

Initial Study/Mitigated Negative Declaration and
Environmental Checklist for
Expansion of Existing Cannabis Cultivation and to Establish Ancillary
Processing Facilities

PLN-12265-CUP

Blocksborg Family Farms, LLC.
Blocksborg, Humboldt County, California

April 9, 2021

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Humboldt County

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 - Aquatic Resources Investigation Report -Sept 2019, NRM
 - Revised Biological Report – Sept 2020, NRM
 - CNDDDB List: Golden Eagle
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- D. Multi-Use Building Plans (Draft)
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- M. Tealab Soil Analysis
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- Q. Limited Literature Review and Working Protocol for *Bombus occidentalis*

1. Project Summary

Project Title: Blocksburg Family Farms, LLC.
Assessor's Parcel Numbers APN: 217-471-001
Humboldt County Commercial Medical Marijuana Land Use Ordinance (CMMLUO, No. 2559)
Conditional Use Permit (CUP) Apps# 12265

Lead Agency:
County of Humboldt
Planning and Building Department, Cannabis Services Division
3015 H St, Eureka, CA 95501; phone 707-445-7541, fax 707-268-3792
Cannabis Services Division, 707-441-2622

Lead Agency Contact:
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Breeanna Kalson, Natural Resources Management Corporation, 707-442-1735, bkalsen@nrmcorp.com

Project Sponsor:
Blocksburg Family Farms, LLC

Project Contact:
Dakota and Nancy Ringo
nancynunez90@yahoo.com

Location:
Humboldt County
T 2S, R 5E, Sections 4 & 5, HB&M
USGS Blocksburg Quadrangle

Legal Parcel
See Notice of Merger(s) and Certificate of Subdivision Compliance
Case No. DS 18-031 & Apps PLN-14366-DS

Cannabis Development on Parcel: APN 217-471-001
APN 217-471-001, GIS acres = 1230.9

Coastal Zone:
No

Zoning:
AE-B-5(160);TPZ

General Plan Designation:
AG – Agricultural Grazing

Slope Stability Rating:
APN 217-471-001: (3) High instability

Initial Study, Blocksburg Family Farms, LLC.
Humboldt County APN: 217-471-001
PLN-12265-CUP

Primary (not comprehensive) Permits and Approvals:

State Water Resources and Control Board (SWRCB)

Cannabis General Order (WQ-2019-0001-DWQ)

401 Permit

Humboldt County

Conditional Use Permit - CMMLUO no. 2559

Building, Septic Permits

Grading permits for borrow pit (if expanded by one-acre or more, or if excavation exceeds 1,000 cy)

Grading permits for proposed building/water tanks as required

California Department of Fish and Wildlife (CDFW)

LSAA 1600 (Draft- CDFW holding issuance of Final for CEQA)

CEQA Requirement:

This project is subject to the requirements of the California Environmental Quality Act (CEQA). The Lead Agency is the Humboldt County. The purpose of this Initial Study is to provide a basis for deciding whether to prepare an EIR or a Negative Declaration. This Initial Study is intended to satisfy the requirements of the California Environmental Quality Act, CEQA, (Public Resources Code, Div. 13, Sec 21000-21177), the State CEQA Guidelines (California Code of Regulations, Title 14, Sec 15000-15387).

CEQA encourages lead agencies and applicants to modify their projects to avoid significant adverse impacts (CEQA Section 20180(c) (2) and State CEQA Guidelines Section 15070(b) (2)).

Section 15063(d) of the State CEQA Guidelines states that an Initial Study shall contain the following information in brief form:

- 1) A description of the project including the location of the project;
- 2) An identification of the environmental setting;
- 3) An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
- 4) A discussion of the ways to mitigate the significant effects identified, if any;
- 5) An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls
- 6) The name of the person or persons who prepared or participated in the Initial Study.

