata
Avena barbata
Baccharis pilularis
Bolboschoenus maritimus
Brassica rapa
Bromus hordeaceous
Cardamine californica
Cardamine hirsuta
Centaurea solstitialis
Chenopodium album
Circium pycnocephalus
Cirsium vulgare
Convolvulus arvensis
Cotula coronopifolia
Croton setiger
Cynosurus echinatus
Cyperus eragrostis
Daucus carota
Dipsacus fullonum
Distichlis spicata
Elymus caput-medusae
Erigeron canadensis
Erodium botrys
Euphorbia maculata
Festuca perennis
Frankenia salina
Geranium molle
Geranium molle
Heliotropium curassavicum
Helminthotheca echioides
Helminthotheca echioides
Holcus lanatus
Hordeum murinum
Hypochaeris glabra
Juncus patens
Lepidium heterophyllum
Lythrum hyssopifolia

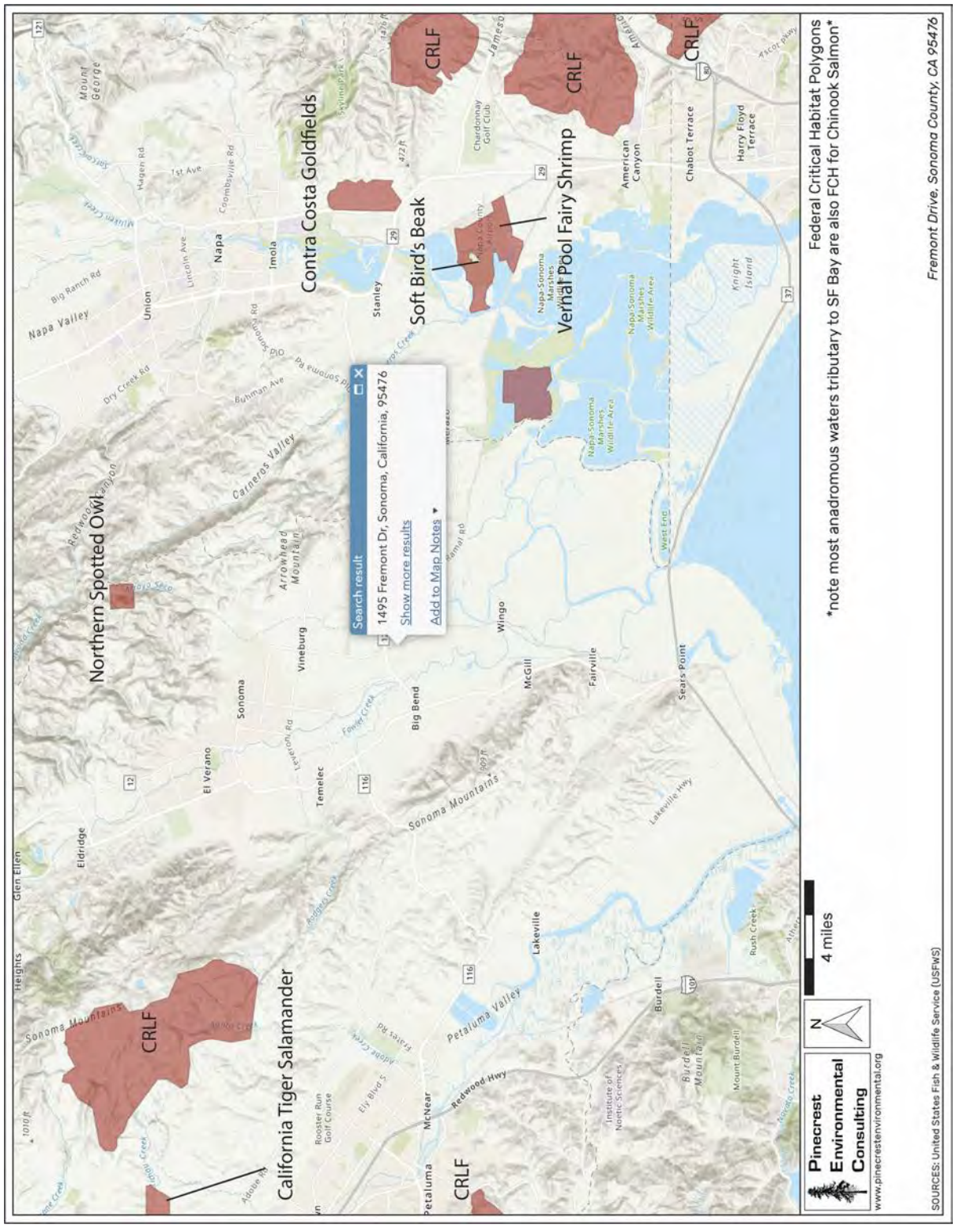
Malva parviflora
Medicago sativa
Mentha pulegium
Phalaris aquatica
Plantago major
Polypogon monspeliensis
Raphanus sativus
Rubus armeniacus
Rumex acetocella
Rumex crispus
Salicornia pacifica
Salsola tragus
Sonchus asper
Spergula arvensis
Tetragonia tetragonioides
Torilis nodosa
Trifolium hirtum
Trifolium repens
Typha latifolia
Vicia sativa
Vicia sativa
Xanthium spinosum

ANIMALS
Agelaius phoeniceus
Aphelocoma californica
Ardea herodias
Buteo jamaicensis
Calypte anna
Canis latrans
Cathartes aura
Corvus brachyrhynchos
Egretta thula
Elanus leucurus
Euphagus cyanocephalus
Hirundo rustica
Larus occidentalis
Lepus californicus
Microtus californicus
Phalacrocorax carbo
Sialia mexicana
Spinus psaltria
Thomomys bottae
Zenaida macroura
Zonotrichia leucophrys

APPENDIX C: CNDDB OCCURRENCES MAP



APPENDIX D: MAP OF FEDERAL CRITICAL HABITAT



APPENDIX E: STREAM CLASSIFICATION CRITERIA

The following stream classification criteria were copied form the California Department of Forestry & Fire Protection *Forest Practice Rules* (CALFIRE 2017) and is widely used by many state and local agencies. Most state and local jurisdictions require setbacks of 50, 100, and 150 feet from Class III, II, and I streams, respectively (as shown in Figure 3) although greater setbacks may be required in some jurisdictions.

Watercourse – a natural or artificial channel through which water flows.

- Perennial watercourse (Class I*):
  1. In the absence of diversions, water is flowing for more than nine months during a typical year,
  2. Fish always or seasonally present onsite or includes habitat to sustain fish migration and spawning, and/or
  3. Spring: an area where there is concentrated discharge of ground water that flows at the ground surface. A spring may flow any part of the year. For the purpose of this Policy, a spring does not have a defined bed and banks.
- Intermittent watercourse (Class II*):
  1. In the absence of diversions, water is flowing for three to nine months during a typical year,
  2. Provides aquatic habitat for non-fish aquatic species,
  3. Fish always or seasonally present within 1,000 feet downstream, and/or
  4. Water is flowing less than three months during a typical year and the stream supports riparian vegetation.
- Ephemeral watercourse (Class III*): In the absence of diversion, water is flowing less than three months during a typical year and the stream does not support riparian vegetation or aquatic life. Ephemeral watercourses typically have water flowing for a short duration after precipitation events or snowmelt and show evidence of being capable of sediment transport.
- Other watercourses (Class IV*): Class IV watercourses do not support native aquatic species and are man-made, provide established domestic, agricultural, hydroelectric supply, or other beneficial use.

*Except where more restrictive, stream class designations are equivalent to the Forest Practice Rules Water Course and Lake Protection Zone definitions (California Code of Regulations, title 14, Chapter 4. Forest Practice Rules, Subchapters 4, 5, and 6 Forest District Rules, Article 6 Water Course and Lake Protection).

APPENDIX F: CANNABIS CULTIVATION BEST MANAGEMENT PRACTICES

Best management practices (BMPs) are designed to prevent, minimize, and control the discharge of waste and pollutants associated with site operations and maintenance for the aforementioned project. Many of these BMPs are considered enforceable conditions under North Coast Regional Water Quality Board Order No. R1-2015-0023 and applicable State Water Resources Control Board *Cannabis* General Order No. WQ 2019-0001-DWQ.

F.1 CANNABIS CULTIVATION

- Pesticide and fertilizer storage facilities shall be located outside of the Riparian Corridor setbacks for structures.
- Pesticide and fertilizer storage facilities shall not be located within 100 feet of a wellhead, or within 50 feet of identified wetlands.
- Pesticide and fertilizer storage facilities shall be adequate to protect pesticide and fertilizer containers from the weather.
- Store all bags and boxes of pesticides and fertilizers off the ground on pallets or shelves.
- If the structure does not have an impermeable floor, store all liquid pesticides and fertilizers on shelves capable of containing spills or provide appropriate secondary containment.
- Routinely check for leaks and spills.
- Have spill cleanup kit onsite to be able to respond to any leaks or spills.
- Inspect planting stock for pests and diseases prior to planting. Avoid planting stock with pests and disease and notify the supplier of the planting stock of the infestation.
- Comply with all pesticide laws and regulations as enforced by the California Department of Pesticide Regulation and Sonoma County Agricultural Commissioner.
- For pesticides with the signal word CAUTION that have listed food uses, comply with all pesticide label directions as they pertain to personal protective equipment, application method, and rate, environmental hazards, longest reentry intervals and greenhouse and indoor use directions.
- For all other pesticides, use must comply with all label requirements including site and crop restrictions.
- Prior to the use of any registered pesticide on cannabis, Operator Identification Number should be obtained from the County Agricultural Commissioner if required.
- Submit monthly pesticide use reports to the County Agricultural Commissioner if required.

- Prior to applying fertilizers, evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over fertilization.
- Apply fertilizers at label rates and no higher.
- Do not apply fertilizers in a way that will result in runoff that may contaminate ground or surface water or escape via airborne drift or fugitive dust.
- Observe riparian corridor setbacks for agricultural cultivation as applicable. These shall be maintained as "no touch" areas. The removal of vegetation is prohibited within these setback areas.
- No equipment, vehicles, or other materials shall be stored in the riparian setback areas.
- Composting areas shall not be located in the riparian setback areas.
- Irrigation must be conducted in a manner that does not result in runoff from the cultivated area.
- Any water tanks or storage facilities must obtain all necessary permits from the Sonoma County Permit and Resource Management Department (PRMD).
- The use of membrane based water bladders is prohibited.
- If using an irrigation system, inspect for and repair leaks prior to planting each year and continuously during the season.
- Irrigation systems shall be equipped with a backflow prevention devices and shutoff valves.
- Recycle or properly dispose of all plastic bags, containers, and irrigation materials.
- Properly dispose of green waste in a manner that does not discharge pollutants to a watercourse. This may be accomplished by composting, chipping, and/or shredding. The method of green waste disposal must be documented.
- Used growth medium (soil and other organic medium) shall be handled to minimize or prevent discharge of soil and residual nutrients and chemicals to watercourses. Proper disposal could include incorporating into garden beds, spreading on a stable surface and re-vegetating, storage in watertight dumpsters, or covering with tarps or plastic sheeting prior to proper disposal. The method of disposal must be documented.
- Compost piles are to be located outside of riparian setbacks for agricultural cultivation and in a manner that will not discharge pollutants to a watercourse. If necessary, construct a berm or install fiber roll around compost area to prevent runoff or use straw wattles around perimeter.
- Cover compost piles with tarp or impermeable surface prior to fall rains and continuously throughout the rainy season.
- Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
- Avoid soil disturbance between November 1 and April 15 and during times of active precipitation.
- All exposed and disturbed soil must be covered with a minimum of 2 inches of mulch, such as straw, bark, wood chips, etc., by November 15. Alternatively, establish a thick cover crop over disturbed areas composed of native species.

- Erosion control materials shall be available on site at all times in the form of straw or appropriate mulch adequate to cover area of disturbed soil.
- In the event of a forecast storm event likely to produce runoff, apply mulch to disturbed areas prior to rain event.
- Any grading or drainage conducted as part of site preparation shall have the appropriate permits from the Sonoma County PRMD.

F.2 EROSION & SEDIMENT CONTROL

- Erosion control and sediment detention devices and materials shall be incorporated into the cleanup/restoration work design and installed prior to the end of project work and before the beginning of the rainy season or any predicted rain events.
- Any continuing, approved project work conducted after October 15 shall have erosion control measures completed and up-to-date.
- All erosion control measures shall be inspected daily during severe rain events.
- Erosion control materials shall be, at minimum, stored on-site at all times during approved project work between May 1 and October 15.
- Approved project work within the 5-year flood plain shall not begin until all temporary erosion controls (straw bales or silt fences that are effectively keyed-in) are installed downslope of cleanup/restoration activities.
- Native species appropriate to the local habitat shall be used for all revegetation purposes. Non-invasive, non-persistent grass species (e.g., barley grass) may be used for their temporary erosion control benefits to stabilize disturbed slopes and prevent exposure of disturbed soils to rainfall.
- Upon work completion, all exposed soil present in and around the cleanup/restoration sites shall be stabilized within 7 days.
- The disturbed area will be minimized at all times to only that which is essential for the completion of the project.
- Provide temporary cover over disturbed areas that are not currently being worked on.
- Heavy equipment shall not be used in flowing water.
- Use of heavy equipment shall be avoided or minimized in a channel bottom with rocky or cobbled substrate.
- Heavy equipment shall not introduce chemicals or foreign sediment to the channel (e.g., remove mud from tracks or cover channel work area with plastic sheeting prior to heavy equipment entry).
- When heavy equipment is used, any woody debris and stream bank or streambed vegetation disturbed shall be replaced to a pre-project density with native species appropriate to the site.
- When possible, existing ingress or egress points shall be used or work shall be performed remotely from the top of the creek banks.

- Divert runoff away from unprotected slopes or loose soils using a combination of mats, geotextiles, silt fencing, wattling, check dams, sediment basins, vegetated buffers, or rock armor.
- Deploy appropriate erosion control measures such as silt fencing or straw wattles around all temporary exposed piles or soil or surface disturbances.
- All temporary exposed piles or soil or surface disturbances shall have tarping and sand bags or other stabilization materials deployed in order to prevent discharge of sediments in the event of a rain or wind event.
- Geotechnical fabric shall be deployed on all exposed dirt surfaces with a slope of greater than 15% and staked in place during ground disturbing activities, and silt fencing deployed on slopes of greater than 15% where appropriate.
- Sand bags, straw bales, or other devices shall be placed at appropriate locations near and alongside the roadsides and swales in anticipation of large storm events.
- Bioswales and cultivation areas including parking areas shall be maintained free of trash including empty soil and pesticide or fertilizer containers.
- Locations of sediment sources shall be identified during rain events and mitigated where appropriate.
- Protect ditch inlets and outlets from erosion using rock armor.
- Silt fencing shall be installed downstream of rock piles, stockpiles, and temporary soils storage areas.
- Desilting or retention basins shall be installed if the capacity of the natural percolation exceeds the inputs during routine storm events.
- Sediment traps shall be used on all exposed driveway surfaces where natural vegetation is not able to be established.
- Exposed unvegetated surfaces will be graveled where appropriate.
- Rock placed for slope protection shall be the minimum necessary to avoid erosion, and shall be part of a design that provides for native plant revegetation and minimizes bank armoring.
- Soil exposed as a result of project work, soil above rock riprap, and interstitial spaces between rocks shall be revegetated with native vegetation by live planting, seed casting, or hydroseeding prior to the rainy season of the year work is completed.
- Avoidance of earthwork on steep slopes and minimization of cut/fill volumes, combined with proper compaction, shall occur to ensure the area is resilient to issues associated with seismic events and mass wasting. If cracks are observed, or new construction is anticipated, consultation with a qualified professional is recommended.
- Culvert fill slopes shall be constructed at a 2:1 slope or shall be armored with rock.
- If it is necessary to conduct work in or near a live stream, the work space shall be isolated to avoid project activities in flowing water.
- Any spoils associated with site maintenance shall be placed in a stable location where it cannot enter a watercourse.

- Sidecasting shall be minimized and shall be avoided on unstable areas or where it has the potential to enter a watercourse.
- Entrance to the project site shall be maintained in a condition that will prevent tracking or flowing of sediment into the public right-of-way.
- All sediment spilled, dropped, washed, or tracked onto the public right-of-ways shall be removed immediately.
- When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-ways.
- When wheel washing is required, it shall be done in an area stabilized with crushed stone that drains into a sediment trap fitted with appropriate erosion control measures.
- To control surface water runoff in and around cultivation areas use fiber rolls or wattling and stake appropriately and perpendicular to the flow path.
- Cover crops should be utilized on all exposed slopes that are not able to be protected by other means.
- Cover crops should be native species as described in the associated biological resources report.
- Rip compacted soils prior to placing spoils to prevent the potential for ponding under the spoils that could result in spoil site failure and subsequent sedimentation.
- Compact and contour stored spoils to mimic the natural slope contours and drainage patterns to reduce the potential for fill saturation and failure.
- Ensure that spoil materials are free of woody debris, and not placed on top of brush, logs or trees.
- Inspect all roads and culverts regularly for blockages.

F.3 WATER USE & POLLUTION

- Ensure that all appropriate water rights permits are filed with the State Water Resources Control Board.
- Notify the California Department of Fish and Wildlife by submitting a Lake and Streambed Alteration (LSA) notification package if the proposed activities involve substantial diversion from or alteration of the bed or bank of a stream or other waterbody.
- Ensure that all water storage features are permitted from the Department of Water Rights if necessary.
- All refueling and pesticide and chemical storage and transfer shall occur greater than 100 feet away from any swales, creeks, or natural areas.
- All refueling and pesticide and chemical storage and transfer shall occur on top of an impermeable metal or other fabric mat that is no less than 2 inches high on all sides and capable of completely containing any spillage.

- Concrete truck and other vehicles shall not be washed out in natural areas or directly onto soil and shall be washed out into a metal or other impermeable basin and disposed of properly such that no water is discharged to the soil.
- All waste shall be kept in plastic drums with tight fitting lids so that water is not able to make contact with the contents and potentially leach to the environment.
- All pesticide sprays shall occur on windless nights for outdoor facilities.
- Chemical or fertilizer wastes shall never be disposed of into swales or creeks and shall be contained inside closed-roof facilities and designated with appropriate labeling until it is possible to dispose of properly.
- Septic leach fields and graywater mulch fields shall be maintained free of large vegetation and not used for aboveground storage that may impact their proper functioning.
- Chemical contamination (fuel, grease, oil, hydraulic fluid, solvents, etc.) of water and soils is prohibited during routine equipment operation and maintenance.
- The use or storage of petroleum-powered equipment shall be accomplished in a manner that prevents the potential release of petroleum materials into waters of the state (Fish and Game Code 5650).
- Schedule excavation and grading activities for dry weather periods.
- Designate a contained area for equipment storage, short-term maintenance, and refueling. Ensure it is located at least 50 feet from waterbodies.
- Inspect vehicles for leaks and repair immediately.
- Clean up leaks, drips and other spills immediately to avoid soil or groundwater contamination.
- Conduct major vehicle maintenance and washing offsite.
- Ensure that all spent fluids including motor oil, radiator coolant, or other fluids and used vehicle batteries are collected, stored, and recycled as hazardous waste offsite.
- Ensure that all construction debris is taken to appropriate landfills and all sediment disposed of in upland areas or offsite, beyond the 100-year floodplain.
- Use dry cleanup methods (e.g., absorbent materials, cat litter, and/or rags) whenever possible. If necessary for dust control, use only a minimal amount of water.
- Sweep up spilled dry materials immediately.
- Separate organic material (e.g., roots, stumps) from the dirt fill and store separately. Place this material in long-term, upland storage sites, as it cannot be used for fill.
- Spoils shall not be placed or stored in locations where soils are wet or unstable, or where slope stability could be adversely affected.
- Do not locate spoil piles in or immediately adjacent to wetlands and watercourses.
- Store spoil piles in a manner (e.g. cover pile with plastic tarps and surround base of pile with straw wattle) or location that would not result in any runoff from the spoil pile ending up in wetlands and watercourses.

- Keep temporary disposal sites out of wetlands, adjacent riparian corridors, and ordinary high water areas as well as high risk zones, such as 100-year floodplain and unstable slopes.
- Conduct operations on a size and scale that considers available water sources and other water use and users in the planning watershed.
- Implement water conservation measures such as rainwater catchment systems, drip irrigation, mulching, or irrigation water recycling where possible.
- Hauled water utilized for irrigation shall be documented via receipt or similar, and show the date, name, and license plate of the water hauler, and the quantity of water purchased.
- If using a water storage tank, do not locate the tank in a flood plain or next to equipment that generates heat. Locate the tank so it is easy to install, access, and maintain.
- Vertical tanks should be installed according to manufacturer's specifications and placed on firm, compacted soil that is free of rocks/sharp objects and capable of bearing the weight of the tank and its maximum contents.
- Install float valves on tanks to prevent them from overflowing.
- Place proper lining or sealing in ponds to prevent water loss.

F.4 ROAD MAINTENANCE & GENERAL CONSTRUCTION

- Always limit work to the appropriate work date windows considering wet weather, migratory bird and other biological and environmental constrains that may be placed on the project.
- Proper design and location of roads and other features is critical to ensuring that a road or other feature be adequately drained and is best accomplished through consultation with a qualified professional.
- Placement of temporary access roads, staging areas, and other facilities shall avoid or minimize disturbance to habitat.
- If inspection identifies surface rills or ruts, then surfacing and drainage likely needs maintenance. Consultation should be made with a licensed professional to design appropriate erosion control strategies.
- Design of roads should allow for sheet flow of water and use water bars and rolling dips to break up slope length.
- Vehicle speed shall be kept to a maximum of 10 mph while onsite to minimize dust generation.
- All unvegetated and unpaved roadways and vehicle turnarounds shall be graveled to a depth of not less than 1" in order to prevent dust and sediment entrainment.
- Applicant will use geotechnical fabric or similar materials on exposed slopes, and distribute weed-free straw mulch wherever possible on exposed surfaces on the perimeter of all graded roads and graveled areas.

- Roads and the berms alongside all roads shall be maintained free of headcuts, gullies, stutter bumps, and other erosion features capable of discharging sediment to adjacent grassland areas.
- Roads will be graveled with clean rock whenever required to prevent dust and sediment erosion during the wet season.
- Whenever possible, road maintenance activities shall be performed from May 1 to October 15.
- Work performed outside of this window should take extra precautions for winter weather erosion control prevention beyond that which is described in this Plan.
- A 48 hour advance forecast for rain shall trigger a temporary cessation of work, and all soils piles will need to be covered and secured with sandbags or other materials.
- Placement of temporary access roads, staging areas, and other facilities shall avoid or minimize disturbance to habitat.
- Whenever feasible, finished grades shall not exceed 1.5:1 side slopes. In circumstances where final grades cannot achieve 1.5:1 slope, additional erosion control or stabilization methods shall be applied as appropriate for the project location.
- Spoils and excavated material not used during project activities shall be removed and placed outside of 100-year floodplains.
- Upon completion of grading, slope protection of all disturbed sites shall be provided prior to the rainy season through a combination of permanent vegetative treatment, mulching, geotextiles, and/or rock, or equivalent.
- Position vehicles and other apparatus so as to not block emergency vehicle access.
- After construction is complete, all storm drain systems and culverts shall be inspected and cleared of accumulated sediment and debris.
- Sediment barriers including wattles and silt fencing should be checked for sediment accumulation following each significant rainfall and sediment removed or the feature replaced as needed.
- Road drainage shall be discharged to a stable location away from a watercourse.
- Use sediment control devices, such as check dams, sand/gravel bag barriers, and other acceptable techniques, when it is neither practical nor environmentally sound to disperse ditch water immediately before the ditch reaches a stream.
- Within areas with potential to discharge to a watercourse (i.e. within riparian areas of at least 200 feet of a stream) road surface drainage shall be filtered through vegetation, slash, or other appropriate material or settled into a depression with an outlet with adequate drainage.

F.5 SWALE & VEGETATION MANAGEMENT

- The work area shall be restored to pre-project work condition or better.

- Any stream bank area left barren of vegetation as a result of cleanup/restoration activities shall be stabilized by seeding, replanting, or other means with native trees, shrubs, and/or grasses appropriate to the site prior to the rainy season in the year work was conducted.
- Ensure that vegetated swales are properly formed, allow moderate velocity water passage without causing sediment entrainment, and are otherwise functioning properly.
- Create and expand vegetated bioswales where necessary, should additional construction or road maintenance be required, in order to maintain flow without scour.
- All bioswales and other drainage features requiring revegetation will be seeded with native vegetation and lawns and hedgerows maintained in good health and watered in dry years.
- Vegetation including grasses shall be mowed as necessary to create fire breaks and to prevent the accumulation of fuels that would be able to sustain a ground fire.
- All vegetation shall be surveyed on foot once a year by staff and new outbreaks of any invasive weeds identified by the California Invasive Plant Council as noxious or invasive to be removed by the owner or qualified landscaping professionals.
- Channels and swales that show evidence of overland flow and scour (e.g. bare of vegetation) shall be seeded with native grasses such as *Stipa pulchra*, *Hordeum brachyantherum*, *Elymus glaucus*, and *Bromus carinatus*, and kept vegetated at all times.
- If shrubs and non-woody riparian vegetation are disturbed, they shall be replaced with similar native species appropriate to the site.
- Disturbance to native shrubs, woody perennials or tree removal on the streambank or in the stream channel shall be avoided or minimized.
- If riparian trees over six inches dbh (diameter at breast height) are to be removed, they shall be replaced by native species appropriate to the site at a 3:1 ratio.
- Where physical constraints in the project area prevent replanting at a 3:1 ratio and canopy cover is sufficient for habitat needs, replanting may occur at a lesser replacement ratio.
- Vegetation planting for slope protection purposes shall be timed to require as little irrigation as possible for ensuring establishment by the commencement of the rainy season.
- The spread or introduction of exotic plant species shall be avoided to the maximum extent possible by avoiding areas with established native vegetation during cleanup/restoration activities, restoring disturbed areas with appropriate native species, and post-project monitoring and control of exotic species.
- Removal of invasive exotic species after construction activities is strongly recommended. Mechanical removal (hand tools, weed whacking, hand pulling) of exotics shall be done in preparation for establishment of native plantings.
- Where permanent soil stabilization is required a locally-appropriate mix of native grass species shall be used such as a mix containing *Nassella pulchra*, *Hordeum brachyantherum*, *Elymus glaucus*, and *Bromus carinatus* or as described in the site's Biological Resources Assessment.
- Entire cultivation site shall be seeded and maintained as a permanent non-tilled cover crop during non-usage times. Straw mulch shall be used where native seeding is not practicable.

- Use mulches (e.g. wood chips or bark) in cultivation areas that do not have ground cover to prevent erosion and minimize evaporative loss.
- Mulch shall be applied at a rate of 4000 lbs / acre and seeding shall be applied to achieve 70% cover in the first year or approximately 200 lbs / acre.
- Annual inspections for the purpose of assessing the survival and growth of revegetated areas and the presence of exposed soil shall be conducted for three years following project work.
- Dischargers and/or their consultant(s) or third party representative(s) shall note the presence of native/non-native vegetation and extent of exposed soil, and take photographs during each inspection.
- Dischargers and/or their consultant(s) or third party representative(s) shall provide the location of each work site, pre- and post-project work photos, diagram of all areas revegetated and the planting methods and plants used, and an assessment of the success of the revegetation program in the annual monitoring report as required under relevant state and local water board regulations.

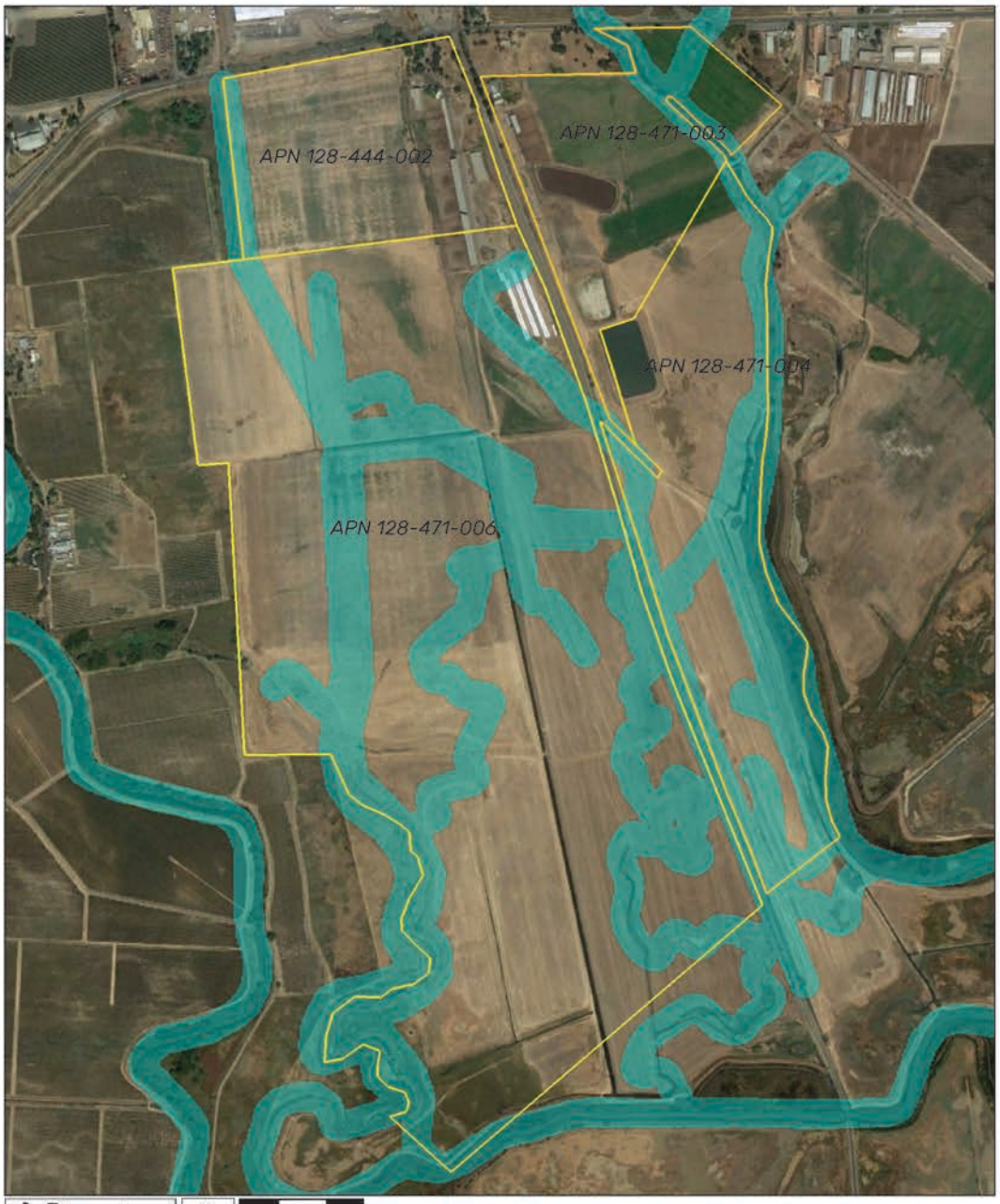
F.6 IRRIGATION & CULTIVATION MANAGEMENT

- Cultivation-related waste shall be stored in a place where it will not enter a stream.
- Soil bags and other garbage shall be collected, contained, and disposed of at an appropriate facility, including for recycling where available.
- Pots shall be collected and stored where they will not enter a waterway or create a nuisance.
- Plant waste and other compostable materials be stored (or composted, as applicable) at locations where they will not enter or be blown into surface waters, and in a manner that ensures that residues and pollutants within those materials do not migrate or leach into surface water or groundwaters.
- Imported soil for cultivation purposes shall be minimized. In the event that containers (e.g. grow bags or grow pots) are used for cultivation, reuse of soil shall be maximized to the extent feasible.
- Spent growth medium (i.e. soil and other organic medium) shall be handled to minimize discharge of soil and residual nutrients and chemicals to watercourses. Proper handling of spent soil could include incorporating into garden beds, spreading on a stable surface and revegetation, storage in watertight dumpsters, covering with tarps or plastic sheeting prior to proper disposal.
- Trash containers of sufficient size and number shall be provided and properly serviced to contain the solid waste generated by the project.
- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Use lined bins or dumpsters to reduce leaking of liquid waste. Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on.

- Make sure trash container areas are screened or walled to prevent off-site transport of trash. Consider using refuse containers that are bear-proof and/or secure from wildlife.
- Refuse shall be removed from the site on a frequency that does not result in nuisance conditions, transported in a manner that they remain contained during transport, and the contents shall be disposed of properly at a proper disposal facility.
- Ensure that human waste disposal systems do not pose a threat to surface or ground water quality or create a nuisance. Onsite treatment systems should follow applicable County ordinances for human waste disposal requirements, consistent with the applicable tier under the State Water Resources Control Board Onsite Waste Treatment System Policy.
- Install buffer strips, bioswales, or vegetation downslope of cultivation areas to filter runoff of chemicals from irrigation.
- Irrigate at rates to avoid or minimize runoff.
- Regularly inspect and repair leaks in mains and laterals, in irrigation connections, or at the ends of drip tape and feeder lines.
- Design irrigation system to include redundancy (i.e., safety valves) in the event that leaks occur, so that waste of water is prevented and minimized.
- Recapture and reuse irrigation runoff (tailwater) where possible, through passive (gravity-fed) or active (pumped) means.
- Construct retention basins for tailwater infiltration; percolation medium may be used to reduce pollutant concentration in infiltrated water. Constructed treatment wetlands may also be effective at reducing nutrient loads in water.
- Ensure that drainage and/or infiltration areas are located away from unstable or potentially unstable features.
- Regularly replace worn, outdated or inefficient irrigation system components and equipment.
- Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over-fertilization.
- All chemicals shall be stored in a manner, method, and location that ensures that there is no threat of discharge to waters of the State.
- Products shall be labeled properly and applied according to the label.
- Use integrated pest management strategies that apply pesticides only to the area of need, only when there is an economic benefit to the grower, and at times when runoff losses are least likely.
- Periodically calibrate pesticide application equipment.
- Use anti-backflow devices on water supply hoses, and other mixing/loading practices designed to reduce the risk of runoff and spills.

- Petroleum products shall be stored with a secondary containment system such as a pan or a tub
- Throughout the rainy season, any temporary containment facility shall have a permanent cover and side-wind protection, or be covered during non-working days and prior to and during rain events.
- Materials shall be stored in their original containers and the original product labels shall be maintained in place in a legible condition. Damaged or otherwise illegible labels shall be replaced immediately.
- Bagged and boxed materials shall be stored on pallets and shall not be allowed to accumulate on the ground. To provide protection from wind and rain throughout the rainy season, bagged and boxed materials shall be covered during non-working days and prior to rain events.
- Have proper chemical and fertilizer storage instructions posted at all times in an open and conspicuous location.
- Prepare and keep a spill prevention and cleanup plan onsite when dealing with any hazardous materials.
- Keep ample supply of appropriate spill clean-up material near storage areas.
- Plant cover crops to boost soil fertility, improve soil texture, and protect from storm caused sediment runoff.

APPENDIX G: COUNTY-DESIGNATED RIPARIAN CORRIDORS



Appendix B

Cultural Resources and Tribal Cultural Resources Evaluation
(Cultural Resources Practitioners 2021)

RESULTS of a CULTURAL RESOURCES STUDY for the PROPOSED CANNABIS CULTIVATION PROJECT at 1495 FREMONT DRIVE, SONOMA, CALIFORNIA, 95476 (APN: 128-444-002)

JANUARY 2021

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ARCHAEOLOGICAL DATABASE INFORMATION

Prepared by:	Robert Gleaton, M.A., RPA, and Andrew Von Pinnon, M.A. Cultural Resources Practitioners, LLC 2037 West Hearn Avenue, Santa Rosa, CA 95407 www.crpcal.com
Date:	January 2021
Title:	Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1495 Fremont Drive, Sonoma, California, 95476 (APN: 128-444-002)
Prepared for:	Erich Pearson Farmparc, LLC PO Box 1538 Glen Ellen, CA 95476
USGS 7.5 Minute Series Quadrangle Map:	1951 (Photorevised 1968) Sears Point, California; Township 5 North; Range 5 West; Unsectioned (Rancho Huichica)
Keywords:	Sonoma County; Schellville; cannabis cultivation project; CEQA; negative for cultural resources; recommended no historical resources or unique archaeological resources affected

STATEMENT OF CONFIDENTIALITY

This report identifies the locations of cultural resources within Sonoma County, which are confidential. The cultural, scientific, and artistic values associated with these sites can be damaged or destroyed through uncontrolled public disclosure of information about their locations.

Disclosure of this information to the public may be in violation of both federal and state laws. Information regarding the location, character or ownership of a historic resource is exempt from the Freedom of Information Act. Applicable U.S. laws include, but may not be limited to, Section 304 of the National Historic Preservation Act (16 USC 470w-3) and the Archaeological Resources Protection Act (16 USC 470hh). California state laws that apply include, but may not be limited to, Government Code Sections 6250 *et seq*. and 6254 *et seq*.

If any information in this document is to be released for public review, all locational information associated with archaeological resources must be redacted before distribution.

TABLE OF CONTENTS

STATEMENT OF CONFIDENTIALITY ii

INTRODUCTION 1
PROJECT 1
Scope of Work & Location 1

REGULATORY SETTING 1
California State LORS 2
California Environmental Quality Act (CEQA) 2
Senate Bill (SB) 18 (2004) 4
Public Resources Code (PRC), Section 5097.9 et seq. (1982) 4
Public Resources Code 5097.98 4
Health and Safety Code 7050 – 7052 4
Sonoma County LORS 4
Sonoma County General Plan (2020) 4
Sonoma County Landmark Commission 6
Cannabis Land Use Ordinance No. 6189 (2016) 6

SETTING 7
ENVIRONMENTAL SETTING 7
Geology 7
Soils 8
CULTURAL SETTING 9
Prehistoric & Archaeological Overview 9
Ethnohistoric Overview 12
Historic Overview 14

BACKGROUND RESEARCH 15
CHRIS RECORD SEARCH 16
Methods 16
Results 16
DESKTOP REVIEW 21
Methods 21
Results 22

GEOARCHAEOLOGICAL BURIED SITE ANALYSIS 24
Methods 24
Results 24

PEDESTRIAN FIELD SURVEY 25
Methods 25
Results 26

SUMMARY OF RESULTS 26

RECCOMENDATIONS 27
Accidental Discovery 27
Human Remains 28

REFERENCES CITED 29

LIST OF TABLES

Table 1. NWIC Results: Cultural Resource Studies 17
Table 2. NWIC Results: Previously Recorded Cultural Resources 20
Table 3. BERD Listed Recorded Properties 20
Table 4. Historical Resources within 1/2-Mile Radius 21
Table 5. Built Environment Depicted on Historical Maps/Aerials 23

APPENDICES

Appendix A: Maps
Figure 1: Project Location Map
Figure 2: Project Aerial Map
Figure 3: Preliminary Construction Map
Figure 4: CHRIS Records Search Result Maps
Figure 5: Survey Coverage Map

Appendix B: Field Survey Photograph Sheets

INTRODUCTION

Cultural Resources Practitioners, LLC (CRP) was retained by Farmparc, LLC to provide a Cultural Resources Study (CRS) for one (1) proposed outdoor cultivation site measuring four-acres located on a section of parcel at 1495 Fremont Drive, Sonoma, California, 95476 (herein referred to as Project). The CRS was completed in compliance with the California Environmental Quality Act (CEQA) and the Sonoma County Cannabis Land Use Ordinance No. 6189. The purpose of the CRS was to determine if there are any cultural resources located within the Project Area that meet CEQA's definition of Historical Resource(s) or Unique Archaeological Resource(s) that could be impacted by the Project and to provide project-specific recommendations if needed.

The government-to-government consultation with the local Native American tribes that is required to determine the presence or absence, or potential impacts to Tribal Cultural Resources, as defined in Public Resource Code §21074, is to be conducted by the lead agency (i.e. Sonoma County Department of Agriculture/Weights & Measures); therefore, a Sacred Lands inventory and consultation with local Native American tribes was not conducted as part of this CRS.

This CRS was completed by CRP Principal Investigator Robert Gleaton, M.A., RPA (Registered Professional Archaeologist, No. 52141) and Cultural Resources Specialist Andrew Von Pinnon, M.A.; both individuals exceed the *Secretary of Interior's Professional Qualification Standards* in *Archaeology*. The results of the CRS are presented herein.

PROJECT

Scope of Work & Location

The proposed Project entails one outdoor cannabis cultivation site with a four-acre area located within the property at 1495 Fremont Drive, Sonoma, California; Accessors Parcel Number (APN) 128-444-002; near the unincorporated community of Schellville in Sonoma County (see Appendix A, Figure 1: Project Location Map; Figure 2: Aerial Map, and; Figure 3: Preliminary Construction Maps).

The Project's proposed cannabis cultivation area is located on the 1951 (Photorevised 1968) Sears Point, California, 7.5-Minute Series United States Department of the Interior Geological Survey (USGS) Topographic Quadrangle Map; Township 5 North; Range 5 West; in an unsectioned portion (Rancho Huichica); Mount Diablo Base and Meridian (MDBM).

REGULATORY SETTING

This section briefly discusses California and Sonoma County laws, ordinances, regulations and standards (LORS) that apply to the Project. A cultural resources inventory was conducted to satisfy the requirements of the California Environmental Quality Act (CEQA) of 1970 as amended; its implementing regulations the CEQA Guidelines, codified in Title 14 of the CCR, which provides agencies guidance for compliance with environmental regulations, and; Sonoma County Ordinances including the Cannabis Land Use Ordinance No. 6189 (2016) and those described in the Sonoma County General Plan 2020, as amended.

California State LORS

California Environmental Quality Act (CEQA)

The CEQA established that historical and archaeological resources are afforded consideration and protection by the California Environmental Quality Act (CEQA) (14 CCR Section 21083.2, 14 CCR Section 15064). CEQA Guidelines define significant cultural resources under two regulatory designations: *historical resources* and *unique archaeological resources*.

A historical resource is a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (CRHR)"; or "a resource listed in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code"; or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record" (14 CCR Section 15064.5[a][3]).

Historical resources automatically listed in the California Register include California cultural resources listed in or formally determined eligible for the National Register and California Historical Landmarks list from No. 770 onward (PRC 5024.1[d]). Locally listed resources are entitled to a presumption of significance unless a preponderance of evidence in the record indicates otherwise.

Under CEQA, a resource is generally considered historically significant if it meets the criteria for listing in the CRHR. A resource must meet at least one of the following criteria (PRC 5024.1; 14 CCR Section 15064.5[a][3]):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage. Title 14, CCR Section 4852(b)(1) adds, "is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States."

2. Is associated with the lives of persons important in our past. Title 14, CCR Section 4852(b)(2) adds, "is associated with the lives of persons important to local, California, or national history."

3. Embodies the distinctive characteristics of a type, period, region, or method of construction; or represents the work of an important creative individual; or possesses high artistic values. Title 14, CCR 4852(b)(3) allows a resource to be CRHR eligible if it represents the work of a master.

4. Has yielded, or may be likely to yield, information important in prehistory or history. Title 14, CCR 4852(b)(4) specifies that importance in prehistory or history can be defined at the scale of "the local area, California, or the nation."

Historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (14 CCR 4852[c]).

An archaeological artifact, object, or site can meet CEQA's definition of a *unique archaeological resource* even if it does not qualify as a historical resource (PRC 21083.2[g]; 14 CCR 15064.5[c][3]). An

archaeological artifact, object, or site is considered a unique archaeological resource if ". . .it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC 21083.2[g]):

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

Assembly Bill 52 (AB 52) and Tribal Cultural Resources (2015). AB 52 establishes a formal role for California Native American tribes in the CEQA process. CEQA lead agencies are required to consult with tribes about potential tribal cultural resources in the project area, the potential significance of project impacts, the development of project alternatives and the type of environmental document that should be prepared.

- A "Native American tribe located in California that is on the contact list maintained Native American Heritage Commission" (NAHC). This definition does not distinguish between federally recognized and non-federally recognized tribal groups, and is therefore more inclusive than the federal definition of "Indian tribe" (PRC § 21073).

- To qualify as a tribal cultural resource, it must either be 1) listed on or eligible for listing on the California Register of Historical Resources or a local historic register or, 2) or is a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a Tribal Cultural Resource (PRC § 21074). Tribal Cultural Resources include "non-unique archaeological resources" that, instead of being important for "scientific" value as a resource, can also be significant because of the sacred and/or cultural tribal value of the resource. Tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of tribal cultural resources within their traditionally and cultural affiliated geographic area (PRC § 21080.3.1(a)).

- Consultation in the context of AB 52 is the meaningful and timely process of seeking, discussing, and carefully considering the views of others. Meaningful consultation usually consists of face-to-face meetings conducted in such a way that recognizes the cultural values of all parties involved and makes a concerted effort to reach an agreement. Consultation should recognize the tribe's potential need for confidentiality regarding places that hold traditional tribal significance. Consultation with tribes is considered the best way for lead agencies to determine if a project could result in significant environmental impacts to tribal cultural resources (PRC § 21080.3.1(a); GC § 65352.4).

A project that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (PRC § 21084.2).

Tribal Cultural Resources are not addressed in a CRS, as they are resources that are specific concern to California Native American tribes. Pursuant to revisions to CEQA enacted in 2015, Tribal Cultural Resources are to be identified by Tribes during government-to-government consultation with the lead agency and can remain confidential (PRC § 21080.3.1).

Senate Bill (SB) 18 (2004)

Senate Bill 18, signed into law by Governor Schwarzenegger in September 2004, requires cities and counties to notify and consult with California Native American Tribes about proposed adoption of, or changes to, general plans and specific plans for the purpose of protecting Traditional Tribal Cultural Places ("cultural places"). Interim tribal consultation guidelines were published by the Governor's Office of Planning and Research on March 1, 2005.

Public Resources Code (PRC), Section 5097.9 et seq. (1982)

This establishes that both public agencies and private entities using, occupying, or operating on state property under public permit, shall not interfere with the free expression or exercise of Native American religion and shall not cause severe or irreparable damage to Native American sacred sites. This section also creates the NAHC, charged with identifying and cataloging places of special religious or social significance to Native Americans, identifying and cataloging known graves and cemeteries on private lands, and performing other duties regarding the preservation and accessibility of sacred sites and burials.

Public Resources Code 5097.98

This section discusses the procedures that need to be followed upon the discovery of Native American human remains. The NAHC, upon notification of the discovery of human remains is required to contact the County Coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code and shall immediately notify those persons it believes to be most likely descended from the deceased Native American.

Health and Safety Code 7050 – 7052

Section 7052 of the Health and Safety Code states that the disturbance of Native American cemeteries is a felony. Section 7050.5 of the California Health and Safety Code requires that construction or excavation must be stopped in the vicinity of discovery of human remains until the County Coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission (NAHC).

Sonoma County LORS

Sonoma County General Plan (2020)

Open Space and Resource Conservation Element (amended 2016), Chapter 10: Archaeological, Cultural, and Historical Resources. This document outlines a number of goals, objectives and policies for the protection and preservation of prehistoric and historic cultural resources. The Goal includes: "Protect and preserve significant archaeological and historical sites that represent the ethnic, cultural, and economic groups that have lived and worked in Sonoma County, including Native American populations. Preserve unique or historically significant heritage or landmark trees" (SCPRMD 2016: OS-54).

Polices specific to archaeological resources include:

Policy OSRC-19a: Designate the County Landmarks Commission to review projects within designated historic districts.

Policy OSRC-19b: Refer proposals for County Landmark status and rezoning to the Historic Combining District to the County Landmarks Commission.

Policy OSRC-19c: The County Landmarks Commission shall review Historic Building Surveys and make recommendations for designation of structures or cemeteries as County landmarks.

Policy OSRC-19d: Include a list of historic structures proposed for designation as County landmarks in Specific or Area Plans or Local Area Development Guidelines and refer the

list to the Landmarks Commission for their recommendations.

Policy OSRC-19e: Refer applications that involve the removal, destruction or alteration of a structure or cemetery identified in a historic building survey to the Landmarks Commission for mitigation. Measures may include reuse, relocation, or photo documentation.

Policy OSRC-19f: Use the Heritage or Landmark Tree Ordinance and the design review process to protect trees.

Policy OSRC-19g: Pursue grant funding for the preparation and updating of historic resource inventories.

Policy OSRC-19h: Designate the County Landmarks Commission to administer a preservation program for stabilization, rehabilitation, and restoration of historic structures.

Policy OSRC-19i: Develop a historic resources protection program that provides for an ongoing process of updating the inventory of historic resources. Such a program should include: (1) Periodic historic building surveys, (2) Formalized recognition of the inventory of historic resources as recommended by the State Office of Historic Preservation, including rezoning to the Historic Combining District (HD), and (3) Procedures for the protection of recognized historic resources for both ministerial and discretionary permits.

Policy OSRC-19j: Develop an archaeological and paleontological resource protection program that provides: (1) Guidelines for land uses and development on parcels identified as containing such resources, (2) Standard project review procedures for protection of such resources when discovered during excavation and site disturbance, and (3) Educational materials for the building industry and the general public on the identification and protection of such resources.

Policy OSRC-19k: Refer applications for discretionary permits to the Northwest Information Center to determine if the project site might contain archaeological or historical resources. If a site is likely to have these resources, require a field survey and preparation of an archaeological report containing the results of the survey and include mitigation measures if needed.

Policy OSRC-19l: If a project site is determined to contain Native American cultural resources, such as sacred sites, places, features, or objects, including historic or prehistoric ruins, burial grounds, cemeteries, and ceremonial sites, notify and offer to consult with the tribe or tribes that have been identified as having cultural ties and affiliation with that geographic area.

Policy OSRC-19m: Develop procedures for consulting with appropriate Native American tribes during the General Plan adoption and amendment process.

Policy OSRC-19n: Develop procedures for complying with the provisions of State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, if applicable, in the event of the discovery of a burial or suspected human bone. Develop procedures for consultation with the Most Likely Descendant as identified by the California Native American Heritage Commission, in the event that the remains are determined to be Native American.

Sonoma County Landmark Commission

This commission was established by the Board of Supervisors on April 23, 1974 under ordinance No. 1768, the same ordinance that provided the procedure for designation of Historic Structures (i.e., Historic Landmarks) and Historic Districts. The ordinance establishes that the Commission shall consist of one resident from each Supervisorial District, appointed by the Board of Supervisors. The duties of the Commission are, "To establish certain sites, buildings, etc., as historical landmarks; review development applications involving historic properties, grants program" (County of Sonoma 2018).

Cannabis Land Use Ordinance No. 6189 (2016)

The Board of Supervisors of Sonoma County adopted a Negative Declaration and amended text in Chapter 26 (Zoning Ordinance) of the Sonoma County Code to allow personal cultivation of cannabis and permit cultivation of commercial medical cannabis and support land uses in various zoning districts. Regarding cultural resources, the Ordinance (County of Sonoma 2016:16-17) states:

> *Section 9) Cultural and Historic Resources:* "Cultivation sites shall avoid impacts to significant cultural and historic resources by complying with the following standards. Sites located within a Historic District shall be subject to review by the Landmarks Commission, unless otherwise exempt, consistent with Section 26-68-020. Cultivation operations involving ground disturbing activities, including but not limited to, new structures, roads, water storage, trenching for utilities, water, wastewater, or drainage systems shall be subject to design review and referral to the Northwest Information Center and local tribes for consultation. A cultural resource survey and on-site monitor during ground disturbing activities may be required to demonstrate cultural and historic resources are protected.
>
> The following minimum standards shall apply to cultivation permits involving ground disturbance. All grading and building permits shall include the following plans:
>
> If paleontological resources or prehistoric, historic-period or tribal cultural resources are encountered during ground-disturbing work at the project location, all work in the immediate vicinity shall be halted and the operator must immediately notify the agency having jurisdiction of the find. The operator shall be responsible for the cost to have a qualified paleontologist, archaeologist and tribal cultural resource specialist under contract to evaluate the find and make recommendations in a report to the agency having jurisdiction.
>
> Paleontological resources include fossils of animals, plants or other organisms. Historic-period resources include backfilled privies, wells, and refuse pits; concrete, stone, or wood structural elements or foundations; and concentrations of metal glass, and ceramic refuse. Prehistoric and tribal cultural resources include obsidian and chert flaked-stone tools (e.g., projectile points, knives, choppers), midden (culturally darkened soil containing heat-affected rock, artifacts, animal bone, or shellfish remains), stone milling equipment, such as mortars and pestles, and

certain sites features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe.

If human remains are encountered, work in the immediate vicinity will stop and the operator shall notify the agency having jurisdiction and the Sonoma County Coroner immediately. At the same time, the operator shall be responsible for the cost to have a qualified archaeologist under contract to evaluate the discovery. If the human remains are determined to be of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification".

SETTING

This section provides an environmental setting (i.e., overview, geology and soils), and cultural (i.e., prehistoric, ethnohistoric and historic) overview of the Project's vicinity. Each setting provides the basis for understanding the significance, and/or the potential for encountering cultural resources that could be located within the Project Area.

ENVIRONMENTAL SETTING

The Project Area is located south of the unincorporated community of Schellville at 1495 Fremont Drive in Sonoma County; approximately 3.0 miles southeast of the city of Sonoma, 9.0 miles east of the city of Petaluma, and 8.5 miles southwest of the city of Napa. Situated only about nine feet above mean sea level (amsl), the parcel is located at the southern edge of Sonoma Valley, within an existing pasture field located north of an estuarine and marshland environment that lies immediately north of San Pablo Bay. In addition, the Project Area lies between two natural streams: Sonoma Creek to the west (0.55 miles) and Schell Creek to the east (0.50 miles). Vegetation within the Project Area includes annual and perennial, native and nonnative, grasses and forbs.

Geology

Located on the southern edge of Sonoma Valley, this area contains a narrow fault basin. The Sonoma Valley is located within the geologic region of California referred to as the Northern Coast Range Geomorphic Province, situated within the larger Coast Range Geomorphic Province (Harden 1998). The Coast Range province lies between the Pacific Ocean and Great Valley (Sacramento to San Joaquin valleys) provinces and stretches from the Oregon border to the Santa Ynez Mountains near Santa Barbra. The northern and southern Coast Ranges are separated by a depression containing the San Francisco Bay (California Department of Conservation 2002). The San Francisco Bay lies within a broad depression created from an east-west expansion between the San Andreas and Hayward fault systems (ESA 2009:4.M-1).

