Colusa Triple Crown Cannabis Research and Development Business Park

Initial Study/Mitigated Negative Declaration

Prepared for:

City of Colusa
Community Development Department

Prepared by:

Horizon
WATER and ENVIRONMENT

February 2019

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Prepared for:

City of Colusa
Community Development Department
425 Webster Street
Colusa, CA 95932

Prepared by:

Horizon Water and Environment
266 Grand Avenue, Suite 210
Oakland, CA 94610

February 2019

Horizon Water and Environment. 2019. *Colusa Triple Crown Cannabis Business Park Project Initial Study/Mitigated Negative Declaration.* Prepared for City of Colusa. February. Oakland, CA. (HWE 18.027.)

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Acronyms and Abbreviations

A	
AB	Assembly Bill
AGL	above ground level
ALUCP	Airport Land Use Compatibility Plan
APCD	Air Pollution Control District
APN	Assessor's parcel number
AST	aboveground storage tank
ATCM	Airborne Toxic Control Measure
B	
BACT	Best Available Control Technology
Basin Plan	Regional Water Quality Control Plan
BCC	Bureau of Cannabis Control
bgs	below ground surface
BMPs	best management practices
C	
CAC	county agricultural commissioner
CalARP	California Accidental Release Program
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Department of Industrial Relations, Division of Occupational Safety and Health
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CASGEM	California Statewide Groundwater Elevation Monitoring
CBC	California Building Standards Code
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDOC	California Department of Conservation
CDPH	California Department of Public Health
CDPR	California Department of Pesticide Regulation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (Superfund Act)
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
City	City of Colusa
CO	carbon monoxide

CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CRHR	California Register of Historical Resources
CPR	cardiopulmonary resuscitation
CRPR	California Rare Plant Rank
CTC	California Triple Crown, LLC
CTR	California Toxics Rule
CUPA	Certified Unified Program Agency
CWA	Clean Water Act

D

DCA	California Department of Consumer Affairs
dB	decibel
dBA	A-weighted decibel
DOF	California Department of Finance
DPS	distinct population segment
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources

E

EI	Expansion Index
EIR	environmental impact report
EO	Executive Order
ESA	Endangered Species Act

F

F&G Code	California Fish and Game Code
FAA	Federal Aviation Administration
FE	federal endangered
FEMA	Federal Emergency Management Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FR	Federal Register
FT	federal threatened
ft^2	square feet
FTA	Federal Transit Administration

G

GHG	greenhouse gas
gpd	gallons per day
GPS	global positioning system
GSA	groundwater sustainability agency
GSP	groundwater sustainability plan

H

HAP	hazardous air pollutant
HCP	habitat conservation plan
HMAP	Hazardous Materials Area Plan
HMBP	Hazardous Materials Business Plan
HMIS	Hazardous Materials Inventory Statement
HMMP	Hazardous Materials Management Plan
HVAC	heating, ventilation, and air conditioning
Hz	Hertz

I

I	Industrial District (land use designation)
in/sec	inches per second
IPaC	Information for Planning and Consultation
IS/MND	initial study/mitigated negative declaration
IS/ND	initial study/negative declaration

L

LD	Low Density Residential (land use designation)
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
L_{max}	maximum sound level
L_{min}	minimum sound level
L_{xx}	percentile-exceeded sound level
LOS	level of service

M

M-1	Light Industrial District (zoning designation)
MAUCRSA	Medicinal and Adult Use Cannabis Regulation and Safety Act
MBTA	Migratory Bird Treaty Act
MCSB	Manufactured Cannabis Safety Branch
MD	Medium Density Residential (land use designation)
MEIR	Master Environmental Impact Report
MEP	maximum extent practicable
mg/kg	milligrams per kilogram
MLD	Most Likely Descendent
MMT	million metric tons

mph	miles per hour
MS4	Municipal Separate Storm Sewer System
msl	mean sea level
MT	metric tons
m.y.a.	million years ago

N

NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEHRP	National Earthquake Hazards Reduction Program
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_X	nitrous oxides
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act of 1977
NRHP	National Register of Historic Places
NSF	National Science Foundation
NSVAB	Northern Sacramento Valley Air Basin
NSVPA	Northern Sacramento Valley Planning Area
NTR	National Toxics Rule
NWIC	Northwest Information Center

O

OEHHA	California Office of Environmental Health Hazard Assessment
OSHA	Occupational Safety and Health Administration

P

P-D	Planned Development District (zoning designation)
PPE	personal protective equipment
PPV	peak particle velocity
PEIR	Program Environmental Impact Report
PERP	Portable Equipment Registration Program
PG&E	Pacific Gas and Electric Company
$PM_{2.5}$	particulate matter of aerodynamic radius of 2.5 micrometers or less
PM_{10}	particulate matter of aerodynamic radius of 10 micrometers or less
ppm	parts per million
ppt	parts per thousand
Proposed Project	Colusa Triple Crown Cannabis Research and Development Business Park Project
PST	Pacific Standard Time
Pub. Res. Code	Public Resources Code

R

R&D	research and development
RCRA	Resource Conservation and Recovery Act of 1976
RMP	risk management plan
ROG	reactive organic gases
RWQCB	regional water quality control board

S

SB	Senate Bill
SDG&E	San Diego Gas and Electric Company
SDWA	Safe Drinking Water Act
SE	State endangered
SFP	State fully protected
SGMA	Sustainable Groundwater Management Act
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	Surface Mining and Reclamation Act
SPCC	Spill Prevention, Control, and Countermeasure
SR	State Route
SR	State rare
SSC	species of special concern
ST	State threatened
SVAB	Sacramento Valley Air Basin
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board

T

TAC	toxic air contaminant
TCP	tribal cultural property
TCR	tribal cultural resource
TPZ	timber protection zone

U

USACE	U.S. Army Corps of Engineers
USC	U.S. Code
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
UV	ultraviolet

V

VdB	vibration velocity in decibels
VELB	valley elderberry longhorn beetle

W

WDR	waste discharge requirement
°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter

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Chapter 1
Introduction

1.1 Introduction and Purpose

The City of Colusa (City) has prepared this initial study/mitigated negative declaration (IS/MND) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of the proposed Colusa Triple Crown Cannabis Research and Development Business Park Project (Proposed Project). This document has been prepared in accordance with the requirements of the California Environmental Quality Act of 1970, as amended (CEQA) (Public Resources Code [Pub. Res. Code] Section 21000 et seq.) and the State CEQA Guidelines (Title 14 California Code of Regulations [CCR] Section 15000 et seq.).

The City is evaluating the proposed development of an 84-acre site on the northeast side of the city, bounded by D Street, East Clay Street, and the Sacramento River levee. Colusa Triple Crown, LLC (CTC), has applied to the City for a development agreement, special use permit, and regulatory use permit to construct and operate the Proposed Project. The site of the Proposed Project was formerly proposed for development as a mixed-use residential/ cannabis business park project.

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

1.2 Intent and Scope of this Document

1.2.1 Scope of the Analysis

This IS/MND has been prepared in accordance with CEQA, under which the Proposed Project is evaluated at a project level (State CEQA Guidelines Section 15378). The City of Colusa, as the lead agency under CEQA, will consider the Proposed Project's potential environmental impacts when considering whether to approve the project. This IS/MND 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/MND 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
- 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 and Traffic
- Utilities and Service Systems

1.2.2 Tiered Analysis

Agencies are encouraged to tier the environmental analyses that they prepare for separate but related projects to eliminate repetitive discussions of the same issues and focus the later document on the actual issues ripe for decision at each level of environmental review (State CEQA Guidelines Sections 15152, 15168).

Section 15168(c) of the State CEQA Guidelines states that a program environmental impact report (EIR) may be used with later activities:

> **Use with Later Activities:** Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.
>
> 1. If a later activity would have effects that were not examined in the program EIR, a new initial study would need to be prepared leading to either an EIR or a negative declaration.
>
> 2. If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required.
>
> 3. An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.
>
> 4. Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.
>
> 5. A program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent

activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.

Section 15168(d) of the State CEQA Guidelines states that a program EIR may be used with subsequent EIRs and negative declarations:

> A program EIR can be used to simplify the task of preparing environmental documents on later parts of the program. The program EIR can:
>
> 1. Provide the basis in an initial study for determining whether the later activity may have any significant effects.
>
> 2. Be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.
>
> 3. Focus an EIR on a subsequent project to permit discussion solely on new effects which had not been considered before.

Section 15152 of the State CEQA Guidelines allows an EIR to tier from the environmental analysis of an earlier EIR. Section 15152(a) of the CEQA Guidelines explains the concept of tiering:

> 'Tiering' refers to using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project.

Section 15152(d) of the State CEQA Guidelines states that the lead agency for a later project pursuant to or consistent with the program should limit the subsequent analysis as follows:

> Where an EIR has been prepared and certified for a program, plan, policy, or ordinance consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR or negative declaration on the later project to effects which:
>
> 1. Were not examined as significant effects on the environment in the prior EIR; or
>
> 2. Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means.

In considering approval of the various activities identified in Chapter 2 of this IS/MND, the City of Colusa is proposing to carry out and approve a discretionary project subject to CEQA, portions of which (i.e., commercial cannabis cultivation) were previously evaluated in a program EIR adopted by the California Department of Food and Agriculture's (CDFA's) CalCannabis Licensing Program. Accordingly, this IS/MND is tiered from the CDFA CalCannabis Program EIR, in accordance with State CEQA Guidelines Sections 15168 and 15152.

This IS/MND was prepared to disclose the potentially significant effects of the Proposed Project on the environment that were not examined in the CDFA Program EIR. This document is tiered from the CDFA Program EIR and incorporates it by reference, and all applicable mitigation measures from the CDFA Program EIR are incorporated into this IS/MND. The City will use the analyses presented in the CDFA Program EIR, this IS/MND, public comments on the DEIR, and the whole of the administrative record to evaluate the Proposed Project's environmental impacts and to modify, approve, or deny approval of the Proposed Project.

1.3 Public Involvement Process

Public disclosure and dialogue are priorities under CEQA. State CEQA Guidelines Sections 15073 and 15105(b) require that the lead agency designate a period during the IS/MND process when agencies and the public can provide comments on the potential impacts of the Proposed Project. Accordingly, the City 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 Availability.

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

Bryan Stice
City of Colusa Community Development Department
425 Webster Street
Colusa, CA 95932
Email: Colusa_CTC_Comments@gmail.com

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

1.4 Organization of this Document

This IS/MND contains the following components:

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

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 State 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/MND.

Appendices

Appendix A. *Applicant Planning Materials*

Appendix B. *Air Quality and Greenhouse Gas Calculations*

Appendix C. *Biological Resources Information*

Appendix D. *Cultural Resources and Tribal Cultural Resources Evaluation*

Appendix E. *Noise Calculations*

Appendix F. *Traffic Study*

1.5 Impact Terminology

This IS/MND 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.
- An impact is considered *less than significant with mitigation* if the analysis concludes that no substantial adverse change in the environment would result with the implementation of the mitigation measures described.
- An impact is considered *potentially significant* if the analysis concludes that a substantial effect on the environment could result.
- Mitigation refers to specific measures or activities that would be adopted by the lead agency to avoid, minimize, rectify, reduce, eliminate, or compensate for an otherwise significant impact.
- 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/MND 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.

Chapter 2
Project Description

2.1 Overview

The City is evaluating the proposed development of an 84-acre site on the northeast side of the city, bounded by D Street, East Clay Street, and the Sacramento River levee. CTC has applied to the City for a Development Agreement, Special Use Permit, and Regulatory Use Permit to construct and operate a cannabis research and development business park (the Proposed Project). The site of the Proposed Project was formerly proposed for development as a mixed-use residential/cannabis business park project.

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

2.2 Proposed Project Purpose and Objectives

The Proposed Project is the approval of the construction and eventual operation of a cannabis research and development business park. The Proposed Project would encompass approximately 1,490,000 square feet (ft^2) on 84 acres and would include energy-efficient greenhouses for cannabis cultivation, plant processing spaces, facilities for creating infused products, a testing laboratory for internal product testing, research/development and training centers, distribution center, and corporate offices. Space may be sold or leased to other cannabis businesses properly licensed by the State of California.

Specific project objectives are as follows:

- Develop the Proposed Project area into a state-of-the-art cannabis research and development business park;
- Construct a facility that meets all state and local requirements for cannabis cultivation and business activities, including security and environmental standards required by the State of California;
- Construct 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 to up to 310 full-time employees.

2.3 Proposed Project Location and Setting

The project site is situated in the northeast corner of the City of Colusa, along the south side of the Sacramento River levee (**Figure 2-1**). The 84-acre project site is bounded by D Street to the west and East Clay Street to the south. The Sacramento River forms its northern boundary. The site is located on seven existing parcels. Approval of the Proposed Project may

include a lot line adjustment to combine these into four parcels. The current and proposed Assessor's parcel numbers (APNs) are listed in **Table 2-1**.

Table 2-1. Current and Proposed Parcels

EXISTING PARCELS	
APN	Acreage
002-270-002	2.112
002-270-003	2.719
002-270-004	3.993
002-270-005	2.628
002-270-006	3.804
002-270-007	44.361
002-270-008	22.378
Total	***84.70***

AFTER LOT LINE ADJUSTMENT	
APN	Acreage
002-270-003	14.210
002-270-005	27.120
002-270-007	24.250
002-270-009	19.120
Total	***84.70***

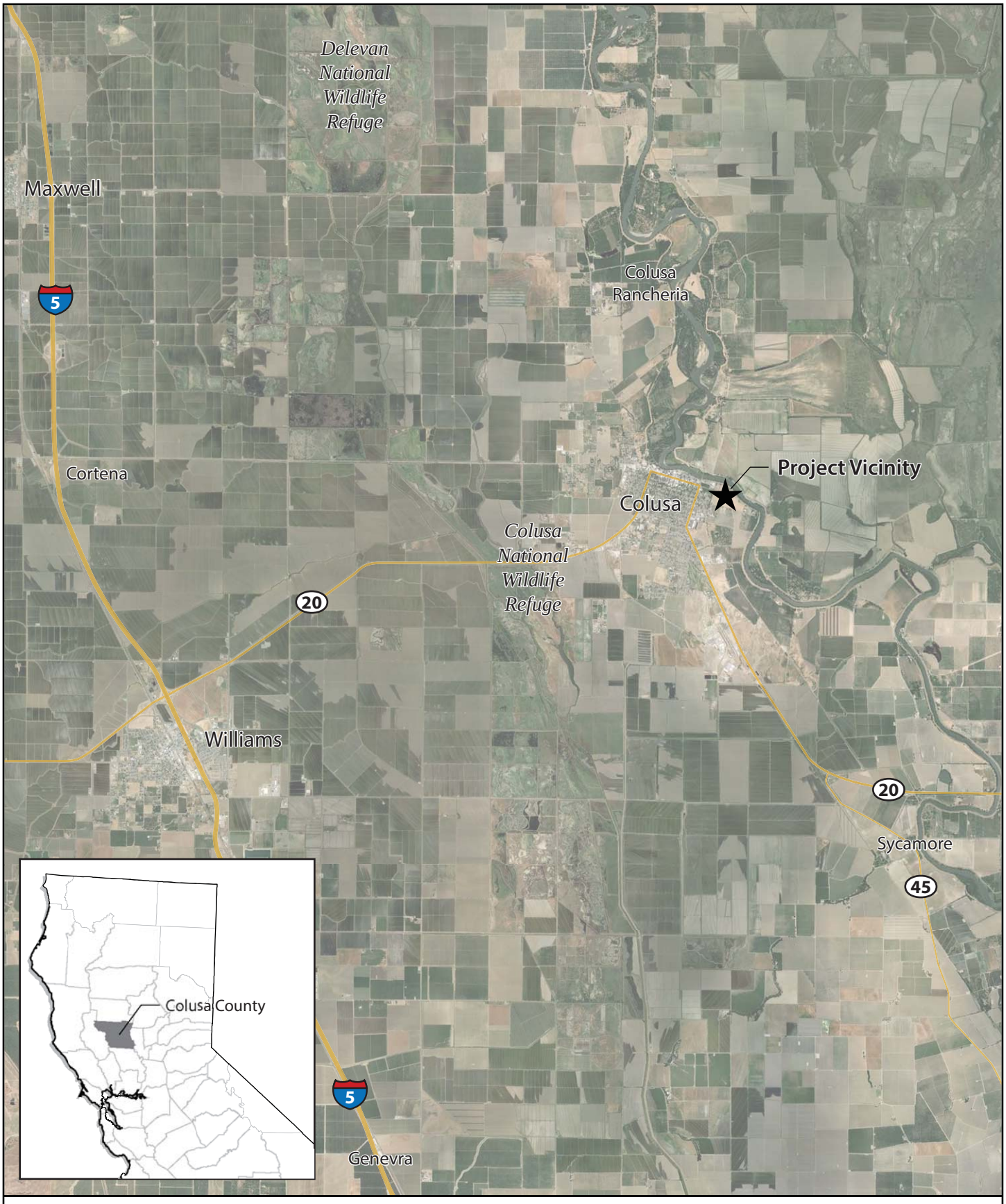
Source: Colusa Riverbend Estates 2018.

The area is currently zoned as Planned Development District (P-D). To be consistent with the City's General Plan and Zoning Ordinance, the Proposed Project would need to be rezoned from P-D to Light Industrial District (M-1), as well as a requiring a General Plan Amendment from Low Density Residential District (LDR) to Industrial District (I).

Residential, agricultural, and commercial uses surround the project location on three sides, with the Sacramento River on the north (**Figure 2-2**). Residential uses are located at the southwest corner of the project site, and rural residential/agricultural uses are located along the south border of the site.

The topography of the site is relatively flat at an elevation of ±55 feet above mean sea level (ENGEO 2004). Most of the property is being farmed in oats. A number of mature trees, primarily oak, line the perimeter of the property, surrounded by tall weeds and dry brush.

A fruit drier, pump shed, shower house, barn, and single-family residence are located along the northern boundary of the property. All structures are abandoned and in poor condition. There are two residential wells on the property and one agricultural well. A dirt and gravel road enters the property near the southeast corner, extends north along the eastern boundary, and then follows the northern boundary, providing access to the above-mentioned structures. According to research on previous land uses, the property has historically been used for the agricultural production of prune plums and oats, and contained a fruit dryer, two residences, and a railroad spur (ENGEO 2004).



Source: CTC 2018

Figure 2-1.
Project Vicinity

Prepared by:
Horizon WATER and ENVIRONMENT

Colusa Triple Crown Project

Source: CTC 2018

N

250 0 250 500

Feet

Figure 2-2.
Project Location Map

Prepared by:
Horizon
WATER and ENVIRONMENT

Colusa Triple Crown Project

2.4 General Description of Regulated Cannabis Cultivation Processes

This section provides an overview of the types of activities typically associated with cannabis cultivation as regulated under CDFA's CalCannabis cultivation licensing program. CDFA is responsible for issuing state licenses for commercial medical and adult-use cannabis cultivation, cannabis nursery cultivation, and cannabis processing activities, including trimming, drying, packaging and labeling cannabis flowers. The environmental impact evaluation in Chapter 3, *Environmental Analysis,* of this IS/MND addresses these activities as they apply to the Proposed Project, unless otherwise indicated. If the Proposed Project is approved by the City, CTC would be required to obtain one or more cultivation licenses from CDFA in order to operate greenhouse facilities.

2.4.1 Overview of Greenhouse Cultivation

Cannabis cultivation begins with the selection and planting of cannabis cuttings or seeds. Where possible, male seeds are separated from female seeds or, if not identified in the seed stage, male plants would be removed later in the cultivation process, prior to becoming mature. 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, air flow) are often controlled to meet the plant's various 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. CDFA and the California Department of Pesticide Regulation (CDPR) regulate the types of pesticides, rodenticides, and herbicides that may be applied to cannabis plants in the cultivation process, and also regulate 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 mixed-light 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 trichomes[1] 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 harvest of the lower flowers.

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

2.4.2 Nursery Cultivation

Nurseries produce only clones, immature plants, seeds, and other agricultural products used specifically for the propagation and cultivation of cannabis. Nurseries 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 nurseries propagate from seed, most create clones by taking cuttings from "mother plants." Nurseries may also produce seeds from mature plants. Nursery operations may be entirely indoors or may use a combination of outdoor, indoor, and mixed-light techniques; for the Proposed Project, nursery operations would take place in greenhouses under mixed-light conditions.

The nursery cultivation process generally involves the following steps:

1. **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.
2. **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.
3. **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.

[1] 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.

4. **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).

5. **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. The checked final cuttings are then placed in transport containers for distribution. Nurseries typically distribute plants within two to three days of roots becoming established, although some facilities have reported holding plants for several weeks to meet client needs. Once plants are available for distribution, they are generally provided to retail dispensaries or directly to cannabis cultivators.

The total length of time between planting a cutting and distribution of a rooted cannabis plant is approximately 10 days to 3 weeks. Seed production would take a duration similar to the length of time used to cultivate for flowers, which varies based on the technique (as discussed above). In addition to the plant propagation activities described above, nurseries may conduct research on cannabis plants. As an example, researchers may conduct projects and tests related to developing plant types with specific genetic properties.

2.4.3 Applicable State and Local Regulations

Cannabis cultivation is regulated by CDFA under the CalCannabis cultivation licensing program, under the authority of the Medicinal and Adult Use Cannabis Regulation and Safety Act (MAUCRSA). CDFA adopted emergency regulations for its cultivation licensing program in November 2017, and readopted those regulations in June 2018. In July 2018, CDFA published proposed permanent regulations for the cultivation licensing program. Those regulations are anticipated to be adopted later in 2018. Both temporary and annual cultivation license applications are currently being reviewed and approved by the agency. If the Proposed Project is approved by the City, CTC would be required to obtain one or more cultivation licenses from CDFA in order to operate cultivation facilities.

In November 2017, CDFA certified a Program EIR (PEIR) for the CalCannabis Cultivation Licensing Program (CDFA 2017). That PEIR analyzed environmental impacts of approving cannabis cultivation licenses in accordance with the emergency regulations. As described in Chapter 1, *Introduction,* this IS/MND is tiered from the PEIR and evaluates only those environmental impacts that are not fully addressed in that document.

On May 16, 2017, the City of Colusa passed Ordinance 519, adding Chapter 12F to the City of Colusa Municipal Code and amending the city zoning code to permit and regulate certain types of cannabis businesses. Ordinance 519 allows cannabis manufacturing businesses to operate within certain zoning districts following City approval of a Special Use Permit, a Regulatory Permit, and all other required state licenses. Cannabis manufacturing facilities under the City's ordinance may manufacture cannabis products; cultivate cannabis; and test, distribute, and transport cannabis and cannabis products. Prior to conducting cultivation activities, CTC would be required to obtain a cannabis manufacturing facility regulatory permit and a cannabis manufacturing special use permit from the City.

2.5 General Description of Regulated Cannabis Business Activities

This section provides an overview of the types of activities typically associated with cannabis business operations as regulated by the California Department of Consumer Affairs' Bureau of Cannabis Control (BCC) and the California Department of Public Health's Manufactured Cannabis Safety Branch (MCSB). Cannabis distribution includes storing, labeling, transporting, and ensuring testing of cannabis and manufactured cannabis products. Cannabis distributors are regulated and licensed at the state level by BCC. Cannabis manufacturing activities include extraction or infusion of cannabis compounds and the manufacture of such extractions or infusions into consumer products. Cannabis manufacturers must be licensed by MCSB. The environmental impact evaluation in Chapter 3, *Environmental Analysis,* of this IS/MND addresses these activities as they apply to the Proposed Project, unless otherwise indicated.

2.5.1 Distribution

Under MAUCRSA, licensed cannabis cultivators and manufacturers are required to send cannabis and cannabis products to a licensed distributor prior to retail sale. The distributor is responsible for ensuring testing of representative samples of the products by a licensed third-party testing laboratory. Distributors must store batches of cannabis or cannabis products while samples from those batches are being tested. Distributors may also store, destroy, and label or relabel cannabis and cannabis products at their licensed facilities, act as product wholesalers, and transport cannabis and cannabis products to or from other licensed cannabis businesses. If the Proposed Project is approved by the City, CTC would be required to obtain one or more distribution licenses from BCC in order to operate distribution facilities.

2.5.2 Manufacturing

Manufacturing cannabis products requires cannabis compounds to be extracted from the cannabis plant. Extraction is a process by which cannabinoids are separated from cannabis plant material through chemical or physical means. Extraction may include using volatile solvents, nonvolatile solvents, other nonvolatile substances, or mechanical extractions (e.g., pressure, agitation, or sifting techniques). Some of these processes are described below.

- **Carbon dioxide (CO_2) extractions.** Manufacturers are required to use professional closed-loop extraction systems for all CO_2 extractions. The closed-loop system is required for CO_2 extractions because CO_2 can also build up,

posing a risk of asphyxiation to personnel and bystanders. Closed-loop systems are designed to mitigate these risks.

- **Fractional distillation.** Using heat to vaporize cannabinoids, bringing the vapor into a cooling system for consolidation and eventual collection into beakers.

- **Mechanical extractions.** This may include sifting cannabis products with a screen or pressing them in a press. Mechanical extractions may be used to produce consumable products such as kief, hash, or rosin.

- **Chemical extraction using a nonvolatile solvent.** This technique involves use of water, vegetable glycerin, vegetable oils, animal fats, or food-grade glycerin.

- **Infusion.** Infusion is a process by which cannabis, cannabinoids, cannabis concentrates, or manufactured cannabis are directly incorporated into a product formulation to produce a cannabis product.

Manufacturing activities may also include the formulation of consumer products using cannabis extractions or infusions described above. Such products may include the following:

- **Vape Pens.** Vaporizer pens, or vape pens, are similar to electronic cigarettes. These devices contain a battery-powered heating element that vaporizes a liquid form of concentrated cannabis oil.

- **Edible Products.** Cannabis can be used in a wide variety of food products or edibles, such as candies, cookies, pretzels, pasta, butter, soda, infused juices, salad dressing, barbecue sauce, and corn chips. Large-scale manufacturers often use steam distillers and/or supercritical CO_2 extractors to produce oil for edibles. Small- and medium-scale producers of edibles, especially bakers, often infuse butter, coconut oil, olive oil, or other common cooking fats with cannabis.

- **Tinctures.** Tinctures are made from cannabis trim, leaf, and/or flowers that are soaked in alcohol and/or glycol or vegetable glycerin. Carbon filters are often used to remove chlorophyll from the finished product. Home and commercial-grade distillation units use water or alcohol to remove cannabinoids, producing concentrated cannabis oil. Many tinctures are infused with common herbs (e.g., lavender, basil, rose petals, and mint) and are sold in small bottles.

- **Topical Products.** Topical products or topicals are cannabis-infused lotions, salves, sprays, balms, and oils that are applied to the skin. Topicals can be made similarly to edibles. Manufacturers infuse cannabis into olive, canola, grapeseed, or coconut oil, which is then blended with other ingredients, such as botanical extracts and essential oils, to create the final product.

Cannabis manufacturing activities may also include research and development related to the manufacture of cannabis products. Employees may conduct tests relating to different extraction processes, such as sifting, pressing, or agitation techniques. In addition, the facility

would be used to develop infused product types, including topical and edible products. A testing laboratory would be used to conduct internal testing for product composition and potency. If the Proposed Project is approved by the City, CTC would be required to obtain one or more manufacturing licenses from MCSB in order to operate manufacturing facilities.

2.5.3 Applicable State and Local Regulations

Cannabis distribution is regulated by the BCC under the provisions of MAUCRSA. BCC adopted emergency regulations for distribution licensing in November 2017 and readopted those regulations in June 2018. Temporary and annual distributor license applications are currently being reviewed and issued by the agency. In July 2018, BCC published proposed permanent regulations for the cannabis business licensing program. Those regulations are anticipated to be adopted later in 2018. If the Proposed Project is approved by the City, CTC would be required to obtain a distributor license from BCC. As stated above, if the Proposed Project is approved by the City, CTC would be required to obtain one or more cultivation licenses from CDFA in order to operate cultivation facilities.

In November 2017, BCC certified an initial study/negative declaration (IS/ND) for its regulations (BCC 2017). That IS/ND analyzed environmental impacts of approving cannabis business licenses in accordance with the emergency regulations. This IS/MND incorporates relevant portions of the analysis from that document.

As specified in MAUCRSA, cannabis manufacturing activities are regulated by MCSB. MCSB adopted emergency regulations for manufacturing licensing in November 2017 and readopted those regulations in June 2018. Temporary and annual manufacturing license applications are currently being reviewed and issued by the agency. In July 2018, MCSB published proposed permanent regulations for the manufacturing licensing program. Those regulations are anticipated to be adopted later in 2018. If the Proposed Project is approved by the City, CTC would be required to obtain a manufacturing license from MCSB.

Prior to operating a cannabis manufacturing facility, CTC will be required to obtain a cannabis manufacturing facility regulatory permit and a cannabis manufacturing special use permit from the City.

2.6 Proposed Project Characteristics

This section describes the facilities and construction activities that would be part of the Proposed Project. Detailed information about facilities and operations at the project site is provided in Appendix A, *Applicant Planning Materials*.

2.6.1 Proposed Project Facilities

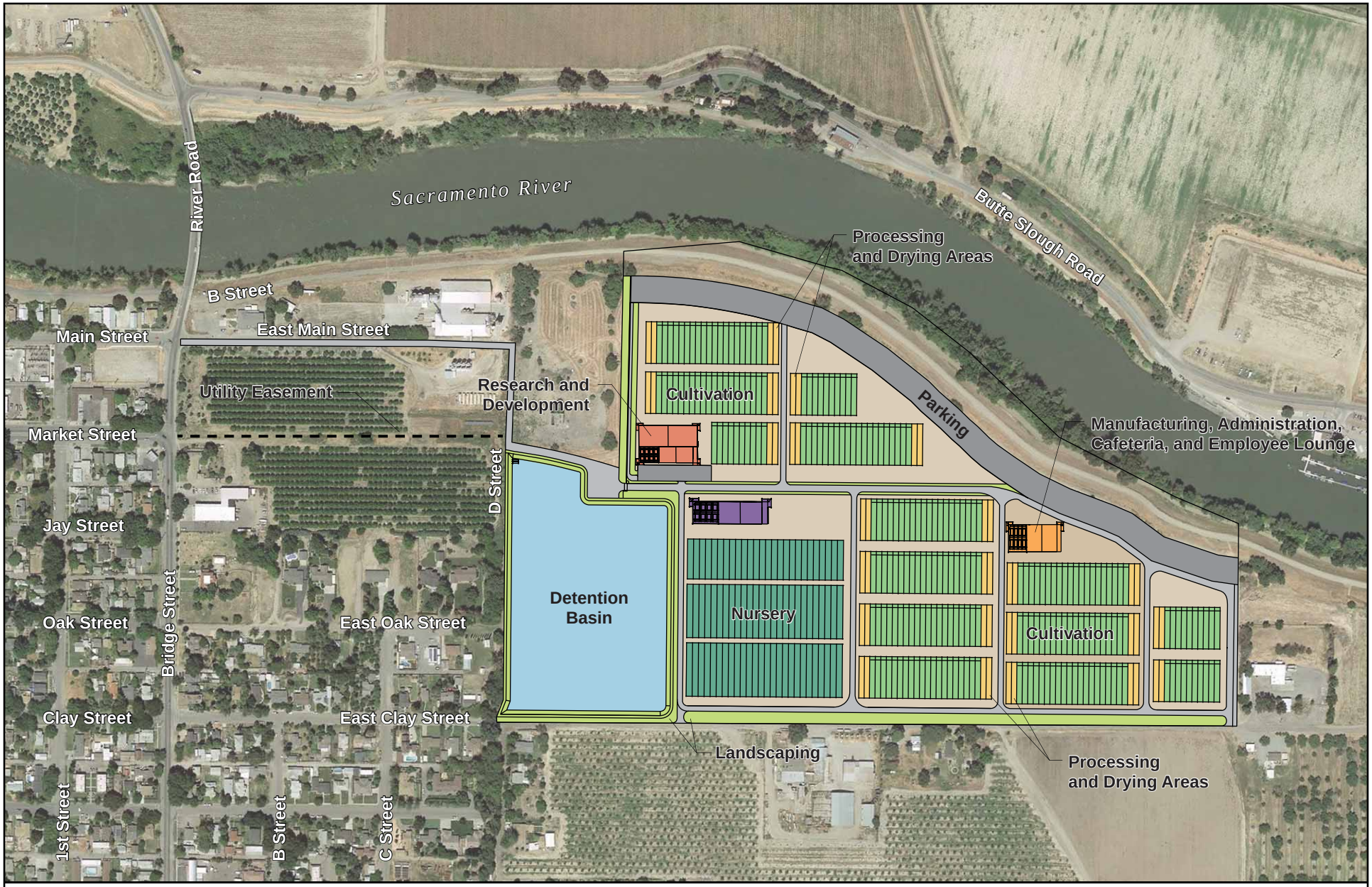
The Proposed Project would involve construction of approximately 1,490,000 ft^2 of developed facilities, including energy-efficient greenhouses for cultivation and processing of cannabis plants, processing and manufacturing spaces, warehouse, and office space, secured and visitor parking areas, enclosures and storage areas, utility improvements, and other ancillary improvements. Each facility is described below. The demolition of existing structures on the project site would also be required. The maximum height of all buildings would be approximately 40 feet.

The Proposed Project structures and improvements would be constructed in five phases over 3-8 years. More information about demolition, construction activities, and project phasing is provided in Section 2.7, "Construction Activities." **Figure 2-3** is a site plan showing the locations of project facilities.

Cultivation and Processing Facilities

The Proposed Project would include 14 greenhouse/processing structures that would house canopy cultivation, with separate areas for processing, drying, control equipment, employees, administration, and warehouses. Ten modular greenhouse structures would consist of two separate 40,000-ft^2 sections and four greenhouses would be single modules, for a total of 960,000 ft^2 of greenhouse/processing space. Each 40,000-ft^2 unit would accommodate 22,000 ft^2 of canopy cultivation. Each module could be operated separately or subdivided and leased to multiple licensed cultivators.

These structures would utilize state-of-the-art greenhouses that would harness readily available sunlight while controlling factors such as pests and contaminants. Each greenhouse would be optimized for the plant varietal(s) it houses. Humidity, temperature, light, and soil compounds would be monitored and controlled through a central computer system. Plant management and soil amendments would be applied through a process of "fertigation," which deploys plant nutrients through the plant's drip irrigation water supply. Excess irrigation water (runoff) would be reclaimed, reused, and recycled, using an ultraviolet (UV) light disinfection system to treat water before reuse.



Source: CTC 2018

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Feet

Prepared by:

Horizon WATER and ENVIRONMENT

Figure 2-3.
Proposed Project Site Plan

Colusa Triple Crown Project

Research and Development Building

The Proposed Project would include a 45,500-ft^2 research and development (R&D) building with separate areas dedicated to manufacturing facilities for creating infused products, control equipment, testing laboratory (for internal testing only), R&D laboratories, training center, warehouse, and corporate administration. The R&D building also would include an 11,200-ft^2 employee lounge and break facility along with food service facilities.

Distribution and Warehouse Building

After CTC's products are tested by an off-site, third-party testing laboratory (in accordance with CDFA regulations) and are determined to be ready for sale, they would be moved from the greenhouses and processing building to the 40,000-ft^2 distribution and warehouse building. This facility may be operated by CTC or by a separate, fully licensed distribution company.

The distribution and warehouse building would consist of 40,000 ft^2 of space for distribution and warehousing activities and 11,200 ft^2 for administration, along with additional employee lounge/food service facilities. This facility would serve as a distribution center where orders would be filled, packed, and shipped. Orders would be pre-sorted based on delivery location to minimize the need for multiple truck pick-ups throughout the day and reduce traffic congestion. The distribution center would rely on local staffing, providing employment opportunities throughout the city and county. The facility would initially operate on a single 8-hour shift, with the possibility of extending to three shifts if required.

Any products not sold directly to the consumer would be made available to the regulated market and sold in bulk to distributors that hold the required local and state permits to purchase and transport cannabis products.

Manufacturing Facility

The manufacturing building would consist of 24,400 ft^2 for manufacturing equipment, an internal testing laboratory, control equipment areas, and distribution activities. An additional 11,200 ft^2 of space would be used for administration and employee lounge/food service areas.

Nursery Facilities

Three buildings would house nursery operations. They would include a total of 7.55 acres of greenhouse production and plant genetics R&D. The nursery structures would provide space for both plant incubation and strain/varietal development.

Administration

As indicated above, administration would be divided between three locations: the manufacturing facility, the R&D facility, and the distribution/warehouse facility. These areas would comprise approximately 30,000 ft^2 devoted to employee lounges, food service areas, and corporate administrative offices.

2.6.2 Project Site Development

Utilities

The project site has existing access to utilities, including water, sewer, electricity, and communications infrastructure. The Proposed Project facilities would connect to existing underground high-pressure natural gas lines at Bridge Street. Overhead electricity lines on the site are connected to the existing power grid and would be used to supply power to the site. **Table 2-2** lists anticipated utility service agencies that would serve the Proposed Project.

Table 2-2. Local Utility Agencies Serving the Project Area

Utility Service	Utility Agency
Water Supply	City of Colusa
Sanitary Sewer	City of Colusa
Electrical Service	Pacific Gas and Electric (PG&E)
Natural Gas Service	PG&E
Fire Protection Service	City of Colusa
Police Protection Service	City of Colusa

Water System: The Proposed Project would rely on the site's existing agricultural well for agricultural water supply. The well has a capacity of 1,450 gallons per minute. Based on estimates of water use (see discussion below), operation of the well for 1.68 hours per day would produce 146,112 gallons of water per day, which would meet the needs of the project. Irrigation water would be treated before use with a UV disinfection system. Dissolved fertilizers would be mixed with the irrigation water before application to crops. Excess irrigation water would be reclaimed and recycled, using the UV disinfection method.

The Proposed Project would receive water service from the City's domestic water supply system for domestic purposes such as cafeteria and lavatory facilities. The facility would connect to the existing 10-inch main line on Bridge Street and the existing 8-inch main line on East Clay Street. A 4-inch water main would be installed at the project site to provide domestic water supply for all operations.

All domestic water services would be metered. Water meters would be installed on all water services to the satisfaction of the City Engineer. Fire hydrants would be installed in accordance with applicable requirements. In addition, as required by the City of Colusa Cross Connection Control Program, the project applicant would maintain an approved backflow prevention assembly in compliance with the City of Colusa Public Improvements Standards and Construction Standards.

Water Use: The irrigation system would be served by the existing agricultural well on the site. A full water recycling system would be installed that would recapture and reuse water from the cultivation and nursery operations. **Table 2-3** shows estimated peak water use for cultivation (by phase) and nursery operations.

Table 2-3. Estimated Water Use during Startup and Peak Daily Operations

Facility/Phase	Number of Plants	Average Water Use per Plant (gpd)	Daily Water Requirement at Startup (gpd)	Daily Discharge Rate	Daily Water Discharge (gpd)	Rate of Reclaimed Water	Daily Water Reclaimed (gpd)	Water Required Daily at Peak (gpd)
Cultivation								
Phase One	18,333	1.58	28,967	0.20	5,793	0.85	4,924	24,042
Phase Two	11,000	1.58	17,380	0.20	3,476	0.85	2,955	14,425
Phase Three*	–	–	–	–	–	–	–	–
Phase Four	29,333	1.58	46,347	0.20	9,269	0.85	7,879	38,468
Phase Five	29,333	1.58	46,347	0.20	9,269	0.85	7,879	38,468
Total Cultivation	88,000	1.58	139,040	0.20	27,808	0.85	23,637	115,403
Nursery	– *	0.15	36,999	0.20	7,400	0.85	6,290	30,709
Total Water Use	88,000		176,039					146,112

Notes: gpd = gallons per day
** Phase Three cultivation and overall nursery operations do not involve additional plants.*

Source: Colusa Riverbend Estates 2019

For startup operations, approximately 139,040 gallons per day (gpd) of water would be required for the cultivation facility and 36,999 gpd for the nursery, for a total of 176,039 gpd. Approximately 20 percent of this water would be discharged from the cultivation and nursery facilities (27,808 gpd and 7,400 gpd, respectively). Once these facilities are in production, the recycled water system would reclaim approximately 85% of the discharge water, or 23,637 gpd and 6,290 gpd, respectively. Subtracting this recycled water from total water usage, during peak (summer) periods the operation would use approximately 115,403 gpd and 30,709 gpd, respectively, for a total of 146,112 gpd. In addition, domestic water use would be approximately 8,500 gallons per day at buildout, year-round.

Plants in the greenhouses would be watered through a closed-loop "fertigation" drip irrigation system that incorporates plant nutrients into the watering cycle. Recycled water would be pretreated with an ultraviolet (UV) disinfection process to prevent the spread of pathogens. Bicarbonate content would be controlled to maintain a stable pH, which allows plants to absorb the fertilizer efficiently.

Sewer System: The Proposed Project would include installation and maintenance of a pressure sewer system that would be connected to the City's existing sewer system. Small-diameter pipes and grinder pumps would be installed at each connection location. The grinder pump station would collect all the wastewater from the facility and grind it into slurry. The wastewater would then be pumped to a larger sewer main through the City's existing manhole on D Street.

Communications: Communication lines (i.e., for telephone, cable, and Internet) would be installed underground and would tie into existing fiber optic lines on East Clay Street.

Stormwater Drainage

The site plan includes approximately 36 acres of impervious surfaces. The remaining 39 acres would remain pervious, including graveled parking areas, landscaping, and the detention basin. The Proposed Project includes a 13-acre stormwater detention area, which would be served by a new pump station and a new 10-inch force main that connects to the City's existing 42-inch main line on Bridge Street. A swale would be constructed along the southern site boundary; in the event of overflow from the detention area, the swale would convey excess flows to connect to two existing 18-inch culverts crossing under East Clay Street. When not in use during the rainy season, the detention basin would act as wildlife habitat and open space.

CTC submitted to the City a project drainage description and a conceptual off-site drainage exhibit depicting alternative proposed locations of interim drainage channels and detention facilities to serve the Proposed Project site. A comprehensive storm drainage plan prepared by a registered civil engineer would be submitted to the City Engineer for approval, describing the ultimate buildout of the development and any interim drainage plan serving the entire project area or any portion of the project area associated with phasing of the development improvements. The drainage plan would identify specific storm drainage design features to control increased runoff from the project site. The drainage plan would demonstrate the effectiveness of the proposed storm drainage system to prevent adverse impacts on existing downstream facilities and prevent flooding at off-site downstream locations. The design features for the Proposed Project would be consistent with the most

recent version of the City's Storm Drainage Master Plan criteria and City Public Improvement Standards. The Storm Drainage Plan will be approved prior to submittal of the first final map.