2. Project Description

2.1 Figures

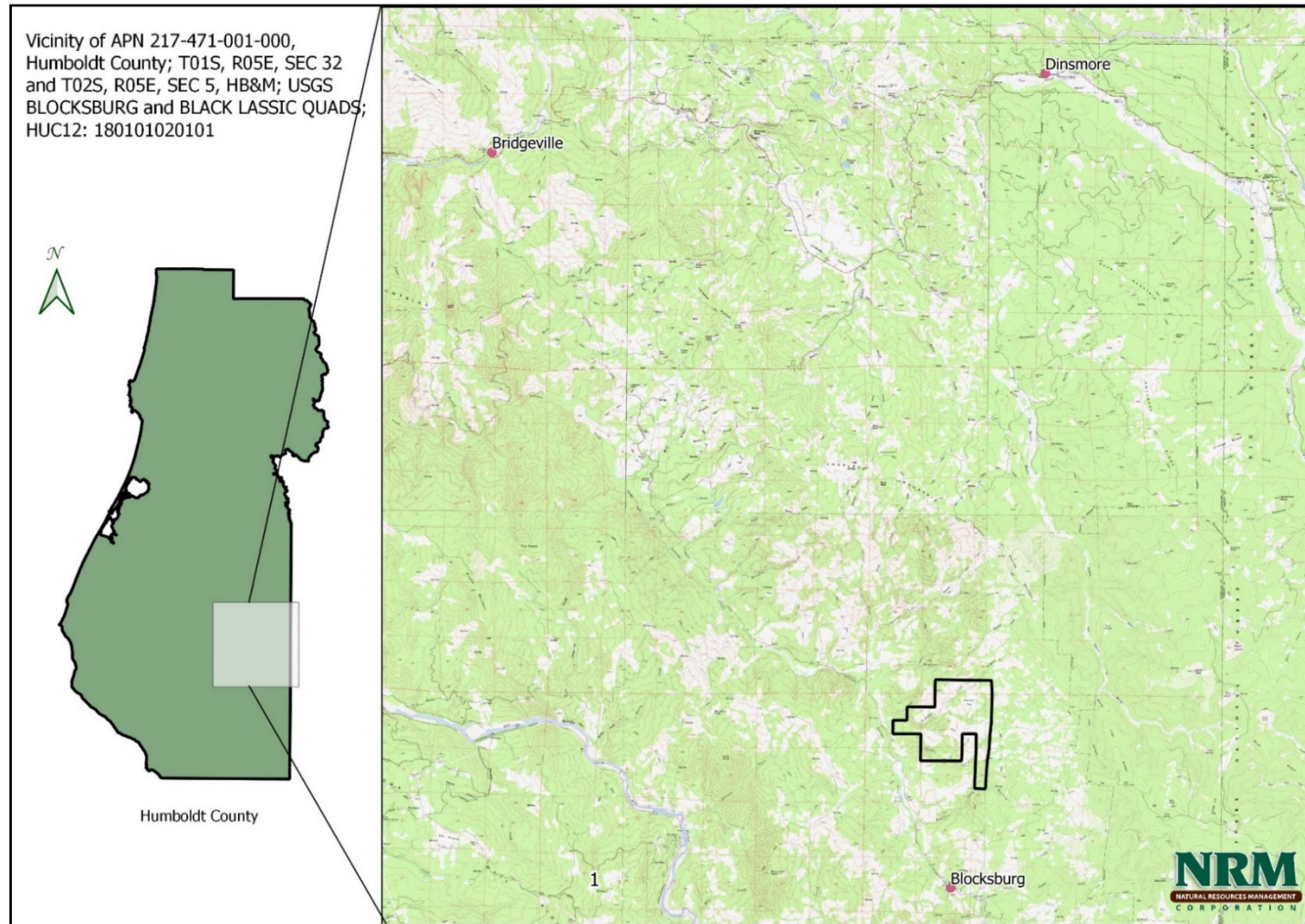


Figure 1. Vicinity Map; project APN 217-471-001