At least five regional geologic maps exist that cover the Project Area (Koenig 1963; Wagner and Bortugno 1982; Knudsen et al. 2000; Wagner et al. 2002; Graymer et al. 2006). Generally, these maps indicate the Project Area has a geology comprised largely of early Pleistocene to late Pleistocene undifferentiated alluvial deposits; recent (Holocene) Quaternary Alluvium; Holocene-aged Intertidal deposits (Peaty-mud); or older alluvium (near Pleistocene to Holocene interface) which fits with the Project Area's estuarine location and terrestrial landform.

Wagner and other's 2002 study focuses on the USGS 7.5-Minute Sears Point Quadrangle Map. Their 2002 map plots (from west to east along the proposed cultivation area) the latest Holocene stream terrace deposits. Silt, clay, peat, and fine sand deposited at or near sea level in San Pablo Bay (mapped as unit Qhbm); Latest Holocene stream terrace deposits. Stream terraces are deposited as point bar and overbank deposits by Sonoma Creek (mapped as unit Qhty); and unit Qof (Wagner et al. 2002). While no description of the Qof is given in map's legend, it is assumed to be late Pleistocene to Holocene alluvial fan deposits based on other geologic units used in the general mapping of California's geology.

Determining the geologic age of the landform on which the Project Area is located is important because most Holocene-age (post 11,800 calibrated years before present) landforms have the potential for buried sites because they formed when people occupied California (Meyer and Rosenthal 2007:15). Generally, dramatic changes in the landscape over the past 13,000 years (e.g., rising sea levels and increased sedimentation into streams and rivers) can result in many late Pleistocene and early Holocene land surfaces being overlain by thick deposits of alluvial soils that are generally less than 5,000-years-old and that have established an interface with an older land surface represented by a well-developed buried soil profile, or paleosol. Additionally, certain landforms such as alluvial fans, floodplains, and areas along rivers and streams, are more likely to contain buried sites:

> "At a general level, it is relatively easy to understand that buried sites will be located in or beneath Holocene-age depositional landforms. Predicting exactly where they will occur, however, is much more difficult. Buried archaeological potential can be conceptualized as a set of factors that either encouraged or discouraged human occupation of certain landforms (e.g., aspect, extent, setting, slope), and those factors that affected the subsequent preservation (i.e., erosion or burial) of those landforms" (Meyer and Rosenthal 2007:25).

Soils

An understanding of soils and their development is fundamental in archaeology because soils are an essential component in any environmental reconstruction as they can provide evidence of past human activity (Goldberg and Macphail 2006:42). Five soil-forming factors include: (1) climate, (2) organisms (including humans), (3) relief (topography), (4) parent rock, and (5) time (Jenny 1941). The formation of soils creates a vertical and horizontal distinction that creates a profile displaying the sequences, termed soil horizons, which lie horizontal to one another and parallel with the surface (Waters 1992:45). These horizons "reflect changes in mineralogy, texture, and chemistry usually caused by weathering" (Stein 2001:18), which together form a soil profile (Jones 2007:11).

Identification of certain soil types is important in geoarchaeology as the soils can inform the researcher how to reconstruct past environmental and climatic conditions (Rapp and Hill 2006:41). Many older land surfaces often contain buried soils (paleosols). Paleosols are soils that formed in the past but are not undergoing soil formation in the present. The paleosols soils represented in the soil stratigraphy are: 1) indicative of prolonged periods of land stability or past environmental conditions; 2) are useful stratigraphic markers for locating buried archeological deposits and are and are well represented in archaeological contexts and; 3) and aid in the correlation of depositional sequences of different areas (Meyer 2003; Rapp and Hill 2006). Additionally, landforms that exhibit clear evidence of soil formation are expected to have a higher potential for containing archaeological resources than deposits that lack evidence of soil formation because people are generally attracted to stable surfaces, which in turn retains the evidence of occupation (Scher 2012: 9). Deposits composed of sorted sand and gravel are expected

to have little potential for containing intact archaeological resources but may contain re-deposited material and may represent former stream channels that could be associated with prehistoric use (Meyer 2000:10).

Natural Resources Conservation Service

The current soils map provided the Natural Resources Conservation Service (NRCS) (Soils Survey Staff 2020) describes the soils within, and directly adjacent to, the Project Area as the Zamora silty clay loam (mapped as unit ZaA). Current soil maps can be found in Google Earth and at the Web Soil Survey website (Soil Survey Staff 2021). The following is a description of both series of soils:

> ***Zamora Series***: Zamora soils consist of very deep, well-drained soils that formed in alluvium from mixed rocks. Zamora soils occur on alluvial fans, stream terraces, and flood plains, with slopes ranging between 0 and 9 percent. Its taxonomic class is a fine-silty, mixed, superactive, thermic Mollix Haploxeralf. This series extends 60 inches below the surface and contains the following horizons: Ap, Bt1, Bt2, Bt3, and Bwk. Subordinate horizons include 'p' (indicating plowing) in the A horizon and 't' (accumulation of silicate clays), 'w' (development of color or structure), and 'k' (accumulation of carbonates) in the B horizons.

Importantly, no buried A horizons (paleosols; horizon Ab) are noted within the Zamora series (Soil Survey Staff 2021).

CULTURAL SETTING

Three elements of the cultural setting for the Project Area are important to understanding the cultural resources that might be present: Prehistoric, Ethnohistoric, and Historic periods. The prehistoric overview covers the era prior to sustained European contact, while the historic period overview covers the time after that contact. The ethnohistoric overview covers the overlap between the two, presenting information regarding the Native American inhabitants of the region, as understood through historical accounts and information given to anthropologists by California Native Americans. The Following Sections are excerpted from Beck (2011), Browning (2018) and Mick's (2020) cultural resource studies within the region.

Prehistoric & Archaeological Overview

The prehistory of northern California is believed to date about 12,000 years before present (BP), around the time of the terminal Pleistocene. Although few archaeological sites demonstrate evidence of human occupation during the late Pleistocene and early Holocene (11,500–8000 B.P.), this is likely a product of the archaeological record itself rather than lack of human use of this area. The Paleo-Archaic-Emergent cultural sequence developed by Fredrickson (1973, 1974) is commonly used to interpret the cultural patterns of the North Coast Ranges in California, which include the area of Sonoma County. These time periods are further defined by spatial and cultural units called Patterns, Phases, and Aspects (Fredrickson 1973, 1974). Fredrickson (1989) defined Aspects specific to the Santa Rosa Plain, and these include the Spring Lake Aspect of the Borax Lake Pattern in the Lower Archaic Period, the Black Hills Aspect of the Mendocino Pattern in the Middle Archaic Period, the Laguna Aspect of the Berkeley Pattern in the Upper Archaic Period, and the Rincon and Gables Aspects of the Augustine Pattern in the Emergent Period. Using

radiocarbon determinations (e.g., Groza 2002; LaJeunesse and Pryor 1996; Meyer and Rosenthal 1997), the sequence is broken into three broad periods: the Paleo-Indian period (11,550 to 8550 B.C.); the three-staged Archaic period, consisting of the Lower Archaic (8550 to 5550 B.C.), Middle Archaic (5550 to 550 B.C.), and Upper Archaic (550 B.C. to 1100 A.D.); and the Emergent period (A.D. 1100 to 1769).

Several prehistoric archaeological sites excavated in north-central and south-central Sonoma County provide a chronology of occupation dating from the Paleo-Indian Period until Euro-American contact. In north-central Sonoma County, Basgall (1993) analyzed archaeological data from several sites from the Warm Springs Creek locality and identified three phases of Native American occupation of the area. The oldest occupation from the Warm Springs locality is the Skaggs phase (ca. 5000-2500 B.P.), possibly representing early Yukian settlement and use of the area. Skaggs phase sites include large concave base and “Willits” side-notched projectile points and mano and metates. The Dry Creek phase (ca. 2500-900 B.P.) represents possible Pomoan intrusion into north-central Sonoma County (cf. Stewart 1993) and includes shouldered lanceolate and leaf shaped projectile points and mortars and pestles. Smith phase (900-100 B.P.) sites represent a fluorescence of Pomoan society and include small corner notched arrow points, continued use of mortars and pestles, clam shell disk and glass trade beads. In south-central Sonoma County tentative evidence exists for Native American use of the Laguna de Santa Rosa northwest of Rohnert Park during the Paleo-Indian period (pre-8000 B.P) and near Spring Lake in Santa Rosa during the Lower Archaic period (8000-4500 B.P.) (Jones and Hayes 1993).

The Paleo-Indian Period (11,550 to 8550 B.C.): began with the first entry of people into California. These people probably subsisted mainly on big game, minimally processed plant foods, and had few or no trade networks. Sonoma County was inhabited during the Paleo-Indian Period, as indicated by the presence of fluted projectile points and chipped stone crescents that have been found in a few archaeological sites located in Sonoma County near the Laguna de Santa Rosa, Bodega Bay, and Warm Springs Creek dam, as well as in the neighboring Mendocino and Lake counties. Based on limited archaeological evidence from this period, it appears populations within and surrounding Sonoma County consisted of small, highly mobile groups that practiced broad-spectrum hunting and gathering techniques. Research conducted by Jones and Hayes (1989, 1993) indicates that Paleo-Indian forgers in the Santa Rosa and Sebastopol areas focused on resources located near lakes, wetlands, and riparian zones during this time.

The Lower Archaic Period (8550 to 5550 B.C.): milling stones appear in abundance and hunting is less important than plant foods. Artifacts are made predominately from local materials, suggesting that few if any extensive trade networks were established at this time. Several sites in Sonoma County date to the Lower Archaic Period and contain artifacts consistent with a mobile hunting and gathering economy. Mobile foragers appeared to have resided in camps situated along marshes and on grasslands and utilized the surrounding uplands to acquire a wide array of food resources available in those areas on a seasonal basis. The types of artifacts that are found in archaeological sites dating to this period include large, wide-stemmed projectile points, cobble tools, handstones, and milling slabs. These artifacts are characteristic of the Borax Lake Pattern, a distinctive cultural pattern recognized throughout much of the North Coast Ranges during this time. In Sonoma County, the Borax Lake Pattern is recognized by the Spring Lake Aspect, specifically at sites located in Santa Rosa and Duncan's Landing on the Sonoma Coast. A pre-contact archaeological site located in the Rincon Valley area of Santa Rosa, known as CA-SON-20, is the "type site" for the Spring Lake Aspect. This site dates to 6300 B.C. and contains artifacts such as wide-stemmed points, milling slabs and handstones (Wickstrom and Fredrickson 1989).

The Middle Archaic Period (5550 to 550 B.C.): subsistence base begins to expand and diversify during the Middle Archaic with a developing acorn economy, as evidenced by the mortar and pestle, and the growing importance of hunting. As in the Lower Archaic period, mobile foragers on the Santa Rosa Plain during the Middle Archaic Period resided in camps situated along marshes and on grasslands and utilized the surrounding uplands to hunt and gather a wide array of plant and animal resources available in those areas on a seasonal basis. During this period, the Borax Lake Pattern was replaced by the Mendocino Pattern, characterized by groups practicing a more localized foraging strategy. Mendocino Pattern sites are well-represented on the Santa Rosa Plain. According to Fredrickson (1989), there was overlapping use of the Laguna de Santa Rosa area by both mobile foragers (Black Hills Phase of the Mendocino Pattern) and collectors (Laguna Phase of the Berkeley Pattern) between 1500 B.C. and A.D. 1. By 1000 B.C., it is thought that Berkeley Pattern groups, who were more sedentary and practiced a collecting economic strategy, began to spread into the Santa Rosa Plain while mobile Mendocino Pattern foragers focused on the surrounding uplands.

The Middle Archaic Period was also marked by new ground stone technology, as well as an increase in trade, which is evident by cut marine shell (*Olivella* sp.) beads, often found in association with burials. Formalized exchange relationships appear to have been established in the flake stone industry as well, which is indicated by a greater amount of obsidian originating from sources in Napa Valley rather than the locally available obsidian source at Annadel in Santa Rosa. Furthermore, mortars and pestles first appear in sites dating to this period, and this is thought to signal an increased dietary reliance on acorns rather than hard seeds, and a concomitant increase in sedentism.

The Middle Archaic Period was also marked by significant climatic changes during which warmer and drier conditions led to the reduction of lake basins in southern California, and across California there is a general decrease in the number of sites. This is thought to be the result of a reduced population during this time; however, it is suggested that the paucity of sites may not be due to a decrease in population, but rather may related to a period of increased alluvial deposition that buried many former living surfaces that date to this period (Meyer and Rosenthal 2007; Milliken et al. 2007).

Upper Archaic Period (550 B.C. to 1100 A.D.): status and wealth distinctions are evidenced in the Upper Archaic archaeological record; regional exchange networks are well established at this time with goods and ideas such as Kuksu ceremonial practices involving spirit impersonations. The Upper Archaic Period was characterized by cooler conditions accompanied by increased precipitation in northern and central California, which likely resulted in more favorable conditions for human occupation. Sites dating to this period demonstrate marked differences in their constituents relative to Borax Lake Pattern sites of the Middle Archaic Period. These new occupations are ascribed to the Berkeley Pattern, which appears to have originated in the Clear Lake area during the Lower Archaic Period. Although firm dating for the end of the Borax Lake Pattern is lacking, it is believed to have been replaced by the Berkeley Pattern (possibly representing Miwokan influence) about 500 B.C. (Moratto 1984:517). Berkeley Pattern sites are characterized by a higher degree of sedentism, a highly developed bone tool industry, numerous mortars and pestles that further imply a greater reliance on acorns, and tightly flexed burials with few to no associated artifacts or preference toward orientation. When present, associated burial artifacts typically include *Olivella* saddle and saucer beads and *Haliotis* pendants (Milliken et al. 2007). The Berkeley Pattern is represented at archaeological sites in Sonoma County and the neighboring Napa and Lake counties.

Emergent Period (A.D. 1100 to 1769): While A.D. 500 is marked as the beginning of the Lower Emergent Period, more recent work suggests the beginning of the Lower Emergent Period may not have occurred until around A.D. 1000. The Emergent Period is thought to be associated with a new level of sedentism, status ascription, ceremonial integration, and regional trade, as indicated by the presence of finished artifacts and food remains that could not be obtained locally; and this is referred to as the Augustine Pattern. There appears to have been a diversity of socioeconomic strategies associated with Augustine Pattern sites in the North Bay, with some sites revealing a continuance of sedentary systems initiated by the Berkeley Pattern and others apparently resulting from mobile foraging adaptations.

The North Bay became the "seat of innovation" during the Upper Emergent Period, as new ornament forms and technologies emerged, such as the bow and arrow, toggle harpoon, hopper mortar, clamshell disk beads, and steatite and magnesite beads and tubes (Milliken et al. 2007). This period was marked by wide-ranging changes in *Olivella* bead forms and their distribution. The *Olivella* saucer bead trade network appears to have collapsed suddenly between A.D. 430 and 1050, and *Olivella* saucer bead industry was replaced by more regionally-integrated shell bead forms, such as *Olivella* wall beads and clamshell disk beads. This change possibly indicates an increased importance of communicating identity, status and cultural affiliation within an increasingly populated region. The manufacture of clamshell disk beads seems to have centered primarily on the Santa Rosa Plain and within the Napa Valley. These type beads were used as exchange currency with a standardized value. The burial practice of cremation was also introduced in the North Bay during this time (Milliken et al. 2007). These shifts in technology, artifact types and mortuary practices, which for the most part spread throughout the San Francisco Bay Area from north to south, appear to indicate that another upward cycle of regional integration took place during this period; however, this cycle ended when the Russians and Spanish began to settle the region.

Ethnohistoric Overview

The Project Area is located within the ethnographic territory of the Coast Miwok who, prior to European settlement, occupied an area that includes modern day Marin County and southern Sonoma County (Barrett 1908; Kelly 1978; Golla 2011). According to ethnographer S.A. Barrett (1908:Map 1) and Alfred Kroeber (1925:Plate 36) the Project Area is near the eastern divide between Coast Miwok and Wintun (River Patwin) territory.

The Coast Miwok have been divided into two groups, each speaking a distinct dialect. These include the Southern Marin Miwok, or *Hookooeko* tribe who spoke the Southern Marin dialect with some linguistic differences between valley and coastal peoples (Kelly 1978:414); whose territory included the Project Area; and the Western-Bodega Miwok (*Olamentko*). Merriam (1907) proposed a third group from the northern area of Southern Marin Valley known as the *Lekahtewutko.*

Due to the diverse supply of resources throughout this region, the Coast Miwok were well suited to an economy based on hunting, fishing and the gathering of acorns and shellfish (Kelly 1978:415). They were adept at harvesting resources within wetland and coastal environments in particular, as plants that thrive in wetlands and shellfish from the ocean and bays were a prime source of food. The Coast Miwok used dip nets and spears to catch salmon and steelhead within local rivers, such as Salmon Creek and the Russian River, as well as bow and arrows fitted with obsidian points that were used to hunt small and large animals. Along with acorns, which were ground down and leached to make mush or bread, the Coast Miwok also utilized the buckeye fruit, the pepperwood fruit, and a variety of greens. Shellfish was an

important source of food and material, and intense collecting of shellfish led to the formation of shell deposits known as midden heaps, mounds, or scatters, which are now the primary remains of most prehistoric sites near the coast and bay (Kelly 1978:417-418).

The Coast Miwok lived in conical structures that were small and made from two forked and interlocking poles, onto which additional poles were lashed, to form a cone shaped frame that was covered by grass (Kelly 1978:417). Approximately six to ten people would reside in one of these structures. Larger villages also often contained a large, circular, semi-subterranean sweathouse that was dug four feet into the ground and covered with a frame of poles topped with grass, and a ceremonial house that was built in the same manner as the sweathouse.

Tools were made from locally obtained materials including chert, obsidian, basalt, bone, antler, wood and various types of plants. Beads and pendants were manufactured from locally obtained shell and include clamshell disc beads (used as money), *Olivella* beads and abalone shell pendants. The shell of one species of clam was said by the Indians to be found nowhere else along the coast and furnished the material for the white clamshell beads found throughout the entire region (Barrett 1908:304). Clothing was minimal and based on seasonal weather. Women wore a double apron made of deerskin and men wore a similar type of loincloth.

Basket production was important to the Coast Miwok. Baskets were used for portage, storage, and cooking containers, as well as for seed beating, winnowing, and as hoppers for groundstone mortars. The Coast Miwok also traded for venison, medicinal plants, yellow paint, and turtles (Kelly 1978:419).

Although European contact with the Coast Miwok occurred as early as 1579 when Francis Drake stopped to repair the *Golden Hind* somewhere in the Point Reyes vicinity, contact with Europeans in the vicinity of Bodega Bay did not occur until 1775 when Peruvian explorer Juan Francisco de la Bodega y Quadra, a distinguished Lieutenant in the Spanish navy and for whom Bodega was named, entered and explored the bay on his return trip from the northwest coast in vessel called the *Sonora*. European occupation first occurred for a short period in 1793 by a Spanish garrison, then in 1804 by Ivan Kuskov, an employee of the Russian-American Company who was sent south from Alaska to locate a suitable site for a planned Russian settlement. The population of the Western Miwok dwindled significantly in the nineteenth century as a result of missionization, European-introduced diseases, such as smallpox, for which they had no immunity, as well as settlement of the area that resulted in tribal land being confiscated for lumbering, dairying, and agriculture purposes. By 1870 there were as few as seventeen Indians living in the Bodega area (Thompson 1877:95), and by 1908 the Western (Bodega) Miwok consisted of only four or five individuals who occupied an old village site at the mouth of the Russian River (Barrett 1908:304).

Presently, the Coast Miwok and Southern Pomo form the Graton Rancheria community; a federation of the Coast Miwok and Southern Pomo groups recognized by the U.S. congress. The original Graton Rancheria is located in Sebastopol and is a 15.5-acre tract of land established by the federal government in the 1920s. In 1958, congress passed the California Rancheria Act that terminated California Rancherias, including Graton; the land was removed from federal trust and the land was distributed to three residents as private property; this action terminated the federal recognition of the Tribe. The Tribe regained their federal recognition status in 2000, and in 2005 the Tribe purchased about 254 acres of land for its reservation just outside Rohnert Park. In 2013, the Tribe opened the Graton Resort and Casino and is able to provide programs and services to Tribal citizens (Federated Indians of Graton Rancheria 2018).

Historic Overview

The European presence began on California's north coast with the brief visits of Juan Rodriguez Cabrillo in 1542, Sir Francis Drake in 1579, Sebastian Rodriguez Cermeno in 1595 and Sebastian Viscaino in 1603 (Smirnoff 1998:47). One of the first Euro-American expeditions to explore the areas of present-day Sonoma County was a Spanish expedition led by Lieutenant Juan Francisco de la Bodega y Quadra in 1775, when his ship the *Sonora* touched the bay. The first trip inland into Sonoma was likely in 1776 by Captain Quiros who ventured from San Francisco into Petaluma Creek and its associated tributaries (Alley Bowen & Co. 1880:39). Russian expeditions began to visit Bodega between 1808 and 1811, and Fort Ross was established by 1812 as a fur-hunting post. The Russians settled the area in the name of their employer, the Russian American Company, in which the tsar and his family owned stock (Smirnoff 2009:49). The Russians built ports, ranches and farms which ranged across an area that extended approximately 55 miles south of the fort and extended out to the Farallon Islands (Lightfoot 1991:12, Lightfoot 2005:5); the goal of these settlers was to bring back trade goods of otter pelts to Russia, and to provide food to Russia's forts in Alaska that could not sustain themselves due to hostile environmental conditions (Smirnoff 2009:49). The Russian's employed the Kashaya Porno and native laborers from Alaska and Hawaii as hunters, agricultural laborers, shipbuilder and aided the Russians with duties around the fort and within the fort's residences (Ballard 1997:123, Lightfoot et al. 1991:3-5, 15-18, Lightfoot 2005).

When Mexico gained independence from Spain in 1821, the Mexican government assumed control of California. The formal formation of the Mexican republic in 1824 marked the first broad invasion into Southern Pomo and Coast Miwok lands. The Spanish constructed the Mission San Francisco Solano in Sonoma on July 4th, 1823, with the intent of slowing down the spread of Russian presence in the area. Being the 21st Mission established in California, it was to be the last constructed, and northernmost, of all the Missions. Beginning in 1834, mission lands were parceled out in the form of *ranchos* and awarded to prestigious Mexican citizens, known as *Californios*. The *ranchos* represent the first settlement of the region. There were 27 Mexican Land Grants located in what became Sonoma County (Beck and Haase 1974:29). The Project Area is located in portions of the 18,704-acre *Huichica* Land Grant (Beck and Hasse 1974:29). Two leagues of this tract were granted to Jacob P. Leese by Governor Manuel Jimeno in 1841, and three-and-a-half extension was granted to him by Governor Manuel Micheltorena three years later (Gregory 1911:133). The Pueblo Lands of Sonoma's southern boundary is located about 170-feet north of the Project Area.

Following the end of the Mexican-American War in 1848, Mexico ceded California to the United States as part of the Treaty of Guadalupe Hidalgo; the Compromise of 1850 officially admitted California into the United States as an undivided free state. Discovery of gold in 1849 caused an influx of settlers hoping to strike rich in California. On February 18, 1850, California became a State of the Union and 27 counties were created; one of these was Sonoma County. Significant growth of settlers in northern Sonoma County began around 1860 as timber harvesting and agriculture became the prime industry.

While cattle ranching originally dominated economic activity in Sonoma County, a shift occurred in the 1860s from cattle ranching to sheep herding. A primary reason for the shift was the Civil War and a demand for wool for military uniforms. The demand for wool continued, and Sonoma County became one of the country's leading wool producers. In addition, dairy ranching, poultry, and agriculture grew in the county. Indeed, Petaluma became a center for poultry production, and crops such as potatoes, grains,

wine grapes, hops, apples, plums, and prunes were also grown in the county. Hops were especially well-suited to the alluvial plains and terraces along the Russian River, the Laguna de Santa Rosa, and on the Santa Rosa Plain. The success of hops coincided with a drop in wheat prices, and most grain farmers with the right soils and climate switched to the new crop. By 1890, hops were the leading field crop in the county, and the Santa Rosa area became known as the nation's hop capital (LeBaron et al. 1985).

At the end of the nineteenth and beginning of the twentieth century, viticulture expanded in Sonoma County and became an important part of the agricultural economy of the area. However, Prohibition resulted in the collapse of the California wine industry. A few viticulturists survived by producing limited amounts of wine for medicinal, sacramental, or cooking purposes. These individuals devised creative ways to continue to produce and sell their wine. For example, winemaking, which was still legal if a family annually produced 200 gallons or fewer, continued in individual households, and local doctors prescribed wine to cure ills. Regardless, Prohibition stifled the wine industry in California, and it did not recover until the 1950s. Since that time, the recovery of the regional wine industry has been dramatic, with wine production and tourism steadily increasing in Sonoma County and surrounding regions. The industry would not fully recover until the 1970s, when the reputation of Sonoma County wines began to spread throughout the nation and the world. Today, Sonoma County is known for its vineyards and premier wines.

Schellville

Schellville is one of Sonoma County's oldest communities and was once a transfer point for freight and passengers moving to and from San Francisco by barge, schooner or streamer (Wells 1969). Originally, Schellville was called 'St. Louis' or 'Embarcadero' by early American settlers; the name St. Louis was given in honor of the city on the Mississippi with hope this port in Sonoma would rival its namesake. The advent of the railroads eventually eliminated the water commerce.

During 1878 and 1879, the Sonoma Valley Railroad was acquired by the San Francisco and North Pacific Railway Company. The Northwestern Pacific Railroad named their station there before 1888 after Theodore L. Schell, who owned 160 acres of land there in the 1850s and was active as a merchant in Sonoma and San Francisco (Gudde and Bright 1998: 353). In the 1880s, the Southern Pacific Railroad decided to build the Santa Rosa and Carquinez Railroad; they created a station at Schellville by 1888. Schellville remained an important railroad junction that connected the Northwestern Pacific and the Southern Pacific well into the late 20th century (Wells 1969).

BACKGROUND RESEARCH

CRP cultural resource specialists conducted a desktop cultural resource assessment of the study area. This background research included obtaining information concerning previously conducted cultural resource surveys and previously recorded sites in the Project Area, as well as examining historical maps, aerials, and land patents, and a review of geoarchaeological reports and geologic and soils data to determine the potential for buried archaeological resources.

CHRIS RECORD SEARCH

Methods

On January 4th, 2021, Lisa Hagel, staff researcher at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS), conducted a cultural resources record search for the Project at the NWIC on behalf of CRP (NWIC File No.: 20-1126). The purpose of this record search was to obtain and review previous cultural resource records, cultural resource studies, and any additional documentation pertaining to listed or potentially eligible historical resources or unique archaeological resources located within at least a one-quarter (0.25) mile radius from the proposed cultivation area located at 1495 Fremont Drive, Sonoma (APN 128-444-002); this includes any recorded cultural resources and studies within the proposed cultivation area. The following lists and databases were also reviewed:

- The Information Center Database (ICDB)
- Office of Historic Preservation Built Environment Resource Directory (BERD) for Sonoma County, CA (dated March 3rd, 2020)
    - The BERD was originally released by the California Office of Historic Preservation's (OHP) in January of 2020, and re-released in March 2020. This directory contains updated information previously found within the Historic Properties Directory (HPD). The HPD is now considered obsolete, however it is currently still being used for reference. The BERD contains information regarding built environment cultural resources that are included in the OHP Tracking and Inventory System (OTIS). The resources were submitted to the Office of Historic Preservation through one of its programs (Registration, Review and Compliance, Local Government Surveys, Architectural Review, etc.).
- Office of Historic Preservation (OHP) Directory of Properties in the Historic Property Data File for Sonoma County, CA (dated 4/5/2012)
- National Register of Historic Places (NRHP)
- California Register of Historical Resources (CRHR)
- California Inventory of Historic Resources (1976)
- California Historical Landmarks (1990)
- California Points of Historical Interest (1992)
- Caltrans Historic Bridge Inventory and GIS Database
- Local Government Listings and Directories

Results

According to files obtained from the NWIC, the proposed cultivation area has had two previously conducted cultural resources surveys performed within its boundaries (S-046942 / Painter 2015 and S-006989 / Stewart 1984); both studies were negative for cultural resources within the Project Area and its associated parcel. An additional 11 studies and 17 sub-studies have been conducted within a ¼ to ½ -mile radius of the Project Area. While no previously recorded cultural resources are on file at the NWIC within

the Project Area or its associated parcel (APN 128-444-002), three recorded cultural resources are located within a 1/4 to 1/2-mile radius:

- **CA-SON-223 / P-49-00195):** is a prehistoric-era shellmound habitation site located about 0.42-miles northeast of the Project Area. The site was first recorded by Nels Nelson in 1907; updated site records occurred in 1990 (Dondero and Schulte), 1995 (Gmoser and others), 2000 (Jones and Stokes), and 2005 (Douglas; Origer). As of December 2020, Extended Phase 1 and Phase 2 CRHR evaluation testing are being planned for a PG&E project along the Caltrans' right-of-way of State Route 12 that might impact the southern portion of the site (Stantec, personal communication, December 2020).

  The site contains shell midden, obsidian chert debitage, obsidian tools, animal faunal remains, fire-altered rock, one possible human bone, and at least one Late Period Phase 2/early historic bead. The bead and obsidian cobbles present at the site strongly suggest a Late Period and possibly early historic component, but it is likely that a mound of this size and in a preferred location would also include older components.

- **P-49-002896 (C-Sears Point 3 / Santa Rosa & Carquinez Railroad):** consists of the defunct segment of the Santa Rosa & Carquinez Railroad (built circa 1887) and is located about 0.45-miles northeast of the Project Area. Originally recorded in 2000 (Davis) and updated in 2005 (Douglas), this resource does not appear to have been evaluated for local, state or federal registers.

- **CA-SON-002322H / P-49-002834 (Northwestern Pacific Railroad):** this historic-segment of railroad is located about 0.25 miles northeast and 0.20 miles southeast of the Project Area and bounds the eastern edge of the Project's parcel. This segment was recorded in 2013 by Starke and Thomas and does not appear to have been evaluated for local, state, or federal registers. This segment was "constructed between 1878 and 1880 as part of the narrow gauge Sonoma Valley Railroad. The NWP main line is 271 miles long and runs between Schellville and Eureka. The recorded segment consists of a 320-foot-long set of three parallel standard-gauge rails" (Strake and Thomas 2013). No associated historic-era features or artifacts were observed during the 2013 site recording.

Tables 1 through 4 below, and Appendix A, Figure 4: CHRIS Records Search Results Maps provide spatial and summary information for the CHRIS record search results.

Table 1. NWIC Results: Cultural Resource Studies

NWIC Report No.	Year	Study	Author(s)	Study within Project Area or Parcel?
S-000278	1976	Archaeological Assessment of the Sonoma Valley Reclamation Project, Sonoma County, California	Nancy L. French and David A. Fredrickson	No
S-002598	1981	An Archaeological Investigation of the Sebastiani Properties at Schellville, Sonoma County, California	Foley C. Benson	No
S-006969	1984	An Amended Cultural Resources Study for the Sonoma Valley County Sanitation District Partial Reclamation Project near Schellville, Sonoma County, California	Suzanne B. Stewart	Yes

Table 1. NWIC Results: Cultural Resource Studies				
NWIC Report No.	**Year**	**Study**	**Author(s)**	**Study within Project Area or Parcel?**
S-007364	1985	Supplemental Archaeological Survey for the Proposed Sonoma Valley CSD Wastewater Reclamation Project, Sonoma Valley, Sonoma County, California (letter report)	James P. Quinn	No
S-009467	1987	An Archaeological Study of the Mulas Property at 2034 Fremont Drive, Sonoma, near Schellville, Sonoma County, California	Michael Jablonowski	No
S-012038	1992	Historic Property Survey Report for the Proposed Roadway Reconstruction of Route 121 near the Town of Schellville, Sonoma County, 04-SON-125, P.M. 0.0/5.5, 04336-12980K	Unknown (Caltrans District 4)	No
S-012038a	1990	Archaeological Survey Report for a Portion of Route 121, from Sears Point to Near Schellville, Sonoma County, California, 04-SON-121, P.M. 0.0/9.2 04-12980G	Steven B. Dondero	No
S-012038b	1991	Historic Architectural Survey Report for the Proposed Roadway Reconstruction of Route 121 near the Town of Schellville, Sonoma County, 04-SON-121, P.M. 0.0/5.5, 04336-12980K	Elizabeth McKee	No
S-012038c	1995	First Addendum Archaeological Survey Report for a Portion of Route 121 near Schellville, Sonoma County, California, 04-SON-121 PM 0.0/0.3, EA 129801, from Route 37 to just North of the Tolay Creek Bridge	Katherine M. Dowdall	No
S-022736	2000	Final Cultural Resources Inventory Report for Williams Communications, Inc., Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California: Volume I	Unknown (Jones & Stokes Associates, Inc.)	No
S-022736a	2000	Volume II – Project Maps: Final Cultural Resources Inventory Map Atlas for the Williams Communications, Inc. Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California	Unknown (Jones & Stokes Associates, Inc.)	No
S-022736b	2000	Volume III, Technical Appendices: Final Cultural Resources Inventory Map Atlas for the Williams Communications, Inc. Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California	Unknown (Jones & Stokes Associates, Inc.)	No
S-033061	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	Nancy Sikes, Cindy Arrington, Bryon Bass, Chris Corey, Kevin Hunt, Steve O'Neil, Catherine Pruett, Tony Sawyer, Michael Tuma, Leslie Wagner, and Alex Wesson	No
S-033061b	2007	Final Report of Monitoring and Findings for the Qwest Network Construction Project (letter report)	Nancy E. Sikes	No

Table 1. NWIC Results: Cultural Resource Studies				
NWIC Report No.	**Year**	**Study**	**Author(s)**	**Study within Project Area or Parcel?**
S-034894	2007	A Cultural Resources Survey for a Development Project at 1901 Fremont Drive (State Route 121), Sonoma County, California	Eileen Steen and Thomas M. Origer	No
S-039171	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program: Marin, Sonoma, and Napa Counties, Cultural Resources Survey Report	Heidi Koenig and Brad Brewster	No
S-039171a	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program; Marin, Sonoma, and Napa Counties: Archaeological Extended Phase I Report	Heidi Koenig	No
S-039171b	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin County, Olive Avenue, Archaeological Monitoring Plan and Results, North Marin Water District Service Area	Heidi Koenig	No
S-039171c	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties: Addendum Cultural Resources Survey Report: SVCSD Service Area-Watmaugh Road Alignment	Heidi Koenig	No
S-039171d	2007	Results of the Cultural Resources Survey for the Sonoma Valley County Sanitation District Sewer Trunk Main Replacement Project from Watmaugh East Road to Wastewater Treatment Facility	Dean Martorana	No
S-039171e	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, Addendum Cultural Resources Survey Report LGVSD Service Area – Reservoir Hill Tank Updated Area of Potential Effects and Reservoir Hill Tank Overflow Line	Heidi Koenig	No
S-039171f	2012	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, Draft Addendum Cultural Resources Survey Report, Sonoma Valley County Sanitation District Service Area, McGill Road Alignment	Heidi Koenig	No
S-039171g	2013	North Bay Water Reuse Authority; North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties Addendum Cultural Resources Survey Report, SVCSD Service Area – Phase I Modifications, Bureau of Reclamation 09-CCAO-132.9	Heidi Koenig	No
S-039171h	2016	COE File Number 2015-0374-N: Section 106 Consultation for the Recycled Water Pipeline Installation Project at Sonoma Valley Wastewater Treatment Plant, Sonoma County	Tori White, Anmarie Medin, and Julianne Polanco	No
S-039171i	2015	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, North Marin Water District Central Service Area, Final Addendum Cultural Resources Survey Report, California	Heidi Koenig	No

Table 1. NWIC Results: Cultural Resource Studies				
NWIC Report No.	**Year**	**Study**	**Author(s)**	**Study within Project Area or Parcel?**
S-039171j	2015	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, North Marin Water District Central Service Area, Final Archaeological Extended Phase 1 Report, California	Heidi Koenig	No
S-039171k	2015	BUR_2015_1109_005; National Historic Preservation Act (NHPA) Section 106 Consultation for the North Bay Water Recycling Program, Marin, Sonoma and Napa Counties, CA (Project #09-CCAO-132.10)	Julianne Polanco, Scott Williams, Alicia C. Perez, and Anastasia T. Leigh	No
S-043823	2003	Cultural Resources Inventory and Evaluation Report for Napa River Salt Marsh Restoration Project, Napa and Sonoma Counties, California	Unknown (Jones & Stokes)	No
S-046406	2013	Cultural Resources Study of the PG&E Hydrostatic Test Segment T-220-13, on Line 21B, Sonoma County, California	Jennifer Thomas and Naomi Scher	No
S-046942	2015	Sonoma League for Historic Preservation Survey Update (Sonoma Valley Survey Update), Sonoma County, California	Diana J. Painter	Yes

Table 2. NWIC Results: Previously Recorded Cultural Resources				
CHRIS Resource I.D.	**Cultural/Temporal Affiliation & Resource Attributes**	**NRHP Status Code**	**In Project Area?**	**Distance form Project Area?**
P-49-000195 / CA-SON-000223 / Nelson No. 223	Prehistoric: AP02 (Lithic scatter); AP09 (Burials); AP15 (Habitation debris)	--	No	0.42 miles northeast
P-49-002834 / CA-SON-002322H / Northwestern Pacific Railroad	Historic: AH02 (Foundations); AH04 (Privy pits/trash scatters/dumps); AH07 (Road/trail/railroad bed); AH15 (Standing structure); HP11 (Engineering Structure); HP17 (Railroad Depot); HP19 (Bridge); HP39 (Other)	--	No	0.25 miles northeast and 0.20 miles east
P-49-002896 / C-Sears Point-3	Historic: AH07 (Road/trail/railroad bed); HP11 (Engineering Structure)	--	No	0.45 miles northeast

Table 3. BERD Listed Recorded Properties							
Primary Number	**OTIS ID**	**Property No.**	**Name**	**Address**	**Evaluation Information**	**Construction Year(s)**	**In Project Area or Parcel?**
--	407402	4437	Schellville Depot	8th Street (East), Sonoma, CA	3S, , 5476-0323-0000	1879	No; 0.25 miles northeast
--	407371	4406	Karavarti Incorporated	22725 8th Street East, Sonoma, CA	3S, 5476-0292-0000	1890	No; 0.36 miles north

Table 3. BERD Listed Recorded Properties							
Primary Number	**OTIS ID**	**Property No.**	**Name**	**Address**	**Evaluation Information**	**Construction Year(s)**	**In Project Area or Parcel?**
--	492510	96123	Schell-Vista Fire Station	23000 Broadway, Sonoma, CA	6J, 04/17/1995, DSA-49-SPS-3175	1962	No; 0.42 miles northwest
--	407403	4438	--	23160 Millerick Road	7N, , 5476-0324-0000	1920	No; 0.41 miles southwest
--	407429	4464	Bridge #20-23 (or 20 0023)	State Route 121, Sonoma, California	7R, , 5476-0350-0000	1923	No; 0.36 miles northwest
--	407430	4465	Bridge #20-121 (or 20 0121)	State Route 121, Sonoma, California	7R, , 5476-0351-0000	1922	No; 0.47 miles northeast

Table 4. Historical Resources within 1/2-Mile Radius					
Source	**Resource**	**Resource Description**	**Distance**	**District**	
				Y	**N**
NRHP	N/A	-	-	-	-
CRHR	N/A	-	-	-	-
CHL	N/A	-	-	-	-
CPHI	N/A	-	-	-	-
BERD	See Table 3	-	-	-	-
Local	Embarcadero-St. Louis	Historical marker	0.47 miles northwest		X

DESKTOP REVIEW

Methods

In addition to conducting a record search at the NWIC, CRP also reviewed a variety of historical maps, aerials and literature ranging in date from 1866 to 1968 to determine past land use activities within the Project Area and its associated parcel (APN 128-444-002) that could indicate the likelihood of encountering cultural resources. Additional maps and aerial images from 1982 to 2020 were also reviewed. The following historical maps, aerials and literature were reviewed (listed in chronological order):

- 1866/1867 Map of Sonoma County, California (Bowers)
- 1874 Hand-Book and Directory of Napa, Lake, Sonoma and Mendocino Counties; Including a Map of Each County (Paulson)
- 1877 Historical Atlas Map of Sonoma County, CA (Thompson)

- 1877 Historical and Descriptive Sketch of Sonoma County, Cal (Thompson)
- 1880 United States General Land Office (GLO) Plat Map of Township 5 North, Range 5 West; Mount Diablo Base and Meridian (MDBM)
- 1880 History of Sonoma County (Munro-Fraser)
- 1890 United States General Land Office (GLO) Diagram of Township 5 North, Range 5 West; Mount Diablo Base and Meridian (MDBM)
- 1898 Illustrated Atlas of Sonoma County (Reynolds & Proctor)
- 1900 Official Map of Sonoma County, California (Ricksecker and Walkup)
- 1902 Napa, CA 30-Minute Topographic Quadrangle Map (USGS)
- 1908 Official Map of Sonoma County, California (McIntire & Lewis)
- 1916 Mare Island, CA 15-Minute Topographic Quadrangle Map (USGS)
- 1948 Aerial Image (NETRonline)
- 1951 (photorevised 1968) Sears Point 7.5-Minute Topographic Quadrangle Map (USGS)
- 1952 Aerial Imagery: Flight CSH-1953; Frame 7K-89 (Regents of University of California 2012)
- 1965 Aerial Imagery: Flight CAS-65-130; Frame 64-3 (Regents of University of California 2012)
- 1993 through 2020 Aerial Images (Google Earth)

Results

The desktop review indicates that the Project Area and its subject parcel are near the rural community of Schellville, which has been occupied since the 1860s. This community is the namesake of Theodore L. Schell, who settled the area in 1860 and established a 1,000-acre ranch estate. According to local histories and historical biographies, Schell was one of the main proprietors of the famous "Sonoma Valley Prismoidal Railroad," which passed through a number of hands and was constantly being refurbished (and renamed) before ultimately becoming a branch of the Northwestern Pacific Railroad. Schell's estate was also the site of one of the largest and most renowned dairies in Sonoma Valley. Following his death in 1878, his estate was transferred to his heirs, including three sons (L.W., F.A., and A.B. Schell) and one daughter (D.L. Schell) (Reynolds and Proctor 1898).

Based on data obtained from historical maps, there are no known features within the either the Project Area or parcel during the period from the 1860s through the early 1900s. In fact, much of the landscape constituting the Project Area consists of marshland, which would make any habitation within its boundaries almost impossible. However, Thompson's 1877 Historical Atlas Map of Sonoma County does show the aforementioned Prismoidal Railway, which spans approximately three miles and adjacent to the Project's parcel from Norfolk all the way to Schellville. This feature (although not officially designated) may also be visible on the 1866/1867 Bowers Map, as the alignment is similar to the one shown on Thompson's Map. It is also interesting to note that the maps from this time period highlight the change in ownership and name of the railway system (Sonoma Valley Prismoidal Railway on 1877 Thompson

Historical Atlas Map; San Francisco & North Pacific Railroad on 1898 Reynolds & Proctor and 1900 Ricksecker & Walkup; and Northwestern Pacific Railroad on 1908 McIntire and Lewis).

During the later decades of the 20th century, there are obvious changes occurring within the project parcel as well as the general landscape. In particular, aerial imagery and USGS topographic quadrangles from the 1940s through the 1960s show the construction of several levees, one of which penetrates the parcel (although not the Project Area itself). Additionally, a minor trail is shown running in a northwest-southeast direction through portions of the parcel, almost adjacent to the railway system. However, no apparent features are shown specifically within the Project Area. The following table provides the results of the desktop review.

Table 5. Built Environment Depicted on Historical Maps/Aerials

Map Name	Date(s)	Features (Built Environment)	In Project Area?	In Parcel?	Notes
Map of Sonoma County (Bowers)	1866/1867	Possible railroad	No	No	Much of the parcel, including the Project Area, lies within marshland that is part of the 1,000-acre property of Theodore Schell.
Historical Atlas Map of Sonoma County (Thompson)	1877	Sonoma Valley Prismoidal Railway Roads 1 building/structure within Schell property	No No No	No No No	
GLO Plat of T5N/R5W	1880	--	--	--	
GLO Diagram of T5N/R5W	1890	--	--	--	
Illustrated Atlas of Sonoma County (Reynolds & Proctor)	1898	Northwestern Pacific Railroad Southern Pacific Railroad Road features	No No No	No No No	The parcel and Project Area lie within 1,300-acres of land belonging to the Heirs of Theo L. Schell.
Map of Sonoma County (Ricksecker and Walkup)	1900	Largely the same as the Reynolds & Proctor map.	No	No	
Napa 30-Minute Quad (USGS)	1902	Sonoma Valley Branch of Northwestern Railroad Santa Rosa Branch of Southern Pacific Railroad 5+ buildings/structures Roads	No No No No	No No No No	

Table 5. Built Environment Depicted on Historical Maps/Aerials					
Map Name	**Date(s)**	**Features (Built Environment)**	**In Project Area?**	**In Parcel?**	**Notes**
Map of Sonoma County (McIntire & Lewis)	1908	Largely the same as the Reynolds & Proctor and Ricksecker & Walkup maps.	No	No	The parcel and Project Area lie within 303.51-acre property of W.B. Curtis, S.B. Dunn, and Sav. B'x of Santa Rosa.
Mare Island 15-Minute Quad Map (USGS)	1916	Largely the same as the Napa 30-Minute Quad.	No	One building may lie within the project parcel.	
Aerial Image (NETRonline)	1948	Northwestern Pacific Railroad Southern Pacific Railroad 5 buildings/structures within main property 1 minor trail/road along Northwestern Pacific Railroad 1 levee 1 Rodeo arena	No No No No No No	No No No Only one Only one No	
Sears Point 7.5-Minute Quad Map (USGS)	1951 (photorevised 1968)	Largely the same as the 1948 aerial image	See above	See above	The 1968 photorevised version of this quadrangle is largely the same as the original 1951 map. However, the previously existing trail that runs along the western boundary of the Northwestern Pacific Railroad appears to have a new alignment.
Aerial image of Flight CSH-1953; Frame 7K-89	1952	Largely the same as both the 1948 Aerial Image and the Sears Point 7.5-Minute Quad.	See above	See above	
Aerial image of flight CAS-65-130; Frame 64-3	1965	Largely the same as the 1968 photorevised version of the Sears Point 7.5-Minute Quad.	See above	See above	

GEOARCHAEOLOGICAL BURIED SITE ANALYSIS

Methods

A review of regional geological and soil/sediment studies in the region was conducted (see previous section: Environmental Setting, Geology and Soils). Additionally, two regional geoarchaeological studies were reviewed (Meyer and Rosenthal 2007; Meyer and Kaijankoski 2017). Both reports focus on landform evolution and the potential/sensitivity for encountering archaeological resources using a predicative model that incorporates soil/sediment deposits, geologic and geomorphic formations, environmental

setting and other attributes. Both the 2007 and 2017 reports were prepared by the Far Western Anthropological Research Group, Inc. for Caltrans District 4 that includes Sonoma County and the Project Area.

Results

The geoarchaeological review indicates the Project Area has a high sensitivity for containing buried prehistoric-era archaeological material. The review of online soil data indicates soils/sediments in the Project Area do not appear to contain buried A Horizon(s). This is important because buried A Horizons are associated with Paleosols (soils formed in the past but are not undergoing soil formation in the present); these soils are associated with containing buried archaeological resources. However, the geologic maps indicate portions of the Project Area contain Holocene-age deposits; the Holocene (~<11,800-years) represents a critical time when humans are known to have lived and occupied California in prehistory. Additionally, the environmental data indicates the Project Area is near or within the interface of the former estuarine and terrestrial landform; this former landform would make such a location ideal for hunting and extracting natural resources, and possible seasonal habitation sites.

Furthermore, Meyer and Rosenthal's (2007) and Meyer and Kaijankoski's (2017) geoarchaeological studies – that includes the location of the Project's Area – indicates this area has a reasonable sensitivity for containing buried archaeological deposits due to the Holocene to historic age (11,800 to 150-years) of the deposits (Meyer and Rosenthal 2007: Figure 7; Meyer and Kaijankoski 2017: Figures 25 and 27).

PEDESTRIAN FIELD SURVEY

Methods

On January 14th, 2021, CRP archaeologists Robert Gleaton, M.A., RPA and Andrew Von Pinnon, M.A. conducted an intensive-level pedestrian field survey of the entire Project Area as part of the cultural resources compliance review. The surveyors walked in three (3) to five (3) meter transects (about ten to fifteen-feet) wide transects along the Project Area (i.e., all areas proposed for cultivation development) (see Appendix A; Figure 5: Survey Coverage Map). Photographs of the entire Project Area were taken with digital cameras using the Solocator phone application, with special attention given to ordinal and cardinal directions from the center of the proposed cultivation area, and most cardinal directions viewing into the proposed cultivation area (see Appendix B: Field Survey Photograph Sheets).

The pedestrian survey commenced within the southeast section of the proposed four-acre cultivation area that had been delineated with pink flagging. The surveyors walked south to north orientated transect intervals spaced about three to five meters apart (see Appendix A; Figure 5: Survey Coverage Map). Ground-visibility across the Project Area was good (about 80%) due to plowing and limited vegetation growth (i.e., small grasses and forbs); a hand trowel was used about every three to five meters to conduct surface scrapings to view the underlying surface soils in areas were ground-visibility was hindered due to bunched grasses in the pasture.

The surveyors examined the ground surface for evidence of cultural materials and changes in soil color, texture, or composition. This included examining the ground surface for any prehistoric artifacts (e.g., chipped stone such as obsidian, chert and basalt flakes and tools; projectile points, knives, scrapers; shellfish remains; ground stone; and fire-affected rock); and, sediment discolorations that could indicate

the presence of prehistoric-era cultural features (e.g., midden, hearths, cairns and other indicators of prehistoric archaeological resources). Additionally, the field surveyor also inspected the Project Areas for evidence of historic-era artifacts (e.g., surface scatters of mining or domestic type artifacts of glass, ceramic, metal, etc.); features such as alignments of stone or brick, foundation elements from previous structures, minor earthworks, and historic-era plantings (e.g., old fruit, nut or other types of trees, and ornamental plants).

Results

The pedestrian survey did not identify any historic properties, historical resources, unique archaeological resources, or potentially significant cultural resources within the Project Area. The Project Area is on a relatively flat field (less than 2% slope) that is used as a cow pasture. As mentioned previously, ground visibility was about 80% due to plowing and limited vegetation growth. Vegetation observed included annual and perennial small-size (foot to ankle-high) grasses and forbs. Native soils observed in the Project Area were on average a dark greyish brown to very dark greyish brown clay that contains about 20% gravels of various materials ranging from granules to small cobbles (e.g., vesicular basalt), angular to subrounded in form. Small amounts of modern refuse observed included fragments of plastics, broken bottle glass, aluminum can, tennis ball, and red colored plastic shotgun casing. Photographs of the entire Project Area taken during the survey are provided in Appendix B: Field Survey Photograph Sheets.

SUMMARY OF RESULTS

In accordance with the CEQA regulations and guidelines and the Sonoma County Cannabis Land Use Ordinance No. 6189, a CRS was completed to identify any listed or eligible for listing historical resources or unique archaeological resources that may be directly or indirectly affected by this Project. The study includes the results of a CHRIS records search; desktop review of historical maps, aerials, and literature; review of geologic and soils data regarding geoarchaeological buried site sensitivity, and; visual reconnaissance (archaeological pedestrian survey) of the Project Area. The government-to-government consultation with the local Native American tribes that is required by CEQA was or will be conducted by the lead agency (i.e., Sonoma County Department of Agriculture/Weights & Measures); therefore, a Sacred Lands inventory and consultation with local Native American tribes was not conducted as part of the CRS.

This CRS was completed by CRP Principal Archaeologist, Robert Gleaton, M.A., RPA, and CRP Archaeologist, Andrew Von Pinnon, M.A.; both individuals exceed the *Secretary of Interior's Qualification Standards* in *Archaeology*. The following is a summary of findings for this study:

- **CHRIS Records Search:** The CHRIS record search conducted by NWIC staff indicates two previously conducted cultural resource surveys have been conducted within the Project Area (S-046942 / Painter 2015 and S-006969 / Stewart 1984); both studies were negative for cultural resources in the Project Area and its associated parcel (APN 128-444-002). Thus, the results did not identify any recorded historic properties, historical resources, unique archaeological resources, or previously recorded cultural resources located within the Project Area or its subject parcel (see Tables One through Four and Appendix A; Figure 4: CHRIS Records Search Result Maps).

- **Historical Maps, Aerials, & Literature Review:** The desktop review of historical maps, aerials, and literature indicates the property at 1495 Fremont Drive, including the subject parcel (APN 128-444-002) and Project Area, was owned by Theodore Schell and his family from at least 1866 to

the early 1900s (Bowers 1866/1867; Thompson 1877; Reynolds and Proctor 1898; Ricksecker and Walkup 1900). However, none of the reviewed historical maps or aerials indicate any apparent features of the built environment within the Project Area. The most noteworthy features are the former Sonoma Valley Prismoidal Railway (adjacent to eastern boundary of subject parcel), a levee that seems to span through the parcel (but not the Project Area), and a minor trail adjacent to the railway that first appears on USGS topographic quadrangles and aerials from the mid-century (see Table Five).

- **Geoarchaeological Buried Site Sensitivity:** The review of geological maps, soil maps, and two regional geoarchaeological studies (Meyer and Rosenthal 2007; Meyer and Kaijankoski 2017) indicates that the Project Area has a high sensitivity for buried archaeological resources based on the Holocene age of the deposits and the former interface of an estuarine and terrestrial landform.

- **Pedestrian Survey:** CRP archaeologists surveyed the entire Project Area and portions of its associated parcel (APN 128-444-002) (see Appendix A; Figure 5: Survey Coverage Map). The archaeological pedestrian survey did not identify any historic properties, historical resources, unique archaeological resources, or potentially significant cultural resources within the Project Area (i.e., proposed cultivation area). Photographs of the entire Project Area were taken (see Appendix B: Field Survey Photographs).

RECCOMENDATIONS

There are no listed or potentially eligible for listing historical resources or unique archaeological resources within the Project Area. Thus, CRP recommends a determination of ***no historical resources or unique archaeological resources affected by the proposed Project.*** However, the Project's location is in a region that has been used by California Native Americans both historically and prehistorically, and is also in an area that has experienced historic-era development since at least the 1860s. Thus, while unlikely, there may be unidentified cultural resources present within the Project Area. Therefore, the following general recommendations are made for this Project regarding the accidental discovery of cultural resources and human remains during the Project's construction activities.