Site Access and Circulation

The main entrance and exit for the CTC business park for all employees and deliveries would be on D Street, via a connection from East Main Street. The Proposed Project would improve the section of D Street that connects to East Main Street and leads to the site entrance. The Proposed Project would create a new private site entrance road that would connect to East D Street, running east, forming an extension of East Market Street to the west. This extension would be constructed with an initial 24-foot road section and maintained as an 80-foot right-of-way for possible future improvement. An easement for the future D Street south of the project entrance would be dedicated north-south between East Main Street and East Clay Street.

All roads within the CTC business park would be private roads and would be maintained by the property owners. The Proposed Project would provide an emergency access road for local public service providers that would extend through the site from the main site entrance off D Street and circulate around the site. Two emergency access points would connect to East Clay Street, on the southwest and southeast corners of the site. The emergency access road would be maintained by the property owners and would not be open to local traffic.

A gravel parking area would be located along the northern boundary of the property, adjacent to the existing levee. The parking area would be all-weather, graveled, and permeable. The parking area would be 420,578 ft^2, or sufficient space to provide approximately 1,900 standard parking spaces. The Proposed Project would provide sufficient parking to accommodate the buildout total of 310 employees plus visitors.

Other Site Elements

Other site elements of the Proposed Project that would support the operations of the CTC business park are described as follows:

Staffing: At building, the Proposed Project would have up to 310 employees. To provide adequate security and operational staff, the Proposed Project facilities would be staffed 7 days a week, 24 hours a day by shift employees. The CTC business park would operate on a three-shift schedule, with a higher concentration of employees between the hours of 7 a.m. and 6 p.m., during which time administration, research staff, and delivery workers would be on site, in addition to operations staff and security personnel. The shift schedule and number of employees would be as follows:

- Morning shift: 6 a.m.-2 p.m. with 210-240 employees.
- Afternoon shift: 2 p.m.-10 p.m. with 60-80 employees
- Night shift: 10 p.m.-7 a.m. with 20-40 employees.

Deliveries: Operation of the Proposed Project would require regular deliveries of cultivation, manufacturing, and maintenance equipment and materials (e.g., soil and soil amendments, equipment, fertilizers, chemicals, and), fuel, deliveries of office supplies and other equipment, and disposal of hazardous materials generated on-site. The facility would dispatch regular deliveries of products from the facility. Hazardous materials stored on-site (e.g., used oils and

fuels, pesticides, chemicals used for testing and research) would be transported approximately quarterly to an appropriate local hazardous waste facility for disposal or recycling.

Waste Storage: Waste generated as a result of cultivation activities (e.g., plant matter, soils, containers) would be processed and stored on site, in accordance with state law. The waste storage area would be located adjacent to the main delivery road to allow for loading for off-site transport. At a future date, the business park may include an area for recycling of hemp waste products; however, waste recycling is not included as part of this Proposed Project.

Hazardous Materials Storage: Hazardous materials, including fertilizers, pesticides, and fuels, would be stored in dedicated hazardous materials storage rooms within each greenhouse/processing building. Each hazardous materials storage room would measure 410 ft^2.

Loading Bays: The site plan designates four areas for loading and unloading of materials. The loading areas would be all-weather gravel, unpaved and permeable.

Emergency Backup Generators: Each cultivation greenhouse/processing building would be powered with electric power, via a connection to overhead power lines operated by PG&E. Each of these buildings would have an electrical room, measuring 150 ft^2, which would contain a transfer switch for a hookup to an emergency generator. Temporary generators would be stored in the warehouse.

Landscaping and Irrigation: The Proposed Project would include landscaping that requires minimal maintenance and an automatic irrigation system. Landscaping would meet the state's definition of water efficient landscaping, as defined in Title 23 (23 CCR Section 490 et seq.).

Ancillary Improvements

Fencing: The entire perimeter of the project area would be surrounded with security fencing, which may include one or more strands of barbed wire or steel spikes at the top. Secure, passcode-protected steel sliding gates would be installed at vehicle and pedestrian entrances to the site to prevent unauthorized entry into the facility. Examples of fencing and gate types are shown on sheet A-16 in Appendix A.

Security Lighting: Exterior lighting would be installed throughout the site for safety and security purposes. Lighting would be located around the site and along the site perimeter in accordance with state and local security protocols but would be directed downward to minimize off-site glare.

Security Cameras: 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.

2.7 Construction Activities

2.7.1 Construction Methods

Demolition of Existing Structures: Demolition activities would remove the abandoned fruit drier, pump shed, shower house, barn, and single-family residence located on the site. All demolished material and debris, including any hazardous waste, would be disposed of at an appropriate off-site location selected by the construction contractor.

Site Preparation and Earthwork: Site preparation would include clearing and grubbing; removal of 3-4 non-native trees in the area around the existing structures; grading, excavation, import, and placement of fill; and compaction. Clearing and grubbing, including removal of most trees on the site, would be conducted with standard excavators, scrapers, graders, bulldozers, and hand labor.

To the extent feasible, excavated soil may be reused on site. It is anticipated that up to approximately 30 trips would occur daily during construction of the parking areas and other gravel areas. The site would be designed to balance cut and fill, and the project would not import soil for fill. Material would be delivered for backfilling utility trenches as required, and gravel would be delivered to the site. The majority of the initial sitework for all phases would occur in Phase 1, including all mass grading and utilities along with the initial road improvements and paving. All the building pads and roads would be cut and compacted throughout the entire site during this phase, which would include the most extensive use of heavy equipment, including scrapers; graders; compactors; water trucks; excavators; and transfer trucks for sand, gravel, and asphalt.

Buildings, Structures, and Utilities: The 17 greenhouse structures would be premanufactured off site, delivered, and assembled on site. Construction of buildings and structures would include the following activities:

- delivery and assembly of premanufactured structures;
- installation of electrical/instrumentation equipment; and
- installation of mechanical equipment and piping.

Construction would consist of assembling the buildings on site over approximately 4-6 months during each phase. Construction equipment would include concrete trucks for pad construction, flat-bed trucks with a truss crane for delivery, and small trucks and forklifts for assembly and finishing. Drainage, water supply, and wastewater pipelines would be installed in open trenches, typically using conventional cut-and-cover construction techniques. Power lines would remain above ground.

2.7.2 Construction Equipment

Approximately 15 construction workers would commute to and from the project site each work day over the 150-day work period. The main pieces of equipment that may be used are:

- track-mounted excavator
- small crane
- end dump truck
- backhoe
- compactor
- front-end loader

- scrapers
- flat-bed delivery truck
- concrete truck
- grader
- bulldozer
- water truck
- forklift
- compressor/jack hammer
- mowing equipment (e.g., weed eater, commercial lawnmower)

Table 2-4 provides information about construction equipment to be used during each stage of construction; it is anticipated that the same types of equipment and a similar timeline would apply to construction activities for each phase of the project. All dirt excavated from the detention basin or graded from the site would be redistributed on site; there is no plan to off-haul dirt.

During the initial phase of construction (i.e., site clearing and grading), the areas where underground utilities are to be installed would be fenced as required by the City. During subsequent phases of construction, the active construction area would be fenced for safety and security purposes.

Table 2-4. Construction Equipment by Stage

Stage	Construction Equipment		Duration
Demolition	2 trucks (off-hauling), 8-12 round trips per day		2 weeks
Site Preparation	3 scrapers 2 graders 2 dozers	2 loaders 2 water trucks Several small work trucks	30 days
Road Construction and Graveling	2 graders 2 dozers	2 water trucks	2 months
	6-8 round trips per day (trucks transferring material to site)		30 days
Greenhouse Construction, Move and Set	flatbed trucks w/truss crane small trucks	forklifts	4-6 months
Paving	1 paver 2 rollers	1 oil truck	1 week
	6-8 round trips per day (trucks transferring material to site)		
Utilities	2 excavators 2 backhoes	1 water truck	30 days
	6-8 round trips per day (trucks transferring material to site)		

Source: Colusa Riverbend Estates 2018

2.7.3 Construction Schedule and Phasing

Construction of the Proposed Project is anticipated to take place in phases lasting approximately 10 months each over approximately 8 years, once all necessary approvals and

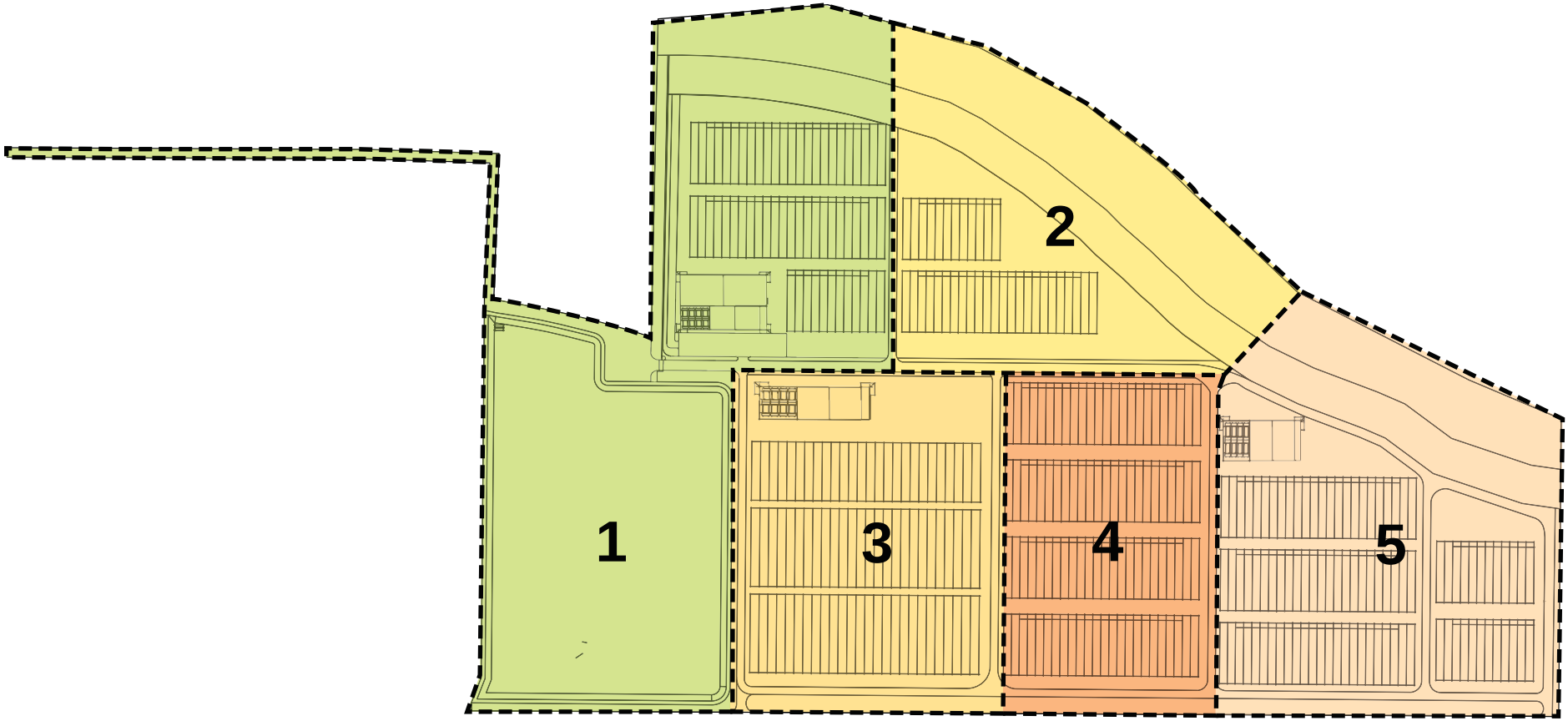
permits have been secured, estimated to begin in fall 2019. Construction phasing is described in **Table 2-5** and depicted in **Figure 2-4**.

Construction activities would occur Monday through Friday between 7:00 a.m. and 7:00 p.m. Work on Saturdays, Sundays, and state holidays may be permitted at the discretion of the City.

Table 2-5. Construction Schedule and Phasing

Phase	Project Elements	Anticipated Schedule
Phase 1	Development and construction of five 40,000 ft^2 cultivation and processing structures (187,000 ft^2)* Development and construction of one 45,500 ft^2 manufacturing, research and development, and administration structure Improvement of D Street (limited section) from Main Street to the commercial entrance and construction of private site entrance road. Water supply extension from Bridge Street to project entrance Construction of the required area of the detention basin and required drainage distribution system Initial sewer connection will be established for the entire project All required landscaping and security details as proposed	Fall 2019 to summer 2020
Phase 2	Development and construction of three cultivation and processing structures (120,000 ft^2) Utilities extended to provide service for the commercial use including further development of the detention area All required landscaping and security details as proposed	Fall 2020 to summer 2021
Phase 3	Development and construction of three nursery and supporting structures (328,878 ft^2) and equipment Development and construction of one distribution center and warehouse (40,000 ft^2) Utilities extended to provide service along with further development of the detention area for drainage All required landscaping and security details as proposed	Fall 2022 to summer 2023
Phase 4	Development and construction of eight cultivation and processing structures (300,000 ft^2) Utilities extended to provide service for the commercial use including further development of the detention area All required landscaping and security details as proposed	Fall 2024 to summer 2025
Phase 5	Development and construction of cultivation and processing structures (300,000 ft^2)	Fall 2026 to summer 2027

Phase	Project Elements	Anticipated Schedule
	Development and construction of distribution center and warehouse (19,250 ft^2) Utilities extended to provide service for the commercial use including further development of the detention area All required landscaping and security details as proposed	
*All references to "structures" in this table are 40,000-ft^2 pre-manufactured buildings carried to the site and assembled on concrete pads. *Source: Colusa Riverbend Estates LLC 2019*		



Source: CTC 2018

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Figure 2-4.
Project Phasing

Prepared by:
Horizon
WATER and ENVIRONMENT

Colusa Triple Crown Project

2.8 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" (Public Resources Code Section 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. Res. Code Section 21070). For the Proposed Project, the California Department of Fish and Wildlife, North Central Region, is considered a trustee agency. Responsible agencies for the Proposed Project are the California Department of Food and Agriculture (CDFA), CalCannabis; California Department of Consumer Affairs, Bureau of Cannabis Control; California Department of Transportation (Caltrans); Central Valley Regional Water Quality Control Board; Colusa County Air Pollution Control District; and Colusa County.

The Proposed Project would require permits and/or approvals from a number of state and local regulatory agencies. The permits and regulatory compliance requirements for the Proposed Project are described by permitting agency in **Table 2-6.**

Table 2-6. Applicable Permit and Regulatory Requirements

Regulatory Agency	Law/Regulation	Purpose	Permit/Authorization Type
California Department of Food and Agriculture, CalCannabis	Medical and Adult-Use Cannabis Regulation and Safety Act (MAUCRSA)	State licensing of commercial cannabis cultivation	Cannabis Cultivation License
California Department of Consumer Affairs, Bureau of Cannabis Control	MAUCRSA	State licensing of commercial cannabis distribution and transportation	Cannabis Distributor License
California Department of Public Health, Manufactured Cannabis Safety Branch	MAUCRSA	State licensing of commercial cannabis manufacturing	Cannabis Manufacturing License
Central Valley Regional Water Quality Control Board	Clean Water Act Section 402	National Pollutant Discharge Elimination System (NPDES) program regulates discharges of pollutants	NPDES General Permit Construction Permit
Central Valley Regional Water Quality Control Board	Nonpoint Source Pollution Control Program	Regulates discharge of pollutants into surface waters	Section 401 water quality certification
California Department of Fish and Wildlife – North Central Region	California Endangered Species Act (CESA) (Fish and Game Code Section 2081[b])	Regulates "take" of species listed under CESA as threatened or endangered	Incidental Take Permit, if necessary

Regulatory Agency	Law/Regulation	Purpose	Permit/Authorization Type
Colusa County Air Pollution Control District	Regulation 3, Permits; Rule 3.1, Permits Required	Stationary Source Permits for Emergency Generator, Refueling Station, Storage Tanks	Permit to Construct and Permit to Operate (for generators or pumps if larger than 50 horsepower)
California Department of Transportation	N/A	Potential encroachment into right-of-way	Encroachment Permit, if necessary
City of Colusa	General Plan, zoning ordinance, development requirements, Ordinance 519	Establish requirements related to building, landscaping, and other construction- and design-related activities; establish sewer connections and drainage plans; establish water supply	Regulatory Use permit; Special Use Permit; Building (includes grading), Electrical, Plumbing, and Mechanical Permits; Landscaping and Erosion Control Requirements; construction permits

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Chapter 3
ENVIRONMENTAL CHECKLIST

This chapter of the IS/MND assesses the environmental impacts of the Proposed Project based on the environmental checklist provided in Appendix G of the State CEQA Guidelines. The environmental resources and potential environmental impacts of the Proposed Project are described in the individual sections 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. For environmental impacts that have the potential to be significant, mitigation measures are identified that would reduce the severity of the impact to a less-than-significant level.

1.	**Project Title**	Colusa Triple Crown Cannabis Business Park Project
2.	**Lead Agency Name and Address**	City of Colusa 425 Webster Street Colusa, CA 95932
3.	**Contact Person, Phone Number and Email**	Bryan Stice, Planning Manager (530) 458-4740; planning@cityofcolusa.com
4.	**Project Location and APN**	84 acres in Colusa bounded by D Street, East Clay Street, and the Sacramento River levee; APNs 002-270-002 through 002-270-008
5.	**Property Owner(s)**	Colusa Riverbend Estates, LLC
6.	**General Plan Designation**	Low Density Residential District (LDR)
7.	**Zoning**	Planned Development District (P-D)
8.	**Description of Project**	The Proposed Project would involve construction of 1,490,000 ft^2 of developed facilities, including energy-efficient greenhouses for cultivation and processing of cannabis plants, processing and manufacturing spaces, warehouse, and office space, secured and visitor parking areas, enclosures and storage areas, utility improvements, and other ancillary improvements. Existing structures on the project site would be demolished.
9.	**Surrounding Land Uses and Setting**	Residential, agricultural, and commercial uses surround the project location on three sides, with the Sacramento River on the north. Residential uses are located at the

		southwest corner of the project site, and rural residential/agricultural uses are located along the south border of the site.
10.	**Other Public Agencies whose Approval or Input May Be Needed**	California Department of Food and Agriculture, CalCannabis California Department of Consumer Affairs, Bureau of Cannabis Control California Department of Public Health, Manufactured Cannabis Safety Branch Central Valley Regional Water Quality Control Board California Department of Fish and Wildlife – North Central Region Colusa County Air Pollution Control District California Department of Transportation
11.	**Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?**	Consultation letters sent to tribal contacts on January 22, 2019; consultation to follow if requested

Environmental Factors Potentially Affected

The following section provides: (1) a summary of the potentially significant environmental impacts of the Proposed Project, along with proposed mitigation measures; (2) a completed Environmental Checklist for the Proposed Project; and (3) a description of the affected environment and the potential environmental consequences of the Proposed Project. The description of the affected environment and potential environmental consequences covers 19 separate environmental issues that the lead agency (City of Colusa) anticipated could have potential effects on the environment. These include the following:

- ☒ Aesthetics
- ☒ Agricultural and Forestry Resources
- ☒ Air Quality
- ☒ Biological Resources
- ☒ Cultural Resources
- ☒ Geology/Soils
- ☒ Greenhouse Gas Emissions
- ☒ Hazards and Hazardous Materials
- ☒ Hydrology/Water Quality
- ☒ Land Use/Planning
- ☒ Mineral Resources
- ☒ Noise
- ☒ Population/Housing
- ☒ Public Services
- ☒ Recreation
- ☒ Transportation/Traffic
- ☒ Tribal Cultural Resources
- ☒ Utilities/Service Systems
- ☒ 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 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 — Date: 3/5/19

Bryan Stice
Community Development Manager

3.1 AESTHETICS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Regulatory Setting

Federal Laws, Regulations, and Policies

No federal regulations are applicable to aesthetics in relation to the Proposed Project.

State Laws, Regulations, and Policies

Medicinal and Adult Use Cannabis Regulation and Safety Act

MAUCRSA governs cannabis business operations at the state level. Under state law, CDFA is responsible for regulating and issuing licenses for commercial cannabis cultivation activities. BCC, a division of the California Department of Consumer Affairs (DCA), is responsible for regulating and issuing licenses to cannabis businesses that distribute, test, transport, or sell cannabis. MCSB, a division of the California Department of Public Health (CDPH), regulates and issues licenses to cannabis businesses that manufacture cannabis products.

CDFA's 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 (CCR Title 3, Division 8, Section 8304[c]), and that lighting for mixed-light operations must be shielded between sunset and sunrise to minimize nighttime glare (CCR Title 3, Division 8, Section 8304[g]).

Local Laws, Regulations, Plans, and Policies

City of Colusa Code of Ordinances

Colusa Zoning Ordinance Appendix A of the Code of Ordinances, Section 21.5, relating to cannabis business activities, contains provisions requiring lighting for security purposes. Section 21.5.06(q) of the zoning ordinance requires cannabis facilities to have specific security measures in place, including perimeter lighting systems for after-hours security, perimeter security and lighting as approved by the police chief and community development director, use of drive gates with card key access, locked entrances, and interior and exterior camera systems approved by the police chief.

City of Colusa General Plan

The Community Character and Design Element of the *City of Colusa General Plan* (2007) contains the following goal and policies applicable to the Proposed Project:

Goal CCD-9: To apply the use of signage and lighting in a manner that will enhance the aesthetic character of the community.

> **Policy CCD-9.5:** Lighting shall be designed to control glare and minimize light spillage onto adjacent properties and into the night sky.
>
> **Policy CCD-9.7:** Security lighting shall be effective while confining illumination to the property on which the fixtures are located.

The Land Use Element also includes the following goal and policies applicable to the Proposed Project:

Goal LU-4: To protect agricultural operations as new development occurs.

> **Policy LU-4.2:** The City shall require a 200-500 foot residential buffer, based on the type of agricultural use (e.g., field crops, orchards, grazing, etc.) and method of pesticide application (aerial, ground application), as appropriate.
>
> **Policy LU-4.3:** The City shall require a combination of a residential buffer, masonry fencing, tree plantings at the urban edge to mitigate agricultural impacts of noise, dust, trespass, and pesticide/herbicide overspray.

3.1.2 Environmental Setting

Scenic Highways and Corridors

There are no designated or eligible federal or state scenic highways in Colusa. The *City of Colusa General Plan* Community Character and Design Element considers the State Route 20 and 20/45 corridors to be scenic corridors (City of Colusa 2007).

Visual Character and Quality of the Site

The Proposed Project site is currently an agricultural row crop field that is immediately adjacent to residential development to the west and south. The Sacramento River runs along

the north boundary of the property. Direct views of the river from the project site are blocked by a levee, which is approximately 15 feet high and lined with mature trees. Several clusters of trees and shrubs are also located near existing structures on the site. These structures consist of an abandoned, derelict residential building and an open-sided, wood and metal warehouse structure.

The project site is visible from residences west of D Street and south of East Clay Street. The existing views when looking toward the project site are of an open agricultural field with several abandoned agricultural buildings, all in poor condition. To the west of the site, a rice mill is visible.

The nature of the project site's current visual character is agricultural, with limited rural residential development to the south and west of the Proposed Project site.

Viewer Sensitivity

Generally, residents have a heightened sensitivity to the surrounding visual character and quality because they have high frequency and duration of views and an expectation of a consistent setting. Employees and patrons of businesses generally have moderate sensitivity to their surroundings, with interest in both the built environment and natural landscapes. Motorists' viewing sensitivities can be highly variable, depending on the presence of scenic views, duration of time traveled, purpose and speed of travel, duration of the view, and other site-specific conditions. Recreationists generally have higher sensitivities to the surrounding viewsheds because of the nature of their use for purposes of recreation and pleasure, often with the intent of enjoying the local natural landscapes.

Proposed Project activities would occur in an area that is zoned for industrial development, inside enclosed buildings and greenhouses. Therefore, the primary viewer groups exposed to the site may include nearby residents, employees of nearby businesses, and patrons of these businesses, with few motorists and/or recreationists.

Viewer Groups

Viewer groups in the vicinity of the project site and their sensitivity to visual changes are described below. Viewer groups with visual access to the project site are divided into the categories of patrons of nearby businesses, motorists, recreationists, and residents.

Residents

The site is immediately visible from several residences south and west of the project site. In general, as a viewer group, residents have a heightened sensitivity to the surrounding viewshed because they have high frequency and duration of views, as well as an expectation of a consistent setting.

Employees and Patrons of Nearby Businesses

There are no businesses immediately adjacent to the project site. There is a restaurant located across the Sacramento River from the project site, but views of the project site would be blocked by the existing levee.

Motorists

Motorists traveling on East Clay Street, East Main Street, and D Street would have views of the site. Motorists' views would be temporary, and they would have limited expectations of the setting because these roads are primarily used for in-town traffic. Motorists in this area would likely be residents of the nearby housing developments or visitors of those residents. Roadways in this region are not considered to be scenic vistas or byways, and therefore motorists would not be traversing the surrounding roadways for the purpose of scenic viewing. In general, as a viewer group, motorists in this area would have reduced sensitivity to the surrounding viewshed. The project site would not be visible from the Highway 20 or 20/45 scenic corridor.

Recreationists

Currently, there are no trails or paths adjacent to the project site; however, recreationists use the levee maintenance road on the north side of the project site as a walking/biking path. The Sacramento River is directly the north of the project site. The river is used for boating and water recreation. However, views of the site from the river are blocked by the levee.

Light and Glare

Nighttime lighting is necessary to provide and maintain safe and secure environments. Light that falls beyond the intended area of illumination is referred to as "light trespass." The most common cause of light trespass is spillover light, which occurs when a lighting source illuminates surfaces beyond the intended area, such as when building security lighting or parking lot lights shine onto neighboring properties. Spillover light can adversely affect light-sensitive uses, such as residences, at nighttime. Both light intensity and type of fixture can affect the amount of light spillover. Fixtures that face downward and are shielded are typically less obtrusive than upward-facing and/or unshielded light fixtures.

Glare is caused by light reflections from pavement, vehicles, and building materials, such as reflective glass, polished surfaces, or metallic architectural features. During daylight hours, the amount of glare depends on the intensity and direction of sunlight.

No active lighting is present at the project site. Agricultural activities take place during daylight hours and do not require nighttime lighting. No structures or equipment at the site create reflection or glare.

3.1.3 Discussion of Checklist Responses

As discussed in Section 1.2.2, the analysis contained in this Chapter with respect to cannabis cultivation activities is tiered from the CDFA CalCannabis Licensing Program PEIR (CDFA 2017). The analysis also references information in the BCC IS/ND (BCC 2017).

a. Adverse effects on scenic vistas (No 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. No scenic vistas have been officially designated for the project site or vicinity in the *City of Colusa General Plan* (2007). Therefore, the Proposed Project would have ***no impact*** on scenic vistas.

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

The project site is not visible from any officially designated scenic highway and does not include any scenic resources within the area of a designated or eligible state scenic highway. The site does not contain extensive stands of trees, rock outcroppings, or any historic buildings. Therefore, the Proposed Project would have ***no impact*** on scenic resources.

c. Changes to existing visual character or quality (Less than Significant)

The nature of the project site's current visual character is agricultural, with limited rural residential development to the south and west. The Proposed Project would be consistent with the existing agricultural use of the area; however, there would be changes to the visual quality of the site due to the addition of greenhouses and other buildings on the site.

The Proposed Project would result in aboveground physical changes to the viewshed, including the construction of greenhouses and other buildings. A landscape buffer surrounding the site would partially obscure the views of these buildings. Although some physical changes to the project site would be visible to nearby residents and occasional motorists, the proposed changes would not substantially affect the quality of views for this viewer group.

Construction

Construction activities associated with the Proposed Project would cause temporary visual changes in the project site. A variety of construction equipment, as listed in Section 2.7.2, "Construction Equipment," would be present during construction. The presence of this equipment and associated construction activities would be somewhat out of character for the area. However, because the 17 greenhouse buildings would be prefabricated off site and assembled on site, their construction would consist only of building assembly, and the construction process would be relatively brief (i.e., approximately 4-6 months during each phase). Because the duration of construction would be temporary and the scale of changes in views would be limited to the several adjacent residences, this impact would be less than significant during construction.

Operations

Because cultivation operations would be located indoors, there would be little visibility into these activities from any viewer group. The CDFA PEIR (2017) found that the aesthetic impacts of indoor cultivation facilities would be minimal because indoor cultivation facilities would be permitted and constructed in accordance with applicable local zoning, design review, and building code requirements. Because the CDFA PEIR could not examine aesthetic impacts of every possible cultivation site, it determined that aesthetic impacts would need to be examined at a local or site-specific level as part of the local discretionary permitting processes for cannabis cultivation.

The BCC IS/ND (2017) also concluded that aesthetic impacts of cannabis business operations would be minimal because operations would take place primarily indoors. The BCC IS/ND determined that as with any local business, local agencies would have responsibility for

ensuring that site development complies with applicable regulations, including CEQA, through review and issuance of local authorizations, such as permits and licenses, to conduct site development (BCC 2017).

Under Colusa Zoning Ordinance Section 21.5.06(p), all commercial cannabis operations are required to take place indoors. Operations at the project site would take place primarily inside modular greenhouses, with 10 measuring 80,000 ft^2 and four measuring 40,000 ft^2. Operational activities that may be visible to the public could include routine maintenance of the property grounds, transportation of products in and out of the facility, activities surrounding security and monitoring of the facility, and inspection and monitoring of sites.

The Proposed Project would use mixed-light cultivation techniques within greenhouses, in which the photoperiod is manipulated using a variety of lighting and shading techniques to accomplish multiple harvests per year. Because both natural and artificial elements come into play for mixed-light cultivation, the facility would require an open and unobstructed area for natural lighting and greenhouse structure and would receive electric power from the existing municipal utility infrastructure. Mixed-light cultivation activities would include propagation activities, harvesting of plants, and routine maintenance for the site.

Nursery and processing activities would occur within the greenhouse structures proposed for the site. Nursery operations typically consist of preparation for cutting materials and growth media; taking cuttings, treating and planting cuttings, and growing cuttings; and preparing rooted cuttings for transport and distribution. Processing operations are identified as trimming, drying, curing, and packaging of cannabis. These activities are carried out by employees working in the greenhouses.

Distribution activities would take place inside enclosed storage buildings located at the project site. The distribution and storage building would be a 50,000-ft^2 windowless building with all security features required by state and local regulations. Generally, activities that occur indoors, including product storage, ventilation, and climate control of storage space, would not be visible to the public.

The project site is currently zoned for residential development but is proposed to be rezoned for industrial development; however, the Proposed Project would continue to be an agricultural operation. While the land uses included in the Proposed Project would entail changes to the scenic views and character of the site, the City would utilize the design review process as a means for complimentary integration of the proposed agricultural buildings into the existing rural neighborhood. Based on the similar nature of the Proposed Project to the surrounding area and the City's required design review process, impacts on visual character are considered less than significant.

Conclusion

The aesthetic impacts of construction would be temporary. Both the CDFA PEIR and the BCC IS/ND found that the visual impacts of cultivation and other cannabis business operations would be assessed on a local or site-specific basis, in accordance with local standards and regulations. Operational activities for the Proposed Project would take place almost exclusively indoors, with the exception of routine maintenance of the property grounds, transportation of products in and out of the facility, activities surrounding security and monitoring of the facility, and inspection and monitoring of sites. Visual impacts of

transportation activities would be limited by the single entrance to the site, outside the view of most adjacent viewers. A landscape buffer surrounding the site would further reduce these impacts. In addition, the City's design review process would address the consistency of the Proposed Project with the surrounding neighborhood. Therefore, this impact would be ***less than significant***.

d. New sources of light or glare (Less than Significant)

Construction activities would take place during daylight hours and would not require nighttime lighting. Therefore, no construction-related light or glare impacts would result.

Mixed-light cultivation of cannabis involves the cultivation of cannabis using both natural and artificial light and darkness for the purpose of controlling the life cycle of the plant. Techniques used to manipulate light, such as using tarps or other measures to exclude natural light or using low- or high-intensity artificial lighting systems, could be visible outside of greenhouses or other mixed-light facilities during the daytime or at night and could create a nuisance to adjacent and nearby properties, residences, and/or motorists traveling on affected roadways. The Proposed Project would use mixed-light cultivation in its greenhouses, and such lighting could create adverse impacts on sensitive receptors.

CDFA's cultivation regulations require that artificial lighting used for the manipulation of plant growth cycles be shielded to minimize the visual effects of the presence of lighting and nighttime glare. Because of this restriction, the CDFA PEIR (2017) found that visual impacts from cultivation activities would be less than significant.

The BCC IS/ND (2017) found that cannabis businesses would utilize nighttime lighting for security purposes that could create new sources of light and glare. However, the BCC found that the local jurisdiction's requirements related to zoning and land use compatibility would ensure that aesthetic impacts would be limited.

As Colusa's zoning ordinance requires for all cannabis businesses, the Proposed Project would include security lighting around the perimeter of the facility. Businesses must submit a security plan as part of the application process, and have the plan approved by the Colusa Chief of Police and the Community Development Director. Such lighting may create a nuisance to adjacent and nearby properties, residences, and/or motorists traveling on nearby roadways.

Lighting for the Proposed Project would be located around the site and along the site perimeter in accordance with state and local security protocols but would be directed downward to minimize off-site glare. CDFA's regulations include environmental protection measures requiring that all outdoor lighting be downward facing and shielded to minimize the visual effects of the presence of lighting. Colusa's General Plan policies require that security lighting must confine illumination to the property on which the fixtures are located. The Colusa General Plan further requires that all lighting shall be designed to control glare and minimize light spillage onto adjacent properties and into the night sky. With these requirements being met, light and glare impacts from the Proposed Project would be ***less than significant***.

3.2 AGRICULTURE AND FORESTRY RESOURCES

	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 (FMMP) of the California Resources Agency, to nonagricultural 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 in a manner that will significantly affect timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, or other public benefits?	☐	☐	☐	☒
e. Involve other changes in the existing environment that, because of their location or nature, could result in a conversion of Farmland to a nonagricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 Regulatory Setting

Federal Laws, Regulations, and Policies

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

State Laws, Regulations, and Policies

Farmland Mapping and Monitoring Program

The California Department of Conservation (CDOC) 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 (CDOC 2015).

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 (CDOC 2016):

- **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.

Forest Land, Timberland, and the Taxation Reform Act

Forest land is defined as native tree cover greater than 10 percent that allows for the management of timber, aesthetics, fish and wildlife, recreation, and other public benefits (Pub. Res. Code Section 12220[g]). A subset of forest land, timberland, is defined under the Forest Practice Act as all non-federal land that is available for, and capable of, growing a crop of trees of commercial species, as designated by the Board of Forestry (Pub. Res. Code Section 4526; 14 CCR Section 895.1). A "crop of trees" includes any number of trees that may be harvested commercially (14 CCR Section 895.1.).

The Forest Taxation Reform Act, enacted in 1976, provides guidelines that allow cities and counties with qualifying timberland to adopt timber protection zones (TPZs). Government Code Section 51104(g) defines TPZs as areas zoned in accordance with Sections 51112 and 51113 for the purposes of growing and harvesting timber, or for growing and harvesting timber and compatible uses. TPZs are privately owned land or land acquired for State forest purposes. When a TPZ is established, a private landowner agrees to commit the land to forest production for at least 10 years. In return, the approving jurisdiction grants the landowner a property tax reduction. The California Department of Forestry and Fire Protection (CAL FIRE) has regulatory authority over timber harvest and timberland conversion decisions in TPZs.

California Department of Forestry and Fire Protection

The California Forest Practice Act, adopted in 1973, requires owners of nonfederal timberland to apply for a Timberland Conversion Permit from the Director of the California Department of Forestry and Fire Protection (CAL FIRE n.d.) for the conversion of timberland to another use. CAL FIRE may grant exemptions for conversions of less than 3 acres. To qualify for an exemption from CAL FIRE, applicants must comply with applicable provisions of the Forest Practice Act and regulations, county general plans, zoning ordinances, and other implementing ordinances of the local jurisdiction. The Forest Practice Act and implementing regulations also govern the removal of "commercial" timber species from areas of pending new construction (CAL FIRE n.d.).

Local Laws, Regulations, and Policies

City of Colusa General Plan

The City of Colusa General Plan's Parks, Recreation and Resource Conservation chapter does not contain goals or policies for agricultural lands that are applicable to the Proposed Project; it addresses conservation of agricultural lands outside the City's urban growth boundary. However, Section 6.8.2, "Outlook – Agricultural Lands," contains the following statement (City of Colusa 2008, p. 6-29):

Implementation of the Land Use Element may result in substantial conversions of prime agricultural land to urban uses. However, the County General Plan Land Use designations anticipate such conversions.

Although Colusa has not designated any of its lands in the Planning Area for agricultural uses, the preservation of farmland is a critical component in maintaining Colusa's rural, small-town character.

3.2.2 Environmental Setting

The project site is located on land that is classified as Farmland of Local Importance according to the FMMP. Surrounding land, according to the FMMP, is classified as Urban/Built-Up Land directly to the east, Prime Farmland to the south, and Other Land to the north along the Sacramento River. Prime farmland lies north of the river. Land to the west of the project site is primarily Urban/Built-Up Land with the portion between E Main Street and the city limit adjacent with Jay Street classified as Prime Farmland. The area where the private accessway would be constructed is located on Urban/Built-Up Land (CDOC 2016).

There are no Williamson Act lands located within the project site. The site is considered Non-Enrolled Land while land to the east and west of the project site is considered Urban/Built-Up Land under the Williamson Act (CDOC 2013).

There are no forest lands or timber resource zones located on the project site (USDA n.d.)

3.2.3 Discussion of Checklist Responses

a. Convert farmland to non-agricultural use – No Impact

The Proposed Project would involve the production and distribution of cannabis, which is considered an agricultural product. Therefore, the project site would remain in agricultural use and the Proposed Project would not result in the loss of agricultural lands. Construction of greenhouses and other structures would be part of the agricultural activity at the site and are not considered conversion. As a result, this impact would be ***less than significant***.

b. Conflict with existing zoning for agriculture use or Williamson Act contract – Less than Significant

As discussed in more detail in Section 3.10, "Land Use and Planning," the project site is designated as Low Density Residential (LD) and Medium Density Residential (MD) (City of Colusa 2007) for land use and is zoned for Planned Development Overlay (PD) (Colusa County 2014). In addition, the surrounding land use classifications are for Medium Density Residential (MD) to the west, Public Facility (PF) and LD to the east and south, and Parks/Recreation/Open Space (P/OS) to the north. The Proposed Project would involve a general plan amendment from LD to Industrial District, and a rezone from PD to Light Industrial (M-1) District. Therefore, the Proposed Project would not conflict with existing zoning for agriculture use. As discussed above, no Williamson Act contracts are present near or on the project site. As a result, this impact would be ***less than significant***.

c. Conflict with existing zoning for forest land or timber land – No Impact

As indicated in item "a" above, no land at or near the project site is designated or zoned for forest land or timber land. As a result, there would be ***no impact***.

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

See discussion of forest land in item "b" above. The Proposed Project would have ***no impact*** on the potential to result in the loss of forest land or conversion of forest land to non-forest use.

e. Result in conflicts with or loss of agricultural or forest lands – No Impact

As stated in item "a" above, the project site would remain in agricultural use and the Proposed Project would not result in the loss of agricultural lands. No impact on forest lands would result. There would be ***no impact***.

3.3 AIR QUALITY

		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 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.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e.	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Regulatory Setting

Federal and State Laws, Regulations, and Policies

The Clean Air Act is implemented by the U.S. Environmental Protection Agency (USEPA) and sets ambient air limits, the National Ambient Air Quality Standards (NAAQS), for six criteria pollutants: particulate matter of aerodynamic radius of 10 micrometers or less (PM_{10}), particulate matter of aerodynamic radius of 2.5 micrometers or less ($PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), ground-level ozone, and lead. Of these criteria pollutants, particulate matter and ground-level ozone pose the greatest threats to human health. Ground level ozone is caused by emissions of ozone precursor, nitrous oxides (NO_X) and reactive organic gases (ROG).

The California Air Resources Board (CARB) sets the California Ambient Air Quality Standards (CAAQS), standards for criteria pollutants in California that are more stringent than the NAAQS and include the following additional contaminants: visibility-reducing particles, hydrogen sulfide, sulfates, and vinyl chloride. The Proposed Project is located within the

Sacramento Valley Air Basin (SVAB), which is comprised of nine air districts and includes Shasta, Tehama, Glenn, Butte, Colusa, Yuba, Sutter, Yolo, Sacramento, and portions of Placer and Solano Counties. Specifically, Colusa County is part of the Northern Sacramento Valley Air Basin (NSVAB), which includes Butte, Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba Counties. The NSVAB is also known as the Northern Sacramento Valley Planning Area (NSVPA). The Colusa County Air Pollution Control District (Colusa County APCD) manages air quality within the Colusa County portion of the SVAB for attainment and permitting purposes.

Table 3.3-1 shows the current attainment status in Colusa County for the state and federal ambient air quality standards. The area is designated as nonattainment for the state PM_{10} standard.