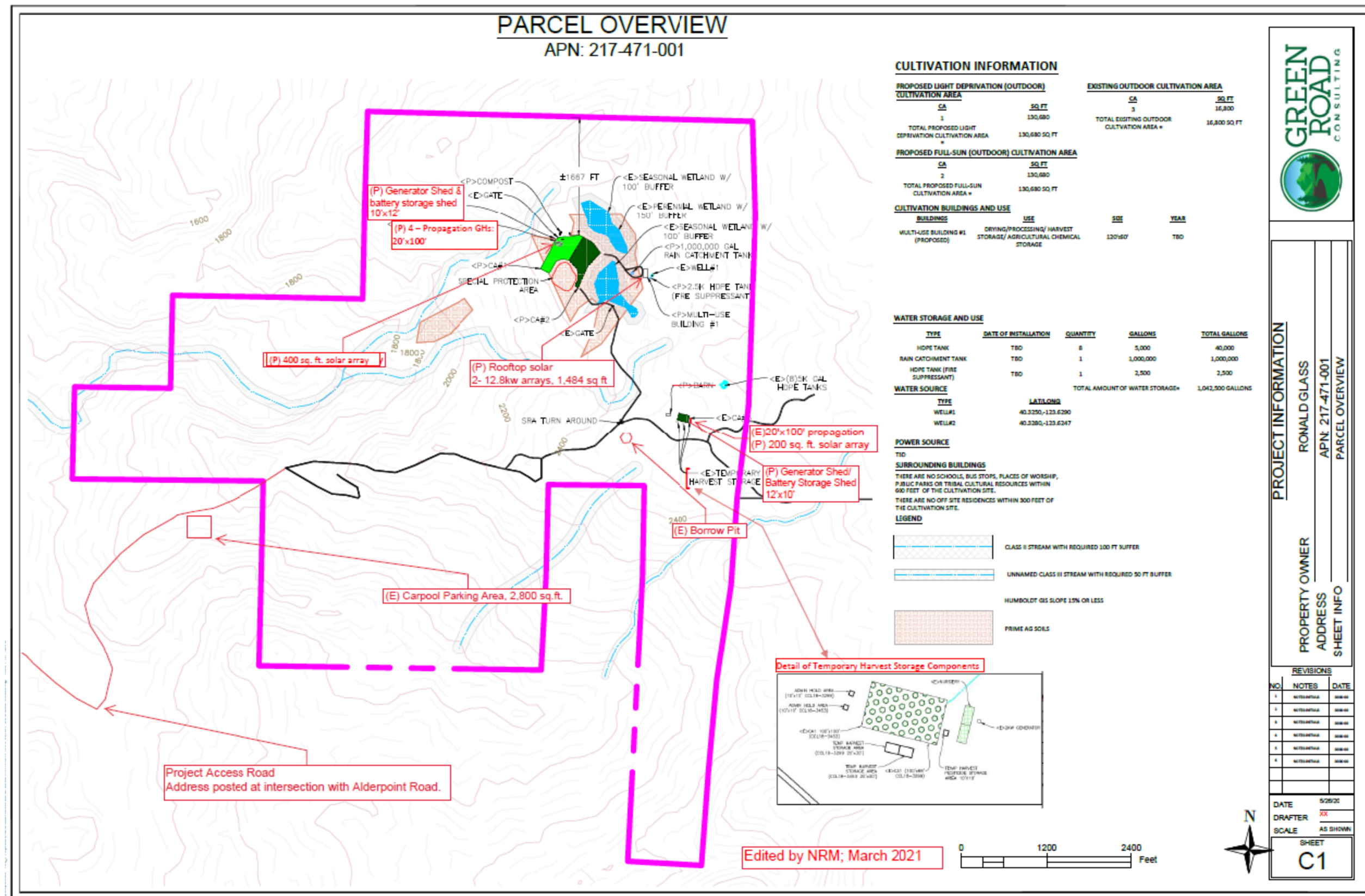


Figure 2. Site Plan for Blocksburg Family Farms, LLC.; Green Road Consulting, May 2020; Appendix A. Edited by NRM, March 2021