Accidental Discovery

It is recommended that if any prehistoric or historic-era material is encountered during construction activities, all ground disturbing work within 100-feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior qualified archaeologist assesses the significance of the resource. The archaeologist, in consultation with the lead agency (i.e., the Sonoma County Department of Agriculture/Weights & Measures), the landowner, any interested Tribes, and any other responsible public agency, should make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be eligible to the National or California Registers, qualify as a unique archaeological resource under CEQA Section 21083.2 or determined to be tribal cultural resource as defined in Section 21074.

Historic-era resources potentially include all by-products of human land use greater than 50-years of age, including alignments of stone or brick, foundation elements from previous structures, minor earthworks, brick features, surface scatters of mining, farming or domestic type material, and subsurface deposits of domestic type material (e.g., glass, ceramic, etc.).

Prehistoric-era artifacts that are typically found associated with sites in the area include humanly modified stone, shell, bone, or other materials such as charcoal, ash and burned rock that can be indicative of food procurement or processing activities. Pre-contact domestic features include hearths, fire pits, and house floor depressions and mortuary features consisting of human skeletal remains.

Human Remains

If human remains are encountered within the Project Area during Project-related earth-disturbing activities, all work within 100-feet of the discovery area shall cease immediately, nothing is to be disturbed, and the area secured. The Sonoma County Coroner's Office must be notified immediately. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner will determine if the remains are pre-contact Native American or of modern origin and if there are any criminal or jurisdictional questions.

If the Coroner believes the remains to be those of a pre-contact Native American, they shall contact the Native American Heritage Commission (NAHC) by telephone within 24-hours. The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48-hours to make recommendations to the landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48-hours, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC. According to the California Health and Safety Code, six (6) or more human burials at one (1) location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052). An archaeologist(s) should also be retained to evaluate the historical significance of the discovery, the potential for additional remains, and to provide further recommendations for treatment of the site in coordination with the MLD.

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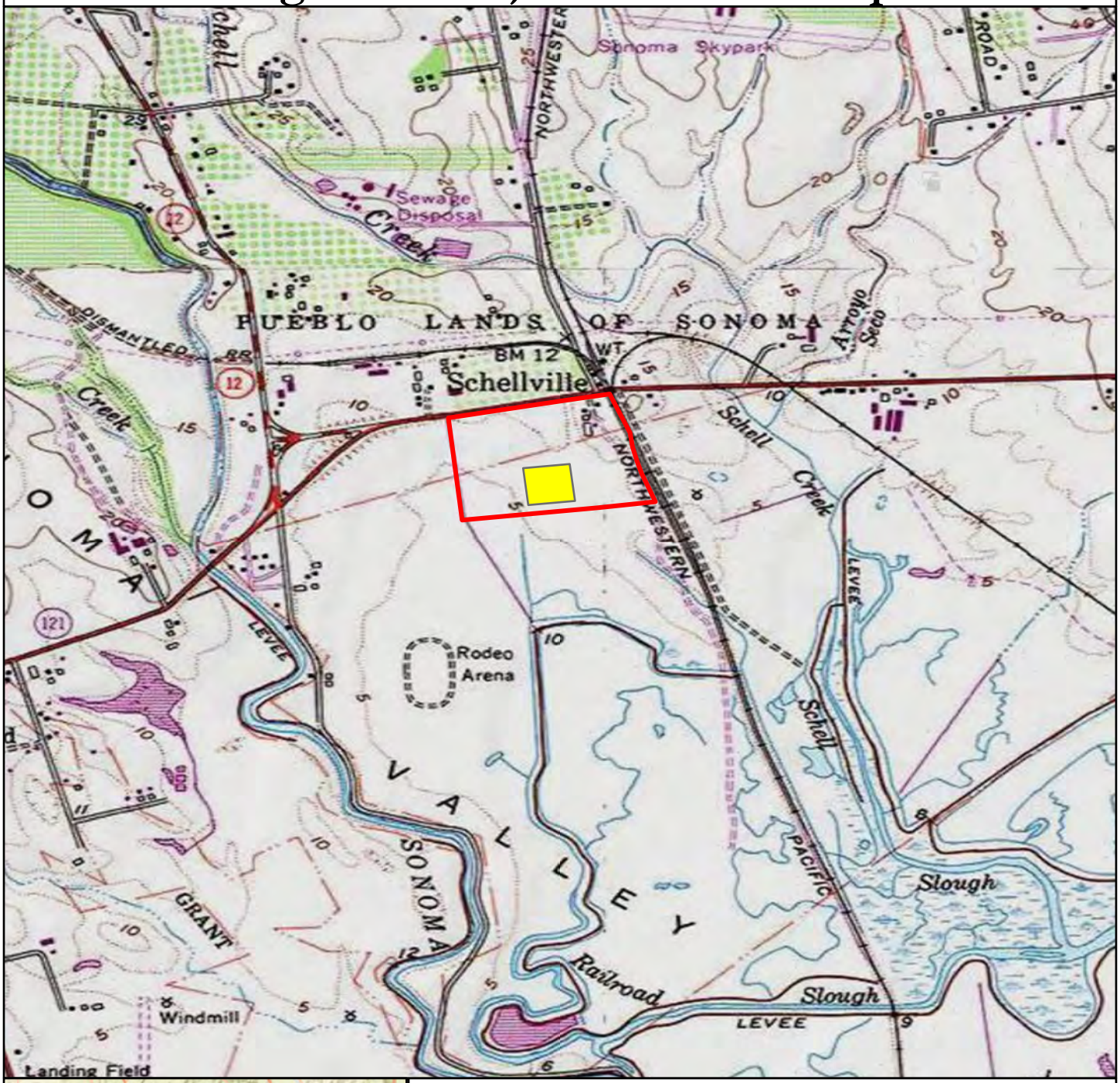
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1989 Archaeological Investigations at CA-SON-20, Santa Rosa, Sonoma County, California. Unpublished report on file at the Northwest Information Center, Rohnert Park, California, under S-2870.

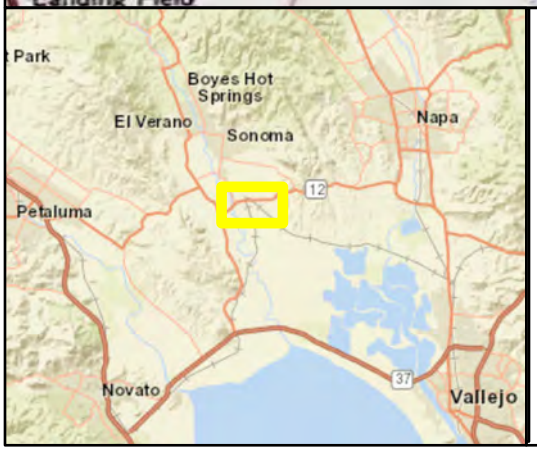
Appendix A: Maps

Figure 1: Project Location Map
Figure 2: Aerial Map
Figure 3: Preliminary Construction Maps
Figure 4: CHRIS Result Maps
Figure 5: Survey Coverage Map

Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1495 Fremont Drive, Sonoma, California, 94952 (APN: 128-444-002)

APN 128-444-002 Cultivation Project
Figure 1: Project Location Map





Scale: 1:24,000
USGS 7.5' Maps: Sears Point & Sonoma
Township 5 North; Rage 5 West; MDBM;
Unsectioned (Rancho Huichica)

Parcel Boundary: APN 128-444-002

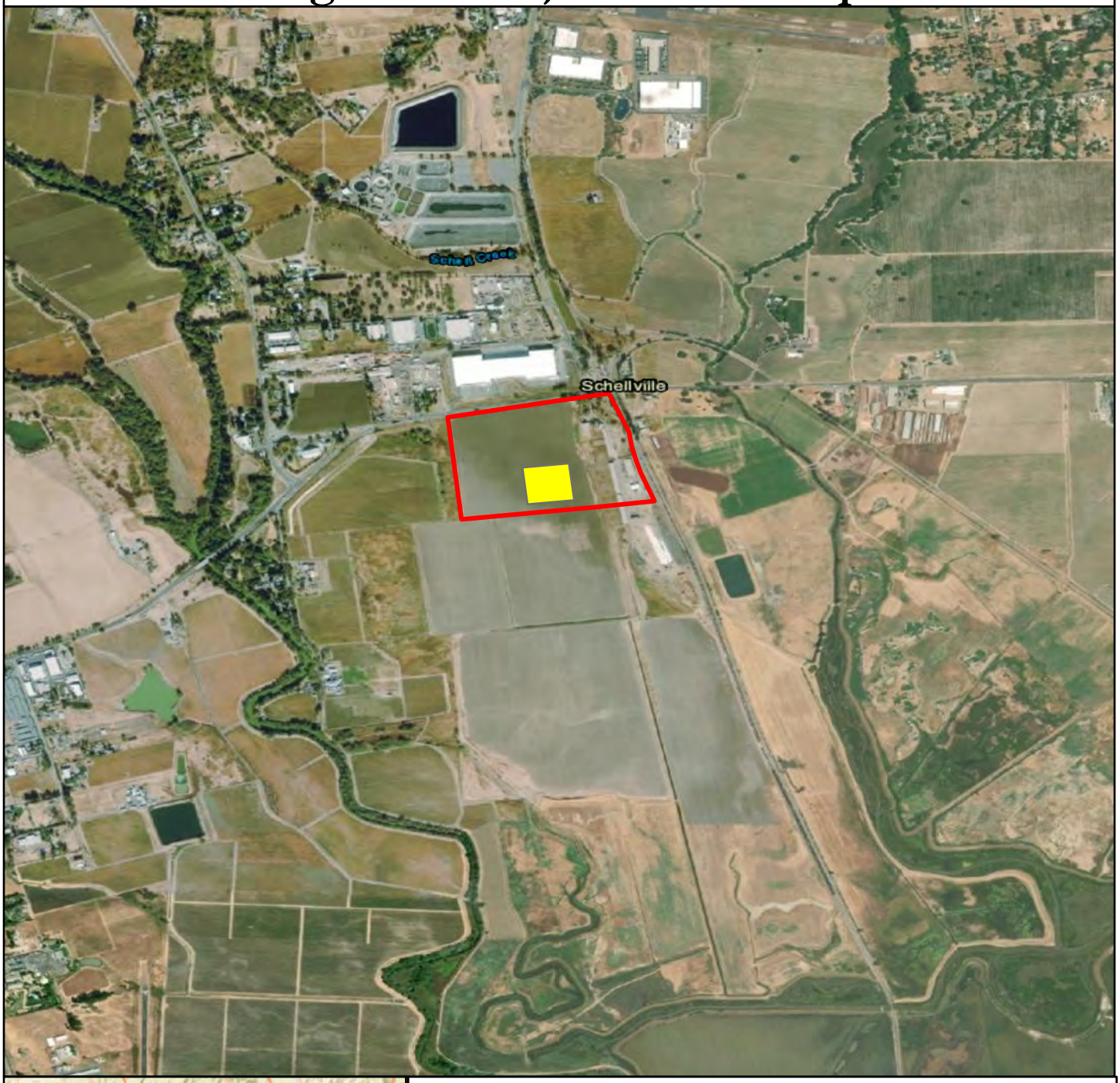
Project Area / Cultivation Area

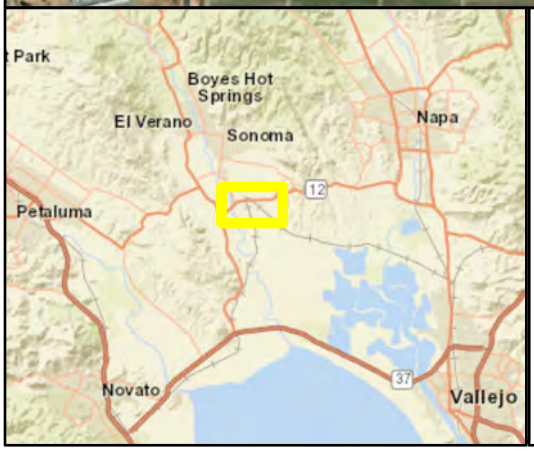
TN

0 0.13 0.25 0.5 0.75 1 Miles

Cultural Resources Practitioners, LLC. January 2021

APN 128-444-002 Cultivation Project
Figure 2: Project Aerial Map





Parcel Boundary: APN 128-444-002

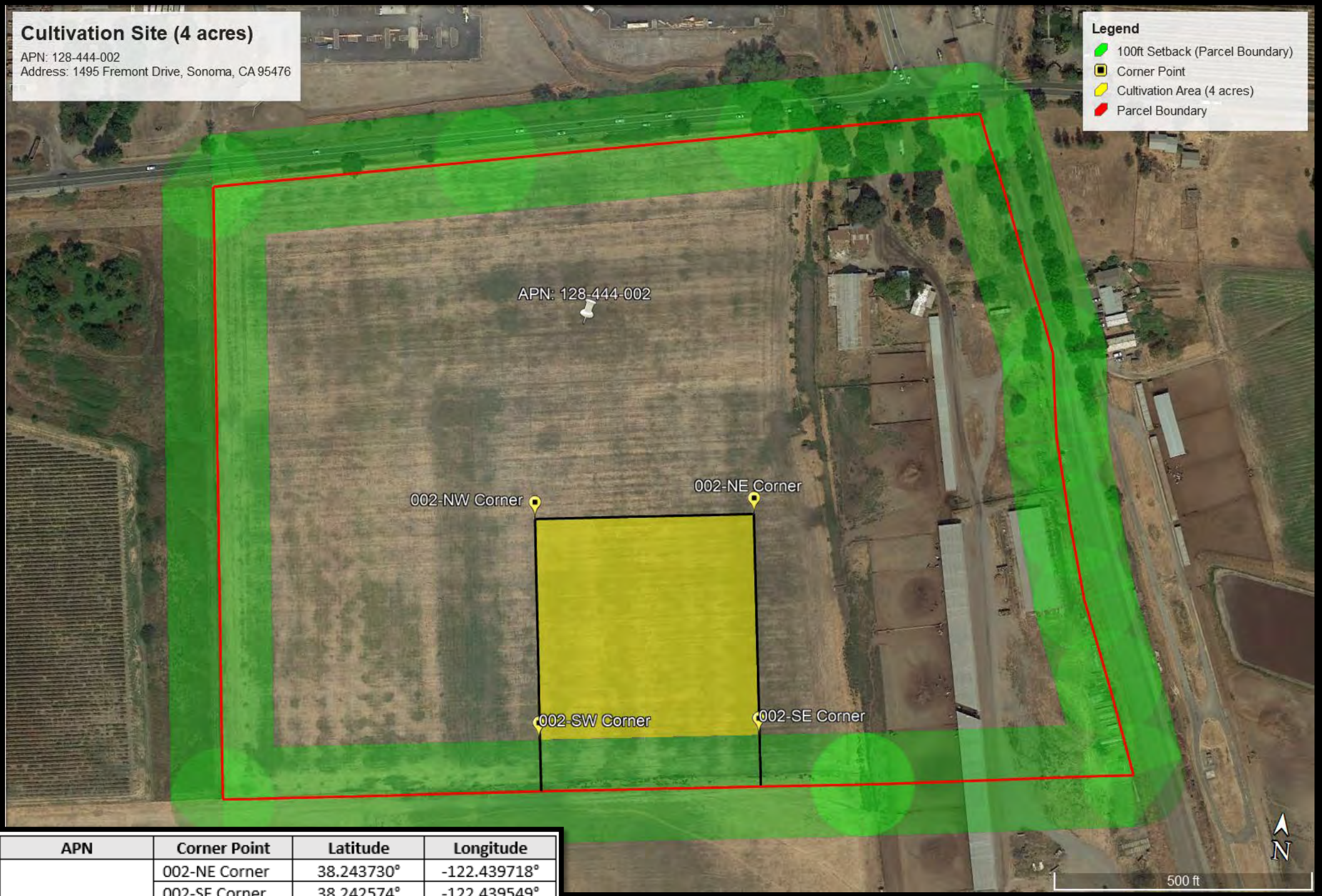
Project Area / Cultivation Area

TN

Miles

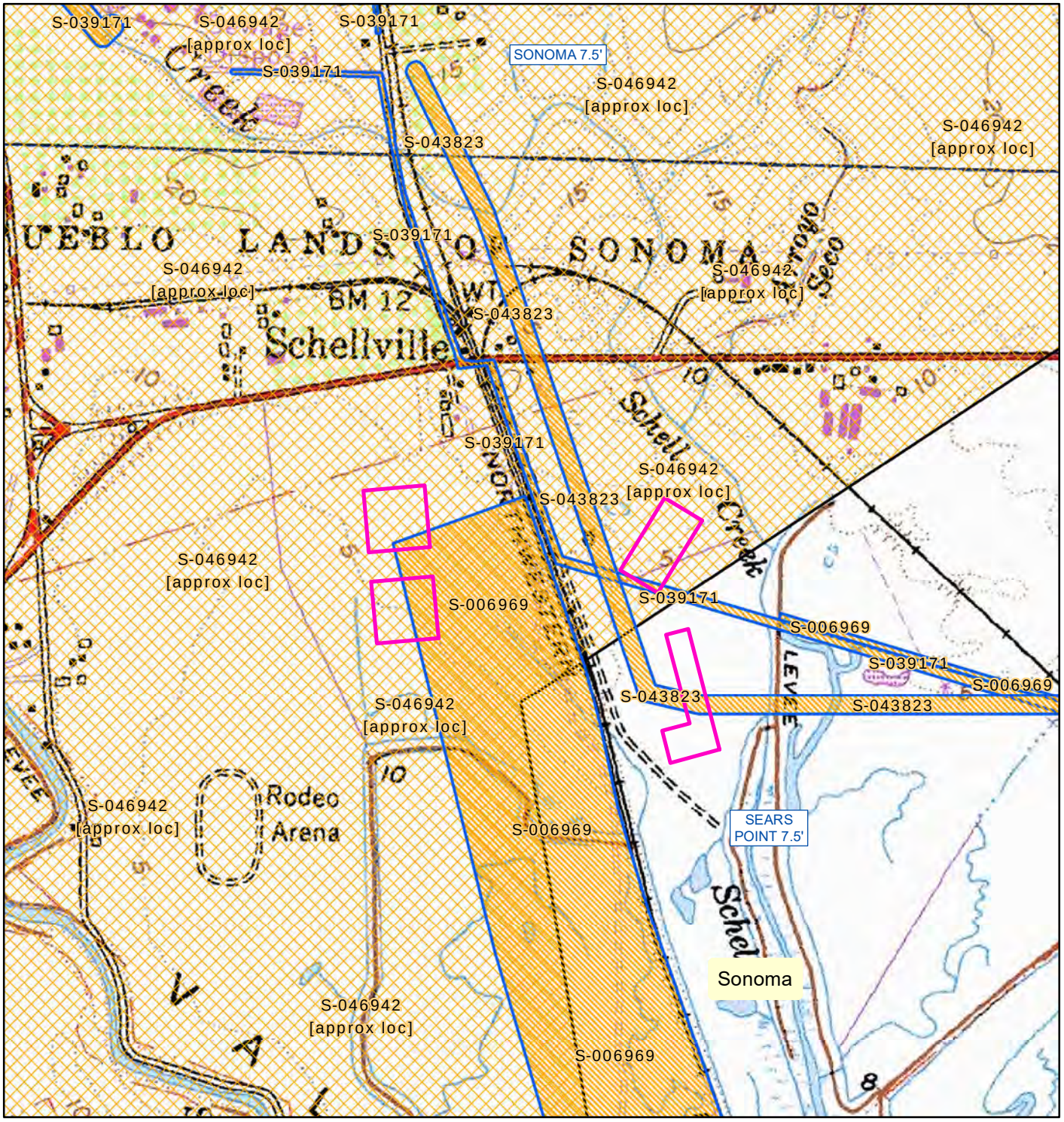
0 0.13 0.25 0.5 0.75 1

Cultural Resources Practitioners, LLC. January 2021



APN	Corner Point	Latitude	Longitude
128-444-002	002-NE Corner	38.243730°	-122.439718°
	002-SE Corner	38.242574°	-122.439549°
	002-NW Corner	38.243601°	-122.441181°
	002-SW Corner	38.242443°	-122.441019°

CRP 2020075, -76, -77, & -78
Report Map

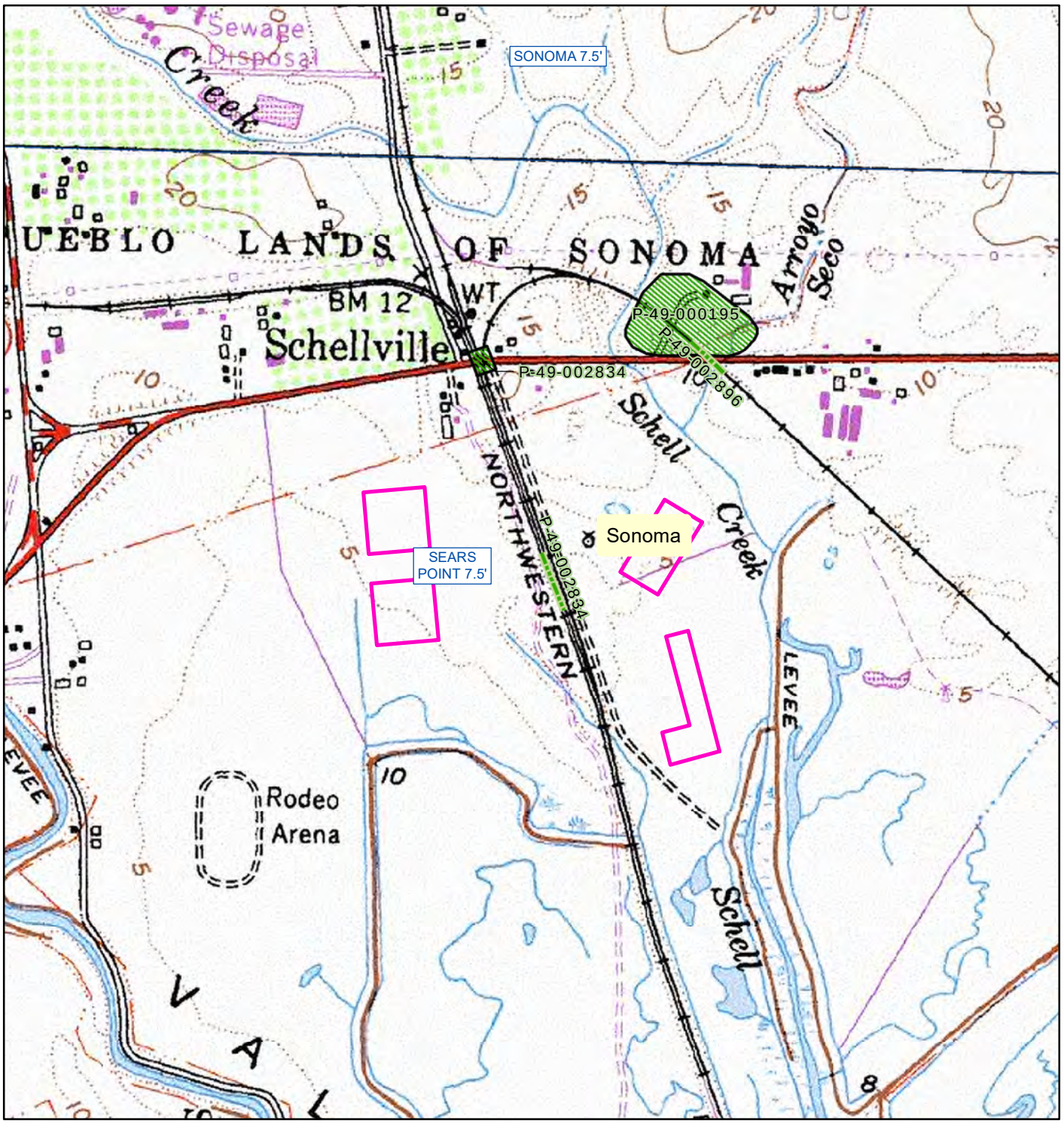


Northwest Information Center
File #20-1126, 4 January 2020, L. Hagel
May depict confidential cultural resource locations.
Do not distribute.

Feet: 0, 350, 700, 1,050, 1,400
Meters: 0, 60, 120, 180, 240, 300

N

CRP 2020075, -76, -77, & -78
Resource Map



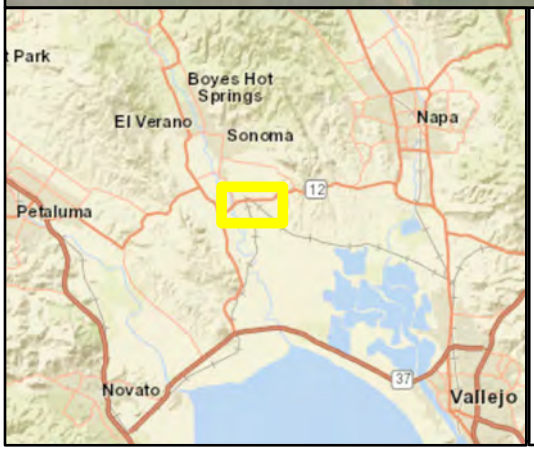
Northwest Information Center
File #20-1126, 4 January 2020, L. Hagel
May depict confidential cultural resource locations.
Do not distribute.

Feet: 0, 350, 700, 1,050, 1,400
Meters: 0, 60, 120, 180, 240, 300

N

APN 128-444-002 Cultivation Project
Figure 5: Survey Coverage Map





Parcel Boundary: APN 128-444-002
Project Area / Cultivation Area
Surveyed Area

Miles
0 0.03 0.05 0.1 0.16 0.21

TN

Cultural Resources Practitioners, LLC. January 2021

Appendix B:

Field Photograph

Sheets

Results of a Cultural Resources Study for
the Proposed Cannabis Cultivation Project
at 1495 Fremont Drive, Sonoma, California, 95476
(APN: 128-444-002)

PHOTO SHEET #1

Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1495 Fremont Drive, Sonoma, California, 95476 (APN: 128-444-002)



Figure 1: Overview of cultivation area looking west near southeastern section.



Figure 2: Overview of cultivation area looking northwest near southeastern section.



Figure 3: Overview of cultivation area looking north near southeastern section.



Figure 4: Overview of cultivation area looking northeast near southeastern section.

PHOTO SHEET #2

Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1495 Fremont Drive, Sonoma, California, 95476 (APN: 128-444-002)



Figure 5: Overview of cultivation area looking east within central section near northern boundary.



Figure 6: Overview of cultivation area looking southeast within central section near northern boundary.



Figure 7: Overview of cultivation area looking south within central section near northern boundary.



Figure 8: Overview of cultivation area looking southwest within central section near northern boundary.

RESULTS of a CULTURAL RESOURCES STUDY for the PROPOSED CANNABIS CULTIVATION PROJECT at 1515 FREMONT DRIVE, SONOMA, CALIFORNIA, 95476 (APN: 128-471-003)

JANUARY 2021

Prepared For:

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ARCHAEOLOGICAL DATABASE INFORMATION

Prepared by:	Robert Gleaton, M.A., RPA, and Andrew Von Pinnon, M.A. Cultural Resources Practitioners, LLC 2037 West Hearn Avenue, Santa Rosa, CA 95407 www.crpcal.com
Date:	January 2021
Title:	Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1515 Fremont Drive, Sonoma, California, 95476 (APN: 128-471-003)
Prepared for:	Erich Pearson Farmparc, LLC PO Box 1538 Glen Ellen, CA 95476
USGS 7.5 Minute Series Quadrangle Map:	1951 (Photorevised 1968) Sears Point, California; Township 5 North; Range 5 West; Unsectioned (Rancho Huichica)
Keywords:	Sonoma County; Schellville; cannabis cultivation project; CEQA; negative for cultural resources; recommended no historical resources or unique archaeological resources affected

STATEMENT OF CONFIDENTIALITY

This report identifies the locations of cultural resources within Sonoma County, which are confidential. The cultural, scientific, and artistic values associated with these sites can be damaged or destroyed through uncontrolled public disclosure of information about their locations.

Disclosure of this information to the public may be in violation of both federal and state laws. Information regarding the location, character or ownership of a historic resource is exempt from the Freedom of Information Act. Applicable U.S. laws include, but may not be limited to, Section 304 of the National Historic Preservation Act (16 USC 470w-3) and the Archaeological Resources Protection Act (16 USC 470hh). California state laws that apply include, but may not be limited to, Government Code Sections 6250 *et seq*. and 6254 *et seq*.

If any information in this document is to be released for public review, all locational information associated with archaeological resources must be redacted before distribution.

TABLE OF CONTENTS

STATEMENT OF CONFIDENTIALITY ii

INTRODUCTION 1
PROJECT 1
Scope of Work & Location 1

REGULATORY SETTING 1
California State LORS 2
California Environmental Quality Act (CEQA) 2
Senate Bill (SB) 18 (2004) 4
Public Resources Code (PRC), Section 5097.9 et seq. (1982) 4
Public Resources Code 5097.98 4
Health and Safety Code 7050 – 7052 4
Sonoma County LORS 4
Sonoma County General Plan (2020) 4
Sonoma County Landmark Commission 6
Cannabis Land Use Ordinance No. 6189 (2016) 6

SETTING 7
ENVIRONMENTAL SETTING 7
Geology 7
Soils 8
CULTURAL SETTING 9
Prehistoric & Archaeological Overview 9
Ethnohistoric Overview 12
Historic Overview 14

BACKGROUND RESEARCH 15
CHRIS RECORD SEARCH 16
Methods 16
Results 16
DESKTOP REVIEW 21
Methods 21
Results 22

GEOARCHAEOLOGICAL BURIED SITE ANALYSIS 25
Methods 25
Results 25

PEDESTRIAN FIELD SURVEY 25
Methods 25
Results 26

SUMMARY OF RESULTS 26

RECCOMENDATIONS 27
Accidental Discovery 28
Human Remains 28

REFERENCES CITED 29

LIST OF TABLES

Table 1. NWIC Results: Cultural Resource Studies 17
Table 2. NWIC Results: Previously Recorded Cultural Resources 20
Table 3. BERD Listed Recorded Properties 20
Table 4. Historical Resources within 1/2-Mile Radius 21
Table 5. Built Environment Depicted on Historical Maps/Aerials 23

APPENDICES

Appendix A: Maps
Figure 1: Project Location Map
Figure 2: Project Aerial Map
Figure 3: Preliminary Construction Map
Figure 4: CHRIS Records Search Result Maps
Figure 5: Survey Coverage Map

Appendix B: Field Survey Photograph Sheets

INTRODUCTION

Cultural Resources Practitioners, LLC (CRP) was retained by Farmparc, LLC to provide a Cultural Resources Study (CRS) for one (1) proposed outdoor cultivation site measuring four-acres located on a section of parcel at 1515 Fremont Drive, Sonoma, California, 95476 (herein referred to as Project). The CRS was completed in compliance with the California Environmental Quality Act (CEQA) and the Sonoma County Cannabis Land Use Ordinance No. 6189. The purpose of the CRS was to determine if there are any cultural resources located within the Project Area that meet CEQA's definition of Historical Resource(s) or Unique Archaeological Resource(s) that could be impacted by the Project and to provide project-specific recommendations if needed.

The government-to-government consultation with the local Native American tribes that is required to determine the presence or absence, or potential impacts to Tribal Cultural Resources, as defined in Public Resource Code §21074, is to be conducted by the lead agency (i.e. Sonoma County Department of Agriculture/Weights & Measures); therefore, a Sacred Lands inventory and consultation with local Native American tribes was not conducted as part of this CRS.

This CRS was completed by CRP Principal Investigator Robert Gleaton, M.A., RPA (Registered Professional Archaeologist, No. 52141) and Cultural Resources Specialist Andrew Von Pinnon, M.A.; both individuals exceed the *Secretary of Interior's Professional Qualification Standards* in *Archaeology*. The results of the CRS are presented herein.

PROJECT

Scope of Work & Location

The proposed Project entails one outdoor cannabis cultivation site with a four-acre area located within the property at 1515 Fremont Drive, Sonoma, California; Accessors Parcel Number (APN) 128-471-003; near the unincorporated community of Schellville in Sonoma County (see Appendix A, Figure 1: Project Location Map; Figure 2: Aerial Map, and; Figure 3: Preliminary Construction Maps).

The Project's proposed cannabis cultivation area is located on the 1951 (Photorevised 1968) Sears Point, California, 7.5-Minute Series United States Department of the Interior Geological Survey (USGS) Topographic Quadrangle Map; Township 5 North; Range 5 West; in an unsectioned portion (Rancho Huichica); Mount Diablo Base and Meridian (MDBM).

REGULATORY SETTING

This section briefly discusses California and Sonoma County laws, ordinances, regulations and standards (LORS) that apply to the Project. A cultural resources inventory was conducted to satisfy the requirements of the California Environmental Quality Act (CEQA) of 1970 as amended; its implementing regulations the CEQA Guidelines, codified in Title 14 of the CCR, which provides agencies guidance for compliance with environmental regulations, and; Sonoma County Ordinances including the Cannabis Land Use Ordinance No. 6189 (2016) and those described in the Sonoma County General Plan 2020, as amended.

California State LORS

California Environmental Quality Act (CEQA)

The CEQA established that historical and archaeological resources are afforded consideration and protection by the California Environmental Quality Act (CEQA) (14 CCR Section 21083.2, 14 CCR Section 15064). CEQA Guidelines define significant cultural resources under two regulatory designations: *historical resources* and *unique archaeological resources*.

A historical resource is a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (CRHR)"; or "a resource listed in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code"; or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record" (14 CCR Section 15064.5[a][3]).

Historical resources automatically listed in the California Register include California cultural resources listed in or formally determined eligible for the National Register and California Historical Landmarks list from No. 770 onward (PRC 5024.1[d]). Locally listed resources are entitled to a presumption of significance unless a preponderance of evidence in the record indicates otherwise.

Under CEQA, a resource is generally considered historically significant if it meets the criteria for listing in the CRHR. A resource must meet at least one of the following criteria (PRC 5024.1; 14 CCR Section 15064.5[a][3]):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage. Title 14, CCR Section 4852(b)(1) adds, "is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States."

2. Is associated with the lives of persons important in our past. Title 14, CCR Section 4852(b)(2) adds, "is associated with the lives of persons important to local, California, or national history."

3. Embodies the distinctive characteristics of a type, period, region, or method of construction; or represents the work of an important creative individual; or possesses high artistic values. Title 14, CCR 4852(b)(3) allows a resource to be CRHR eligible if it represents the work of a master.

4. Has yielded, or may be likely to yield, information important in prehistory or history. Title 14, CCR 4852(b)(4) specifies that importance in prehistory or history can be defined at the scale of "the local area, California, or the nation."

Historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (14 CCR 4852[c]).

An archaeological artifact, object, or site can meet CEQA's definition of a *unique archaeological resource* even if it does not qualify as a historical resource (PRC 21083.2[g]; 14 CCR 15064.5[c][3]). An

archaeological artifact, object, or site is considered a unique archaeological resource if ". . .it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC 21083.2[g]):

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

Assembly Bill 52 (AB 52) and Tribal Cultural Resources (2015). AB 52 establishes a formal role for California Native American tribes in the CEQA process. CEQA lead agencies are required to consult with tribes about potential tribal cultural resources in the project area, the potential significance of project impacts, the development of project alternatives and the type of environmental document that should be prepared.

- A "Native American tribe located in California that is on the contact list maintained Native American Heritage Commission" (NAHC). This definition does not distinguish between federally recognized and non-federally recognized tribal groups, and is therefore more inclusive than the federal definition of "Indian tribe" (PRC § 21073).

- To qualify as a tribal cultural resource, it must either be 1) listed on or eligible for listing on the California Register of Historical Resources or a local historic register or, 2) or is a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a Tribal Cultural Resource (PRC § 21074). Tribal Cultural Resources include "non-unique archaeological resources" that, instead of being important for "scientific" value as a resource, can also be significant because of the sacred and/or cultural tribal value of the resource. Tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of tribal cultural resources within their traditionally and cultural affiliated geographic area (PRC § 21080.3.1(a)).

- Consultation in the context of AB 52 is the meaningful and timely process of seeking, discussing, and carefully considering the views of others. Meaningful consultation usually consists of face-to-face meetings conducted in such a way that recognizes the cultural values of all parties involved and makes a concerted effort to reach an agreement. Consultation should recognize the tribe's potential need for confidentiality regarding places that hold traditional tribal significance. Consultation with tribes is considered the best way for lead agencies to determine if a project could result in significant environmental impacts to tribal cultural resources (PRC § 21080.3.1(a); GC § 65352.4).

A project that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (PRC § 21084.2).

Tribal Cultural Resources are not addressed in a CRS, as they are resources that are specific concern to California Native American tribes. Pursuant to revisions to CEQA enacted in 2015, Tribal Cultural Resources are to be identified by Tribes during government-to-government consultation with the lead agency and can remain confidential (PRC § 21080.3.1).

Senate Bill (SB) 18 (2004)

Senate Bill 18, signed into law by Governor Schwarzenegger in September 2004, requires cities and counties to notify and consult with California Native American Tribes about proposed adoption of, or changes to, general plans and specific plans for the purpose of protecting Traditional Tribal Cultural Places ("cultural places"). Interim tribal consultation guidelines were published by the Governor's Office of Planning and Research on March 1, 2005.

Public Resources Code (PRC), Section 5097.9 et seq. (1982)

This establishes that both public agencies and private entities using, occupying, or operating on state property under public permit, shall not interfere with the free expression or exercise of Native American religion and shall not cause severe or irreparable damage to Native American sacred sites. This section also creates the NAHC, charged with identifying and cataloging places of special religious or social significance to Native Americans, identifying and cataloging known graves and cemeteries on private lands, and performing other duties regarding the preservation and accessibility of sacred sites and burials.

Public Resources Code 5097.98

This section discusses the procedures that need to be followed upon the discovery of Native American human remains. The NAHC, upon notification of the discovery of human remains is required to contact the County Coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code and shall immediately notify those persons it believes to be most likely descended from the deceased Native American.

Health and Safety Code 7050 – 7052

Section 7052 of the Health and Safety Code states that the disturbance of Native American cemeteries is a felony. Section 7050.5 of the California Health and Safety Code requires that construction or excavation must be stopped in the vicinity of discovery of human remains until the County Coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission (NAHC).

Sonoma County LORS

Sonoma County General Plan (2020)

Open Space and Resource Conservation Element (amended 2016), Chapter 10: Archaeological, Cultural, and Historical Resources. This document outlines a number of goals, objectives and policies for the protection and preservation of prehistoric and historic cultural resources. The Goal includes: "Protect and preserve significant archaeological and historical sites that represent the ethnic, cultural, and economic groups that have lived and worked in Sonoma County, including Native American populations. Preserve unique or historically significant heritage or landmark trees" (SCPRMD 2016: OS-54).

Polices specific to archaeological resources include:

Policy OSRC-19a: Designate the County Landmarks Commission to review projects within designated historic districts.

Policy OSRC-19b: Refer proposals for County Landmark status and rezoning to the Historic Combining District to the County Landmarks Commission.

Policy OSRC-19c: The County Landmarks Commission shall review Historic Building Surveys and make recommendations for designation of structures or cemeteries as County landmarks.

Policy OSRC-19d: Include a list of historic structures proposed for designation as County landmarks in Specific or Area Plans or Local Area Development Guidelines and refer the

list to the Landmarks Commission for their recommendations.

Policy OSRC-19e: Refer applications that involve the removal, destruction or alteration of a structure or cemetery identified in a historic building survey to the Landmarks Commission for mitigation. Measures may include reuse, relocation, or photo documentation.

Policy OSRC-19f: Use the Heritage or Landmark Tree Ordinance and the design review process to protect trees.

Policy OSRC-19g: Pursue grant funding for the preparation and updating of historic resource inventories.

Policy OSRC-19h: Designate the County Landmarks Commission to administer a preservation program for stabilization, rehabilitation, and restoration of historic structures.

Policy OSRC-19i: Develop a historic resources protection program that provides for an ongoing process of updating the inventory of historic resources. Such a program should include: (1) Periodic historic building surveys, (2) Formalized recognition of the inventory of historic resources as recommended by the State Office of Historic Preservation, including rezoning to the Historic Combining District (HD), and (3) Procedures for the protection of recognized historic resources for both ministerial and discretionary permits.

Policy OSRC-19j: Develop an archaeological and paleontological resource protection program that provides: (1) Guidelines for land uses and development on parcels identified as containing such resources, (2) Standard project review procedures for protection of such resources when discovered during excavation and site disturbance, and (3) Educational materials for the building industry and the general public on the identification and protection of such resources.

Policy OSRC-19k: Refer applications for discretionary permits to the Northwest Information Center to determine if the project site might contain archaeological or historical resources. If a site is likely to have these resources, require a field survey and preparation of an archaeological report containing the results of the survey and include mitigation measures if needed.

Policy OSRC-19l: If a project site is determined to contain Native American cultural resources, such as sacred sites, places, features, or objects, including historic or prehistoric ruins, burial grounds, cemeteries, and ceremonial sites, notify and offer to consult with the tribe or tribes that have been identified as having cultural ties and affiliation with that geographic area.

Policy OSRC-19m: Develop procedures for consulting with appropriate Native American tribes during the General Plan adoption and amendment process.

Policy OSRC-19n: Develop procedures for complying with the provisions of State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, if applicable, in the event of the discovery of a burial or suspected human bone. Develop procedures for consultation with the Most Likely Descendant as identified by the California Native American Heritage Commission, in the event that the remains are determined to be Native American.

Sonoma County Landmark Commission

This commission was established by the Board of Supervisors on April 23, 1974 under ordinance No. 1768, the same ordinance that provided the procedure for designation of Historic Structures (i.e., Historic Landmarks) and Historic Districts. The ordinance establishes that the Commission shall consist of one resident from each Supervisorial District, appointed by the Board of Supervisors. The duties of the Commission are, "To establish certain sites, buildings, etc., as historical landmarks; review development applications involving historic properties, grants program" (County of Sonoma 2018).

Cannabis Land Use Ordinance No. 6189 (2016)

The Board of Supervisors of Sonoma County adopted a Negative Declaration and amended text in Chapter 26 (Zoning Ordinance) of the Sonoma County Code to allow personal cultivation of cannabis and permit cultivation of commercial medical cannabis and support land uses in various zoning districts. Regarding cultural resources, the Ordinance (County of Sonoma 2016:16-17) states:

> *Section 9) Cultural and Historic Resources:* "Cultivation sites shall avoid impacts to significant cultural and historic resources by complying with the following standards. Sites located within a Historic District shall be subject to review by the Landmarks Commission, unless otherwise exempt, consistent with Section 26-68-020. Cultivation operations involving ground disturbing activities, including but not limited to, new structures, roads, water storage, trenching for utilities, water, wastewater, or drainage systems shall be subject to design review and referral to the Northwest Information Center and local tribes for consultation. A cultural resource survey and on-site monitor during ground disturbing activities may be required to demonstrate cultural and historic resources are protected.
>
> The following minimum standards shall apply to cultivation permits involving ground disturbance. All grading and building permits shall include the following plans:
>
> If paleontological resources or prehistoric, historic-period or tribal cultural resources are encountered during ground-disturbing work at the project location, all work in the immediate vicinity shall be halted and the operator must immediately notify the agency having jurisdiction of the find. The operator shall be responsible for the cost to have a qualified paleontologist, archaeologist and tribal cultural resource specialist under contract to evaluate the find and make recommendations in a report to the agency having jurisdiction.
>
> Paleontological resources include fossils of animals, plants or other organisms. Historic-period resources include backfilled privies, wells, and refuse pits; concrete, stone, or wood structural elements or foundations; and concentrations of metal glass, and ceramic refuse. Prehistoric and tribal cultural resources include obsidian and chert flaked-stone tools (e.g., projectile points, knives, choppers), midden (culturally darkened soil containing heat-affected rock, artifacts, animal bone, or shellfish remains), stone milling equipment, such as mortars and pestles, and

certain sites features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe.

If human remains are encountered, work in the immediate vicinity will stop and the operator shall notify the agency having jurisdiction and the Sonoma County Coroner immediately. At the same time, the operator shall be responsible for the cost to have a qualified archaeologist under contract to evaluate the discovery. If the human remains are determined to be of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification".

SETTING

This section provides an environmental setting (i.e., overview, geology and soils), and cultural (i.e., prehistoric, ethnohistoric and historic) overview of the Project's vicinity. Each setting provides the basis for understanding the significance, and/or the potential for encountering cultural resources that could be located within the Project Area.

ENVIRONMENTAL SETTING

The Project Area is located south of the unincorporated community of Schellville at 1515 Fremont Drive in Sonoma County; approximately 3.0 miles southeast of the city of Sonoma, 10.0 miles east of the city of Petaluma, and 8.0 miles west of the city of Napa. Situated about 8-feet above mean sea level (amsl), the parcel is located at the southern edge of Sonoma Valley, within an existing pasture field located north of an estuarine and marshland environment that lies immediately north of San Pablo Bay. In addition, the Project Area lies between two natural streams: Sonoma Creek to the west (about 0.80 miles) and Schell Creek to the northeast (about 145 feet). Vegetation within the Project Area includes annual and perennial, native and nonnative, grasses and forbs.

Geology

Located on the southern edge of Sonoma Valley, this area contains a narrow fault basin. The Sonoma Valley is located within the geologic region of California referred to as the Northern Coast Range Geomorphic Province, situated within the larger Coast Range Geomorphic Province (Harden 1998). The Coast Range province lies between the Pacific Ocean and Great Valley (Sacramento to San Joaquin valleys) provinces and stretches from the Oregon border to the Santa Ynez Mountains near Santa Barbra. The northern and southern Coast Ranges are separated by a depression containing the San Francisco Bay (California Department of Conservation 2002). The San Francisco Bay lies within a broad depression created from an east-west expansion between the San Andreas and Hayward fault systems (ESA 2009:4.M-1).

At least five regional geologic maps exist that cover the Project Area (Koenig 1963; Wagner and Bortugno 1982; Knudsen et al. 2000; Wagner et al. 2002; Graymer et al. 2006). Generally, these maps indicate the Project Area has a geology comprised largely of early Pleistocene to late Pleistocene undifferentiated alluvial deposits; recent (Holocene) Quaternary Alluvium; Holocene-aged Intertidal deposits (Peaty-mud); or older alluvium (near Pleistocene to Holocene interface) which fits with the Project Area's estuarine location and terrestrial landform.

Wagner and other's 2002 study focuses on the USGS 7.5-Minute Sears Point Quadrangle Map. Their 2002 map plots the majority of the Project Area is in the Qof unit; while no description of the Qof is given in map's legend, it is assumed to be late Pleistocene to Holocene alluvial fan deposits based on other geologic units used in the general mapping of California's geology. Smaller areas of the Project's location to the east are in the Qhbm unit; this unit is described as latest Holocene bay mud deposits with silt, clay, peat, and fine sand deposited at or near sea level in San Pablo Bay (Wagner et al. 2002).

Determining the geologic age of the landform on which the Project Area is located is important because most Holocene-age (post 11,800 calibrated years before present) landforms have the potential for buried sites because they formed when people occupied California (Meyer and Rosenthal 2007:15). Generally, dramatic changes in the landscape over the past 13,000 years (e.g., rising sea levels and increased sedimentation into streams and rivers) can result in many late Pleistocene and early Holocene land surfaces being overlain by thick deposits of alluvial soils that are generally less than 5,000-years-old and that have established an interface with an older land surface represented by a well-developed buried soil profile, or paleosol. Additionally, certain landforms such as alluvial fans, floodplains, and areas along rivers and streams, are more likely to contain buried sites:

> "At a general level, it is relatively easy to understand that buried sites will be located in or beneath Holocene-age depositional landforms. Predicting exactly where they will occur, however, is much more difficult. Buried archaeological potential can be conceptualized as a set of factors that either encouraged or discouraged human occupation of certain landforms (e.g., aspect, extent, setting, slope), and those factors that affected the subsequent preservation (i.e., erosion or burial) of those landforms" (Meyer and Rosenthal 2007:25).

Soils

An understanding of soils and their development is fundamental in archaeology because soils are an essential component in any environmental reconstruction as they can provide evidence of past human activity (Goldberg and Macphail 2006:42). Five soil-forming factors include: (1) climate, (2) organisms (including humans), (3) relief (topography), (4) parent rock, and (5) time (Jenny 1941). The formation of soils creates a vertical and horizontal distinction that creates a profile displaying the sequences, termed soil horizons, which lie horizontal to one another and parallel with the surface (Waters 1992:45). These horizons "reflect changes in mineralogy, texture, and chemistry usually caused by weathering" (Stein 2001:18), which together form a soil profile (Jones 2007:11).

Identification of certain soil types is important in geoarchaeology as the soils can inform the researcher how to reconstruct past environmental and climatic conditions (Rapp and Hill 2006:41). Many older land surfaces often contain buried soils (paleosols). Paleosols are soils that formed in the past but are not undergoing soil formation in the present. The paleosols soils represented in the soil stratigraphy are: 1) indicative of prolonged periods of land stability or past environmental conditions; 2) are useful stratigraphic markers for locating buried archeological deposits and are and are well represented in archaeological contexts and; 3) and aid in the correlation of depositional sequences of different areas (Meyer 2003; Rapp and Hill 2006). Additionally, landforms that exhibit clear evidence of soil formation are expected to have a higher potential for containing archaeological resources than deposits that lack evidence of soil formation because people are generally attracted to stable surfaces, which in turn retains the evidence of occupation (Scher 2012: 9). Deposits composed of sorted sand and gravel are expected to have little potential for containing intact archaeological resources but may contain re-deposited

material and may represent former stream channels that could be associated with prehistoric use (Meyer 2000:10).

Natural Resources Conservation Service

The current soils map provided the Natural Resources Conservation Service (NRCS) (Soils Survey Staff 2020) describes the soils within and directly adjacent to, the Project Area as the Haire clay loam (mapped as HcC). Current soil maps can be found in Google Earth and at the Web Soil Survey website (Soil Survey Staff 2021). The following is a description of the Haire Series:

> ***Haire Series:*** Haire soils consist of moderately well-drained soils that are typically found on nearly level to moderately steep hills at elevations ranging between 20 and 2,400 feet (slopes range between 0 and 9 percent). They formed in terrace deposits and in part in residuum weathered from arkosic sandstone and granodiorite. Its taxonomic class is a clayey, fine, mixed, superactive, thermic Typic Haploxerult. The series extends 60 inches below the surface and contains the following horizons: Ap, A12, A3, B2t, and IIC. Subordinate horizons include 'p' (indicating plowing) in the A horizon and 't' (indicating accumulation of silicate clays) in the B horizon.

Importantly, no buried A horizons (paleosols; horizon Ab) are noted within the Haire Series (Soil Survey Staff 2021).

CULTURAL SETTING

Three elements of the cultural setting for the Project Area are important to understanding the cultural resources that might be present: Prehistoric, Ethnohistoric, and Historic periods. The prehistoric overview covers the era prior to sustained European contact, while the historic period overview covers the time after that contact. The ethnohistoric overview covers the overlap between the two, presenting information regarding the Native American inhabitants of the region, as understood through historical accounts and information given to anthropologists by California Native Americans. The Following Sections are excerpted from Beck (2011), Browning (2018) and Mick's (2020) cultural resource studies within the region.

Prehistoric & Archaeological Overview

The prehistory of northern California is believed to date about 12,000 years before present (BP), around the time of the terminal Pleistocene. Although few archaeological sites demonstrate evidence of human occupation during the late Pleistocene and early Holocene (11,500–8000 B.P.), this is likely a product of the archaeological record itself rather than lack of human use of this area. The Paleo-Archaic-Emergent cultural sequence developed by Fredrickson (1973, 1974) is commonly used to interpret the cultural patterns of the North Coast Ranges in California, which include the area of Sonoma County. These time periods are further defined by spatial and cultural units called Patterns, Phases, and Aspects (Fredrickson 1973, 1974). Fredrickson (1989) defined Aspects specific to the Santa Rosa Plain, and these include the Spring Lake Aspect of the Borax Lake Pattern in the Lower Archaic Period, the Black Hills Aspect of the Mendocino Pattern in the Middle Archaic Period, the Laguna Aspect of the Berkeley Pattern in the Upper Archaic Period, and the Rincon and Gables Aspects of the Augustine Pattern in the Emergent Period. Using radiocarbon determinations (e.g., Groza 2002; LaJeunesse and Pryor 1996; Meyer and Rosenthal 1997),

the sequence is broken into three broad periods: the Paleo-Indian period (11,550 to 8550 B.C.); the three-staged Archaic period, consisting of the Lower Archaic (8550 to 5550 B.C.), Middle Archaic (5550 to 550 B.C.), and Upper Archaic (550 B.C. to 1100 A.D.); and the Emergent period (A.D. 1100 to 1769).

Several prehistoric archaeological sites excavated in north-central and south-central Sonoma County provide a chronology of occupation dating from the Paleo-Indian Period until Euro-American contact. In north-central Sonoma County, Basgall (1993) analyzed archaeological data from several sites from the Warm Springs Creek locality and identified three phases of Native American occupation of the area. The oldest occupation from the Warm Springs locality is the Skaggs phase (ca. 5000-2500 B.P.), possibly representing early Yukian settlement and use of the area. Skaggs phase sites include large concave base and "Willits" side-notched projectile points and mano and metates. The Dry Creek phase (ca. 2500-900 B.P.) represents possible Pomoan intrusion into north-central Sonoma County (cf. Stewart 1993) and includes shouldered lanceolate and leaf shaped projectile points and mortars and pestles. Smith phase (900-100 B.P.) sites represent a fluorescence of Pomoan society and include small corner notched arrow points, continued use of mortars and pestles, clam shell disk and glass trade beads. In south-central Sonoma County tentative evidence exists for Native American use of the Laguna de Santa Rosa northwest of Rohnert Park during the Paleo-Indian period (pre-8000 B.P) and near Spring Lake in Santa Rosa during the Lower Archaic period (8000-4500 B.P.) (Jones and Hayes 1993).

The Paleo-Indian Period (11,550 to 8550 B.C.): began with the first entry of people into California. These people probably subsisted mainly on big game, minimally processed plant foods, and had few or no trade networks. Sonoma County was inhabited during the Paleo-Indian Period, as indicated by the presence of fluted projectile points and chipped stone crescents that have been found in a few archaeological sites located in Sonoma County near the Laguna de Santa Rosa, Bodega Bay, and Warm Springs Creek dam, as well as in the neighboring Mendocino and Lake counties. Based on limited archaeological evidence from this period, it appears populations within and surrounding Sonoma County consisted of small, highly mobile groups that practiced broad-spectrum hunting and gathering techniques. Research conducted by Jones and Hayes (1989, 1993) indicates that Paleo-Indian forgers in the Santa Rosa and Sebastopol areas focused on resources located near lakes, wetlands, and riparian zones during this time.