Table 3.3-1. Attainment Status of the State and Federal Ambient Air Quality Standards in the Colusa County Portion of the Sacramento Valley Air Basin

Contaminant	Averaging Time	Concentration	State Standards Attainment Status[1]	Federal Standards Attainment Status[2]
Ozone	1-hour	0.09 ppm	A	See footnote 3
	8-hour	0.070 ppm	A	
		0.075 ppm		U/A
Carbon Monoxide	1-hour	20 ppm	U	
		35 ppm		U/A
	8-hour	9.0 ppm	U	U/A
Nitrogen Dioxide	1-hour	0.180 ppm	A	
		0.100 ppm[5]		U/A
	Annual arithmetic mean	0.030 ppm	A	
		0.053 ppm		U/A
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm	A	
		0.075 ppm		U
	24-hour	0.04 ppm	A	
		0.14 ppm		U
	Annual arithmetic mean	0.030 ppm		U
Particulate Matter (PM_{10})	24-hour	50 µg/m^3		U
		150 µg/m^3	N	
	Annual arithmetic mean	20 µg/m^3		U
Fine Particulate Matter ($PM_{2.5}$)	24-hour	35 µg/m^3		U/A
	Annual arithmetic mean	12 µg/m^3	A	U/A
Sulfates	24-hour	25 µg/m^3	A	

Contaminant	Averaging Time	Concentration	State Standards Attainment Status[1]	Federal Standards Attainment Status[2]
Lead[6]	30-day average	1.5 µg/m^3	A	
	3-month rolling average	0.15 µg/m^3		U/A
Hydrogen Sulfide	1-hour	0.03 ppm	U	
Vinyl Chloride[6] (chloroethene)	24-hour	0.010 ppm	U	
Visibility Reducing Particles	8-hour (10:00 to 18:00 PST)	See footnote 4	U	

A – attainment
N – non-attainment
U – unclassified
ppm – parts per million
PST – Pacific Standard Time
µg/m^3 – micrograms per cubic meter
shading =threshold not applicable

Notes:

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM10, and visibility-reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour, or 24-hour average (i.e., all standards except for lead and the PM10 annual standard), then some measurements may be excluded. In particular, measurements are excluded that CARB determines would occur less than once per year on the average. The Lake Tahoe carbon monoxide standard is 6.0 ppm, one-half the national standard and two-thirds the state standard.
2. National standards shown are the "primary standards" designed to protect public health. National air quality standards are set by USEPA at levels determined to be protective of public health with an adequate margin of safety. National standards other than for ozone, particulates, and those based on annual averages are not to be exceeded more than once per year. The 1-hour ozone standard is attained if, during the most recent 3-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations is 0.075 ppm (75 parts per billion) or less. The 24-hour PM10 standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m3. The 24-hour PM2.5 standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m3. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM10 is met if the 3-year average falls below the standard at every site. The annual PM2.5 standard is met if the 3-year average of annual averages spatially averaged across officially designed clusters of sites falls below the standard.
3. The national 1-hour ozone standard was revoked by USEPA on June 15, 2005. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. However, the attainment status has not yet been updated based on this revised 8-hour standard. It is likely that the region will remain in nonattainment.
4. Statewide Visibility-Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.
5. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitoring station within an area must not exceed 0.100 ppm (effective January 22, 2010).
6. CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure below which there are no adverse health effects determined. Although the vinyl chloride California Ambient Air Quality Standards remains in force, current regulatory efforts are under ARB's Air Toxics Program.

Source: CARB 2018, USEPA 2018, CARB 2015.

USEPA and CARB regulate various stationary sources, area sources, and mobile sources. USEPA has regulations involving performance standards for specific sources that may release toxic air contaminants (TACs), known at the federal level as hazardous air pollutants (HAPs).

In addition, USEPA has regulations involving emission criteria for off-road sources such as emergency generators, construction equipment, and vehicles. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB also establishes passenger vehicle fuel specifications. Airborne Toxic Control Measures (ATCMs), including the following relevant measures, are implemented to address sources of TACs:

- ATCM for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater
- ATCM to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- ATCM to Reduce Particulate Emissions from Diesel-Fueled Engines – Standards for Non-vehicular Diesel Fuel
- ATCM for Stationary Compression Ignition Engines

CARB has several vehicle fleet regulations that cover fossil-fueled equipment operated at a facility. These regulations require owners of equipment and vehicle fleets to meet fleet-wide specified engine emission levels over time. Obligations include equipment registration, equipment labeling, and reporting requirements. These regulations include the following fleet rules:

- Rule for On-Road Heavy-Duty Diesel-Fueled Public and Utility Fleets,
- Portable Equipment Registration Program (PERP),
- Large Spark-Ignition Engine Fleet Requirements Regulation, and
- In-Use Off-Road Diesel-Fueled Fleets Regulation.

Local Laws, Regulations, and Policies

City of Colusa General Plan

The City of Colusa General Plan (2007) includes the following goals and policies related to air quality:

Goal PRC-5: To recognize improved air quality as a health benefit and to preserve air quality as a natural resource.

Policy PRC-5.1: The City shall require that site preparation and construction activities incorporate effective measures to minimize dust and pollutant emissions from motorized construction equipment and vehicles.

Implementing Action PRC-5.1.a: Development Review. Projects will be evaluated for their potential impacts to air quality as part of the development review process, applying the California Environmental Act (CEQA) Guidelines and in consultation with Colusa County Air Pollution Control District (APCD).

Implementing Action PRC-5.1.b: Best Management Practices. The City will require that developers use best management practices (BMPs) as recommended by

the U.S. Natural Resources Conservation Service (NRCS) and Colusa County APCD. Approaches to design, construction, and maintenance techniques should ensure that development would not cause or worsen air quality.

Policy PRC-5.3: The City shall ensure that residents' exposure to post-construction emissions is minimized.

Implementing Action PRC-5.3.a: Development Review. Through the development review process, projects will be required to demonstrate that existing and/or future sensitive receptors are protected from significant air emissions or odors through the use of adequate buffer zones, setbacks, or other site design techniques.

Colusa County Air Pollution Control District

The Colusa County APCD is responsible for "air monitoring, permitting, enforcement, long-range planning, regulatory development, education, and public information activities related to air quality" in the County (Colusa County 2018). Applicable Colusa County APCD rules for the Proposed Project include, but are not limited to, the following:

- Rule 2.10, *Nuisance*,
- Rule 3.1, *Permits Required,* and
- Rule 3.6, *Standards for Authority to Construct (New Source Review)* (USEPA 2018, CARB 2008).

Rule 2.10, *Nuisance*, states that air contaminants shall not be discharged in such quantities as to cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or endanger the public health and safety (CARB 2008). Under the authority of Rule 3.1, *Permits Required*, the Colusa County APCD issues "permit to operate" and "authority to construct" permits for machines or equipment that may emit criteria air pollutants during project operation. Rule 3.6, *Standards for Authority to Construct (New Source Review),* establishes preconstruction review requirements for new and modified stationary sources of air pollution using Best Available Control Technology (BACT) and quantifies emission limits from the stationary sources (described further below). The Colusa County APCD's regulations and rules have been approved by CARB and USEPA and represent Colusa County's portion of the California State Implementation Plan to achieve attainment for the ambient air quality standards.

Air Quality Plans

The City of Colusa and the Colusa County APCD participate in the Sacramento Valley Basinwide Air Pollution Control Council and Technical Advisory Committee, which seek to address and coordinate regional air quality planning efforts. In addition to these regional efforts, the Colusa County APCD participated in the preparation of the *Northern Sacramento Valley Planning Area 2015 Triennial Air Quality Attainment Plan* (2015 Plan), which was prepared to address ozone non-attainment in the NSVPA and update the previous 2012 plan. However, since Colusa County is now designated as being in attainment for the ozone CAAQS, the plan is not as relevant to Colusa County. Colusa County is in non-attainment for PM_{10} (as shown in Table 3.3-1) but a particulate matter–focused air quality attainment plan has not been prepared (Ryan 2018, pers. comm.)

Significance Thresholds and Methodology

The Colusa County APCD has not established guidelines for determining impact significance for construction-related air quality analyses. Thus, this analysis evaluates the Proposed Project's potential construction-related impacts on a semi-qualitative basis by considering the typical criteria air pollutant emission sources associated with the proposed construction activities and equipment, and comparing them to the existing air quality conditions and emissions in Colusa County. Specifically, this analysis compares potential emissions from the Proposed Project's construction activities to Colusa County's annual criteria pollutant emissions. As a threshold, this analysis defines a "substantial contribution" (or significant impact) as making existing pollutant concentrations measurably worse by contributing 5 percent or more of Colusa County's existing emissions for the pollutant of concern. In addition, this analysis considers the requirements of the City's Ordinance No. 519 establishing cannabis manufacturing regulations.

The BACT emission limits established by the Colusa County APCD's Rule 3.6 apply to stationary emission sources during project operation. Thus, this project's operation-related criteria pollutant analysis is two-fold: (1) it compares the total operational emissions to Colusa County's annual emissions (as is done for construction-related emissions); and (2) it compares the stationary emissions to the Rule 3.6 BACT emission limits shown in **Table 3.3-2**. To accomplish this, criteria air pollutant emissions from the Proposed Project's operational area—including mobile, energy, and stationary sources associated with cannabis cultivation, manufacturing, and research and development—were estimated.

The Proposed Project's potential to emit substantial pollutant concentrations of TACs and thereby expose sensitive receptors to those emissions was evaluated qualitatively by considering the equipment, vehicle, and chemical usage for the Proposed Project's construction and operations and the potential proximity of these operations to sensitive receptors.

Odors were evaluated on a qualitative basis by considering potential odor-generating sources under the Proposed Program, the proximity of cultivation operations to sensitive receptors, and the potential to create objectionable odors affecting a substantial number of people.

Table 3.3-2. Best Available Control Technology Emission Limits for New Stationary Sources in the Colusa County APCD's Jurisdiction

ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
25	25	500	80	80	None

Note: All measurements are in pounds per day.

Source: CARB 2008.

3.3.2 Environmental Setting

The project site is located in the City of Colusa in the SVAB. The site is located east of downtown adjacent to the Sacramento River, at an elevation of approximately 55 feet above mean sea level (msl) in the relatively level Sacramento Valley. The weather in Colusa near the project site consists of hot, dry summers and mild winters. Approximately 16 inches of

rainfall occur in the Colusa area annually, primarily between November and March (Western Regional Climate Center 2018).

Attainment and Emissions Inventory

The Colusa County portion of the SVAB, which includes the City of Colusa, is designated as a state non-attainment area for PM_{10}. Colusa County is in attainment or unclassified for all other federal and state criteria air pollutants, as shown in Table AQ-1. The primary sources of particulate matter in the county are dust from construction and grading activities, and smoke emitted by agricultural burning, fireplaces, and wood-burning stoves (City of County 2007).

Annual emissions of criteria air pollutants for the most recent years available are provided in **Table 3.3-3**.

Table 3.3-3. Estimated Annual Average Emissions in Colusa County

Year	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2012	2,332	4,073	7,435	128	4,679	1,069
2015	2,154	3,577	6,570	146	4,690	1,055
2020	2,000	3,044	5,720	157	4,745	1,055

Note: All measurements are in tons per day.

Source: CARB 2016.

Toxic Air Contaminants and Sensitive Receptors

As detailed in Section 3.8, "Hazards and Hazardous Materials," hazardous materials may be present at the existing site within the existing structures and/or in the soils due to past site uses (e.g., agricultural uses, septic systems). Naturally occurring asbestos (NOA) is typically associated with serpentine soils or ultramafic rocks, which occur in the foothill and mountainous regions of western Colusa County and have a low potential to occur in the valley areas (City of Colusa 2007). The nearest sensitive receptors to the project site are residences on Clay Street and Oak Street; the closest of these is approximately 50 feet to the south. The nearest medical facility is the Colusa Medical Center, located 990 feet to the southwest. First Presbyterian Church is 1,615 feet from the Main Street section of the Proposed Project. The nearest schools, James Burchfield Primary School and George T. Egling Middle School, are approximately 2,800 and 3,900 feet, respectively, from the existing site. No other sensitive receptors are located near the existing site.

3.3.3 Discussion of Checklist Responses

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

A project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds growth estimates included in the applicable air quality plan and which, in turn, would generate emissions not accounted for in the applicable air quality plan emissions budget. Therefore, projects need to be evaluated to determine whether they

would generate population and employment growth and, if so, whether that growth would exceed the growth rates included in the relevant air quality plans.

As discussed above, the Proposed Project is within the planning area of the NSVAB Attainment Plan, which was prepared to address ozone nonattainment; however, Colusa County is no longer in nonattainment for ozone. There are no air quality plans that address particulate matter in Colusa County.

The Proposed Project would be required to comply with the City's General Plan, the City Code, and other applicable regulations, including Colusa County APCD rules and measures. The City's General Plan focuses on protecting public health and environmental resources, including air quality. The Proposed Project would increase the total number of employees in the area by approximately 360 at buildout. According to the California Department of Finance (DOF), Colusa had a population of 6,241 and Colusa County had a total population of 22,098 in January 2018 (DOF 2018). Since the City's General Plan includes measures to address population and employment growth-related emission sources, the Proposed Project would be consistent with applicable planning documents.

The Proposed Project would follow all federal, state, and local regulations related to stationary and area sources of air pollutants, including obtaining appropriate permits from the Colusa County APCD. These permitting processes would ensure that stationary sources are designed and constructed using BACT for reducing emissions. Therefore, because the Proposed Project would be consistent with the applicable general plan policies and would comply with all applicable regulations for sources of air pollutants, the Proposed Project would have a **less-than-significant impact** and would not obstruct or conflict with applicable air quality plans.

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation – Less than Significant with Mitigation

During construction of the Proposed Project, the combustion of fossil fuels for operation of construction equipment, material hauling, and worker trips would result in construction-related criteria air pollutant emissions. Operational criteria air pollutant emissions would be generated by fossil-fueled equipment and motor vehicles and building energy use. The Proposed Project's emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2. The Proposed Project's construction-related and operational emissions are provided in **Table 3.3-4**. Emissions from stationary operational sources are provided in **Table 3.3-5**. Modeling assumptions and calculations are provided in **Appendix A**.

The Colusa County portion of the SVAB is designated as a state non-attainment area for PM_{10} and is in attainment or unclassified for all other federal and state criteria air pollutants. As described above, since the Colusa County APCD has not established construction-related quantitative thresholds of significance, the City, as lead agency, is applying a significance threshold for the project of a 5-percent or more contribution to Colusa County's criteria pollutant emissions. For a conservative comparison, all of the potential emissions from the Proposed Project's multiple construction phases were combined and then compared to Colusa County's emissions. Total operation-related emissions were also compared to Colusa

County's annual emissions. The Proposed Project's stationary operational emissions were compared to the Colusa County APCD's BACT thresholds because stationary sources (exclusively) would be subject to Rule 3.6 and its BACT limits. All other operation-related emission sources would be required to comply with CARB regulations. As shown in Tables AQ-4 and AQ-5, all emissions from the Proposed Project would be substantially less than the construction and operational significance thresholds.

In addition, the Proposed Project would comply with all applicable local, state, and federal regulations, including, but not limited to, minimizing vehicle idling, and obtaining permitting approvals from Colusa County APCD. To ensure that the Proposed Project minimizes its potential contribution to the existing PM_{10} nonattainment status and minimizes potential fugitive dust emissions, the Proposed Project would implement the BMPs described in **Mitigation Measure AQ-1**. For these reasons, this impact would be **less than significant with mitigation**.

Table 3.3-4. Proposed Project Emissions Compared to Colusa County Emissions

Emissions Type	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Countywide						
Colusa County Annual Emissions (Year 2020)	2,000	3,044	5,720	157	4,745	1,055
Proposed Project Construction						
Proposed Project Construction (Combined All Phases)	2.4	8.4	7.1	<1	1.5	0.92
Percent of County Emissions	0.12	0.28	0.12	<0.01	0.03	0.09
Exceeds Threshold?	N	N	N	N	N	N
Proposed Project Operations						
Proposed Project Operation (All Phases)	5.9	1.5	2.1	<0.01	0.86	0.27
Percent of County Emissions	0.30	0.05	0.04	0.006	0.02	0.03
Exceed Threshold?	N	N	N	N	N	N

Note: All measurements are in tons per year. N = no; Y = yes

Source: CalEEMod results provided in Appendix A.

Table 3.3-5. Proposed Project Operation-related Stationary Source Emissions Compared to BACT Emission Limits (Pounds/Day)

Emissions Type	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Proposed Project Operation (All Phases—Stationary Sources)	1.9	10	7.8	0.0094	0.86	0.86
BACT Threshold	25	25	500	80	80	None
Exceed Threshold?	N	N	N	N	N	N

Note: All measurements are in tons per year. N = no; Y = yes

Source: CalEEMod results provided in Appendix A; CARB 2008.

Mitigation Measure AQ-1. Implement Best Management Practices to Minimize Pollutant Emissions during Construction Activities

To minimize potentially significant adverse impacts on air quality from construction activities, the City shall incorporate the following air pollution control measures into the Proposed Project's specifications and require that the project applicant implement them during construction:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered at least two times per day. Where feasible, reclaimed water shall be used.

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

3. All clearing, grading, earth-moving, or excavation activities shall cease during periods of winds greater than 20 miles per hour averaged over one hour.

4. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

5. Vehicle speeds on all unpaved roads shall be limited to 15 mph.

6. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

7. The area disturbed by clearing, earth-moving, or excavation activities at any one time shall be minimized.

8. Idling times shall be minimized by either shutting equipment off when not in use or reducing the maximum idling time to 5 minutes. Clear signage to this effect shall be provided for construction workers at all access points.

9. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications.

10. A publicly visible sign shall be posted with the telephone number and person to contact at the City of Colusa regarding dust complaints. This person shall respond and take corrective action within 48 hours of receiving a complaint. The Colusa County APCD's phone number shall also be provided to ensure compliance with applicable regulations.

11. If used, petroleum-based dust palliatives shall meet the road oil requirements of the Colusa County APCD rule regarding Cutback Asphalt Paving Materials.

12. When available, diesel powered or electric equipment shall be used in lieu of gasoline-powered engines.

c. Cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area – Less than Significant with Mitigation

The project site is located in a region that is designated in nonattainment of state standards for PM_{10} and in attainment or unclassified for all other criteria pollutants. As described in items 3.3(a) and 3.3(b) above, with implementation of Mitigation Measure AQ-1, emissions related to construction and operation of the Proposed Project are not anticipated to violate any air quality standard or make a substantial contribution to the existing nonattainment status. Therefore, the Proposed Project would not have a cumulatively considerable contribution to PM_{10} ambient air quality levels. This impact would be **less than significant with mitigation**.

d. Expose sensitive receptors to substantial pollutant concentrations – Less than Significant with Mitigation

Construction

During project construction, diesel particulate matter (DPM) and gasoline fuel combustion emissions that are classified as TACs could be emitted by construction equipment. Due to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such equipment is typically operating within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations. Chronic and cancer-related health effects estimated over short periods are uncertain. Cancer potency factors are based on animal lifetime studies or worker studies with long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from exposure that would last only a small fraction of a lifetime. Some studies indicate that the dose rate may change the potency of a given dose of a carcinogenic chemical. In others words, a dose delivered over a short period may have a different potency than the same dose delivered over a lifetime (California Office of Environmental Health Hazard Assessment [OEHHA] 2018). Furthermore, construction impacts are most severe adjacent to the construction area and decrease rapidly with increasing distance. Concentrations of mobile-source DPM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (CARB 2005).

In addition to equipment-related emissions, the Proposed Project's demolition activities could potentially result in TAC emissions (such as lead paint or asbestos). However, as discussed in Section 3.8, "Hazards and Hazardous Materials," **Mitigation Measure HAZ-1 (Inspect Structures and Remove Any Lead-Based Paint and Asbestos-Containing Building Materials)** would be implemented to minimize the potential risks associated with these TACs. The potential for NOA to occur in the project site is low and would not be considered a potentially significant TAC for this project area.

Given the limited duration of construction, the fact that TAC concentrations would quickly be reduced with distance from the active construction site, the uncertainties in modeling such emissions over a short period, and the reduced risk of exposure to TACs with implementation of Mitigation Measure HAZ-1, the Proposed Project's effect on nearby sensitive receptors due to construction-related air pollutant emissions would be less than significant with mitigation.

Operation

Operation of the Proposed Project has the potential to expose workers or nearby sensitive receptors to pesticides and other agricultural chemicals, as well as emissions from stationary equipment. Cannabis cultivation operations were analyzed in the CalCannabis PEIR (2017), and the Proposed Project would operate consistently with assumptions in the PEIR; therefore, no new impacts would be associated with the Proposed Project's cannabis cultivation operations that were not previously addressed. In addition, all stationary operational emission sources would be required to comply with the Colusa County APCD's permitting requirements, the BACT emission levels of Rule 3.6, and other applicable state and local regulations. Therefore, the Proposed Project's operations would be less than significant.

Conclusion

Construction-related exposure to TACs would be limited, and the potential would be reduced to a less-than-significant level by implementation of Mitigation Measure HAZ-1. Operation of the Proposed Project would comply with all applicable local and state air quality regulations, including those of the Colusa County APCD. Overall, the impact of the Proposed Project related to exposing sensitive receptors to substantial pollutant concentrations or TACs would be **less than significant with mitigation**.

e. Create objectionable odors affecting a substantial number of people – Less than Significant

Diesel exhaust from construction activities may temporarily generate odors while construction of the Proposed Project is underway. Once construction activities have been completed, these odors would cease. Operational activities would also generate odors, mainly associated with cannabis growth and manufacturing activities. The Proposed Project would follow all odor control requirements of the City's Zoning Code, Article 21.5, Section 21.5.06(n), including use of air filtration systems. Operations were analyzed at a programmatic level in the CalCannabis PEIR (CDFA 2017), and the Proposed Project would be consistent with the assumptions and analysis of the PEIR. Impacts related to potential generation of objectionable odors are thus expected to be **less than significant**.

3.4 BIOLOGICAL RESOURCES

		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, or regulations, or by the DFG or USFWS?	☐	☐	☐	☒
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including marshes, vernal pools, and coastal wetlands) 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 (HCP); natural community conservation plan; or other approved local, regional, or state HCP?	☐	☐	☐	☒

3.4.1 Regulatory Setting

Federal Laws, Regulations, and Policies

Endangered Species Act

The Endangered Species Act (ESA) (16 U.S. Code [USC] § 1531 *et seq*.; 50 Code of Federal Regulations [CFR] 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 USC Section 1532). Section 7 of the ESA (16 USC Section 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 nonfederal 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 USC, 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 USC Section 668; 50 CFR 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 CFR Section 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 CFR 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.

State Laws, Regulations, and Policies

California Fish and Game Code

The California Fish and Game Code (F&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 (F&G Code Sections 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 (F&G Code Sections 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 F&G Code prohibits the take of any species that is state listed as endangered or 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.

F&G 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.

California Code of Regulations – Cannabis Cultivation

With regard to CDFA's CalCannabis program, the following 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 F&G Code or receive written verification from the CDFW that a streambed alteration agreement is not required.

Local Laws, Regulations, and Policies

City of Colusa Code of Ordinances

Colusa Code of Ordinances, Chapter 19 relates to trees and shrubs. Removal, trimming, or planting of trees within the public right-of-way requires approval by the Colusa Tree Commission.

3.4.2 Environmental Setting

The Proposed Project is located in the central Sacramento Valley, adjacent to the Sacramento River. Mature riparian habitat, consisting of cottonwoods (*Populus fremontii*) and valley oaks (*Quercus lobata*), is present along the Sacramento River. A levee separates the project site from the river and its associated riparian habitat.

The project site is dominated by an oat field. Several abandoned structures are located in the northern portion of the site, including an abandoned residence and a large drying shed. Scattered trees are present in the northern portion of the project site, including valley oak, coast live oak (*Q. agrifolia*), English walnut (*Juglans regia*), and tree of heaven (*Ailanthus altissima*). Horticultural shrubs and small trees are present around the abandoned residence. Two blue elderberry (*Sambucus nigra* ssp. *caerulea*) shrubs are present in the immediate vicinity – one within the Proposed Project footprint next to the abandoned residence and one just outside the northwestern property line. These shrubs are the host plant for the federally threatened valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*). Ruderal grassland habitat is present along the levee and along the road, and is dominated by wild oats (*Avena fatua*). Other species present in this habitat include ripgut brome (*Bromus diandrus*), johnson grass (*Sorghum halepense*), turkey mullein (*Croton setiger*), and puncture vine (*Tribulus terrestris*).

ECORP Consulting, Inc., conducted a wetland delineation in 2007 that included the project site as well as land farther south. No jurisdictional wetland features were identified within the project site in that study (ECORP 2007a).

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 CFR Part 17.12 for listed plants, 50 CFR Part 17.11 for listed animals);
- Species that are candidates for possible future listing as threatened or endangered under the ESA (76 Federal Register [FR] 66370);
- Species that are listed or proposed for listing by the State of California as threatened or endangered under CESA (14 CCR Section 670.5);
- Plants listed as rare under the California Native Plant Protection Act of 1977 (F&G Code Section 1900 et seq.); California Rare Plant Rank (CRPR) List 1 and 2 species;

- Species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines Section 15380); or
- Animals fully protected in California (F&G Code Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

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 proposed project (USFWS 2018);
- 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: Colusa, Moulton Weir, Sanborn Slough, Pennington, Meridian, Sutter Buttes, Arbuckle, Grimes, and Tisdale Weir; and
- California Native Plant Society's (CNPS's) *Inventory of Rare and Endangered Plants of California* (CNPS 2018) 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

Table 3.4-1 lists the special-status plant species known to occur in the vicinity of the project area. **Figure 3.4-1** shows the CNDDB occurrences of special-status plant species within a 5-mile radius of the project site. Species with no suitable habitat or that are not expected to occur are not discussed further. (**Figure 3.4-1** and **Figure 3.4-2** are inserted after **Table 3.4-1** and **Table 3.4-2**.)

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

Name	Listing status* (Federal/ State/CNPS)	Habitat and Flowering Period	Potential to Occur in the Project Area
Amsinckia lunaris bent-flowered fiddleneck	- / - / 1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. 3-795 meters. Blooms March through June.	**Not expected.** Marginally suitable habitat is present in the project area.
Astragalus tener var. *ferrisiae* Ferris' milk-vetch	- / - / 1B.1	Meadows and seeps, valley and foothill grassland. Subalkaline flats on overflow land in the Central Valley; usually seen in dry, adobe soil. 5-75 meters. Blooms April through May.	**None.** Suitable habitat is not present in the project area.
Atriplex cordulata var. *cordulata* heartscale	- / - / 1B.2	Chenopod scrub, valley and foothill grassland, meadows and seeps. Alkaline flats and scalds in the Central Valley, sandy soils. 3-275 meters. Blooms April through October.	**None.** Suitable habitat is not present in the project area.
Atriplex depressa brittlescale	- / - / 1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pools. Usually in alkali scalds or alkaline clay in meadows or annual grassland; rarely associated with riparian, marshes, or vernal pools. 1-325 meters. Blooms April through October.	**None.** Suitable habitat is not present in the project area.
Atriplex minuscula lesser saltscale	- / - / 1B.1	Chenopod scrub, playas, valley and foothill grassland. In alkali sink and grassland in sandy, alkaline soils. 0-225 meters. Blooms May through October.	**None.** Suitable habitat is not present in the project area.
Atriplex persistens vernal pool smallscale	- / - / 1B.2	Vernal pools. Alkaline vernal pools. 3-115 meters. Blooms June, August, September, October.	**None.** Suitable habitat is not present in the project area.
Atriplex subtilis subtle orache	- / - / 1B.2	Valley and foothill grassland. Alkaline soils. 20-100 meters. Blooms June, August, September (October).	**None.** Suitable habitat is not present in the project area.
Brasenia schreberi watershield	- / - / 2B.3	Freshwater marshes and swamps. Aquatic from water bodies both natural and artificial in California. 30-2,200 meters. Blooms June through September.	**None.** Suitable habitat is not present in the project area.
Castilleja rubicundula var. *rubicundula* pink creamsacs	- / - / 1B.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. Openings in chaparral or grasslands. On serpentine. 20-915 meters. Blooms April through June.	**None.** Suitable habitat is not present in the project area.

Name	Listing status* (Federal/ State/CNPS)	Habitat and Flowering Period	Potential to Occur in the Project Area
Centromadia parryi ssp. *parryi* pappose tarplant	- / - / 1B.2	Chaparral, coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. Vernally mesic, often alkaline sites. 2-420 meters. Blooms May through November.	**None.** Suitable habitat is not present in the project area.
Centromadia parryi ssp. *rudis* Parry's rough tarplant	- / - / 4.2	Valley and foothill grasslands, vernal pools. Alkaline, vernally mesic seeps; sometimes roadsides. 0-100 meters. Blooms May through October.	**None.** Suitable habitat is not present in the project area.
Chloropyron palmatum palmate-bracted salty bird's-beak	FE / SE / 1B.1	Chenopod scrub, valley and foothill grassland. Usually on Pescadero silty clay which is alkaline, with Distichlis, Frankenia, etc. 5-155 meters. Blooms May through October.	**None.** Suitable habitat is not present in the project area.
Cuscuta obtusiflora var. *glandulosa* Peruvian dodder	- / - / 2B.2	Marshes and swamps (freshwater). Freshwater marsh. 15-280 meters. Blooms July through October.	**None.** Suitable habitat is not present in the project area.
Extriplex joaquinana San Joaquin spearscale	- / - / 1B.2	Chenopod scrub, alkali meadow, playas, valley and foothill grassland. In seasonal alkali wetlands or alkali sink scrub with Distichlis spicata, Frankenia, etc. 0-800 meters. Blooms April through October.	**None.** Suitable habitat is not present in the project area.
Heteranthera dubia water star-grass	- / - / 2B.2	Marshes and swamps. Alkaline, still or slow-moving water. Requires a pH of 7 or higher, usually in slightly eutrophic waters. 15-1,510 meters. Blooms July through October.	**None.** Suitable habitat is not present in the project area.
Hibiscus lasiocarpos var. *occidentalis* woolly rose-mallow	- / - / 1B.2	Marshes and swamps (freshwater). Moist, freshwater-soaked river banks and low peat islands in sloughs; can also occur on riprap and levees. In California, known from the delta watershed. 0-155 meters. Blooms June through September.	**None.** Suitable habitat is not present in the project area.
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	- / - / 1B.1	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-1,375 meters. Blooms February through June.	**None.** Suitable habitat is not present in the project area.

Name	Listing status* (Federal/ State/CNPS)	Habitat and Flowering Period	Potential to Occur in the Project Area
Layia septentrionalis Colusa layia	- / - / 1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Scattered colonies in fields and grassy slopes in sandy or serpentine soil. 15-1,100 meters. Blooms April through May.	**None.** Suitable habitat is not present in the project area.
Navarretia leucocephala ssp. *bakeri* Baker's navarretia	- / - / 1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Vernal pools and swales; adobe or alkaline soils. 3-1,680 meters. Blooms April through July.	**None.** Suitable habitat is not present in the project area.
Puccinellia simplex California alkali grass	- / - / 1B.2	Meadows and seeps, chenopod scrub, valley and foothill grasslands, vernal pools. Alkaline, vernally mesic. Sinks, flats, and lake margins. 1-915 meters. Blooms March through May.	**None.** Suitable habitat is not present in the project area.
Trichocoronis wrightii var. *wrightii* Wright's trichocoronis	- / - / 2B.1	Marshes and swamps, riparian forest, meadows and seeps, vernal pools. Mud flats of vernal lakes, drying river beds, alkali meadows. 5-435 meters. Blooms May through September.	**None.** Suitable habitat is not present in the project area.
Wolffia brasiliensis Brazilian watermeal	- / - / 2B.3	Marshes and swamps. Shallow freshwater marshes. 20-100 meters. Blooms April, December.	**None.** Suitable habitat is not present in the project area.

* Abbreviations for federal and state species listing status:

FE = Federal endangered SE = State endangered
FT = Federal threatened ST = State threatened
SR = State rare

Table 3.4-2 lists the special-status wildlife species known to occur in or near the project area. **Figure 3.4-2** shows the CNDDB occurrences of special-status wildlife species within a 5-mile radius of the project site. Species that are possible or known to be present are discussed further below; species with no suitable habitat or that are not expected are not discussed further. **Figure 3.4-3** shows critical habitat within a 5-mile radius of the project site. No critical habitat is present within the footprint of the Proposed Project.

Table 3.4-2. Special-status 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
Invertebrates			
Branchinecta conservatio Conservancy fairy shrimp	FE / -	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.	**None.** Suitable habitat is not present in the project area.
Branchinecta lynchi vernal pool fairy shrimp	FT / -	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	**None.** Suitable habitat is not present in the project area.
Desmocerus californicus dimorphus valley elderberry longhorn beetle	FT / -	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus mexicana*). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.	**Possible.** Suitable habitat is present in the project area.
Lepidurus packardi vernal pool tadpole shrimp	FE / -	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	**None.** Suitable habitat is not present in the project area.
Amphibians and Reptiles			
Ambystoma californiense California tiger salamander	FT / ST	Central Valley distinct population segment (DPS) federally listed as threatened. Santa Barbara and Sonoma counties DPS federally listed as endangered. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	**None.** Suitable habitat is not present in the project area.
Emys marmorata western pond turtle	- / SSC	An aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometer from water for egg-laying.	**Not expected.** Inhabits Sacramento River adjacent to project area. May utilize levee slopes for nesting. No suitable habitat present in the project area. .

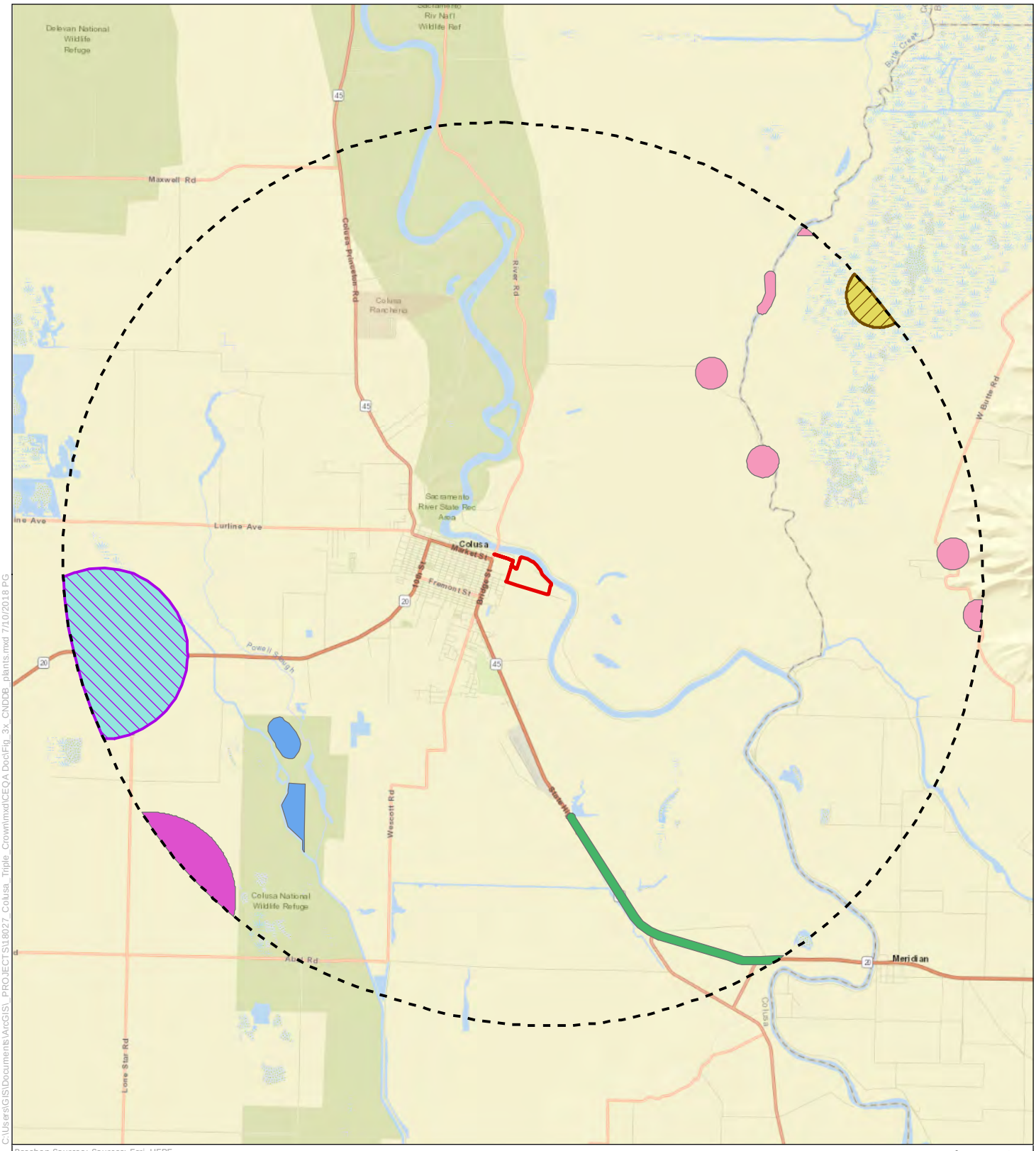
Scientific name	Listing status* (Federal/ State)	Habitat	Potential to Occur in the Project Area
Rana boylii foothill yellow-legged frog	- / Candidate ST, SSC	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	**None.** Suitable habitat is not present in the project area.
Rana draytonii California red-legged frog	FT / SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**None.** Suitable habitat is not present in the project area.
Thamnophis gigas giant gartersnake	FT / ST	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the gartersnakes in California.	**None.** Suitable habitat is not present in the project area.
Fish			
Hypomesus transpacificus Delta smelt	FT / SE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 parts per thousand (ppt). Most often at salinities < 2ppt.	**None.** Suitable habitat is not present in the project area.
Oncorhynchus mykiss irideus steelhead – Central Valley DPS	FT / -	Populations in the Sacramento and San Joaquin Rivers and their tributaries.	**None.** Suitable habitat is not present in the project area.
Spirinchus thaleichthys longfin smelt	Candidate / ST, SSC	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt, but can be found in completely fresh water to almost pure seawater.	**None.** Suitable habitat is not present in the project area.
Birds			
Agelaius tricolor tricolored blackbird	- / Candidate SE, SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	**Not expected.** Marginally suitable habitat is present in the project area.

Scientific name	Listing status* (Federal/ State)	Habitat	Potential to Occur in the Project Area
Buteo swainsoni Swainson's hawk	- / ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Possible.** Suitable habitat is present in the project area.
Circus cyaneus northern harrier	- / SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain *ciénagas* (swamps). Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	**Possible.** Marginally suitable habitat is present in the project area.
Coccyzus americanus occidentalis western yellow-billed cuckoo	FT / SE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	**Possible.** Suitable habitat is present in the project area.
Grus canadensis tabida greater sandhill crane	- / ST, SFP	Nests in wetland habitats in northeastern California; winters in the Central Valley. Prefers grain fields within 4 miles of a shallow body of water used as a communal roost site; irrigated pasture used as loafing sites.	**Not expected.** Marginally suitable habitat is present in the project area.
Haliaeetus leucocephalus bald eagle	DL / SE, SFP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	**Not expected.** Marginally suitable habitat is present in the project area.
Laterallus jamaicensis coturniculus California black rail	- / ST, SFP	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	**None.** Suitable habitat is not present in the project area.
Melospiza melodia song sparrow ("Modesto" population)	- / SSC	Emergent freshwater marshes and valley oak riparian forests.	**Possible.** Suitable habitat is present in the project area.

Scientific name	Listing status* (Federal/ State)	Habitat	Potential to Occur in the Project Area
Pandion haliaetus osprey	- / -	Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	**Possible.** Suitable habitat is present adjacent to the project area.
Plegadis chihi white-faced ibis	- / -	Shallow freshwater marsh. Dense tule thickets for nesting, interspersed with areas of shallow water for foraging.	**None.** Suitable habitat is not present in the project area.
Riparia riparia bank swallow	- / ST	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.	**Possible.** Foraging is possible over project site, but nesting is not expected in the project area.
Mammals			
Antrozous pallidus pallid bat	- / SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Possible.** Potentially suitable habitat is present in the project area.
Dipodomys californicus eximius Marysville California kangaroo rat	- / SSC	Known only from the Sutter Buttes area. Friable soil, grass-forb stages of chaparral.	**None.** The project area is outside the range of this species.
Lasiurus blossevillii western red bat	- / SSC	Roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Possible.** Foraging over site is possible, as is roosting on site in trees in the project area.

* Abbreviations for federal and state species listing status:

DL = Federal delisted
FE = Federal endangered
FT = Federal threatened
SE = State endangered
ST = State threatened
SSC = Species of special concern
SFP = State fully protected



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Basebap Sources: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P,

Project Area

5-mile Buffer

0 0.5 1

Miles

N

Special-status Species

- Coulter's goldfields
- Ferris' milk-vetch
- Peruvian dodder
- San Joaquin spearscale
- heartscale
- palmate-bracted salty bird's-beak
- watershield
- woolly rose-mallow

Source: CDFW CNDDB, July 2018 update.