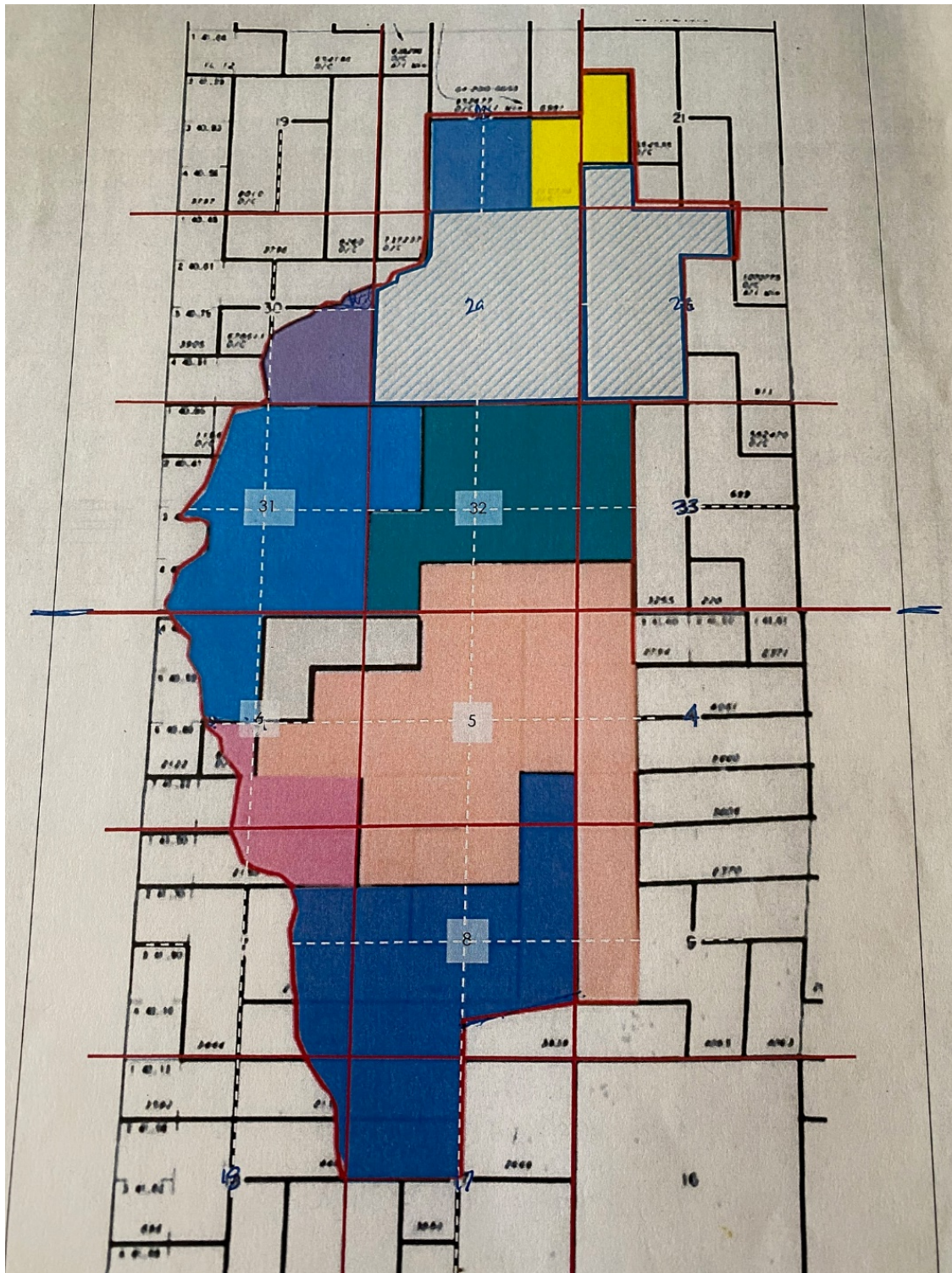


Figure 4. Subdivision/Reconfiguration Results of 'Glass Ranch,' Case No. DS 18-031 & Apps PLN-14366-DS; Project parcel is mapped Orange: APN 217-471-001.

2.2 Proposed Project Footprint, Overview

All cannabis development will take place on APN 217-471-001, herein known as the ‘project parcel.’ The project parcel is located approximately three (3) miles northwest of Blocksburg on a portion of a cattle ranch owned by Mr. Ronald Glass. The project proponents have a signed lease agreement on file with Humboldt County.