The Lower Archaic Period (8550 to 5550 B.C.): milling stones appear in abundance and hunting is less important than plant foods. Artifacts are made predominately from local materials, suggesting that few if any extensive trade networks were established at this time. Several sites in Sonoma County date to the Lower Archaic Period and contain artifacts consistent with a mobile hunting and gathering economy. Mobile foragers appeared to have resided in camps situated along marshes and on grasslands and utilized the surrounding uplands to acquire a wide array of food resources available in those areas on a seasonal basis. The types of artifacts that are found in archaeological sites dating to this period include large, wide-stemmed projectile points, cobble tools, handstones, and milling slabs. These artifacts are characteristic of the Borax Lake Pattern, a distinctive cultural pattern recognized throughout much of the North Coast Ranges during this time. In Sonoma County, the Borax Lake Pattern is recognized by the Spring Lake Aspect, specifically at sites located in Santa Rosa and Duncan's Landing on the Sonoma Coast. A pre-contact archaeological site located in the Rincon Valley area of Santa Rosa, known as CA-SON-20, is the "type site" for the Spring Lake Aspect. This site dates to 6300 B.C. and contains artifacts such as wide-stemmed points, milling slabs and handstones (Wickstrom and Fredrickson 1989).

The Middle Archaic Period (5550 to 550 B.C.): subsistence base begins to expand and diversify during the Middle Archaic with a developing acorn economy, as evidenced by the mortar and pestle, and the growing importance of hunting. As in the Lower Archaic period, mobile foragers on the Santa Rosa Plain during the Middle Archaic Period resided in camps situated along marshes and on grasslands and utilized the surrounding uplands to hunt and gather a wide array of plant and animal resources available in those areas on a seasonal basis. During this period, the Borax Lake Pattern was replaced by the Mendocino Pattern, characterized by groups practicing a more localized foraging strategy. Mendocino Pattern sites are well-represented on the Santa Rosa Plain. According to Fredrickson (1989), there was overlapping use of the Laguna de Santa Rosa area by both mobile foragers (Black Hills Phase of the Mendocino Pattern) and collectors (Laguna Phase of the Berkeley Pattern) between 1500 B.C. and A.D. 1. By 1000 B.C., it is thought that Berkeley Pattern groups, who were more sedentary and practiced a collecting economic strategy, began to spread into the Santa Rosa Plain while mobile Mendocino Pattern foragers focused on the surrounding uplands.

The Middle Archaic Period was also marked by new ground stone technology, as well as an increase in trade, which is evident by cut marine shell (*Olivella* sp.) beads, often found in association with burials. Formalized exchange relationships appear to have been established in the flake stone industry as well, which is indicated by a greater amount of obsidian originating from sources in Napa Valley rather than the locally available obsidian source at Annadel in Santa Rosa. Furthermore, mortars and pestles first appear in sites dating to this period, and this is thought to signal an increased dietary reliance on acorns rather than hard seeds, and a concomitant increase in sedentism.

The Middle Archaic Period was also marked by significant climatic changes during which warmer and drier conditions led to the reduction of lake basins in southern California, and across California there is a general decrease in the number of sites. This is thought to be the result of a reduced population during this time; however, it is suggested that the paucity of sites may not be due to a decrease in population, but rather may related to a period of increased alluvial deposition that buried many former living surfaces that date to this period (Meyer and Rosenthal 2007; Milliken et al. 2007).

Upper Archaic Period (550 B.C. to 1100 A.D.): status and wealth distinctions are evidenced in the Upper Archaic archaeological record; regional exchange networks are well established at this time with goods and ideas such as Kuksu ceremonial practices involving spirit impersonations. The Upper Archaic Period was characterized by cooler conditions accompanied by increased precipitation in northern and central California, which likely resulted in more favorable conditions for human occupation. Sites dating to this period demonstrate marked differences in their constituents relative to Borax Lake Pattern sites of the Middle Archaic Period. These new occupations are ascribed to the Berkeley Pattern, which appears to have originated in the Clear Lake area during the Lower Archaic Period. Although firm dating for the end of the Borax Lake Pattern is lacking, it is believed to have been replaced by the Berkeley Pattern (possibly representing Miwokan influence) about 500 B.C. (Moratto 1984:517). Berkeley Pattern sites are characterized by a higher degree of sedentism, a highly developed bone tool industry, numerous mortars and pestles that further imply a greater reliance on acorns, and tightly flexed burials with few to no associated artifacts or preference toward orientation. When present, associated burial artifacts typically include *Olivella* saddle and saucer beads and *Haliotis* pendants (Milliken et al. 2007). The Berkeley Pattern is represented at archaeological sites in Sonoma County and the neighboring Napa and Lake counties.

Emergent Period (A.D. 1100 to 1769): While A.D. 500 is marked as the beginning of the Lower Emergent Period, more recent work suggests the beginning of the Lower Emergent Period may not have occurred until around A.D. 1000. The Emergent Period is thought to be associated with a new level of sedentism, status ascription, ceremonial integration, and regional trade, as indicated by the presence of finished artifacts and food remains that could not be obtained locally; and this is referred to as the Augustine Pattern. There appears to have been a diversity of socioeconomic strategies associated with Augustine Pattern sites in the North Bay, with some sites revealing a continuance of sedentary systems initiated by the Berkeley Pattern and others apparently resulting from mobile foraging adaptations.

The North Bay became the "seat of innovation" during the Upper Emergent Period, as new ornament forms and technologies emerged, such as the bow and arrow, toggle harpoon, hopper mortar, clamshell disk beads, and steatite and magnesite beads and tubes (Milliken et al. 2007). This period was marked by wide-ranging changes in *Olivella* bead forms and their distribution. The *Olivella* saucer bead trade network appears to have collapsed suddenly between A.D. 430 and 1050, and *Olivella* saucer bead industry was replaced by more regionally-integrated shell bead forms, such as *Olivella* wall beads and clamshell disk beads. This change possibly indicates an increased importance of communicating identity, status and cultural affiliation within an increasingly populated region. The manufacture of clamshell disk beads seems to have centered primarily on the Santa Rosa Plain and within the Napa Valley. These type beads were used as exchange currency with a standardized value. The burial practice of cremation was also introduced in the North Bay during this time (Milliken et al. 2007). These shifts in technology, artifact types and mortuary practices, which for the most part spread throughout the San Francisco Bay Area from north to south, appear to indicate that another upward cycle of regional integration took place during this period; however, this cycle ended when the Russians and Spanish began to settle the region.

Ethnohistoric Overview

The Project Area is located within the ethnographic territory of the Coast Miwok who, prior to European settlement, occupied an area that includes modern day Marin County and southern Sonoma County (Barrett 1908; Kelly 1978; Golla 2011). According to ethnographer S.A. Barrett (1908:Map 1) and Alfred Kroeber (1925:Plate 36) the Project Area is near the eastern divide between Coast Miwok and Wintun (River Patwin) territory.

The Coast Miwok have been divided into two groups, each speaking a distinct dialect. These include the Southern Marin Miwok, or *Hookooeko* tribe who spoke the Southern Marin dialect with some linguistic differences between valley and coastal peoples (Kelly 1978:414); whose territory included the Project Area; and the Western-Bodega Miwok (*Olamentko*). Merriam (1907) proposed a third group from the northern area of Southern Marin Valley known as the *Lekahtewutko.*

Due to the diverse supply of resources throughout this region, the Coast Miwok were well suited to an economy based on hunting, fishing and the gathering of acorns and shellfish (Kelly 1978:415). They were adept at harvesting resources within wetland and coastal environments in particular, as plants that thrive in wetlands and shellfish from the ocean and bays were a prime source of food. The Coast Miwok used dip nets and spears to catch salmon and steelhead within local rivers, such as Salmon Creek and the Russian River, as well as bow and arrows fitted with obsidian points that were used to hunt small and large animals. Along with acorns, which were ground down and leached to make mush or bread, the Coast Miwok also utilized the buckeye fruit, the pepperwood fruit, and a variety of greens. Shellfish was an

important source of food and material, and intense collecting of shellfish led to the formation of shell deposits known as midden heaps, mounds, or scatters, which are now the primary remains of most prehistoric sites near the coast and bay (Kelly 1978:417-418).

The Coast Miwok lived in conical structures that were small and made from two forked and interlocking poles, onto which additional poles were lashed, to form a cone shaped frame that was covered by grass (Kelly 1978:417). Approximately six to ten people would reside in one of these structures. Larger villages also often contained a large, circular, semi-subterranean sweathouse that was dug four feet into the ground and covered with a frame of poles topped with grass, and a ceremonial house that was built in the same manner as the sweathouse.

Tools were made from locally obtained materials including chert, obsidian, basalt, bone, antler, wood and various types of plants. Beads and pendants were manufactured from locally obtained shell and include clamshell disc beads (used as money), *Olivella* beads and abalone shell pendants. The shell of one species of clam was said by the Indians to be found nowhere else along the coast and furnished the material for the white clamshell beads found throughout the entire region (Barrett 1908:304). Clothing was minimal and based on seasonal weather. Women wore a double apron made of deerskin and men wore a similar type of loincloth.

Basket production was important to the Coast Miwok. Baskets were used for portage, storage, and cooking containers, as well as for seed beating, winnowing, and as hoppers for groundstone mortars. The Coast Miwok also traded for venison, medicinal plants, yellow paint, and turtles (Kelly 1978:419).

Although European contact with the Coast Miwok occurred as early as 1579 when Francis Drake stopped to repair the *Golden Hind* somewhere in the Point Reyes vicinity, contact with Europeans in the vicinity of Bodega Bay did not occur until 1775 when Peruvian explorer Juan Francisco de la Bodega y Quadra, a distinguished Lieutenant in the Spanish navy and for whom Bodega was named, entered and explored the bay on his return trip from the northwest coast in vessel called the *Sonora*. European occupation first occurred for a short period in 1793 by a Spanish garrison, then in 1804 by Ivan Kuskov, an employee of the Russian-American Company who was sent south from Alaska to locate a suitable site for a planned Russian settlement. The population of the Western Miwok dwindled significantly in the nineteenth century as a result of missionization, European-introduced diseases, such as smallpox, for which they had no immunity, as well as settlement of the area that resulted in tribal land being confiscated for lumbering, dairying, and agriculture purposes. By 1870 there were as few as seventeen Indians living in the Bodega area (Thompson 1877:95), and by 1908 the Western (Bodega) Miwok consisted of only four or five individuals who occupied an old village site at the mouth of the Russian River (Barrett 1908:304).

Presently, the Coast Miwok and Southern Pomo form the Graton Rancheria community; a federation of the Coast Miwok and Southern Pomo groups recognized by the U.S. congress. The original Graton Rancheria is located in Sebastopol and is a 15.5-acre tract of land established by the federal government in the 1920s. In 1958, congress passed the California Rancheria Act that terminated California Rancherias, including Graton; the land was removed from federal trust and the land was distributed to three residents as private property; this action terminated the federal recognition of the Tribe. The Tribe regained their federal recognition status in 2000, and in 2005 the Tribe purchased about 254 acres of land for its reservation just outside Rohnert Park. In 2013, the Tribe opened the Graton Resort and Casino and is able to provide programs and services to Tribal citizens (Federated Indians of Graton Rancheria 2018).

Historic Overview

The European presence began on California's north coast with the brief visits of Juan Rodriguez Cabrillo in 1542, Sir Francis Drake in 1579, Sebastian Rodriguez Cermeno in 1595 and Sebastian Viscaino in 1603 (Smirnoff 1998:47). One of the first Euro-American expeditions to explore the areas of present-day Sonoma County was a Spanish expedition led by Lieutenant Juan Francisco de la Bodega y Quadra in 1775, when his ship the *Sonora* touched the bay. The first trip inland into Sonoma was likely in 1776 by Captain Quiros who ventured from San Francisco into Petaluma Creek and its associated tributaries (Alley Bowen & Co. 1880:39). Russian expeditions began to visit Bodega between 1808 and 1811, and Fort Ross was established by 1812 as a fur-hunting post. The Russians settled the area in the name of their employer, the Russian American Company, in which the tsar and his family owned stock (Smirnoff 2009:49). The Russians built ports, ranches and farms which ranged across an area that extended approximately 55 miles south of the fort and extended out to the Farallon Islands (Lightfoot 1991:12, Lightfoot 2005:5); the goal of these settlers was to bring back trade goods of otter pelts to Russia, and to provide food to Russia's forts in Alaska that could not sustain themselves due to hostile environmental conditions (Smirnoff 2009:49). The Russian's employed the Kashaya Porno and native laborers from Alaska and Hawaii as hunters, agricultural laborers, shipbuilder and aided the Russians with duties around the fort and within the fort's residences (Ballard 1997:123, Lightfoot et al. 1991:3-5, 15-18, Lightfoot 2005).

When Mexico gained independence from Spain in 1821, the Mexican government assumed control of California. The formal formation of the Mexican republic in 1824 marked the first broad invasion into Southern Pomo and Coast Miwok lands. The Spanish constructed the Mission San Francisco Solano in Sonoma on July 4th, 1823, with the intent of slowing down the spread of Russian presence in the area. Being the 21st Mission established in California, it was to be the last constructed, and northernmost, of all the Missions. Beginning in 1834, mission lands were parceled out in the form of *ranchos* and awarded to prestigious Mexican citizens, known as *Californios*. The *ranchos* represent the first settlement of the region. There were 27 Mexican Land Grants located in what became Sonoma County (Beck and Haase 1974:29). The Project Area is located in portions of the 18,704-acre *Huichica* Land Grant (Beck and Hasse 1974:29). Two leagues of this tract were granted to Jacob P. Leese by Governor Manuel Jimeno in 1841, and three-and-a-half extension was granted to him by Governor Manuel Micheltorena three years later (Gregory 1911:133). The Pueblo Lands of Sonoma's southern boundary is located about 500-feet north of the Project Area.

Following the end of the Mexican-American War in 1848, Mexico ceded California to the United States as part of the Treaty of Guadalupe Hidalgo; the Compromise of 1850 officially admitted California into the United States as an undivided free state. Discovery of gold in 1849 caused an influx of settlers hoping to strike rich in California. On February 18, 1850, California became a State of the Union and 27 counties were created; one of these was Sonoma County. Significant growth of settlers in northern Sonoma County began around 1860 as timber harvesting and agriculture became the prime industry.

While cattle ranching originally dominated economic activity in Sonoma County, a shift occurred in the 1860s from cattle ranching to sheep herding. A primary reason for the shift was the Civil War and a demand for wool for military uniforms. The demand for wool continued, and Sonoma County became one of the country's leading wool producers. In addition, dairy ranching, poultry, and agriculture grew in the county. Indeed, Petaluma became a center for poultry production, and crops such as potatoes, grains, wine grapes, hops, apples, plums, and prunes were also grown in the county. Hops were especially well-

suited to the alluvial plains and terraces along the Russian River, the Laguna de Santa Rosa, and on the Santa Rosa Plain. The success of hops coincided with a drop in wheat prices, and most grain farmers with the right soils and climate switched to the new crop. By 1890, hops were the leading field crop in the county, and the Santa Rosa area became known as the nation's hop capital (LeBaron et al. 1985).

At the end of the nineteenth and beginning of the twentieth century, viticulture expanded in Sonoma County and became an important part of the agricultural economy of the area. However, Prohibition resulted in the collapse of the California wine industry. A few viticulturists survived by producing limited amounts of wine for medicinal, sacramental, or cooking purposes. These individuals devised creative ways to continue to produce and sell their wine. For example, winemaking, which was still legal if a family annually produced 200 gallons or fewer, continued in individual households, and local doctors prescribed wine to cure ills. Regardless, Prohibition stifled the wine industry in California, and it did not recover until the 1950s. Since that time, the recovery of the regional wine industry has been dramatic, with wine production and tourism steadily increasing in Sonoma County and surrounding regions. The industry would not fully recover until the 1970s, when the reputation of Sonoma County wines began to spread throughout the nation and the world. Today, Sonoma County is known for its vineyards and premier wines.

Schellville

Schellville is one of Sonoma County's oldest communities and was once a transfer point for freight and passengers moving to and from San Francisco by barge, schooner or streamer (Wells 1969). Originally, Schellville was called 'St. Louis' or 'Embarcadero' by early American settlers; the name St. Louis was given in honor of the city on the Mississippi with hope this port in Sonoma would rival its namesake. The advent of the railroads eventually eliminated the water commerce.

During 1878 and 1879, the Sonoma Valley Railroad was acquired by the San Francisco and North Pacific Railway Company. The Northwestern Pacific Railroad named their station there before 1888 after Theodore L. Schell, who owned 160 acres of land there in the 1850s and was active as a merchant in Sonoma and San Francisco (Gudde and Bright 1998: 353). In the 1880s, the Southern Pacific Railroad decided to build the Santa Rosa and Carquinez Railroad; they created a station at Schellville by 1888. Schellville remained an important railroad junction that connected the Northwestern Pacific and the Southern Pacific well into the late 20th century (Wells 1969).

BACKGROUND RESEARCH

CRP cultural resource specialists conducted a desktop cultural resource assessment of the study area. This background research included obtaining information concerning previously conducted cultural resource surveys and previously recorded sites in the Project Area, as well as examining historical maps, aerials, and land patents, and a review of geoarchaeological reports and geologic and soils data to determine the potential for buried archaeological resources.

CHRIS RECORD SEARCH

Methods

On January 4th, 2021, Lisa Hagel, staff researcher at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS), conducted a cultural resources record search for the Project at the NWIC on behalf of CRP (NWIC File No.: 20-1126). The purpose of this record search was to obtain and review previous cultural resource records, cultural resource studies, and any additional documentation pertaining to listed or potentially eligible historical resources or unique archaeological resources located within at least a one-quarter (0.25) mile radius from the proposed cultivation area located at 1515 Fremont Drive, Sonoma (APN 128-471-003); this includes any recorded cultural resources and studies within the proposed cultivation area. The following lists and databases were also reviewed:

- The Information Center Database (ICDB)
- Office of Historic Preservation Built Environment Resource Directory (BERD) for Sonoma County, CA (dated March 3rd, 2020)
    - The BERD was originally released by the California Office of Historic Preservation's (OHP) in January of 2020, and re-released in March 2020. This directory contains updated information previously found within the Historic Properties Directory (HPD). The HPD is now considered obsolete, however it is currently still being used for reference. The BERD contains information regarding built environment cultural resources that are included in the OHP Tracking and Inventory System (OTIS). The resources were submitted to the Office of Historic Preservation through one of its programs (Registration, Review and Compliance, Local Government Surveys, Architectural Review, etc.).
- Office of Historic Preservation (OHP) Directory of Properties in the Historic Property Data File for Sonoma County, CA (dated 4/5/2012)
- National Register of Historic Places (NRHP)
- California Register of Historical Resources (CRHR)
- California Inventory of Historic Resources (1976)
- California Historical Landmarks (1990)
- California Points of Historical Interest (1992)
- Caltrans Historic Bridge Inventory and GIS Database
- Local Government Listings and Directories

Results

According to files obtained from the NWIC, the proposed cultivation area has had one previously conducted cultural resources study performed within its boundaries (S-046942 / Painter 2015). Two other studies (S-039171 / Koenig and Brewster 2011; S-043823 / Jones & Stokes 2003) have been conducted within the Project's parcel (APN 128-471-003), but outside the Project Area. All three studies were negative for cultural resources within the parcel or Project Area. An additional 10 studies with a number of sub-studies have been conducted within a ¼ to ½ -mile radius of the Project Area. While no previously

recorded cultural resources are on file at the NWIC within the Project Area or its associated parcel (APN 128-471-003), three recorded cultural resources are located within a 1/4 to 1/2-mile radius:

- **CA-SON-223 / P-49-00195:** is a prehistoric-era shellmound habitation site located about 0.13-miles north of the Project Area. The site was first recorded by Nels Nelson in 1907; updated site records occurred in 1990 (Dondero and Schulte), 1995 (Gmoser and others), 2000 (Jones and Stokes), and 2005 (Douglas; Origer). As of December 2020, Extended Phase 1 and Phase 2 CRHR evaluation testing are being planned for a PG&E project along the Caltrans' right-of-way of State Route 12 that might impact the southern portion of the site (Stantec, personal communication, December 2020).

  The site contains shell midden, obsidian chert debitage, obsidian tools, animal faunal remains, fire-altered rock, one possible human bone, and at least one Late Period Phase 2/early historic bead. The bead and obsidian cobbles present at the site strongly suggest a Late Period and possibly early historic component, but it is likely that a mound of this size and in a preferred location would also include older components.

- **P-49-002896 (C-Sears Point 3 / Santa Rosa & Carquinez Railroad):** consists of the defunct segment of the Santa Rosa & Carquinez Railroad (built circa 1887) and is located about 0.10-miles northeast of the Project Area. Originally recorded in 2000 (Davis) and updated in 2005 (Douglas), this resource does not appear to have been evaluated for local, state or federal registers.

- **CA-SON-002322H / P-49-002834 (Northwestern Pacific Railroad):** this historic-segment of railroad is located about 0.12 miles south-southwest and 0.25 miles northwest of the Project Area and bounds the western edge of the Project's parcel. This segment was recorded in 2013 by Starke and Thomas and does not appear to have been evaluated for local, state, or federal registers. This segment was "constructed between 1878 and 1880 as part of the narrow gauge Sonoma Valley Railroad. The NWP main line is 271 miles long and runs between Schellville and Eureka. The recorded segment consists of a 320-foot-long set of three parallel standard-gauge rails" (Strake and Thomas 2013). No associated historic-era features or artifacts were observed during the 2013 site recording.

Tables 1 through 4 below, and Appendix A, Figure 4: CHRIS Records Search Results Maps provide spatial and summary information for the CHRIS record search results.

Table 1. NWIC Results: Cultural Resource Studies

NWIC Report No.	Year	Study	Author(s)	Study within Project Area or Parcel?
S-000278	1976	Archaeological Assessment of the Sonoma Valley Reclamation Project, Sonoma County, California	Nancy L. French and David A. Fredrickson	No
S-002598	1981	An Archaeological Investigation of the Sebastiani Properties at Schellville, Sonoma County, California	Foley C. Benson	No
S-006969	1984	An Amended Cultural Resources Study for the Sonoma Valley County Sanitation District Partial Reclamation Project near Schellville, Sonoma County, California	Suzanne B. Stewart	No

Table 1. NWIC Results: Cultural Resource Studies				
NWIC Report No.	**Year**	**Study**	**Author(s)**	**Study within Project Area or Parcel?**
S-007364	1985	Supplemental Archaeological Survey for the Proposed Sonoma Valley CSD Wastewater Reclamation Project, Sonoma Valley, Sonoma County, California (letter report)	James P. Quinn	No
S-009467	1987	An Archaeological Study of the Mulas Property at 2034 Fremont Drive, Sonoma, near Schellville, Sonoma County, California	Michael Jablonowski	No
S-012038	1992	Historic Property Survey Report for the Proposed Roadway Reconstruction of Route 121 near the Town of Schellville, Sonoma County, 04-SON-125, P.M. 0.0/5.5, 04336-12980K	Unknown (Caltrans District 4)	No
S-012038a	1990	Archaeological Survey Report for a Portion of Route 121, from Sears Point to Near Schellville, Sonoma County, California, 04-SON-121, P.M. 0.0/9.2 04-12980G	Steven B. Dondero	No
S-012038b	1991	Historic Architectural Survey Report for the Proposed Roadway Reconstruction of Route 121 near the Town of Schellville, Sonoma County, 04-SON-121, P.M. 0.0/5.5, 04336-12980K	Elizabeth McKee	No
S-012038c	1995	First Addendum Archaeological Survey Report for a Portion of Route 121 near Schellville, Sonoma County, California, 04-SON-121 PM 0.0/0.3, EA 129801, from Route 37 to just North of the Tolay Creek Bridge	Katherine M. Dowdall	No
S-022736	2000	Final Cultural Resources Inventory Report for Williams Communications, Inc., Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California: Volume I	Unknown (Jones & Stokes Associates, Inc.)	No
S-022736a	2000	Volume II – Project Maps: Final Cultural Resources Inventory Map Atlas for the Williams Communications, Inc. Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California	Unknown (Jones & Stokes Associates, Inc.)	No
S-022736b	2000	Volume III, Technical Appendices: Final Cultural Resources Inventory Map Atlas for the Williams Communications, Inc. Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California	Unknown (Jones & Stokes Associates, Inc.)	No
S-033061	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	Nancy Sikes, Cindy Arrington, Bryon Bass, Chris Corey, Kevin Hunt, Steve O'Neil, Catherine Pruett, Tony Sawyer, Michael Tuma, Leslie Wagner, and Alex Wesson	No
S-033061a	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	Unknown (SWCA Environmental Consultants)	No

Table 1. NWIC Results: Cultural Resource Studies				
NWIC Report No.	**Year**	**Study**	**Author(s)**	**Study within Project Area or Parcel?**
S-033061b	2007	Final Report of Monitoring and Findings for the Qwest Network Construction Project (letter report)	Nancy E. Sikes	No
S-034894	2007	A Cultural Resources Survey for a Development Project at 1901 Fremont Drive (State Route 121), Sonoma County, California	Eileen Steen and Thomas M. Origer	No
S-039171	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program: Marin, Sonoma, and Napa Counties, Cultural Resources Survey Report	Heidi Koenig and Brad Brewster	Yes
S-039171a	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program; Marin, Sonoma, and Napa Counties: Archaeological Extended Phase I Report	Heidi Koenig	No
S-039171b	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin County, Olive Avenue, Archaeological Monitoring Plan and Results, North Marin Water District Service Area	Heidi Koenig	No
S-039171c	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties: Addendum Cultural Resources Survey Report: SVCSD Service Area-Watmaugh Road Alignment	Heidi Koenig	No
S-039171d	2007	Results of the Cultural Resources Survey for the Sonoma Valley County Sanitation District Sewer Trunk Main Replacement Project from Watmaugh East Road to Wastewater Treatment Facility	Dean Martorana	No
S-039171e	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, Addendum Cultural Resources Survey Report LGVSD Service Area – Reservoir Hill Tank Updated Area of Potential Effects and Reservoir Hill Tank Overflow Line	Heidi Koenig	No
S-039171f	2012	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, Draft Addendum Cultural Resources Survey Report, Sonoma Valley County Sanitation District Service Area, McGill Road Alignment	Heidi Koenig	No
S-039171g	2013	North Bay Water Reuse Authority; North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties Addendum Cultural Resources Survey Report, SVCSD Service Area – Phase I Modifications, Bureau of Reclamation 09-CCAO-132.9	Heidi Koenig	No
S-039171h	2016	COE File Number 2015-0374-N: Section 106 Consultation for the Recycled Water Pipeline Installation Project at Sonoma Valley Wastewater Treatment Plant, Sonoma County	Tori White, Anmarie Medin, and Julianne Polanco	No
S-039171i	2015	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and	Heidi Koenig	No

Table 1. NWIC Results: Cultural Resource Studies				
NWIC Report No.	**Year**	**Study**	**Author(s)**	**Study within Project Area or Parcel?**
		Napa Counties, North Marin Water District Central Service Area, Final Addendum Cultural Resources Survey Report, California		
S-039171j	2015	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, North Marin Water District Central Service Area, Final Archaeological Extended Phase 1 Report, California	Heidi Koenig	No
S-039171k	2015	BUR_2015_1109_005; National Historic Preservation Act (NHPA) Section 106 Consultation for the North Bay Water Recycling Program, Marin, Sonoma and Napa Counties, CA (Project #09-CCAO-132.10)	Julianne Polanco, Scott Williams, Alicia C. Perez, and Anastasia T. Leigh	No
S-043823	2003	Cultural Resources Inventory and Evaluation Report for Napa River Salt Marsh Restoration Project, Napa and Sonoma Counties, California	Unknown (Jones & Stokes)	Yes
S-046406	2013	Cultural Resources Study of the PG&E Hydrostatic Test Segment T-220-13, on Line 21B, Sonoma County, California	Jennifer Thomas and Naomi Scher	No
S-046942	2015	Sonoma League for Historic Preservation Survey Update (Sonoma Valley Survey Update), Sonoma County, California	Diana J. Painter	Yes

Table 2. NWIC Results: Previously Recorded Cultural Resources				
CHRIS Resource I.D.	**Cultural/Temporal Affiliation & Resource Attributes**	**NRHP Status Code**	**In Project Area?**	**Distance form Project Area?**
P-49-000195 / CA-SON-000223 / Nelson No. 223	Prehistoric: AP02 (Lithic scatter); AP09 (Burials); AP15 (Habitation debris)	--	No	0.13 miles north
P-49-002834 / CA-SON-002322H / Northwestern Pacific Railroad	Historic: AH02 (Foundations); AH04 (Privy pits/trash scatters/dumps); AH07 (Road/trail/railroad bed); AH15 (Standing structure); HP11 (Engineering Structure); HP17 (Railroad Depot); HP19 (Bridge); HP39 (Other)	--	No	0.12 miles south-southwest and 0.25 miles northwest
P-49-002896 / C-Sears Point-3	Historic: AH07 (Road/trail/railroad bed); HP11 (Engineering Structure)	--	No	0.10 miles northeast

Table 3. BERD Listed Recorded Properties							
Primary Number	**OTIS ID**	**Property No.**	**Name**	**Address**	**Evaluation Information**	**Construction Year(s)**	**In Project Area or Parcel?**
--	407402	4437	Schellville Depot	8th Street (East), Sonoma, CA	3S, , 5476-0323-0000	1879	No

Table 3. BERD Listed Recorded Properties							
Primary Number	**OTIS ID**	**Property No.**	**Name**	**Address**	**Evaluation Information**	**Construction Year(s)**	**In Project Area or Parcel?**
--	407371	4406	Karavarti Incorporated	22725 8th Street East, Sonoma, CA	3S, 5476-0292-0000	1890	No
--	407402	4437	Schellville Depot	8th Street (East), Sonoma, CA	3S, , 5476-0323-0000	1879	No
--	407429	4464	Bridge #20-23 (or 20 0023)	State Route 121, Sonoma, California	7R, , 5476-0350-0000	1923	No
--	407430	4465	Bridge #20-121 (or 20 0121)	State Route 121, Sonoma, California	7R, , 5476-0351-0000	1922	No
--	407402	4437	Schellville Depot	8th Street (East), Sonoma, CA	3S, , 5476-0323-0000	1879	No

Table 4. Historical Resources within 1/2-Mile Radius					
Source	**Resource**	**Resource Description**	**Distance**	**District**	
				Y	**N**
NRHP	N/A	-	-	-	-
CRHR	N/A	-	-	-	-
CHL	N/A	-	-	-	-
CPHI	N/A	-	-	-	-
BERD	See Table 3	-	-	-	-
Local	N/A	-	-	-	-

DESKTOP REVIEW

Methods

In addition to conducting a record search at the NWIC, CRP also reviewed a variety of historical maps, aerials and literature ranging in date from 1866 to 1968 to determine past land use activities within the Project Area and its associated parcel (APN 128-471-003) that could indicate the likelihood of encountering cultural resources. Additional maps and aerial images from 1982 to 2020 were also reviewed. The following historical maps, aerials and literature were reviewed (listed in chronological order):

- 1866/1867 Map of Sonoma County, California (Bowers)
- 1874 Hand-Book and Directory of Napa, Lake, Sonoma and Mendocino Counties; Including a Map of Each County (Paulson)
- 1877 Historical Atlas Map of Sonoma County, CA (Thompson)
- 1877 Historical and Descriptive Sketch of Sonoma County, Cal (Thompson)
- 1880 United States General Land Office (GLO) Plat Map of Township 5 North, Range 5 West; Mount Diablo Base and Meridian (MDBM)
- 1880 History of Sonoma County (Munro-Fraser)
- 1890 United States General Land Office (GLO) Diagram of Township 5 North, Range 5 West; Mount Diablo Base and Meridian (MDBM)
- 1898 Illustrated Atlas of Sonoma County (Reynolds & Proctor)
- 1900 Official Map of Sonoma County, California (Ricksecker and Walkup)
- 1902 Napa, CA 30-Minute Topographic Quadrangle Map (USGS)
- 1908 Official Map of Sonoma County, California (McIntire & Lewis)
- 1916 Mare Island, CA 15-Minute Topographic Quadrangle Map (USGS)
- 1948 Aerial Image (NETRonline)
- 1951 (photorevised 1968) Sears Point 7.5-Minute Topographic Quadrangle Map (USGS)
- 1952 Aerial Imagery: Flight CSH-1953; Frame 7K-89 (Regents of University of California 2012)
- 1965 Aerial Imagery: Flight CAS-65-130; Frame 64-3 (Regents of University of California 2012)
- 1993 through 2020 Aerial Images (Google Earth)

Results

The desktop review indicates that the Project Area and its subject parcel are near the rural community of Schellville, which has been occupied since the 1860s. This community is the namesake of Theodore L. Schell, who settled the area in 1860 and established a 1,000-acre ranch estate. According to local histories and historical biographies, Schell was one of the main proprietors of the famous "Sonoma Valley Prismoidal Railroad," which passed through a number of hands and was constantly being refurbished (and renamed) before ultimately becoming a branch of the Northwestern Pacific Railroad. Schell's estate was also the site of one of the largest and most renowned dairies in Sonoma Valley. Following his death in 1878, his estate was transferred to his heirs, including three sons (L.W., F.A., and A.B. Schell) and one daughter (D.L. Schell) (Reynolds and Proctor 1898).

Based on data obtained from historical maps, there are no known features within the either the Project Area or parcel during the period from the 1860s through the early 1900s. In fact, much of the landscape constituting the Project Area consists of marshland. However, Thompson's 1877 Historical Atlas Map of Sonoma County does show the aforementioned Prismoidal Railway, which spans approximately three miles and adjacent to the Project's parcel from Norfolk all the way to Schellville. This feature (although

not officially designated) may also be visible on the 1866/1867 Bowers Map, as the alignment is similar to the one shown on Thompson's Map. It is also interesting to note that the maps from this time period highlight the change in ownership and name of the railway system (Sonoma Valley Prismoidal Railway on 1877 Thompson Historical Atlas Map; San Francisco & North Pacific Railroad on 1898 Reynolds & Proctor and 1900 Ricksecker & Walkup; and Northwestern Pacific Railroad on 1908 McIntire and Lewis).

During the later decades of the 20th century, there are obvious changes occurring within the Project's parcel as well as the general landscape. Aerial imagery and USGS topographic quadrangles from the 1950s through the 1960s show the construction of several levees within the parcel, but non penetrate the Project Area. Currently, a wooden fence-line with barbed-wire is situated where one of the previous irrigation ditches is located (situated about 427-feet southeast of Project Area); this irrigation ditch is now nonextant, and the present fence-line does not delineate the parcel boundary. As shown on the 1916 USGS Mare Island 15' Quadrangle, a minor trail is shown running in a northwest-southeast direction through the subject parcel along the existing railway system. With regard to the Project Area, however, there are no apparent cultural features within its boundaries. The following table provides the results of the desktop review.

Table 5. Built Environment Depicted on Historical Maps/Aerials

Map Name	Date(s)	Features (Built Environment)	In Project Area?	In Parcel?	Notes
Map of Sonoma County (Bowers)	1866/1867	Possible railroad	No	No	Much of the parcel, including the Project Area, lies within marshland that is part of the 1,000-acre property of Theodore Schell.
Historical Atlas Map of Sonoma County (Thompson)	1877	Sonoma Valley Prismoidal Railway Roads 1 building/structure within Schell property	No No No	No No Yes	
GLO Plat of T5N/R5W	1880	--	--	--	
GLO Diagram of T5N/R5W	1890	--	--	--	
Illustrated Atlas of Sonoma County (Reynolds & Proctor)	1898	Northwestern Pacific Railroad Southern Pacific Railroad Road features	No No No	No No No	The parcel and Project Area lie within 1,300-acres of land belonging to the Heirs of Theo L. Schell.
Map of Sonoma County (Ricksecker and Walkup)	1900	Largely the same as the Reynolds & Proctor map.	No	No	

Table 5. Built Environment Depicted on Historical Maps/Aerials					
Map Name	**Date(s)**	**Features (Built Environment)**	**In Project Area?**	**In Parcel?**	**Notes**
Napa 30-Minute Quad (USGS)	1902	Sonoma Valley Branch of Northwestern Railroad Santa Rosa Branch of Southern Pacific Railroad 5+ buildings/structures Roads	No No No No	No No No No	
Map of Sonoma County (McIntire & Lewis)	1908	Largely the same as the Reynolds & Proctor and Ricksecker & Walkup maps.	No	No	The parcel and Project Area lie within 303.51-acre property of W.B. Curtis, S.B. Dunn, and Sav. B'x of Santa Rosa.
Mare Island 15-Minute Quad Map (USGS)	1916	Largely the same as the Napa 30-Minute Quad.	No	No	One minor trail running adjacent to the railroad is shown within the project parcel.
Aerial Image (NETRonline)	1948	Northwestern Pacific Railroad Southern Pacific Railroad 5 buildings/structures within main property 2 minor trails/roads along Northwestern Pacific Railroad 2 levees 1 Rodeo arena	No No No No No No	No No No Only one No No	
Sears Point 7.5-Minute Quad Map (USGS)	1951 (photorevised 1968)	Largely the same as the 1948 aerial image	See above	See above	A windmill is shown on the original 1951 version of this quadrangle. The 1968 photorevised version of this quadrangle shows what appears to be a newly-constructed levee that is now the site of an existing fence line.
Aerial image of Flight CSH-1953; Frame 7K-89	1952	Largely the same as both the 1948 Aerial Image and the 1951 Sears Point 7.5-Minute Quad.	See above	See above	
Aerial image of flight CAS-65-130; Frame 64-3	1965	Largely the same as the 1968 photorevised version of the Sears Point 7.5-Minute Quad.	See above	See above	

GEOARCHAEOLOGICAL BURIED SITE ANALYSIS

Methods

A review of regional geological and soil/sediment studies in the region was conducted (see previous section: Environmental Setting, Geology and Soils). Additionally, two regional geoarchaeological studies were reviewed (Meyer and Rosenthal 2007; Meyer and Kaijankoski 2017). Both reports focus on landform evolution and the potential/sensitivity for encountering archaeological resources using a predicative model that incorporates soil/sediment deposits, geologic and geomorphic formations, environmental setting and other attributes. Both the 2007 and 2017 reports were prepared by the Far Western Anthropological Research Group, Inc. for Caltrans District 4 that includes Sonoma County and the Project Area.

Results

The geoarchaeological review indicates the Project Area has a high sensitivity for containing buried prehistoric-era archaeological material. The review of online soil data indicates soils/sediments in the Project Area do not appear to contain buried A Horizon(s). This is important because buried A Horizons are associated with Paleosols (soils formed in the past but are not undergoing soil formation in the present); these soils are associated with containing buried archaeological resources. However, the geologic maps indicate portions of the Project Area contain Holocene-age deposits; the Holocene (~<11,800-years) represents a critical time when humans are known to have lived and occupied California in prehistory. Additionally, the environmental data indicates the Project Area is near or within the interface of the former estuarine and terrestrial landform; this former landform would make such a location ideal for hunting and extracting natural resources, and possible seasonal habitation sites.

Furthermore, Meyer and Rosenthal's (2007) and Meyer and Kaijankoski's (2017) geoarchaeological studies – that includes the location of the Project Area – indicates this area has a reasonable sensitivity for containing buried archaeological deposits due to the Holocene to historic age (11,800 to 150-years) of the deposits (Meyer and Rosenthal 2007: Figure 7; Meyer and Kaijankoski 2017: Figures 25 and 27).

PEDESTRIAN FIELD SURVEY

Methods

On January 14th, 2021, CRP archaeologists Robert Gleaton, M.A., RPA and Andrew Von Pinnon, M.A. conducted an intensive-level pedestrian field survey of the entire Project Area as part of the cultural resources compliance review. The surveyors walked in three (3) to five (3) meter transects (about ten to fifteen-feet) wide transects along the Project Area (i.e., all areas proposed for cultivation development) (see Appendix A; Figure 5: Survey Coverage Map). Photographs of the entire Project Area were taken with digital cameras using the Solocator phone application, with special attention given to ordinal and cardinal directions from the center of the proposed cultivation area, and most cardinal directions viewing into the proposed cultivation area (see Appendix B: Field Survey Photograph Sheets).

The pedestrian survey commenced within the southwest section of the proposed 4.3-acre cultivation area that had been delineated with pink flagging. The surveyors walked southwest to northeast orientated transect intervals spaced about three to five meters apart (see Appendix A; Figure 5: Survey Coverage Map). Ground-visibility across the Project Area was fair (about 50-60%) due to plowing and limited

vegetation growth (i.e., small grasses and forbs); a hand trowel was used about every three to five meters to conduct surface scrapings to view the underlying surface soils in areas were ground-visibility was hindered due to bunched grasses in the pasture.

The surveyors examined the ground surface for evidence of cultural materials and changes in soil color, texture, or composition. This included examining the ground surface for any prehistoric artifacts (e.g., chipped stone such as obsidian, chert and basalt flakes and tools; projectile points, knives, scrapers; shellfish remains; ground stone; and fire-affected rock); and, sediment discolorations that could indicate the presence of prehistoric-era cultural features (e.g., midden, hearths, cairns and other indicators of prehistoric archaeological resources). Additionally, the field surveyor also inspected the Project Areas for evidence of historic-era artifacts (e.g., surface scatters of mining or domestic type artifacts of glass, ceramic, metal, etc.); features such as alignments of stone or brick, foundation elements from previous structures, minor earthworks, and historic-era plantings (e.g., old fruit, nut or other types of trees, and ornamental plants).

Results

The pedestrian survey did not identify any historic properties, historical resources, unique archaeological resources, or potentially significant cultural resources within the Project Area. The Project Area is situated on a relatively flat field (less than 2% slope) that is used as a cow pasture; a knoll is located adjacent to the Project Area along its northwest boundary. As mentioned previously, ground visibility was about 50-60% due to plowing and limited vegetation growth. Vegetation observed included annual and perennial small-size (foot to ankle-high) grasses and forbs. Native soils observed in the Project Area were on average a dark greyish brown to very dark greyish brown clay that contains about 20% gravels of various materials ranging from granules to large pebbles, angular to subrounded in form. Small amounts of modern refuse observed included fragments of plastics and broken bottle glass. Photographs of the entire Project Area taken during the survey are provided in Appendix B: Field Survey Photograph Sheets.

SUMMARY OF RESULTS

In accordance with the CEQA regulations and guidelines and the Sonoma County Cannabis Land Use Ordinance No. 6189, a CRS was completed to identify any listed or eligible for listing historical resources or unique archaeological resources that may be directly or indirectly affected by this Project. The study includes the results of a CHRIS records search; desktop review of historical maps, aerials, and literature; review of geologic and soils data regarding geoarchaeological buried site sensitivity, and; visual reconnaissance (archaeological pedestrian survey) of the Project Area. The government-to-government consultation with the local Native American tribes that is required by CEQA was or will be conducted by the lead agency (i.e., Sonoma County Department of Agriculture/Weights & Measures); therefore, a Sacred Lands inventory and consultation with local Native American tribes was not conducted as part of the CRS.

This CRS was completed by CRP Principal Archaeologist, Robert Gleaton, M.A., RPA, and CRP Archaeologist, Andrew Von Pinnon, M.A.; both individuals exceed the *Secretary of Interior's Qualification Standards* in *Archaeology*. The following is a summary of findings for this study:

- **CHRIS Records Search:** The CHRIS record search conducted by NWIC staff indicates that the proposed cultivation area has had one previously conducted cultural resources study performed within its boundaries (S-046942 / Painter 2015). Two other studies (S-039171 / Koenig and

Brewster 2011; S-043823 / Jones & Stokes 2003) have been conducted within the Project's parcel (APN 128-471-003). All three studies were negative for cultural resources within the parcel and the Project Area. Thus, the results did not identify any recorded historic properties, historical resources, unique archaeological resources, or previously recorded cultural resources located within the Project Area or its subject parcel (see Tables One through Four and Appendix A; Figure 4: CHRIS Records Search Result Maps).

- **Historical Maps, Aerials, & Literature Review:** The desktop review of historical maps, aerials, and literature indicates the property at 1515 Fremont Drive, including the subject parcel (APN 128-471-003) and Project Area, was owned by Theodore Schell and his family from at least 1866 to the early 1900s (Bowers 1866/1867; Thompson 1877; Reynolds and Proctor 1898; Ricksecker and Walkup 1900). However, none of the reviewed historical maps or aerials indicate any apparent features of the built environment within the Project Area. The most noteworthy features are the former Sonoma Valley Prismoidal Railway (adjacent to western boundary of subject parcel), a levee that seems to span through the parcel (but not the Project Area itself); a minor trail adjacent to the railway that first appears on USGS topographic quadrangles and aerials from the early 20th century, and; an irrigation ditch that is now nonextant and is where the present fence-line located about 427-feet south of the Project Area is located (see Table Five).

- **Geoarchaeological Buried Site Sensitivity:** The review of geological maps, soil maps, and two regional geoarchaeological studies (Meyer and Rosenthal 2007; Meyer and Kaijankoski 2017) indicates that the Project Area has a high sensitivity for buried archaeological resources based on the Holocene age of the deposits and the former interface of an estuarine and terrestrial landform.

- **Pedestrian Survey:** CRP archaeologists surveyed the entire Project Area and portions of its associated parcel (APN 128-471-003) (see Appendix A; Figure 5: Survey Coverage Map). The archaeological pedestrian survey did not identify any historic properties, historical resources, unique archaeological resources, or potentially significant cultural resources within the Project Area (i.e., proposed cultivation area). Photographs of the entire Project Area were taken (see Appendix B: Field Survey Photographs).

RECCOMENDATIONS

There are no listed or potentially eligible for listing historical resources or unique archaeological resources within the Project Area. Thus, CRP recommends a determination of ***no historical resources or unique archaeological resources affected by the proposed Project.*** However, the Project's location is in a region that has been used by California Native Americans both historically and prehistorically, and is also in an area that has experienced historic-era development since at least the 1860s. Thus, while unlikely, there may be unidentified cultural resources present within the Project Area. Therefore, the following general recommendations are made for this Project regarding the accidental discovery of cultural resources and human remains during the Project's construction activities.

Accidental Discovery

It is recommended that if any prehistoric or historic-era material is encountered during construction activities, all ground disturbing work within 100-feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior qualified archaeologist assesses the significance of the resource. The archaeologist, in consultation with the lead agency (i.e., the Sonoma County Department of Agriculture/Weights & Measures), the landowner, any interested Tribes, and any other responsible public agency, should make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be eligible to the National or California Registers, qualify as a unique archaeological resource under CEQA Section 21083.2 or determined to be tribal cultural resource as defined in Section 21074.

Historic-era resources potentially include all by-products of human land use greater than 50-years of age, including alignments of stone or brick, foundation elements from previous structures, minor earthworks, brick features, surface scatters of mining, farming or domestic type material, and subsurface deposits of domestic type material (e.g., glass, ceramic, etc.).

Prehistoric-era artifacts that are typically found associated with sites in the area include humanly modified stone, shell, bone, or other materials such as charcoal, ash and burned rock that can be indicative of food procurement or processing activities. Pre-contact domestic features include hearths, fire pits, and house floor depressions and mortuary features consisting of human skeletal remains.

Human Remains

If human remains are encountered within the Project Area during Project-related earth-disturbing activities, all work within 100-feet of the discovery area shall cease immediately, nothing is to be disturbed, and the area secured. The Sonoma County Coroner's Office must be notified immediately. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner will determine if the remains are pre-contact Native American or of modern origin and if there are any criminal or jurisdictional questions.

If the Coroner believes the remains to be those of a pre-contact Native American, they shall contact the Native American Heritage Commission (NAHC) by telephone within 24-hours. The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48-hours to make recommendations to the landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48-hours, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC. According to the California Health and Safety Code, six (6) or more human burials at one (1) location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052). An archaeologist(s) should also be retained to evaluate the historical significance of the discovery, the potential for additional remains, and to provide further recommendations for treatment of the site in coordination with the MLD.