Horizon WATER and ENVIRONMENT

Figure 3-x
CNDDB Plant Occurrences within 5-Miles of the Project Location

Colusa Triple Crown Project

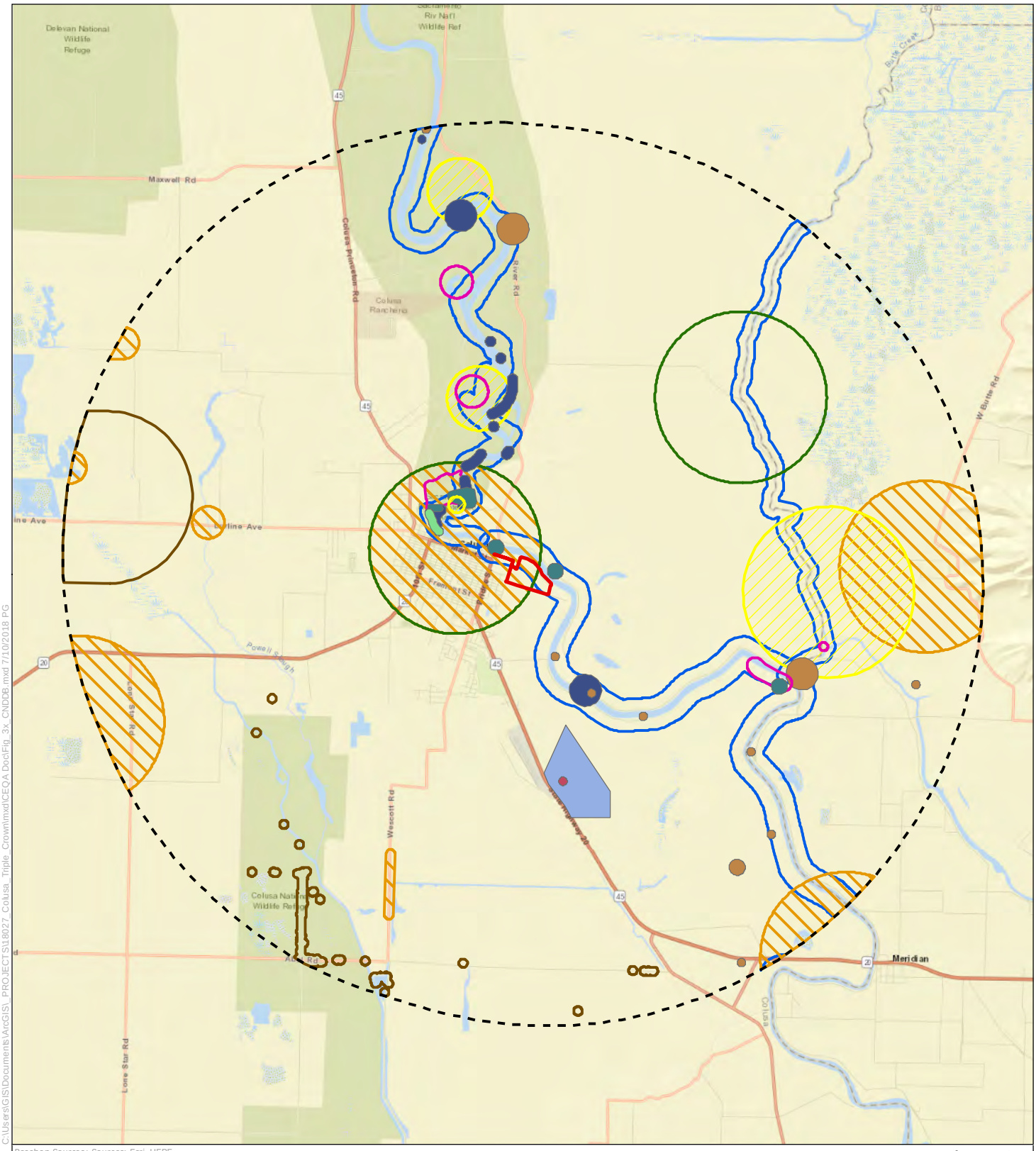
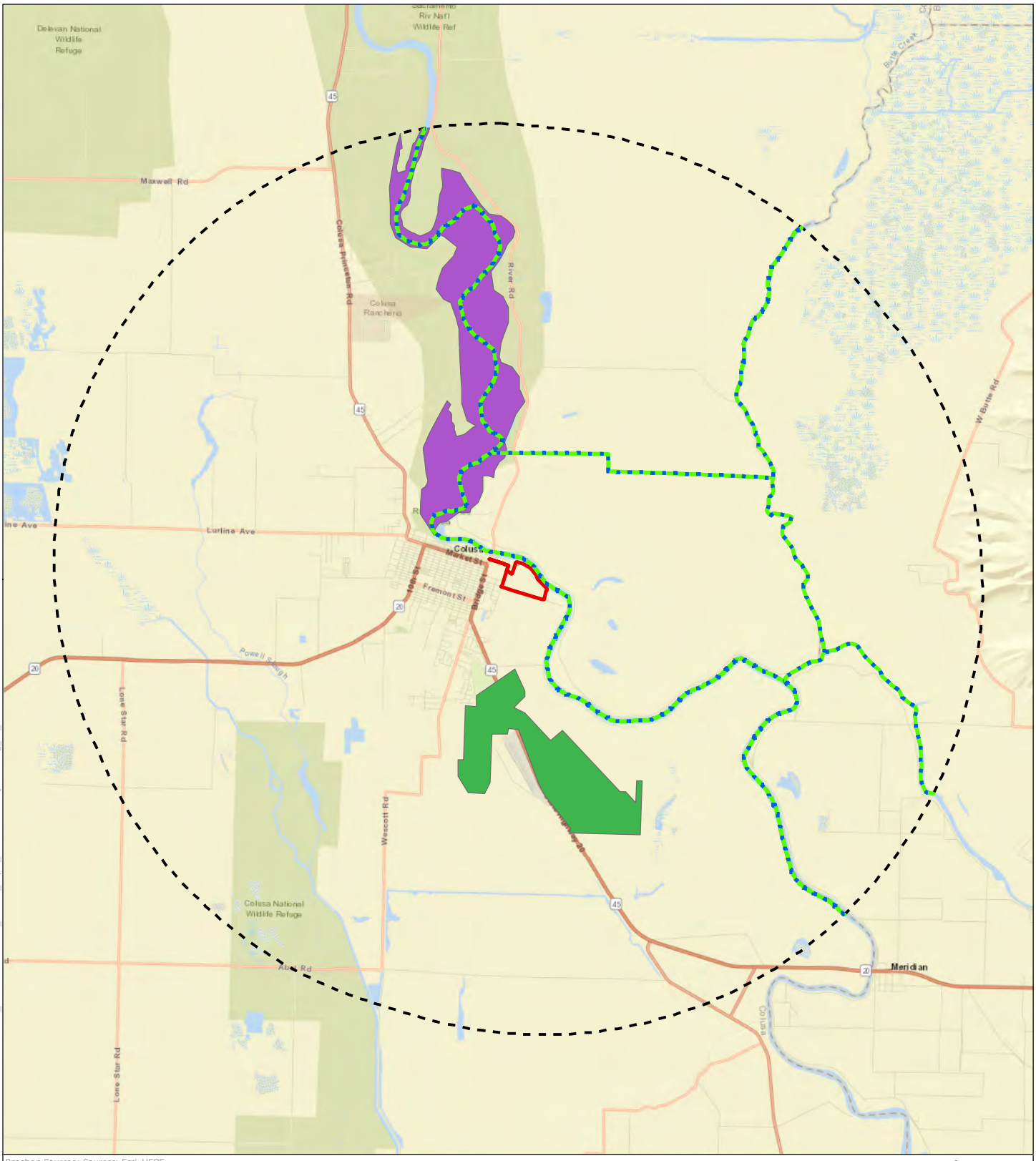


Figure 3-x
CNDDB Animal Occurrences within 5-Miles of the Project Location

Colusa Triple Crown Project



Basebap Sources: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P,

Critical Habitat

- Project Area
- 5-mile Buffer
- Chinook salmon
- Steelhead
- Vernal pool tadpole shrimp
- Yellow-billed Cuckoo

Source: USFWS 2018

0 0.5 1 Miles

N

Figure 3-x
Critical Habitat within 5-Miles of the Project Location

Horizon WATER and ENVIRONMENT

Colusa Triple Crown Project

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3.4.3 Discussion of Checklist Responses

a. Substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species – Less than Significant with Mitigation

A Horizon Water and Environment biologist conducted a reconnaissance-level survey of the project site on June 23,2018. The information obtained during that survey was combined with information from previous surveys (ECORP Consulting 2007a, 2007b) and information from database searches (Tables 3.4-1 and 3.4-2; Figures 3.4-1, 3.4-2, and 3.4-3).

Special-status Plant Species

ECORP Consulting completed a determinant-level special-status plant survey in 2007 that included the project area (ECORP 2007b). This survey did not identify any special-status plant species. As indicated in Table 3.4-1, no special-status plant species are anticipated to occur on the project site, and thus no impacts would occur.

Special-status Fish

The Sacramento River, adjacent to the project site, supports various special-status fish species, including Central Valley distinct population segment (DPS) steelhead (*Oncorhynchus mykiss irideus*) and longfin smelt (*Spirinchus thaleichthys*). The project area is separated from the Sacramento River by a levee, and therefore would not result in impacts on special-status fish.

Special-status Invertebrates

As described above, two blue elderberry shrubs are present in the immediate vicinity of the Proposed Project – one on the site, and one directly adjacent to the northwest boundary of the site. These shrubs are located approximately 1,800 feet apart. These shrubs are isolated from intact riparian habitat. These shrubs are the host plant for VELB, a federally listed threatened species. Exit holes were observed in the shrub just outside the northwestern project boundary, but were not observed on the shrub within the Proposed Project boundary. Complete avoidance of the elderberry outside of the Proposed Project boundary is anticipated. The elderberry within the Proposed Project boundary may potentially be impacted by the demolition of the abandoned house

The *Framework for Assessing Impacts to Valley Elderberry Longhorn Beetle* (USFWS 2017) recommends that any activities that may damage or kill an elderberry shrub (e.g., trenching or excavation) may require an avoidance area of 20 feet from the canopy dripline. Impacts on VELB and individual elderberry shrubs could result from direct damage to elderberry plants during construction or operation of the Proposed Project from causes such as trenching activities, generation of excessive dust, or altered soil and drainage conditions. Any impacts that result in direct mortality of VELB or substantial degradation of their habitat are considered a significant impact. **Mitigation Measure BIO-1 (Avoid Impacts on Valley Elderberry Longhorn Beetle Habitat)** would require the Project Applicant and its contractor(s) to avoid impacts on the host plant for this species to the extent feasible. If avoidance is not possible, **Mitigation Measure BIO-2 (Transplant Elderberry Shrubs if Avoidance Is Not Feasible)** would require transplantation of affected shrubs. With

implementation of these mitigation measures, impacts on VELB would be less than significant.

Special-status Birds

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), federally listed as threatened and state listed as endangered, and song sparrow ("Modesto" population) (*Melospiza melodia*), a species of special concern, are passerine birds that nest in riparian habitats. While no riparian habitat is present within the project footprint, riparian habitat is present between the Sacramento River and its levee. No direct removal of nests of these species is anticipated, but if these species were to occur near the project area, construction activities such as vehicle noise or ground vibration during the breeding season could result in adverse impacts on these species. Northern harrier (*Circus cyaneus*), a species of special concern, sometimes nests in grain fields. If this species were to nest at the project site, construction activities such as vegetation removal or vehicle noise could adversely affect this species and would be considered a significant impact. Implementation of **Mitigation Measure BIO-3 (Conduct Nesting Bird Surveys for Work between February 1 and August 31 and Implement Avoidance Measures)** would require that, if construction or ground-disturbing work would take place between February 1 and August 31, nesting bird surveys be conducted and avoidance measures, including buffer areas, be implemented to protect any nesting birds identified during the surveys. As a result, impacts on nesting birds would be less than significant with mitigation.

Bank swallow (*Riparia riparia*), a state listed threatened species, is known to occur in the vicinity of the project site. This species may potentially forage above the project site, but construction and operation of the Proposed Project is not anticipated to affect any suitable nesting habitat for this species, which nests in vertical banks and cliffs with fine-textured/sandy soils.

Swainson's hawk (*Buteo swainsoni*) is state listed as a threatened species. Riparian habitat along the margins of the Sacramento River and mature trees within the project area provide potentially suitable nesting habitat for Swainson's hawk. Construction in the vicinity of nest sites could disturb nesting through generation of noise, visual distraction, or direct impacts on occupied nests (e.g., tree removal). Impacts on Swainson's hawk nesting sites that result in nest abandonment, nest failure, or reduced health or vigor of nestlings would be a significant impact. Implementation of **Mitigation Measure BIO-4 (Conduct Nesting Raptor Surveys and Establish Buffers to Avoid or Minimize Impacts on Swainson's Hawk)** would require that surveys be conducted and measures be implemented to avoid impacts on this species to the extent feasible. Where disturbance is unavoidable, buffers would be established around active nests. As a result, impacts on nesting raptors would be less than significant with mitigation.

Special-status Bats

The abandoned structures located on the north side of the project site provide potentially suitable roosting habitat for pallid bat (*Antrozous pallidus*). This species primarily roosts in crevices, and commonly roosts in old buildings (Pierson and Rainey 1998). Western red bat (*Lasiurus blossevillii*) is known to occur along the Sacramento River near the project site (Figure 3.4-2). This species is strongly associated with riparian habitats, particularly mature stands of cottonwoods and sycamore (*Platanus racemosa*) (Pierson et al. 2006). Although riparian habitat would not be affected by the Proposed Project, this species has potential to

roost in trees on site. Implementation of **Mitigation Measure BIO-5 (Conduct Preconstruction Surveys and Implement Measures to Avoid or Minimize Impacts on Special-status Bats)** would require that surveys be conducted and measures be implemented to avoid impacts on special-status bats and maternity roosts to the extent feasible. As a result, impacts on special-status bats and maternity roosts would be less than significant with mitigation.

Conclusion

Based on previous studies, available resource agency information, and a field survey, impacts would be less than significant with regard to special-status plants and fish. The Proposed Project has the potential to result in significant impacts on several categories of special-status species: VELB, nesting birds and raptors (including Swainson's hawk), and special-status bats. As described above, mitigation measures are identified that would reduce these impacts. As a result, this impact would be ***less than significant with mitigation***.

Mitigation Measure BIO-1: Avoid Impacts on Valley Elderberry Longhorn Beetle Habitat.

The City shall require that the Project Applicant and/or its contractor(s) avoid elderberry shrubs whenever possible. To the extent feasible, the Project Applicant shall adhere to avoidance measures outlined in USFWS' *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (*Desmocerus californicus dimorphus*) (USFWS 2017). This shall include the following avoidance measures:

- The Project Applicant and/or its contractor(s) shall fence and flag all areas to be avoided during construction activities including all established elderberry shrubs within 165 feet of ground-disturbing construction that shall not be impacted by construction activities.
- Signs shall be erected every 50 feet along the edge of the avoidance area with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs must be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.
- No open-cut construction or other ground disturbance shall occur within 20 feet of the dripline of elderberry plants containing stems measuring 1.0 inch or greater in diameter at ground level.
- A qualified biologist shall provide training for all contractors, work crews, and any onsite personnel on the status of the VELB, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for noncompliance.
- As much as feasible, all activities that could occur within 165 feet of an elderberry shrub shall be conducted outside of the flight season of the VELB (March-July).

- If required, trimming of elderberry shrubs shall occur between November and February and shall avoid the removal of any branches or stems that are ≥ 1 inch in diameter.
- Herbicides shall not be used within the dripline of the shrub. Insecticides shall not be used within 98 feet of an elderberry shrub, unless insecticides are used within a closed greenhouse. All chemicals shall be applied using a backpack sprayer or similar direct application method, for application outside of greenhouses.
- Mechanical weed removal within the dripline of the shrub shall be limited to the season when VELB adults are not active (August-February) and shall avoid damaging the elderberry.

If elderberry shrubs cannot be avoided, the City shall require the Project Applicant and its contractor(s) to implement Mitigation Measure BIO-2.

Mitigation Measure BIO-2: Transplant Elderberry Shrubs if Avoidance Is Not Feasible.

If avoidance of elderberry shrubs as described in Mitigation Measure BIO-1 is not feasible, the City shall require the Project Applicant and its contractor(s) to implement the following measures. If an elderberry shrub cannot be avoided or if indirect effects shall result in the death of stems or the entire shrub, then the shrub shall be transplanted.

Elderberry shrubs shall be transplanted as close as possible to their original location. Elderberry shrubs may be relocated adjacent to the project footprint if: (1) the planting location is suitable for elderberry growth and reproduction; and (2) the Project Applicant is able to protect the shrub and ensure that the shrub becomes reestablished. Any elderberry shrub that is unlikely to survive transplanting because of poor condition or location, or a shrub that would be extremely difficult to move because of logistical constraints or access problems, may not be appropriate for transplanting. The transplanting guidelines below shall be followed:

- A qualified biologist shall be on-site for the duration of transplanting activities to assure compliance with avoidance and minimization measures and other conservation measures.
- Elderberry shrubs shall be transplanted when the shrubs are dormant (November through the first two weeks in February) and after they have lost their leaves.
- Transplanting shall follow the most current version of the ANSI A300 (Part 6) guidelines for transplanting (www.tcia.org).

Mitigation Measure BIO-3: Conduct Nesting Bird Surveys for Work between February 1 and August 31 and Implement Avoidance Measures.

If vegetation clearing or ground-disturbing activities commence between February 1 and August 31, the City shall require that a qualified biologist conduct a nesting bird

survey within 2 weeks prior to the start of work. If a lapse in project-related work of 2 weeks or longer occurs, another focused survey shall be conducted before project work can be reinitiated.

If nesting birds are found within a 500-foot radius of the project area, a non-disturbance buffer shall be established around the nest and maintained until the young have fledged. Appropriate buffer widths are 500 feet for non-listed raptors and special-status passerines and 100 feet for non-listed passerines. A qualified biologist may identify an alternative buffer based on a site-specific evaluation and in consultation with CDFW. Work shall not commence within the buffer until fledglings are fully mobile and no longer reliant upon the nest or parental care for survival.

Mitigation Measure BIO-4: Conduct Surveys and Establish Buffers to Avoid or Minimize Impacts on Swainson's Hawk.

If construction shall occur between February 15 and August 31, the City shall require that a qualified biologist conduct surveys for Swainson's Hawk. Surveys will cover a 1,000-footradius around the project construction area. If nesting Swainson's Hawks are detected, a 1,000-foot radius non-disturbance buffer shall be established around active nests to ensure that breeding is not likely to be disrupted or adversely affected by construction. A qualified biologist may identify an alternative buffer based on a site-specific evaluation and in consultation with CDFW. Factors to be considered when determining buffer size include the presence of natural buffers provided by vegetation or topography (such as levees), nest height, locations of foraging territory, and baseline levels of noise and human activity. Buffers shall be maintained until a qualified biologist has determined that the young have fledged and are no longer reliant on the nest or parental care for survival.

Mitigation Measure BIO-5: Conduct Preconstruction Surveys and Implement Measures to Avoid or Minimize Impacts on Special-status Bats.

The following measures shall be implemented to avoid and minimize impacts on bats:

- Prior to removal of structures and trees, the City shall require the Project Applicant to hire a qualified biologist familiar with bat biology and ecology to assess structures and trees to be removed for potential, active bat habitat. If the biologist determines that bats are not actively occupying the structures or trees based on professional opinion following appropriate survey protocols, then the structures may be removed.
- For structures or trees identified by the qualified biologist to be actively occupied by bats, removal of the structures or trees shall not occur between April 15 and August 31 to avoid the bat maternity season.
- Demolition of structures or trees shall be preceded by either humane eviction, phased dismantling, and/or deterrent methods, as supervised by a qualified biologist, to prevent direct mortality.

b. Substantial adverse effect on any riparian habitat or other sensitive natural community – No Impact

The Sacramento River is located north of the project site, and a levee is situated between the project site and the river. Mature riparian vegetation exists between the Sacramento River and its levee, but there is no riparian vegetation within the portion of the project site that would be developed. No other sensitive natural communities are present. The existing levee would act as a buffer between the project site and the riparian vegetation adjacent to the Sacramento River. As no sensitive natural communities or riparian habitat is present within the portion of the project site proposed for development, ***no impact*** would occur.

c. Substantial adverse effects on federally protected wetlands – No Impact

ECORP Consulting conducted a wetland delineation in 2007 that included the project area (ECORP 2007a). Potential waters of the U.S. (including wetlands) were identified within the delineation study area, but they are outside the boundaries of the Proposed Project. No waters of the U.S would be affected by the Proposed Project. An abandoned irrigation ditch that was considered an isolated water and non-jurisdictional by USACE (USACE 2008) was mapped in the vicinity of D Street. This ditch would be filled during construction of D Street. Although this ditch was not considered to be a water of the U.S., it may be considered a water of the State, and subject to permitting requirements (see Section 3.9, "Hydrology and Water Quality," for a discussion of this topic). The Proposed Project would not result in direct or indirect impacts on federally protected wetlands. There would be ***no impact***.

d. Substantial interference with wildlife movement, established wildlife corridors, or the use of native wildlife nursery sites – Less than Significant with Mitigation

The Proposed Project would be constructed primarily on previously disturbed lands that do not function as important wildlife movement corridors. Disruption of nesting or breeding of special-status species would be minimized by conducting appropriate preconstruction surveys (as described in Mitigation Measures BIO-1 through BIO-6). Therefore, impacts on wildlife movement and use of native wildlife nursery sites would be ***less than significant with mitigation***.

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

The Proposed Project would not conflict with any local policies or ordinances protecting biological resources. Chapter 19 of the Colusa Code of Ordinances requires approval of the tree commission for removal, trimming, or planting of trees within the public right-of-way (such as along a street). Project design drawings indicate that three or four non-native trees around the existing structures on the project site would be removed; however, these trees are not in the public right-of-way. If any trees within the public right-of-way are identified for removal, the Project Applicant would apply to the tree commission for approval to remove,

trim, or plant them. Therefore, the Proposed Project would have ***no impact*** with regard to policies or ordinances protecting biological resources.

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

The Proposed Project is not located within an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, the Proposed Project would have ***no impact*** upon these plans.

3.5 CULTURAL RESOURCES

		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 as defined in Section 15064.5?	☐	☐	☒	☐
b.	Cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5?	☐	☒	☐	☐
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☒	☐	☐
d.	Disturb any human remains, including those interred outside of formal 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 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 CFR 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 CFR 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. Res. Code Section 5024.1[e]);
- included in a local register of historic resources (Pub. Res. Code Section 5020.1[k]) or identified as significant in an historic resource survey meeting the requirements of Pub. Res. 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 Pub. Res. 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 Pub. Res. 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

Pub. Res. 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.

3.5.2 Environmental Setting

Environment

The Proposed Project is located in the central Sacramento Valley, adjacent to the Sacramento River. The area is characterized by mature riparian habitat, consisting of cottonwoods (*Populus fremontii*) and valley oaks (*Quercus lobata*) that often predominate the banks of the Sacramento River. The project area is currently an agricultural field cultivated with oats.

Prehistory

The prehistory of the project area remains poorly understood despite archaeological research that dates to the early half of the twentieth century. The earliest explorations focused on sites in the Sacramento–San Joaquin River Delta, and the archaeological sequences applied to the whole of the Sacramento Valley are derived from these and later studies throughout the region.

Today, archeologists use a number of the various sequences provided over the years, often in a combined form. After many debates and numerous revisions, the cultural sequence for the central California region generally stands as described below.

Paleo-Indian Period (11,550 to 8550 B.C.)

Archaeological associations with the earliest human occupation in the Central Valley are rare, although they are assumed to be present buried under many feet of sediment. This period represents highly mobile populations that frequented the shores of late Pleistocene lakes and sloughs. Artifacts are sparse and include basally thinned and fluted projectile points. While a few Paleo-Indian sites have been recorded in the southern San Joaquin Valley, evidence of this time period has been virtually absent from the Sacramento Valley (Rosenthal et al. 2007:151).

Lower Archaic Period (8550 to 550 B.C.)

Similar to the Paleo-Indian Period, Lower Archaic Period sites are largely restricted to the southern San Joaquin Valley. Wide-stemmed projectile points, chipped stone crescents, large bladelet flakes, and unifacial tools are the most prominent artifacts associated with the Lower Archaic Period on the valley floor, but handstones and millingstones have been found in

contemporaneous sites in the foothills. Thus, the populations at this point in time are inferred to have begun to rely more on seasonal plant exploitation to supplement the hunting of game (Rosenthal et al. 2007:151-152).

Middle Archaic/Windmiller Pattern (ca. 3000 B.C. to 500 B.C.)

The artifact assemblage characteristic of this cultural manifestation includes a variety of flaked stone, ground stone, baked clay, and shell items reflecting exploitation of diverse subsistence resources and acquisition of materials from distant geographic areas through trade. The burial pattern of Windmiller cemeteries and grave plots is unique in that virtually all of the interments are ventrally extended, with the head oriented to the west. The primary exception to this burial pattern is that aged females were buried in a flexed position. Social stratification can be inferred from the burial practices of Windmiller peoples. Males appear to generally have higher status than females, as evidenced by their deeper and artifactually richer graves. Social status may have been at least partially inherited, for some female, child, and infant burials contained elaborate grave associations, while others lacked such wealth (Moratto 1984:201-207).

Upper Archaic/Berkeley Pattern (ca. 500 B.C. to A.D. 500)

The Berkeley Pattern represents a gradual shift in adaptation and material culture that appears to have originated within the San Francisco Bay region. The subsistence practices of Berkeley peoples differ from those of the Windmiller population in that the utilization of acorns for food seems to have increased dramatically. The reliance on acorns is evidenced in the increase in mortars and pestles recovered from Berkeley Pattern sites. Other differences in material culture include the occurrence of an extensive bone tool kit, unique knapping techniques, and certain types of shell beads and pendants within Berkeley Pattern sites. Burial practices of Berkeley peoples also differed from those seen at Windmiller Pattern sites. No longer were interments oriented toward the west; instead, Berkeley Pattern burials are flexed with variable orientation (Moratto 1984:207-211).

Emergent Period/Augustine Pattern (ca. A.D. 500 to A.D. 1880)

The Augustine Pattern reflects local innovation in technology, as well as the incorporation of new developments with traits of the Berkeley Pattern. The artifact assemblages of Augustine Pattern sites indicate an increased reliance on acorns. Many burials continue to be flexed; however, cremation becomes the mortuary practice for high-status burials. Extensive trade networks developed to accommodate the resource and social needs of the burgeoning populations. This period also marks the establishment of the Patwin in the Central Valley (Moratto 1984:211-214).

Ethnography

The River Patwin occupied lands along the Sacramento River directly adjacent to and east of the Hill Patwin. Kroeber (1932:259) identified three tribelets, each of which spoke a different dialect. From north to south, these are the *Koru'* (or *Ko'roo*), *Sāka*, and *Yo'doi* groups. *Koru'* territory, which contains the Proposed Project study area, extended from just north of present-day Princeton on the Sacramento River, south to the mouth of Sycamore Slough. On the west side of the river, the *Koru'* occupied a swath of plains approximately 6 miles wide; to the east, they controlled a strip approximately 2 miles wide. Seven villages, all on natural rises along the west bank of the Sacramento River, were recorded (Kroeber 1932:59-260). Again from north to south, these are: *K'eti'*, *Ts'a', Wa'itere, Katsi'l*, *Tatno*, *Koru'*, and *Kukui*. The

county and city name "Colusa" is derived from *Koru'*, which is at the same location of the modern town. *Sāka* controlled a similar range of territory along the river below *Koru'* south to around the current Colusa/Yolo County line, and *Yo'doi* was south of that to an undetermined point below the town of Knights Landing (Kroeber 1932: 260-262). Other Patwin populations are known to have inhabited the southern Sacramento Valley west of the Sacramento River to Suisun Bay and west into lower Napa Valley. However, these communities were quickly decimated by Spanish missionization in the early 1800s, and little is known about them beyond what can be gleaned from mission records (Johnson 1978:351).

Today's descendants of the ethnographic-era Patwin continue to live and thrive in the vicinity of the Proposed Project, as evidenced aby the presence of the federally recognized Cachil Dehe Band of Wintun in Colusa. The tribe has developed a successful gaming venue that has allowed its members to experience economic stability and has provided them the opportunity to invest heavily in local agricultural pursuits. It has also allowed the tribe to support its members and the surrounding community by providing a preschool and learning center, along with medical facilities that include an expansive health clinic and a fitness/wellness center. Furthermore, the tribe spends considerable time and energy in maintaining its cultural heritage by sponsoring and supporting language and arts programs (Colusa Indian Community 2018).

History

The historic era in the project area began when two Spanish exploration groups travelled up the Sacramento Valley in the early 1800s. These were the 1808 Moraga expedition and the 1821 Arguello expedition. The latter expedition was documented in the diaries of the Reverend Father Fray Blas de Ordaz. The diaries described encounters with Native American villages, and Arguello likely passed through or very near the present-day town of Colusa (URS 2013).

The Spanish explorations were closely followed by those of fur trappers and traders in the late 1820s and early 1830s. The dire outcome of these expeditions led not only to a quick depletion of valued fur animals in the Sacramento Valley, but also the introduction of malaria to the indigenous population. By the summer of 1833, entire Patwin villages had been decimated by the disease (URS 2013).

With the advent of the Mexican period in California, the government began issuing land grants in the mid-1840s. The arrival of colonists over the next decade exacerbated conditions for the Patwin who survived the malaria epidemic. The surviving river tribes suffered further deprivations in the 1840s, at the hands of American colonists who raided their increasingly scarce and temporary camps, murdering villagers and taking slaves (URS 2013).

The project area was once part of Rancho Colus. The grant was issued to John Bidwell in 1845, but it remained unoccupied until Dr. Robert Semple purchased the land from Bidwell in 1849. Dr. Semple and his brother, Charles, laid out the town of Colusa in 1850 and established a boat dock on the Sacramento River to promote trade and travel along the river. The town grew rapidly, eventually becoming the county seat in 1854 (Kyle et al. 2002).

Cultural Resources Studies

Cultural resources include prehistoric archaeological sites; historic-era archaeological sites; tribal cultural resources (TCRs); and historic buildings, structures, landscapes, districts, and linear features. TCRs are addressed in Section 3.17 of this IS/MND.

Archival Search

A record search was conducted by the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University. The purpose of the record search was to identify the presence of any previously recorded cultural resources within the project site, as well as within a ¼-mile buffer, and to determine whether any portions of the project site had been surveyed for cultural resources. The record search (NWIC File No.:17-3070) indicated that much of the project area had been previously surveyed for cultural resources during three previous projects, and five cultural resources had been recorded within the area representing the current project site. Four of the five records are buildings or barns and ancillary structures; the remaining record is an isolated object. The record search also determined that eight cultural resource projects had either been conducted completely within the project area or included portions of it. The results of the record search are summarized in **Table 3.5-1**.

Table 3.5-1. NWIC Records Search Results

NWIC No.	Author/Date	Title	Within Project Site or Buffer
Studies			
S-002945	Jerald Jay Johnson and Patti Johnson 1974	Cultural Resources Along the Sacramento River from Keswick Dam to Sacramento	Project Site
S-005062	Jerry J. Johnson 1974	Reconnaissance Archeological Survey of 151 Locations on the Sacramento River Drainage from Elder Creek in the North to Rio Vista in the South	Project Site
S-013593	Leslie C. Glover 1992	Geotechnical Explorations Systems Phase V, Glenn, Colusa, Sutter, and Yolo Counties	Project Site
S-020058	Melinda Peak 1997	Cultural Resources Assessment Within Reclamation Districts 108, 787 and Maintenance Area 12, Yolo and Colusa Counties, California (SAC 1)	Project Site
S-026001	Roger Klemm, John Morton, John Brennan, Donna Krause, Randy Salveson, and Linda Womble 2002	City of Colusa, Historic Resources Inventory	Project Site
S-034427	ECORP 2008	Cultural Resources Survey Report, Riverbend Estates, City of Colusa, Colusa County, California, Project 2006-185	Project Site

NWIC No.	Author/Date	Title	Within Project Site or Buffer
S-037248	Ben Elliott 2010	Final Cultural Resources Technical Report, Levee Geotechnical Evaluation Program, Sacramento River: Right Bank Levee, Colusa and Sutter Counties, California	Project Site
S-049221	Robin Hoffman and Paul Zimmer 2015	Rodent Abatement and Damage Repair Activities Project: Archaeological Sensitivity Assessment	Project Site
S-002922	Ann S. Peak & Associates 1978	Preliminary Case Report of the Colusa Bridge	Buffer
S-010741	Paul D. Bouey 1989	Cultural Resources Inventory and Evaluation: Sacramento River Bank Protection (Unit 44) Project	Buffer
S-022686	Nancy Garr 2000	Cultural Resource Report for the Colusa County Behavioral Health Facility, Colusa County, California	Buffer
S-024035	Amy Huberland and Lisa Westwood 2001	Cultural Resources Monitoring Report for the Level (3) Fiber Optic Project, Yolo, Colusa, Glenn, Tehama, and Shasta Counties, California	Buffer
S-035042	Laura Leach-Palm, Pat Mikkelsen, Paul Brandy, Jay King, Lindsay Hartman, and Bryan Larson 2008	Cultural Resources Inventory of Caltrans District 3 Rural Conventional Highways in Butte, Colusa, El Dorado, Glenn, Nevada, Placer, Sacramento, Sierra, Sutter, Yolo, and Yuba Counties	Buffer
S-037877	Mary Bailey 2010	Cultural Resources Survey for the Colusa Boat Launch Ramp, Colusa, Colusa County, California	Buffer
S-048572	Wendy Pierce 2016	Cultural Resources Inventory Report, Small Erosion Repair Project (SERP): East Levee Sacramento River at River Mile 4.6 (SERP_2016_ST03_SAC1_T2_LM4.6) Colusa County, California	Buffer
S-048572	Nancy A. Haley and Julianne Polanco 2016	Sec 106 Consultation for the Small Erosion Repair Project (SERP): East Levee Sacramento River at River Mile 4.6, City of Colusa, Colusa County, California (SPK-2016-00495)	Buffer
Resources			
P-06-000589 (CA-COL-278H)	2007 (M. Guerrero, K. Johnson, ECORP Consulting, Inc.)	Resource Name – EC-07-22, Historic-era Refuse Scatter	Project Site

NWIC No.	Author/Date	Title	Within Project Site or Buffer
P-06-000590	2007 (M. Guerrero and K. Johnson, ECORP Consulting)	Resource Name – EC-07-23, Structures, Former Fruit Dryer Complex	Project Site
P-06-000591	2007 (M. Guerrero & K. Johnson, ECORP Consulting, Inc.)	Resource Name – EC-07-024, Structures, Farm Complex	Project Site
P-06-000592	2007 (M. Guerrero & K. Johnson, ECORP Consulting)	Resource Name – EC-07-25, Elements of an Irrigation System	Project Site
P-06-000594	2007 (M. Guerrero & K. Johnson, ECORP Consulting)	Resource Name – ISO 1, Isolated wine bottle base	Project Site
P-06-000286	1980 (Dan Peterson, AIA & Associates); 2002 (Donna Krase, Roger Klemm, Colusa Heritage Preservation Comm.)	Resource Name – 0115 Bridge St; OHP PRN – 5932-0081-0000; Other – Site of former Alva A. King House; OHP Property Number – 049768; OTIS Resource Number – 452089	Buffer
P-06-000412	1980 (Dan Peterson, AIA & Associates); 2002 (Donna Krause, Roger Klemm, Colusa Heritage Comm.)	Resource Name – Colusa Rice Mill; OHP PRN – 5932-0149-0000; Other – Site of former Colusa Rice Mill; OHP Property Number – 49836	Buffer
P-06-000417	1980 (Dan Peterson, AIA & Associates; Colusa Heritage Pres. Comm.); 2002 (Donna Krause; Roger Klemm, Colusa Heritage Pres. Comm.)	Resource Name – 255 Market St; OHP PRN – 5932-0154-0000; Other – Site of former Texaco Gas Station; Other – Sankey Auto; OHP Property Number – 049841; Other – Texaco Gas Station	Buffer
P-06-000756	2016 (Michael Darcangelo, FWARG)	Resource Name – Pacific Gas & Electric Co's Gas Plant	Buffer

Native American Consultation

An email request was made to the Native American Heritage Commission (NAHC) on June 21, 2018, to review its files for the presence of recorded sacred sites on the project site. The NAHC responded on July 26, 2018, stating that no significant resources were identified in the Project area as a result of a search of their files. The NAHC also provided a list of six tribes and tribal contacts with a traditional and cultural affiliation with the project area for notification pursuant to Pub. Res. Code Section 21080.3.1 (AB 52). Coordination with tribes is described in Section 3.17, "Tribal Cultural Resources." Tribal contacts were notified of the project through letters mailed by the City on January 22, 2019. At the time of publication of this IS/MND, none of the tribes that were contacted had responded.

Archaeological Survey and Results

No archaeological survey was conducted for the purposes of the Proposed Project due to the existence of recent surveys of the entire Project area. An archaeological survey of the property in 2008 (ECORP Consulting, Inc. 2008) resulted in the recordation of five cultural resources: P-06-000589, P-06-000590, P-06-000591, P-06-000592, and P-06-000594. Horizon archaeologists returned to the property in October 2018 to assess the status of the recorded resources. Four of the sites (P-06-000589, P-06-000590, P-06-000591, and P-06-000592) were relocated and site record updates were prepared. Site P-06-000594, an isolated bottle base, could not be relocated. See Appendix D for more information.

ECORP (2006) described a single prehistoric site, CA-COL-221, located outside the current project area and buffer. The presence of this site, indicates that the area has the potential to yield additional archaeological resources.

Built Environment Resources

As listed in Table 3.5-1, three built environment resources have been previously recorded within the project area. These consist of a fruit drier and ancillary features (P-06-000590) and a farm complex that includes a house and related structures (P-6-000591), which are both located along the northern boundary of the project area. In addition, features associated with an irrigation system, P-6-00592, were also recorded. The properties were not formally evaluated for the CRHR at the time of recordation.

Paleontological Resources

Paleontological resources include fossil remains, as well as fossil localities and rock or soil formations that have produced fossil material. Fossils are the remains or traces of prehistoric animals and plants. Fossils are important scientific and educational resources because of their use in (1) documenting the presence and evolutionary history of particular groups of now-extinct organisms; (2) reconstructing the environments in which these organisms lived; and (3) determining the relative ages of the strata in which they occur, as well as the relative ages of the geologic events that resulted in the deposition of the sediments that formed these strata and their subsequent deformation.

As discussed in Section 3.6, "Geology, Soils and Seismicity," the project area lies on a plain adjacent to the Sacramento River. The project site is underlain by late Holocene alluvial deposits. Soils at the project site are categorized as Vina Loam, with depths of more than 6 feet (Natural Resources Conservation Service 2018). The presence of these soils indicates that buried paleontological resources could be encountered during construction.

3.5.3 Discussion of Checklist Responses

a. Adverse change in the significance of a historical resource – Less than Significant

Historical resources, as defined in Section 15064.5 of the CEQA Guidelines, are resources that are listed on or eligible for listing on the CRHR. As described above and in more detail in Appendix D, ECORP conducted surveys of the project area and recorded one archaeological resource and four historical resources in 2006-2008:

- *P-06-000589 (CA-COL-278H)*: A refuse scatter that extends for approximately 350 feet east/west along the base of the levee.
- *P-06-000590*: Recorded as a commercial fruit dryer complex.
- *P-06-000591*: A ranch complex.
- *P-06-000592:* Elements of an irrigation system spread across the north part of the property.
- *P-06-000594:* An olive-green wine bottle base.

Horizon archaeologists visited the project site on October 5, 2018, to assess the current status of the previously recorded resources. Four of the five resources were relocated and photographed, and a site record update was completed (see Appendix D).

The four resources on the property were evaluated for listing in the CRHR. None of the resources appear to be CRHR eligible. As a result, the Proposed Project would not have a significant effect on known historical resources.

Historical resources that are archaeological in nature may be accidentally discovered during project construction; archaeological resources are discussed further in item 3.5(b) below.

b. Adverse change in the significance of an archaeological resource – Less than Significant with Mitigation

No archaeological resources, as defined in Section 15064.5 of the CEQA Guidelines, have been identified within the project area. As described in item 3.5(a) above, one historic-era archaeological site, P-06-000589, which does not appear eligible for the CRHR, has been recorded within the boundaries of the Proposed Project.

However, archaeological remains may be buried with no surface manifestation. Excavation for site preparation and any buried utilities would occur in areas where buildings, structures, and utilities are to be located. Such excavation activities could uncover buried archaeological materials. Prehistoric materials most likely would include obsidian and chert flaked stone tools (e.g., projectile points, knives, and choppers), tool-making debris, or milling equipment such as mortars and pestles. Historic-era materials that might be uncovered would likely be related to the years of agricultural activities in the project area. In general, these items would be fairly recent in age and might include wire nails, tin or aluminum cans, glass fragments, metal equipment parts, ceramic debris, or other items related to operating an agricultural field.

If archaeological remains are accidentally discovered that are determined eligible for listing in the CRHR or determined to be a TCR, and Proposed Project activities would affect them in a way that would render them ineligible for such listing, a significant impact would result. Implementation of **Mitigation Measure CR-1 (Immediately Halt Construction if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for Eligibility for Inclusion in the CRHR, and Implement Appropriate Mitigation Measures for Eligible Resources)** would ensure that impacts on CRHR-eligible archaeological sites accidentally uncovered during construction are reduced to a less-than-significant level by immediately halting work if materials are discovered, evaluating the finds for CRHR eligibility, and

implementing appropriate mitigation measures, as necessary. Implementation of Mitigation Measure CR-1 would reduce impacts related to accidental discovery of archaeological resources to a level that is ***less than significant with mitigation***.

Mitigation Measure CR-1: Immediately Halt Construction if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for Eligibility for Inclusion in the CRHR, and Implement Appropriate Mitigation Measures for Eligible Resources.

If any cultural resources, such as structural features, unusual amounts of bone or shell, flaked or ground stone artifacts, historic-era artifacts, human remains, or architectural remains, are encountered during any project construction activities, work shall be suspended immediately at the location of the find and within a radius of at least 50 feet and the City will be notified, and the City will retain a qualified archaeologist to examine the discovery.

All cultural resources accidentally uncovered during construction within the project site shall be evaluated for eligibility for inclusion in the CRHR. Resource evaluations will be conducted by individuals who meet the U.S. Secretary of the Interior's professional standards in archaeology, history, or architectural history, as appropriate. For finds that are of Native American concerns, local Native American tribes will be notified, if they have requested notification. If any of the resources meet the eligibility criteria identified in Pub. Res. Code Section 5024.1 or CEQA Section 21083.2(g), mitigation measures will be developed and implemented in accordance with CEQA Guidelines Section 15126.4(b) before construction resumes.

For resources eligible for listing in the CRHR that would be rendered ineligible by the effects of project construction, additional mitigation measures will be implemented. Mitigation measures for archaeological resources may include (but are not limited to) avoidance; incorporation of sites within parks, greenspace, or other open space; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. Mitigation measures for archaeological resources shall be developed in consultation with responsible agencies and, as appropriate, interested parties such as Native American tribes. Native American consultation is required if an archaeological site is determined to be a TCR. Implementation of the approved mitigation would be required before resuming any construction activities with potential to affect identified eligible resources at the site.

c. Destruction of a unique paleontological resource or site or unique geological feature – Less than Significant with Mitigation

As previously mentioned, the riverine sediments that underlie the project site have the potential to contain paleontological resources. Project construction would include trenching to depths of up to 5 feet and could uncover paleontological remains. For these reasons, impacts on paleontological resources would be potentially significant. Implementation of **Mitigation Measure CR-2 (Suspend Construction Immediately if Paleontological Resources Are Discovered, Evaluate the Significance of the Resources, and Implement Appropriate Mitigation Measures as Necessary)** would reduce impacts on any

paleontological resources discovered during construction to ***less than significant with mitigation***.

Mitigation Measure CR-2: Suspend Construction Immediately if Paleontological Resources Are Discovered, Evaluate the Significance of the Resources, and Implement Appropriate Mitigation Measures as Necessary.

Paleontological resources are not necessarily visible on the ground surface, but construction of the Proposed Project facilities has the potential to discover fossils. If any items of paleontological interest are unearthed during construction, work shall be suspended immediately within 50 feet of the discovery site, or to the extent needed to protect the finds, and the City shall be notified. A qualified paleontologist will be retained to examine the discovery.