This cannabis project consists of an existing full sun outdoor garden of 16,800 sq. ft. (previously permitted by Humboldt County, Ordinance 1.0, Apps# 10615 and incorporated into application #12265) and proposed expansion of an additional six (6) acres of outdoor cultivation that will be located in an area north of Blocksburg known as ‘Sherman Flat.’ Sherman Flat includes all existing and proposed development. The proposed acreage will be divided into three acres of full term outdoor and three acres of light deprivation. The cannabis project is accessed from Alderpoint Road, a paved county road, and a gravel and dirt unnamed private access road.

The total area (existing and proposed) used for the cannabis project, including cultivation, ancillary buildings, and cannabis-only parking areas will be approximately 324,956 square feet (7.4 acres). See Table 1 below. On a parcel of 1,230 acres (HumGIS), the total cannabis footprint will constitute 0.6% of the total parcel acreage. The existing access road (and spur) are not included in Table 1 as they are used and will continue to be used by both the project and the cattle ranching operator/property owner. All cultivation and ancillary buildings are located on agricultural lands with slopes of approximately 0-15%. The project is expected to perform minimal grading (less than 50 cubic yards). No trees will be removed.

Table 1. Blocksburg Family Farms LLC., Estimated Project Footprint

Project Feature		Area (sq. ft.)
Cultivation	Proposed Full Sun Outdoor	130,680
	Proposed Light Deprivation	130,680
	Existing Full Sun Outdoor	16,800
	Total Cultivation Area =	278,160 square feet (6.39 acres)
Ancillary Development	Existing Shipping Container Storage (40' x 8')	320
	Existing Generator Shed (4' x 3')	12
	Existing Propagation Greenhouse (1 – 20' x 100')	2,000
	Proposed Propagation Greenhouses (4 – 20' x 100')	8,000
	Proposed Rainwater Catchment Tank (1,000.000 gal)	21,904
	Proposed Generator Shed(s)	100
	Proposed Multi-Use Building (120' x 60')	7,200
	Proposed Alternative Energy System (ground mounted solar, battery storage, and earth tube)	1,240
	Proposed Shipping Container storage area (40' x 8')	320
	Proposed Compost Area	900
	Parking/carpool Area	4,800
Total Cannabis Footprint =		324,956 square feet (7.4 acres)

2.3 Project Timeline

Phase I*

- Improve and rock access roads
- Bring in B&Bs for employee use
- Establish water storage onsite
- Build and plant two (2) new propagation greenhouses
- Till, amend, and plant - full sun only (1 acre new and 16,800 sq. ft. existing)
- Set up irrigation system for new cultivation
- Establish Compost Area
- Complete septic design and install system
- Build Multi-Use Building (drying/processing/storage)
- Install propane tank for Multi-Use Building.
- Install Alternative Energy System

Phase II*

- Activate Alternative Energy System
- Complete irrigation system
- Build and plant two (2) additional propagation greenhouses
- Plant out all permitted acreage (6.39 acres)
- Install light deprivation curtain systems
- Install 1,000,000 gallon rainwater catchment tank
- Review Alternative Energy System performance
- Adjust photovoltaic arrays/system components as determined by evaluation and install gasifier.

Phase III

- Implement all long term operational procedures
- Evaluate and refine operational systems

* Phase I and Phase II will not exceed two (2) years (encompassing two (2) growing cycles, March through November).

2.4 Existing Site Features

The existing development on the project parcel is limited to one full term garden (16,800 sq. ft. canopy with 850 plants in beds), two (2) 2,500 gallon water tanks, one 20-foot by 80-foot propagation greenhouse, one (1) 8-foot by 20-foot steel shipping container, one (1) well with solar collection panels and 2,500 gallon tank. The existing shipping container is used for product storage and for overwinter storage of cultivation materials.

The propagation greenhouse (2,000sq. ft.) was added to the cultivation site in 2019. The propagation greenhouse has steel and wood framing with polyethylene sheeting (flexible plastic). This greenhouse employs climate control devices in the form of two (2) 28-inch Snap-Fans and a propane heater. At this time, all supplemental lighting and fans are run with a Honda 3000 gasoline generator. The generator is

kept in a nearby generator shed; two (2), five (5) gallon gas cans are stored in a plastic tote in the generator shed. During Phase II of the project, this existing propagation greenhouse will have a solar electric collections system with battery storage. The solar will provide all energy needs for the greenhouse and the generator will be discontinued and moved offsite.