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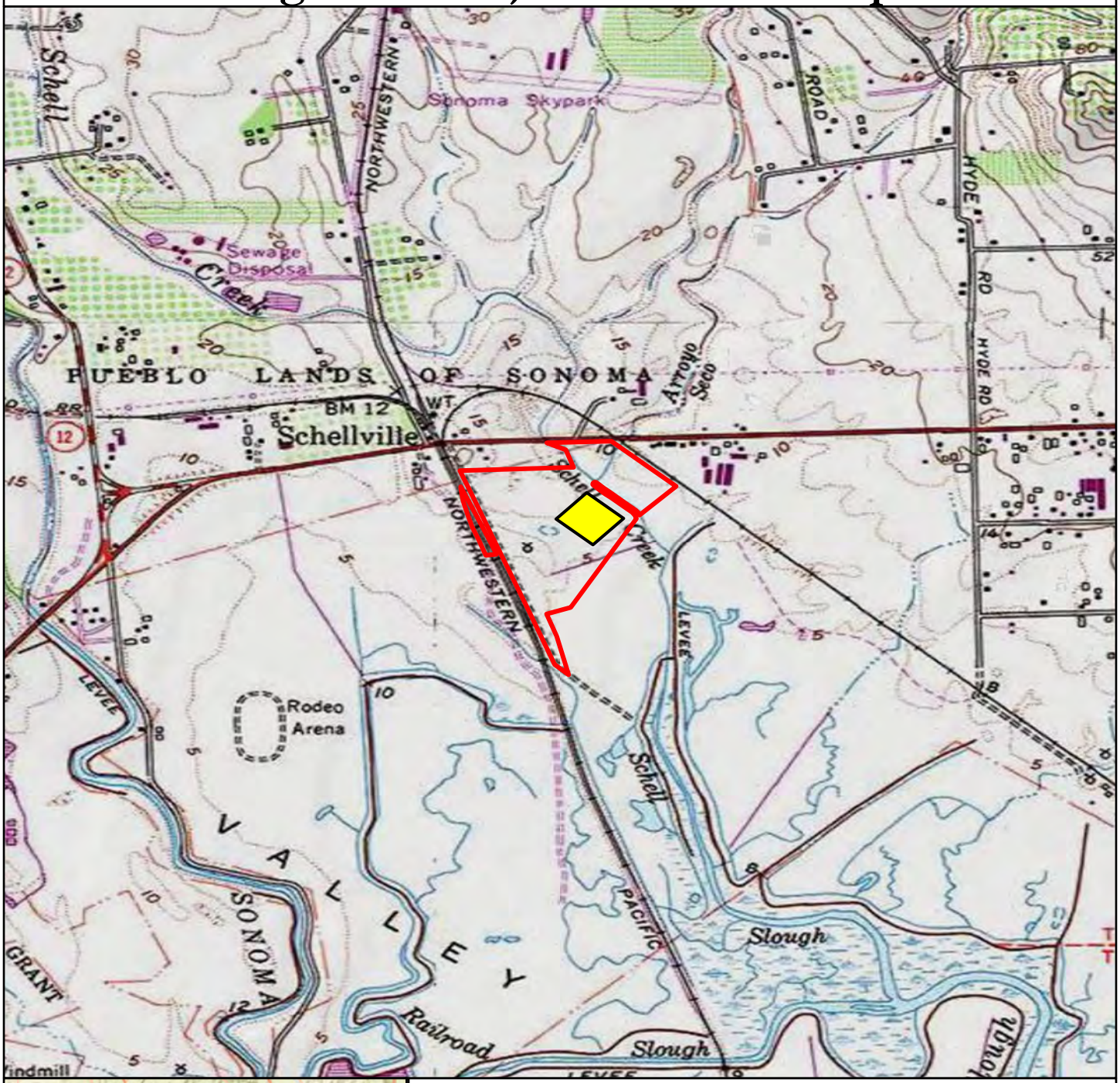
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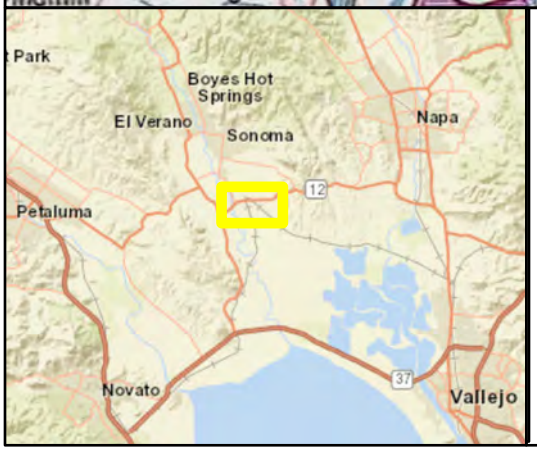
Appendix A: Maps

Figure 1: Project Location Map
Figure 2: Aerial Map
Figure 3: Preliminary Construction Maps
Figure 4: CHRIS Result Maps
Figure 5: Survey Coverage Map

Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1515 Fremont Drive, Sonoma, California, 94952 (APN: 128-471-003)

APN 128-471-003 Cultivation Project
Figure 1: Project Location Map





Scale: 1:24,000
USGS 7.5' Maps: Sears Point & Sonoma
Township 5 North; Rage 5 West; MDBM;
Unsectioned (Rancho Huichica)

Parcel Boundary: APN 128-471-003

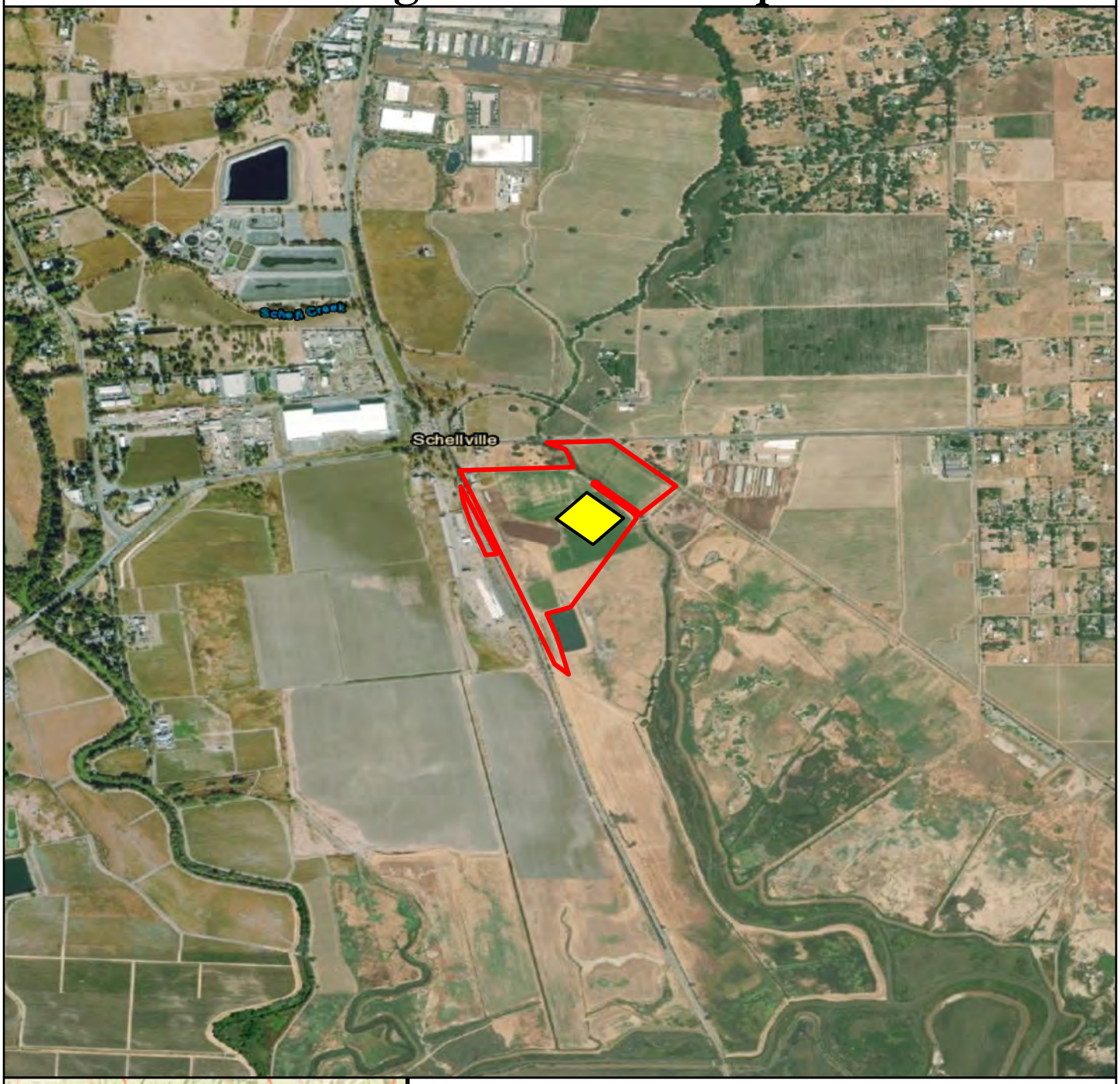
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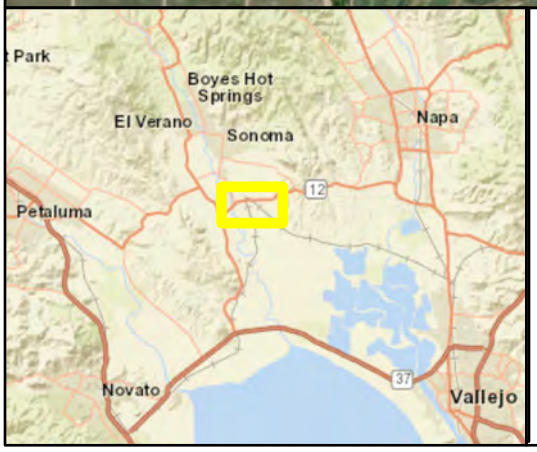
TN

0 0.13 0.25 0.5 0.75 1 Miles

Cultural Resources Practitioners, LLC. January 2021

APN 128-471-003 Cultivation Project
Figure 1: Aerial Map





TN

Parcel Boundary: APN 128-471-003

Project Area / Cultivation Area

0 0.13 0.25 0.5 0.75 1 Miles

Cultural Resources Practitioners, LLC. January 2021

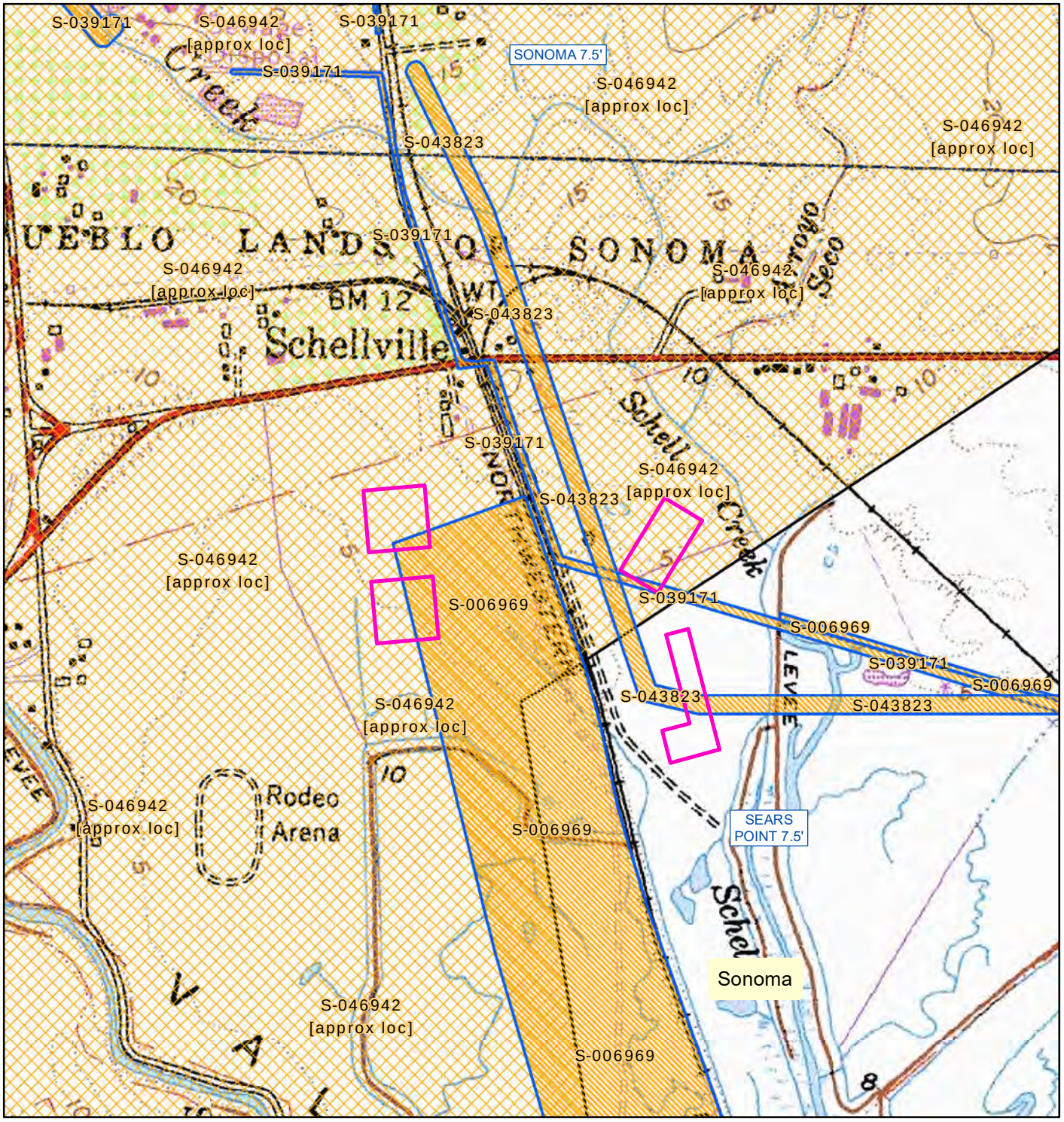
Cultivation Area (Plot 3)

APN: 128-471-003
Address: 1515 Fremont Drive, Sonoma, CA 95476



APN	Corner Point	Latitude	Longitude
128-471-003	003-NE Corner	38.244511°	-122.433856°
	003-SE Corner	38.243708°	-122.432688°
	003-NW Corner	38.243686°	-122.434812°
	003-SW Corner	38.242879°	-122.433654°

CRP 2020075, -76, -77, & -78
Report Map

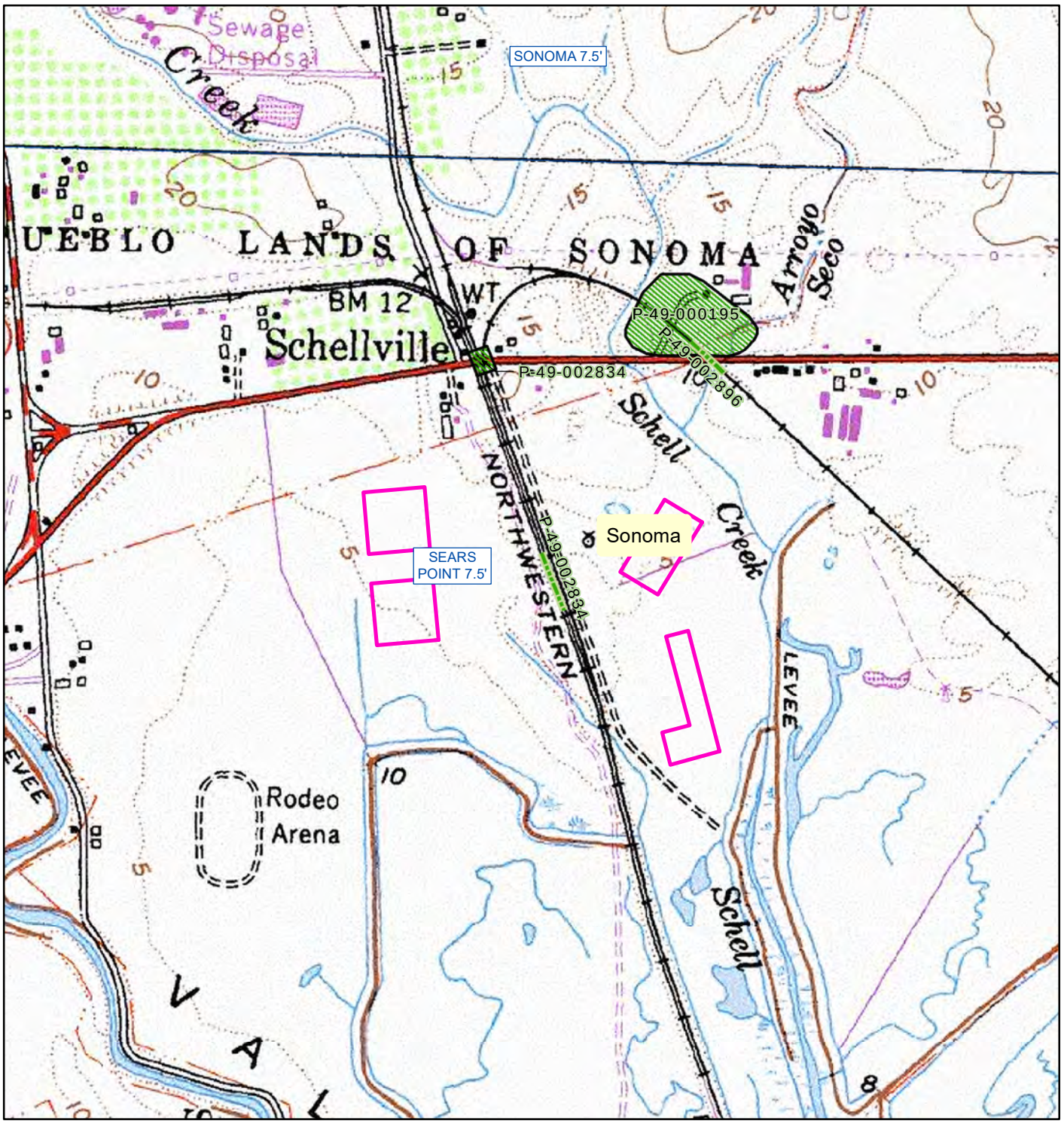


Northwest Information Center
File #20-1126, 4 January 2020, L. Hagel
May depict confidential cultural resource locations.
Do not distribute.

Feet: 0, 350, 700, 1,050, 1,400
Meters: 0, 60, 120, 180, 240, 300

N

CRP 2020075, -76, -77, & -78
Resource Map

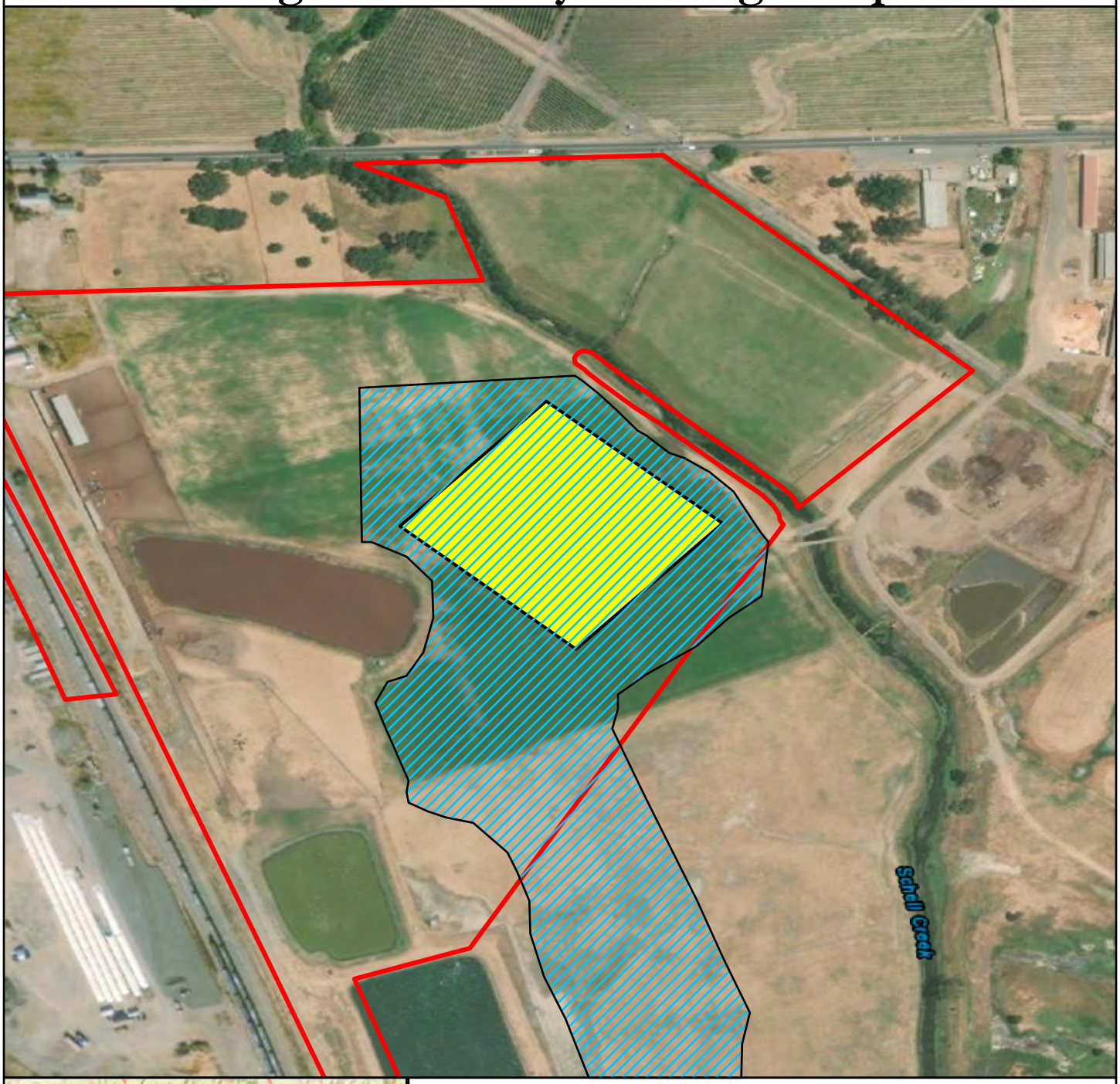


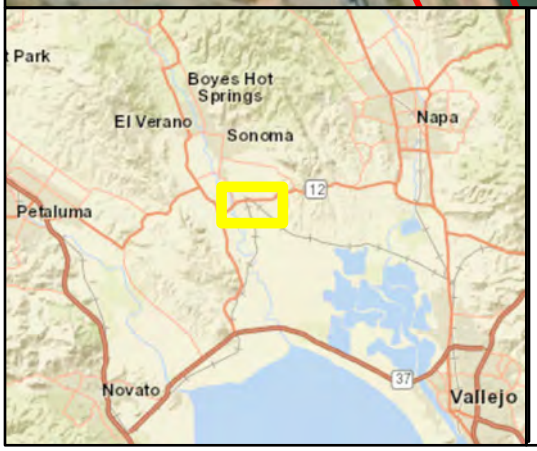
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May depict confidential cultural resource locations.
Do not distribute.

Feet: 0, 350, 700, 1,050, 1,400
Meters: 0, 60, 120, 180, 240, 300

N

APN 128-471-003 Cultivation Project
Figure 5: Survey Coverage Map





Surveyed Area

Parcel Boundary: APN 128-471-003

Project Area / Cultivation Area

TN

Miles

0 0.03 0.05 0.1 0.16 0.21

Cultural Resources Practitioners, LLC. January 2021

Appendix B:

Field Photograph

Sheets

Results of a Cultural Resources Study for
the Proposed Cannabis Cultivation Project
at 1515 Fremont Drive, Sonoma, California, 95476
(APN: 128-471-003)

PHOTO SHEET #1

Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1515 Fremont Drive, Sonoma, California, 95476 (APN: 128-471-003)



Figure 1: Overview of cultivation area looking south from northern-northwestern section.



Figure 2: Overview of cultivation area looking southeast from northern-northwestern section.



Figure 3: Overview of cultivation area looking southwest from northwestern section.



Figure 4: Overview of cultivation area looking east from northwestern section.

PHOTO SHEET #2

Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1515 Fremont Drive, Sonoma, California, 95476 (APN: 128-471-003)



Figure 5: Overview of cultivation area looking north near central southern section.



Figure 6: Overview of cultivation area looking west from eastern section.



Figure 7: Overview of cultivation area looking northwest from central northern section.



Figure 8: Overview of cultivation area looking northeast from central northern section.

RESULTS of a CULTURAL RESOURCES STUDY for the PROPOSED CANNABIS CULTIVATION PROJECT at 1515 FREMONT DRIVE, SONOMA, CALIFORNIA, 95476 (APN: 128-471-004)

JANUARY 2021

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ARCHAEOLOGICAL DATABASE INFORMATION

Prepared by:	Robert Gleaton, M.A., RPA, and Andrew Von Pinnon, M.A. Cultural Resources Practitioners, LLC 2037 West Hearn Avenue, Santa Rosa, CA 95407 www.crpcal.com
Date:	January 2021
Title:	Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1515 Fremont Drive, Sonoma, California, 95476 (APN: 128-471-004)
Prepared for:	Erich Pearson Farmparc, LLC PO Box 1538 Glen Ellen, CA 95476
USGS 7.5 Minute Series Quadrangle Map:	1951 (Photorevised 1968) Sears Point, California; Township 5 North; Range 5 West; Unsectioned (Rancho Huichica)
Keywords:	Sonoma County; Schellville; cannabis cultivation project; CEQA; negative for cultural resources; recommended no historical resources or unique archaeological resources affected

STATEMENT OF CONFIDENTIALITY

This report identifies the locations of cultural resources within Sonoma County, which are confidential. The cultural, scientific, and artistic values associated with these sites can be damaged or destroyed through uncontrolled public disclosure of information about their locations.

Disclosure of this information to the public may be in violation of both federal and state laws. Information regarding the location, character or ownership of a historic resource is exempt from the Freedom of Information Act. Applicable U.S. laws include, but may not be limited to, Section 304 of the National Historic Preservation Act (16 USC 470w-3) and the Archaeological Resources Protection Act (16 USC 470hh). California state laws that apply include, but may not be limited to, Government Code Sections 6250 *et seq*. and 6254 *et seq*.

If any information in this document is to be released for public review, all locational information associated with archaeological resources must be redacted before distribution.

TABLE OF CONTENTS

STATEMENT OF CONFIDENTIALITY ii

INTRODUCTION 1
PROJECT 1
Scope of Work & Location 1

REGULATORY SETTING 1
California State LORS 2
California Environmental Quality Act (CEQA) 2
Senate Bill (SB) 18 (2004) 4
Public Resources Code (PRC), Section 5097.9 et seq. (1982) 4
Public Resources Code 5097.98 4
Health and Safety Code 7050 – 7052 4
Sonoma County LORS 4
Sonoma County General Plan (2020) 4
Sonoma County Landmark Commission 6
Cannabis Land Use Ordinance No. 6189 (2016) 6

SETTING 7
ENVIRONMENTAL SETTING 7
Geology 7
Soils 8
CULTURAL SETTING 9
Prehistoric & Archaeological Overview 9
Ethnohistoric Overview 12
Historic Overview 13

BACKGROUND RESEARCH 15
CHRIS RECORD SEARCH 15
Methods 15
Results 16
DESKTOP REVIEW 21
Methods 21
Results 22

GEOARCHAEOLOGICAL BURIED SITE ANALYSIS 24
Methods 24
Results 24

PEDESTRIAN FIELD SURVEY 24
Methods 25
Results 25

SUMMARY OF RESULTS 26

RECCOMENDATIONS 27
Accidental Discovery 27
Human Remains 27

REFERENCES CITED 29

LIST OF TABLES

Table 1. NWIC Results: Cultural Resource Studies 17
Table 2. NWIC Results: Previously Recorded Cultural Resources 20
Table 3. BERD Listed Recorded Properties 20
Table 4. Historical Resources within 1/2-Mile Radius 20
Table 5. Built Environment Depicted on Historical Maps/Aerials 22

APPENDICES

Appendix A: Maps
Figure 1: Project Location Map
Figure 2: Project Aerial Map
Figure 3: Preliminary Construction Map
Figure 4: CHRIS Records Search Result Maps
Figure 5: Survey Coverage Map

Appendix B: Field Survey Photograph Sheets

INTRODUCTION

Cultural Resources Practitioners, LLC (CRP) was retained by Farmparc, LLC to provide a Cultural Resources Study (CRS) for one (1) proposed outdoor cultivation site measuring 4.3 acres located on a section of parcel at 1515 Fremont Drive, Sonoma, California, 95476 (herein referred to as Project). The CRS was completed in compliance with the California Environmental Quality Act (CEQA) and the Sonoma County Cannabis Land Use Ordinance No. 6189. The purpose of the CRS was to determine if there are any cultural resources located within the Project Area that meet CEQA's definition of Historical Resource(s) or Unique Archaeological Resource(s) that could be impacted by the Project and to provide project-specific recommendations if needed.

The government-to-government consultation with the local Native American tribes that is required to determine the presence or absence, or potential impacts to Tribal Cultural Resources, as defined in Public Resource Code §21074, is to be conducted by the lead agency (i.e. Sonoma County Department of Agriculture/Weights & Measures); therefore, a Sacred Lands inventory and consultation with local Native American tribes was not conducted as part of this CRS.

This CRS was completed by CRP Principal Investigator Robert Gleaton, M.A., RPA (Registered Professional Archaeologist, No. 52141) and Cultural Resources Specialist Andrew Von Pinnon, M.A.; both individuals exceed the *Secretary of Interior's Professional Qualification Standards* in *Archaeology*. The results of the CRS are presented herein.

PROJECT

Scope of Work & Location

The proposed Project entails one outdoor cannabis cultivation site with an aproximate 4.3-acre area located within the property at 1515 Fremont Drive, Sonoma, California; Accessors Parcel Number (APN) 128-471-004; near the unincorporated community of Schellville in Sonoma County (see Appendix A, Figure 1: Project Location Map; Figure 2: Aerial Map, and; Figure 3: Preliminary Construction Maps).

The Project's proposed cannabis cultivation area is located on the 1951 (Photorevised 1968) Sears Point, California, 7.5-Minute Series United States Department of the Interior Geological Survey (USGS) Topographic Quadrangle Map; Township 5 North; Range 5 West; in an unsectioned portion (Rancho Huichica); Mount Diablo Base and Meridian (MDBM).

REGULATORY SETTING

This section briefly discusses California and Sonoma County laws, ordinances, regulations and standards (LORS) that apply to the Project. A cultural resources inventory was conducted to satisfy the requirements of the California Environmental Quality Act (CEQA) of 1970 as amended; its implementing regulations the CEQA Guidelines, codified in Title 14 of the CCR, which provides agencies guidance for compliance with environmental regulations, and; Sonoma County Ordinances including the Cannabis Land Use Ordinance No. 6189 (2016) and those described in the Sonoma County General Plan 2020, as amended.

California State LORS

California Environmental Quality Act (CEQA)

The CEQA established that historical and archaeological resources are afforded consideration and protection by the California Environmental Quality Act (CEQA) (14 CCR Section 21083.2, 14 CCR Section 15064). CEQA Guidelines define significant cultural resources under two regulatory designations: *historical resources* and *unique archaeological resources*.

A historical resource is a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (CRHR)"; or "a resource listed in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code"; or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record" (14 CCR Section 15064.5[a][3]).

Historical resources automatically listed in the California Register include California cultural resources listed in or formally determined eligible for the National Register and California Historical Landmarks list from No. 770 onward (PRC 5024.1[d]). Locally listed resources are entitled to a presumption of significance unless a preponderance of evidence in the record indicates otherwise.

Under CEQA, a resource is generally considered historically significant if it meets the criteria for listing in the CRHR. A resource must meet at least one of the following criteria (PRC 5024.1; 14 CCR Section 15064.5[a][3]):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage. Title 14, CCR Section 4852(b)(1) adds, "is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States."

2. Is associated with the lives of persons important in our past. Title 14, CCR Section 4852(b)(2) adds, "is associated with the lives of persons important to local, California, or national history."

3. Embodies the distinctive characteristics of a type, period, region, or method of construction; or represents the work of an important creative individual; or possesses high artistic values. Title 14, CCR 4852(b)(3) allows a resource to be CRHR eligible if it represents the work of a master.

4. Has yielded, or may be likely to yield, information important in prehistory or history. Title 14, CCR 4852(b)(4) specifies that importance in prehistory or history can be defined at the scale of "the local area, California, or the nation."

Historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (14 CCR 4852[c]).

An archaeological artifact, object, or site can meet CEQA's definition of a *unique archaeological resource* even if it does not qualify as a historical resource (PRC 21083.2[g]; 14 CCR 15064.5[c][3]). An

archaeological artifact, object, or site is considered a unique archaeological resource if ". . .it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC 21083.2[g]):

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

Assembly Bill 52 (AB 52) and Tribal Cultural Resources (2015). AB 52 establishes a formal role for California Native American tribes in the CEQA process. CEQA lead agencies are required to consult with tribes about potential tribal cultural resources in the project area, the potential significance of project impacts, the development of project alternatives and the type of environmental document that should be prepared.

- A "Native American tribe located in California that is on the contact list maintained Native American Heritage Commission" (NAHC). This definition does not distinguish between federally recognized and non-federally recognized tribal groups, and is therefore more inclusive than the federal definition of "Indian tribe" (PRC § 21073).

- To qualify as a tribal cultural resource, it must either be 1) listed on or eligible for listing on the California Register of Historical Resources or a local historic register or, 2) or is a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a Tribal Cultural Resource (PRC § 21074). Tribal Cultural Resources include "non-unique archaeological resources" that, instead of being important for "scientific" value as a resource, can also be significant because of the sacred and/or cultural tribal value of the resource. Tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of tribal cultural resources within their traditionally and cultural affiliated geographic area (PRC § 21080.3.1(a)).

- Consultation in the context of AB 52 is the meaningful and timely process of seeking, discussing, and carefully considering the views of others. Meaningful consultation usually consists of face-to-face meetings conducted in such a way that recognizes the cultural values of all parties involved and makes a concerted effort to reach an agreement. Consultation should recognize the tribe's potential need for confidentiality regarding places that hold traditional tribal significance. Consultation with tribes is considered the best way for lead agencies to determine if a project could result in significant environmental impacts to tribal cultural resources (PRC § 21080.3.1(a); GC § 65352.4).

A project that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (PRC § 21084.2).

Tribal Cultural Resources are not addressed in a CRS, as they are resources that are specific concern to California Native American tribes. Pursuant to revisions to CEQA enacted in 2015, Tribal Cultural Resources are to be identified by Tribes during government-to-government consultation with the lead agency and can remain confidential (PRC § 21080.3.1).

Senate Bill (SB) 18 (2004)

Senate Bill 18, signed into law by Governor Schwarzenegger in September 2004, requires cities and counties to notify and consult with California Native American Tribes about proposed adoption of, or changes to, general plans and specific plans for the purpose of protecting Traditional Tribal Cultural Places ("cultural places"). Interim tribal consultation guidelines were published by the Governor's Office of Planning and Research on March 1, 2005.

Public Resources Code (PRC), Section 5097.9 et seq. (1982)

This establishes that both public agencies and private entities using, occupying, or operating on state property under public permit, shall not interfere with the free expression or exercise of Native American religion and shall not cause severe or irreparable damage to Native American sacred sites. This section also creates the NAHC, charged with identifying and cataloging places of special religious or social significance to Native Americans, identifying and cataloging known graves and cemeteries on private lands, and performing other duties regarding the preservation and accessibility of sacred sites and burials.

Public Resources Code 5097.98

This section discusses the procedures that need to be followed upon the discovery of Native American human remains. The NAHC, upon notification of the discovery of human remains is required to contact the County Coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code and shall immediately notify those persons it believes to be most likely descended from the deceased Native American.

Health and Safety Code 7050 – 7052

Section 7052 of the Health and Safety Code states that the disturbance of Native American cemeteries is a felony. Section 7050.5 of the California Health and Safety Code requires that construction or excavation must be stopped in the vicinity of discovery of human remains until the County Coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission (NAHC).

Sonoma County LORS

Sonoma County General Plan (2020)

Open Space and Resource Conservation Element (amended 2016), Chapter 10: Archaeological, Cultural, and Historical Resources. This document outlines a number of goals, objectives and policies for the protection and preservation of prehistoric and historic cultural resources. The Goal includes: "Protect and preserve significant archaeological and historical sites that represent the ethnic, cultural, and economic groups that have lived and worked in Sonoma County, including Native American populations. Preserve unique or historically significant heritage or landmark trees" (SCPRMD 2016: OS-54).

Polices specific to archaeological resources include:

Policy OSRC-19a: Designate the County Landmarks Commission to review projects within designated historic districts.

Policy OSRC-19b: Refer proposals for County Landmark status and rezoning to the Historic Combining District to the County Landmarks Commission.

Policy OSRC-19c: The County Landmarks Commission shall review Historic Building Surveys and make recommendations for designation of structures or cemeteries as County landmarks.

Policy OSRC-19d: Include a list of historic structures proposed for designation as County landmarks in Specific or Area Plans or Local Area Development Guidelines and refer the

list to the Landmarks Commission for their recommendations.

Policy OSRC-19e: Refer applications that involve the removal, destruction or alteration of a structure or cemetery identified in a historic building survey to the Landmarks Commission for mitigation. Measures may include reuse, relocation, or photo documentation.

Policy OSRC-19f: Use the Heritage or Landmark Tree Ordinance and the design review process to protect trees.

Policy OSRC-19g: Pursue grant funding for the preparation and updating of historic resource inventories.

Policy OSRC-19h: Designate the County Landmarks Commission to administer a preservation program for stabilization, rehabilitation, and restoration of historic structures.

Policy OSRC-19i: Develop a historic resources protection program that provides for an ongoing process of updating the inventory of historic resources. Such a program should include: (1) Periodic historic building surveys, (2) Formalized recognition of the inventory of historic resources as recommended by the State Office of Historic Preservation, including rezoning to the Historic Combining District (HD), and (3) Procedures for the protection of recognized historic resources for both ministerial and discretionary permits.

Policy OSRC-19j: Develop an archaeological and paleontological resource protection program that provides: (1) Guidelines for land uses and development on parcels identified as containing such resources, (2) Standard project review procedures for protection of such resources when discovered during excavation and site disturbance, and (3) Educational materials for the building industry and the general public on the identification and protection of such resources.

Policy OSRC-19k: Refer applications for discretionary permits to the Northwest Information Center to determine if the project site might contain archaeological or historical resources. If a site is likely to have these resources, require a field survey and preparation of an archaeological report containing the results of the survey and include mitigation measures if needed.

Policy OSRC-19l: If a project site is determined to contain Native American cultural resources, such as sacred sites, places, features, or objects, including historic or prehistoric ruins, burial grounds, cemeteries, and ceremonial sites, notify and offer to consult with the tribe or tribes that have been identified as having cultural ties and affiliation with that geographic area.

Policy OSRC-19m: Develop procedures for consulting with appropriate Native American tribes during the General Plan adoption and amendment process.

Policy OSRC-19n: Develop procedures for complying with the provisions of State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, if applicable, in the event of the discovery of a burial or suspected human bone. Develop procedures for consultation with the Most Likely Descendant as identified by the California Native American Heritage Commission, in the event that the remains are determined to be Native American.

Sonoma County Landmark Commission

This commission was established by the Board of Supervisors on April 23, 1974 under ordinance No. 1768, the same ordinance that provided the procedure for designation of Historic Structures (i.e., Historic Landmarks) and Historic Districts. The ordinance establishes that the Commission shall consist of one resident from each Supervisorial District, appointed by the Board of Supervisors. The duties of the Commission are, "To establish certain sites, buildings, etc., as historical landmarks; review development applications involving historic properties, grants program" (County of Sonoma 2018).

Cannabis Land Use Ordinance No. 6189 (2016)

The Board of Supervisors of Sonoma County adopted a Negative Declaration and amended text in Chapter 26 (Zoning Ordinance) of the Sonoma County Code to allow personal cultivation of cannabis and permit cultivation of commercial medical cannabis and support land uses in various zoning districts. Regarding cultural resources, the Ordinance (County of Sonoma 2016:16-17) states:

> *Section 9) Cultural and Historic Resources:* "Cultivation sites shall avoid impacts to significant cultural and historic resources by complying with the following standards. Sites located within a Historic District shall be subject to review by the Landmarks Commission, unless otherwise exempt, consistent with Section 26-68-020. Cultivation operations involving ground disturbing activities, including but not limited to, new structures, roads, water storage, trenching for utilities, water, wastewater, or drainage systems shall be subject to design review and referral to the Northwest Information Center and local tribes for consultation. A cultural resource survey and on-site monitor during ground disturbing activities may be required to demonstrate cultural and historic resources are protected.
>
> The following minimum standards shall apply to cultivation permits involving ground disturbance. All grading and building permits shall include the following plans:
>
> If paleontological resources or prehistoric, historic-period or tribal cultural resources are encountered during ground-disturbing work at the project location, all work in the immediate vicinity shall be halted and the operator must immediately notify the agency having jurisdiction of the find. The operator shall be responsible for the cost to have a qualified paleontologist, archaeologist and tribal cultural resource specialist under contract to evaluate the find and make recommendations in a report to the agency having jurisdiction.
>
> Paleontological resources include fossils of animals, plants or other organisms. Historic-period resources include backfilled privies, wells, and refuse pits; concrete, stone, or wood structural elements or foundations; and concentrations of metal glass, and ceramic refuse. Prehistoric and tribal cultural resources include obsidian and chert flaked-stone tools (e.g., projectile points, knives, choppers), midden (culturally darkened soil containing heat-affected rock, artifacts, animal bone, or shellfish remains), stone milling equipment, such as mortars and pestles, and

certain sites features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe.

If human remains are encountered, work in the immediate vicinity will stop and the operator shall notify the agency having jurisdiction and the Sonoma County Coroner immediately. At the same time, the operator shall be responsible for the cost to have a qualified archaeologist under contract to evaluate the discovery. If the human remains are determined to be of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification".

SETTING

This section provides an environmental setting (i.e., overview, geology and soils), and cultural (i.e., prehistoric, ethnohistoric and historic) overview of the Project's vicinity. Each setting provides the basis for understanding the significance, and/or the potential for encountering cultural resources that could be located within the Project Area.

ENVIRONMENTAL SETTING

The Project Area is located south of the unincorporated community of Schellville at 1515 Fremont Drive in Sonoma County; approximately 3.5 miles southeast of the city of Sonoma, 10.5 miles east of the city of Petaluma, and 8.5 miles west of the city of Napa. Situated about 4-feet above mean sea level (amsl), the parcel is located at the southern edge of Sonoma Valley, within an existing pasture field located north of an estuarine and marshland environment that lies immediately north of San Pablo Bay. In addition, the Project Area lies between two natural streams: Sonoma Creek to the west (about 0.61 miles) and Schell Creek and Schell Slough to the east (about 0.6 miles). Vegetation within the Project Area includes annual and perennial, native and nonnative, grasses and forbs.

Geology

Located on the southern edge of Sonoma Valley, this area contains a narrow fault basin. The Sonoma Valley is located within the geologic region of California referred to as the Northern Coast Range Geomorphic Province, situated within the larger Coast Range Geomorphic Province (Harden 1998). The Coast Range province lies between the Pacific Ocean and Great Valley (Sacramento to San Joaquin valleys) provinces and stretches from the Oregon border to the Santa Ynez Mountains near Santa Barbra. The northern and southern Coast Ranges are separated by a depression containing the San Francisco Bay (California Department of Conservation 2002). The San Francisco Bay lies within a broad depression created from an east-west expansion between the San Andreas and Hayward fault systems (ESA 2009:4.M-1).

At least five regional geologic maps exist that cover the Project Area (Koenig 1963; Wagner and Bortugno 1982; Knudsen et al. 2000; Wagner et al. 2002; Graymer et al. 2006). Generally, these maps indicate the Project Area has a geology comprised largely of recent (Holocene) Quaternary Alluvium; Holocene-aged Intertidal deposits (Peaty-mud); or older alluvium (near Pleistocene to Holocene interface) which fits with the Project Area's estuarine location and terrestrial landform.

Wagner and other's 2002 study focuses on the USGS 7.5-Minute Sears Point Quadrangle Map. Their 2002 map plots the entire Project Area in the Qhbm unit, which is described as latest Holocene bay mud with silt, clay, peat, and fine sand deposited at or near sea level in San Pablo Bay (Wagner et al. 2002).

Determining the geologic age of the landform on which the Project Area is located is important because most Holocene-age (post 11,800 calibrated years before present) landforms have the potential for buried sites because they formed when people occupied California (Meyer and Rosenthal 2007:15). Generally, dramatic changes in the landscape over the past 13,000 years (e.g., rising sea levels and increased sedimentation into streams and rivers) can result in many late Pleistocene and early Holocene land surfaces being overlain by thick deposits of alluvial soils that are generally less than 5,000-years-old and that have established an interface with an older land surface represented by a well-developed buried soil profile, or paleosol. Additionally, certain landforms such as alluvial fans, floodplains, and areas along rivers and streams, are more likely to contain buried sites:

> "At a general level, it is relatively easy to understand that buried sites will be located in or beneath Holocene-age depositional landforms. Predicting exactly where they will occur, however, is much more difficult. Buried archaeological potential can be conceptualized as a set of factors that either encouraged or discouraged human occupation of certain landforms (e.g., aspect, extent, setting, slope), and those factors that affected the subsequent preservation (i.e., erosion or burial) of those landforms" (Meyer and Rosenthal 2007:25).

Soils

An understanding of soils and their development is fundamental in archaeology because soils are an essential component in any environmental reconstruction as they can provide evidence of past human activity (Goldberg and Macphail 2006:42). Five soil-forming factors include: (1) climate, (2) organisms (including humans), (3) relief (topography), (4) parent rock, and (5) time (Jenny 1941). The formation of soils creates a vertical and horizontal distinction that creates a profile displaying the sequences, termed soil horizons, which lie horizontal to one another and parallel with the surface (Waters 1992:45). These horizons "reflect changes in mineralogy, texture, and chemistry usually caused by weathering" (Stein 2001:18), which together form a soil profile (Jones 2007:11).

Identification of certain soil types is important in geoarchaeology as the soils can inform the researcher how to reconstruct past environmental and climatic conditions (Rapp and Hill 2006:41). Many older land surfaces often contain buried soils (paleosols). Paleosols are soils that formed in the past but are not undergoing soil formation in the present. The paleosols soils represented in the soil stratigraphy are: 1) indicative of prolonged periods of land stability or past environmental conditions; 2) are useful stratigraphic markers for locating buried archeological deposits and are and are well represented in archaeological contexts and; 3) and aid in the correlation of depositional sequences of different areas (Meyer 2003; Rapp and Hill 2006). Additionally, landforms that exhibit clear evidence of soil formation are expected to have a higher potential for containing archaeological resources than deposits that lack evidence of soil formation because people are generally attracted to stable surfaces, which in turn retains the evidence of occupation (Scher 2012: 9). Deposits composed of sorted sand and gravel are expected to have little potential for containing intact archaeological resources but may contain re-deposited material and may represent former stream channels that could be associated with prehistoric use (Meyer 2000:10).

Natural Resources Conservation Service

The current soils map provided the Natural Resources Conservation Service (NRCS) (Soils Survey Staff 2020) describes the soils within, and directly adjacent to, the Project Area as the Reyes clay. Current soil maps can be found in Google Earth and at the Web Soil Survey website (Soil Survey Staff 2021). The following is a description of the Reyes series:

> ***Reyes Series***: The Reyes series consists of very deep, poorly-drained soils that formed in alluvium along the margin of bays. Reyes soils occur on reclaimed and protected marsh areas, with slopes ranging between 0 and 2 percent. Its taxonomic class is a fine, mixed, active, acid, thermic Typic Sulfaquent. This series extends 63 inches below the surface and contains the following horizons: Oi, A, Ag, Bjg1, Bjg3, Bjg3, Bjg4, and 2Cg. Subordinate horizons include 'i' (indicating slightly decomposed organic matter) in the O horizon; 'g' (indicating strong gleying) in the A, B, and C horizons; and 'j' (indicating the accumulation of jarosite) in the B horizon.

Importantly, no buried A horizons (paleosols; horizon Ab) are noted within the Reyes series (Soil Survey Staff 2021).

CULTURAL SETTING

Three elements of the cultural setting for the Project Area are important to understanding the cultural resources that might be present: Prehistoric, Ethnohistoric, and Historic periods. The prehistoric overview covers the era prior to sustained European contact, while the historic period overview covers the time after that contact. The ethnohistoric overview covers the overlap between the two, presenting information regarding the Native American inhabitants of the region, as understood through historical accounts and information given to anthropologists by California Native Americans. The following sections are excerpted from Beck (2011), Browning (2018) and Mick's (2020) cultural resource studies within the region.

Prehistoric & Archaeological Overview

The prehistory of northern California is believed to date about 12,000 years before present (BP), around the time of the terminal Pleistocene. Although few archaeological sites demonstrate evidence of human occupation during the late Pleistocene and early Holocene (11,500–8000 B.P.), this is likely a product of the archaeological record itself rather than lack of human use of this area. The Paleo-Archaic-Emergent cultural sequence developed by Fredrickson (1973, 1974) is commonly used to interpret the cultural patterns of the North Coast Ranges in California, which include the area of Sonoma County. These time periods are further defined by spatial and cultural units called Patterns, Phases, and Aspects (Fredrickson 1973, 1974). Fredrickson (1989) defined Aspects specific to the Santa Rosa Plain, and these include the Spring Lake Aspect of the Borax Lake Pattern in the Lower Archaic Period, the Black Hills Aspect of the Mendocino Pattern in the Middle Archaic Period, the Laguna Aspect of the Berkeley Pattern in the Upper Archaic Period, and the Rincon and Gables Aspects of the Augustine Pattern in the Emergent Period. Using radiocarbon determinations (e.g., Groza 2002; LaJeunesse and Pryor 1996; Meyer and Rosenthal 1997), the sequence is broken into three broad periods: the Paleo-Indian period (11,550 to 8550 B.C.); the three-staged Archaic period, consisting of the Lower Archaic (8550 to 5550 B.C.), Middle Archaic (5550 to 550 B.C.), and Upper Archaic (550 B.C. to 1100 A.D.); and the Emergent period (A.D. 1100 to 1769).

Several prehistoric archaeological sites excavated in north-central and south-central Sonoma County provide a chronology of occupation dating from the Paleo-Indian Period until Euro-American contact. In north-central Sonoma County, Basgall (1993) analyzed archaeological data from several sites from the Warm Springs Creek locality and identified three phases of Native American occupation of the area. The oldest occupation from the Warm Springs locality is the Skaggs phase (ca. 5000-2500 B.P.), possibly representing early Yukian settlement and use of the area. Skaggs phase sites include large concave base and "Willits" side-notched projectile points and mano and metates. The Dry Creek phase (ca. 2500-900 B.P.) represents possible Pomoan intrusion into north-central Sonoma County (cf. Stewart 1993) and includes shouldered lanceolate and leaf shaped projectile points and mortars and pestles. Smith phase (900-100 B.P.) sites represent a fluorescence of Pomoan society and include small corner notched arrow points, continued use of mortars and pestles, clam shell disk and glass trade beads. In south-central Sonoma County tentative evidence exists for Native American use of the Laguna de Santa Rosa northwest of Rohnert Park during the Paleo-Indian period (pre-8000 B.P) and near Spring Lake in Santa Rosa during the Lower Archaic period (8000-4500 B.P.) (Jones and Hayes 1993).

The Paleo-Indian Period (11,550 to 8550 B.C.): began with the first entry of people into California. These people probably subsisted mainly on big game, minimally processed plant foods, and had few or no trade networks. Sonoma County was inhabited during the Paleo-Indian Period, as indicated by the presence of fluted projectile points and chipped stone crescents that have been found in a few archaeological sites located in Sonoma County near the Laguna de Santa Rosa, Bodega Bay, and Warm Springs Creek dam, as well as in the neighboring Mendocino and Lake counties. Based on limited archaeological evidence from this period, it appears populations within and surrounding Sonoma County consisted of small, highly mobile groups that practiced broad-spectrum hunting and gathering techniques. Research conducted by Jones and Hayes (1989, 1993) indicates that Paleo-Indian forgers in the Santa Rosa and Sebastopol areas focused on resources located near lakes, wetlands, and riparian zones during this time.

The Lower Archaic Period (8550 to 5550 B.C.): milling stones appear in abundance and hunting is less important than plant foods. Artifacts are made predominately from local materials, suggesting that few if any extensive trade networks were established at this time. Several sites in Sonoma County date to the Lower Archaic Period and contain artifacts consistent with a mobile hunting and gathering economy. Mobile foragers appeared to have resided in camps situated along marshes and on grasslands and utilized the surrounding uplands to acquire a wide array of food resources available in those areas on a seasonal basis. The types of artifacts that are found in archaeological sites dating to this period include large, wide-stemmed projectile points, cobble tools, handstones, and milling slabs. These artifacts are characteristic of the Borax Lake Pattern, a distinctive cultural pattern recognized throughout much of the North Coast Ranges during this time. In Sonoma County, the Borax Lake Pattern is recognized by the Spring Lake Aspect, specifically at sites located in Santa Rosa and Duncan's Landing on the Sonoma Coast. A pre-contact archaeological site located in the Rincon Valley area of Santa Rosa, known as CA-SON-20, is the "type site" for the Spring Lake Aspect. This site dates to 6300 B.C. and contains artifacts such as wide-stemmed points, milling slabs and handstones (Wickstrom and Fredrickson 1989).

The Middle Archaic Period (5550 to 550 B.C.): subsistence base begins to expand and diversify during the Middle Archaic with a developing acorn economy, as evidenced by the mortar and pestle, and the growing importance of hunting. As in the Lower Archaic period, mobile foragers on the Santa Rosa Plain during the Middle Archaic Period resided in camps situated along marshes and on grasslands and utilized the surrounding uplands to hunt and gather a wide array of plant and animal resources available in those

areas on a seasonal basis. During this period, the Borax Lake Pattern was replaced by the Mendocino Pattern, characterized by groups practicing a more localized foraging strategy. Mendocino Pattern sites are well-represented on the Santa Rosa Plain. According to Fredrickson (1989), there was overlapping use of the Laguna de Santa Rosa area by both mobile foragers (Black Hills Phase of the Mendocino Pattern) and collectors (Laguna Phase of the Berkeley Pattern) between 1500 B.C. and A.D. 1. By 1000 B.C., it is thought that Berkeley Pattern groups, who were more sedentary and practiced a collecting economic strategy, began to spread into the Santa Rosa Plain while mobile Mendocino Pattern foragers focused on the surrounding uplands.

The Middle Archaic Period was also marked by new ground stone technology, as well as an increase in trade, which is evident by cut marine shell (*Olivella* sp.) beads, often found in association with burials. Formalized exchange relationships appear to have been established in the flake stone industry as well, which is indicated by a greater amount of obsidian originating from sources in Napa Valley rather than the locally available obsidian source at Annadel in Santa Rosa. Furthermore, mortars and pestles first appear in sites dating to this period, and this is thought to signal an increased dietary reliance on acorns rather than hard seeds, and a concomitant increase in sedentism.

The Middle Archaic Period was also marked by significant climatic changes during which warmer and drier conditions led to the reduction of lake basins in southern California, and across California there is a general decrease in the number of sites. This is thought to be the result of a reduced population during this time; however, it is suggested that the paucity of sites may not be due to a decrease in population, but rather may related to a period of increased alluvial deposition that buried many former living surfaces that date to this period (Meyer and Rosenthal 2007; Milliken et al. 2007).

Upper Archaic Period (550 B.C. to 1100 A.D.): status and wealth distinctions are evidenced in the Upper Archaic archaeological record; regional exchange networks are well established at this time with goods and ideas such as Kuksu ceremonial practices involving spirit impersonations. The Upper Archaic Period was characterized by cooler conditions accompanied by increased precipitation in northern and central California, which likely resulted in more favorable conditions for human occupation. Sites dating to this period demonstrate marked differences in their constituents relative to Borax Lake Pattern sites of the Middle Archaic Period. These new occupations are ascribed to the Berkeley Pattern, which appears to have originated in the Clear Lake area during the Lower Archaic Period. Although firm dating for the end of the Borax Lake Pattern is lacking, it is believed to have been replaced by the Berkeley Pattern (possibly representing Miwokan influence) about 500 B.C. (Moratto 1984:517). Berkeley Pattern sites are characterized by a higher degree of sedentism, a highly developed bone tool industry, numerous mortars and pestles that further imply a greater reliance on acorns, and tightly flexed burials with few to no associated artifacts or preference toward orientation. When present, associated burial artifacts typically include *Olivella* saddle and saucer beads and *Haliotis* pendants (Milliken et al. 2007). The Berkeley Pattern is represented at archaeological sites in Sonoma County and the neighboring Napa and Lake counties.

Emergent Period (A.D. 1100 to 1769): While A.D. 500 is marked as the beginning of the Lower Emergent Period, more recent work suggests the beginning of the Lower Emergent Period may not have occurred until around A.D. 1000. The Emergent Period is thought to be associated with a new level of sedentism, status ascription, ceremonial integration, and regional trade, as indicated by the presence of finished artifacts and food remains that could not be obtained locally; and this is referred to as the Augustine Pattern. There appears to have been a diversity of socioeconomic strategies associated with Augustine

Pattern sites in the North Bay, with some sites revealing a continuance of sedentary systems initiated by the Berkeley Pattern and others apparently resulting from mobile foraging adaptations.

The North Bay became the "seat of innovation" during the Upper Emergent Period, as new ornament forms and technologies emerged, such as the bow and arrow, toggle harpoon, hopper mortar, clamshell disk beads, and steatite and magnesite beads and tubes (Milliken et al. 2007). This period was marked by wide-ranging changes in *Olivella* bead forms and their distribution. The *Olivella* saucer bead trade network appears to have collapsed suddenly between A.D. 430 and 1050, and *Olivella* saucer bead industry was replaced by more regionally-integrated shell bead forms, such as *Olivella* wall beads and clamshell disk beads. This change possibly indicates an increased importance of communicating identity, status and cultural affiliation within an increasingly populated region. The manufacture of clamshell disk beads seems to have centered primarily on the Santa Rosa Plain and within the Napa Valley. These type beads were used as exchange currency with a standardized value. The burial practice of cremation was also introduced in the North Bay during this time (Milliken et al. 2007). These shifts in technology, artifact types and mortuary practices, which for the most part spread throughout the San Francisco Bay Area from north to south, appear to indicate that another upward cycle of regional integration took place during this period; however, this cycle ended when the Russians and Spanish began to settle the region.

Ethnohistoric Overview

The Project Area is located within the ethnographic territory of the Coast Miwok who, prior to European settlement, occupied an area that includes modern day Marin County and southern Sonoma County (Barrett 1908; Kelly 1978; Golla 2011). According to ethnographer S.A. Barrett (1908:Map 1) and Alfred Kroeber (1925:Plate 36) the Project Area is near the eastern divide between Coast Miwok and Wintun (River Patwin) territory.

The Coast Miwok have been divided into two groups, each speaking a distinct dialect. These include the Southern Marin Miwok, or *Hookooeko* tribe who spoke the Southern Marin dialect with some linguistic differences between valley and coastal peoples (Kelly 1978:414); whose territory included the Project Area; and the Western-Bodega Miwok (*Olamentko*). Merriam (1907) proposed a third group from the northern area of Southern Marin Valley known as the *Lekahtewutko.*

Due to the diverse supply of resources throughout this region, the Coast Miwok were well suited to an economy based on hunting, fishing and the gathering of acorns and shellfish (Kelly 1978:415). They were adept at harvesting resources within wetland and coastal environments in particular, as plants that thrive in wetlands and shellfish from the ocean and bays were a prime source of food. The Coast Miwok used dip nets and spears to catch salmon and steelhead within local rivers, such as Salmon Creek and the Russian River, as well as bow and arrows fitted with obsidian points that were used to hunt small and large animals. Along with acorns, which were ground down and leached to make mush or bread, the Coast Miwok also utilized the buckeye fruit, the pepperwood fruit, and a variety of greens. Shellfish was an important source of food and material, and intense collecting of shellfish led to the formation of shell deposits known as midden heaps, mounds, or scatters, which are now the primary remains of most prehistoric sites near the coast and bay (Kelly 1978:417-418).

The Coast Miwok lived in conical structures that were small and made from two forked and interlocking poles, onto which additional poles were lashed, to form a cone shaped frame that was covered by grass

(Kelly 1978:417). Approximately six to ten people would reside in one of these structures. Larger villages also often contained a large, circular, semi-subterranean sweathouse that was dug four feet into the ground and covered with a frame of poles topped with grass, and a ceremonial house that was built in the same manner as the sweathouse.

Tools were made from locally obtained materials including chert, obsidian, basalt, bone, antler, wood and various types of plants. Beads and pendants were manufactured from locally obtained shell and include clamshell disc beads (used as money), *Olivella* beads and abalone shell pendants. The shell of one species of clam was said by the Indians to be found nowhere else along the coast and furnished the material for the white clamshell beads found throughout the entire region (Barrett 1908:304). Clothing was minimal and based on seasonal weather. Women wore a double apron made of deerskin and men wore a similar type of loincloth.