Any discovery of paleontological resources during construction shall be evaluated by the qualified paleontologist. If it is determined that construction could damage a unique paleontological resource, additional mitigation shall be implemented in accordance with Pub. Res. Code Section 21083.2 and CEQA Guidelines Section 15126.4. If avoidance is not feasible, the paleontologist shall develop a treatment plan in consultation with the State. Elements of the treatment plan shall include, but are not limited to the following: procedures for recovering the exposed fossil, or sample of fossils, depending on the fossil type (macrofossil, microfossil, paleobotanical fossil); recovery documentation; and preparation, curation, and storage of recovered fossils. Work shall not be resumed until authorization is received from the State and any recommendations received from the qualified paleontologist are implemented.

d. Disturbance of any human remains, including those interred outside of formal cemeteries – Less than Significant with Mitigation

No evidence of human remains was observed within the project site. Although portions of the site have been developed as part of a homestead and as a fruit dryer, and have been cultivated for many years, there is the possibility that project-related construction may affect human remains. Should any such remains be discovered during construction, California Health and Safety Code Section 7050.5 requires that work immediately stop within the vicinity of the finds and that the County coroner be notified to assess the finds. Implementation of **Mitigation Measure CR-3 (Immediately Halt Construction if Human Remains Are Discovered and Implement Applicable Provisions of California Health and Safety Code Section 7050.5)** would ensure that the Proposed Project would not result in substantial adverse effects on human remains uncovered during the course of construction by requiring that, if human remains are uncovered, work must be halted and the County coroner must be contacted. Adherence to these procedures and provisions of the California Health and Safety Code would reduce potential impacts on human remains to ***less than significant with mitigation***.

Mitigation Measure CR-3: Immediately Halt Construction if Human Remains Are Discovered and Implement Applicable Provisions of California Health and Safety Code Section 7050.5.

If human remains are accidentally discovered during the Proposed Project's construction activities, the requirements of California Health and Safety Code Section 7050.5 shall be followed. Potentially damaging excavation shall halt on the Project site within a minimum radius of 100 feet of the remains, and the County coroner shall be notified. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (California Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact NAHC by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). Pursuant to the provisions of Pub. Res. Code Section 5097.98, NAHC shall identify a Most Likely Descendent (MLD). The MLD designated by NAHC shall have at least 48 hours to inspect the site and propose treatment and disposition of the remains and any associated grave goods. The State shall work with the MLD to ensure that the remains are removed to a protected location and treated with dignity and respect. Native American human remains may also be determined to be tribal cultural resources. The County coroner will contend with the human remains if they are not of Native American origin.

3.6 GEOLOGY, SOILS, AND SEISMICITY

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:					
a.	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i. Rupture of a known earthquake fault, 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 an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☒	☐	☐
d.	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☒	☐	☐
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

3.6.1 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 2018):

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. Res. Code Section 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. Res. Code Sections 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.

Local Laws, Regulations, and Policies

City of Colusa General Plan

The City of Colusa General Plan (2007) includes the following goals and policies related to geology, soils, and seismicity:

Goal SAF-1: To minimize injury and property damage due to seismic and geologic hazards.

Policy SAF-1.1: The City shall continue to mitigate the potential impacts of seismic and geologic hazards.

Implementing Action SAF-1.1.a: Development Review. The City will continue to refer all development proposals to the Fire and Building Department/ Building Division, Public Works Department, and City Engineer to address potential seismic or geologic impacts. The City will require development applicants to provide specific data requirements pertaining to potential seismic and geologic hazards, and, where necessary, require geotechnical reporting by a licensed soils or geotechnical engineer. In all development review, the City will continue to enforce the Uniform Building Code, including seismic design provisions. These review requirements will apply to all public and private building construction.

City of Colusa Code of Ordinances

Chapter 6, Article II of the City of Colusa Code of Ordinances adopts the CBC as the Building Code of the City of Colusa. As a result, any proposed development project within the City of Colusa must comply with the CBC.

3.6.2 Environmental Setting

Three geotechnical reports (Raney Geotechnical 2004, 2007; Gularte & Associates 2011) have been prepared for the project site, although these reports were prepared for a prior development proposal (i.e., Riverbend Subdivision/Estates). In general, the uses of the site have not changed since 2004 and the soils and geologic conditions are expected to have remained the same.

Regional and Site Geology

The project site is located on the western border of the Great Valley Geomorphic Province, which is an asymmetrical trough in Central California bounded by the Cascade Ranges to the north, the Sierra Nevada to the east, the Coast Ranges to the west, and the Transverse Ranges to the south. This area is underlain by a thick (up to 60,000 feet) sequence of sedimentary units, which are Jurassic age and younger (up to 208 million years ago [m.y.a.]) (Gularte & Associates 2011). Most of the Great Valley Geomorphic Province was covered by sea from the early Eocene (36-57 m.y.a.) to the end of the Pliocene (1.6 m.y.a.).

The project site geology is alluvium, consisting of lake, playa, and terrace deposits; unconsolidated and semi-consolidated, mostly non-marine (Gularte & Associates 2011).

Soils

The 2011 geotechnical investigation (Gularte & Associates 2011) performed on the site observed soft to firm lean clay in the upper 6-8 feet, underlain by loose sand to a depth of about 15 feet, which was underlain by medium dense sands to the depths of the borings (20 feet). The one deeper boring conducted during the geotechnical investigation encountered dense, well-graded sand with gravel at 30-40 feet below grade (Gularte & Associates 2011). These findings were generally consistent with the prior investigations.

The 2011 geotechnical investigation evaluated the expansion potential of the native soil beneath the site, finding an Expansion Index (EI) of 56 for a soil sample obtained from the upper 2 feet from one of the borings, indicating a moderate expansion potential (Gularte & Associates 2011).

Seismicity

The nearest faults to the project site are the Willows Fault (approximately 1 mile to the east), the Resort Fault Zone (approximately 24 miles to the west), and the Prairie Creek Fault (30 miles to the east) (Gularte & Associates 2011). These are Pre-Quaternary faults (i.e., they have not experienced significant movement within the past 1.6 million years); however, they are not necessarily inactive.

3.6.3 Discussion of Checklist Responses

In general, cannabis cultivation activities would not affect geology, soils, and seismicity during operation. This impact category was dismissed from detailed consideration in the CDFA PEIR (2017) due to the limited potential for impacts. Likewise, cannabis manufacturing and distribution activities would not affect geology, soils, and seismicity, and these effects were dismissed from detailed consideration in the BCC IS/ND (2017). This environmental review concurs with these prior findings and does not find any mechanism through which the Proposed Project would have potential to have adverse effects related to geology, soils, and seismicity during project operation. As such, this impact analysis is limited to adverse effects that could result from the Proposed Project during construction and site development activities.

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

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

As described above, no known earthquake faults are located on or adjacent to the project site. The nearest fault is 1 mile to the east (i.e., Willows Fault) and this is a Pre-Quaternary fault, meaning that it has not ruptured or moved significantly in the past 1.6 million years. As a result, the possibility of a seismic-related rupture of an earthquake occurring on the site is considered extremely low. ***No impact*** would occur.

ii. Strong seismic ground shaking – Less than Significant

Given that there are no active faults in immediate proximity to the project site, it is unlikely that the project facilities and buildings would be exposed to strong seismic ground shaking during the life of the project; however, moderate shaking could occur from earthquakes outside the area. As a result, the Proposed Project is unlikely to expose people or structures to substantial geologic hazards from strong seismic ground shaking, especially considering that the proposed buildings would be required to comply with the CBC. This impact would be ***less than significant.***

iii. Seismic-related ground failure, including liquefaction – Less than Significant with Mitigation

As identified in the prior geotechnical investigations, the risk of seismic-related ground failure, including liquefaction, is considered low to medium (Gularte & Associates 2011). While the 2007 Raney Geotechnical investigation determined that the maximum liquefaction that could occur at the project site due to a seismic event would be a ground surface settlement on the order of 3 inches (Raney Geotechnical 2007), the 2011 investigation noted a moderate potential for liquefaction on the project site due to the high groundwater table and relatively soft/loose soil in the upper 15 feet below ground surface (Gularte & Associates 2011).

Because of the site's location adjacent to the Sacramento River, several hydraulic studies were conducted for the prior project, including the *Riverbend Estates Preliminary*

Hydraulic Report (Genesis Engineering 2012), the *Riverbend Estates Seepage Analysis* (Gularte & Associates 2012), and analysis by qualified civil engineers and geologists, to evaluate the potential for seepage and other hydraulic issues at the project site. Those studies concluded that storm drainage and any contributing seepage during certain extended river levels would be mitigated through detailed engineering design of the Proposed Project. Seepage issues are discussed in more detail in Section 3.9, "Hydrology and Water Quality."

In general, due to the loose sand observed in the most recent borings and the high groundwater table that would be expected given the site's location adjacent to the Sacramento River, liquefaction is considered possible. Therefore, the City would require implementation of **Mitigation Measure GEO-1 (Develop and Implement Plan to Minimize or Eliminate Geologic Hazards)**, which would require the Project Applicant to develop and implement a plan describing measures to minimize or eliminate potential geologic hazards, including liquefaction. This plan would be prepared by a licensed geotechnical engineer. With implementation of this mitigation measure, it would be expected that the risks associated with liquefaction would be adequately addressed and the Proposed Project would not subject people or buildings to substantial hazards. As a result, this impact would be ***less than significant with mitigation***.

Mitigation Measure GEO-1: Develop and Implement Plan to Minimize or Eliminate Geologic Hazards

Prior to final design and approval of the Proposed Project, the City shall require the Project Applicant to submit a plan describing measures to minimize or eliminate identified hazards of liquefaction, expansive soils, and potential seepage. Measures may include, but are not limited to, increasing foundation depths, reinforcement, and saturation/pre-swelling of soils prior to slab placement. The plan shall be prepared by a licensed geotechnical engineer and shall be reviewed and approved by the City Engineer prior to final project approval and/or construction.

iv. Landslides – No Impact

The project site is relatively flat and there are no nearby hills or slopes that may become unstable; therefore, no landslides would occur. There would be ***no impact***.

b. Substantial soil erosion or the loss of topsoil – Less than Significant

Some amount of soil erosion or loss of topsoil could occur during ground-disturbing construction activities, as soil loosened by construction equipment on the project site could subsequently be mobilized and washed off site during precipitation events. However, these effects would be minimized through implementation of the Stormwater Pollution Prevention Plan (SWPPP) that would be required for the Proposed Project under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (see Section 3.9, "Hydrology and Water Quality" for additional discussion). The SWPPP would include erosion control and sediment management measures that would reduce potential for substantial effects under this impact. As a result, this impact would be ***less than significant***.

c. Location 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 – Less than Significant with Mitigation

As described in item (a.iii.) above, there is potential for liquefaction to occur at the project site due to the subsurface soil characteristics and proximity to the Sacramento River (i.e., high groundwater table). The risk of onsite or offsite landslide is negligible, considering the flat topography at the project site, while the risk of lateral spreading also is considered to be low due to the low seismic loading and level topography (Gularte & Associates 2011). Subsidence is not anticipated to be an issue, particularly because the Proposed Project would not extract groundwater, although liquefaction during a seismic event could cause some settlement to occur.

Mitigation Measure GEO-1 (described in item [a.iii] above) would require preparation and implementation of a plan to address geologic hazards, such as liquefaction and expansive soils. With implementation of this measure, the Proposed Project would not expose people or structures to substantial hazards as a result of unstable soils or other related geologic hazards. As a result, this impact would be ***less than significant with mitigation.***

d. Location on expansive soil, creating substantial risks to life or property – Less than Significant with Mitigation

The geotechnical investigations that were previously prepared for the project site found soils with significant expansion potential. As noted in the 2007 investigation by Raney Geotechnical, the near-surface soils are considered capable of significant expansion and contraction with variations in moisture (Raney Geotechnical 2007). While the 2011 Gularte & Associates investigation found soils of "moderate expansion potential" (EI of 56), soil expansion is nevertheless considered possible at the site (Gularte & Associates 2011). Soil expansion can cause distress to building floor slabs, foundations, and flatwork unless measures are taken to mitigate volume change behavior (Raney Geotechnical 2007). As such, soil expansion can potentially cause substantial risks to life and property.

Implementation of **Mitigation Measure GEO-1** (described in item [a.iii] above) would minimize the risks associated with expansive soils, as this mitigation measure would require preparation and implementation of a plan to address expansive soils and other geologic hazards through effective geotechnical engineering measures. As a result, this impact would be ***less than significant with mitigation***.

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

The Colusa Triple Crown project would not use septic tanks. The Proposed Project is required to connect to the City's wastewater system. Therefore, ***no impact*** would occur.

3.7 GREENHOUSE GAS EMISSIONS

	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?	☐	☐	☒	☐

3.7.1 Regulatory Setting

Federal Laws, Regulations, and Policies

At the federal level, USEPA has developed regulations to reduce greenhouse gas (GHG) emissions from motor vehicles and has developed permitting requirements for large stationary emitters of GHGs. On April 1, 2010, USEPA and the National Highway Traffic Safety Administration (NHTSA) established a program to reduce GHG emissions and improve fuel economy standards for new model year 2012-2016 cars and light trucks. On August 9, 2011, USEPA and the NHTSA announced standards to reduce GHG emissions and improve fuel efficiency for heavy-duty trucks and buses. In August 2016, USEPA and the NHTSA jointly finalized Phase 2 Heavy-Duty National Program standards to reduce GHG emissions and improve fuel efficiency of medium- and heavy-duty vehicles for model year 2018 and beyond (USEPA 2017). However, in April 2017, the USEPA stated it may adjust the later years of the 2017-2025 standards, and thus the increased mileage standard requirements may be subject to change (Center for Climate and Energy Solutions 2018).

State Laws, Regulations, and Policies

In recent years, California has enacted a number of policies and plans to address GHG emissions and climate change. In 2006, the California State Legislature enacted AB 32, the Global Warming Solutions Act, which set the overall goals for reducing California's GHG emissions to 1990 levels by 2020. Senate Bill (SB) 32 codified an overall goal for reducing California's GHG emissions to 40 percent below 1990 levels by 2030. Executive Orders (EOs) S-3-05 and B-16-2012 further extend this goal to 80 percent below 1990 levels by 2050. CARB has completed rulemaking to implement several GHG emission reduction regulations and continues to investigate the feasibility of implementing additional GHG emission reduction regulations. These include the low carbon fuel standard, which reduces GHG emissions associated with fuel usage, and the renewable portfolio standard, which requires electricity suppliers to increase the amount of electricity generated from renewable sources to 33 percent by 2020 and 50 percent by 2030. The CBC (Title 24) governs construction of buildings in California. Parts 6 and 11 of Title 24 are relevant for energy use and green

building standards, which reduce the amount of indirect GHG emissions associated with buildings.

CARB approved the First Update to the AB 32 Scoping Plan on May 22, 2014 (CARB 2014). This update defines climate change priorities for the next 5 years and also sets the groundwork to reach long-term goals set forth in EOs S-3-05 and B-16-2012. The update also highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals and evaluates how to align the State's longer term GHG reduction strategies with other state policy priorities for water, waste, natural resources, clean energy, transportation, and land use. CARB updated the Scoping Plan to reflect progress since 2005, additional reduction measures, and plans for reductions beyond 2020. CARB released and adopted a 2017 Scoping Plan Update (CARB 2018a) to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32 (CARB 2018a, 2018b).

Local Laws, Regulations, and Policies

City of Colusa General Plan

The City of Colusa General Plan (2007) includes the following goals and policies related to greenhouse gas emissions:

Goal PRC-9: To manage and protect the City's water resources.

Policy PRC-9.3: The City shall maintain its ability to meet its water supply requirements.

Implementing Action PRC-9.3.a: Development Review. As part of the development review process, the City will evaluate the incorporation of water conservation techniques in all new development.

Policy PRC-9.4: The City shall encourage the use of treated wastewater and other non-potable water sources for irrigation and groundwater recharge.

Goal PRC-11: To reduce consumption of energy sources in Colusa.

Policy PRC-11.1: The City shall seek to minimize energy impacts from new residential and commercial projects.

Implementing Action PRC-11.1.c: Title 24 Uniform Building Code. The City will require energy efficient siting and building design in all new development projects consistent with the requirements of Title 24 of the California Administrative Code. Measures include building orientation and shading, landscaping, use of active and passive solar heating and hot water systems, etc. The City will also investigate and consider adopting Leadership in Energy and Environmental Design (LEED) sustainability standards for residential and commercial development.

Significance Thresholds

Neither the Colusa County APCD nor the City of Colusa has established significance thresholds for GHG emissions or an action plan to minimize GHG emissions (Ryan 2018, pers. comm.). Thus, for comparative purposes, the GHG emission thresholds from a local air management district (the Sacramento Metropolitan Air Quality Management District [SMAQMD]) in the

same air basin as the Proposed Project were reviewed and compared to the Proposed Project's estimated construction and operational emissions. The SMAQMD has a threshold of 1,100 metric tons (MT) of carbon dioxide equivalents (CO_2e) per year for construction activities and an emissions threshold of 10,000 metric tons of CO_2e per year for stationary-source operational emissions (SMAQMD 2018). Because the Proposed Project is an industrial type of project that includes manufacturing activities and stationary sources, the SMAQMD's stationary-source threshold was selected as an appropriate threshold for analyzing the Proposed Project's operational emissions. Emissions less than these construction and operational thresholds would not be considered to have a cumulatively consideration contribution to a significant environmental impact. In addition, the Proposed Project's GHG emissions were evaluated in the context of the applicable regulatory environment that is in place under the mandates of AB 32, SB 32, CARB's Scoping Plan and Executive Order B-30-15.

3.7.2 Environmental Setting

Climate change results from the accumulation in the atmosphere of GHGs, which are produced primarily by the burning of fossil fuels for energy. Because GHGs (CO_2, methane, and NO_X) persist and mix in the atmosphere, emissions anywhere in the world affect the climate everywhere in the world. GHG emissions are typically reported in terms of CO_2e, a practice that converts all GHGs to an equivalent basis taking into account their global warming potential compared to CO_2.

Anthropogenic (human-caused) emissions of GHGs are widely accepted in the scientific community as contributing to global warming. Over time, temperature increases associated with climate change are expected to adversely affect plant and animal species, cause ocean acidification and sea level rise, affect water supplies, affect agriculture, and harm public health to an increasing degree.

Global climate change is already affecting ecosystems and societies throughout the world. Climate change adaptation refers to the efforts undertaken by societies and ecosystems to adjust to and prepare for current and future climate change, thereby reducing vulnerability to those changes. Human adaptation has occurred naturally over history; people move to more suitable living locations, adjust food sources, and more recently, change energy sources. Similarly, plant and animal species also adapt over time to changing conditions; they migrate or alter behaviors in accordance with changing climates, food sources, and predators.

Many national, as well as local and regional, governments are implementing adaptive practices to address changes in climate, as well as planning for expected future impacts from climate change. Some examples of adaptations that are already in practice or under consideration include conserving water and minimizing runoff with climate-appropriate landscaping, capturing excess rainfall to minimize flooding and maintain a constant water supply through dry spells and droughts, protecting valuable resources and infrastructure from flood damage and sea level rise, and using water-efficient appliances.

In 2016, total California GHG emissions from routine emitting activities were 429.4 million metric tons of carbon dioxide equivalents (MMT CO_2e) (CARB 2018b). This represents a decrease from 2015 and a 13-percent reduction compared to peak levels reached in 2004. Declining emissions from the electricity sector were responsible for much of the reduction due to growing zero-GHG energy generation sources. In 2016, the transportation sector of

the California economy was the largest source of emissions, accounting for approximately 39 percent of the total emissions.

3.7.3 Discussion of Checklist Responses

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment – Less than Significant

The Proposed Project would generate GHG emissions during construction and operation. Construction-related GHG emissions would result from the combustion of fossil-fueled construction equipment, material hauling, and worker trips. These emissions were estimated using CalEEMod version 2016.3.2; modeling assumptions and results are provided in Appendix A. The Proposed Project's annual construction-related GHG emissions in the anticipated construction years range from 37 MT CO_2e per year to 415 MT CO_2e per year. Thus, the Proposed Project's emissions would not exceed the construction significance threshold of 1,100 MT CO_2e per year.

Operational GHG emissions would result from fossil-fueled equipment and motor vehicles, building energy use, water use, and solid waste. The Proposed Project's estimated annual operation-related GHG emissions would be approximately 3,540 MT CO_2e per year, which is substantially less than the operational significance threshold of 10,000 MT CO_2e per year. Therefore, this impact 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

The State of California has implemented AB 32 to reduce GHG emissions. The Proposed Project does not pose any conflict with the most recent list of CARB's early action strategies, nor is it one of the sectors at which these early strategies are targeted. Agriculture and Industry are two of the sectors targeted in the AB 32 scoping plan (CARB 2008), the First Update to the AB 32 Scoping Plan (CARB 2014), and the Final 2017 Scoping Plan (CARB 2017). The Final 2017 Scoping Plan did not mention similar cannabis-related projects as a specific target for additional strategies, but does discuss the importance of increasing energy-use and water-use efficiency related to agricultural operations. Emission reductions at the project site would be influenced by decisions relating to target sectors such as water, wastewater, clean energy, transportation, and land use. The Proposed Project includes a variety of water- and energy-efficient measures, including the use of energy-efficient greenhouses, reuse and recycling of runoff water, and use of water-efficient landscaping. In addition, the Proposed Project would be required to comply with all applicable renewable energy and generator requirements stated in the statewide cannabis cultivation regulations adopted by CDFA. Therefore, emissions generated by the Proposed Project would not be expected to have a substantial contribution to the ongoing impact on global climate change. The location of the project site is in line with local general plan policies regarding land use, transportation, and air quality planning goals. For these reasons, the Proposed Project would not conflict with AB 32, SB 32, and the local general plan. Therefore, this impact would be **less than significant.**

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3.8 HAZARDS AND HAZARDOUS MATERIALS

	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 involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site that 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 located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport and result in a safety hazard for people residing or working in the study area?	☐	☐	☒	☐
f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the study area?	☐	☐	☒	☐
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

3.8.1 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 USC Section 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 USC Section 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 USC Section 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. 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 reentered after application; and when crops can be harvested.

Spill Prevention, Control, and Countermeasure Rule

USEPA's Spill Prevention, Control, and Countermeasure (SPCC) Rule (40 CFR 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 CFR 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 CFR Section 1910.132). OSHA also establishes criteria by which each state can implement its own health and safety program.

Federal Aviation Administration Airspace Protection Regulations

The Federal Aviation Administration (FAA) is responsible for ensuring the safe, efficient use, and preservation of the navigable airspace in the U.S. Under 14 CFR Part 77, the FAA must be notified of certain proposed construction or the alteration of certain existing structures. The FAA may then conduct an aeronautical study to determine obstructions to air navigation, and navigational and communication facilities. Generally, the regulations in 14 CFR Section 77.9 require notification of FAA for any construction or alteration that is more than 200 feet above ground level at its site, or for any construction that exceeds an imaginary surface extending outward and upward at any of the following slopes:

1) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway for any applicable airport (e.g., public use, military);

2) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway for any applicable airport;

3) 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of any applicable heliport.

The proposed project site's southernmost boundary is roughly 9,000 feet from the nearest runway at the Colusa County Airport. Based on a 50 to 1 slope as indicated under item 2 above, this would equate to a minimum structure of 180 feet above ground level (AGL) at the project site to penetrate the imaginary surface requiring notification of FAA.

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. Similar to the chemical accident prevention provisions of the federal Clean Air Act, the CalARP program and implementing regulations (19 CCR 2, 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 (29 CCR 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. Similar to 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 (Cal. 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 (Cal. Gov. Code Section 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 (Cal. Gov. Code Section 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. (3 CCR Section 6764.)

CDPR Guidance on Pesticide Use in 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 Section 26060[d]). However, CDPR is preempted 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 2017).

Pesticide Contamination Prevention Act

The Pesticide Contamination Prevention Act (Food & Agr. Code Sections 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 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 2018).

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 (8 CCR Section 3453). Machines, applicators, and other equipment used for pesticide application must be decontaminated before they are overhauled or placed in storage (8 CCR Section 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 Department of Public Health Office of Manufactured Cannabis Safety

The CDPH Office of Manufactured Cannabis Safety is responsible for regulating the manufacturers of cannabis products for both medicinal and adult use.

California Fire Code

The California Fire Code (24 CCR 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.

Local Laws, Regulations, and Policies

City of Colusa General Plan

The City of Colusa General Plan (2007) contains the following goals and policies related to hazards and hazardous materials:

Goal SAF-4: To protect the community's health, safety, natural resources, and property by regulating the use, storage, transport, and disposal of hazardous materials.

Policy SAF-4.1: The City shall require the disclosure of the use and storage of hazardous materials in existing and proposed industrial, commercial, and public-use activities, and the siting of hazardous waste disposal facilities, in accordance with federal, state, and local regulations.

Implementing Action SAF-4.1.a: California Health and Safety Code Chapter 6.95 and Title 40, Code of Federal Regulations. The City will comply with and enforce, to the extent feasible, Chapter 6.95, Section 25503 of the California Health and Safety Code governing the storage of hazardous materials. Where appropriate, the City shall also ensure compliance with Title 40, Part 112, of the Code of Federal Regulations, which requires preparation of a Spill Prevention, Control and Countermeasures (SPCC) Plan, a similar but more detailed plan than the Hazardous Materials Business Plan required under the State Code, for businesses that store hazardous wastes in excess of standards set in the statute. These statutes will apply to hazardous chemical storage at all City-owned and operated facilities.

Implementing Action SAF-4.1.b: Development Review. The City will refer any development proposal that may be affected by, or affect, the storage, handling, disposal, or transportation of hazardous materials to the Fire Department, the Colusa County Sheriff's Office, and other appropriate agencies for review. When required, a Hazardous Material Business Plan will be prepared and submitted in accordance with County procedures. The Business Plan will contain all provisions required by Assembly Bill 2185, Department of Transportation, and Cal-OSHA regulations for

environmental controls of hazardous materials, and other provisions that may be required by the County.

Policy SAF-4.2: The City shall ensure that it maintains sufficient resources, contacts, and personnel to provide the public with emergency notification in the event of a hazardous materials spill or airborne release.

Implementing Action SAF-4.2.a: Interagency Coordination. The City will utilize contacts with County agencies and special districts to develop coordinated plans to respond to hazardous material spills or releases. The City will also keep abreast of and, where appropriate, implement Office of Emergency Services hazardous spill prevention and planning programs.

Colusa County Airport Land Use Compatibility Plan

The Colusa County Airport Land Use Compatibility Plan (ALUCP) (Colusa County Airport Land Use Commission 2014) serves to promote compatibility between the Colusa County Airport and future land use development in the surrounding areas. The ALUCP accomplishes this by establishing a set of compatibility criteria applicable to new development around the airport. According to the ALUCP's Compatibility Policy Map, a portion of the project site is within the identified Zone C3 (Secondary Traffic Pattern Zone) (Colusa County Airport Land Use Commission 2014). Light industrial land uses are normally compatible within the C3 Zone. With respect to airspace protection and obstruction height criteria, the ALUCP generally incorporates the requirements identified by FAA (see detailed discussion under "Federal Laws, Regulations, and Policies").

3.8.2 Environmental Setting

Phase I and II Environmental Site Assessments (ENGEO 2004a, 2004b) were conducted on the project site for a prior development proposal (Riverbend Estates). In general, use of the project site has not changed since 2004 and, as a result, hazardous materials contamination and conditions are not expected to be substantially different.

Existing Hazards and Hazardous Materials

The 2004 Phase I Environmental Site Assessment found no documented hazardous materials cleanup sites on the Proposed Project site, based on its review of applicable databases (ENGEO 2004a). Rather, it noted one nearby site that had not achieved regulatory closure:

- Tri County Petroleum, 1630 East Clay Street. This site is located ¼ mile to ½ mile from the project site's eastern boundary and is the listed location of an AST cleanup site where petroleum hydrocarbons have been released.

More recent review of GeoTracker (SWRCB 2018) confirms that no documented hazardous materials cleanup sites are located on the project site, but that the Tri County Petroleum site is still listed as open and is located near the project site.

While there are no listed hazardous material sites within the project site, the Phase I Environmental Site Assessment (ENGEO 2004a) noted that the historic uses of the property consisted of agricultural production of prunes and oats, and that lead arsenate is reported to have been used as a pesticide on prunes through 1970. As a result, the Phase I Environmental

Site Assessment concluded that there was potential for lead and arsenic soil contamination and recommended that soil sampling be conducted.

Following these recommendations, a Phase II Environmental Site Assessment (ENGEO 2004b) was conducted, which included soil sampling and laboratory analysis. The Phase II Environmental Site Assessment found that all of the samples taken from the project site were below the applicable USEPA limits for lead for residential development. Likewise, with the exception of two samples, the test results for arsenic were found to be within background levels that would be expected for the Colusa area. The elevated levels of arsenic at two sample locations (23 milligrams per kilogram [mg/kg] and 28 mg/kg, both generally within the southwest portion of the site) were considered suggestive of the presence of residual levels of agrichemicals within those areas of the property. Based on these findings, the Phase II Environmental Site Assessment recommended conducting additional soil sampling and analysis (ENGEO 2004b).

The Phase I Environmental Site Assessment also investigated the area of a reported former Union Oil depot with tank farm along the eastern boundary of the property. The visual assessment observed no areas of surface soil staining, dead or distressed vegetation, or odors. Additionally, based on the review of historic topographic maps and aerial photographs, the study estimated that the facility was removed between 1973 and 1984 (ENGEO 2004a).

The project site also includes several agricultural buildings and appurtenances, as well as one single-family residence, along the northern border of the project site, which would be demolished as part of the Proposed Project. Due to their age, these buildings may contain asbestos and/or lead-based paint. Additionally, the Phase I Environmental Site Assessment reported that the site contains two on-site septic systems, a concrete UST, and three water wells that are described in more detail in Section 3.9, "Hydrology and Water Quality" (ENGEO 2004a).

Airports

The Colusa County Airport is located approximately 1.7 miles south of the project site. No private airstrips are located within 2 miles of the project site.

Wildfire Hazards

The City of Colusa is within an area that is unzoned for fire hazard severity by CAL FIRE. As such, it is unknown what the relative fire hazard of the project site would be according to CAL FIRE's rating system. In general, much of the project site is in agricultural production (i.e., oats), but there may be areas of dry grass and other flammable materials that could catch fire. Much of the northern Central Valley of California is in irrigated agricultural production. This land use type is not typically considered conducive to wildfire, and the immediate City of Colusa area has not experienced a significant wildfire in the last 60+ years (CAL FIRE 2018a). The several damaging fires in the Redding area in summer of 2018, such as the Carr Fire, burned areas over 90 miles north of the project site and primarily areas not under irrigated agriculture (CAL FIRE 2018b).

Sensitive Receptors

The nearest school to the project site (James M. Burchfield Primary Elementary School) is located approximately 0.6 mile to the west. Colusa Medical Center is located approximately 0.25 mile southwest of the project site.

3.8.3 Discussion of Checklist Responses

In general, the impacts associated with cultivation activities under the Proposed Project would be similar to those described in the CDFA PEIR (2017). As described in the PEIR, cultivation may involve use of hazardous materials, such as fuel for power equipment and backup generators. Additionally, indoor and mixed-light cultivation operations may use high-powered lights, which could contain hazardous components that could enter the environment during disposal. The PEIR concludes that, with adherence to existing hazardous materials laws, use, storage, transport, and disposal of these materials would not create a significant hazard to the public or environment.

Cultivation activities also may use pesticides; however, as described above, the only pesticide products currently 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 the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 25(b) and the California Code of Regulations, Title 3, Section 6147 (CDPR 2015a). In general, the pesticides that meet these criteria are less toxic than those with residue-tolerance requirements or that are subject to registration requirements, and include such substances as garlic oil and neem oil. The screening-level human and ecological health risk evaluation conducted for the CDFA PEIR found that use of these materials in cannabis cultivation would not result in significant risks to human or ecological health when used in accordance with licensing requirements and other applicable laws and regulations. In addition, CDFA's regulations require licensees to implement pesticide application and storage protocols to further minimize risk, such as the following:

- Comply with all pesticide label directions;
- Store chemicals in a secure building or shed to prevent access by wildlife;
- Contain any chemical leaks and immediately clean up any spills;
- Apply the minimum amount of product necessary to control the target pest;
- Prevent offsite drift; and
- Only use properly labeled pesticides.

This environmental review concurs with the CDFA PEIR in finding that hazardous materials use associated with cultivation would not result in a significant impact, given compliance with applicable laws and regulations. As such, the detailed discussion that follows focuses on the areas that were not addressed in the CDFA PEIR: specifically, the potential effects associated with site development and construction, and the effects associated with manufacturing of cannabis products.

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

As noted above, the CDFA PEIR found the potential impacts of cannabis cultivation activities related to the possible creation of a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials to be less than significant.

During site development and construction, the Proposed Project would involve the routine transport, use, and disposal of hazardous materials. For example, fuel, oil, and other materials used in construction equipment would be transported, stored, and used on the site. Following use, these materials may be transported to an appropriate disposal facility. In accordance with existing laws and regulations, including OSHA and Cal/OSHA regulations, the construction contractor would be required to provide PPE and ensure that such materials are handled in a way that is safe for workers and the environment. Additionally, as further described in Section 3.9, "Hydrology and Water Quality," the Proposed Project would be required to implement a SWPPP, which would include measures for proper storage and handling of hazardous materials on the site.

Cannabis testing and manufacturing facilities included as part of the Proposed Project may involve the use of hazardous materials, such as cleaners and solvents for routine cleaning and related activities. Manufacturing of cannabis products at the project site would not use volatile solvents, such as butane, as described in Chapter 2, *Project Description*; rather, the non-chemical process of fractional distillation would be used. This process would not pose a hazard to cannabis workers or the public.

Consistent with the CDFA PEIR (2017) and BCC IS/ND (2017), once constructed, the cannabis facilities would be subject to numerous existing laws and regulations pertaining to hazardous materials. These include OSHA and Cal/OSHA standards for worker safety and Unified Program requirements related to hazardous materials and waste storage and management. As those statewide environmental documents concluded, these requirements would be sufficient to protect cannabis workers, the public, and the environment from significant hazards due to hazardous materials.

Overall, given compliance with existing laws and regulations related to routine transport, use, and disposal of hazardous materials, the Proposed Project would not result in a significant risk to human health or the environment. Therefore, this 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 with Mitigation

Construction

As described in item (a) above, construction of the Proposed Project would involve use of hazardous materials, such as fuel, oil, solvents, and paint, some of which would be contained in construction equipment. If improperly stored or used, these materials could be accidentally released and/or spilled, which could create a significant hazard to the public or the environment due to their toxicity and adverse effects. However, in accordance with the NPDES General Construction Permit (applicable to construction projects that disturb greater than one acre of land), the construction contractor would be required to prepare and implement a SWPPP, including good site housekeeping and spill prevention measures for hazardous materials. The SWPPP would include a spill contingency response plan to minimize the adverse effects from any accidental release of hazardous materials.

Site development and construction activities also may encounter hazardous materials through demolition of the existing structures on the site, as well as through excavation of possibly contaminated soil. As noted above, the project site includes several old agricultural structures and appurtenances, and a single-family residence, all of which would be demolished for construction of the Proposed Project. Additionally, the Phase I Environmental Site Assessment found that the project site could potentially include soils with elevated levels of arsenic due to the historical use of arsenic-based pesticides on the site for prune production.

If performed improperly or without adequate precautions, removal of these structures and facilities and excavation of soils could potentially expose construction workers, the public, or the environment to hazards from release of hazardous materials. Therefore, to avoid or minimize these potential hazards, the Project Applicant would be required to implement **Mitigation Measures HAZ-1 (Inspect Structures and Remove Any Lead-Based Paint and Asbestos-Containing Building Materials)** and **HAZ-2 (Halt Work and Perform Environmental Site Assessment if Evidence of Contaminated Soils Is Encountered During Construction Activities)**. Mitigation Measure HAZ-1 would require inspection of the onsite buildings and structures for the possible presence of lead-based paint and asbestos-containing building materials; if such materials are discovered during the inspection, then a qualified contractor would remove it. Mitigation Measure HAZ-2 would require that the construction contractor halt work if evidence of contamination (e.g., soil staining, odors, suspected hazardous materials) is encountered during construction activities, and that an environmental site assessment be prepared. Implementation of these measures would minimize hazards from hazardous materials in onsite structures and/or contaminated soil to levels that are less than significant.

In addition to the potential hazards described above, the project site also contains several former belowground facilities that would need to be properly abandoned or upgraded. Specifically, as noted above, two septic systems, a concrete UST, and three water wells are present on the site. If these facilities were improperly abandoned or disturbed during construction activities, they could potentially release hazardous substances or serve as a

conduit for contamination of groundwater (e.g., hazardous substances infiltrating water wells). To avoid or minimize these possible impacts, the Project Applicant would be required to implement **Mitigation Measures HAZ-3 (Abandon Onsite Septic Systems and Upgrade or Abandon Onsite Water Wells)** and **HAZ-4 (Remove Former Underground Fuel Storage Tank and Conduct Soil Testing)**. Mitigation Measure HAZ-3 would require proper abandonment of the septic systems (i.e., under permit from the Colusa County Environmental Health Department) and abandonment or upgrade of the water wells. Likewise, Mitigation Measure HAZ-4 would require that the UST on the site be removed under permit from the Colusa County Environmental Health Department.

Operation

As analyzed and described in the CDFA PEIR (2017) and BCC IS/ND (2017), cannabis cultivation and business activities during project operation would not result in substantial hazards, given compliance with existing laws and regulations.

Conclusion

With implementation of Mitigation Measures HAZ-1 through HAZ-4, the Proposed Project would not expose workers, the public, or the environment to substantial hazards due to accidental releases of hazardous materials during project-related construction activities. Operation of the Proposed Project would result in less-than-significant impacts related to hazardous materials, given compliance with existing laws and regulations. As a result, this impact would be ***less than significant with mitigation***.

Mitigation Measure HAZ-1: Inspect Structures and Remove Any Lead-Based Paint and Asbestos-Containing Building Materials

The City shall require that, prior to the demolition or renovation of any existing onsite structures, a Cal/OSHA–certified inspector shall inspect those structures for the presence of lead-based paint and asbestos-containing building materials. Should the inspection reveal the presence of either substance, a contractor qualified in lead-based paint and/or asbestos removal shall remove it before demolition may take place.

Mitigation Measure HAZ-2: Halt Work and Perform Environmental Site Assessment if Evidence of Contaminated Soils Is Encountered During Construction Activities

The City shall require that, if soil staining, odors, or suspected hazardous materials are encountered during construction activities, work shall cease in an area approximately 100 feet around the discovered site until a qualified firm conducts an environmental site assessment. The assessment will identify the potential contaminated area and will recommend measures to reduce or eliminate potential adverse impacts. The contractor shall implement all recommended measures prior to resumption of work in the 100-foot area.

Mitigation Measure HAZ-3: Abandon Onsite Septic Systems and Upgrade or Abandon Onsite Water Wells

The City shall require that, prior to issuance of grading permits, the two onsite septic systems on the property shall be abandoned under permit from the Colusa County Environmental Health Department. Wells on the project site shall either be upgraded for future use or abandoned under permit from the Colusa County Environmental Health Department.

Mitigation Measure HAZ-4: Remove Former Underground Fuel Storage Tank and Conduct Soil Testing

The City shall require that, prior to issuance of grading permits, the underground fuel storage tank on the property shall be removed under permit from the Colusa County Environmental Health Department. At the time of removal, soil sampling with laboratory analysis will be conducted to determine if soil contamination has occurred. If substantial contamination is present, the Project Applicant shall clean up the contamination prior to the start of project construction under a cleanup plan reviewed and approved by the County Environmental Health Department.

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 – Less than Significant

As described above, no schools are located within 0.25 mile of the project site. The nearest school (James M. Burchfield Primary Elementary School) is located approximately 0.6 mile to the west. Therefore, hazardous emissions that may occur during project construction would not result in any impacts on existing schools.

No proposed schools within 0.25 mile of the project site are known at this time; however, even if a school were to be constructed in closer proximity (cannabis facilities must be at least 600 feet from schools under state regulations) to the project site in the future, hazardous emissions would be anticipated to be relatively minor during project operation and would not result in significant adverse effects. As a result, this impact would be ***less than significant***.

d. Located on a site that 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 – No Impact

The project site is not considered a hazardous materials site, pursuant to Government Code Section 65962.5; therefore, the Proposed Project would not create a significant hazard to the public or the environment. ***No impact*** would occur.

e, f. 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 for people residing or working in the study area – Less than Significant

As described above, the Colusa County Airport is located less than 2 miles from the project site. The Colusa County ALUCP does not list any safety concerns applicable to properties north of Moon Bend Road (which is 0.8 mile south of the project site). Additionally, light industrial land uses are normally compatible within ALUCP Zone C3, within which a portion of the project site is located.

Structures constructed as part of the Proposed Project would be no taller than 40 feet , and would not include features greater than 180 feet AGL that would require notification of FAA and could potentially interfere with aircraft accessing the Colusa County Airport. Additionally, while workers at the CTC facility could potentially be exposed to a safety hazard if an aircraft were to crash into the facility, such an event is considered unlikely, particularly given the Proposed Project's distance from the airport (1.7 miles) and the relatively low volume of air traffic at the Colusa County Airport.

No private airstrips are located within 2 miles of the project site; therefore, no impacts would occur on these facilities. Overall, this impact would be ***less than significant***.

g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan – Less than Significant with Mitigation

Construction

As described in more detail in Section 3.16, "Transportation and Traffic," construction associated with the Proposed Project is anticipated to generate approximately 30 trips daily, occurring Monday through Friday between 7:00 a.m. and 7:00 p.m. with some permitted work on weekends and holidays if needed. As a result, traffic is expected to increase during this time, but not substantially. No road closures are anticipated to result from construction of facilities and structures for the Proposed Project; however, construction activities related to site access on East Main Street and D Street could temporarily restrict emergency access to areas between River Road/Bridge Street and the project site. Implementation of **Mitigation Measure TR-1 (Prepare and Implement a Construction Traffic Management Plan)** would ensure that emergency access is maintained throughout the construction period.

Operation

As described in Chapter 2, *Project Description,* the main entrance and exit for the CTC Business Park would be on D Street, via a connection from East Main Street. All roads within the CTC Business Park would be private and would be maintained by the property owners. The Proposed Project would include an emergency access road for local public service providers that would extend through the site from the D Street entrance and circulate around the site. As such, the Proposed Project would incorporate adequate emergency access and much of the project-related operational traffic would be confined to private roads.

Conclusion

Construction activities could interfere with emergency access along East Main Street and D Street; implementation of Mitigation Measure TR-1 would ensure that adequate access is available at all times. Operation of the Proposed Project would include full emergency access to all areas of the site. The overall impact would be ***less than significant with mitigation***.

h. Expose People or Structures to a Significant Risk of Loss, Injury, or Death Involving Wildland Fires, Including Where Wildlands Are Adjacent to Urbanized Areas or Where Residences Are Intermixed with Wildlands –Less than Significant

As described above, the project site is located in an area that is unzoned for wildfire hazard severity by CAL FIRE. In general, the northern Central Valley area, within which Colusa is located, is primarily in irrigated farmland production and is not an area typically subject to wildfire. The project site itself is currently being used for agricultural oat production. Dry grasses and structures on the project site could potentially be ignited by equipment during construction activities; however, compliance with California Fire Code requirements would minimize these potential hazards during construction and operation of the Proposed Project. Overall, this impact would be ***less than significant***.