Basket production was important to the Coast Miwok. Baskets were used for portage, storage, and cooking containers, as well as for seed beating, winnowing, and as hoppers for groundstone mortars. The Coast Miwok also traded for venison, medicinal plants, yellow paint, and turtles (Kelly 1978:419).

Although European contact with the Coast Miwok occurred as early as 1579 when Francis Drake stopped to repair the *Golden Hind* somewhere in the Point Reyes vicinity, contact with Europeans in the vicinity of Bodega Bay did not occur until 1775 when Peruvian explorer Juan Francisco de la Bodega y Quadra, a distinguished Lieutenant in the Spanish navy and for whom Bodega was named, entered and explored the bay on his return trip from the northwest coast in vessel called the *Sonora*. European occupation first occurred for a short period in 1793 by a Spanish garrison, then in 1804 by Ivan Kuskov, an employee of the Russian-American Company who was sent south from Alaska to locate a suitable site for a planned Russian settlement. The population of the Western Miwok dwindled significantly in the nineteenth century as a result of missionization, European-introduced diseases, such as smallpox, for which they had no immunity, as well as settlement of the area that resulted in tribal land being confiscated for lumbering, dairying, and agriculture purposes. By 1870 there were as few as seventeen Indians living in the Bodega area (Thompson 1877:95), and by 1908 the Western (Bodega) Miwok consisted of only four or five individuals who occupied an old village site at the mouth of the Russian River (Barrett 1908:304).

Presently, the Coast Miwok and Southern Pomo form the Graton Rancheria community; a federation of the Coast Miwok and Southern Pomo groups recognized by the U.S. congress. The original Graton Rancheria is located in Sebastopol and is a 15.5-acre tract of land established by the federal government in the 1920s. In 1958, congress passed the California Rancheria Act that terminated California Rancherias, including Graton; the land was removed from federal trust and the land was distributed to three residents as private property; this action terminated the federal recognition of the Tribe. The Tribe regained their federal recognition status in 2000, and in 2005 the Tribe purchased about 254 acres of land for its reservation just outside Rohnert Park. In 2013, the Tribe opened the Graton Resort and Casino and is able to provide programs and services to Tribal citizens (Federated Indians of Graton Rancheria 2018).

Historic Overview

The European presence began on California's north coast with the brief visits of Juan Rodriguez Cabrillo in 1542, Sir Francis Drake in 1579, Sebastian Rodriguez Cermeno in 1595 and Sebastian Viscaino in 1603 (Smirnoff 1998:47). One of the first Euro-American expeditions to explore the areas of present-day Sonoma County was a Spanish expedition led by Lieutenant Juan Francisco de la Bodega y Quadra in 1775,

when his ship the *Sonora* touched the bay. The first trip inland into Sonoma was likely in 1776 by Captain Quiros who ventured from San Francisco into Petaluma Creek and its associated tributaries (Alley Bowen & Co. 1880:39). Russian expeditions began to visit Bodega between 1808 and 1811, and Fort Ross was established by 1812 as a fur-hunting post. The Russians settled the area in the name of their employer, the Russian American Company, in which the tsar and his family owned stock (Smirnoff 2009:49). The Russians built ports, ranches and farms which ranged across an area that extended approximately 55 miles south of the fort and extended out to the Farallon Islands (Lightfoot 1991:12, Lightfoot 2005:5); the goal of these settlers was to bring back trade goods of otter pelts to Russia, and to provide food to Russia's forts in Alaska that could not sustain themselves due to hostile environmental conditions (Smirnoff 2009:49). The Russian's employed the Kashaya Porno and native laborers from Alaska and Hawaii as hunters, agricultural laborers, shipbuilder and aided the Russians with duties around the fort and within the fort's residences (Ballard 1997:123, Lightfoot et al. 1991:3-5, 15-18, Lightfoot 2005).

When Mexico gained independence from Spain in 1821, the Mexican government assumed control of California. The formal formation of the Mexican republic in 1824 marked the first broad invasion into Southern Pomo and Coast Miwok lands. The Spanish constructed the Mission San Francisco Solano in Sonoma on July 4th, 1823, with the intent of slowing down the spread of Russian presence in the area. Being the 21st Mission established in California, it was to be the last constructed, and northernmost, of all the Missions. Beginning in 1834, mission lands were parceled out in the form of *ranchos* and awarded to prestigious Mexican citizens, known as *Californios*. The *ranchos* represent the first settlement of the region. There were 27 Mexican Land Grants located in what became Sonoma County (Beck and Haase 1974:29). The Project Area is located in portions of the 18,704-acre *Huichica* Land Grant (Beck and Hasse 1974:29). Two leagues of this tract were granted to Jacob P. Leese by Governor Manuel Jimeno in 1841, and three-and-a-half extension was granted to him by Governor Manuel Micheltorena three years later (Gregory 1911:133). The Pueblo Lands of Sonoma's southern boundary is located about 0.66-miles north of the Project Area.

Following the end of the Mexican-American War in 1848, Mexico ceded California to the United States as part of the Treaty of Guadalupe Hidalgo; the Compromise of 1850 officially admitted California into the United States as an undivided free state. Discovery of gold in 1849 caused an influx of settlers hoping to strike rich in California. On February 18, 1850, California became a State of the Union and 27 counties were created; one of these was Sonoma County. Significant growth of settlers in northern Sonoma County began around 1860 as timber harvesting and agriculture became the prime industry.

While cattle ranching originally dominated economic activity in Sonoma County, a shift occurred in the 1860s from cattle ranching to sheep herding. A primary reason for the shift was the Civil War and a demand for wool for military uniforms. The demand for wool continued, and Sonoma County became one of the country's leading wool producers. In addition, dairy ranching, poultry, and agriculture grew in the county. Indeed, Petaluma became a center for poultry production, and crops such as potatoes, grains, wine grapes, hops, apples, plums, and prunes were also grown in the county. Hops were especially well-suited to the alluvial plains and terraces along the Russian River, the Laguna de Santa Rosa, and on the Santa Rosa Plain. The success of hops coincided with a drop in wheat prices, and most grain farmers with the right soils and climate switched to the new crop. By 1890, hops were the leading field crop in the county, and the Santa Rosa area became known as the nation's hop capital (LeBaron et al. 1985).

At the end of the nineteenth and beginning of the twentieth century, viticulture expanded in Sonoma County and became an important part of the agricultural economy of the area. However, Prohibition resulted in the collapse of the California wine industry. A few viticulturists survived by producing limited amounts of wine for medicinal, sacramental, or cooking purposes. These individuals devised creative ways to continue to produce and sell their wine. For example, winemaking, which was still legal if a family annually produced 200 gallons or fewer, continued in individual households, and local doctors prescribed wine to cure ills. Regardless, Prohibition stifled the wine industry in California, and it did not recover until the 1950s. Since that time, the recovery of the regional wine industry has been dramatic, with wine production and tourism steadily increasing in Sonoma County and surrounding regions. The industry would not fully recover until the 1970s, when the reputation of Sonoma County wines began to spread throughout the nation and the world. Today, Sonoma County is known for its vineyards and premier wines.

Schellville

Schellville is one of Sonoma County's oldest communities and was once a transfer point for freight and passengers moving to and from San Francisco by barge, schooner or streamer (Wells 1969). Originally, Schellville was called 'St. Louis' or 'Embarcadero' by early American settlers; the name St. Louis was given in honor of the city on the Mississippi with hope this port in Sonoma would rival its namesake. The advent of the railroads eventually eliminated the water commerce.

During 1878 and 1879, the Sonoma Valley Railroad was acquired by the San Francisco and North Pacific Railway Company. The Northwestern Pacific Railroad named their station there before 1888 after Theodore L. Schell, who owned 160 acres of land there in the 1850s and was active as a merchant in Sonoma and San Francisco (Gudde and Bright 1998: 353). In the 1880s, the Southern Pacific Railroad decided to build the Santa Rosa and Carquinez Railroad; they created a station at Schellville by 1888. Schellville remained an important railroad junction that connected the Northwestern Pacific and the Southern Pacific well into the late 20th century (Wells 1969).

BACKGROUND RESEARCH

CRP cultural resource specialists conducted a desktop cultural resource assessment of the study area. This background research included obtaining information concerning previously conducted cultural resource surveys and previously recorded sites in the Project Area, as well as examining historical maps, aerials, and land patents, and a review of geoarchaeological reports and geologic and soils data to determine the potential for buried archaeological resources.

CHRIS RECORD SEARCH

Methods

On January 4th, 2021, Lisa Hagel, staff researcher at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS), conducted a cultural resources record search for the Project at the NWIC on behalf of CRP (NWIC File No.: 20-1126). The purpose of this record search was to obtain and review previous cultural resource records, cultural resource studies, and any additional documentation pertaining to listed or potentially eligible historical resources or unique archaeological

resources located within at least a one-quarter (0.25) mile radius from the proposed cultivation area located at 1515 Fremont Drive, Sonoma (APN 128-471-004); this includes any recorded cultural resources and studies within the proposed cultivation area. The following lists and databases were also reviewed:

- The Information Center Database (ICDB)
- Office of Historic Preservation Built Environment Resource Directory (BERD) for Sonoma County, CA (dated March 3rd, 2020)
    - The BERD was originally released by the California Office of Historic Preservation's (OHP) in January of 2020, and re-released in March 2020. This directory contains updated information previously found within the Historic Properties Directory (HPD). The HPD is now considered obsolete, however it is currently still being used for reference. The BERD contains information regarding built environment cultural resources that are included in the OHP Tracking and Inventory System (OTIS). The resources were submitted to the Office of Historic Preservation through one of its programs (Registration, Review and Compliance, Local Government Surveys, Architectural Review, etc.).
- Office of Historic Preservation (OHP) Directory of Properties in the Historic Property Data File for Sonoma County, CA (dated 4/5/2012)
- National Register of Historic Places (NRHP)
- California Register of Historical Resources (CRHR)
- California Inventory of Historic Resources (1976)
- California Historical Landmarks (1990)
- California Points of Historical Interest (1992)
- Caltrans Historic Bridge Inventory and GIS Database
- Local Government Listings and Directories

Results

According to files obtained from the NWIC, the proposed cultivation area has not been previously surveyed for cultural resources. However, a total of 13 studies (and 18 sub-studies) have been conducted within a ¼- to ½ -mile radius of the Project Area. It should also be noted that there are no previously recorded cultural resources within the Project Area on file at the NWIC, although portions of one historic-era resource (CA-SON-002322H / P-49-002834) lie approximately 0.46-miles northwest of the main cultivation area (see resource descriptions below). The nearest resources to the Project Area are as follows:

- **CA-SON-223 / P-49-00195:** is a prehistoric-era shellmound habitation site located about 0.77-miles north of the Project Area. The site was first recorded by Nels Nelson in 1907; updated site records occurred in 1990 (Dondero and Schulte), 1995 (Gmoser and others), 2000 (Jones and Stokes), and 2005 (Douglas; Origer). As of December 2020, Extended Phase 1 and Phase 2 CRHR evaluation testing are being planned for a PG&E project along the Caltrans' right-of-way of State Route 12 that might impact the southern portion of the site (Stantec, personal communication, December 2020).

The site contains shell midden, obsidian chert debitage, obsidian tools, animal faunal remains, fire-altered rock, one possible human bone, and at least one Late Period Phase 2/early historic bead. The bead and obsidian cobbles present at the site strongly suggest a Late Period and possibly early historic component, but it is likely that a mound of this size and in a preferred location would also include older components.

- **P-49-002896 (C-Sears Point 3 / Santa Rosa & Carquinez Railroad):** consists of the defunct segment of the Santa Rosa & Carquinez Railroad (built circa 1887) and is located about 0.72-miles northeast of the Project Area. Originally recorded in 2000 (Davis) and updated in 2005 (Douglas), this resource does not appear to have been evaluated for local, state or federal registers.

- **CA-SON-002322H / P-49-002834 (Northwestern Pacific Railroad):** this historic-segment of railroad is located about 0.46 and 0.86-miles northwest of the Project Area and bounds the western edge of the Project's parcel. This segment was recorded in 2013 by Starke and Thomas and does not appear to have been evaluated for local, state, or federal registers. This segment was "constructed between 1878 and 1880 as part of the narrow gauge Sonoma Valley Railroad. The NWP main line is 271 miles long and runs between Schellville and Eureka. The recorded segment consists of a 320-foot-long set of three parallel standard-gauge rails" (Strake and Thomas 2013). No associated historic-era features or artifacts were observed during the 2013 site recording.

Tables 1 through 4 below, and Appendix A, Figure 4: CHRIS Records Search Results Maps provide spatial and summary information for the CHRIS record search results.

Table 1. NWIC Results: Cultural Resource Studies

NWIC Report No.	Year	Study	Author(s)	Study within Project Area or Parcel?
S-000278	1976	Archaeological Assessment of the Sonoma Valley Reclamation Project, Sonoma County, California	Nancy L. French and David A. Fredrickson	No
S-002598	1981	An Archaeological Investigation of the Sebastiani Properties at Schellville, Sonoma County, California	Foley C. Benson	No
S-006969	1984	An Amended Cultural Resources Study for the Sonoma Valley County Sanitation District Partial Reclamation Project near Schellville, Sonoma County, California	Suzanne B. Stewart	No
S-007364	1985	Supplemental Archaeological Survey for the Proposed Sonoma Valley CSD Wastewater Reclamation Project, Sonoma Valley, Sonoma County, California (letter report)	James P. Quinn	No
S-009467	1987	An Archaeological Study of the Mulas Property at 2034 Fremont Drive, Sonoma, near Schellville, Sonoma County, California	Michael Jablonowski	No
S-012038	1992	Historic Property Survey Report for the Proposed Roadway Reconstruction of Route 121 near the Town of Schellville, Sonoma County, 04-SON-125, P.M. 0.0/5.5, 04336-12980K	Unknown (Caltrans District 4)	No

Table 1. NWIC Results: Cultural Resource Studies				
NWIC Report No.	**Year**	**Study**	**Author(s)**	**Study within Project Area or Parcel?**
S-012038a	1990	Archaeological Survey Report for a Portion of Route 121, from Sears Point to Near Schellville, Sonoma County, California, 04-SON-121, P.M. 0.0/9.2 04-12980G	Steven B. Dondero	No
S-012038b	1991	Historic Architectural Survey Report for the Proposed Roadway Reconstruction of Route 121 near the Town of Schellville, Sonoma County, 04-SON-121, P.M. 0.0/5.5, 04336-12980K	Elizabeth McKee	No
S-012038c	1995	First Addendum Archaeological Survey Report for a Portion of Route 121 near Schellville, Sonoma County, California, 04-SON-121 PM 0.0/0.3, EA 129801, from Route 37 to just North of the Tolay Creek Bridge	Katherine M. Dowdall	No
S-022736	2000	Final Cultural Resources Inventory Report for Williams Communications, Inc., Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California: Volume I	Unknown (Jones & Stokes Associates, Inc.)	No
S-022736a	2000	Volume II – Project Maps: Final Cultural Resources Inventory Map Atlas for the Williams Communications, Inc. Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California	Unknown (Jones & Stokes Associates, Inc.)	No
S-022736b	2000	Volume III, Technical Appendices: Final Cultural Resources Inventory Map Atlas for the Williams Communications, Inc. Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California	Unknown (Jones & Stokes Associates, Inc.)	No
S-033061	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	Nancy Sikes, Cindy Arrington, Bryon Bass, Chris Corey, Kevin Hunt, Steve O'Neil, Catherine Pruett, Tony Sawyer, Michael Tuma, Leslie Wagner, and Alex Wesson	No
S-033061a	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	Unknown (SWCA Environmental Consultants)	No
S-033061b	2007	Final Report of Monitoring and Findings for the Qwest Network Construction Project (letter report)	Nancy E. Sikes	No
S-034894	2007	A Cultural Resources Survey for a Development Project at 1901 Fremont Drive (State Route 121), Sonoma County, California	Eileen Steen and Thomas M. Origer	No
S-039171	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program: Marin, Sonoma, and Napa Counties, Cultural Resources Survey Report	Heidi Koenig and Brad Brewster	No
S-039171a	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program; Marin, Sonoma, and	Heidi Koenig	No

Table 1. NWIC Results: Cultural Resource Studies				
NWIC Report No.	**Year**	**Study**	**Author(s)**	**Study within Project Area or Parcel?**
		Napa Counties: Archaeological Extended Phase I Report		
S-039171b	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin County, Olive Avenue, Archaeological Monitoring Plan and Results, North Marin Water District Service Area	Heidi Koenig	No
S-039171c	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties: Addendum Cultural Resources Survey Report: SVCSD Service Area-Watmaugh Road Alignment	Heidi Koenig	No
S-039171d	2007	Results of the Cultural Resources Survey for the Sonoma Valley County Sanitation District Sewer Trunk Main Replacement Project from Watmaugh East Road to Wastewater Treatment Facility	Dean Martorana	No
S-039171e	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, Addendum Cultural Resources Survey Report LGVSD Service Area – Reservoir Hill Tank Updated Area of Potential Effects and Reservoir Hill Tank Overflow Line	Heidi Koenig	No
S-039171f	2012	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, Draft Addendum Cultural Resources Survey Report, Sonoma Valley County Sanitation District Service Area, McGill Road Alignment	Heidi Koenig	No
S-039171g	2013	North Bay Water Reuse Authority; North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties Addendum Cultural Resources Survey Report, SVCSD Service Area – Phase I Modifications, Bureau of Reclamation 09-CCAO-132.9	Heidi Koenig	No
S-039171h	2016	COE File Number 2015-0374-N: Section 106 Consultation for the Recycled Water Pipeline Installation Project at Sonoma Valley Wastewater Treatment Plant, Sonoma County	Tori White, Anmarie Medin, and Julianne Polanco	No
S-039171i	2015	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, North Marin Water District Central Service Area, Final Addendum Cultural Resources Survey Report, California	Heidi Koenig	No
S-039171j	2015	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, North Marin Water District Central Service Area, Final Archaeological Extended Phase 1 Report, California	Heidi Koenig	No
S-039171k	2015	BUR_2015_1109_005; National Historic Preservation Act (NHPA) Section 106 Consultation for the North Bay Water Recycling	Julianne Polanco, Scott Williams, Alicia C. Perez, and Anastasia T. Leigh	No

Table 1. NWIC Results: Cultural Resource Studies				
NWIC Report No.	**Year**	**Study**	**Author(s)**	**Study within Project Area or Parcel?**
		Program, Marin, Sonoma and Napa Counties, CA (Project #09-CCAO-132.10)		
S-043823	2003	Cultural Resources Inventory and Evaluation Report for Napa River Salt Marsh Restoration Project, Napa and Sonoma Counties, California	Unknown (Jones & Stokes)	No
S-046406	2013	Cultural Resources Study of the PG&E Hydrostatic Test Segment T-220-13, on Line 21B, Sonoma County, California	Jennifer Thomas and Naomi Scher	No
S-046942	2015	Sonoma League for Historic Preservation Survey Update (Sonoma Valley Survey Update), Sonoma County, California	Diana J. Painter	No

Table 2. NWIC Results: Previously Recorded Cultural Resources				
CHRIS Resource I.D.	**Cultural/Temporal Affiliation & Resource Attributes**	**NRHP Status Code**	**In Project Area?**	**Distance form Project Area?**
P-49-000195 / CA-SON-000223 / Nelson No. 223	Prehistoric: AP02 (Lithic scatter); AP09 (Burials); AP15 (Habitation debris)	--	No	0.77 miles north
P-49-002834 / CA-SON-002322H / Northwestern Pacific Railroad	Historic: AH02 (Foundations); AH04 (Privy pits/trash scatters/dumps); AH07 (Road/trail/railroad bed); AH15 (Standing structure); HP11 (Engineering Structure); HP17 (Railroad Depot); HP19 (Bridge); HP39 (Other)	--	No	0.46 and 0.86 miles northwest
P-49-002896 / C-Sears Point-3	Historic: AH07 (Road/trail/railroad bed); HP11 (Engineering Structure)	--	No	0.72 miles northeast

Table 3. BERD Listed Recorded Properties							
Primary Number	**OTIS ID**	**Property No.**	**Name**	**Address**	**Evaluation Information**	**Construction Year(s)**	**In Project Area or Parcel?**
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Table 4. Historical Resources within 1/2-Mile Radius					
Source	**Resource**	**Resource Description**	**Distance**	**District**	
				Y	**N**
NRHP	N/A	-	-	-	-
CRHR	N/A	-	-	-	-
CHL	N/A	-	-	-	-
CPHI	N/A	-	-	-	-
BERD	See Table 3	-	-	-	-

Table 4. Historical Resources within 1/2-Mile Radius					
Source	Resource	Resource Description	Distance	District	
				Y	N
Local	N/A	-	-	-	-

DESKTOP REVIEW

Methods

In addition to conducting a record search at the NWIC, CRP also reviewed a variety of historical maps, aerials and literature ranging in date from 1866 to 1968 to determine past land use activities within the Project Area and its associated parcel (APN 128-471-004) that could indicate the likelihood of encountering cultural resources. Additional maps and aerial images from 1982 to 2020 were also reviewed. The following historical maps, aerials and literature were reviewed (listed in chronological order):

- 1866/1867 Map of Sonoma County, California (Bowers)
- 1874 Hand-Book and Directory of Napa, Lake, Sonoma and Mendocino Counties; Including a Map of Each County (Paulson)
- 1877 Historical Atlas Map of Sonoma County, CA (Thompson)
- 1877 Historical and Descriptive Sketch of Sonoma County, Cal (Thompson)
- 1880 United States General Land Office (GLO) Plat Map of Township 5 North, Range 5 West; Mount Diablo Base and Meridian (MDBM)
- 1880 History of Sonoma County (Munro-Fraser)
- 1890 United States General Land Office (GLO) Diagram of Township 5 North, Range 5 West; Mount Diablo Base and Meridian (MDBM)
- 1898 Illustrated Atlas of Sonoma County (Reynolds & Proctor)
- 1900 Official Map of Sonoma County, California (Ricksecker and Walkup)
- 1902 Napa, CA 30-Minute Topographic Quadrangle Map (USGS)
- 1908 Official Map of Sonoma County, California (McIntire & Lewis)
- 1916 Mare Island, CA 15-Minute Topographic Quadrangle Map (USGS)
- 1948 Aerial Image (NETRonline)
- 1951 (photorevised 1968) Sears Point 7.5-Minute Topographic Quadrangle Map (USGS)
- 1952 Aerial Imagery: Flight CSH-1953; Frame 7K-89 (Regents of University of California 2012)
- 1965 Aerial Imagery: Flight CAS-65-130; Frame 64-3 (Regents of University of California 2012)
- 1993 through 2020 Aerial Images (Google Earth)

Results

The desktop review indicates that the Project Area and its subject parcel are near the rural community of Schellville, which has been occupied since the 1860s. This community is the namesake of Theodore L. Schell, who settled the area in 1860 and established a 1,000-acre ranch estate. According to local histories and historical biographies, Schell was one of the main proprietors of the famous "Sonoma Valley Prismoidal Railroad," which passed through a number of hands and was constantly being refurbished (and renamed) before ultimately becoming a branch of the Northwestern Pacific Railroad. Schell's estate was also the site of one of the largest and most renowned dairies in Sonoma Valley. Following his death in 1878, his estate was transferred to his heirs, including three sons (L.W., F.A., and A.B. Schell) and one daughter (D.L. Schell) (Reynolds and Proctor 1898).

Based on data obtained from historical maps, there are no known features within the either the Project Area or parcel during the period from the 1860s through the early 1900s. In fact, much of the landscape constituting the Project Area consists of marshland. However, Thompson's 1877 Historical Atlas Map of Sonoma County does show the aforementioned Prismoidal Railway, which spans approximately three miles and adjacent to the Project's parcel from Norfolk all the way to Schellville. This feature (although not officially designated) may also be visible on the 1866/1867 Bowers Map, as the alignment is similar to the one shown on Thompson's Map. It is also interesting to note that the maps from this time period highlight the change in ownership and name of the railway system (Sonoma Valley Prismoidal Railway on 1877 Thompson Historical Atlas Map; San Francisco & North Pacific Railroad on 1898 Reynolds & Proctor and 1900 Ricksecker & Walkup; and Northwestern Pacific Railroad on 1908 McIntire and Lewis).

During the later decades of the 20th century, there are obvious changes occurring within the Project's parcel as well as the general landscape. Aerial imagery and USGS topographic quadrangles from the 1940s through the 1960s show the construction of several levees, one of which is adjacent to the Project Area (see the 1951 USGS Sears Point 7.5' quadrangle and its 1968 photorevised version). Also, the 1916 USGS Mare Island 15' Quadrangle shows a minor trail running in a northwest-southeast direction through the subject parcel along the existing railway system. With regard to the Project Area, however, there are no apparent cultural features within its boundaries. The following table provides the results of the desktop review.

Table 5. Built Environment Depicted on Historical Maps/Aerials

Map Name	Date(s)	Features (Built Environment)	In Project Area?	In Parcel?	Notes
Map of Sonoma County (Bowers)	1866/1867	Possible railroad	No	No	Much of the parcel, including the Project Area, lies within marshland that is part of the 1,000-acre property of Theodore Schell.
Historical Atlas Map of Sonoma County (Thompson)	1877	Sonoma Valley Prismoidal Railway	No	No	
		Roads	No	No	
		1 building/structure within Schell property	No	No	

Table 5. Built Environment Depicted on Historical Maps/Aerials					
Map Name	**Date(s)**	**Features (Built Environment)**	**In Project Area?**	**In Parcel?**	**Notes**
GLO Plat of T5N/R5W	1880	--	--	--	
GLO Diagram of T5N/R5W	1890	--	--	--	
Illustrated Atlas of Sonoma County (Reynolds & Proctor)	1898	Northwestern Pacific Railroad Southern Pacific Railroad Road features	No No No	No No No	The parcel and Project Area lie within 1,300-acres of land belonging to the Heirs of Theo L. Schell.
Map of Sonoma County (Ricksecker and Walkup)	1900	Largely the same as the Reynolds & Proctor map.	No	No	
Napa 30-Minute Quad (USGS)	1902	Sonoma Valley Branch of Northwestern Railroad Santa Rosa Branch of Southern Pacific Railroad 5+ buildings/structures Roads	No No No No	No No No No	
Map of Sonoma County (McIntire & Lewis)	1908	Largely the same as the Reynolds & Proctor and Ricksecker & Walkup maps.	No	No	The parcel and Project Area lie within 303.51-acre property of W.B. Curtis, S.B. Dunn, and Sav. B'x of Santa Rosa.
Mare Island 15-Minute Quad Map (USGS)	1916	Largely the same as the Napa 30-Minute Quad.	No	No	One minor trail running adjacent to the railroad is shown within the project parcel.
Aerial Image (NETRonline)	1948	Northwestern Pacific Railroad Southern Pacific Railroad 5 buildings/structures within main property 2 minor trails/roads along Northwestern Pacific Railroad Several levees 1 Rodeo arena	No No No No No No	No No No One One No	
Sears Point 7.5-Minute Quad Map (USGS)	1951 (photorevised 1968)	Largely the same as the 1948 aerial image	See above	See above	

Table 5. Built Environment Depicted on Historical Maps/Aerials					
Map Name	**Date(s)**	**Features (Built Environment)**	**In Project Area?**	**In Parcel?**	**Notes**
Aerial image of Flight CSH-1953; Frame 7K-89	1952	Largely the same as both the 1948 Aerial Image and the 1951 Sears Point 7.5-Minute Quad.	See above	See above	
Aerial image of flight CAS-65-130; Frame 64-3	1965	Largely the same as the 1968 photorevised version of the Sears Point 7.5-Minute Quad.	See above	See above	

GEOARCHAEOLOGICAL BURIED SITE ANALYSIS

Methods

A review of regional geological and soil/sediment studies in the region was conducted (see previous section: Environmental Setting, Geology and Soils). Additionally, two regional geoarchaeological studies were reviewed (Meyer and Rosenthal 2007; Meyer and Kaijankoski 2017). Both reports focus on landform evolution and the potential/sensitivity for encountering archaeological resources using a predicative model that incorporates soil/sediment deposits, geologic and geomorphic formations, environmental setting and other attributes. Both the 2007 and 2017 reports were prepared by the Far Western Anthropological Research Group, Inc. for Caltrans District 4 that includes Sonoma County and the Project Area.

Results

The geoarchaeological review indicates the Project Area has a high sensitivity for containing buried prehistoric-era archaeological material. The review of online soil data indicates soils/sediments in the Project Area do not appear to contain buried A Horizon(s). This is important because buried A Horizons are associated with Paleosols (soils formed in the past but are not undergoing soil formation in the present); these soils are associated with containing buried archaeological resources. However, the geologic maps indicate portions of the Project Area contain Holocene-age deposits; the Holocene (~<11,800-years) represents a critical time when humans are known to have lived and occupied California in prehistory. Additionally, the environmental data indicates the Project Area is near or within the interface of the former estuarine and terrestrial landform; this former landform would make such a location ideal for hunting and extracting natural resources, and possible seasonal habitation sites.

Furthermore, Meyer and Rosenthal's (2007) and Meyer and Kaijankoski's (2017) geoarchaeological studies – that includes the location of the Project Area – indicates this area has a reasonable sensitivity for containing buried archaeological deposits due to the Holocene to historic age (11,800 to 150-years) of the deposits (Meyer and Rosenthal 2007: Figure 7; Meyer and Kaijankoski 2017: Figures 25 and 27).

PEDESTRIAN FIELD SURVEY

Methods

On January 23rd, 2021, CRP archaeologist Andrew Von Pinnon, M.A., conducted an intensive-level pedestrian field survey of the entire Project Area as part of the cultural resources compliance review. The surveyor walked in three (3) to five (5) meter transects (about ten to fifteen-feet) wide transects along the Project Area (i.e., all areas proposed for cultivation development) (see Appendix A; Figure 5: Survey Coverage Map). Photographs of the entire Project Area were taken with digital cameras using the Solocator phone application, with special attention given to ordinal and cardinal directions from the center of the proposed cultivation area, and most cardinal directions viewing into the proposed cultivation area (see Appendix B: Field Survey Photograph Sheets).

The pedestrian survey commenced from the northwest corner of the proposed ~4.3-acre cultivation area. The surveyor walked south to north orientated transect intervals spaced about three to five meters apart (see Appendix A; Figure 5: Survey Coverage Map). Ground-visibility across the Project Area was overall good (about 60-75%) due to plowing and limited vegetation growth (i.e., small grasses and forbs), although visibility was impeded in some areas where dense grasses were present. A hand trowel was used about every three to five meters to conduct surface scrapings to view the underlying surface soils in areas were ground-visibility was hindered due to bunched grasses in the pasture.

The surveyors examined the ground surface for evidence of cultural materials and changes in soil color, texture, or composition. This included examining the ground surface for any prehistoric artifacts (e.g., chipped stone such as obsidian, chert and basalt flakes and tools; projectile points, knives, scrapers; shellfish remains; ground stone; and fire-affected rock); and, sediment discolorations that could indicate the presence of prehistoric-era cultural features (e.g., midden, hearths, cairns and other indicators of prehistoric archaeological resources). Additionally, the field surveyor also inspected the Project Areas for evidence of historic-era artifacts (e.g., surface scatters of mining or domestic type artifacts of glass, ceramic, metal, etc.); features such as alignments of stone or brick, foundation elements from previous structures, minor earthworks, and historic-era plantings (e.g., old fruit, nut or other types of trees, and ornamental plants).

Results

The pedestrian survey did not identify any historic properties, historical resources, unique archaeological resources, or potentially significant cultural resources within the Project Area. The Project Area is on a relatively flat field (less than 2% slope) that is used as a cow pasture. As mentioned previously, ground visibility was about 60-75% due to plowing and limited vegetation growth. Vegetation observed included annual and perennial small-size (foot to ankle-high) grasses and forbs. Native soils observed in the Project Area were on average a dark greyish brown to very dark greyish brown clay that contains about 20% gravels of various materials ranging from granules to large pebbles, angular to subrounded in form. Small amounts of modern refuse observed included primarily plastic fragments. Photographs of the entire Project Area taken during the survey are provided in Appendix B: Field Survey Photograph Sheets.

SUMMARY OF RESULTS

In accordance with the CEQA regulations and guidelines and the Sonoma County Cannabis Land Use Ordinance No. 6189, a CRS was completed to identify any listed or eligible for listing historical resources or unique archaeological resources that may be directly or indirectly affected by this Project. The study includes the results of a CHRIS records search; desktop review of historical maps, aerials, and literature; review of geologic and soils data regarding geoarchaeological buried site sensitivity, and; visual reconnaissance (archaeological pedestrian survey) of the Project Area. The government-to-government consultation with the local Native American tribes that is required by CEQA was or will be conducted by the lead agency (i.e., Sonoma County Department of Agriculture/Weights & Measures); therefore, a Sacred Lands inventory and consultation with local Native American tribes was not conducted as part of the CRS.

This CRS was completed by CRP Principal Archaeologist, Robert Gleaton, M.A., RPA, and CRP Archaeologist, Andrew Von Pinnon, M.A.; both individuals exceed the *Secretary of Interior's Qualification Standards* in *Archaeology*. The following is a summary of findings for this study:

- **CHRIS Records Search:** The CHRIS record search conducted by NWIC staff failed to indicate any previous cultural resource studies within the Project Area. Additionally, the results did not identify any recorded historic properties, historical resources, unique archaeological resources, or previously recorded cultural resources located within the Project Area or its subject parcel (see Tables One through Four and Appendix A; Figure 4: CHRIS Records Search Result Maps).

- **Historical Maps, Aerials, & Literature Review:** The desktop review of historical maps, aerials, and literature indicates the property at 1515 Fremont Drive, including the subject parcel (APN 128-471-004) and Project Area, was owned by Theodore Schell and his family from at least 1866 to the early 1900s (Bowers 1866/1867; Thompson 1877; Reynolds and Proctor 1898; Ricksecker and Walkup 1900). However, none of the reviewed historical maps or aerials indicate any apparent features of the built environment within the Project Area. The most noteworthy features are the former Sonoma Valley Prismoidal Railway (adjacent to western boundary of subject parcel); several levees, one of which is adjacent to the east of the Project Area (see the 1951 USGS Sears Point 7.5' quadrangle and its 1968 photorevised version), and; a minor trail adjacent to the railway and within the parcel that first appears on USGS topographic quadrangles and aerials from the early 20th century (see Table Five).

- **Geoarchaeological Buried Site Sensitivity:** The review of geological maps, soil maps, and two regional geoarchaeological studies (Meyer and Rosenthal 2007; Meyer and Kaijankoski 2017) indicates that the Project Area has a high sensitivity for buried archaeological resources based on the Holocene age of the deposits and the former interface of an estuarine and terrestrial landform.

- **Pedestrian Survey:** CRP archaeologists surveyed the entire Project Area and portions of its associated parcel (APN 128-471-004) (see Appendix A; Figure 5: Survey Coverage Map). The archaeological pedestrian survey did not identify any historic properties, historical resources, unique archaeological resources, or potentially significant cultural resources within the Project

Area (i.e., proposed cultivation area). Photographs of the entire Project Area were taken (see Appendix B: Field Survey Photographs).

RECCOMENDATIONS

There are no listed or potentially eligible for listing historical resources or unique archaeological resources within the Project Area. Thus, CRP recommends a determination of ***no historical resources or unique archaeological resources affected by the proposed Project.*** However, the Project's location is in a region that has been used by California Native Americans both historically and prehistorically, and is also in an area that has experienced historic-era development since at least the 1860s. Thus, while unlikely, there may be unidentified cultural resources present within the Project Area. Therefore, the following general recommendations are made for this Project regarding the accidental discovery of cultural resources and human remains during the Project's construction activities.

Accidental Discovery

It is recommended that if any prehistoric or historic-era material is encountered during construction activities, all ground disturbing work within 100-feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior qualified archaeologist assesses the significance of the resource. The archaeologist, in consultation with the lead agency (i.e., the Sonoma County Department of Agriculture/Weights & Measures), the landowner, any interested Tribes, and any other responsible public agency, should make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be eligible to the National or California Registers, qualify as a unique archaeological resource under CEQA Section 21083.2 or determined to be tribal cultural resource as defined in Section 21074.

Historic-era resources potentially include all by-products of human land use greater than 50-years of age, including alignments of stone or brick, foundation elements from previous structures, minor earthworks, brick features, surface scatters of mining, farming or domestic type material, and subsurface deposits of domestic type material (e.g., glass, ceramic, etc.).

Prehistoric-era artifacts that are typically found associated with sites in the area include humanly modified stone, shell, bone, or other materials such as charcoal, ash and burned rock that can be indicative of food procurement or processing activities. Pre-contact domestic features include hearths, fire pits, and house floor depressions and mortuary features consisting of human skeletal remains.

Human Remains

If human remains are encountered within the Project Area during Project-related earth-disturbing activities, all work within 100-feet of the discovery area shall cease immediately, nothing is to be disturbed, and the area secured. The Sonoma County Coroner's Office must be notified immediately. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner will determine if the remains are pre-contact Native American or of modern origin and if there are any criminal or jurisdictional questions.

If the Coroner believes the remains to be those of a pre-contact Native American, they shall contact the Native American Heritage Commission (NAHC) by telephone within 24-hours. The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48-hours to make recommendations to the landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48-hours, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC. According to the California Health and Safety Code, six (6) or more human burials at one (1) location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052). An archaeologist(s) should also be retained to evaluate the historical significance of the discovery, the potential for additional remains, and to provide further recommendations for treatment of the site in coordination with the MLD.

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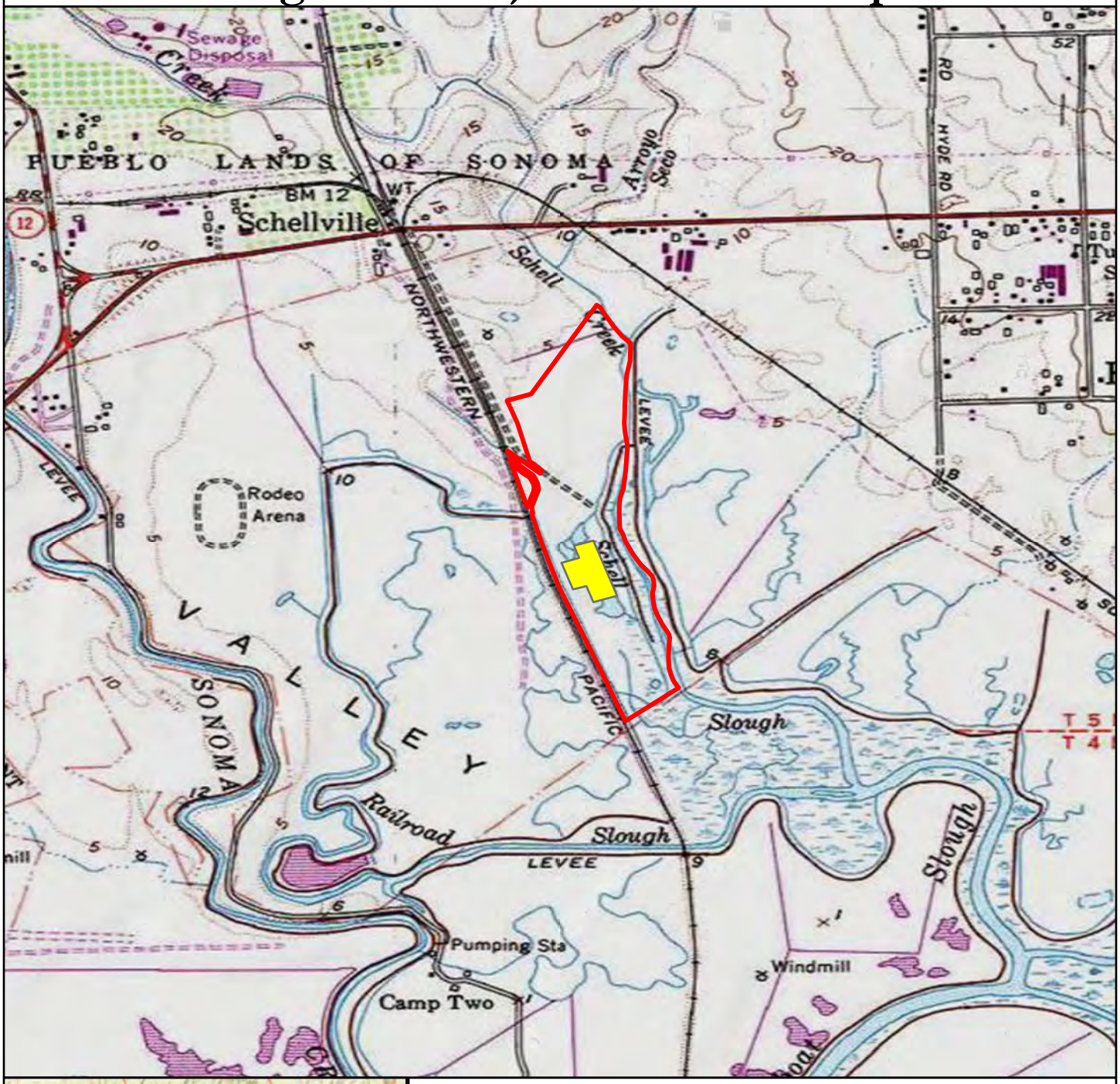
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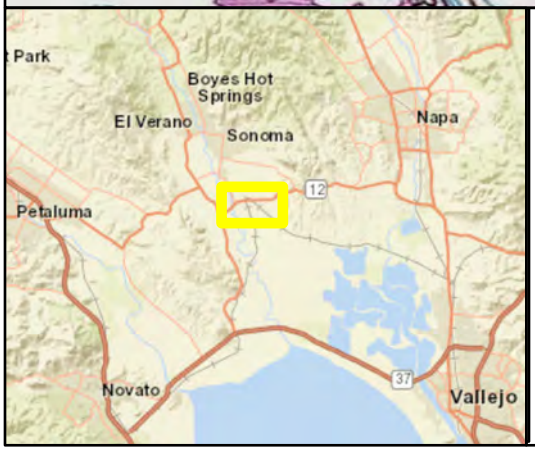
Appendix A: Maps

Figure 1: Project Location Map
Figure 2: Aerial Map
Figure 3: Preliminary Construction Maps
Figure 4: CHRIS Result Maps
Figure 5: Survey Coverage Map

Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1515 Fremont Drive, Sonoma, California, 94952 (APN: 128-471-004)

APN 128-471-004 Cultivation Project
Figure 1: Project Location Map





Scale: 1:24,000
USGS 7.5' Maps: Sears Point & Sonoma
Township 5 North; Rage 5 West; MDBM;
Unsectioned (Rancho Huichica)

Parcel Boundary: APN 128-471-004

Project Area / Cultivation Area

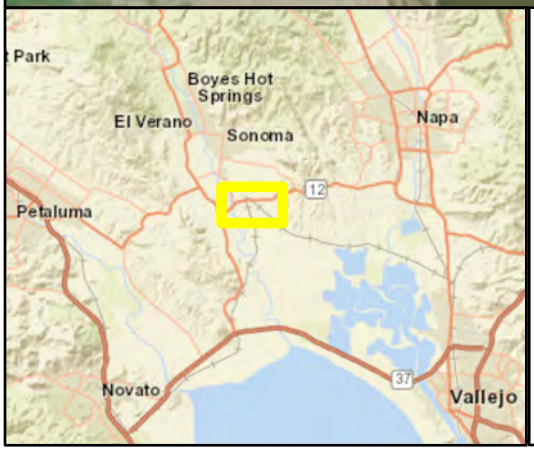
TN

0 0.13 0.25 0.5 0.75 1 Miles

Cultural Resources Practitioners, LLC. January 2021

APN 128-471-004 Cultivation Project
Figure 2: Project Aerial Map





Parcel Boundary: APN 128-471-004

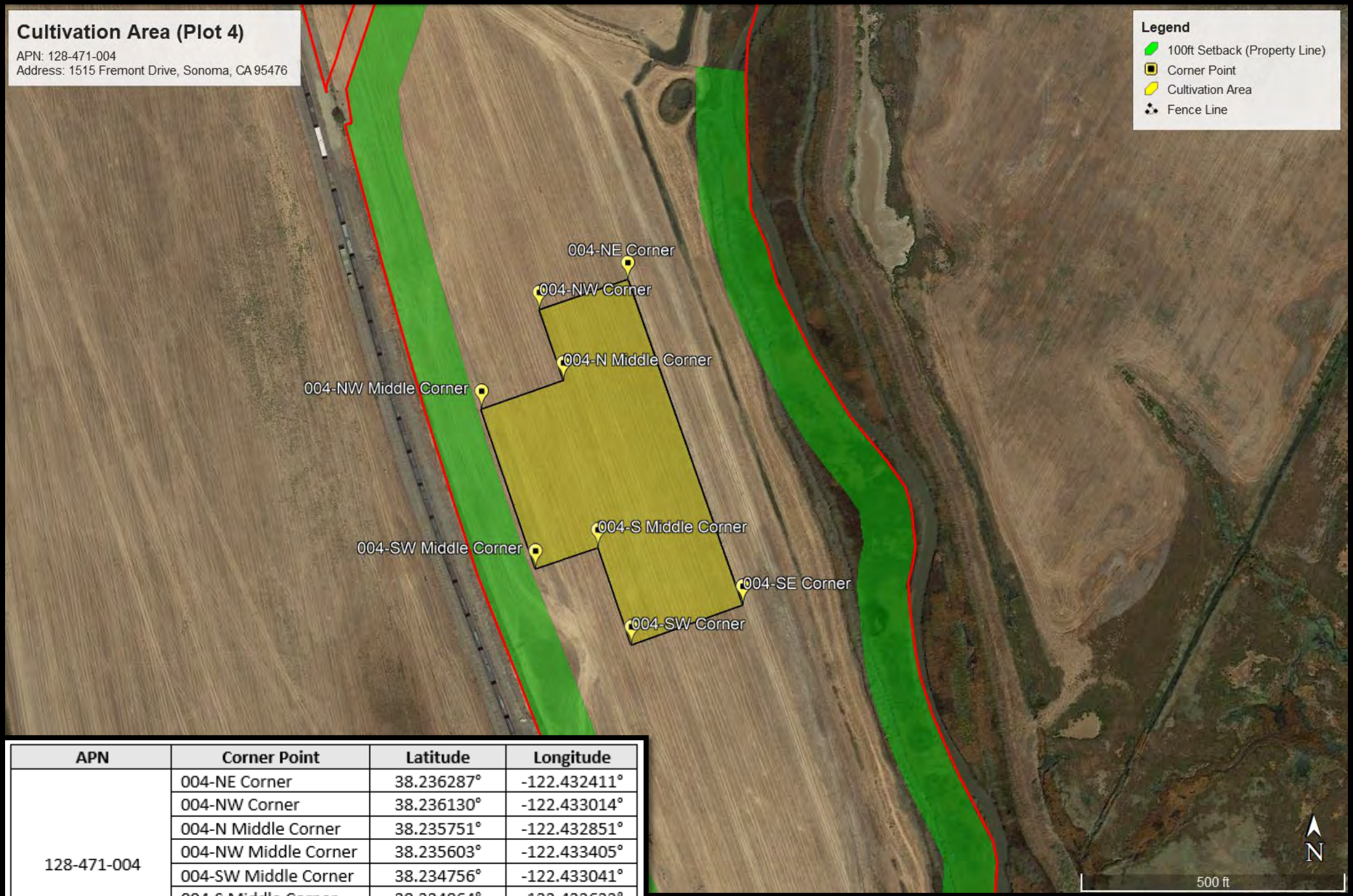
Project Area / Cultivation Area

Miles

0 0.13 0.25 0.5 0.75 1

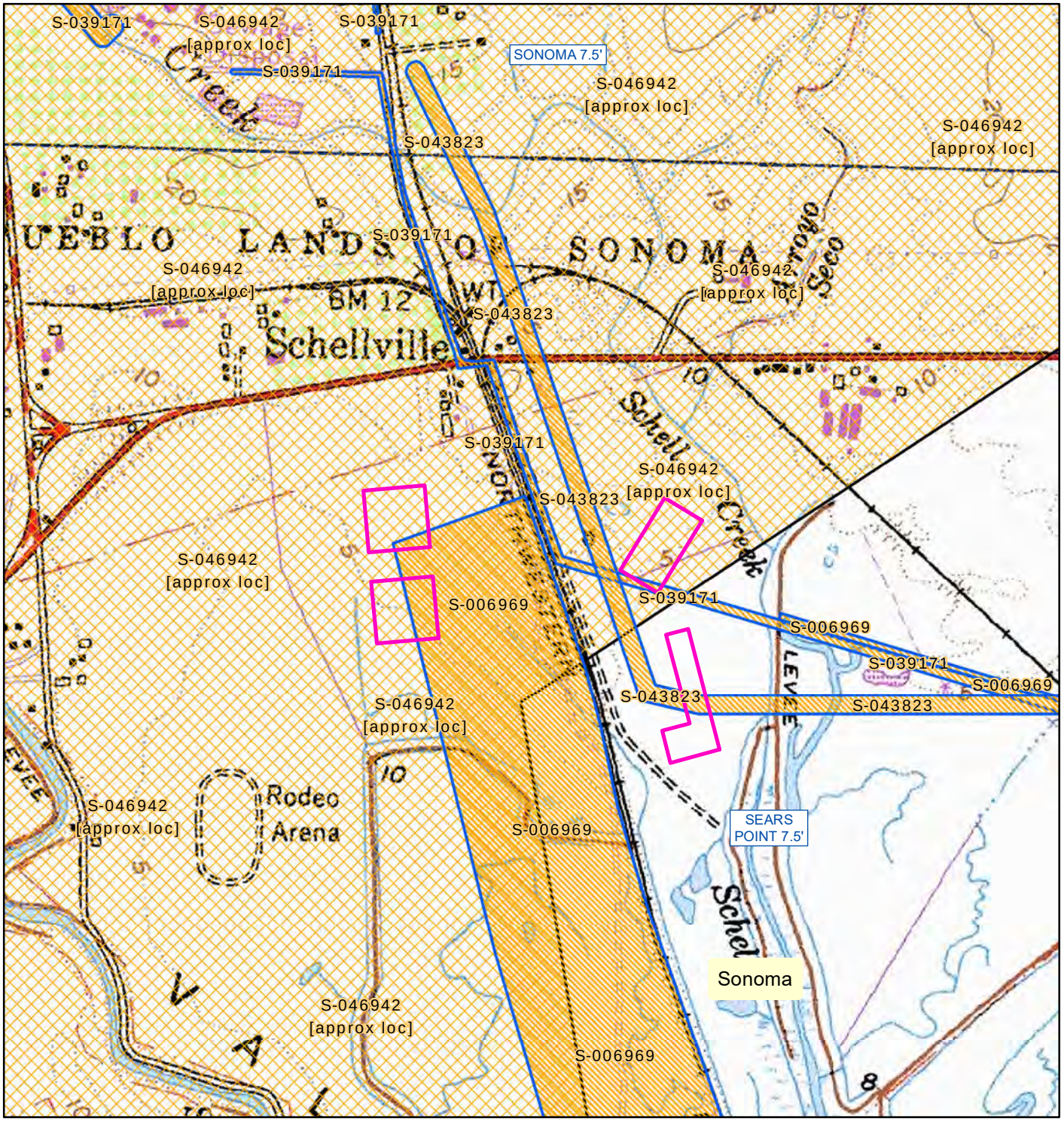
TN

Cultural Resources Practitioners, LLC. January 2021



APN	Corner Point	Latitude	Longitude
128-471-004	004-NE Corner	38.236287°	-122.432411°
	004-NW Corner	38.236130°	-122.433014°
	004-N Middle Corner	38.235751°	-122.432851°
	004-NW Middle Corner	38.235603°	-122.433405°
	004-SW Middle Corner	38.234756°	-122.433041°
	004-S Middle Corner	38.234864°	-122.432622°
	004-SW Corner	38.234356°	-122.432401°
	004-SE Corner	38.234562°	-122.431654°

CRP 2020075, -76, -77, & -78
Report Map

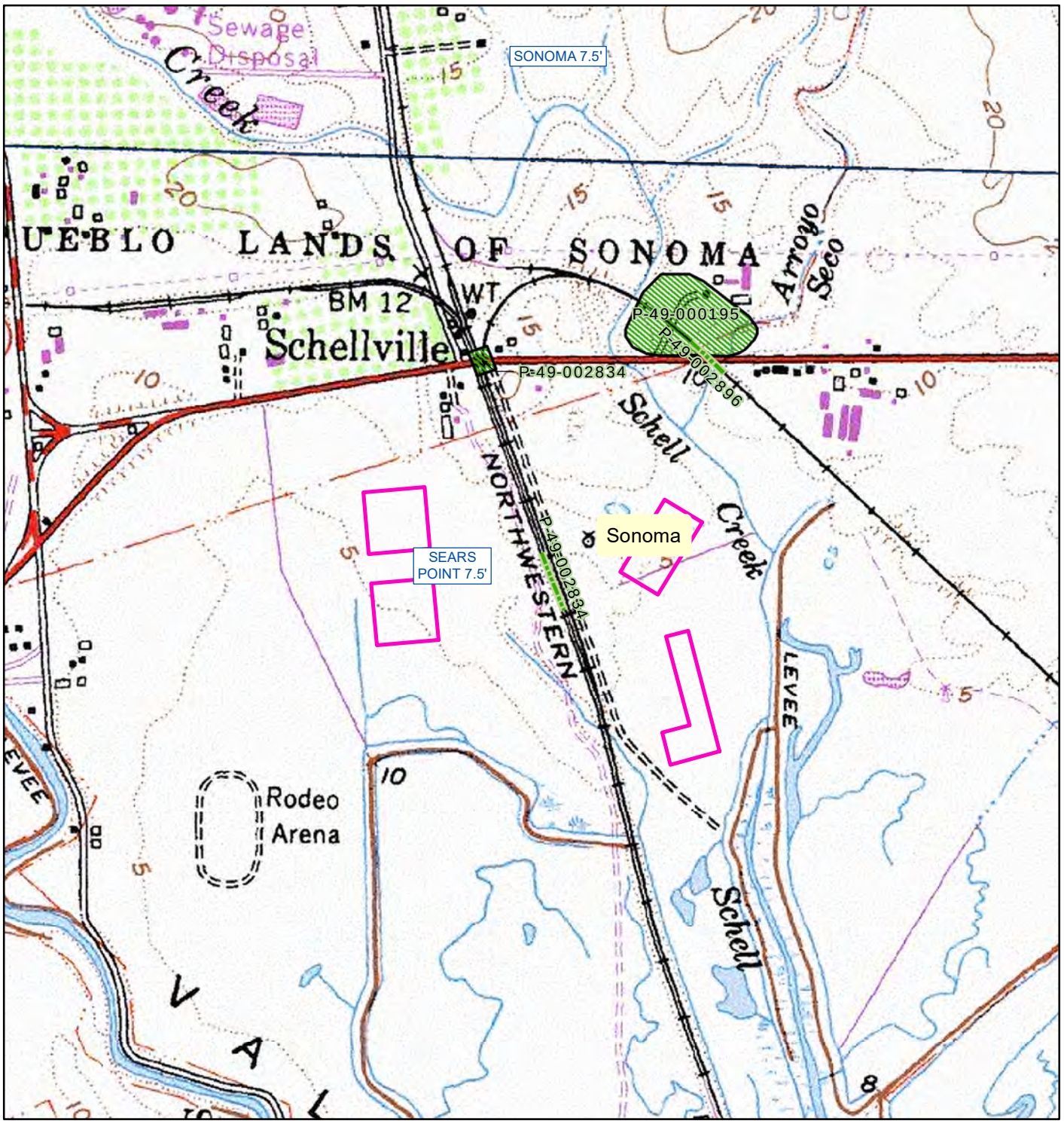


Northwest Information Center
File #20-1126, 4 January 2020, L. Hagel
May depict confidential cultural resource locations.
Do not distribute.

Feet: 0, 350, 700, 1,050, 1,400
Meters: 0, 60, 120, 180, 240, 300

N

CRP 2020075, -76, -77, & -78
Resource Map

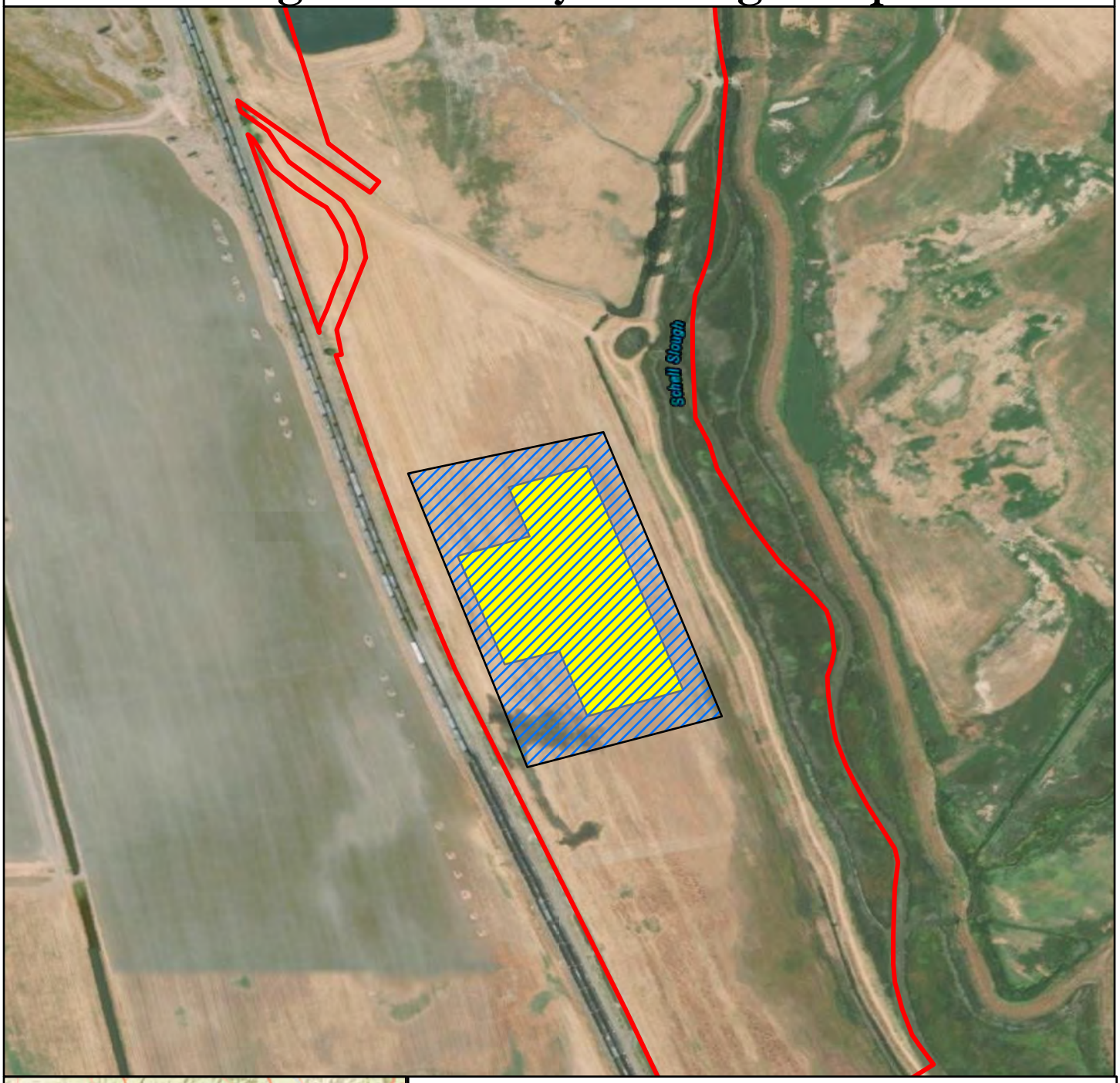


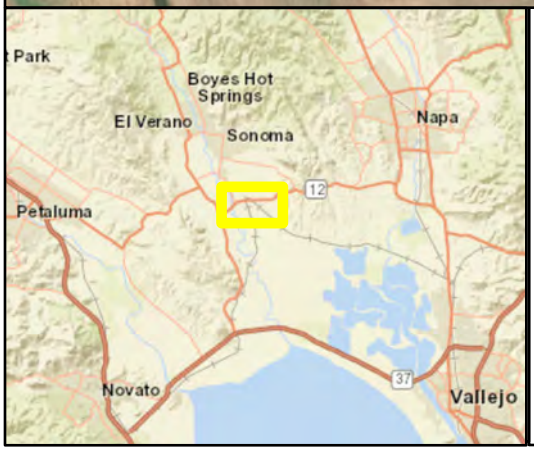
Northwest Information Center
File #20-1126, 4 January 2020, L. Hagel
May depict confidential cultural resource locations.
Do not distribute.

Feet: 0, 350, 700, 1,050, 1,400
Meters: 0, 60, 120, 180, 240, 300

N

APN 128-471-004 Cultivation Project
Figure 5: Survey Coverage Map





Surveyed Coverage Area

Parcel Boundary: APN 128-471-004

Project Area / Cultivation Area

Miles

0 0.03 0.06 0.12 0.19 0.25

TN

Cultural Resources Practitioners, LLC. January 2021

Appendix B:

Field Photograph

Sheets

Results of a Cultural Resources Study for
the Proposed Cannabis Cultivation Project
at 1515 Fremont Drive, Sonoma, California, 95476
(APN: 128-471-004)

PHOTO SHEET #1

Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1515 Fremont Drive, Sonoma, California, 95476 (APN: 128-471-004)



Figure 1: Overview of cultivation area looking northwest from the southeast corner.



Figure 2: Overview of cultivation area looking southwest from the northeast corner.



Figure 3: Overview of cultivation area looking northeast from southwestern middle corner.



Figure 4: Overview of cultivation area looking southeast from northwestern middle corner.

PHOTO SHEET #2

Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1515 Fremont Drive, Sonoma, California, 95476 (APN: 128-471-004)



Figure 5: Overview of cultivation area from center; looking north.



Figure 6: Overview of cultivation area from center; looking northwest.



Figure 7: Overview of cultivation area from center; looking west.



Figure 8: Overview of cultivation area from center; looking southwest.

PHOTO SHEET #3

Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1515 Fremont Drive, Sonoma, California, 95476 (APN: 128-471-004)



Figure 9: Overview of cultivation area from center; looking south.



Figure 10: Overview of cultivation area from center; looking southeast.



Figure 11: Overview of cultivation area from center; looking east.



Figure 12: Overview of cultivation area from center; looking northeast.

RESULTS of a CULTURAL RESOURCES STUDY for the PROPOSED CANNABIS CULTIVATION PROJECT at 1495 FREMONT DRIVE, SONOMA, CALIFORNIA, 95476 (APN: 128-471-006)

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ARCHAEOLOGICAL DATABASE INFORMATION

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USGS 7.5 Minute Series Quadrangle Map:	1951 (Photorevised 1968) Sears Point, California; Township 5 North; Range 5 West; Unsectioned (Rancho Huichica)
Keywords:	Sonoma County; Schellville; cannabis cultivation project; CEQA; negative for cultural resources; recommended no historical resources or unique archaeological resources affected

STATEMENT OF CONFIDENTIALITY

This report identifies the locations of cultural resources within Sonoma County, which are confidential. The cultural, scientific, and artistic values associated with these sites can be damaged or destroyed through uncontrolled public disclosure of information about their locations.

Disclosure of this information to the public may be in violation of both federal and state laws. Information regarding the location, character or ownership of a historic resource is exempt from the Freedom of Information Act. Applicable U.S. laws include, but may not be limited to, Section 304 of the National Historic Preservation Act (16 USC 470w-3) and the Archaeological Resources Protection Act (16 USC 470hh). California state laws that apply include, but may not be limited to, Government Code Sections 6250 *et seq*. and 6254 *et seq*.

If any information in this document is to be released for public review, all locational information associated with archaeological resources must be redacted before distribution.

TABLE OF CONTENTS

STATEMENT OF CONFIDENTIALITY ii

INTRODUCTION 1
PROJECT 1
Scope of Work & Location 1

REGULATORY SETTING 1
California State LORS 2
California Environmental Quality Act (CEQA) 2
Senate Bill (SB) 18 (2004) 4
Public Resources Code (PRC), Section 5097.9 et seq. (1982) 4
Public Resources Code 5097.98 4
Health and Safety Code 7050 – 7052 4
Sonoma County LORS 4
Sonoma County General Plan (2020) 4
Sonoma County Landmark Commission 6
Cannabis Land Use Ordinance No. 6189 (2016) 6

SETTING 7
ENVIRONMENTAL SETTING 7
Geology 7
Soils 8
CULTURAL SETTING 9
Prehistoric & Archaeological Overview 10
Ethnohistoric Overview 12
Historic Overview 14

BACKGROUND RESEARCH 16
CHRIS RECORD SEARCH 16
Methods 16
Results 17
DESKTOP REVIEW 21
Methods 21
Results 22

GEOARCHAEOLOGICAL BURIED SITE ANALYSIS 25
Methods 25
Results 25

PEDESTRIAN FIELD SURVEY 25
Methods 25
Results 26

SUMMARY OF RESULTS 26

RECCOMENDATIONS 27
Accidental Discovery 27
Human Remains 28

REFERENCES CITED 29

LIST OF TABLES

Table 1. NWIC Results: Cultural Resource Studies 18
Table 2. NWIC Results: Previously Recorded Cultural Resources 20
Table 3. BERD Listed Recorded Properties 21
Table 4. Historical Resources within 1/2-Mile Radius 21
Table 5. Built Environment Depicted on Historical Maps/Aerials 23

APPENDICES

Appendix A: Maps
Figure 1: Project Location Map
Figure 2: Project Aerial Map
Figure 3: Preliminary Construction Map
Figure 4: CHRIS Records Search Result Maps
Figure 5: Survey Coverage Map

Appendix B: Field Survey Photograph Sheets

INTRODUCTION

Cultural Resources Practitioners, LLC (CRP) was retained by Farmparc, LLC to provide a Cultural Resources Study (CRS) for one (1) proposed outdoor cultivation site measuring four-acres located on a section of parcel at 1495 Fremont Drive, Sonoma, California, 95476 (herein referred to as Project). The CRS was completed in compliance with the California Environmental Quality Act (CEQA) and the Sonoma County Cannabis Land Use Ordinance No. 6189. The purpose of the CRS was to determine if there are any cultural resources located within the Project Area that meet CEQA's definition of Historical Resource(s) or Unique Archaeological Resource(s) that could be impacted by the Project and to provide project-specific recommendations if needed.

The government-to-government consultation with the local Native American tribes that is required to determine the presence or absence, or potential impacts to Tribal Cultural Resources, as defined in Public Resource Code §21074, is to be conducted by the lead agency (i.e. Sonoma County Department of Agriculture/Weights & Measures); therefore, a Sacred Lands inventory and consultation with local Native American tribes was not conducted as part of this CRS.

This CRS was completed by CRP Principal Investigator Robert Gleaton, M.A., RPA (Registered Professional Archaeologist, No. 52141) and Cultural Resources Specialist Andrew Von Pinnon, M.A.; both individuals exceed the *Secretary of Interior's Professional Qualification Standards* in *Archaeology*. The results of the CRS are presented herein.

PROJECT

Scope of Work & Location

The proposed Project entails one outdoor cannabis cultivation site with a four-acre area located within the property at 1495 Fremont Drive, Sonoma, California; Accessors Parcel Number (APN) 128-444-006; near the unincorporated community of Schellville in Sonoma County (see Appendix A, Figure 1: Project Location Map; Figure 2: Aerial Map, and; Figure 3: Preliminary Construction Maps).

The Project's proposed cannabis cultivation area is located on the 1951 (Photorevised 1968) Sears Point, California, 7.5-Minute Series United States Department of the Interior Geological Survey (USGS) Topographic Quadrangle Map; Township 5 North; Range 5 West; in an unsectioned portion (Rancho Huichica); Mount Diablo Base and Meridian (MDBM).

REGULATORY SETTING

This section briefly discusses California and Sonoma County laws, ordinances, regulations and standards (LORS) that apply to the Project. A cultural resources inventory was conducted to satisfy the requirements of the California Environmental Quality Act (CEQA) of 1970 as amended; its implementing regulations the CEQA Guidelines, codified in Title 14 of the CCR, which provides agencies guidance for compliance with environmental regulations, and; Sonoma County Ordinances including the Cannabis Land Use Ordinance No. 6189 (2016) and those described in the Sonoma County General Plan 2020, as amended.

California State LORS

California Environmental Quality Act (CEQA)

The CEQA established that historical and archaeological resources are afforded consideration and protection by the California Environmental Quality Act (CEQA) (14 CCR Section 21083.2, 14 CCR Section 15064). CEQA Guidelines define significant cultural resources under two regulatory designations: *historical resources* and *unique archaeological resources*.

A historical resource is a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (CRHR)"; or "a resource listed in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code"; or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record" (14 CCR Section 15064.5[a][3]).

Historical resources automatically listed in the California Register include California cultural resources listed in or formally determined eligible for the National Register and California Historical Landmarks list from No. 770 onward (PRC 5024.1[d]). Locally listed resources are entitled to a presumption of significance unless a preponderance of evidence in the record indicates otherwise.

Under CEQA, a resource is generally considered historically significant if it meets the criteria for listing in the CRHR. A resource must meet at least one of the following criteria (PRC 5024.1; 14 CCR Section 15064.5[a][3]):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage. Title 14, CCR Section 4852(b)(1) adds, "is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States."

2. Is associated with the lives of persons important in our past. Title 14, CCR Section 4852(b)(2) adds, "is associated with the lives of persons important to local, California, or national history."

3. Embodies the distinctive characteristics of a type, period, region, or method of construction; or represents the work of an important creative individual; or possesses high artistic values. Title 14, CCR 4852(b)(3) allows a resource to be CRHR eligible if it represents the work of a master.

4. Has yielded, or may be likely to yield, information important in prehistory or history. Title 14, CCR 4852(b)(4) specifies that importance in prehistory or history can be defined at the scale of "the local area, California, or the nation."

Historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (14 CCR 4852[c]).

An archaeological artifact, object, or site can meet CEQA's definition of a *unique archaeological resource* even if it does not qualify as a historical resource (PRC 21083.2[g]; 14 CCR 15064.5[c][3]). An

archaeological artifact, object, or site is considered a unique archaeological resource if ". . .it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC 21083.2[g]):

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

Assembly Bill 52 (AB 52) and Tribal Cultural Resources (2015). AB 52 establishes a formal role for California Native American tribes in the CEQA process. CEQA lead agencies are required to consult with tribes about potential tribal cultural resources in the project area, the potential significance of project impacts, the development of project alternatives and the type of environmental document that should be prepared.

- A "Native American tribe located in California that is on the contact list maintained Native American Heritage Commission" (NAHC). This definition does not distinguish between federally recognized and non-federally recognized tribal groups, and is therefore more inclusive than the federal definition of "Indian tribe" (PRC § 21073).

- To qualify as a tribal cultural resource, it must either be 1) listed on or eligible for listing on the California Register of Historical Resources or a local historic register or, 2) or is a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a Tribal Cultural Resource (PRC § 21074). Tribal Cultural Resources include "non-unique archaeological resources" that, instead of being important for "scientific" value as a resource, can also be significant because of the sacred and/or cultural tribal value of the resource. Tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of tribal cultural resources within their traditionally and cultural affiliated geographic area (PRC § 21080.3.1(a)).

- Consultation in the context of AB 52 is the meaningful and timely process of seeking, discussing, and carefully considering the views of others. Meaningful consultation usually consists of face-to-face meetings conducted in such a way that recognizes the cultural values of all parties involved and makes a concerted effort to reach an agreement. Consultation should recognize the tribe's potential need for confidentiality regarding places that hold traditional tribal significance. Consultation with tribes is considered the best way for lead agencies to determine if a project could result in significant environmental impacts to tribal cultural resources (PRC § 21080.3.1(a); GC § 65352.4).

A project that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (PRC § 21084.2).

Tribal Cultural Resources are not addressed in a CRS, as they are resources that are specific concern to California Native American tribes. Pursuant to revisions to CEQA enacted in 2015, Tribal Cultural Resources are to be identified by Tribes during government-to-government consultation with the lead agency and can remain confidential (PRC § 21080.3.1).

Senate Bill (SB) 18 (2004)

Senate Bill 18, signed into law by Governor Schwarzenegger in September 2004, requires cities and counties to notify and consult with California Native American Tribes about proposed adoption of, or changes to, general plans and specific plans for the purpose of protecting Traditional Tribal Cultural Places ("cultural places"). Interim tribal consultation guidelines were published by the Governor's Office of Planning and Research on March 1, 2005.

Public Resources Code (PRC), Section 5097.9 et seq. (1982)

This establishes that both public agencies and private entities using, occupying, or operating on state property under public permit, shall not interfere with the free expression or exercise of Native American religion and shall not cause severe or irreparable damage to Native American sacred sites. This section also creates the NAHC, charged with identifying and cataloging places of special religious or social significance to Native Americans, identifying and cataloging known graves and cemeteries on private lands, and performing other duties regarding the preservation and accessibility of sacred sites and burials.

Public Resources Code 5097.98

This section discusses the procedures that need to be followed upon the discovery of Native American human remains. The NAHC, upon notification of the discovery of human remains is required to contact the County Coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code and shall immediately notify those persons it believes to be most likely descended from the deceased Native American.

Health and Safety Code 7050 – 7052

Section 7052 of the Health and Safety Code states that the disturbance of Native American cemeteries is a felony. Section 7050.5 of the California Health and Safety Code requires that construction or excavation must be stopped in the vicinity of discovery of human remains until the County Coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission (NAHC).

Sonoma County LORS

Sonoma County General Plan (2020)

Open Space and Resource Conservation Element (amended 2016), Chapter 10: Archaeological, Cultural, and Historical Resources. This document outlines a number of goals, objectives and policies for the protection and preservation of prehistoric and historic cultural resources. The Goal includes: "Protect and preserve significant archaeological and historical sites that represent the ethnic, cultural, and economic groups that have lived and worked in Sonoma County, including Native American populations. Preserve unique or historically significant heritage or landmark trees" (SCPRMD 2016: OS-54).

Polices specific to archaeological resources include:

Policy OSRC-19a: Designate the County Landmarks Commission to review projects within designated historic districts.

Policy OSRC-19b: Refer proposals for County Landmark status and rezoning to the Historic Combining District to the County Landmarks Commission.

Policy OSRC-19c: The County Landmarks Commission shall review Historic Building Surveys and make recommendations for designation of structures or cemeteries as County landmarks.

Policy OSRC-19d: Include a list of historic structures proposed for designation as County landmarks in Specific or Area Plans or Local Area Development Guidelines and refer the

list to the Landmarks Commission for their recommendations.

Policy OSRC-19e: Refer applications that involve the removal, destruction or alteration of a structure or cemetery identified in a historic building survey to the Landmarks Commission for mitigation. Measures may include reuse, relocation, or photo documentation.

Policy OSRC-19f: Use the Heritage or Landmark Tree Ordinance and the design review process to protect trees.

Policy OSRC-19g: Pursue grant funding for the preparation and updating of historic resource inventories.

Policy OSRC-19h: Designate the County Landmarks Commission to administer a preservation program for stabilization, rehabilitation, and restoration of historic structures.

Policy OSRC-19i: Develop a historic resources protection program that provides for an ongoing process of updating the inventory of historic resources. Such a program should include: (1) Periodic historic building surveys, (2) Formalized recognition of the inventory of historic resources as recommended by the State Office of Historic Preservation, including rezoning to the Historic Combining District (HD), and (3) Procedures for the protection of recognized historic resources for both ministerial and discretionary permits.

Policy OSRC-19j: Develop an archaeological and paleontological resource protection program that provides: (1) Guidelines for land uses and development on parcels identified as containing such resources, (2) Standard project review procedures for protection of such resources when discovered during excavation and site disturbance, and (3) Educational materials for the building industry and the general public on the identification and protection of such resources.

Policy OSRC-19k: Refer applications for discretionary permits to the Northwest Information Center to determine if the project site might contain archaeological or historical resources. If a site is likely to have these resources, require a field survey and preparation of an archaeological report containing the results of the survey and include mitigation measures if needed.

Policy OSRC-19l: If a project site is determined to contain Native American cultural resources, such as sacred sites, places, features, or objects, including historic or prehistoric ruins, burial grounds, cemeteries, and ceremonial sites, notify and offer to consult with the tribe or tribes that have been identified as having cultural ties and affiliation with that geographic area.

Policy OSRC-19m: Develop procedures for consulting with appropriate Native American tribes during the General Plan adoption and amendment process.

Policy OSRC-19n: Develop procedures for complying with the provisions of State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, if applicable, in the event of the discovery of a burial or suspected human bone. Develop procedures for consultation with the Most Likely Descendant as identified by the California Native American Heritage Commission, in the event that the remains are determined to be Native American.

Sonoma County Landmark Commission

This commission was established by the Board of Supervisors on April 23, 1974 under ordinance No. 1768, the same ordinance that provided the procedure for designation of Historic Structures (i.e., Historic Landmarks) and Historic Districts. The ordinance establishes that the Commission shall consist of one resident from each Supervisorial District, appointed by the Board of Supervisors. The duties of the Commission are, "To establish certain sites, buildings, etc., as historical landmarks; review development applications involving historic properties, grants program" (County of Sonoma 2018).

Cannabis Land Use Ordinance No. 6189 (2016)

The Board of Supervisors of Sonoma County adopted a Negative Declaration and amended text in Chapter 26 (Zoning Ordinance) of the Sonoma County Code to allow personal cultivation of cannabis and permit cultivation of commercial medical cannabis and support land uses in various zoning districts. Regarding cultural resources, the Ordinance (County of Sonoma 2016:16-17) states:

> *Section 9) Cultural and Historic Resources:* "Cultivation sites shall avoid impacts to significant cultural and historic resources by complying with the following standards. Sites located within a Historic District shall be subject to review by the Landmarks Commission, unless otherwise exempt, consistent with Section 26-68-020. Cultivation operations involving ground disturbing activities, including but not limited to, new structures, roads, water storage, trenching for utilities, water, wastewater, or drainage systems shall be subject to design review and referral to the Northwest Information Center and local tribes for consultation. A cultural resource survey and on-site monitor during ground disturbing activities may be required to demonstrate cultural and historic resources are protected.
>
> The following minimum standards shall apply to cultivation permits involving ground disturbance. All grading and building permits shall include the following plans:
>
> If paleontological resources or prehistoric, historic-period or tribal cultural resources are encountered during ground-disturbing work at the project location, all work in the immediate vicinity shall be halted and the operator must immediately notify the agency having jurisdiction of the find. The operator shall be responsible for the cost to have a qualified paleontologist, archaeologist and tribal cultural resource specialist under contract to evaluate the find and make recommendations in a report to the agency having jurisdiction.
>
> Paleontological resources include fossils of animals, plants or other organisms. Historic-period resources include backfilled privies, wells, and refuse pits; concrete, stone, or wood structural elements or foundations; and concentrations of metal glass, and ceramic refuse. Prehistoric and tribal cultural resources include obsidian and chert flaked-stone tools (e.g., projectile points, knives, choppers), midden (culturally darkened soil containing heat-affected rock, artifacts, animal bone, or shellfish remains), stone milling equipment, such as mortars and pestles, and

certain sites features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe.

If human remains are encountered, work in the immediate vicinity will stop and the operator shall notify the agency having jurisdiction and the Sonoma County Coroner immediately. At the same time, the operator shall be responsible for the cost to have a qualified archaeologist under contract to evaluate the discovery. If the human remains are determined to be of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification".

SETTING

This section provides an environmental setting (i.e., overview, geology and soils), and cultural (i.e., prehistoric, ethnohistoric and historic) overview of the Project's vicinity. Each setting provides the basis for understanding the significance, and/or the potential for encountering cultural resources that could be located within the Project Area.

ENVIRONMENTAL SETTING

The Project Area is located south of the unincorporated community of Schellville at 1495 Fremont Drive in Sonoma County; approximately 3.0 miles southeast of the city of Sonoma, 9.0 miles east of the city of Petaluma, and 9.0 miles west of the city of Napa. Situated only about 5 feet above mean sea level (amsl), the parcel is located at the southern edge of Sonoma Valley, within an existing pasture field located north of an estuarine and marshland environment that lies immediately north of San Pablo Bay. In addition, the Project Area lies between two natural streams: Sonoma Creek to the west (0.60 miles) and Schell Creek to the east (0.50 miles). Vegetation within the Project Area includes annual and perennial, native and nonnative, grasses and forbs.

Geology

Located on the southern edge of Sonoma Valley, this area contains a narrow fault basin. The Sonoma Valley is located within the geologic region of California referred to as the Northern Coast Range Geomorphic Province, situated within the larger Coast Range Geomorphic Province (Harden 1998). The Coast Range province lies between the Pacific Ocean and Great Valley (Sacramento to San Joaquin valleys) provinces and stretches from the Oregon border to the Santa Ynez Mountains near Santa Barbra. The northern and southern Coast Ranges are separated by a depression containing the San Francisco Bay (California Department of Conservation 2002). The San Francisco Bay lies within a broad depression created from an east-west expansion between the San Andreas and Hayward fault systems (ESA 2009:4.M-1).

At least five regional geologic maps exist that cover the Project Area (Koenig 1963; Wagner and Bortugno 1982; Knudsen et al. 2000; Wagner et al. 2002; Graymer et al. 2006). Generally, these maps indicate the Project Area has a geology comprised largely of early Pleistocene to late Pleistocene undifferentiated alluvial deposits; recent (Holocene) Quaternary Alluvium; Holocene-aged Intertidal deposits (Peaty-mud); or older alluvium (near Pleistocene to Holocene interface) which fits with the Project Area's estuarine location and terrestrial landform.

Wagner and other's 2002 study focuses on the USGS 7.5-Minute Sears Point Quadrangle Map. Their 2002 map plots (from west to east along the proposed cultivation area) the latest Holocene stream terrace deposits. Silt, clay, peat, and fine sand deposited at or near sea level in San Pablo Bay (mapped as unit Qhbm); Latest Holocene stream terrace deposits. Stream terraces are deposited as point bar and overbank deposits by Sonoma Creek (mapped as unit Qhty); and unit Qof (Wagner et al. 2002). While no description of the Qof is given in map's legend, it is assumed to be late Pleistocene to Holocene alluvial fan deposits based on other geologic units used in the general mapping of California's geology.

Determining the geologic age of the landform on which the Project Area is located is important because most Holocene-age (post 11,800 calibrated years before present) landforms have the potential for buried sites because they formed when people occupied California (Meyer and Rosenthal 2007:15). Generally, dramatic changes in the landscape over the past 13,000 years (e.g., rising sea levels and increased sedimentation into streams and rivers) can result in many late Pleistocene and early Holocene land surfaces being overlain by thick deposits of alluvial soils that are generally less than 5,000-years-old and that have established an interface with an older land surface represented by a well-developed buried soil profile, or paleosol. Additionally, certain landforms such as alluvial fans, floodplains, and areas along rivers and streams, are more likely to contain buried sites:

> "At a general level, it is relatively easy to understand that buried sites will be located in or beneath Holocene-age depositional landforms. Predicting exactly where they will occur, however, is much more difficult. Buried archaeological potential can be conceptualized as a set of factors that either encouraged or discouraged human occupation of certain landforms (e.g., aspect, extent, setting, slope), and those factors that affected the subsequent preservation (i.e., erosion or burial) of those landforms" (Meyer and Rosenthal 2007:25).

Soils

An understanding of soils and their development is fundamental in archaeology because soils are an essential component in any environmental reconstruction as they can provide evidence of past human activity (Goldberg and Macphail 2006:42). Five soil-forming factors include: (1) climate, (2) organisms (including humans), (3) relief (topography), (4) parent rock, and (5) time (Jenny 1941). The formation of soils creates a vertical and horizontal distinction that creates a profile displaying the sequences, termed soil horizons, which lie horizontal to one another and parallel with the surface (Waters 1992:45). These horizons "reflect changes in mineralogy, texture, and chemistry usually caused by weathering" (Stein 2001:18), which together form a soil profile (Jones 2007:11).

Identification of certain soil types is important in geoarchaeology as the soils can inform the researcher how to reconstruct past environmental and climatic conditions (Rapp and Hill 2006:41). Many older land surfaces often contain buried soils (paleosols). Paleosols are soils that formed in the past but are not undergoing soil formation in the present. The paleosols soils represented in the soil stratigraphy are: 1) indicative of prolonged periods of land stability or past environmental conditions; 2) are useful stratigraphic markers for locating buried archeological deposits and are and are well represented in archaeological contexts and; 3) and aid in the correlation of depositional sequences of different areas (Meyer 2003; Rapp and Hill 2006). Additionally, landforms that exhibit clear evidence of soil formation are expected to have a higher potential for containing archaeological resources than deposits that lack evidence of soil formation because people are generally attracted to stable surfaces, which in turn retains the evidence of occupation (Scher 2012: 9). Deposits composed of sorted sand and gravel are expected

to have little potential for containing intact archaeological resources but may contain re-deposited material and may represent former stream channels that could be associated with prehistoric use (Meyer 2000:10).

Natural Resources Conservation Service

The current soils map provided the Natural Resources Conservation Service (NRCS) (Soils Survey Staff 2020) describes the soils within, and directly adjacent to, the Project Area as the Reyes clay and Zamora silty clay loam (mapped as units 301 and ZaA, respectfully). Current soil maps can be found in Google Earth and at the Web Soil Survey website (Soil Survey Staff 2021). The following is a description of both series of soils:

> ***Reyes Series***: Reyes' soils consist of very deep, poorly-drained soils that formed in alluvium along the margin of bays. Reyes soils occur on reclaimed and protected marsh areas, with slopes ranging between 0 and 2 percent. Its taxonomic class is a fine, mixed, active, acid, thermic Typic Sulfaquent. This series extends 63 inches below the surface and contains the following horizons: Oi, A, Ag, Bjg1, Bjg3, Bjg3, Bjg4, and 2Cg. Subordinate horizons include 'i' (indicating slightly decomposed organic matter) in the O horizon; 'g' (indicating strong gleying) in the A, B, and C horizons; and 'j' (indicating the accumulation of jarosite) in the B horizon.
>
> ***Zamora Series***: Zamora soils consist of very deep, well-drained soils that formed in alluvium from mixed rocks. Zamora soils occur on alluvial fans, stream terraces, and flood plains, with slopes ranging between 0 and 9 percent. Its taxonomic class is a fine-silty, mixed, superactive, thermic Mollix Haploxeralf. This series extends 60 inches below the surface and contains the following horizons: Ap, Bt1, Bt2, Bt3, and Bwk. Subordinate horizons include 'p' (indicating plowing) in the A horizon and 't' (accumulation of silicate clays), 'w' (development of color or structure), and 'k' (accumulation of carbonates) in the B horizons.

Importantly, no buried A horizons (paleosols; horizon Ab) are noted within the Reyes or Zamora soils (Soil Survey Staff 2021).

CULTURAL SETTING

Three elements of the cultural setting for the Project Area are important to understanding the cultural resources that might be present: Prehistoric, Ethnohistoric, and Historic periods. The prehistoric overview covers the era prior to sustained European contact, while the historic period overview covers the time after that contact. The ethnohistoric overview covers the overlap between the two, presenting information regarding the Native American inhabitants of the region, as understood through historical accounts and information given to anthropologists by California Native Americans. The Following Sections are excerpted from Beck (2011), Browning (2018) and Mick's (2020) cultural resource studies within the region.

Prehistoric & Archaeological Overview

The prehistory of northern California is believed to date about 12,000 years before present (BP), around the time of the terminal Pleistocene. Although few archaeological sites demonstrate evidence of human occupation during the late Pleistocene and early Holocene (11,500–8000 B.P.), this is likely a product of the archaeological record itself rather than lack of human use of this area. The Paleo-Archaic-Emergent cultural sequence developed by Fredrickson (1973, 1974) is commonly used to interpret the cultural patterns of the North Coast Ranges in California, which include the area of Sonoma County. These time periods are further defined by spatial and cultural units called Patterns, Phases, and Aspects (Fredrickson 1973, 1974). Fredrickson (1989) defined Aspects specific to the Santa Rosa Plain, and these include the Spring Lake Aspect of the Borax Lake Pattern in the Lower Archaic Period, the Black Hills Aspect of the Mendocino Pattern in the Middle Archaic Period, the Laguna Aspect of the Berkeley Pattern in the Upper Archaic Period, and the Rincon and Gables Aspects of the Augustine Pattern in the Emergent Period. Using radiocarbon determinations (e.g., Groza 2002; LaJeunesse and Pryor 1996; Meyer and Rosenthal 1997), the sequence is broken into three broad periods: the Paleo-Indian period (11,550 to 8550 B.C.); the three-staged Archaic period, consisting of the Lower Archaic (8550 to 5550 B.C.), Middle Archaic (5550 to 550 B.C.), and Upper Archaic (550 B.C. to 1100 A.D.); and the Emergent period (A.D. 1100 to 1769).

Several prehistoric archaeological sites excavated in north-central and south-central Sonoma County provide a chronology of occupation dating from the Paleo-Indian Period until Euro-American contact. In north-central Sonoma County, Basgall (1993) analyzed archaeological data from several sites from the Warm Springs Creek locality and identified three phases of Native American occupation of the area. The oldest occupation from the Warm Springs locality is the Skaggs phase (ca. 5000-2500 B.P.), possibly representing early Yukian settlement and use of the area. Skaggs phase sites include large concave base and "Willits" side-notched projectile points and mano and metates. The Dry Creek phase (ca. 2500-900 B.P.) represents possible Pomoan intrusion into north-central Sonoma County (cf. Stewart 1993) and includes shouldered lanceolate and leaf shaped projectile points and mortars and pestles. Smith phase (900-100 B.P.) sites represent a fluorescence of Pomoan society and include small corner notched arrow points, continued use of mortars and pestles, clam shell disk and glass trade beads. In south-central Sonoma County tentative evidence exists for Native American use of the Laguna de Santa Rosa northwest of Rohnert Park during the Paleo-Indian period (pre-8000 B.P) and near Spring Lake in Santa Rosa during the Lower Archaic period (8000-4500 B.P.) (Jones and Hayes 1993).

The Paleo-Indian Period (11,550 to 8550 B.C.): began with the first entry of people into California. These people probably subsisted mainly on big game, minimally processed plant foods, and had few or no trade networks. Sonoma County was inhabited during the Paleo-Indian Period, as indicated by the presence of fluted projectile points and chipped stone crescents that have been found in a few archaeological sites located in Sonoma County near the Laguna de Santa Rosa, Bodega Bay, and Warm Springs Creek dam, as well as in the neighboring Mendocino and Lake counties. Based on limited archaeological evidence from this period, it appears populations within and surrounding Sonoma County consisted of small, highly mobile groups that practiced broad-spectrum hunting and gathering techniques. Research conducted by Jones and Hayes (1989, 1993) indicates that Paleo-Indian forgers in the Santa Rosa and Sebastopol areas focused on resources located near lakes, wetlands, and riparian zones during this time.

The Lower Archaic Period (8550 to 5550 B.C.): milling stones appear in abundance and hunting is less important than plant foods. Artifacts are made predominately from local materials, suggesting that few if

any extensive trade networks were established at this time. Several sites in Sonoma County date to the Lower Archaic Period and contain artifacts consistent with a mobile hunting and gathering economy. Mobile foragers appeared to have resided in camps situated along marshes and on grasslands and utilized the surrounding uplands to acquire a wide array of food resources available in those areas on a seasonal basis. The types of artifacts that are found in archaeological sites dating to this period include large, wide-stemmed projectile points, cobble tools, handstones, and milling slabs. These artifacts are characteristic of the Borax Lake Pattern, a distinctive cultural pattern recognized throughout much of the North Coast Ranges during this time. In Sonoma County, the Borax Lake Pattern is recognized by the Spring Lake Aspect, specifically at sites located in Santa Rosa and Duncan's Landing on the Sonoma Coast. A pre-contact archaeological site located in the Rincon Valley area of Santa Rosa, known as CA-SON-20, is the "type site" for the Spring Lake Aspect. This site dates to 6300 B.C. and contains artifacts such as wide-stemmed points, milling slabs and handstones (Wickstrom and Fredrickson 1989).

The Middle Archaic Period (5550 to 550 B.C.): subsistence base begins to expand and diversify during the Middle Archaic with a developing acorn economy, as evidenced by the mortar and pestle, and the growing importance of hunting. As in the Lower Archaic period, mobile foragers on the Santa Rosa Plain during the Middle Archaic Period resided in camps situated along marshes and on grasslands and utilized the surrounding uplands to hunt and gather a wide array of plant and animal resources available in those areas on a seasonal basis. During this period, the Borax Lake Pattern was replaced by the Mendocino Pattern, characterized by groups practicing a more localized foraging strategy. Mendocino Pattern sites are well-represented on the Santa Rosa Plain. According to Fredrickson (1989), there was overlapping use of the Laguna de Santa Rosa area by both mobile foragers (Black Hills Phase of the Mendocino Pattern) and collectors (Laguna Phase of the Berkeley Pattern) between 1500 B.C. and A.D. 1. By 1000 B.C., it is thought that Berkeley Pattern groups, who were more sedentary and practiced a collecting economic strategy, began to spread into the Santa Rosa Plain while mobile Mendocino Pattern foragers focused on the surrounding uplands.

The Middle Archaic Period was also marked by new ground stone technology, as well as an increase in trade, which is evident by cut marine shell (*Olivella* sp.) beads, often found in association with burials. Formalized exchange relationships appear to have been established in the flake stone industry as well, which is indicated by a greater amount of obsidian originating from sources in Napa Valley rather than the locally available obsidian source at Annadel in Santa Rosa. Furthermore, mortars and pestles first appear in sites dating to this period, and this is thought to signal an increased dietary reliance on acorns rather than hard seeds, and a concomitant increase in sedentism.

The Middle Archaic Period was also marked by significant climatic changes during which warmer and drier conditions led to the reduction of lake basins in southern California, and across California there is a general decrease in the number of sites. This is thought to be the result of a reduced population during this time; however, it is suggested that the paucity of sites may not be due to a decrease in population, but rather may related to a period of increased alluvial deposition that buried many former living surfaces that date to this period (Meyer and Rosenthal 2007; Milliken et al. 2007).

Upper Archaic Period (550 B.C. to 1100 A.D.): status and wealth distinctions are evidenced in the Upper Archaic archaeological record; regional exchange networks are well established at this time with goods and ideas such as Kuksu ceremonial practices involving spirit impersonations. The Upper Archaic Period was characterized by cooler conditions accompanied by increased precipitation in northern and central

California, which likely resulted in more favorable conditions for human occupation. Sites dating to this period demonstrate marked differences in their constituents relative to Borax Lake Pattern sites of the Middle Archaic Period. These new occupations are ascribed to the Berkeley Pattern, which appears to have originated in the Clear Lake area during the Lower Archaic Period. Although firm dating for the end of the Borax Lake Pattern is lacking, it is believed to have been replaced by the Berkeley Pattern (possibly representing Miwokan influence) about 500 B.C. (Moratto 1984:517). Berkeley Pattern sites are characterized by a higher degree of sedentism, a highly developed bone tool industry, numerous mortars and pestles that further imply a greater reliance on acorns, and tightly flexed burials with few to no associated artifacts or preference toward orientation. When present, associated burial artifacts typically include *Olivella* saddle and saucer beads and *Haliotis* pendants (Milliken et al. 2007). The Berkeley Pattern is represented at archaeological sites in Sonoma County and the neighboring Napa and Lake counties.

Emergent Period (A.D. 1100 to 1769): While A.D. 500 is marked as the beginning of the Lower Emergent Period, more recent work suggests the beginning of the Lower Emergent Period may not have occurred until around A.D. 1000. The Emergent Period is thought to be associated with a new level of sedentism, status ascription, ceremonial integration, and regional trade, as indicated by the presence of finished artifacts and food remains that could not be obtained locally; and this is referred to as the Augustine Pattern. There appears to have been a diversity of socioeconomic strategies associated with Augustine Pattern sites in the North Bay, with some sites revealing a continuance of sedentary systems initiated by the Berkeley Pattern and others apparently resulting from mobile foraging adaptations.

The North Bay became the "seat of innovation" during the Upper Emergent Period, as new ornament forms and technologies emerged, such as the bow and arrow, toggle harpoon, hopper mortar, clamshell disk beads, and steatite and magnesite beads and tubes (Milliken et al. 2007). This period was marked by wide-ranging changes in *Olivella* bead forms and their distribution. The *Olivella* saucer bead trade network appears to have collapsed suddenly between A.D. 430 and 1050, and *Olivella* saucer bead industry was replaced by more regionally-integrated shell bead forms, such as *Olivella* wall beads and clamshell disk beads. This change possibly indicates an increased importance of communicating identity, status and cultural affiliation within an increasingly populated region. The manufacture of clamshell disk beads seems to have centered primarily on the Santa Rosa Plain and within the Napa Valley. These type beads were used as exchange currency with a standardized value. The burial practice of cremation was also introduced in the North Bay during this time (Milliken et al. 2007). These shifts in technology, artifact types and mortuary practices, which for the most part spread throughout the San Francisco Bay Area from north to south, appear to indicate that another upward cycle of regional integration took place during this period; however, this cycle ended when the Russians and Spanish began to settle the region.

Ethnohistoric Overview

The Project Area is located within the ethnographic territory of the Coast Miwok who, prior to European settlement, occupied an area that includes modern day Marin County and southern Sonoma County (Barrett 1908; Kelly 1978; Golla 2011). According to ethnographer S.A. Barrett (1908:Map 1) and Alfred Kroeber (1925:Plate 36) the Project Area is near the eastern divide between Coast Miwok and Wintun (River Patwin) territory.

The Coast Miwok have been divided into two groups, each speaking a distinct dialect. These include the Southern Marin Miwok, or *Hookooeko* tribe who spoke the Southern Marin dialect with some linguistic

differences between valley and coastal peoples (Kelly 1978:414); whose territory included the Project Area; and the Western-Bodega Miwok (*Olamentko*). Merriam (1907) proposed a third group from the northern area of Southern Marin Valley known as the *Lekahtewutko.*

Due to the diverse supply of resources throughout this region, the Coast Miwok were well suited to an economy based on hunting, fishing and the gathering of acorns and shellfish (Kelly 1978:415). They were adept at harvesting resources within wetland and coastal environments in particular, as plants that thrive in wetlands and shellfish from the ocean and bays were a prime source of food. The Coast Miwok used dip nets and spears to catch salmon and steelhead within local rivers, such as Salmon Creek and the Russian River, as well as bow and arrows fitted with obsidian points that were used to hunt small and large animals. Along with acorns, which were ground down and leached to make mush or bread, the Coast Miwok also utilized the buckeye fruit, the pepperwood fruit, and a variety of greens. Shellfish was an important source of food and material, and intense collecting of shellfish led to the formation of shell deposits known as midden heaps, mounds, or scatters, which are now the primary remains of most prehistoric sites near the coast and bay (Kelly 1978:417-418).

The Coast Miwok lived in conical structures that were small and made from two forked and interlocking poles, onto which additional poles were lashed, to form a cone shaped frame that was covered by grass (Kelly 1978:417). Approximately six to ten people would reside in one of these structures. Larger villages also often contained a large, circular, semi-subterranean sweathouse that was dug four feet into the ground and covered with a frame of poles topped with grass, and a ceremonial house that was built in the same manner as the sweathouse.

Tools were made from locally obtained materials including chert, obsidian, basalt, bone, antler, wood and various types of plants. Beads and pendants were manufactured from locally obtained shell and include clamshell disc beads (used as money), *Olivella* beads and abalone shell pendants. The shell of one species of clam was said by the Indians to be found nowhere else along the coast and furnished the material for the white clamshell beads found throughout the entire region (Barrett 1908:304). Clothing was minimal and based on seasonal weather. Women wore a double apron made of deerskin and men wore a similar type of loincloth.

Basket production was important to the Coast Miwok. Baskets were used for portage, storage, and cooking containers, as well as for seed beating, winnowing, and as hoppers for groundstone mortars. The Coast Miwok also traded for venison, medicinal plants, yellow paint, and turtles (Kelly 1978:419).

Although European contact with the Coast Miwok occurred as early as 1579 when Francis Drake stopped to repair the *Golden Hind* somewhere in the Point Reyes vicinity, contact with Europeans in the vicinity of Bodega Bay did not occur until 1775 when Peruvian explorer Juan Francisco de la Bodega y Quadra, a distinguished Lieutenant in the Spanish navy and for whom Bodega was named, entered and explored the bay on his return trip from the northwest coast in vessel called the *Sonora*. European occupation first occurred for a short period in 1793 by a Spanish garrison, then in 1804 by Ivan Kuskov, an employee of the Russian-American Company who was sent south from Alaska to locate a suitable site for a planned Russian settlement. The population of the Western Miwok dwindled significantly in the nineteenth century as a result of missionization, European-introduced diseases, such as smallpox, for which they had no immunity, as well as settlement of the area that resulted in tribal land being confiscated for lumbering, dairying, and agriculture purposes. By 1870 there were as few as seventeen Indians living in the Bodega

area (Thompson 1877:95), and by 1908 the Western (Bodega) Miwok consisted of only four or five individuals who occupied an old village site at the mouth of the Russian River (Barrett 1908:304).

Presently, the Coast Miwok and Southern Pomo form the Graton Rancheria community; a federation of the Coast Miwok and Southern Pomo groups recognized by the U.S. congress. The original Graton Rancheria is located in Sebastopol and is a 15.5-acre tract of land established by the federal government in the 1920s. In 1958, congress passed the California Rancheria Act that terminated California Rancherias, including Graton; the land was removed from federal trust and the land was distributed to three residents as private property; this action terminated the federal recognition of the Tribe. The Tribe regained their federal recognition status in 2000, and in 2005 the Tribe purchased about 254 acres of land for its reservation just outside Rohnert Park. In 2013, the Tribe opened the Graton Resort and Casino and is able to provide programs and services to Tribal citizens (Federated Indians of Graton Rancheria 2018).

Historic Overview

The European presence began on California's north coast with the brief visits of Juan Rodriguez Cabrillo in 1542, Sir Francis Drake in 1579, Sebastian Rodriguez Cermeno in 1595 and Sebastian Viscaino in 1603 (Smirnoff 1998:47). One of the first Euro-American expeditions to explore the areas of present-day Sonoma County was a Spanish expedition led by Lieutenant Juan Francisco de la Bodega y Quadra in 1775, when his ship the *Sonora* touched the bay. The first trip inland into Sonoma was likely in 1776 by Captain Quiros who ventured from San Francisco into Petaluma Creek and its associated tributaries (Alley Bowen & Co. 1880:39). Russian expeditions began to visit Bodega between 1808 and 1811, and Fort Ross was established by 1812 as a fur-hunting post. The Russians settled the area in the name of their employer, the Russian American Company, in which the tsar and his family owned stock (Smirnoff 2009:49). The Russians built ports, ranches and farms which ranged across an area that extended approximately 55 miles south of the fort and extended out to the Farallon Islands (Lightfoot 1991:12, Lightfoot 2005:5); the goal of these settlers was to bring back trade goods of otter pelts to Russia, and to provide food to Russia's forts in Alaska that could not sustain themselves due to hostile environmental conditions (Smirnoff 2009:49). The Russian's employed the Kashaya Porno and native laborers from Alaska and Hawaii as hunters, agricultural laborers, shipbuilder and aided the Russians with duties around the fort and within the fort's residences (Ballard 1997:123, Lightfoot et al. 1991:3-5, 15-18, Lightfoot 2005).

When Mexico gained independence from Spain in 1821, the Mexican government assumed control of California. The formal formation of the Mexican republic in 1824 marked the first broad invasion into Southern Pomo and Coast Miwok lands. The Spanish constructed the Mission San Francisco Solano in Sonoma on July 4th, 1823, with the intent of slowing down the spread of Russian presence in the area. Being the 21st Mission established in California, it was to be the last constructed, and northernmost, of all the Missions. Beginning in 1834, mission lands were parceled out in the form of *ranchos* and awarded to prestigious Mexican citizens, known as *Californios*. The *ranchos* represent the first settlement of the region. There were 27 Mexican Land Grants located in what became Sonoma County (Beck and Haase 1974:29). The Project Area is located in portions of the 18,704-acre *Huichica* Land Grant (Beck and Hasse 1974:29). Two leagues of this tract were granted to Jacob P. Leese by Governor Manuel Jimeno in 1841, and three-and-a-half extension was granted to him by Governor Manuel Micheltorena three years later (Gregory 1911:133). The Pueblo Lands of Sonoma's southern boundary is located about 731-feet north of the Project Area.

Following the end of the Mexican-American War in 1848, Mexico ceded California to the United States as part of the Treaty of Guadalupe Hidalgo; the Compromise of 1850 officially admitted California into the United States as an undivided free state. Discovery of gold in 1849 caused an influx of settlers hoping to strike rich in California. On February 18, 1850, California became a State of the Union and 27 counties were created; one of these was Sonoma County. Significant growth of settlers in northern Sonoma County began around 1860 as timber harvesting and agriculture became the prime industry.

While cattle ranching originally dominated economic activity in Sonoma County, a shift occurred in the 1860s from cattle ranching to sheep herding. A primary reason for the shift was the Civil War and a demand for wool for military uniforms. The demand for wool continued, and Sonoma County became one of the country's leading wool producers. In addition, dairy ranching, poultry, and agriculture grew in the county. Indeed, Petaluma became a center for poultry production, and crops such as potatoes, grains, wine grapes, hops, apples, plums, and prunes were also grown in the county. Hops were especially well-suited to the alluvial plains and terraces along the Russian River, the Laguna de Santa Rosa, and on the Santa Rosa Plain. The success of hops coincided with a drop in wheat prices, and most grain farmers with the right soils and climate switched to the new crop. By 1890, hops were the leading field crop in the county, and the Santa Rosa area became known as the nation's hop capital (LeBaron et al. 1985).

At the end of the nineteenth and beginning of the twentieth century, viticulture expanded in Sonoma County and became an important part of the agricultural economy of the area. However, Prohibition resulted in the collapse of the California wine industry. A few viticulturists survived by producing limited amounts of wine for medicinal, sacramental, or cooking purposes. These individuals devised creative ways to continue to produce and sell their wine. For example, winemaking, which was still legal if a family annually produced 200 gallons or fewer, continued in individual households, and local doctors prescribed wine to cure ills. Regardless, Prohibition stifled the wine industry in California, and it did not recover until the 1950s. Since that time, the recovery of the regional wine industry has been dramatic, with wine production and tourism steadily increasing in Sonoma County and surrounding regions. The industry would not fully recover until the 1970s, when the reputation of Sonoma County wines began to spread throughout the nation and the world. Today, Sonoma County is known for its vineyards and premier wines.

Schellville

Schellville is one of Sonoma County's oldest communities and was once a transfer point for freight and passengers moving to and from San Francisco by barge, schooner or streamer (Wells 1969). Originally, Schellville was called 'St. Louis' or 'Embarcadero' by early American settlers; the name St. Louis was given in honor of the city on the Mississippi with hope this port in Sonoma would rival its namesake. The advent of the railroads eventually eliminated the water commerce.

During 1878 and 1879, the Sonoma Valley Railroad was acquired by the San Francisco and North Pacific Railway Company. The Northwestern Pacific Railroad named their station there before 1888 after Theodore L. Schell, who owned 160 acres of land there in the 1850s and was active as a merchant in Sonoma and San Francisco (Gudde and Bright 1998: 353). In the 1880s, the Southern Pacific Railroad decided to build the Santa Rosa and Carquinez Railroad; they created a station at Schellville by 1888. Schellville remained an important railroad junction that connected the Northwestern Pacific and the Southern Pacific well into the late 20th century (Wells 1969).

BACKGROUND RESEARCH

CRP cultural resource specialists conducted a desktop cultural resource assessment of the study area. This background research included obtaining information concerning previously conducted cultural resource surveys and previously recorded sites in the Project Area, as well as examining historical maps, aerials, and land patents, and a review of geoarchaeological reports and geologic and soils data to determine the potential for buried archaeological resources.