3.9 HYDROLOGY AND WATER QUALITY

	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?	☐	☐	☒	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?	☐	☐	☒	☐
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site?	☐	☐	☒	☐
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f. Otherwise substantially degrade water quality?	☐	☐	☒	☐
g. Place housing within a 100-year-flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h. Place within a 100-year-flood hazard area structures that would impede or redirect floodflows?	☐	☐	☒	☐

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j.	Contribute to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

3.9.1 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 2016a). 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 2016b).

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 1 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.

Colusa County is covered under the Phase II Small MS4 General Permit (Order 2013-0001-DWQ). Among other things, this permit prohibits discharges of waste from the MS4 that are prohibited by Statewide Water Quality Control Plans or applicable Regional Water Quality Control Plans (Basin Plans), as well as discharges of storm water from the MS4 to waters of the U.S. in a manner causing or threatening to cause a condition of pollution or nuisance as defined in Water Code section 13050.

Section 404

Section 404 of the CWA prohibits discharges of dredged or fill material into waters of the U.S. without a permit from USACE. No discharges to waters of the U.S. are contemplated as part of the proposed Project; therefore, this section of the CWA is not discussed further.

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 2016c).

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 2016d).

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 permitted or unpermitted 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 CFR 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.

National Flood Insurance Program

Congress established the National Flood Insurance Program (NFIP) to provide property owners with access to federally backed flood insurance protection and to reduce the destructive consequences of flooding. FEMA administers the NFIP and works closely with state and local officials to identify flood hazard areas and flood risks. FEMA's Flood Insurance Rate Maps (FIRMs) show the extent of areas within the 100-year floodplain (i.e., areas that would be inundated by the 1-percent annual chance flood), providing the basis of the NFIP regulations and flood insurance requirements (FEMA 2017).

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. Discharges made under the Proposed Program may be subject to WDR requirements (CDFA 2017).

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 2016). 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 (DWR 2016):

- 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.

As described further under Section 3.9.2, although the Colusa subbasin is currently designated as Medium priority under CASGEM (DWR 2015); however, the draft 2018 SGMA Basin Prioritization proposes to change the subbasin's designation to High priority (DWR 2018). The Colusa Groundwater Authority is the GSA for the Colusa County portions of the groundwater basins that are subject to SGMA (CGA 2018). This includes the portion of the Colusa subbasin within which the proposed Project would be located.

State Water Resources Control Board Order WQ 2017-0023-DWQ – Cannabis General Order

SWRCB's Order WQ 2017-0023-DWQ regulates discharges of waste to waters associated with cannabis cultivation activities. Under this order, indoor commercial cultivation activities are exempt. Therefore, given that the proposed Project would include cultivation activities within greenhouses that would have permanent roofs and floors, and that would discharge industrial wastewater to a community sewer system, the Project is likely exempt under the SWRCB General Order.

California Code of Regulations – Cannabis Cultivation

Regulations pertaining to cannabis cultivation are codified in CCR Title 3 Division 8. In accordance with Assembly Bills 243 and 266, and Senate Bill 643, which were enacted and signed into law in 2015, the regulations contained in CCR Title 3 Division 8 establish a licensing program for lawful cultivation of medicinal and adult-use cannabis. The regulations specify a tiered system of license types, and requirements related to obtaining a cultivation license and conducting cannabis cultivation activities, including environmental protection requirements.

The following requirements contained in the CCR cannabis cultivation division are applicable to the Proposed Project:

- CCR Title 3 Div 8 Section 8307(a) requires all cultivators to comply with all CDPR laws and regulations.
- CCR Title 3 Div 8 Section 8307(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.
- CCR Title 3 Div 8 § 8102(o) requires that applicants provide proof of enrollment in or exemption from the applicable SWRCB or RWQCB program for water quality protection.
- CCR Title 3 Div 8 § 8102(u) requires applicants to identify all applicable water sources used for cultivation activities and the applicable supplemental information for each source.

Central Valley RWQCB Cannabis Cultivation Order

CVRWQCB Order No. R5-2015-0113 (Central Valley RWQCB 2015) applies to cannabis cultivation sites on which cultivation activities occupy and/or disturb more than 1,000 square feet. Cannabis cultivation activities at a given site fall within one of three tiers based on threat to water quality (Tier 1, Tier 2, and Tier 3), as determined by specific physical characteristics of the operation and its surroundings. Discharge prohibitions and specifications included in the CVRWQCB Order that are potentially applicable to the proposed Project include the following:

- The discharge shall neither create nor threaten to create a condition of pollution defined by Water Code section 13050.
- The discharge of earthen materials, soil, silt, plant waste, slash, or other organic, or inorganic refuse, rubbish, and solid waste, chemicals, bio-stimulatory substances and/or water containing elevated temperatures above background conditions, and/or chemicals, such as but not limited to pesticides, fertilizers, or other substances potentially causing toxicity, into any stream or watercourse is prohibited.
- The discharge of hazardous wastes, as that term is defined in California Code of Regulations, title 22, section 66261.1 et seq., is prohibited.
- The discharge of any waste not specifically regulated by this General Order and that could affect the quality of the waters of the state is prohibited, unless the discharger obtains regulatory coverage under separate WDRs or certification issued by the Central Valley RWQCB or SWRCB.
- Cultivation areas must be maintained so as to prevent nutrients from leaving the site during the growing season and post-harvest.
- Adequate buffers shall be in place to filter wastes from surface water discharges from production lands and associated facilities to all lakes, wetlands, watercourses, drainage ditches, or other water conveyances.
- No production lands or associated facilities are allowed to be located within 100 feet of any surface water body.
- Fertilizers, potting soils, compost, and other soils and soil amendments must be stored in locations where they cannot enter or be transported into surface waters and where nutrients or other elements cannot be leached into groundwater.
- Pesticides, petroleum products, and other liquid chemicals (including diesel, gasoline, oils, etc.) must be stored so as to prevent their spillage, discharge, or seepage. Storage tanks and containers must be of suitable material and construction to be compatible with the substance(s) stored and conditions of storage such as pressure and temperature. Above ground storage tanks and containers must be provided with a secondary means of containment for 110 percent of the capacity of the largest single container and sufficient freeboard to contain precipitation.

Local Laws, Regulations, and Policies

City of Colusa General Plan

The City of Colusa General Plan's Parks, Recreation, and Resource Conservation Chapter (City of Colusa 2007) contain goals and policies that outline the City's commitment to water conservation and water quality for both surface water and groundwater. In addition to land use considerations, key implementing actions to protect water resources involve the use of setbacks, best management practices for grading, drainage and erosion control, and site design. The Safety Chapter contains goals and policies that address flood hazard and storm drainage. The following goals and policies are applicable to the Proposed Project:

Goal PRC-9: To manage and protect the City's water resources.

Policy PRC-9.1: The City shall require natural drainage flows be maintained in new development projects to the greatest extent feasible.

Goal SAF-2: To minimize the potential for loss of life and damage to property due to flooding.

Policy SAF-2.1: The City shall continue to regulate all uses and development in areas subject to potential flooding through land use planning, zoning and other appropriate actions.

Policy SAF-2.2: The City shall minimize the potential for flood damage to buildings and other structures, particularly from storm water runoff.

Implementing Action SAF-2.2.a: Storm Drainage Master Plan, The City will adopt a Storm Drainage Master Plan for Colusa. The Master Plan will identify drainage facilities that will be constructed to eliminate or mitigate drainage problems in the City, and describe the means for financing the proposed improvements. The Storm Drainage Master Plan will be consistent with any Capital Improvements Plan prepared by the City and will address Regional Water Quality Control Board water quality standards, including Best Management Practices for storm drainage.

3.9.2 Environmental Setting

The project area is located within the City of Colusa and is bounded to the north by the Sacramento River.

The city is generally flat, and no major slopes are located in proximity to the project site except the levee to the north. In general, water falling in the area as precipitation drains to the Sacramento River, which is the primary drainage feature in the region.

The climate in the project area generally consists of hot, dry summers and moderately cool, wet winters. Average annual rainfall in Colusa is up to 27 inches (City of Colusa 2007).

Surface Water Hydrology and Quality

The project area is located adjacent to the Sacramento River, which is the largest river in northern California, draining an area of approximately 26,500 square miles. This river borders the project site to the northeast and forms the project area's northeastern boundary.

On the western edge of the project site, an abandoned irrigation ditch runs roughly north-south (City of Colusa 2006).

Water quality of the Sacramento River and its major tributaries are good enough to support beneficial uses such as drinking, irrigation, recreation and fish and other aquatic life. The majority of the water in the river and its tributaries is derived from melting snow. As a result, concentrations of dissolved minerals are considered to be relatively low (City of Colusa 2007).

Stormwater

The project area is not currently developed with large impervious surfaces, and is largely agricultural land (oats). As such, the project area does not generate substantial surface runoff and does not include stormwater infrastructure. Several barn/shed structures and an abandoned residence exist on the northern perimeter of the site, but these small areas of impervious surface do not generate substantial runoff. The site is relatively flat, and precipitation falling on the site infiltrates into the soil and groundwater below, or sheet-flows off the site through existing irrigation ditches. *Two existing, buried 18-inch culverts cross Clay Street in the project area.*

The project site is not currently connected to the City's stormwater system, but the City has an existing 42-inch main line on Bridge Street, which connects with East Main Street (which would provide access to the proposed site).

Groundwater Levels, Flows, and Quality

The Proposed Project lies within the Sacramento Valley Groundwater Basin – Colusa Subbasin. This subbasin extends from the Coast Ranges and foothills on the west to the Sacramento River on the east, and from Stony Creek in the north to Cache Creek in the south (DWR 2006). This subbasin is currently designated as Medium Priority pursuant to SGMA (DWR 2015), but the draft 2018 SGMA Basin Prioritization proposes to change the subbasin's designation to High Priority (DWR 2018). Part of the reason for the elevated CASGEM/SGMA prioritization is documented groundwater level declines in the subbasin, as well as noted areas of subsidence near Orland and Arbuckle (DWR 2018).

Historically, a number of groundwater quality impairments (high electrical conductivity, total dissolved solids, adjusted sodium absorption ratio, nitrate, and manganese) have been documented near Colusa (DWR 2006).

In 2011 (when a geotechnical investigation was performed on the project site), static groundwater was observed at depths of approximately 4.5-5.5 feet below ground surface (bgs) at the project site (Gularte 2011). At the time of the investigation (April 2011), the river was at an elevation of 56 feet above msl. In general, the groundwater on the project site fluctuates considerably depending on the elevation of the nearby river (Gularte 2011). The Phase 1 Environmental Site Assessment (ENGEO 2004) reported that three water wells were present on the site.

Well Sites

Three groundwater wells are located within 0.5 mile of the project site, as detailed in **Table 3.9-1**.

Table 3.9-1. Groundwater Wells near the Project Site

Well Number	Assessor's Parcel Number	Distance from Project Site (Approximate miles)
Well #1	01120040	0.4 East
Well #2	01120050	0.4 East
Well #4	01120060	0.4 East

Sources: CDOC 2018a, 2018b, 2018c

Flooding and Inundation

The project site is located in floodplain Zone X, which is defined as areas of 0.2 percent annual chance flood or areas of 1 percent annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile (FEMA 2003, 2018). Zone X is not a Special Flood Hazard Area, as defined by FEMA.

The project site is located within the mapped inundation area for Oroville Dam (DWR 2013). Although information is not readily available, the project site also may be within the inundation area for Shasta Dam, as well as potentially Trinity Dam. The proposed project site also could be affected by a failure at Black Butte Lake or East Park Reservoir.

The project site is approximately 100 miles inland from the California coast and is therefore not within any mapped tsunami inundation areas.

3.9.3 Discussion of Checklist Responses

a, f. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality – Less than Significant

Construction

As discussed in Chapter 2, *Project Description*, site preparation would involve grading, excavation, and import and placement of fill. Ground disturbance and operation of construction equipment for these activities could release sediment or leaked hazardous materials, such as fuel or oil contained in the equipment. If hazardous materials were spilled on site, they could be washed off the site during a precipitation event, or potentially infiltrate to the soil or groundwater, resulting in adverse impacts on water quality and beneficial uses. Given the presence of a raised levee on the northern boundary of the Project site (between the Project site and the Sacramento River), any pollutants spilled on the Project site would be unlikely to be transported to the Sacramento River.

Compliance with the NPDES General Construction Permit (see discussion above) would minimize potential for impacts, as it would require preparation and implementation of a SWPPP, which would include erosion control and spill prevention measures. The SWPPP also would include good site housekeeping measures and a contingency plan in the event of a spill, including appropriate cleanup protocols. All of these requirements would reduce potential

for a spill or discharge of pollutants to occur during project construction, and would minimize adverse effects should a spill to occur.

With implementation of NPDES General Construction Permit requirements, the Proposed Project would not violate any water quality standards or WDRs, or otherwise substantially degrade water quality during construction. Therefore, this impact would be less than significant for construction.

Operation

The Proposed Project would add approximately 35 acres of impervious surface to the area. As noted above, the site is currently agricultural land, and water that falls on the site as precipitation either infiltrates into the soil or sheet-flows off the site. The addition of impervious surfaces to the site would increase the volume and velocity of runoff during storm events. The runoff also could pick up pollutants (e.g., automotive fluids in parking lots, fine sediments) that are present on the impervious surfaces. Without proper stormwater management, this runoff could result in adverse water quality effects in receiving waters, such as the Sacramento River.

As described in Chapter 2, *Project Description,* the Proposed Project would include a 13-acre stormwater detention area, which would be served by a new pump station and a new 10-inch force main that connects to the City's existing 42-inch main line on Bridge Street. A swale also would be constructed along the southern site boundary; in the event of overflow from the detention area, the swale would convey excess flows to two existing 18-inch culverts under East Clay Street. Inclusion of these stormwater management features would minimize potential impacts from stormwater discharges from the site's impervious areas. The Proposed Project also would be required to meet the post-construction requirements in the NPDES General Construction Permit, which limit runoff and discharges of pollutants.

The proposed CTC facility would include installation and maintenance of a pressure sewer system that would be connected to the City's existing sewer system. The system would include grinder pumps that would collect all the wastewater from the facility and grind it into slurry, which would then be pumped to a larger sewer main through the City's existing manhole on D Street. Discharges to the municipal sewer system from the Proposed Project are discussed in Section 3.18, "Utilities and Service Systems," and would not substantially affect water quality in receiving waters.

Operation of the Proposed Project also would be required to comply with the Central Valley RWQCB's Order R5-2015-0113 (described above). As such, discharges of cannabis cultivation wastes and materials and resulting adverse effects on water quality would be prohibited. In compliance with this order, as well as hazardous materials laws and regulations (see discussion in Section 3.8, "Hazards and Hazardous Materials"), the Proposed Project also would store pesticides, petroleum products, and other liquid chemicals (e.g., diesel, gasoline, oil) so as to prevent their spillage, discharge, or seepage.

Given compliance with the existing laws and regulations described above, and inclusion of stormwater management features on site, the Proposed Project would not adversely affect water quality during operation. Therefore, this impact would be less than significant for operation.

Conclusion

Because the Proposed Project would be constructed and operated in compliance with the existing laws and regulations described above, and because the site would include stormwater management features on site, the Proposed Project would not adversely affect water quality during construction or operation. Therefore, overall, this impact would be ***less than significant***.

b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or lowering of the local groundwater table level – Less than Significant

Project construction activities would require relatively small amounts of water for dust control and other related uses. Given that the City's municipal water supplies are obtained entirely from groundwater (see below, and in Section 3.18, "Utilities and Service Systems"), it is likely that these construction water demands would be met through groundwater.

As described in Chapter 2, *Project Description,* the proposed Project would rely on the site's existing agricultural well for agricultural water supply. At full buildout, the Proposed Project's estimate agricultural water demand during peak periods is estimated at 146,112 gpd. Excess irrigation water would be reclaimed and recycled, using the UV disinfection method. The Proposed Project's domestic water demand (i.e., sinks, restrooms) would be met through connections to the City's municipal system. As described in Section 3.18, "Utilities and Service Systems," the City's water supply is obtained from groundwater. The City pumps on average 1.8 million gpd of groundwater.

The Proposed Project's groundwater use would not be inconsistent with prevailing agricultural land uses in the area. As described in the CDFA CalCannabis PEIR (CDFA 2017), although differing information is reported in the literature, water use requirements for cannabis production are generally in line with water use for other agricultural crops, such as corn, alfalfa, tomatoes, peaches, and hops. Use of groundwater for the Proposed Project would be similar to other agricultural operations in the Colusa area. Additionally, being located within the Colusa Subbasin (a proposed High Priority basin pursuant to SGMA), the Proposed Project would be subject to the GSP that is being prepared for this subbasin, which would serve to avoid or minimize undesirable results (e.g., subsidence, chronic lowering of groundwater levels).

Although the Proposed Project's groundwater demand would add to the burden and cumulative demands on the subbasin, on its own, the CTC project would not cause substantial depletion of groundwater supplies or lowering of the groundwater table. The Proposed Project's location in close proximity to the Sacramento River may also mitigate any localized lowering of the groundwater table that could occur, since groundwater levels in this area are heavily influenced by the river. Overall, this impact would be ***less than significant***.

c, d, e. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, resulting in substantial erosion, siltation or flooding on-site or off-site, or create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff – Less than Significant

Construction

The Proposed Project would not alter the course of any stream or river. The Proposed Project would involve construction activities that would have the potential to cause soil erosion or siltation on or off the site. Site preparation, grading, and use of heavy construction equipment could loosen soil, which could then be eroded and washed off site during rain storms.

Because more than one acre would be disturbed, the RWQCB would require compliance with the NPDES General Construction Permit where a SWPPP would be implemented. As described in item "a" above, the SWPPP would include erosion control measures and good site housekeeping measures that would serve to avoid or minimize erosion or siltation during construction activities. As a result, compliance with this permit would ensure that this impact is less than significant for construction.

Operation

As noted in item "a" above, the Proposed Project would create approximately 35 acres of new impervious area. This new impervious area would increase surface runoff volumes and velocity, as water would no longer infiltrate into the soil to the same degree. If preventive measures are not taken, this increased runoff rate could facilitate transport of sediments off the site, resulting in siltation and sedimentation that is detrimental to water quality. The increased runoff also could exceed the capacity of existing stormwater collection facilities.

As described in Chapter 2, *Project Description,* the Proposed Project would include a detention/water quality basin within the southwestern portion of the project site. This basin would slow flows and discharges into existing drainage systems and mitigate any on-site increases to predeveloped conditions in the area, thereby minimizing any erosion or siltation on and off the site. The Proposed Project also would be required to comply with regulatory standards, which require that all new projects not contribute to new or increased flooding impacts on adjoining parcels, nor upon upstream and downstream areas. To ensure that all projects comply with these standards, the City's Storm Drainage Master Plan and City Public Improvement Standards require that the project applicant prepare a comprehensive storm drainage plan for the ultimate development buildout and any interim drainage plan serving the entire project area or any portion of the project area associated with phasing of the development improvements. The storm drainage plan must be prepared by a registered civil engineer and submitted to the City Engineer for approval prior to final approval of the project improvement plans. Required contents of the drainage plan include the following:

- Specific storm drainage design features to control increased runoff from the project site;

- Information demonstrating the effectiveness of the proposed storm drainage system to prevent negative impacts to existing downstream facilities and to prevent additional flooding at off-site downstream locations;
- All necessary calculations and assumptions and design details;
- Design features consistent with the most recent version of the City's Storm Drainage Master Plan and City Public Improvement Standards; and
- Description of secondary flood routing analysis and final sizing and location of on-site and off-site storm conduit channels, structures, and detention facilities.

Given the inclusion of the stormwater management features identified above and compliance with regulatory standards, including a storm drainage plan as required by the City, operation of the Proposed Project would not result in on- or off-site siltation or exceedance of existing stormwater system capacity. Therefore, this impact would be less than significant for operation.

Conclusion

The Proposed Project would be constructed in compliance with the NPDES General Construction Permit and SWPPP, and would operate in compliance with regulatory standards that require no new or increased flooding impacts and implementation of a storm drainage plan. As a result, the Proposed Project would not result in substantial erosion, siltation, or flooding on or off the site, or create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems during construction or operation. Therefore, overall, this impact would be ***less than significant***.

g. Place housing within a 100-year-flood hazard area, as mapped on a federal flood hazard boundary or flood insurance map or other flood hazard delineation map – No Impact

The Proposed Project would not involve the construction of any housing. As a result, ***no impact*** would occur.

h. Place structures within a 100-year-flood hazard area resulting in impeding or redirect flood flows – Less than Significant

As described above, the Proposed Project is located on land classified as Zone X by FEMA, which is defined as areas of 0.2 percent annual chance flood or areas of 1 percent annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile. This is not the same as FEMA's designated Special Flood Hazard Area, and is not considered within the 100-year-flood hazard area. While the project area could flood during a 500-year storm (0.2 percent annual chance) or to depths of less than 1 foot during a 100-year storm (1 percent annual chance), project structures would not be located within a 100-year flood hazard area. Therefore, this impact would be ***less than significant***.

i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding resulting from the failure of a levee or dam – Less than Significant

The project site is within the mapped inundation area of Oroville Dam (DWR 2013). Although detailed information is not readily available, the site also may be within the inundation areas for several other dams and reservoirs, including Shasta Dam, Trinity Dam, Black Butte Lake, and East Park Reservoir. Failure of one or more of these dams is unlikely, although there is a small chance that such failure could occur and expose people and structures at the project site to substantial risk of loss, including death. It is important to note that the entire area within the city limits is similarly within the potential inundation area for these dams and reservoirs. The general plan notes that the time to flooding in Colusa ranges from 8 hours for Lake Oroville to 35 hours for Black Butte Lake and East Park Reservoir (City of Colusa 2007). The City has placed no restrictions on development in the project area based on the potential for inundation. As described in item "h" above, the project site is not located in a FEMA-designated Special Flood Hazard Area, and the Proposed Project would not experience substantial losses during such a flood event. Given the extremely low probability of dam failure, this impact would be ***less than significant***.

j. Contribute to inundation by seiche, tsunami, or mudflow – No Impact

The Project site will not be impacted by seiche, tsunami or mudflow due to the relatively flat location, underlying and surrounding soils, it's distance from the ocean or any other large body of water, and lack of nearby volcanoes. As a result, ***no impact*** would occur.

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3.10 LAND USE AND PLANNING

	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. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

3.10.1 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

No state regulations are applicable to land use and planning in relation to the Proposed Project.

Local Laws, Regulations, and Policies

City of Colusa General Plan

The City of Colusa General Plan's Land Use Chapter establishes the framework for community development and is accompanied by goals, policies, and implementing actions that will guide the City's physical growth through 2027 (City of Colusa 2007). This element uses an illustrative land use map to express these policies as well as the City's development priorities.

Goal LU-2: To ensure public health and safety by maintaining adequate buffers between agricultural land and urbanized areas.

> **Policy LU-2.1:** Development projects shall be reviewed on a case-by-case basis to ensure that adequate buffers are maintained between urban and agricultural lands, while giving developers flexibility in design at the urban edge.

Goal LU-4: To protect agricultural operations as new development occurs.

Policy LU-4.1: The City shall require an evaluation of the potential for adverse impacts on agricultural production and economic value from exposure to urban development for all new projects adjacent to rural lands. It is the intent of this policy to minimize the creation of conditions that will impair any present farm operations to a degree that threatens the long-term viability of the use of that land for continued agricultural purposes.

Policy LU-4.2: The City shall require a 200-500 foot residential buffer, based on the type of agricultural use (e.g., field crops, orchards, grazing, etc.) and method of pesticide application (aerial, ground application), as appropriate.

Goal LU-6: To provide a comprehensive, logical land use planning process rather than an incremental, piecemeal approach.

Policy LU-6.2: Growth shall occur on the basis that projected revenues should be sufficient to meet public costs.

Policy LU-6.3: Growth shall be managed to ensure that adequate public facilities and services are planned for and provided in a manner that protects the public's health, safety, and welfare.

The Parks, Recreation and Resource Conservation Chapter includes goals, policies, and implementing actions for open space. The following goal and policy are applicable to the Proposed Project:

Goal PRC-1: To preserve, protect, and enhance an interconnected system of significant open space areas, including lands with sensitive local resources, to the maximum extent feasible.

Policy PRC-1.2: The City shall require that new development be designed and constructed to preserve the following types of areas and features as open space to the maximum extent feasible:

- High erosion hazard areas
- Scenic corridors
- Wetlands and riparian vegetation
- Drainage corridors
- Colusa-Sacramento River State Recreation Area
- Other areas of federal, state or local significance

3.10.2 Environmental Setting

The project site is situated in Colusa County and is bounded by the Sacramento River and the Colusa Levee to the north, rural residential land to the south beyond East Clay Street, and agricultural lands to the east and west. The county encompasses approximately 1,153 square miles of land and is located in the west central portion of the Sacramento Valley.

Agriculture is the primary economic activity in Colusa County, which ranked 22 of 58 in agricultural production in 2005. Industrial uses comprise the second largest share of designated acreage in the City's planning area and is located primarily around Colusa County Airport and in southwestern portion of Colusa near the high school and fairgrounds (City of Colusa 2007).

Land located directly east of the project site is classified as Urban Built-Up land, while land zoned as a mixture of Residential (R-1-6), Light Industrial (M-1), and Rural Residential (RR-5) can be found to the south. Southwest of the project site is land zoned Residential (R-1-6) and to the northwest is land zoned for Mixed Use (MU) (Colusa County 2014). The project site itself has general plan designations of Low Density Residential (LD) and Medium Density Residential (MD) and is zoned Planned Development (P-D) District (City of Colusa 2007).

3.10.3 Discussion of Checklist Responses

a. Divide an established community – Less than Significant

The project site is located on the northeastern border of Colusa. There is urban development adjacent to the western border of the project site and open space/agricultural land on the south side. To the north and east of the project site is the Colusa Levee and the Sacramento River. The project site is not surrounded by an established community, but the downtown area is located to the west of the site. Thus, the Proposed Project would not divide an established community. In addition, a review process that is consistent with the development permit would be required. This impact would be ***less than significant***.

b. Conflict with land use plans or policies – Less than Significant

The Proposed Project involves an amendment to the general plan to modify the site's general plan land use designation and corresponding zoning. Eighty-four acres of the site would be redesignated from low density residential to office professional/light industrial and would be rezoned from Planned Development District to light industrial use under the City Zoning Code. The General Plan describes this use as follows:

> Light Industrial uses include research and development facilities, warehousing, manufacturing, fabrication, assembly and distribution of consumer goods, or other uses which do not create excessive noise, smoke, odors, or other objectionable nuisances to adjacent non-industrial zoned areas.

Application of General Plan land use policies to the Proposed Project through the development review process would help to ensure compatibility with adjacent land uses. In addition, the Proposed Project is anticipated to generate over 300 jobs with full site development. For these reasons, this impact on land use would be ***less than significant***.

c. Conflict with any habitat conservation plan or natural community conservation plan – No Impact

There are no regional habitat conservation plans that encompass the project site (CDFW 2017). As a result, the Proposed Project would have ***no impact***.

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3.11 MINERAL RESOURCES

	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?	☐	☐	☐	☒

3.11.1 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 (CDOC 2018. 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.

3.11.2 Environmental Setting

No mining sites are located within a 5-mile radius of the project site. The closest sites are the Gould Road Quarry (Mine ID: 91-06-0009) and the West Butte Quarry (Mining ID: 91-51-0003). Both are located approximately 9 miles north of the project site. The Gould Road Quarry is closed and reclamation has been certified complete. It is owned by Juell and its primary product was sand and gravel. Operation type for the mine was streambed or gravel bar skimming and pitting (CDOC 2016a). The West Butte Quarry is an active mine that is in progress for reclamation. It is owned and operated by Butte Sand and Gravel and its primary product is sand and gravel. Operation type for the mine is open pit (CDOC 2016b).

There are no designated Mineral Resource Zones located within the city (City of Colusa 2007).

3.11.3 Discussion of Checklist Responses

a, b. 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, or of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan – No Impact

The City's General Plan does not identify any known or locally important mineral resources in the vicinity of the project site. In addition, the project is considered an agricultural activity that would not preclude the access to any mineral resources should they be identified in the area in the future. . As a result, the Proposed Project would have ***no impact*** on the availability of mineral resources or on mineral resource recovery sites.

3.12 NOISE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project result in:				
a. Exposure of persons to or generation of noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☐	☐	☒	☐
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e. For a project located within an airport land use plan 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?	☐	☐	☐	☒
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project site to excessive noise levels?	☐	☐	☐	☒

3.12.1 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 (L_{max})** is the maximum sound level measured during a given measurement period.
- **Minimum sound level (L_{min})** is the minimum sound level measured during a given measurement period.
- **Equivalent sound level (L_{eq})** 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 (L_{xx})** 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 (L_{dn})** 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 A-weighted sound levels during a 24-hour period, with 5 dB added to A-weighted sound levels between 7:00 p.m. and 10:00 p.m. and 10 dB added to 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. **Table 3.12-1** presents approximate noise levels for common noise sources, measured adjacent to the source.

Table 3.12-1. 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 2009

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.

3.12.2 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).

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 3.12-2.** .

Local Laws, Regulations, and Policies

City of Colusa General Plan

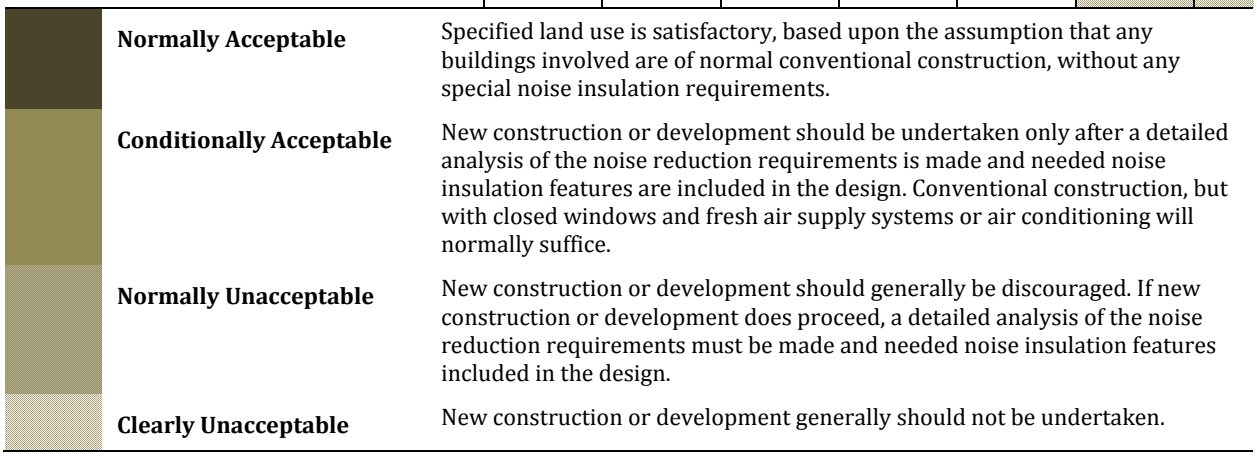
The City of Colusa General Plan (2007) includes the following goals and policies related to noise. General Plan Tables 7.3, 7.4, and 7.5 are provided in **Appendix D**, *Noise Standards and Calculations*:

Goal N-1: To protect noise-sensitive land uses from new noise-generating uses that would be incompatible with such sensitive receptors.

> **Policy N-1.1:** The City shall implement the noise standards in Table 7.3 above for new uses affected by traffic and airport (mobile) noise and in Table 7.4 above for new uses affected by non-transportation (stationary) noise sources. *[Note: Tables 7.3 and 7.4 are provided in Appendix D of this IS/MND.]*
>
> > **Implementing Action N-1.1a: Development Review.** The City will implement its development review process in accordance with the requirements contained in documents such as, but not limited to, the City of Colusa Zoning Ordinance, the Uniform Building Code (UBC), State Noise Insulation Standards (Title 24), Specific Plans, the City's design guidelines, the California Environmental Quality Act (CEQA), and Colusa County environmental health regulations.

Table 3.12-2. State Land Use Compatibility Standards for Community Noise Environment

Land Use Category	Community Noise Exposure - L_{dn} or CNEL (db)						
	50	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

Because noise considerations are an integral part of the community planning and design process, the City will require noise information from the project applicant to

adequately evaluate the effects of project noise on the community. Conditions of approval will be developed, along with environmental mitigation measures, to ensure that the goals and policies of this Noise Element are met. For projects that are subject to design review, this process will be used to determine ways in which project design may reduce noise to acceptable levels: site planning, traffic planning, architectural layout, construction modifications, landscaped berms and, as a last resort, sound wall barriers.

Implementing Action N-1.1b: Noise Performance Standards. The noise performance standards shown in Table 7.3 and Table 7.4 of this Noise Element will be adopted with the General Plan update. The City will apply these standards to the review of new development of noise-sensitive uses exposed to existing fixed noise sources. These standards will also be used to evaluate the potential impacts of proposed new fixed noise sources in proximity to existing noise-sensitive land uses. Where a noise sensitive land use is proposed near a fixed noise source, such as an industrial facility or the airport, noise measurements will be performed to determine whether existing and/or future noise levels from that source will exceed the City's noise performance standards at the property line of the proposed use. Similarly, where a fixed noise-producing use such as an industrial facility, is proposed near an existing or future noise sensitive use, a noise analysis will be prepared to ensure that the noise produced by the proposed project will not exceed the City's noise performance standards at the property line of the noise sensitive use. The acoustical analysis will be the responsibility of the project applicant and follow the guidelines in Table 7.5. *[Note: Table 7.5 is provided in Appendix D of this IS/MND.]*

Policy N-1.2: The City shall require appropriate noise attenuation measures to be included in the project design for proposed noise-sensitive uses in proximity to existing noise-producing uses, as needed, and project design shall be in compliance with the noise standards in Table 7.3 and Table 7.4.

Policy N-1.3: Where noise attenuation is required to meet the standards of this Element, an emphasis shall be placed on site planning and project design, including, but not limited to, building orientation, setbacks, landscaping, and building construction practices.

Policy N-1.5: The City shall require any necessary noise analyses to assess compliance with the City's Noise Element standard and Environmental Review Ordinance. Noise analyses shall be prepared in accordance with the requirements in Table 7.5.

Goal N-2: To minimize noise generated by construction activities.

Policy N-2.1: The City shall regulate and control noise associated with construction activities to reduce impacts on nearby sensitive receptors.

City of Colusa Noise Ordinance

The City of Colusa Noise Ordinance (2009) prohibits excessive noise and establishes construction noise requirements. The prohibitions against excessive noise consider a variety of factors, including (but not limited to) the location and sound level of the noise, proximity to residential property, time of day or night, noise duration, and noise source. The construction noise requirements are that "no person shall perform construction work or any

construction related activity between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, or between 7:00 p.m. and 8:00 a.m. on Saturdays and Sundays."

Colusa County Noise Ordinance

The Colusa County Noise Ordinance (2018) allows for construction and landscape activities to occur so long as these activities meet at least one of two noise limitations and occur within the hours of 7:00 a.m. and 7:00 p.m. on weekdays, and between 8:00 a.m. and 8:00 p.m. on Saturdays and Sundays. The specific noise limitations are that (1) no individual equipment produces a noise level exceeding 83 dBA at a distance of 25 feet, or (2) the noise level at any point outside of the project's property does not exceed 86 dBA (excluding impact tools and equipment that are equipped with manufacturer's muffler recommendations). This noise ordinance also establishes noise level limits based on land use type and time of day.

The analysis below utilizes the City of Colusa's Noise Ordinance and General Plan and the County's Noise Ordinance.

3.12.3 Environmental Setting

Ambient noise in the City of Colusa is generally low (quiet) and primarily affected by traffic on State Route (SR) 20 and SR 45 (also known as Bridge Street and Market Streets, respectively, through town). To a lesser degree, the Colusa County Airport and the few existing noise-generating industries also affect the City's ambient noise, although they are largely located on the outskirts of the city and away from sensitive receptors. The City of Colusa General Plan (2007) provides traffic-related ambient noise measurements and noise contours related to airport noise operations. SR 20 and SR 45 are located approximately 1,200 feet west of the center of the project site. Near the project site, traffic-related noise at the SR 20/Market Street intersection was approximately 65 dBA up to 34 feet from the center of the roadway (City of Colusa 2007).

The project site is located 1.6 miles north of the Colusa County Airport. The project site is partially within the Airport Influence Area and Compatibility Zone C3 (Secondary Traffic Pattern Zone), which is a zone with low to moderate noise impacts from airport traffic (Colusa County Airport Land Use Commission 2014). Most of the project site is below the 55-dB noise contour identified in the general plan, while a small section on the eastern side falls within the 55-65 dB range due to noise from airport operations (City of Colusa 2007).

With respect to groups that could be exposed to noise generated by the Proposed Project, land uses located near the site are residential and agricultural. The nearest residences to the project site are located on Clay Street and Oak Street; the closest of these is approximately 50 feet from the southern edge, and 765 feet from the center, of the site. The nearest medical facility is the Colusa Medical Center, located 2190 feet to the southwest of the center of the site. No other sensitive receptors are located near the existing site. Agricultural land uses are south, southeast, and north (across the Sacramento River) of the project site.

3.12.4 Discussion of Checklist Reponses

a. Noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state or federal standards – Less than Significant

The Proposed Project would generate noises associated with construction activities, which would be temporary and cease once construction is complete. During construction, the Proposed Project would be consistent with the City of Colusa Noise Ordinance, which limits construction activities and use of construction equipment to 7:00 a.m. to 7:00 p.m. weekdays and 8:00 a.m. to 7:00 p.m. on Sundays and holidays. The Proposed Project would also be consistent with the Colusa County noise ordinance's allowable construction period. Operational noise sources would include vehicle traffic, grounds maintenance, building heating, ventilation, and air conditioning (HVAC) systems, and, periodically, testing or use of emergency backup generators. The nearest residence is 765 feet from the center of the Project area. Noise standards from the general plan and calculations used in this analysis are provided in Appendix D.

Construction

Because some residential areas are located adjacent to the project site (across Clay and D streets), this analysis includes an evaluation of estimated noise levels compared to the values recommend by FTA. The FTA has established guidance on noise and vibration impact assessments for construction equipment (FTA 2018). The FTA recommends that, as a rough estimate of construction noise levels, the noisiest two pieces of equipment be used to analyze the anticipated noise levels at sensitive receptors assuming the following:

- full power operation for a full one hour,
- no obstructions to the noise travel paths,
- typical noise levels from construction equipment, and
- all pieces of equipment are assumed to operate at the center of the project site.

Using these assumptions, the noise levels at specific distances can be obtained using the following equation:

$$L_{eq}(equip) = EL_{50ft} - 20log_{10}(D/50)$$

Where:

L_{eq} (equip) = the noise emission level at the receiver at distance D over 1 hour.

EL_{50ft} = noise emission level of a particular piece of equipment at reference distance of 50 feet.

D = the distance from the receiver to the piece of equipment in feet.

In order to add the two noisiest pieces of equipment together, the following equation applies:

$$L_{total} = 10\ log_{10}(10^{\frac{L1}{10}} + 10^{\frac{L2}{10}})$$

Where:

L_{total} = The noise emission level of two pieces of equipment combined

L1 = The noise emission level of equipment type 1

L2 = The noise emission level of equipment type 2

Noise levels at the Proposed Project's nearest sensitive receptors generated by equipment used during project construction were estimated by using the FTA reference guide (FTA 2018). The values used for the reference noise level at 50 feet were 88 and 85 dBA.

Using the equations above and the two noisiest pieces of equipment, the noise levels at the nearest receptor (a residence), located 765 feet south of the center of the project site, would be approximately 66 dBA. Operating these pieces of equipment simultaneously within 61 feet of a receptor would expose the receptor to noise levels of 86 dB or greater, which is Colusa County's threshold during the permissible daytime construction periods. However, few sensitive receptors are located within 60 feet of the project site's edge. Given that it is unlikely that multiple pieces of equipment would be operating in the same area at the same time within this 60-foot distance for an extended period, the Proposed Project is expected to be in compliance with Colusa County's construction-related noise limit (less than 86 dB). In addition, the estimated noise level at the nearest sensitive receptors (66 dBA) from the project site's center is below the FTA's recommended level of 90 dBA. Furthermore, construction would be short term and intermittent. The use of diesel-powered construction equipment would be temporary and episodic, affecting only a few nearby receptors for a limited period. For these reasons, and because such work would not violate city or county noise standards, the temporary increases in ambient noise levels associated with construction would be less than significant.

Operation

Because some residential areas are located near the project site, the project's anticipated operational noise levels have been compared to the standard of 65 dBA in the City's noise ordinance for residential land uses.

During operation of the Proposed Project, noise would derive from building HVAC systems, testing and periodic use of emergency generators, operation of pumps, and vehicular traffic entering and leaving the site.

Near the project site, traffic noise from major streets would be caused by vehicles not related to the Proposed Project on SR 45 and SR 20 (Market Street and Bridge Street, respectively). The Proposed Project is estimated to add 822 trips per day, which would primarily occur (528 trips) between 5 a.m. and 3 p.m. for the morning shift. Comparing the number of trips attributable to the Proposed Project (822 per day) to the number of trips occurring on Market and Bridge Streets (approximately 15,000 existing daily trips), as shown in Table 3.16-4 in Section 3.16, *Traffic and Transportation*, the Proposed Project would not noticeably affect the existing traffic-influenced ambient noise.

The Proposed Project's pumps for sewer and stormwater transport would be located underground or within pump stations. Emergency generators for the Proposed Project would be tested and/or operated up to 100 hours per year. The Proposed Project's HVAC systems and climate control features for the greenhouses would not be anticipated to be loud noise sources, and would generally be located at least 100 feet from the nearest residences. Thus, the Proposed Project's operational activities would not result in significant ambient noise increases at the nearest sensitive receptors because of existing noise sources (i.e., existing agricultural operations on the site) and the distance to sensitive receptors. For the reasons described above, operational noise impacts would be less than significant**.**

Conclusion

Overall, considering both construction activity and operations, the Proposed Project would not conflict with applicable standards and this impact would be ***less than significant***.

b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels – Less than Significant with Mitigation

Vibration thresholds for buildings occur at a PPV of 0.12 in/sec for buildings that are extremely susceptible to vibration damage; the human annoyance threshold from vibration-causing activities is 80 VdB. Vibration and ground-borne noise levels were estimated following methods described in the FTA *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) to determine the PPV that would potentially affect buildings and the VdB for annoyance. It was assumed that the equipment used at the main area of the project site would have similar vibration sound levels as a large bulldozer. Loaded trucks were evaluated for their potential use at any of the project locations, including the main project site, the utility route, and D Street. A front-end loader was evaluated for its potential use in utility construction activities between Bridge Street and D Street. A vibratory roller is included to represent roadway improvement activities along Main Street and D Street. **Table 3.12-3** shows the distances, given the relevant parameters for the construction equipment used for the Proposed Project, at which the Proposed Project would meet the FTA vibration building and annoyance thresholds. These distances were compared to sensitive receptor locations shown in Appendix D, *Noise Calculations*, and are discussed further below.