CHRIS RECORD SEARCH

Methods

On January 4th, 2021, Lisa Hagel, staff researcher at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS), conducted a cultural resources record search for the Project at the NWIC on behalf of CRP (NWIC File No.: 20-1126). The purpose of this record search was to obtain and review previous cultural resource records, cultural resource studies, and any additional documentation pertaining to listed or potentially eligible historical resources or unique archaeological resources located within at least a one-quarter (0.25) mile radius from the proposed cultivation area located at 1495 Fremont Drive, Sonoma (APN 128-471-006); this includes any recorded cultural resources and studies within the proposed cultivation area. The following lists and databases were also reviewed:

- The Information Center Database (ICDB)
- Office of Historic Preservation Built Environment Resource Directory (BERD) for Sonoma County, CA (dated March 3rd, 2020)
    - The BERD was originally released by the California Office of Historic Preservation's (OHP) in January of 2020, and re-released in March 2020. This directory contains updated information previously found within the Historic Properties Directory (HPD). The HPD is now considered obsolete, however it is currently still being used for reference. The BERD contains information regarding built environment cultural resources that are included in the OHP Tracking and Inventory System (OTIS). The resources were submitted to the Office of Historic Preservation through one of its programs (Registration, Review and Compliance, Local Government Surveys, Architectural Review, etc.).
- Office of Historic Preservation (OHP) Directory of Properties in the Historic Property Data File for Sonoma County, CA (dated 4/5/2012)
- National Register of Historic Places (NRHP)
- California Register of Historical Resources (CRHR)
- California Inventory of Historic Resources (1976)
- California Historical Landmarks (1990)
- California Points of Historical Interest (1992)
- Caltrans Historic Bridge Inventory and GIS Database
- Local Government Listings and Directories

Results

According to files obtained from the NWIC, the proposed cultivation area has had two previously conducted cultural resources surveys performed within its boundaries (S-046942 / Painter 2015 and S-006989 / Stewart 1984); both studies were negative for cultural resources within the Project Area and its associated parcel. An additional 11 studies and 17 sub-studies have been conducted within a ¼ to ½ -mile radius of the Project Area. While no previously recorded cultural resources are on file at the NWIC within the Project Area or its associated parcel (APN 128-471-006), three recorded cultural resources are located within a 1/4 to 1/2-mile radius:

- **CA-SON-223 / P-49-00195):** is a prehistoric-era shellmound habitation site located about 0.48-miles northeast of the Project Area. The site was first recorded by Nels Nelson in 1907; updated site records occurred in 1990 (Dondero and Schulte), 1995 (Gmoser and others), 2000 (Jones and Stokes), and 2005 (Douglas; Origer). As of December 2020, Extended Phase 1 and Phase 2 CRHR evaluation testing are being planned for a PG&E project along the Caltrans' right-of-way of State Route 12 that might impact the southern portion of the site (Stantec, personal communication, December 2020).

  The site contains shell midden, obsidian chert debitage, obsidian tools, animal faunal remains, fire-altered rock, one possible human bone, and at least one Late Period Phase 2/early historic bead. The bead and obsidian cobbles present at the site strongly suggest a Late Period and possibly early historic component, but it is likely that a mound of this size and in a preferred location would also include older components.

- **P-49-002896 (C-Sears Point 3 / Santa Rosa & Carquinez Railroad):** consists of the defunct segment of the Santa Rosa & Carquinez Railroad (built circa 1887) and is located about 0.50-miles northeast of the Project Area. Originally recorded in 2000 (Davis) and updated in 2005 (Douglas), this resource does not appear to have been evaluated for local, state or federal registers.

- **CA-SON-002322H / P-49-002834 (Northwestern Pacific Railroad):** this historic-segment of railroad is located about 0.34 miles northeast and 0.20 miles east of the Project Area and bounds the eastern edge of the Project's parcel. This segment was recorded in 2013 by Starke and Thomas and does not appear to have been evaluated for local, state, or federal registers. This segment was "constructed between 1878 and 1880 as part of the narrow gauge Sonoma Valley Railroad. The NWP main line is 271 miles long and runs between Schellville and Eureka. The recorded segment consists of a 320-foot-long set of three parallel standard-gauge rails" (Strake and Thomas 2013). No associated historic-era features or artifacts were observed during the 2013 site recording.

Tables 1 through 4 below, and Appendix A, Figure 4: CHRIS Records Search Results Maps provide spatial and summary information for the CHRIS record search results.

Table 1. NWIC Results: Cultural Resource Studies				
NWIC Report No.	**Year**	**Study**	**Author(s)**	**Study within Project Area or Parcel?**
S-000278	1976	Archaeological Assessment of the Sonoma Valley Reclamation Project, Sonoma County, California	Nancy L. French and David A. Fredrickson	No
S-002598	1981	An Archaeological Investigation of the Sebastiani Properties at Schellville, Sonoma County, California	Foley C. Benson	No
S-006969	1984	An Amended Cultural Resources Study for the Sonoma Valley County Sanitation District Partial Reclamation Project near Schellville, Sonoma County, California	Suzanne B. Stewart	Yes
S-007364	1985	Supplemental Archaeological Survey for the Proposed Sonoma Valley CSD Wastewater Reclamation Project, Sonoma Valley, Sonoma County, California (letter report)	James P. Quinn	No
S-009467	1987	An Archaeological Study of the Mulas Property at 2034 Fremont Drive, Sonoma, near Schellville, Sonoma County, California	Michael Jablonowski	No
S-012038	1992	Historic Property Survey Report for the Proposed Roadway Reconstruction of Route 121 near the Town of Schellville, Sonoma County, 04-SON-125, P.M. 0.0/5.5, 04336-12980K	Unknown (Caltrans District 4)	No
S-012038a	1990	Archaeological Survey Report for a Portion of Route 121, from Sears Point to Near Schellville, Sonoma County, California, 04-SON-121, P.M. 0.0/9.2 04-12980G	Steven B. Dondero	No
S-012038b	1991	Historic Architectural Survey Report for the Proposed Roadway Reconstruction of Route 121 near the Town of Schellville, Sonoma County, 04-SON-121, P.M. 0.0/5.5, 04336-12980K	Elizabeth McKee	No
S-012038c	1995	First Addendum Archaeological Survey Report for a Portion of Route 121 near Schellville, Sonoma County, California, 04-SON-121 PM 0.0/0.3, EA 129801, from Route 37 to just North of the Tolay Creek Bridge	Katherine M. Dowdall	No
S-022736	2000	Final Cultural Resources Inventory Report for Williams Communications, Inc., Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California: Volume I	Unknown (Jones & Stokes Associates, Inc.)	No
S-022736a	2000	Volume II – Project Maps: Final Cultural Resources Inventory Map Atlas for the Williams Communications, Inc. Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California	Unknown (Jones & Stokes Associates, Inc.)	No
S-022736b	2000	Volume III, Technical Appendices: Final Cultural Resources Inventory Map Atlas for the Williams Communications, Inc. Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California	Unknown (Jones & Stokes Associates, Inc.)	No
S-033061	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	Nancy Sikes, Cindy Arrington, Bryon Bass, Chris Corey, Kevin	No

Table 1. NWIC Results: Cultural Resource Studies				
NWIC Report No.	**Year**	**Study**	**Author(s)**	**Study within Project Area or Parcel?**
			Hunt, Steve O'Neil, Catherine Pruett, Tony Sawyer, Michael Tuma, Leslie Wagner, and Alex Wesson	
S-033061b	2007	Final Report of Monitoring and Findings for the Qwest Network Construction Project (letter report)	Nancy E. Sikes	No
S-034894	2007	A Cultural Resources Survey for a Development Project at 1901 Fremont Drive (State Route 121), Sonoma County, California	Eileen Steen and Thomas M. Origer	No
S-039171	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program: Marin, Sonoma, and Napa Counties, Cultural Resources Survey Report	Heidi Koenig and Brad Brewster	No
S-039171a	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program; Marin, Sonoma, and Napa Counties: Archaeological Extended Phase I Report	Heidi Koenig	No
S-039171b	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin County, Olive Avenue, Archaeological Monitoring Plan and Results, North Marin Water District Service Area	Heidi Koenig	No
S-039171c	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties: Addendum Cultural Resources Survey Report: SVCSD Service Area-Watmaugh Road Alignment	Heidi Koenig	No
S-039171d	2007	Results of the Cultural Resources Survey for the Sonoma Valley County Sanitation District Sewer Trunk Main Replacement Project from Watmaugh East Road to Wastewater Treatment Facility	Dean Martorana	No
S-039171e	2011	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, Addendum Cultural Resources Survey Report LGVSD Service Area – Reservoir Hill Tank Updated Area of Potential Effects and Reservoir Hill Tank Overflow Line	Heidi Koenig	No
S-039171f	2012	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, Draft Addendum Cultural Resources Survey Report, Sonoma Valley County Sanitation District Service Area, McGill Road Alignment	Heidi Koenig	No
S-039171g	2013	North Bay Water Reuse Authority; North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties Addendum Cultural Resources Survey Report, SVCSD Service Area – Phase I Modifications, Bureau of Reclamation 09-CCAO-132.9	Heidi Koenig	No

Table 1. NWIC Results: Cultural Resource Studies				
NWIC Report No.	**Year**	**Study**	**Author(s)**	**Study within Project Area or Parcel?**
S-039171h	2016	COE File Number 2015-0374-N: Section 106 Consultation for the Recycled Water Pipeline Installation Project at Sonoma Valley Wastewater Treatment Plant, Sonoma County	Tori White, Anmarie Medin, and Julianne Polanco	No
S-039171i	2015	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, North Marin Water District Central Service Area, Final Addendum Cultural Resources Survey Report, California	Heidi Koenig	No
S-039171j	2015	North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, North Marin Water District Central Service Area, Final Archaeological Extended Phase 1 Report, California	Heidi Koenig	No
S-039171k	2015	BUR_2015_1109_005; National Historic Preservation Act (NHPA) Section 106 Consultation for the North Bay Water Recycling Program, Marin, Sonoma and Napa Counties, CA (Project #09-CCAO-132.10)	Julianne Polanco, Scott Williams, Alicia C. Perez, and Anastasia T. Leigh	No
S-043823	2003	Cultural Resources Inventory and Evaluation Report for Napa River Salt Marsh Restoration Project, Napa and Sonoma Counties, California	Unknown (Jones & Stokes)	No
S-046406	2013	Cultural Resources Study of the PG&E Hydrostatic Test Segment T-220-13, on Line 21B, Sonoma County, California	Jennifer Thomas and Naomi Scher	No
S-046942	2015	Sonoma League for Historic Preservation Survey Update (Sonoma Valley Survey Update), Sonoma County, California	Diana J. Painter	Yes

Table 2. NWIC Results: Previously Recorded Cultural Resources				
CHRIS Resource I.D.	**Cultural/Temporal Affiliation & Resource Attributes**	**NRHP Status Code**	**In Project Area?**	**Distance form Project Area?**
P-49-000195 / CA-SON-000223 / Nelson No. 223	Prehistoric: AP02 (Lithic scatter); AP09 (Burials); AP15 (Habitation debris)	--	No	0.48 miles northeast
P-49-002834 / CA-SON-002322H / Northwestern Pacific Railroad	Historic: AH02 (Foundations); AH04 (Privy pits/trash scatters/dumps); AH07 (Road/trail/railroad bed); AH15 (Standing structure); HP11 (Engineering Structure); HP17 (Railroad Depot); HP19 (Bridge); HP39 (Other)	--	No	0.34 miles northeast and 0.20 miles east
P-49-002896 / C-Sears Point-3	Historic: AH07 (Road/trail/railroad bed); HP11 (Engineering Structure)	--	No	0.50 miles northeast

Table 3. BERD Listed Recorded Properties							
Primary Number	**OTIS ID**	**Property No.**	**Name**	**Address**	**Evaluation Information**	**Construction Year(s)**	**In Project Area or Parcel?**
--	407402	4437	Schellville Depot	8th Street (East), Sonoma, CA	3S, , 5476-0323-0000	1879	No (0.34 miles northeast)
--	407371	4406	Karavarti Incorporated	22725 8th Street East, Sonoma, CA	3S, 5476-0292-0000	1890	No (0.46 miles north)
--	492510	96123	Schell-Vista Fire Station	23000 Broadway, Sonoma, CA	6J, 04/17/1995, DSA-49-SPS-3175	1962	No (0.46 miles northwest)
--	407403	4438	--	23160 Millerick Road	7N, , 5476-0324-0000	1920	No (0.36 miles southwest)
--	407429	4464	Bridge #20-23 (or 20 0023)	State Route 121, Sonoma, California	7R, , 5476-0350-0000	1923	No (0.42 miles northeast)
--	407430	4465	Bridge #20-121 (or 20 0121)	State Route 121, Sonoma, California	7R, , 5476-0351-0000	1922	No; 0.47 miles northeast

Table 4. Historical Resources within 1/2-Mile Radius					
Source	**Resource**	**Resource Description**	**Distance**	**District**	
				Y	**N**
NRHP	N/A	-	-	-	-
CRHR	N/A	-	-	-	-
CHL	N/A	-	-	-	-
CPHI	N/A	-	-	-	-
BERD	See Table 3	-	-	-	-
Local	Embarcadero-St. Louis	Historical marker	0.50 miles northwest		X

DESKTOP REVIEW

Methods

In addition to conducting a record search at the NWIC, CRP also reviewed a variety of historical maps, aerials and literature ranging in date from 1866 to 1968 to determine past land use activities within the Project Area and its associated parcel (APN 128-471-006) that could indicate the likelihood of encountering cultural resources. Additional maps and aerial images from 1982 to 2020 were also reviewed. The following historical maps, aerials and literature were reviewed (listed in chronological order):

- 1866/1867 Map of Sonoma County, California (Bowers)
- 1874 Hand-Book and Directory of Napa, Lake, Sonoma and Mendocino Counties; Including a Map of Each County (Paulson)
- 1877 Historical Atlas Map of Sonoma County, CA (Thompson)
- 1877 Historical and Descriptive Sketch of Sonoma County, Cal (Thompson)
- 1880 United States General Land Office (GLO) Plat Map of Township 5 North, Range 5 West; Mount Diablo Base and Meridian (MDBM)
- 1880 History of Sonoma County (Munro-Fraser)
- 1890 United States General Land Office (GLO) Diagram of Township 5 North, Range 5 West; Mount Diablo Base and Meridian (MDBM)
- 1898 Illustrated Atlas of Sonoma County (Reynolds & Proctor)
- 1900 Official Map of Sonoma County, California (Ricksecker and Walkup)
- 1902 Napa, CA 30-Minute Topographic Quadrangle Map (USGS)
- 1908 Official Map of Sonoma County, California (McIntire & Lewis)
- 1916 Mare Island, CA 15-Minute Topographic Quadrangle Map (USGS)
- 1948 Aerial Image (NETRonline)
- 1951 (photorevised 1968) Sears Point 7.5-Minute Topographic Quadrangle Map (USGS)
- 1952 Aerial Imagery: Flight CSH-1953; Frame 7K-89 (Regents of University of California 2012)
- 1965 Aerial Imagery: Flight CAS-65-130; Frame 64-3 (Regents of University of California 2012)
- 1993 through 2020 Aerial Images (Google Earth)

Results

The desktop review indicates that the Project Area and its subject parcel are near the rural community of Schellville, which has been occupied since the 1860s. This community is the namesake of Theodore L. Schell, who settled the area in 1860 and established a 1,000-acre ranch estate. According to local histories and historical biographies, Schell was one of the main proprietors of the famous "Sonoma Valley Prismoidal Railroad," which passed through a number of hands and was constantly being refurbished (and renamed) before ultimately becoming a branch of the Northwestern Pacific Railroad. Schell's estate was also the site of one of the largest and most renowned dairies in Sonoma Valley. Following his death in 1878, his estate was transferred to his heirs, including three sons (L.W., F.A., and A.B. Schell) and one daughter (D.L. Schell) (Reynolds and Proctor 1898).

Based on data obtained from historical maps, there are no known features within the either the Project Area or parcel during the period from the 1860s through the early 1900s. In fact, much of the landscape constituting the Project Area consists of marshland, which would make any habitation within its boundaries almost impossible. However, Thompson's 1877 Historical Atlas Map of Sonoma County does show the aforementioned Prismoidal Railway, which spans approximately three miles and adjacent to the Project's parcel from Norfolk all the way to Schellville. This feature (although not officially designated) may also be visible on the 1866/1867 Bowers Map, as the alignment is similar to the one shown on Thompson's Map. It is also interesting to note that the maps from this time period highlight the change in ownership and name of the railway system (Sonoma Valley Prismoidal Railway on 1877 Thompson Historical Atlas Map; San Francisco & North Pacific Railroad on 1898 Reynolds & Proctor and 1900 Ricksecker & Walkup; and Northwestern Pacific Railroad on 1908 McIntire and Lewis).

During the later decades of the 20th century, there are obvious changes occurring within the project parcel as well as the general landscape. In particular, aerial imagery and USGS topographic quadrangles from the 1940s through the 1960s show the construction of several levees, one of which penetrates the parcel (although not the Project Area itself). Additionally, a minor trail is shown running in a northwest-southeast direction through portions of the parcel, almost adjacent to the railway system. However, no apparent features are shown specifically within the Project Area. The following table provides the results of the desktop review.

Table 5. Built Environment Depicted on Historical Maps/Aerials

Map Name	Date(s)	Features (Built Environment)	In Project Area?	In Parcel?	Notes
Map of Sonoma County (Bowers)	1866/1867	Possible railroad	No	No	Much of the parcel, including the Project Area, lies within marshland that is part of the 1,000-acre property of Theodore Schell.
Historical Atlas Map of Sonoma County (Thompson)	1877	Sonoma Valley Prismoidal Railway Roads 1 building/structure within Schell property	No No No	No No No	
GLO Plat of T5N/R5W	1880	--	--	--	
GLO Diagram of T5N/R5W	1890	--	--	--	
Illustrated Atlas of Sonoma County (Reynolds & Proctor)	1898	Northwestern Pacific Railroad Southern Pacific Railroad Road features	No No No	No No No	The parcel and Project Area lie within 1,300-acres of land belonging to the Heirs of Theo L. Schell.
Map of Sonoma County (Ricksecker and Walkup)	1900	Largely the same as the Reynolds & Proctor map.	No	No	

Table 5. Built Environment Depicted on Historical Maps/Aerials					
Map Name	**Date(s)**	**Features (Built Environment)**	**In Project Area?**	**In Parcel?**	**Notes**
Napa 30-Minute Quad (USGS)	1902	Sonoma Valley Branch of Northwestern Railroad Santa Rosa Branch of Southern Pacific Railroad 5+ buildings/structures Roads	No No No No	No No No No	
Map of Sonoma County (McIntire & Lewis)	1908	Largely the same as the Reynolds & Proctor and Ricksecker & Walkup maps.	No	No	The parcel and Project Area lie within 303.51-acre property of W.B. Curtis, S.B. Dunn, and Sav. B'x of Santa Rosa.
Mare Island 15-Minute Quad Map (USGS)	1916	Largely the same as the Napa 30-Minute Quad.	No	One building may lie within the project parcel.	
Aerial Image (NETRonline)	1948	Northwestern Pacific Railroad Southern Pacific Railroad 5 buildings/structures within main property 1 minor trail/road along Northwestern Pacific Railroad 1 levee 1 Rodeo arena	No No No No No No	No No No Only one Only one No	
Sears Point 7.5-Minute Quad Map (USGS)	1951 (photorevised 1968)	Largely the same as the 1948 aerial image	See above	See above	The 1968 photorevised version of this quadrangle is largely the same as the original 1951 map. However, the previously existing trail that runs along the western boundary of the Northwestern Pacific Railroad appears to have a new alignment.
Aerial image of Flight CSH-1953; Frame 7K-89	1952	Largely the same as both the 1948 Aerial Image and the Sears Point 7.5-Minute Quad.	See above	See above	
Aerial image of flight CAS-65-130; Frame 64-3	1965	Largely the same as the 1968 photorevised version of the Sears Point 7.5-Minute Quad.	See above	See above	

GEOARCHAEOLOGICAL BURIED SITE ANALYSIS

Methods

A review of regional geological and soil/sediment studies in the region was conducted (see previous section: Environmental Setting, Geology and Soils). Additionally, two regional geoarchaeological studies were reviewed (Meyer and Rosenthal 2007; Meyer and Kaijankoski 2017). Both reports focus on landform evolution and the potential/sensitivity for encountering archaeological resources using a predicative model that incorporates soil/sediment deposits, geologic and geomorphic formations, environmental setting and other attributes. Both the 2007 and 2017 reports were prepared by the Far Western Anthropological Research Group, Inc. for Caltrans District 4 that includes Sonoma County and the Project Area.

Results

The geoarchaeological review indicates the Project Area has a high sensitivity for containing buried prehistoric-era archaeological material. The review of online soil data indicates soils/sediments in the Project Area do not appear to contain buried A Horizon(s). This is important because buried A Horizons are associated with Paleosols (soils formed in the past but are not undergoing soil formation in the present); these soils are associated with containing buried archaeological resources. However, the geologic maps indicate portions of the Project Area contain Holocene-age deposits; the Holocene (~<11,800-years) represents a critical time when humans are known to have lived and occupied California in prehistory. Additionally, the environmental data indicates the Project Area is near or within the interface of the former estuarine and terrestrial landform; this former landform would make such a location ideal for hunting and extracting natural resources, and possible seasonal habitation sites.

Furthermore, Meyer and Rosenthal's (2007) and Meyer and Kaijankoski's (2017) geoarchaeological studies – that includes the location of the Project's Area – indicates this area has a reasonable sensitivity for containing buried archaeological deposits due to the Holocene to historic age (11,800 to 150-years) of the deposits (Meyer and Rosenthal 2007: Figure 7; Meyer and Kaijankoski 2017: Figures 25 and 27).

PEDESTRIAN FIELD SURVEY

Methods

On January 14th, 2021, CRP archaeologists Robert Gleaton, M.A., RPA and Andrew Von Pinnon, M.A. conducted an intensive-level pedestrian field survey of the entire Project Area as part of the cultural resources compliance review. The surveyors walked in three (3) to five (3) meter transects (about ten to fifteen-feet) wide transects along the Project Area (i.e., all areas proposed for cultivation development) (see Appendix A; Figure 5: Survey Coverage Map). Photographs of the entire Project Area were taken with digital cameras using the Solocator phone application, with special attention given to ordinal and cardinal directions from the center of the proposed cultivation area, and most cardinal directions viewing into the proposed cultivation area (see Appendix B: Field Survey Photograph Sheets).

The pedestrian survey commenced within the northeast section of the proposed four-acre cultivation area that had been delineated with pink flagging. The surveyors walked north to south orientated transect intervals spaced about three to five meters apart (see Appendix A; Figure 5: Survey Coverage Map). Ground-visibility across the Project Area was fair (about 50-60%) due to plowing and limited vegetation

growth (i.e., small grasses and forbs); a hand trowel was used about every three to five meters to conduct surface scrapings to view the underlying surface soils in areas were ground-visibility was hindered due to bunched grasses in the pasture.

The surveyors examined the ground surface for evidence of cultural materials and changes in soil color, texture, or composition. This included examining the ground surface for any prehistoric artifacts (e.g., chipped stone such as obsidian, chert and basalt flakes and tools; projectile points, knives, scrapers; shellfish remains; ground stone; and fire-affected rock); and, sediment discolorations that could indicate the presence of prehistoric-era cultural features (e.g., midden, hearths, cairns and other indicators of prehistoric archaeological resources). Additionally, the field surveyor also inspected the Project Areas for evidence of historic-era artifacts (e.g., surface scatters of mining or domestic type artifacts of glass, ceramic, metal, etc.); features such as alignments of stone or brick, foundation elements from previous structures, minor earthworks, and historic-era plantings (e.g., old fruit, nut or other types of trees, and ornamental plants).

Results

The pedestrian survey did not identify any historic properties, historical resources, unique archaeological resources, or potentially significant cultural resources within the Project Area. The Project Area is on a relatively flat field (less than 2% slope) that is used as a cow pasture. As mentioned previously, ground visibility was about 50-60% due to plowing and limited vegetation growth. Vegetation observed included annual and perennial small-size (foot to ankle-high) grasses and forbs. Native soils observed in the Project Area were on average a dark greyish brown to very dark greyish brown clay that contains about 20% gravels of various materials ranging from granules to large pebbles, angular to subrounded in form. Small amounts of modern refuse observed included fragments of plastics and broken bottle glass. Photographs of the entire Project Area taken during the survey are provided in Appendix B: Field Survey Photograph Sheets.

SUMMARY OF RESULTS

In accordance with the CEQA regulations and guidelines and the Sonoma County Cannabis Land Use Ordinance No. 6189, a CRS was completed to identify any listed or eligible for listing historical resources or unique archaeological resources that may be directly or indirectly affected by this Project. The study includes the results of a CHRIS records search; desktop review of historical maps, aerials, and literature; review of geologic and soils data regarding geoarchaeological buried site sensitivity, and; visual reconnaissance (archaeological pedestrian survey) of the Project Area. The government-to-government consultation with the local Native American tribes that is required by CEQA was or will be conducted by the lead agency (i.e., Sonoma County Department of Agriculture/Weights & Measures); therefore, a Sacred Lands inventory and consultation with local Native American tribes was not conducted as part of the CRS.

This CRS was completed by CRP Principal Archaeologist, Robert Gleaton, M.A., RPA, and CRP Archaeologist, Andrew Von Pinnon, M.A.; both individuals exceed the *Secretary of Interior's Qualification Standards* in *Archaeology*. The following is a summary of findings for this study:

- **CHRIS Records Search:** The CHRIS record search conducted by NWIC staff indicates two previously conducted cultural resource surveys have been conducted within the Project Area (S-046942 / Painter 2015 and S-006969 / Stewart 1984); both studies were negative for cultural resources in

the Project Area and its associated parcel (APN 128-471-006). Thus, the results did not identify any recorded historic properties, historical resources, unique archaeological resources, or previously recorded cultural resources located within the Project Area or its subject parcel (see Tables One through Four and Appendix A; Figure 4: CHRIS Records Search Result Maps).

- **Historical Maps, Aerials, & Literature Review:** The desktop review of historical maps, aerials, and literature indicates the property at 1495 Fremont Drive, including the subject parcel (APN 128-471-006) and Project Area, was owned by Theodore Schell and his family from at least 1866 to the early 1900s (Bowers 1866/1867; Thompson 1877; Reynolds and Proctor 1898; Ricksecker and Walkup 1900). However, none of the reviewed historical maps or aerials indicate any apparent features of the built environment within the Project Area. The most noteworthy features are the former Sonoma Valley Prismoidal Railway (adjacent to eastern boundary of subject parcel), a levee that seems to span through the parcel (but not the Project Area), and a minor trail adjacent to the railway that first appears on USGS topographic quadrangles and aerials from the mid-century (see Table Five).

- **Geoarchaeological Buried Site Sensitivity:** The review of geological maps, soil maps, and two regional geoarchaeological studies (Meyer and Rosenthal 2007; Meyer and Kaijankoski 2017) indicates that the Project Area has a high sensitivity for buried archaeological resources based on the Holocene age of the deposits and the former interface of an estuarine and terrestrial landform.

- **Pedestrian Survey:** CRP archaeologists surveyed the entire Project Area and portions of its associated parcel (APN 128-471-006) (see Appendix A; Figure 5: Survey Coverage Map). The archaeological pedestrian survey did not identify any historic properties, historical resources, unique archaeological resources, or potentially significant cultural resources within the Project Area (i.e., proposed cultivation area). Photographs of the entire Project Area were taken (see Appendix B: Field Survey Photographs).

RECCOMENDATIONS

There are no listed or potentially eligible for listing historical resources or unique archaeological resources within the Project Area. Thus, CRP recommends a determination of ***no historical resources or unique archaeological resources affected by the proposed Project.*** However, the Project's location is in a region that has been used by California Native Americans both historically and prehistorically, and is also in an area that has experienced historic-era development since at least the 1860s. Thus, while unlikely, there may be unidentified cultural resources present within the Project Area. Therefore, the following general recommendations are made for this Project regarding the accidental discovery of cultural resources and human remains during the Project's construction activities.

Accidental Discovery

It is recommended that if any prehistoric or historic-era material is encountered during construction activities, all ground disturbing work within 100-feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior qualified archaeologist assesses the significance of the

resource. The archaeologist, in consultation with the lead agency (i.e., the Sonoma County Department of Agriculture/Weights & Measures), the landowner, any interested Tribes, and any other responsible public agency, should make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be eligible to the National or California Registers, qualify as a unique archaeological resource under CEQA Section 21083.2 or determined to be tribal cultural resource as defined in Section 21074.

Historic-era resources potentially include all by-products of human land use greater than 50-years of age, including alignments of stone or brick, foundation elements from previous structures, minor earthworks, brick features, surface scatters of mining, farming or domestic type material, and subsurface deposits of domestic type material (e.g., glass, ceramic, etc.).

Prehistoric-era artifacts that are typically found associated with sites in the area include humanly modified stone, shell, bone, or other materials such as charcoal, ash and burned rock that can be indicative of food procurement or processing activities. Pre-contact domestic features include hearths, fire pits, and house floor depressions and mortuary features consisting of human skeletal remains.

Human Remains

If human remains are encountered within the Project Area during Project-related earth-disturbing activities, all work within 100-feet of the discovery area shall cease immediately, nothing is to be disturbed, and the area secured. The Sonoma County Coroner's Office must be notified immediately. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner will determine if the remains are pre-contact Native American or of modern origin and if there are any criminal or jurisdictional questions.

If the Coroner believes the remains to be those of a pre-contact Native American, they shall contact the Native American Heritage Commission (NAHC) by telephone within 24-hours. The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48-hours to make recommendations to the landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48-hours, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC. According to the California Health and Safety Code, six (6) or more human burials at one (1) location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052). An archaeologist(s) should also be retained to evaluate the historical significance of the discovery, the potential for additional remains, and to provide further recommendations for treatment of the site in coordination with the MLD.

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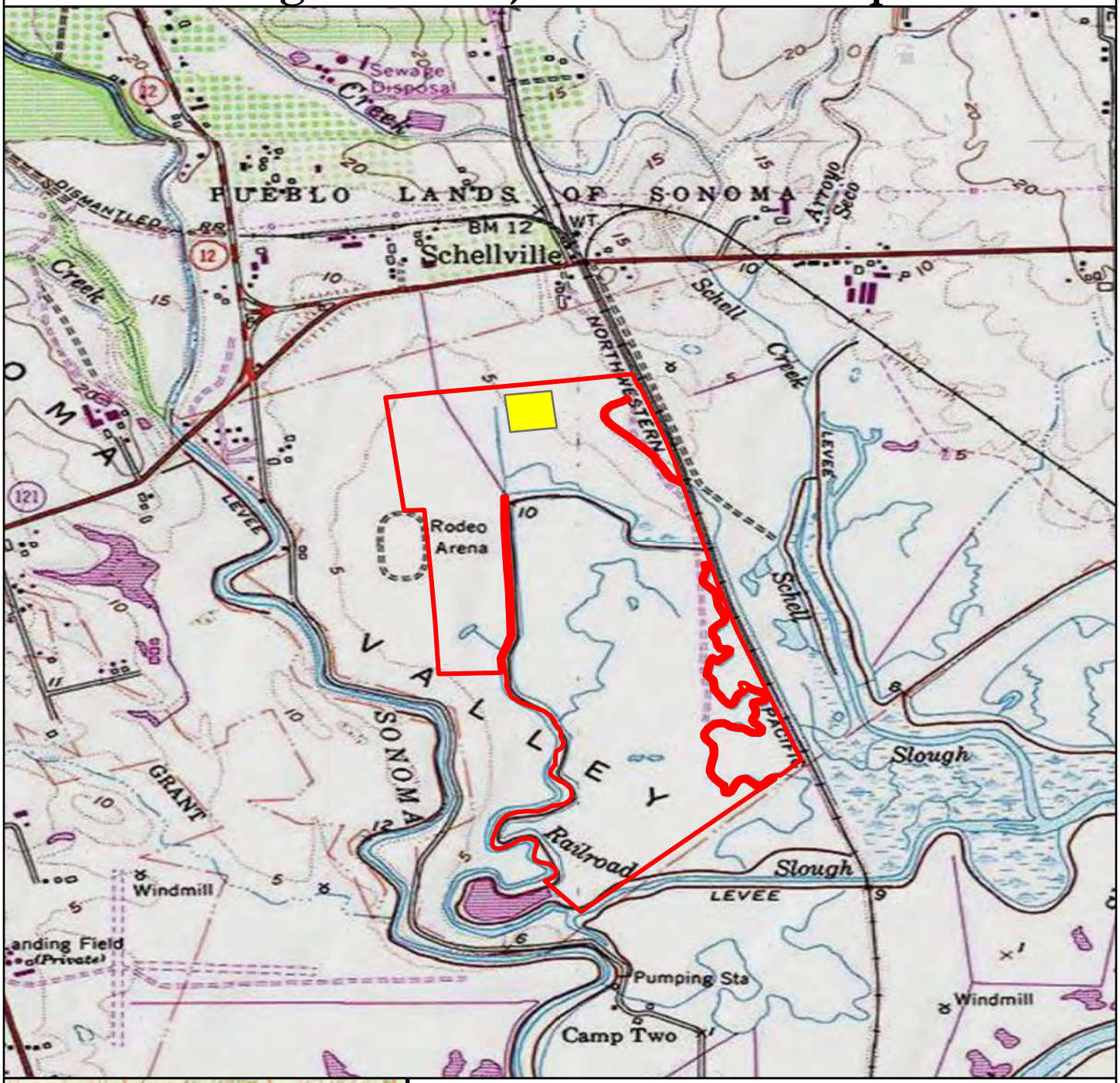
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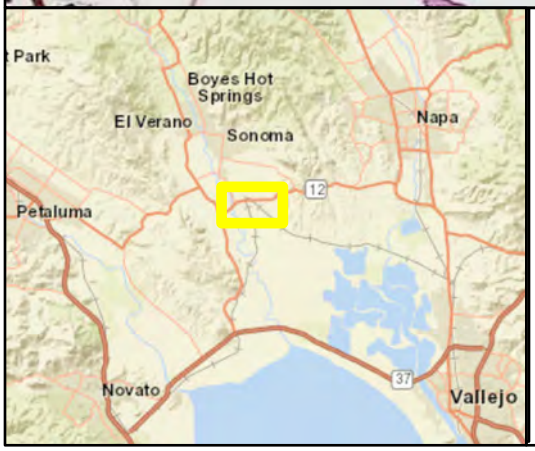
Appendix A: Maps

Figure 1: Project Location Map
Figure 2: Aerial Map
Figure 3: Preliminary Construction Maps
Figure 4: CHRIS Result Maps
Figure 5: Survey Coverage Map

Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1495 Fremont Drive, Sonoma, California, 94952 (APN: 128-471-006)

APN 128-471-006 Cultivation Project
Figure 1: Project Location Map





Scale: 1:24,000
USGS 7.5' Maps: Sears Point & Sonoma
Township 5 North; Rage 5 West; MDBM;
Unsectioned (Rancho Huichica)

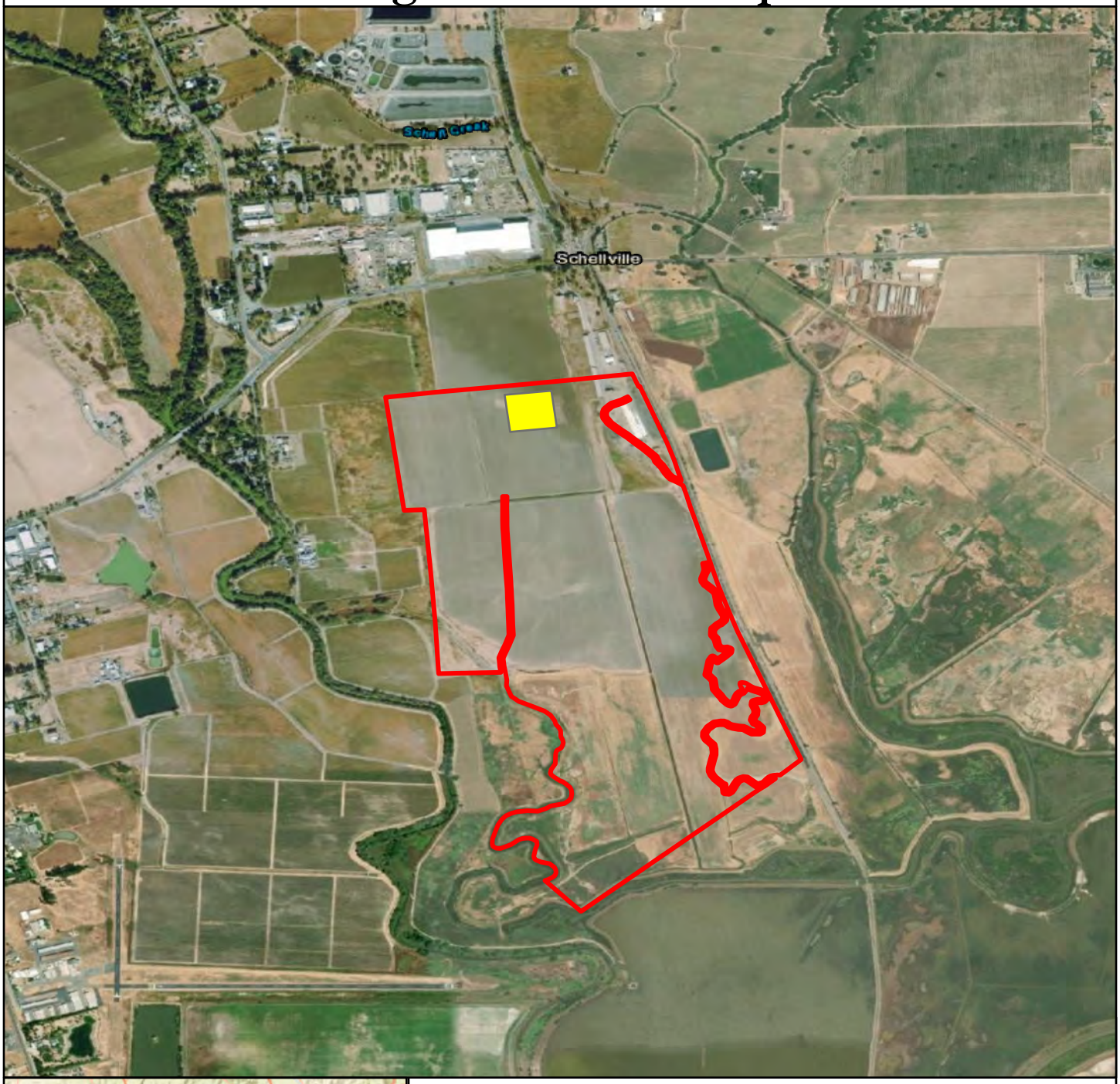
Parcel Boundary: APN 128-471-006
Project Area / Cultivation Area

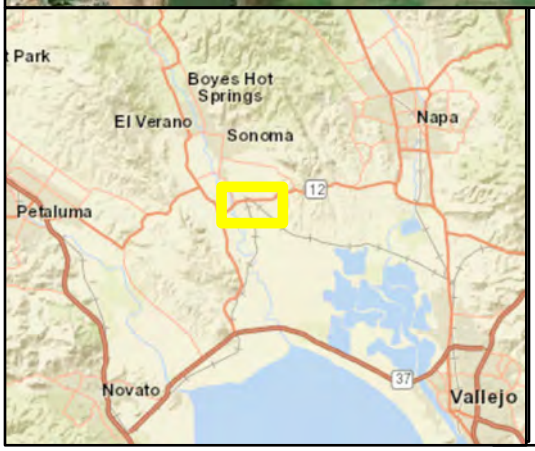
TN

0 0.13 0.25 0.5 0.75 1 Miles

Cultural Resources Practitioners, LLC. January 2021

APN 128-471-006 Cultivation Project
Figure 2: Aerial Map



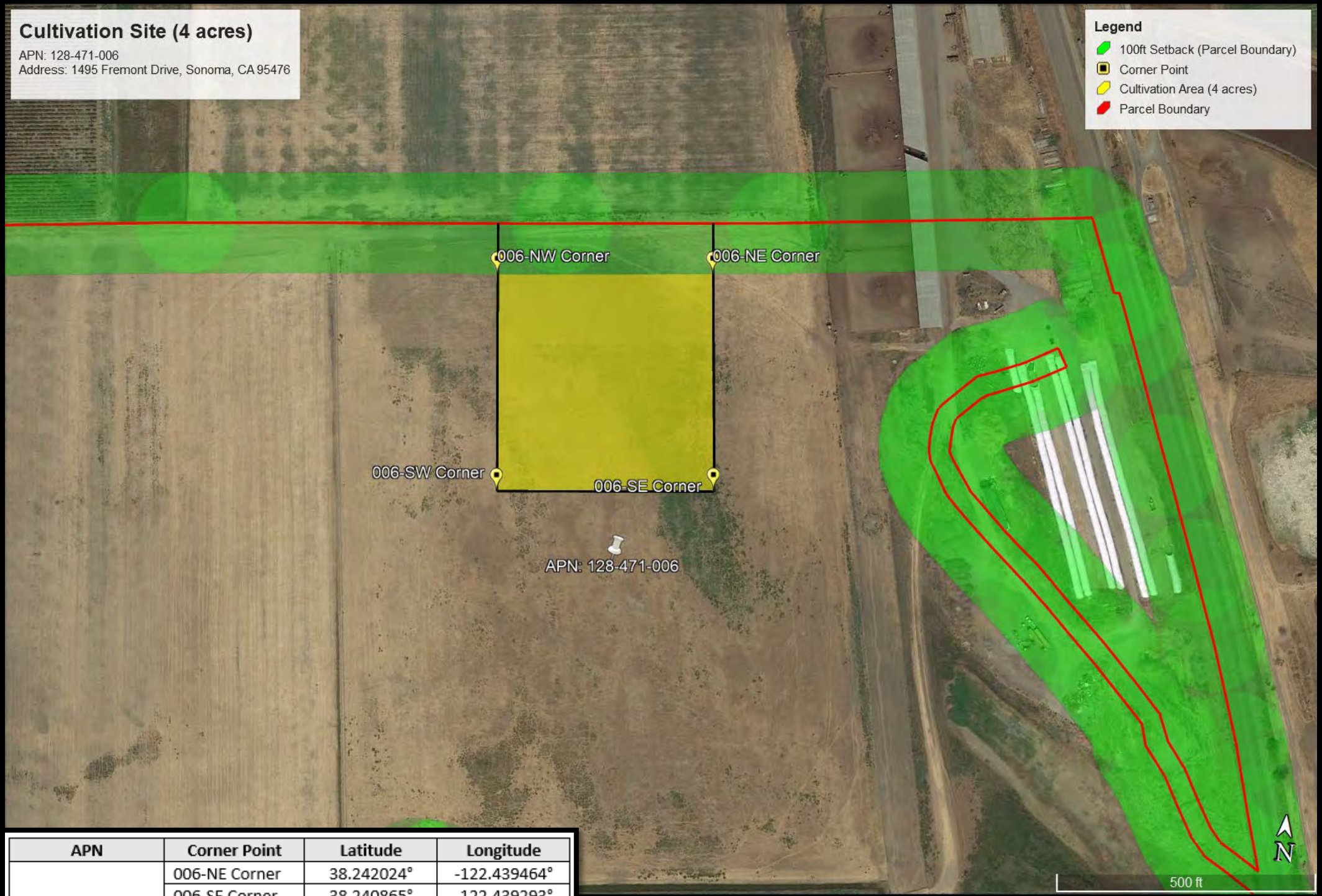


Parcel Boundary: APN 128-471-006
Project Area / Cultivation Area

TN

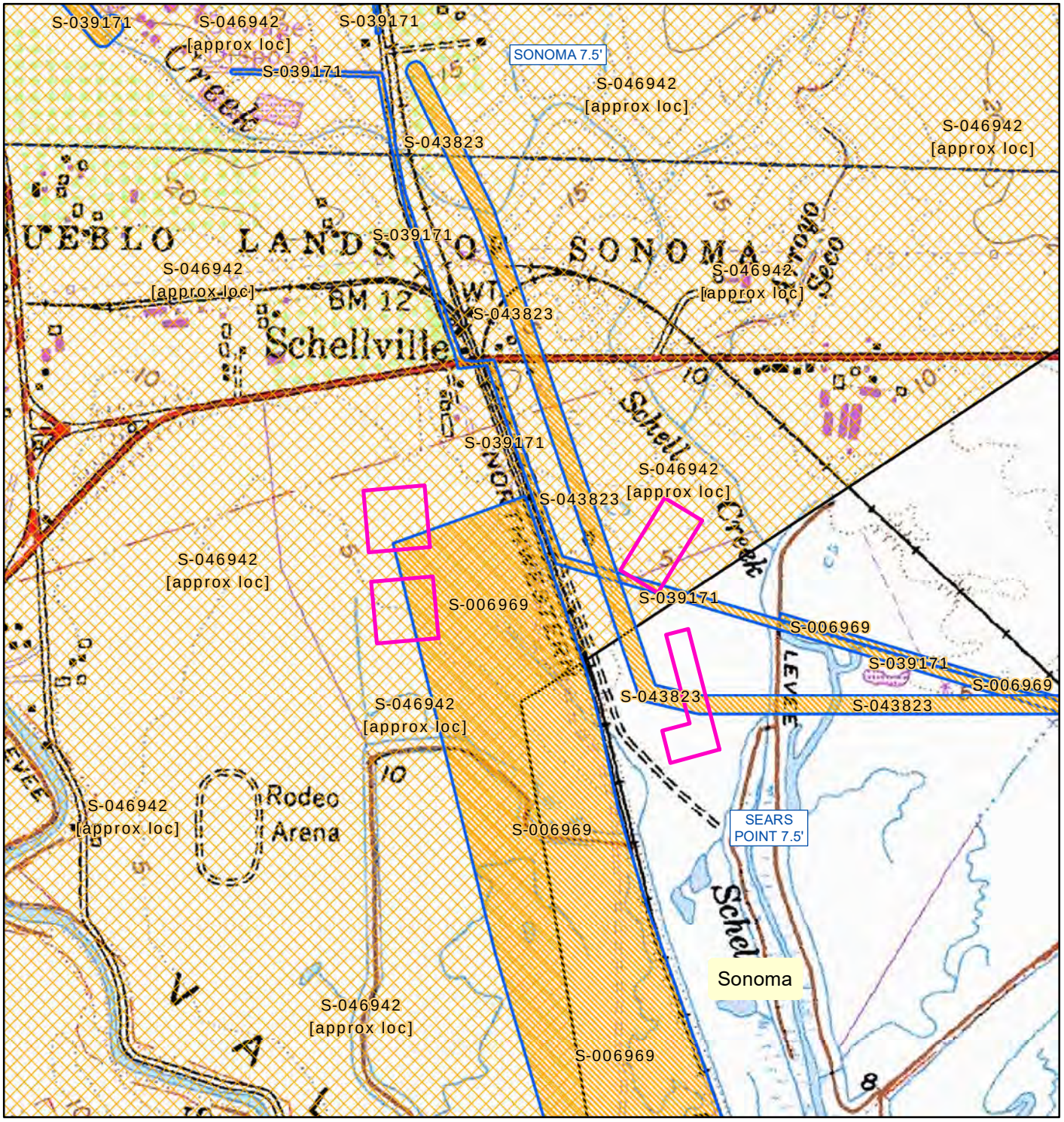
0 0.13 0.25 0.5 0.75 1 Miles

Cultural Resources Practitioners, LLC. January 2021



APN	Corner Point	Latitude	Longitude
128-471-006	006-NE Corner	38.242024°	-122.439464°
	006-SE Corner	38.240865°	-122.439293°
	006-NW Corner	38.241892°	-122.440935°
	006-SW Corner	38.240732°	-122.440762°

CRP 2020075, -76, -77, & -78
Report Map

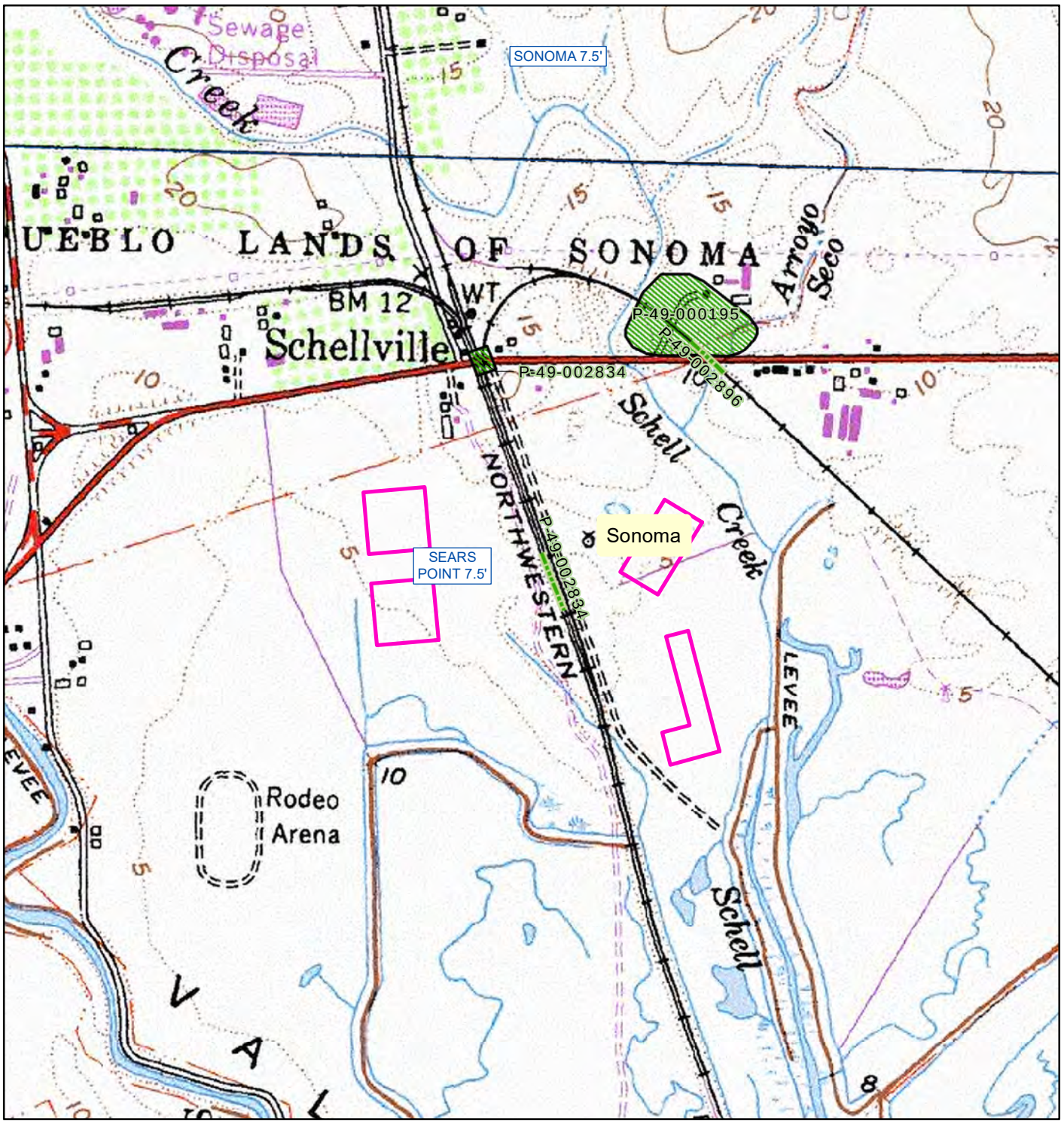


Northwest Information Center
File #20-1126, 4 January 2020, L. Hagel
May depict confidential cultural resource locations.
Do not distribute.

Feet: 0, 350, 700, 1,050, 1,400
Meters: 0, 60, 120, 180, 240, 300

N

CRP 2020075, -76, -77, & -78
Resource Map



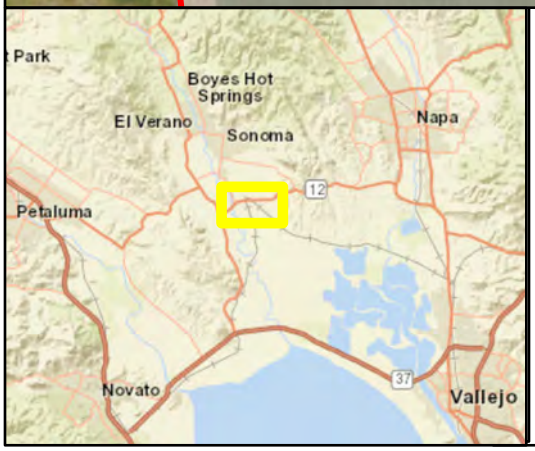
Northwest Information Center
File #20-1126, 4 January 2020, L. Hagel
May depict confidential cultural resource locations.
Do not distribute.

Feet: 0, 350, 700, 1,050, 1,400
Meters: 0, 60, 120, 180, 240, 300

N

APN 128-471-006 Cultivation Project
Figure 5: Survey Coverage Map





Parcel Boundary: APN 128-471-006
Project Area / Cultivation Area
Surveyed Area

TN

0 0.03 0.07 0.13 0.2 0.26 Miles

Cultural Resources Practitioners, LLC. January 2021

Appendix B:

Field Photograph

Sheets

Results of a Cultural Resources Study for
the Proposed Cannabis Cultivation Project
at 1495 Fremont Drive, Sonoma, California, 95476
(APN: 128-471-006)

PHOTO SHEET #1

Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1495 Fremont Drive, Sonoma, California, 95476 (APN: 128-471-006)

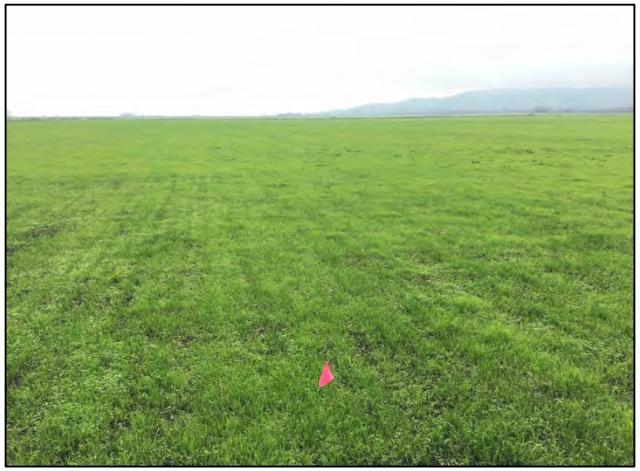


Figure 1: Overview of cultivation area looking south from northern boundary.



Figure 2: Overview of cultivation area looking southwest from northern boundary.



Figure 3: Overview of cultivation area looking north from southern boundary.



Figure 4: Overview of cultivation area looking east near central southern boundary.

PHOTO SHEET #2

Results of a Cultural Resources Study for the Proposed Cannabis Cultivation Project at 1495 Fremont Drive, Sonoma, California, 95476 (APN: 128-471-006)



Figure 5: Overview of cultivation area looking northeast near southern boundary.



Figure 6: Overview of cultivation area looking northwest near southern boundary.



Figure 7: Overview of cultivation area looking west from central section.



Figure 8: Overview of cultivation area looking east from western section near southern boundary.