Table 3.12-3. Construction Equipment and Vibration Distance

Site	Equipment	PPV at 25 ft	Distance to PPV of 0.12 in/sec	Noise Vibration Level at 25 ft	Distance to Noise Vibration of 80 VdB
Main area of project site	Large Bulldozer	0.089 in/sec	20 feet	87 VdB	42 feet
Any portion of project site	Trucks	0.076 in/sec	18 feet	86 VdB	40 feet

Site	Equipment	PPV at 25 ft	Distance to PPV of 0.12 in/sec	Noise Vibration Level at 25 ft	Distance to Noise Vibration of 80 VdB
Utility Route (between Bridge Street and D Street)	Small Bulldozer or Front-end Loader	0.003 in/sec	2 feet	58 VdB	5 feet
D Street	Vibratory Roller	0.21 in/sec	36 feet	94 VdB	73 feet

At the project site, there would be no noise-sensitive receptors located closer than the building vibration or noise vibration annoyance threshold distance (as measured from the center of the main project site). Vibration from the use of a vibratory roller during paving along Main Street and D Street would not surpass thresholds at the nearest sensitive receptors (which is approximately 450 feet from the nearest D Street improvement). Trenching for utilities would occur between D Street and Bridge Street and use a front-end loader, which would not exceed building or annoyance vibration levels at the nearest receptors on Bridge Street. Loaded trucks associated with the Proposed Project would generally be located a sufficient distance (more than 40 feet) from sensitive receptors to not result in any impacts. However, since loaded trucks may be used during utility construction activities and the potential utility route may be located near sensitive receptors on Bridge Street, it is possible that receptors at these locations would experience building or annoyance vibration levels exceeding the FTA thresholds. This would be a potentially significant impact. **Mitigation Measure NOI-1 (Implement Buffers between Sensitive Receptors and Proposed Project Construction Equipment)** would be implemented to minimize the potential for the Proposed Project to generate vibration levels at these receptors greater than the thresholds. In general, the Proposed Project's vibration-causing construction activities would be barely perceptible due to the temporary duration of these activities and their limited occurrence near the project site boundary or in any given location along the utility and road routes.

Operation of the Proposed Project would comply with local ordinances and would not cause any vibration-related impacts. Therefore, the impact of ground-borne vibration or ground-borne noise vibration would be ***less than significant with mitigation***.

Mitigation Measure NOI-1. Implement Buffers between Sensitive Receptors and Proposed Project Construction Equipment.

To minimize potentially significant adverse impacts related to vibration-related noise annoyance on local sensitive receptors, the City shall require that loaded trucks maintain a distance of at least 40 feet from nearby sensitive receptors (residences) during construction activities.

c. Substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project – Less than Significant with Mitigation

Construction of the Proposed Project would be short term and phased, and would not involve permanent noise sources. The Proposed Project's operations would involve sources of permanent, ongoing noise associated with pump use and the HVAC or climate-control units. The Proposed Project's design and operations would comply with the California Building Code. However, depending on the exact location, design, and maintenance of these permanent noise sources, the Proposed Project may permanently increase ambient noise levels at nearby sensitive receptors. This would be a potentially significant impact. Implementation of **Mitigation Measure NOI-2 (Measure Proposed Project Operational Noise Levels and Implement Noise-Reducing Measures)** would require that the project applicant obtain a quantitative noise analysis consistent with the requirements of General Plan Table 7.5 once the project's design is finalized and collect existing ambient noise measures to confirm that the Proposed Project's would not result in a substantial permanent increase in ambient noise levels. In addition, the Proposed Project would comply with the City and Colusa County noise ordinances, as well as noise-restricting requirements of the City's cannabis manufacturing ordinance. Compliance with the local regulations and implementation of Mitigation Measure NOI-2 would ensure that permanent noise sources (equipment) are designed, located, and maintained properly, and would not substantially increase ambient noise levels. Therefore, this impact would be ***less than significant with mitigation***.

Mitigation Measure NOI-2. Measure Proposed Project Operational Noise Levels and Implement Noise-Reducing Measures.

To minimize potentially significant adverse impacts related to permanent noise sources on local sensitive receptors, the City shall require the project applicant to hire a qualified noise expert to evaluate pre- and post-construction ambient noise levels. Representative noise-level measurements will be collected at locations near and within the project site over sufficient sampling periods to adequately describe local noise conditions. Noise measurements will be collected prior to construction and during the Proposed Project's operation to compare the pre- and post-project noise levels, and to ensure that the Proposed Project's operation-related noise from pumps and other stationary equipment meets the local noise requirement limits.

Existing and projected (cumulative) noise levels will be estimated according to the standards provided in Tables 7.3 and 7.4 of the City of Colusa's general plan. The City will approve the proposed noise sampling locations and noise monitoring and analysis methodology in advance, as required by General Plan Table 7.5. If the noise level exceeds the standards in Tables 7.3 and 7.4, the project applicant will implement noise-reducing measures so that noise from the stationary equipment does not exceed these standards at nearby residences. Measures to be implemented may include any of the following to achieve the required noise levels:

- Design and construct a sound wall for stationary equipment (pumps, HVAC system);

- Design and construct an enclosure for stationary equipment (pumps, HVAC system);
- Provide additional sound-reducing material around stationary noise sources; or
- Any other measures deemed acceptable to reduce noise levels below the required standards at the nearest residence.

d. Substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project – Less than Significant

As discussed in item 3.12(a) above, temporary increases in ambient noise levels would result from the Proposed Project's construction activities. However, these increases would be infrequent, phased, and of short duration. Thus, the Proposed Project's construction activities would not substantially increase ambient noise levels in the project vicinity. In addition, there would be periodic increases in ambient noise levels during the Proposed Project's operation related to activities such as vehicular traffic, grounds maintenance, and periodic testing and use of emergency generators. The Proposed Project's vehicle mix would be comparable to existing vehicles on surrounding roads. Noise generated by employees would be consistent with noise levels at any commercial/industrial development and would not exceed City standards.

The Proposed Project is compatible with surrounding land uses, as discussed in Section 3.10, *Land Use and Planning*; operational noise impacts are not expected to exceed acceptable industrial noise standards on the project site or the noise standards for off-site residential receptors. The Proposed Project would not have routine heavy truck traffic for deliveries or shipments, as indicated in Table 3.16-4. Periodic use of landscaping equipment would be similar to the project site's existing and recent agricultural operations, which involved periodic noises associated with agricultural equipment. Testing of the emergency generators would occur during daytime hours and would not substantially increase ambient noise levels. The Proposed Project would comply with the City and County's noise ordinances. Therefore, this impact would be ***less than significant***.

e. For a project located within an airport land use plan area, or, 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 – Less than Significant

As described above, the project site is located 1.6 miles north of the Colusa County Airport and partially within the Colusa County airport's Compatibility Zone C3 (Secondary Traffic Pattern Zone), which is a zone with low to moderate noise impacts from airport traffic (Colusa County Airport Land Use Commission 2014). Most of the project area is below the 55-dB noise contour shown in the general plan, while a small section on the eastern side falls within the 55-65 dB contour. The Proposed Project would not include any residential uses; however, employees may experience noise levels up to the 55-65 dB range when working outside. These noise levels would not be excessive and would be infrequent as related to airport

traffic. Indoor noise levels would be lower than these external levels. Therefore, this impact would be **less than significant**.

f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project site to excessive noise levels – No Impact

The Proposed Project is not located within the vicinity of a private airfield. Therefore, there would be ***no impact***.

3.13 POPULATION AND HOUSING

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.13.1 Regulatory Setting

There are no federal, state, or local laws, regulations or policies applicable to population and housing in relation to the Proposed Project.

3.13.2 Environmental Setting

The project site is an 84-acre property in agricultural production with one abandoned residence and assorted outbuildings, including a large drying shed. No occupied residences are present on the project site.

3.13.3 Discussion of Checklist Responses

a. Induce population growth – No Impact

The Proposed Project would result in development of a cannabis business park that would provide, at buildout, approximately 360 jobs. According to the California Department of Finance (DOF), Colusa had a population of 6,241 and Colusa County had a total population of 22,098 in January 2018 (DOF 2018). From July 2017 to August 2018, Colusa County had an unemployment rate of 11.5 percent, according to the Bureau of Labor Statistics (2018). As such, Colusa and the surrounding area have a sufficient available employment base to serve the Proposed Project without inducing substantial population growth. There would be ***no impact***.

b, c. Displace a substantial number of existing housing or people – No Impact

The project site features one abandoned residence, which would be removed with development of the Proposed Project. Removal of this existing residence would not result in the displacement of any people, and thus would have ***no impact***.

3.14 PUBLIC SERVICES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
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, 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 following public services:				
i. Fire protection?	☐	☐	☒	☐
ii. Police protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☒	☐
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☐	☒

3.14.1 Regulatory Setting

Federal Laws, Regulations, and Policies

No federal laws, regulations, or policies were identified related to public services and the Proposed Project. State Laws, Regulations, and Policies

State Laws, Regulations, and Policies

Medicinal and Adult Use Cannabis Regulation and Safety Act

MAUCRSA governs cannabis business operations at the state level. Under state law, CDFA is responsible for regulating and issuing licenses for commercial cannabis cultivation activities. BCC is responsible for regulating and issuing licenses to cannabis businesses that distribute, test, transport, or sell cannabis. MCSB regulates and issues licenses to cannabis businesses that manufacture cannabis products.

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.

CDFA has instituted setbacks between cultivation sites and schools, as required by MAUCRSA (CCR Title 3, Division 8, Section 8102[g]). Cultivation sites must be located a minimum of 600 feet from any school or daycare center, as defined in Section 26001 of the Business and Professions Code, unless otherwise provided by the local jurisdiction.

CDFA regulations under MAUCRSA also include measures related to fire protection (CCR Title 3, Division 8, Section 8102[z]). Applicants for indoor cultivation licenses must attest that the local fire department has been notified of the cultivation site.

Article 5 of the BCC regulations details a range of security measures applicable to cannabis businesses, including businesses that distribute and transport cannabis. The regulations require employees to display identification badges at all times when engaged in commercial cannabis activities (Section 5043). Cannabis businesses are subject to detailed rules regarding video surveillance. All areas where cannabis is being handled or sold, all entrances and exits, all security areas, and all storage areas must be recorded 24 hours per day. Section 5006(d) requires cannabis business license applicants to submit a detailed premises diagram, including a diagram of where all cameras are located. The diagram must assign a number to each camera for identification purposes.

Cannabis businesses are required to install commercial-grade locks on all doors to all points of entry as and limited-access areas within the facility. Licensed businesses must also install an alarm system that is monitored by a licensed alarm company operator.

All applicants for cannabis businesses must include with their application a description of planned security procedures, including the following (Section 5002[c][29][D]):

(i) The applicant's procedure for allowing individuals access to the premises.

(ii) A description of the applicant's video surveillance system, including camera placement and procedures for the maintenance of video surveillance equipment.

(iii) How the applicant will ensure that all access points to the premises will be secured, including the use of security personnel.

(iv) A description of the applicant's security alarm system.

California Building, Electrical, and Fire Codes

The California Building Standards Code (CCR Title 24) serves as the basis for the design and construction of buildings in California. The California Building Code (Title 24, Part 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. 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.

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.

Local Laws, Regulations, and Policies

Police Protection

The City of Colusa imposes detailed security measures that every cannabis business operation must employ. Colusa Zoning Ordinance Section 21.5.06(q) requires cannabis facilities to have specific security measures in place, including an alarm system that is remotely monitored, perimeter lighting systems for after-hours security, perimeter security and lighting as approved by the police chief and community development director, use of drive gates with card key access, locked entrances, access control systems in growing and processing areas, interior and exterior camera systems approved by the police chief, security systems attached to an uninterruptible power supply, security patrols by a licensed security company, auditable accounting systems, track and trace systems, and computer network security systems. Colusa Ordinance 12F-4 (14) requires applicants to submit a security plan for "insuring the safety of persons and to protect the premises from theft." Under Zoning Ordinance Section 21.5.06(q), the security plan must be approved by the police chief prior to the commencement of operations.

Colusa Zoning Ordinance Section 21.5.06(p) also states that all cannabis operations shall occur entirely inside a building that shall be secure, locked, and fully enclosed with a ceiling, roof, or top. The building, including all walls, doors, and the roof, shall be of solid construction meeting the minimum building code requirements for industrial structures, and include material strong enough to prevent entry except through an open door.

Schools

Colusa Zoning Ordinance Section 21.5.06(k) requires that no cannabis manufacturing operation (including cultivation) may be located within 1,200 feet of any existing school or school proposed in the General Plan.

Fire Protection

The City of Colusa requires all new development and redevelopment to comply with the state building and fire codes (Colusa City Ordinance, Chapters 6 and 9). In addition, the Safety Element of the *City of Colusa General Plan* (2017) contains the following goals and policies requiring projects to incorporate fire-safe design and practices in new construction.

Goal SAF-3: To minimize the potential for loss of life, property, and the environment due to fire.

Policy SAF-3.1: The City shall require new development and redevelopment projects to incorporate fire-safe design and practices in new construction.

Implementing Action SAF-3.1.a: Fire and Safety Codes. Through the Colusa Fire Department, the City will continue to enforce state and federal codes relating to fire and safety. Specifically, the Fire Department will apply the Uniform Codes to their inspection procedures, including but not limited to the Uniform Fire Code, California Fire Code, National Electrical Code, Uniform Mechanical Code, and codes relating to hazardous materials disposal. Where appropriate, the Fire Department will refer code violations to the City's Building Department for enforcement.

The City may consider the adoption of an ordinance requiring the abatement of structural hazards in unreinforced masonry buildings.

Implementing Action SAF-3.1.b: Development Review. Through the project review process, the City will continue to ensure that landscaping, lighting, building siting and design, adequate water pressure and peak load storage capacity, and building construction materials reduce the opportunity for fire hazards. The City will also continue to implement requirements for non-combustible roofs.

The City will continue to require access for emergency vehicles and firefighting equipment on all new development and redevelopment projects. Whenever feasible, the City will encourage new development or redevelopment projects to maintain the basic grid pattern of the City's streets to facilitate access.

3.14.2 Environmental Setting

Fire Protection

The Colusa Fire Department provides emergency services for the control and reduction of the impacts from fire, medical emergency, hazardous material, terrorism, and natural or human-caused disasters. The department is staffed by a combination of paid and volunteer personnel, with a paid staff of five and a volunteer roster of 25. The department is staffed 24 hours a day, 7 days a week by one of three full-time shift employees. The Colusa Fire Department has six fire engines, including two aerial devices to assist with fire suppression. (City of Colusa, 2018a)

The Colusa Fire Department also provides emergency medical services. Many of the department's firefighters are certified Emergency Medical Technicians with an additional certification in the use of an automated external defibrillator. All of Colusa Fire Department's firefighters are certified in providing cardiopulmonary resuscitation (CPR) (City of Colusa 2018b).

Police Protection

The Colusa Police Department provides police protection services within the city. The main station is located at 260 6th Street. The department has nine sworn full-time officers, including the Chief of Police, one lieutenant, two sergeants, and five officers, as well as a non-sworn secretary. The police department uses seven vehicles for its services (City of Colusa 2018c).

Patrol officers have the primary goal of protecting life, protecting property, and keeping the peace. A patrol officer's responsibilities include, but are not limited to, providing public assistance, answering calls for service to include traffic accidents and other emergencies, rendering basic first aid and CPR, enforcement of laws and ordinances, vehicle abatement issues, and maintaining order. In addition, members of the Colusa Police Department give safety presentations to groups, tow abandoned vehicles from city streets, and enforce parking regulations (City of Colusa 2018c).

Schools

The Colusa Unified School District is composed of three comprehensive schools: Burchfield Primary School, Egling Middle School, and Colusa High School. The district also offers Colusa Alternative High School to assist students in completing deficient credits and Colusa Alternative Home School to assist families educating their children at home. All are located within the city. Burchfield Primary School is a Transitional Kindergarten through third grade school, with 437 students enrolled for the 2018-2019 school year (Colusa Unified School District 2018a). Egling Middle School serves 550 students in grades 4-8 (Colusa Unified School District 2018b). Colusa High School serves 396 students in grades 9-12 (Colusa Unified School District 2016). None of the schools is located within a 1,200-foot radius of the Proposed Project.

Parks

The City of Colusa has 10 public parks totaling more than 14 acres (City of Colusa 2018d). The nearest parks to the project site are Colusa Levee Scenic Park and Sankey/Elmwood Park. Colusa Levee Scenic Park is located at 10th and Main Street in Colusa, adjacent to the Sacramento River Recreation Area, approximately 0.8 mile from the project site. Sankey/Elmwood Park, approximately 0.7 mile from the project site, is located between Webster and Parkhill and 3rd and 4th Streets. None of the public parks is located within a 600-foot radius of the Proposed Project.

Other Public Facilities

Colusa Medical Center, located about 500 feet southwest of the project site, provides emergency and medical services to the community. It is located at 199 E. Webster Street in Colusa.

Colusa County Free Library is located at 738 Market Street in Colusa, approximately 1 mile west of the project site.

3.14.3 Discussion of Checklist Responses

As discussed in Section 1.2.2, the analysis contained in this Chapter with respect to cannabis cultivation activities is tiered from the CDFA CalCannabis Licensing Program PEIR (CDFA 2017). The analysis also references information in the BCC IS/ND (BCC 2017).

a. Result in 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

The Proposed Project would consist of construction and operation of a complex of modular greenhouses and other buildings that would contain cannabis cultivation nurseries and cultivation, manufacturing, and distribution facilities. These buildings would be constructed with electrical and fire prevention systems that are assembled and installed in compliance with building and electrical codes. All cannabis cultivation activities, including processing and drying, would take place within the greenhouse structures.

As described in the CDFA PEIR (2017), an elevated risk of fire associated with indoor cannabis cultivation is a commonly cited concern in the literature. Indoor cannabis cultivation typically involves use of high-intensity grow lights, as well as various other pieces of equipment (e.g., water pumps, humidity control, temperature control), which can create a relatively large electrical load. If the load exceeds the system capacity (e.g., as may occur in a building without appropriate or updated wiring for use in cannabis cultivation), it could result in an electrical fire. The PEIR notes that this hazard is particularly associated with unpermitted indoor cultivation and noncompliance with building and electrical codes.

CDFA regulations require that the applicant meet all relevant state and local codes and requirements, including those of the building and electrical codes, and the emergency regulations require that modifications to electrical systems at licensed facilities be performed by a licensed electrician (3 CCR Section 8205). For indoor and mixed-light cultivators, CDFA regulations also require applicants to identify all power sources for cultivation activities, including but not limited to, illumination, heating, cooling, and ventilation (3 CCR Section 8102[r]), as well as the lighting location and the maximum wattage for each light (3 CCR Section 8106[2]). The PEIR concluded that licensed cultivation operations in compliance with building and electrical codes would not have an elevated fire risk as compared with other businesses.

As described in the BCC IS/ND (2017), cannabis business activities such as distribution and manufacturing would not generate an elevated fire risk. Cannabis businesses are required to obtain electricity legally and use facilities that meet applicable codes, including electrical, building, and fire codes. In addition, the types of facilities and structures used for these activities would not differ substantially in their operations from other commercial facilities and structures typically permitted by local jurisdictions in a manner such that they would cause an increased fire risk.

The City requires all buildings and development projects to comply with state building and fire codes (Colusa City Ordinances, Chapters 6 and 9). The *City of Colusa General Plan* requires that new development and redevelopment projects implement fire-safe design and practices in new construction (Policy SAF-3.1). In addition, the City must "ensure that landscaping, lighting, building siting and design, adequate water pressure and peak load storage capacity, and building construction materials reduce the opportunity for fire hazards" (Policy SAF-3.1).

The Proposed Project would consist of newly constructed modular buildings with new electrical and fire prevention systems that are assembled and installed in compliance with building and electrical codes. Required compliance with building and electrical codes would adequately address fire risk, thereby preventing the need for construction of additional fire protection facilities. As discussed in Section 3.13, "Population and Housing," the Proposed Project would not result in substantial population growth, and therefore would be unlikely to increase fire protection needs to the extent that it would necessitate new or altered fire protection facilities, the construction of which could cause significant impacts. Therefore, this impact would be ***less than significant***.

ii. Police protection – Less than Significant

The Proposed Project would consist of construction and operation of a cannabis business park that would contain cannabis cultivation nurseries and cultivation, manufacturing, and distribution facilities. The facility would have around-the-clock, on-site security personnel; security fencing; with 24-hour video surveillance and security lighting. Passcode-protected steel sliding gates would be installed at vehicle and pedestrian entrances to the site to prevent unauthorized entry into the facility.

The CDFA PEIR (2017) noted that an elevated risk of crime associated with 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.

Similarly, the BCC IS/ND (2017) found that the operation of licensed cannabis businesses was not likely to substantially increase pressure on police resources. State licensing regulations for cannabis businesses such as distribution and manufacturing require a series of security measures, including requirements to install an alarm system; limitations on access to certain areas of licensed premises; implementing 24-hour video surveillance; and installation of commercial-grade door locks on entrances, exits, and limited-access areas. The BCC IS/ND found that these requirements would help ensure that impacts on police resources would not be significant.

The City of Colusa imposes additional security requirements on cannabis businesses. Colusa Ordinance 12F-4 (14) requires applicants for cannabis business permits to submit a security plan for "insuring the safety of persons and to protect the premises from theft." Such plans would be reviewed by the City prior to granting a permit to operate. Security plans submitted by cannabis business applicants must demonstrate compliance with all provisions of the City's Zoning Ordinance. Colusa Zoning Ordinance Section 21.5.06(q) requires cannabis facilities to have specific security measures in place, including an alarm system that is remotely monitored, perimeter lighting systems for after-hours security, perimeter security and lighting as approved by the police chief and community development director, use of drive gates with card key access, locked entrances, access control systems in growing and processing areas, interior and exterior camera systems approved by the police chief, security systems attached to an uninterruptible power supply, security patrols by a licensed security company, auditable accounting systems, track-and-trace systems that limit the potential for theft or fraud, and computer network

security systems. The ordinance requires that all of these security measures be approved by the police chief prior to the commencement of operations. These required security measures are in addition to the state's security requirements for cannabis businesses. Approval of the security plan by the police chief provides further assurance that City police resources would not be strained due to criminal activity during site operations at a cannabis business.

In addition to the required security measures, Colusa Zoning Ordinance Section 21.5.06(p) states that all cannabis operations shall occur entirely inside a building that shall be secure, locked, and fully enclosed with a ceiling, roof, or top. The building, including all walls, doors, and the roof, shall be of solid construction meeting the minimum building code requirements for industrial structures, and include material strong enough to prevent entry except through an open door. Compliance with this ordinance provides additional protection from potential theft or burglary.

The Proposed Project would be required to comply with all state and local regulations related to security and crime prevention, as described above. The facility would need to submit a detailed security plan to the City, have the plan approved by the police chief, and implement all aspects of the plan. These requirements would help ensure that demand for police services would not substantially increase. As discussed in Section 3.13, "Population and Housing," the Proposed Project would not result in substantial population growth, and therefore would be unlikely to increase police protection needs. As such, the Proposed Project would not create an increase in demand for law enforcement to a need for new or additional police facilities in any particular location, the construction of which could cause significant environmental effects. This impact would be ***less than significant***.

iii. Schools – Less than Significant

As discussed in Section 3.13, "Population and Housing," the Proposed Project would not result in substantial population growth, and therefore would not create a need for new school facilities. As required by Colusa Zoning Ordinance 21.5.06(k), the Proposed Project is not located within 1,200 feet of any existing school or school proposed in the General Plan. This setback would reduce the potential for the Proposed Project to conflict with school operations. In addition, planning efforts and permitting decisions by the City (related to commercial cannabis operations or otherwise) would address any potential for siting conflicts or inconsistencies. Because the Proposed Project would not necessitate new or altered school facilities, the construction of which could cause significant impacts, this impact would be ***less than significant***.

iv. Parks – No Impact

The Proposed Project is not located on or adjacent to any parks or public facilities and would not create a need to alter any public lands. The Proposed Project is not anticipated to result in substantial population growth, and therefore would not create a need for new park facilities. There would be ***no impact***.

v. Other public facilities – No Impact

The Proposed Project does not require any new or altered governmental facilities; therefore, there would be ***no impact*** on other public facilities.

3.15 RECREATION

	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 that might have an adverse physical effect on the environment?	☐	☒	☐	☐

3.15.1 Regulatory Setting

Federal Laws, Regulations, and Policies

No federal laws, regulations or policies are applicable to recreation 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

City of Colusa General Plan

The City of Colusa addresses recreation goals and policies in the Parks, Recreation and Resource Conservation Chapter of the 2007 General Plan Update. In this chapter, the City focuses on maintaining and expanding existing parklands and facilities, as well as acquiring new facilities, as being essential for improving the City's recreational programs and parks (City of Colusa 2007). The policies described in this general plan chapter relate primarily to residential development and are not directly applicable to the Proposed Project.

City of Colusa Bikeway Master Plan

The City's Bikeway Master Plan (City of Colusa 2012) is intended to develop a city-wide bikeway network through private development and city-sponsored projects, in compliance with the California Bicycle Transportation Act. The plan incorporates some regional short-range bicycle transportation improvement projects that were identified in the 2008/09 Regional Transportation Plan for Colusa County. A Class I bikeway is proposed for the Sacramento River Levee from Roberts Road to the east side of the city limits.

The following goal and policies of the Bikeway Master Plan are applicable to the Proposed Project:

Overall Goal: To promote safe, convenient, and enjoyable cycling by establishing a comprehensive network of bikeways that link the Activity Centers of Colusa and coordinate with existing and future Colusa County Regional Transportation Bikeways.

Objective 1. Create a safe and efficient network of bikeways that enhances bicycle use as a viable alternative mode of transportation for commuter and recreational use, for the avid cyclists as well as beginners.

Policy 1. Implement the bikeway network by working closely with Colusa County staff, bicycle advisory committees, developers, and City residents.

Objective 3. Provide for bikeways that connect to work, school, shopping, transit transfer points, and recreational areas.

Objective 4. Create a bikeway system that takes advantage of the scenic qualities in Colusa for both residents and visitors to enjoy.

Objective 5. Integrate bicycle planning with other community planning, including land use and transportation planning.

Policy 5. Include bikeways in City planning efforts and consider Master Plan when establishing development plans.

3.15.2 Environmental Setting

The City of Colusa maintains approximately 15.5 acres of parks and open space that are administered by the City's Public Works Department, Recreation Division. Recreational facilities that are within a 2-mile radius of the project site, including school grounds and 10 city parks (City of Colusa 2007), are identified in **Table 3.15-1**.

Table 3.15-1. City Parks near the Project Site

Name	Location	Distance from Project Site (Approximate)	Description
Colusa Levee Scenic Park	10th Street and Levee Street, adjacent to Sacramento River Recreation Area	0.25 mile Northwest	2.19 acres: built on river levee; grass, trees, paved walking, jogging, biking trail, picnic tables, BBQ pits
Memorial Park	10th Street and Market Street	1.0 mile West	2.35 acres: shady, tree filled; children's play area with swings and slide, rock-climbing wall, picnic tables, restroom, available electricity

Name	Location	Distance from Project Site (Approximate)	Description
A.B. Davison Park	10th Street between Webster Street and Parkhill Street	1.0 mile Southwest	1.02 acres: grassy, tree filled; paved walking paths throughout
Municipal Swimming Pool	9th Street between Webster Street and Parkhill Street	1.0 mile Southwest	One 8-foot-deep pool, one 3-foot-deep pool, one wading pool; open during summer only
Will S. Green Park	8th Street between Webster Street and Parkhill Street	0.85 mile Southwest	2.88 acres: BBQ facilities, picnic tables, horseshoe pit, children's play area with swings, slide, jungle gym, and glider swings for tots 2.35 acres: two lighted tennis courts and children's play area, shade trees, restrooms, group picnic area
Sankey/Elmwood Park	Between Webster Street and Parkhill Street, 3rd Street and 4th Street	0.5 mile Southwest	0.58 acre: kindergarten playground with slide, swings, drinking fountain, picnic tables, BBQ pit, restrooms, tennis courts, volleyball area, electricity available
C.D. Semple Park	Corner of 3rd Street and Larson Lane	0.65 mile Southwest	1.2 acres: open grass area for play, picnic tables, BBQ facilities, playground
Lewis Tennant Ballfield Complex	Colusa Avenue, across from Colusa High School	0.8 mile Southwest	4.0 acres: site of Colusa Softball Association games and tournaments; 2 softball fields, restrooms, concession, picnic tables 0.33 acre: tot lot (play area scaled to toddlers); sand surface
King-Vale Park	3rd Street	1.0 mile Southwest	0.3 acre: sand surface, children's tot lot with swings, slide, merry-go-round
Leland L. Taylor Memorial Park	Country Club Drive	1.5 mile South	1.0 acre: open grass area for play, picnic tables

Source: City of Colusa 2007

In addition, the Colusa Golf Club (approximately 1 mile south of the project site) and the Colusa County Fairgrounds (approximately 1 mile southwest of the project site) are used for recreation within the city. Attendance numbers in 2015 for the fairgrounds, which hosts multiple events throughout the year, were approximately 119,000 (CDFA 2015).

The most significant event that the fairground holds is the Colusa County Fair, which takes place annually in June and generally runs for 3-5 days. The fair offers recreational activities such as a carnival, rodeo, livestock auction, destruction derby, and various food and commercial vendors.

In addition to the county fair, the fairgrounds also hosts 4th of July fireworks, farm show, Colusa County Pumpkin Village, Holiday Craft Faire, and outdoor movie nights (Colusa County Fairgrounds 2015).

3.15.3 Discussion of Checklist Responses

a. Increase use of existing parks or recreational facilities – Less than Significant

The Proposed Project is not located on or near an existing recreation site where it could restrict access to these facilities by the public. The levee maintenance road on the north side of the project site is used by recreationists as an informal walking/biking trail; although the Bikeway Master Plan has identified this as part of a proposed Class I bikeway (City of Colusa 2012), no concrete plans have been developed to dedicate or construct this facility. The closest facility is Colusa Levee Scenic Park, which runs along the southern edge of the Sacramento River on Main Street and extends from 9th Street to 7th Street. Access to this park is on 12th Street/Roberts Road from SR 45/Market Street and would not be affected by construction or operation of the Proposed Project. All other recreational facilities are located at least 0.5 mile away from the project site on the opposite side of town. Furthermore, there are ample access routes to and from each park. As a result, this impact would be ***less than significant***.

b. Creation of new or altered recreational facilities – Less than Significant with Mitigation

The Proposed Project would not result in the need for creation of new or altered recreational facilities. The project site would consist of facilities designed for agricultural production specific to cannabis, as discussed in Chapter 2, *Project Description*. None of these facilities would be used for recreation. Although the Proposed Project would result in up to 300 new jobs, it would not substantially increase demand for recreational facilities in Colusa.

Development of the project site could affect the ability of the City to develop a proposed Class I bikeway on the Sacramento River Levee. The Bikeway Master Plan has identified a proposed Class I bikeway on the levee, although no plans are in process to develop this facility. Construction and operation of the Proposed Project on the property, immediately adjacent to the levee, could pose an obstacle to the City's future development of the bike trail. This would be a potentially significant impact. Implementation of **Mitigation Measure REC1 (Consider Potential Dedication of a Bikeway Easement)** would reduce this impact to a less-than-significant level by providing an opportunity for the City and the project applicant to negotiate a mechanism for reserving a possible future bikeway easement. As a result, the Proposed Project's impact on recreational facilities would be ***less than significant with mitigation***.

Mitigation Measure REC-1. Consider Potential Dedication of a Bikeway Easement.

To avoid the inadvertent elimination of a future Class I bikeway on the Sacramento River Levee at the north side of the project site, the City shall meet with the project applicant to discuss a mechanism for reserving a possible future bikeway easement. This mechanism may take the form of an easement, purchase, dedication, or other means of conveying the property to the City. If the City determines that the levee trail is no longer needed for a bikeway, no further action is necessary.

3.16 TRANSPORTATION/TRAFFIC

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

3.16.1 Traffic and Transportation Terminology

The following are definitions of key traffic and transportation terms used in this section and based on materials published by the Transportation Research Board (2010) and the *Transportation/Circulation Technical Study for Colusa Triple Crown* prepared by TrafficWorks (2018), which is included as **Appendix F** of this IS/MND.

Level of Service. The level of service (LOS) is a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. Roadway intersection LOS is defined according to methods presented in the *Highway Capacity Manual* (Transportation Research Board 2010). Using the *Highway Capacity Manual* procedures, the quality of traffic operation is graded into one of six service levels, LOS A through F (see **Table 3.16-1**).

Table 3.16-1. Level of Service Definitions for Intersections

Level of Service	Brief Description	Average Delay (seconds/vehicle)	
		Signalized Intersection	Unsignalized Intersection
A	Free flow conditions.	< 10	< 10
B	Stable conditions with some affect from other vehicles.	10-20	10-15
C	Stable conditions with significant affect from other vehicles.	20-35	15-25
D	High density traffic conditions still with stable flow.	35-55	25-35
E	At or near capacity flows.	55-80	35-50
F	Over capacity conditions.	> 80	> 50

Source: Transportation Research Board 2010

Delay. Delay refers to the additional travel time experienced by a driver or traveler that results from the inability to travel at optimal speed, and stops resulting from congestion or traffic control.

Freeway. Freeways are controlled-access routes that provide for major intra- and interregional travel. They are corridors that accommodate trips at highest speeds with access only from selected links to the network, consistent with the population and network densities of the areas they traverse.

Arterial Streets. Arterial streets are intended to provide for the movement of through traffic between major traffic generators such as a central business district and other commercial centers, and distribute traffic from freeways to less important collectors serving residential areas directly.

Collector Streets. Collector streets collect and distribute traffic to and from major highways and local streets. Collector streets also serve secondary traffic generators such as shopping and business centers, schools, parks, and high-density or large-scale residential areas.

3.16.2 Regulatory Setting

Federal Laws, Regulations, and Policies

No federal regulations are applicable to transportation and traffic in relation to the Proposed Project.

State Laws, Regulations, and Policies

The California Department of Transportation (Caltrans) manages more than 50,000 miles of highway and freeway lanes throughout California and more than 12,000 highway bridges. Caltrans also administers technical assistance and grants to various regions throughout the state for local planning and projects (Caltrans 2018).

In Colusa, portions of Bridge Street, Market Street, and 10th Street are also designated as State Route (SR) 20 and portions of Market Street and Bridge Street are also designated as SR 45. As such, activities that would affect operations on these streets are under Caltrans jurisdiction.

Caltrans prepares Transportation Concept Reports for each state highways that identify the existing and future route conditions as well as future needs for each route" (Caltrans 2017). Each Transportation Concept Report establishes a Concept Level of Service as the minimum acceptable LOS for that route. Longer routes are often split into segments with a different Concept LOS assigned to each segment. According to the *State Route 20 Transportation Corridor Concept Report* (Caltrans 2013):

> Segment 3 begins at the City of Colusa's western city limit and extends to the city's eastern city limit at Moon Bend Road. The roadway segment currently operates at LOS E. As the facility is expected to decline to LOS F by the year 2030, operational improvements and possible targeted capacity expansions should be studied.
>
> The 20-Year Concept LOS for Segment 3 of SR 20 is LOS E.

Local Laws, Regulations, and Policies

Colusa County Zoning Code – Site Planning Provisions

The Colusa County Zoning Code includes on-site parking requirements for new development projects based on the type of land use. The number of required parking spaces for Agricultural Processing, On-Site Products (which most closely represents the proposed project) is 1 space per employee.

City of Colusa General Plan

The City of Colusa General Plan (2007) Circulation Element describes the principle of the City's circulation system as the preservation and development of a variety of transportation systems that link residential, commercial and public areas of the community. In addition to the Circulation Element, the Community, Character and Design Element contains policies that would be applicable to the Proposed Project. Applicable policies from both elements are listed below.

Circulation Element:

Goal CIR-1: To provide a motor vehicle circulation system that serves existing and planned land uses while maintaining a desired level of traffic flow.

Policy CIR-1.1: The City shall ensure the maintenance of acceptable Levels of Service (LOS) on City streets and intersections when considering new development within Colusa.

Implementing Action CIR-1.1a: Streets and Roadways Master Plan: The City will prepare, adopt, and periodically update a Streets and Roadways Master Plan that establishes LOS C as the minimum acceptable LOS for City streets and intersections, except in the downtown area on SR 20/45 and SR 20 (Market, Bridge, 10th, and Main Streets), where LOS D is established as the minimum acceptable LOS, consistent with Caltrans LOS standards for state highways through urban areas. If conditions of LOS D or worse are already present, future proposed projects may not cause roadway volumes to increase by five percent or more and will be accompanied by other mitigation measures intended to reduce trip generation.

Goal CIR-3: To provide, safe, convenient, and adequate parking for land uses throughout the City.

Policy CIR-3.1: The City shall require adequate parking to meet the needs of existing and planned land uses.

Policy CIR-4.3: The City shall require inclusion of bicycle parking facilities at all new major public and quasi-public facilities and commercial and employment sites. Major employers shall be encouraged to provide showers and lockers in their facilities to encourage biking.

Community Character and Design Element:

Goal CCD-3: To create safe, attractive streets that serve to interconnect the entire community.

Policy CCD-3.1: New development shall ensure that street systems within new areas are designed to efficiently connect to the existing street network.

Policy CCD-3.2: New development street patterns shall minimize distances to adjacent neighborhoods and avoid a concentration of vehicles associated with internal neighborhood trips.

Policy CCD-3.6: Pedestrian and bicycle routes/corridors shall be incorporated into all new major development projects.

Policy CCD-3.11: As existing areas redevelop and change over time, improved connections for vehicular, bicycle, and pedestrian access shall be considered as part of the overall site design.

3.16.3 Environmental Setting

The Proposed Project is located south and west of the Sacramento River, north of Clay Street, and east of D Street. Primary intersections in the project area are Bridge Street–River Road/Main Street; Bridge Street/Market Street; and Bridge Street/Clay Street. For the purposes of the Proposed Project, each of these intersections was studied in the *Transportation/Circulation Technical Study for Colusa Triple Crown* prepared by TrafficWorks (2018), which is included as **Appendix F** of this IS/MND.

Traffic volumes along SR 20 in Colusa have declined since data were collected for the general plan in 2007. General plan data indicated that SR 20 should be classified as LOS E; however, volume data collected by Caltrans in 2018 (**Table 3.16-2**) show that the LOS classification of SR 20 has substantially improved over the 10-year span.

Table 3.16-2. Annual Average Daily Traffic Volumes (2007–2016)

Segment	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
At Fifth St. (PM 31.47)	25,500	20,400	25,000	25,000	25,000	25,000	25,000	25,500	12,100	12,100
At Market St./ Bridge St. (PM 31.84)	22,000	21,000	21,000	21,000	21,000	21,000	21,000	21,400	15,000	15,000
At Fremont St. (PM 32.29)	19,000	18,000	21,000	21,000	21,000	21,000	21,000	21,400	12,900	12,900

Source: Caltrans 2018

Existing Vehicle Access

Bridge Street is a north-south arterial roadway that intersects Westcott Road at its south end and Main Street at its north end. North of Main Street, the name of the roadway changes to River Road. Bridge Street shares a route with SR 20 from Westcott Road to Market Street. Bridge Street is a two-lane roadway that primarily serves residential and commercial uses. The posted speed limit on Bridge Street is 35 miles per hour (mph).

Market Street is an east-west arterial roadway with two lanes in each direction and back-to-back left-turn pockets from 1st Street to 11th Street. Outside of the segment from 1st Street to 11th Street, Market Street is a two-lane roadway. Market Street shares a route with SR 20 from Bridge Street to 10th Street and acts a "main street" for the city. The posted speed limit on Market Street is 30 mph.

Clay Street is an east-west local roadway that runs from 14th Street at its west end to the Sacramento River at its east end. Clay Street is a two-lane roadway that serves primarily residential uses. The posted speed limit west of D Street is 25 mph. East of D Street, the speed limit is 35 mph.

Main Street is an east-west, two-lane roadway with on-street parking permitted. The City of Colusa General Plan identifies Main Street as a collector roadway. Main Street serves primarily commercial uses and some residential uses. The posted speed limit on Main Street is 25 mph.

SR 20 is generally an east-west state highway that runs from SR 1 in Fort Bragg at its west end to a junction with Interstate 80 at Yuba Pass at its east end. Within Colusa, SR 20 shares a route with 10th Street, Market Street, and Bridge Street. Detailed descriptions of Bridge Street and Market Street are provided below.

While D Street is classified as a roadway traveling north-south from East Main Street to East Clay Street, it is not a true paved roadway that vehicles can easily access for much of that distance.

Existing Bicycle and Pedestrian Facilities

According to the TrafficWorks technical study (2018), field observations indicate no existing marked bicycle lanes or bicycle routes on Bridge Street, Market Street, or Main Street, although the Colusa County General Plan identifies an existing Class I bike path along the Sacramento River near the project site (Colusa County 2012). Additionally, on-street vehicle parking is allowed on these streets. Sidewalks exist along at least one side of the majority of Bridge Street within the project area, along both sides of Market Street, and along both sides of Main Street west of Bridge Street. There are no sidewalks on East Main Street east of Bridge Street. There are no crosswalks at the Bridge Street/Market Street or Bridge Street/Main Street intersections, and only northbound/ southbound crosswalks at the Bridge Street/Clay Street intersection.

Existing Transit Service

According to the TrafficWorks technical study, Colusa County Transit is a dial-a-ride system with fixed, timed routes to Arbuckle, Colusa, Grimes, Maxwell, Princeton, Sites, Stonyford, and Williams. Colusa County Transit has nine vehicles and 10 full-time employees. Colusa County Transit runs six buses each day on various routes and also provides out-of-county medical transportation on an on-call basis (Colusa County 2018).

Existing Airports

The closest airport to the project site is Colusa County Airport, located approximately 2.5 road miles to the southeast. This facility is operated by the Colusa County Department of Agriculture (Colusa County Airport 2018). According to the Colusa County ALUCP (Colusa County Airport Land Use Commission 2014) for this airport, a portion of the project area is contained within the FAA Height Notification Area. Within this area, project proponents are responsible for notifying the FAA about proposed construction that may affect navigable airspace. Additionally, a portion of the most southeastern section of the project site is contained within the FAR Part 77 Obstruction Surfaces boundary, which requires that projects comply with Policy 3.5.2 *Object Height Criteria* of the FAA's Federal Aviation Regulations (Colusa County 2014).

Existing Commute Trips

Existing AM (7:00 a.m.–9:00 a.m.) and PM (4:00 p.m.–6:00 p.m.) peak-hour traffic volume data were collected at the three main intersections identified above and analyzed in the technical study. These data represent traffic volumes on a typical mid-week day in March 2018. LOS results are presented in **Table 3.16-3**.

Table 3.16-3. Existing LOS Conditions at Project Area Intersections

Intersection	Control	LOS Standard	AM		PM	
			Delay*	LOS	Delay*	LOS
Bridge St.–River Rd./ Main St.						
Eastbound Approach	Side-Street Stop	D	9.6	A	9.9	A
Westbound Approach			9.9	A	10.4	B
Northbound Left			7.5	A	7.5	A
Southbound Left			0	A	0	A
Bridge St./Market St.						
Southbound Approach	Side-Street Stop	D	9.0	A	9.1	A
Eastbound Left			7.7	A	7.4	A
Bridge St./Clay St.						
Eastbound Approach	Side-Street Stop	D	14.2	B	13.1	B
Westbound Approach			15.6	C	17.8	C
Northbound Left			8.0	A	8.8	A
Southbound Left			8.4	A	8.2	A

*Delay is reported in seconds per vehicle for the worst approach/movement for side-street stop-controlled intersections.

Source: TrafficWorks 2018

3.16.4 Discussion of Checklist Responses

The *Transportation/Circulation Technical Study for Colusa Triple Crown* was prepared by TrafficWorks for the Proposed Project in July 2018 (Appendix F). This analysis, based on information provided in the technical study, documents existing traffic conditions, quantifies traffic volumes generated by the Proposed Project, identifies potential impacts, and makes recommendations to mitigate any impacts that may be identified.

a. Conflict with applicable circulation plans, ordinances, or policies – Less than Significant

Construction

Table 2-3 in Chapter 2, *Project Description,* provides information on construction equipment during each stage of the construction period for each phase of the Proposed Project. Based on this information, **Table 3.16-4** shows that construction for the Phase 1 (including demolition, site preparation, assembly of structures, gravel and paving, and construction worker commute trips associated with the Proposed Project) would generate an average of approximately 30 trips daily, occurring Monday through Friday between 7:00 a.m. and 7:00 p.m., although some work may be permitted on weekends and holidays if needed. As a result, traffic on the access routes to the project site is expected to increase during this time.

However, the number of trips per day that would result would be minimal compared to the number of vehicles that travel along this route each day (Table 3.16-2) and would therefore have a minimal effect on the surrounding traffic volumes. Subsequent phases of construction would involve similar or reduced traffic volumes. These activities would not result in any noticeable change in LOS levels or conflict with any circulation plans, ordinances, or policies. Adequate parking for the anticipated number of construction workers would be available on the project site and construction equipment would be staged on the site to avoid conflicts with parking availability for nearby residents.

Table 3.16-4. Estimated Trips by Stage during Construction

Construction Stage	Duration	Estimated Trips	
		Daily	Total
Demolition	2 weeks (5 work days)	8-12	80-120 (truck trips)
		30	150 (employee trips)
Site Preparation	30 days	30	900 (employee trips)
Road Construction and Graveling	2 months (44 work days)	30	1,320 (employee trips)
	30 days	12-16	360-480 (truck trips)
Paving	1 week (5 work days)	30	150 (employee trips)
		12-16	60-80 (truck trips)
Utilities	30 days	30	900 (employee trips)
		12-16	360-480 (truck trips)
Total Trips		42 (avg.)	4,280-4,580

Source: Colusa Riverbend Estates 2018

Operation

The TrafficWorks technical study estimated daily and peak-hour trips for operation activities of the Proposed Project. **Table 3.16-5** shows these data divided into four different shifts. As shown in Table TRAN-5, 822 daily trips are expected to be generated by project operation, a combination of employee commute trips and delivery trips. Shift times for employees were intentionally structured to avoid peak commute periods and reduce overall impacts to the existing roadway network. As a result, 244 of the 822 trips are expected to occur during the "morning peak hour" (5:00 a.m.-7:00 a.m., when night shift employees are leaving and morning shift employees are arriving) and 324 trips are expected to occur during the "afternoon peak hour" (1:00 p.m.-3:00 p.m., when morning shift employees are leaving and afternoon shift employees are arriving). The remaining 56 trips would occur during the AM peak hour (7:00 a.m.-9:00 a.m., the peak hour of adjacent street traffic). Less than 10 trips are expected to occur during the PM peak hour (4:00 p.m.-6:00 p.m., the evening commute period for adjacent street traffic) (TrafficWorks 2018).

Table 3.16-5. Estimated Daily Trip Generation during Operation

Trip Generator	Size/ Units	Trips*												
		Daily	Morn	Morn In	Morn Out	AM	AM In	AM Out	Aft.	Aft. In	Aft. Out	PM	PM In	PM Out
Employees														
Morning Shift (6 AM-2 PM)	240	528	240	240	0	0	0	0	240	0	240	0	0	0
Afternoon Shift (2 PM-10 PM)	80	176	0	0	0	0	0	0	80	80	0	0	0	0
Night Shift (10 PM-7 AM)	40	88	0	0	0	40	0	40	0	0	0	0	0	0
Deliveries														
Product Deliveries (6 AM-4 PM)	15 per day	30	4	2	2	16	8	8	2	2	2	0	0	0
Total		***822***	***244***	***242***	***2***	***56***	***8***	***48***	***324***	***82***	***242***	***0***	***0***	***0***

Notes: *Morn = morning peak hour (5:00 AM to 7:00 AM); AM = AM peak hour (7:00 AM to 9:00 AM); Aft. = afternoon peak hour (1:00 PM to 3:00 PM); PM = PM peak hour (4:00 PM to 6:00 PM)

Source: TrafficWorks 2018 (Appendix F)

Once the Proposed Project reaches buildout, trip generation associated with operational activities would result in approximately 822 daily trips to and from the project's facilities. The surrounding intersections are expected to operate at acceptable LOS during AM and PM peak hours, even after accommodating the increased traffic from the Proposed Project (Table TRAN-4). As a result, operational activities of the Proposed Project are not expected to conflict with any applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system.

Although the City does not have parking requirements for new development, the Colusa County Zoning Code requires that land uses in the category of Agricultural Processing, On-Site Products provide 1 parking space per employee. Because the Proposed Project would have 360 employees at buildout, a minimum of 360 parking spaces would be required. As described in Chapter 2, *Project Description,* the Proposed Project would have space to provide up to 1,900 parking spaces at buildout, and therefore would easily accommodate all employees.

Conclusion

Construction traffic would not create conflicts with circulation plans, ordinances, or policies. At buildout, operational activities at the Proposed Project would not result in traffic levels that would conflict with circulation plans, ordinances, or policies. As a result, this impact is considered ***less than significant***.

b. Conflict with an applicable congestion management program – No Impact

As stated in the TrafficWorks technical study, the City has no congestion management program that is applicable to the study area roadways or intersections. Therefore, there would be no impact.

c. Change in air traffic patterns – No Impact

The Proposed Project does not propose any structures that would interfere with air traffic patterns or navigable airspace at the Colusa County Airport, as described in the Colusa County ALUCP (Colusa County 2014). The Proposed Project would not result in a change to air traffic patterns or a change in location for air traffic, and any buildings that would be constructed would comply with FAA Policy 3.5.2, "Object Height Criteria." Therefore, there would be ***no impact***.

d. Increased hazards resulting from design features – Less than Significant

As stated in the TrafficWorks technical study, the Proposed Project would include a full-access roadway connection that would connect to East Main Street east of Bridge Street and include a new section of D Street along the west border of the project site. Access to Bridge Street–River Road would be provided via the Bridge Street–River Road/Main Street intersection. Proposed roadway improvements are outlined in the "Project Access" section of the technical study (Appendix F) and in Chapter 2, *Project Description*. New roadway improvements would be designed and constructed to meet applicable City of Colusa Improvement Standards. Furthermore, D Street would be improved to allow vehicles to safely access the project site. All roads within the CTC Business Park would be private and maintained regularly. Therefore, the impact would be ***less than significant***.

e. Inadequate emergency access – Less than Significant with Mitigation

Construction

During construction, 30 employee vehicle trips per day plus an average of 12 or a maximum of 16 additional vehicle trips per day (depending on the construction stage) would be added to the access route leading to and from the project site, on East Main Street and D Street. These narrow residential roads would be improved as part of the Proposed Project (as described in Section 2.6.2, "Project Site Development – Site Access and Circulation," in Chapter 2, *Project Description*); however, construction traffic would be traveling on East Main Street and D Street during this period, before improvements are completed. As a result, the potential exists for emergency access to the project site or other locations on East Main Street and D Street to be blocked or impaired during some portion of the Phase 1 construction period, which would be a significant impact. Implementation of **Mitigation Measure TRAN-1 (Prepare and Implement a Construction Traffic Management Plan)** would require the Project Applicant or its contractors to develop and implement a traffic management plan to ensure that emergency access remains available to the site during construction.

Operations

The Proposed Project would include one full-access roadway connection that would connect to the Bridge Street–River Road/Main Street intersection. The following improvements to existing facilities would improve the safety of this travel route for vehicles accessing the project site and other traffic:

- Post clearance height advisory warning signs in both directions on East Main Street approaching the conveyor structure over the roadway.
- Install 25 mph speed limit signs on both ends of East Main Street east of Bridge Street/River Road.
- On East Main Street, repair the existing pavement generally east from the conveyor structure and construct new pavement per City of Colusa standards to the proposed terminus of East Main Street.
- Modify or replace the existing bridge structure at the current terminus of East Main Street for adequate turning radii to D Street, roadway width, and structural adequacy.
- Construct the new/proposed segment of D Street to City standards.

Additionally, the Proposed Project would provide an emergency access road for local emergency service providers. Two emergency-only access locations would be provided at the southeast and southwest corners of the project site on East Clay Street. As a result, emergency vehicles would be able to access the project site as needed during project operations.

Conclusion

The Proposed Project would include various roadway improvements that would improve safety on the primary access route to the project site, and two emergency-only access locations would provide sufficient access for emergency vehicles. With regard to construction-related traffic, however, the potential exists for emergency access to the project site or other locations on East Main Street and D Street to be blocked or impaired during some portion of the Phase 1 construction period. Mitigation Measure TRAN-1 would address this significant impact. Therefore, the impact would be ***less than significant with mitigation.***

Mitigation Measure TRAN-1. Prepare and Implement a Construction Traffic Management Plan.

The City shall require that the Project Applicant and its contractor(s) prepare and implement a construction traffic management plan to manage traffic flow during construction, reduce potential interference with local emergency response, reduce potential traffic safety hazards, and ensure adequate access for emergency responders. Development and implementation of this plan shall be coordinated with the City. The City, the Project Applicant, and/or the construction contractor(s) shall ensure that the plan is implemented during construction. The plan shall include, but will not be limited to, the following measures:

- Implement comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, warning signs,

and traffic cones for drivers indicating potential road hazards or detours (if required).

- Coordinate construction activities and provide flaggers as needed to ensure that one lane of traffic remains open at all times on East Main Street and D Street to provide residential and emergency access.
- Notify affected adjacent property owners and public safety personnel regarding timing of major truck traffic and lane closures.
- Develop a process for responding to and tracking issues pertaining to construction activity impacts on traffic, including identification of an on-site traffic manager. Post 24-hour contact information for the traffic manager on all construction sites.
- Document road pavement conditions for all routes that would be used by construction vehicles before and after project construction. Make provisions to monitor the condition of roads used for haul routes so that any damage or debris attributable to haul trucks can be identified and corrected. Roads damaged by construction vehicles shall be repaired to their preconstruction condition.

f. Conflict with adopted transportation policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities – Less than Significant

The Proposed Project would not result in changes to bicycle or pedestrian facilities. Existing transit facilities are limited in the project area. Countywide city-to-city transit service is provided based on call-ahead reservations. The project is not anticipated to affect transit facilities or service.

The City of Colusa Public Works Department Improvement Standards (2007) state, "All school, park, and commercial developments shall have 8-foot sidewalks along all frontages." However, City staff has indicated that they wish to maintain the rural environment along the southern boundary of the project site (on East Clay Street) and do not want sidewalk, curb, or gutter installed (TrafficWorks 2018). This impact is considered ***less than significant***.

3.17 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Proposed Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Pub. Res. 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:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Pub. Res. Code Section 5020.1(k)?	☐	☐	☒	☐
b. 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 Pub. Res. Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Pub. Res. Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

3.17.1 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. By definition, 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 CFR §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 that lead agencies consult with any California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project, if so requested by the tribe. The bill, chaptered in Pub. Res. 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 Pub. Res. Code Section 21074(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 Pub. Res. 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 Pub. Res. 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.

3.17.2 Environmental Setting

As discussed in Section 3.5, "Cultural Resources," the Proposed Project is in the traditional ancestral territory of the *Koru'*, a River Patwin tribe. No tribes submitted a letter of interest to the City in accordance with Pub. Res. Code Section 21080.3.1(b)(1), requesting notification of projects proposed by the agency. The NAHC identified six tribes with a traditional and cultural association with the project area, as listed in **Table 3.17-1**. The City sent a notification about the project to all of the tribes, via letters dated January 22, 2019. At the time of publication, the City had not received requests for formal consultation under Pub. Res. Code Section 21080.3.1(b)(2) from any of those contacted. Table 3.17-1 lists all those contacted and summarizes the results of the consultation.

Table 3.17 1. Native American Consultation

Organization/Tribe	Name of Contact	Letter Date	Comments
Cachil Dehe Band of Wintun Indians of the Colusa Indian Community	Wayne Mitchum, Chairman	January 22, 2019	No response received at the time of publication
Cortina Rancheria – Kletsel Dehe Band of Wintun Indians	Charlie Wright, Chairperson	January 22, 2019	No response received at the time of publication
Estom Yumeka Maidu Tribe of the Enterprise Rancheria	Glenda Nelson, Chairperson	January 22, 2019	No response received at the time of publication
Grindstone Rancheria of Wintun-Wailaki	Ronald Kirk, Chairperson	January 22, 2019	No response received at the time of publication
Paskenta Band of Nomlaki Indians	Andrew Alejandre, Chairperson	January 22, 2019	No response received at the time of publication
Yocha Dehe Wintun Nation	Anthony Roberts, Chairperson	January 22, 2019	No response received at the time of publication

3.17.3 Discussion of Checklist Responses

a. Cause a Substantial Adverse Change to Tribal Cultural Resources Listed, or Eligible for Listing in the California Register of Historical Resources or a Local Register of Historical Resources – Less than Significant

No TCRs listed or eligible for listing listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources are known to occur in the project vicinity. The Proposed Project would have a ***less-than-significant*** impact.

b. Cause a Substantial Adverse Change to Tribal Cultural Resources Determined by the Lead Agency to Be Significant – Less than Significant with Mitigation

No TCRs determined by the lead agency, in its discretion and supported by substantial evidence, to be significant, are known to be located in the project vicinity. There would be no impact. If Native American archaeological remains or Native American human remains that could be TCRs are identified during the course of construction, they would be treated according to Mitigation Measure CR-1 (Immediately Halt Construction if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for Eligibility for Inclusion in the CRHR, and Implement Appropriate Mitigation Measures for Eligible Resources) or Mitigation Measure CR-3 (Immediately Halt Construction if Human Remains Are Discovered and Implement Applicable Provisions of California Health and Safety Code Section 7050.5), respectively. The impact would be ***less than significant with mitigation***.

3.18 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Exceed wastewater treatment requirements of the applicable RWQCB?	☐	☐	☒	☐
b. Require or result in the construction of new water or wastewater treatment facilities or an expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c. Require or result in the construction of new stormwater drainage facilities or an expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d. Have sufficient water supplies available to serve the Project from existing entitlements and resources, or would new or expanded entitlements be needed?	☐	☐	☒	☐
e. Result in a determination by the wastewater treatment provider that serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f. Be served by a landfill with insufficient permitted capacity to accommodate the Project's solid waste disposal needs?	☐	☐	☒	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐
h. Encourage activities that result in the use of substantial amounts of fuel or energy, or use these resources in a wasteful manner?	☐	☐	☒	☐

3.18.1 Regulatory Setting

Federal Laws, Regulations, and Policies

No federal regulations related to utilities and service systems are applicable to the Proposed Project.

State Laws, Regulations, and Policies

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (Pub. Res. Code Division 30) requires all California cities and counties to implement programs to reduce, recycle, and compost at least 50 percent of wastes by 2000 (Pub. Res. Code Section 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.

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."

Medicinal and Adult Use Cannabis Regulation and Safety Act

MAUCRSA and its implementing regulations contain specific provisions for managing cannabis waste. Requirements for cultivators, distributors, transporters, and manufacturers all require compliance with applicable waste management laws and regulations (16 CCR Section 5055; 14 CCR Section 17850 et seq.). Applicants for cannabis business licenses must provide a detailed description of waste management procedures (3 CCR Section 8108; 16 CCR Section 5002 (c)(29)(E)). Cannabis businesses must dispose of waste only at staffed and fully permitted solid waste facilities (3 CCR Section 8108; 16 CCR Section 5055). Licensees must maintain records of the name of the waste facility or hauler, and transfer documentation (3 CCR Section 8308; 16 CCR Section 5055).

CDFA regulations require that applicants for cannabis cultivation licenses provide proof of enrollment in or exemption from the applicable SWRCB or RWQCB program for water quality protection (3 CCR Section 8102[o]). The SWRCB water quality protection provisions are described below.

State Water Resources Control Board

The SWRCB Cannabis Cultivation Policy establishes requirements for cannabis cultivation activities to protect water quality and instream flows. The purpose of the Cannabis Policy is to ensure that the diversion of water and discharge of waste associated with cannabis cultivation does not have a negative impact on water quality, aquatic habitat, riparian habitat, wetlands, and springs (SWRCB 2017a). The Cannabis 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 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 2017, 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 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 2017b). SWRCB General Order WQ 2017-0023-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.

Local Laws, Regulations, and Policies

City of Colusa Wastewater Collection System Master Plan

In 2009, the City published its Wastewater Collection System Master Plan. The City's wastewater plan analyzed the existing wastewater system and outlined the needs for improvements to the system in light of the developments envisioned by the City's General Plan. The City also prepared a Drainage Master Plan in 2009. The storm drainage plan outlined drainage corridors and existing facilities and outlines solutions and costs for improvements in the context of anticipated General Plan development.

City of Colusa General Plan

The 2007 General Plan as well as the 2009 Wastewater Collection System and Drainage Master Plans recognized the need for expansion of and improvements to the City's wastewater treatment system and the storm drainage system. General Plan Policies MFS-8.1 and 8.2 direct the City to expand its wastewater treatment system to adequately accommodate projected new growth and ensure adequate provision of wastewater collections and treatment to all residents and businesses. Policy MFS-9.1 ensures that the City stormwater drainage system is upgraded to accommodate drainage resulting from new development prior to construction. Development of the Project site was anticipated and evaluated in the 2007 General Plan and the 2007 General Plan Master EIR. The MEIR evaluated impacts of development of the project site, which at that time was anticipated to be low- and medium-density residential development.

The 2007 General Plan confirmed that future development within the City of Colusa would not affect the City's ability to provide solid waste disposal services. General Plan Policy MFS 1.1 requires the City to provide facilities to serve new development.

The 2007 General Plan contains goals and policies to minimize wasteful and inefficient use of fuels and energy. General Plan Goal PRC-11 is to reduce consumption of energy sources in Colusa. To implement of this goal, the City requires energy efficient siting and building design in all new development projects consistent with the requirements of Title 24 of the California Administrative Code.

3.18.2 Environmental Setting

Water

The City of Colusa provides water service to about 6,000 residents within an approximately 2-square-mile service area. The City is responsible for the water pumping, operation, treatment, and distribution system. The City owns and operates approximately 33 miles of water transmission and distribution pipelines, five wells, and two elevated storage tanks. The system relies on three wells to meet regular demand and uses the other two wells as back-up supply. The City's storage capacity of about 0.25 million gallons is used to supplement peak demand and maintain system pressure.

The City's water supply is from groundwater wells. The City pumps on average 1.8 million gpd of groundwater. (City of Colusa 2010).

Project Site

Water demand at the project site is served by an existing agricultural well that provides agricultural water supply and formerly provided water for the now-abandoned residence. The nearest connections to the City's water system are an existing 10-inch main line on Bridge Street and the existing 8-inch main line on East Clay Street.

Wastewater

The City of Colusa Public Works Department is responsible for utilities within the city, including the operation and maintenance of the wastewater collection and treatment system. Within Colusa, sewage is conveyed mostly through a series of pipes to larger collection systems. The sewer lines and mains lead to a series of pump stations located throughout the City (City of Colusa 2009b).

The City of Colusa Wastewater Treatment Plant is a publicly-owned treatment works, owned and operated by the City. It is located approximately 1 mile southwest of the City limits. The facility provides sewerage service for the city and serves a small, primarily residential population of approximately 6,000 people. The facility has a design average dry weather flow capacity of 0.7 million gpd dry (1.2 million gpd wet) and is an activated sludge, tertiary treatment plant. Disinfected tertiary-treated wastewater is discharged to Powell Slough. Waste sludge is digested in two lined solids storage basins, dewatered, and solar dried every two years. Dried biosolids are hauled to either the Ostrom Road Landfill in Yuba County, operated by Recology or the Colusa County Landfill near Stonyford (Central Valley RWQCB 2018). The 2007 General Plan concluded that the City's Wastewater Treatment Plant would not have sufficient capacity to meet buildout demand; however, the project site was analyzed in the General Plan EIR as an approved project with 273 residential units and 110 multifamily units.

Project Site

An existing 8-inch sewer line is present along East Clay Street east of the project site, and a 10-inch sewer line is present along East Clay Street west of the project site. No public sewer service is available at the project site; the existing, derelict residence was served by a septic system.

Stormwater

The City of Colusa Public Works Department provides engineering and maintenance to the City's storm drainage system, which includes 7.5 miles of underground storm drains and 172 drain inlet (City of Colusa Public Works Department 2018). The City has two drainage sheds, both of which consist primarily of surface drainage systems conveying stormwater by means of guttered flow lines that traverse under intersections and driveways via under-roadway culverts.

Project Site

As with much of the City's drainage, stormwater at the project site is conveyed by means of two 18-inch buried drainage culverts that cross Clay Street. Because the site is currently in agricultural production and is mostly undeveloped, offsite drainage flow is minimal. The project area is in the eastern/western drainage shed, which has drainage capacity issues.

Solid Waste

The City provides solid waste collection service within the city limits to residential, commercial, and industrial customers. Daily waste collection usually yields approximately 40 tons of household solid waste. The City delivers all solid waste to the Ostrom Road Landfill in Yuba County, operated by Recology (City of Colusa 2007a). According to information from the California Department of Resources Recycling and Recovery (CalRecycle), the Ostrom Road Landfill has a maximum permitted capacity of 43,467,231 cubic yards. As of June 1, 2007, the landfill had a remaining capacity of 39,223,000 cubic yards, with a maximum permitted throughput of 3,000 tons of solid waste per day. The estimated closure date for the landfill is December 31, 2066 (CalRecycle 2018).

Project Site

No solid waste disposal service is in place at the project site because the site is unoccupied. It is within the City's service area for solid waste services. Currently, agricultural waste is removed from the site by the operators and hauled to the landfill.

Electricity and Natural Gas

The Pacific Gas and Electric Company (PG&E) provides electrical and natural gas service to Colusa residents. A private utility, PG&E has a service area that covers most of northern and central California, including approximately 16 million people. PG&E generates electric power from many sources, including hydroelectric, nuclear, natural gas, solar voltaic, fuel cell, and fossil-fired power plants. PG&E also purchases power from independent power producers; generation sources from these producers can range from large fossil-fueled power plants to smaller renewable and cogeneration plants. After the power is produced or bought, it is conveyed through PG&E's electric transmission and distribution systems to the homes and businesses of PG&E's customers (City of Colusa 2007a, PG&E 2017).

Project Site

The project site is served by existing underground high-pressure natural gas lines at Bridge Street. Overhead electricity lines on the site are connected to the existing power grid.

Communications

Several private companies provide local and long-distance telephone service to Colusa residents. Telephone facilities include both aerial and underground fiber and copper transmission lines. Both local and long-distance companies utilize these lines (City of Colusa 2007a).

Several private companies provide access to the Internet. Broadband services use telephone lines (DSL), cable television lines, or electronic waves (wireless). Comcast provides cable television and broadband internet services in Colusa. Outside the cable television service area, residents and other customers may use satellite service, an option also available to city residents (City of Colusa 2007a).

Project Site

The project site is not currently served by phone or internet connection, but is within the service areas of local companies that can provide these services.

3.18.3 Discussion of Checklist Responses

As discussed in Section 1.2.2, the analysis contained in this Chapter with respect to cannabis cultivation activities is tiered from the CDFA CalCannabis Licensing Program PEIR (2017). The BCC IS/ND (2017) found that cannabis activities other than cultivation activities, such as distribution and transportation, would have no impact on utilities and service systems; therefore, those activities are not discussed further in this section.

a. Exceed wastewater treatment requirements of the Central Valley Regional Water Quality Control Board – Less than Significant

The Proposed Project would include installation and maintenance of a pressure sewer system that would be connected to the City's existing sewer system. Small-diameter pipes and grinder pumps would be installed at each connection location. The grinder pump station would collect all the wastewater from the facility and grind it into slurry. The wastewater would then be pumped to a larger sewer main through the City's existing service connection on D Street.

As described in the CDFA PEIR (2017), wastewater may be generated during cannabis cultivation operations from irrigation runoff, sanitary waste, or stormwater runoff. Wastewater associated with cultivation activities may contain contaminants such as sediment, chemicals, and trash. Wastewater discharged to a municipal sewer system could result in elevated levels of these contaminants in wastewater effluent. The PEIR noted that cultivation operations could reduce the levels of contaminants in wastewater by utilizing onsite treatment systems and reusing irrigation water (PEIR, p. 4.14-6). In addition, the PEIR found that CDFA and CDPR requirements related to the use of pesticides would reduce the amount of excess pesticide residue entering the sewer system from cultivation wastewater.

The Proposed Project would use a UV disinfection system to reclaim, recycle, and reuse agricultural irrigation water, substantially reducing the amount of wastewater that would require treatment compared to typical greenhouse operations. The fertilization system would apply fertilizer to plants directly through irrigation water, eliminating the potential for

residue to enter the sewer system. Wastewater would also come from limited domestic uses at the Proposed Project facilities, such as cafeterias and restrooms.

The Proposed Project would not interfere with existing wastewater collection or treatment operations or exceed the wastewater service capacity because the development of this site with more intensive urban uses was anticipated in the 2007 General Plan (City of Colusa 2007a), as well as the 2009 Colusa Wastewater Master Plan (City of Colusa 2009), and those documents determined that sufficient capacity was available. Projects consistent with this area of development were represented in the General Plan and have been anticipated as part of the growth of the City of Colusa; as such, the requirements to serve more than the equivalent of the Proposed Project have been anticipated and planned.

All applicable policies and standards, including mitigation measures addressing impacts of urban development under the General Plan on wastewater service systems incorporated as goals and policies in the General Plan, will be applied to the project as uniformly applied development policies and standards and/or as conditions of approval in the course of processing the application to ensure consistency with the General Plan and compliance with City rules and regulations. For these reasons and because the Proposed Project would include features allowing operators to reclaim, recycle, and reuse irrigation wastewater, the impact would be ***less than significant***.

b. Require the construction of new water or wastewater treatment facilities or expansion of existing facilities – Less than Significant

As described in Section 3.9 "Hydrology and Water Quality," the Proposed Project would get the majority of its water, which would be for irrigation purposes, from an irrigation well already located on the project site. Water from the well would be treated on site by the operators of the Proposed Project. Therefore, the Proposed Project would not create additional demand on public water treatment facilities for provision of its irrigation water.

Water for domestic purposes, including cafeteria and lavatory uses, would come from the City's water supply system, and wastewater would also be treated with the City's public wastewater treatment facilities. However, as described above in subsection (a), the City's 2007 General Plan and 2009 Wastewater Plan anticipated the development of the project area for urban uses, and the incremental additional demand for water and wastewater treatment for that development (substantially greater than the additional demand for the Proposed Project) is anticipated and planned. Impacts would be less than significant.

c. Require the construction of new stormwater drainage facilities or expansion of existing facilities – Less than Significant with Mitigation

The CDFA PEIR determined that the need for new or expanded stormwater facilities would need to be examined at the local level, to the extent that site development activities may impact such facilities.

Stormwater from the Proposed Project site would drain into a detention basin within the project area. The stormwater system will provide for the capture of run-off, the settling of suspended solids, and the release of pre-construction levels of treated stormwater into an

existing outfall that has historically drained the site, or other agreed upon routes as may be approved by the City Engineer.

The Proposed Project includes a 13-acre stormwater detention area, which would be served by a new pump station and a new 10-inch force main that connects to the City's existing 42-inch main line on Bridge Street. A swale would be constructed along the southern site boundary; in the event of overflow from the detention area, the swale would convey excess flows to connect to two existing 18-inch culverts crossing under East Clay Street.

CTC submitted to the City a project drainage description and a conceptual off-site drainage exhibit depicting alternative proposed locations of interim drainage channels and detention facilities to serve the Proposed Project site. As required by the City's Storm Drainage Master Plan and Public Improvement Standards, a comprehensive storm drainage plan prepared by a registered civil engineer would be submitted to the City Engineer for approval, describing the ultimate buildout of the development and any interim drainage plan serving the entire project area or any portion of the project area associated with phasing of the development improvements. The drainage plan would identify specific storm drainage design features to control increased runoff from the project site. The drainage plan would demonstrate the effectiveness of the proposed storm drainage system to prevent adverse impacts on existing downstream facilities and prevent flooding at off-site downstream locations. The design features for the Proposed Project would be consistent with the most recent version of the City's Storm Drainage Master Plan criteria and City Public Improvement Standards. The Storm Drainage Plan would be approved prior to submittal of the first final map.

As described above, Specific improvements may include the following:

- Storm drainage lines will be installed along "D" Street, East Clay Street, and Market Street – the latter located west of the project boundary.
- The storm drain in Market Street will be sized to help alleviate some of the existing flow deficiencies in the City's storm water drainage system in this area.
- A drainage detention basin will be sized to hold project-level storm drainage flows consistent with City standards (estimated at approximately 13 acre-feet). The basin will be built as a wildlife habitat and open space feature extending north from East Clay Street.
- The existing drainage outfall for the area, south of East Clay Street, will not be substantially changed as part of this development.
- The area experiences substantial seepage following certain types of extended storm events. As described in Section 3.7, "Geology and Soils," the project developers shall provide an engineered solution to mitigate any seepage from these types of storm events subject to the City Engineer review and approval.

Construction of these stormwater facilities, as approved by the City, would comply with City development policies and standards, all City rules and ordinances and all other applicable standards. In addition, **Mitigation Measure GEO-1 (Develop and Implement Plan to Minimize or Eliminate Geologic Hazards)** requires implementation of geotechnical measures identified by the project engineer to address seepage and other geologic issues. Implementation of this mitigation and compliance with applicable standards would ensure

that the project would have less than significant impacts. The impact would be ***less than significant with mitigation.***

d. Have sufficient water supplies available to serve the project from existing entitlements and resources – Less than Significant

The potable water for this project would be supplied by the City of Colusa.

As described in Chapter 2, *Project Description*, the Proposed Project would rely on the site's existing agricultural well for agricultural water supply of up to 146,112 gpd. Irrigation water would be treated before use with a UV disinfection system. Dissolved fertilizers would be mixed with the irrigation water before application to crops. Excess irrigation water would be reclaimed and recycled, using the UV disinfection method.

The Proposed Project would also receive water service from the City's domestic water supply system for domestic purposes, such as cafeteria and restroom facilities. The facility would connect to the existing 10-inch main line on Bridge Street and the existing 8-inch main line on East Clay Street. A 4-inch water main would be installed at the project site to provide domestic water supply for all operations. Domestic water use is estimated to be approximately 8,500 gpd.

All domestic water services would be metered. Water meters would be installed on all water services to the satisfaction of the City Engineer. Fire hydrants would be installed in accordance with applicable requirements. In addition, as required by the City of Colusa Cross Connection Control Program, the project applicant would maintain an approved backflow prevention assembly in compliance with the City of Colusa Public Improvements Standards and Construction Standards.

As previously discussed, the City's General Plan anticipated development in the project area and has the ability to serve the site for these uses. The irrigation water for the project would be supplied via an existing agricultural well. The property has historically been used for agricultural activities. No additional or expanded entitlements are needed. Impacts would be less than significant.

e. Result in a determination by the wastewater treatment provider that 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 – Less than Significant

See discussion under item a, above.

f-g. Comply with all applicable regulations related to solid waste and have available landfill capacity to accommodate the project's solid waste – Less than Significant

The Proposed Project would generate solid waste during construction primarily through demolition of the existing structures on the site. As described above, the Ostrom Road Landfill

has sufficient capacity to accommodate solid waste generated by construction at the project site.

During operation of the Proposed Project, solid waste would result primarily from disposal of harvested vegetation material, although domestic waste would also be produced. The City of Colusa would manage solid waste disposal at the project site. Solid waste would be managed in compliance with all applicable laws and regulations, including the provisions of MAUCRSA applicable to managing cannabis waste. As described above, the Ostrom Road Landfill has sufficient capacity to accommodate solid waste disposal from the Proposed Project. Additionally, future plans for the Proposed Project include a potential hemp recycling facility that would substantially reduce the amount of solid waste sent to the landfill.

The CDFA PEIR determined that impacts from cultivation activities would be less than significant due to state-imposed legal requirements for cannabis waste and solid waste generally. CDFA requires that prospective cultivators develop a cannabis waste disposal plan to identify appropriate management and disposal practices for cannabis waste. Such disposal plan would require cultivators to demonstrate compliance with state laws, including CDFA requirements and the SWRCB Cannabis Policy. Additionally, cultivators would be required to comply with all laws related to solid waste. This would include any ordinances or regulations promulgated by local jurisdictions pursuant to the California Integrated Waste Management Act, which requires that jurisdictions divert at least 50 percent of their wastes from landfill disposal, and sets jurisdiction-specific target disposal rates. An applicant for a license must comply with all local regulations and ordinances in the local jurisdiction in which the proposed cultivation operation is operating.

The project would generate solid waste and would contribute incrementally to the loss of landfill capacity in the County. However, implementation of state requirements, as well as the proposed General Plan policies and implementing actions would assist in reducing the solid waste stream, thereby reducing demand on landfill capacity, and would ensure adequate provision of solid waste services. Therefore, this impact is less than significant.

h. Encourage activities that would result in the use of substantial amounts of fuel or energy, or use these resources in a wasteful manner – Less than Significant

Cannabis cultivation equipment for indoor cannabis cultivation operations requires a relatively large amount of energy (primarily electricity) for operation. As described by Mills (2012), specific energy uses in indoor grow operations include high-intensity lighting, dehumidification to remove water vapor and avoid mold formation, space heating or cooling during non-illuminated periods and drying processes, preheating of irrigation water, generation of CO_2 from fossil fuel combustion, and ventilation and air conditioning to remove waste heat. Reliance on equipment can vary widely as a result of factors such as plant spacing, layout, and the surrounding climate of a given facility.

The Proposed Project would use mixed-light cultivation techniques using greenhouses for cannabis production. In mixed-light operations, the photoperiod of the cannabis plant is manipulated to accomplish multiple harvests per year. Instead of relying solely on artificial light for photosynthesis, however, the primary light source is the sun, supplemented by artificial light. The photoperiod is altered by using tarps or other material to block out

sunlight and shorten the photoperiod, and/or by using artificial light to extend the photoperiod. Due to the availability of sunlight, mixed-light grows have substantially lower energy demand than indoor grows, where energy can account for 50 percent of operating cost (San Diego Gas & Electric Company [SDG&E] 2016). The Proposed Project will utilize greenhouses with roofs that open and close, reducing energy use in ventilation and cooling equipment.

In addition to the energy efficiencies created by the use of mixed -light cultivation operations, the City of Colusa also requires energy efficient siting and building design in all new development projects consistent with the requirements of Title 24 of the California Administrative Code, which specifies minimum efficiency standards for lighting and appliances. Compliance with these standards will ensure the Proposed Project does not use resources in a wasteful manner.

By using mixed-light cultivation techniques and complying with the City's mandates for energy efficient building design, the Proposed Project will not use substantial amounts of fuel or energy or use these resources in a wasteful manner. This impact is ***less than significant***.

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3.19 MANDATORY FINDINGS OF SIGNIFICANCE

a. Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant 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 that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

3.19.1 Discussion of Checklist Responses

a. Effects on environmental quality, fish or wildlife, and historic resources – Less than Significant with Mitigation

Wildlife Habitat and Populations; Rare and Endangered Species

The Proposed Project would not substantially reduce the number or restrict the range of a rare or endangered plant or animal species. No impacts would occur with regard to special-status plant species or fish. Impacts on VELB and individual elderberry shrubs could result from direct damage to elderberry plants during construction or operation of the Proposed Project from causes such as trenching activities, generation of excessive dust, or altered soil and drainage conditions. Although western yellow-billed cuckoo and song sparrow nest in riparian habitats, no direct removal of special-status bird nests is anticipated; however, if these species were to occur near the project area, construction activities such as vehicle noise or ground vibration during the breeding season could result in adverse impacts on these species. Impacts on Swainson's hawk nesting sites could result in nest abandonment, nest failure, or reduced health or vigor of nestlings. Special-status pallid bat and western red bat could nest in trees on the project site. Implementation of Mitigation Measures BIO-1 through BIO-5 would reduce these impacts on special-status species to a level that would be less than significant with mitigation.

California History and Prehistory

No archaeological, historical, or paleontological resources, or TCRs, eligible for listing have been identified in the Proposed Project area. Implementation of Mitigation Measures CR-1 through CR-3 would reduce potential impacts on unknown resources to a level that would be less than significant with mitigation.

b. Cumulative Impacts – Less than Significant with Mitigation

A cumulative impact refers to the combined effect of "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (State CEQA Guidelines Section 15355). As defined by the State of California, 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" (State CEQA Guidelines Section 15355[b]).

Based on review of active planning projects described in agendas and minutes of the City Planning Commission (City of Colusa 2019a) and City Council (City of Colusa 2019b), as well as information provided by the City (Stice 2019, pers. comm.), planned and approved projects in the project area that could potentially combine with the Proposed Project to result in cumulative impacts include the following:

- Singh Real Estate Holding – cannabis manufacturing uses in General Commercial (C-G) District, 104 8th Street (1.0 mile from project site)
- Colusa Industrial Properties – residential development on 116 acres at Highway 20 between Sunrise Boulevard and Farinon Road (2.0 miles from project site)
- Singh Real Estate Holding – Greenceuticals cannabis manufacturing uses in General Commercial (C-G) District, 49 Main Street and 118 Bridge Street (0.3 mile from project site)
- Sticky Trees – on-line, non-store-front cannabis dispensary facility at 2967 Davidson Drive (2.0 miles from project site)
- Colusa Specialty Farming – cannabis manufacturing facility at 2861 Niagara Avenue (3.7 miles from project site)
- Colusa Glenn Farm Credit – 18,000-square-foot office building under construction on Davison Court (2.0 miles from project site)
- Cultivation Technologies, Incorporated (CTI) – CompassLeaf 10.6-acre cannabis manufacturing facility on Davison Court (2.0 miles from project site)
- Arco-AM/PM – commercial center on the northeast side of Highway 20/45 at Wescott Road (0.9 mile from project site)

The potential exists for the projects listed above to result in temporary adverse effects on the environment, and all of the identified projects are located in the same general geographic area as the Proposed Project. Generally, those projects nearest to the project site (Singh, Singh/Greenceuticals, Arco-AM/PM) are located within the developed area of the city and would not affect the same types of resources as the Proposed Project. The projects farther

from the project site (Colusa Industrial, Sticky Trees, Colusa Specialty Farming, CTI) are located in similarly undeveloped areas and would affect the same types of resources as the Proposed Project. All of these projects would be required to comply with the same regional air quality and GHG regulations as would the Proposed Project, and each would be required to reduce or mitigate significant impacts on those resources. The Proposed Project would consist of short-term construction activities that would be mitigated to a less-than-significant level, and long-term operational impacts on resources considered in this document (e.g., transportation, air quality, noise) would be less than significant after mitigation from a cumulative standpoint.

In conclusion, none of the identified projects have the potential to combine with the Proposed Project to result in a significant cumulative impact to which the Proposed Project might make a substantial contribution.

c. Effects on Human Beings – Less than Significant with Mitigation

All of the potentially adverse effects on human beings identified in this IS/MND would be mitigated to a less-than-significant level by implementation of measures identified in this document. Impacts related to hazardous materials would be reduced by Mitigation Measures HAZ-1 through HAZ-4, and Mitigation Measure TR-1 would address potential impacts on emergency plans and traffic. Impacts on noise would be reduced with implementation of Mitigation Measures NOI-1 and NOI-2. Recreation impacts related to the Sacramento River levee and potential Class I bikeway would be reduced by implementation of Mitigation Measure REC-1. No substantial adverse effects on human beings would result.

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Chapter 4
Report Preparers

City of Colusa

425 Webster Street
Colusa, CA 95932
(530) 458-4740, ext. 103

Jesse Cain	City Manager
Bryan Stice	Community Development Manager

Horizon Water and Environment, LLC

266 Grand Ave, Suite 210
Oakland, CA 94610
(510) 986-1850

Tom Engels, Ph.D.	Principal-in-Charge
Debra Lilly	Project Manager
Janis Offermann	Director, Cultural Resources
Megan Giglini	Senior Associate
Patrick Donaldson	Associate
Brian Piontek	Associate
Robin Hunter	Analyst
Johnnie Chamberlin	Analyst
Dean Martorana	Geographical Information Systems, Archaeological Resources
Lorrie Jo Williams	Graphic Artist

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