The dirt roads and tracks on the Project Parcel are a result of decades of active cattle ranching, with road development increasing as the ranching has transitioned from horseback as the primary means of cattle management to the use of trucks and ATVs. The existing garden is accessed via established ranch roads. The access to the existing garden is approximately 0.2 miles (1056-feet) off of the main road and is herein known as the ‘spur’ road.

In 2019, the existing 16,800 sq. ft. garden area was surveyed by a botanist. A seasonal wetland was located just outside (north) of the existing cultivation (See Relocation Report, Appendix B). A wetland delineation revealed that a portion of the garden site was within the mandated riparian setback. To comply with Humboldt County Streamside Management Area ordinance and the North Coast Regional Water Resources Control Board riparian setback requirements (site was originally enrolled under R1-2015-0023), the cultivation area was shifted slightly southwest and out of the wetland setback. This shift out of the wetland setback occurred in early 2019, prior to planting. All pots, soil, and infrastructure has been removed from the buffer and the garden has been reestablished with plants in beds, watered with drip irrigation, and surrounded by a perimeter of rodent-proof fencing. Water from the well is pumped into the existing water storage tanks (two (2) 2,500 gallon); gravity is used to fill the garden’s irrigation system.

There are several temporary drying and harvest storage areas proposed for the existing cultivation site (insert in Figure 2) as this site is currently permitted by Humboldt county and is moving forward with State permitting. When the expansion is approved, the temporary drying and harvest storage areas will be removed.

2.4.1 Proposed Changes to Existing Garden

There will not be any significant physical changes to this garden. The garden will continue as a full-term outdoor garden with one harvest per year. There will be a difference in the management of the product produced at this location. The harvested product will be brought in a truck to the Multi-Use Building where it will be dried, processed, and held. During Phase II, the alternative power system will replace the Honda 3000iS generator.

2.5 Infrastructure and Cultivation

2.5.1 Proposed Infrastructure

The project will add four (4) fully enclosed ancillary propagation greenhouses that measure 100-feet by 20-feet (8,000 sq. ft) to support the addition of six cultivation acres to the parcel. These will be build in stages with two (2) constructed during Phase I and two during Phase II. These four (4) greenhouses will be framed with steel and wood; the siding will be polyethylene (flexible plastic). The sides of the greenhouses will be flush with the ground and the floors will be surfaced with permeable landscape matting (‘weed matting’) and not hardened. Plants will be set on the ground. Because they are closed to the environment, the greenhouses will have climate control systems in the form of exhaust fans that will run intermittently throughout the growing season to manage airflow and temperature in the greenhouse. The project proposes

to use two (2) 28-inch exhaust fans (Snap-Fans) per greenhouse (one mounted on each end of the greenhouse). These 28" fans contribute approximately 45 decibels of sound at 10-feet away from the fan and diminishes to 39 decibels at 20-feet away (Appendix C). Propane sourced heat will also be used to manage the climate in the propagation greenhouses. Each propagation greenhouse will have one (1) propane heater that is fueled with a 25-gallon portable propane tank. Propagation greenhouses will have ten (10) 25-watt lights in them to maintain plant growth stages. The greenhouses will be managed to prohibit light leakage; the project will utilize blackout curtains that are manually pulled and removed as necessary to prevent light escape at a level where it is visible from neighboring properties. In this way, it will conform with the lighting requirements described in the Humboldt County CCLMUO (Ordinance 2559). The cultivation gardens will not be lit at night, as any lighting could interfere with the success of the outdoor plants.

The Multi-Use Building will have storage and drying/processing areas for all cultivation, existing and proposed. It will be located on the footprint of the burned down barn and occupy 7,200 sq. ft. The Multi-Use Building will be steel (framing, roofing, siding) with a concrete slab (floor); it will have two (2) main rollup doors and several 'person doors.' See Multi-Use Building plans (draft) in Appendix D and sketch of possible layout in Figure 5 below.

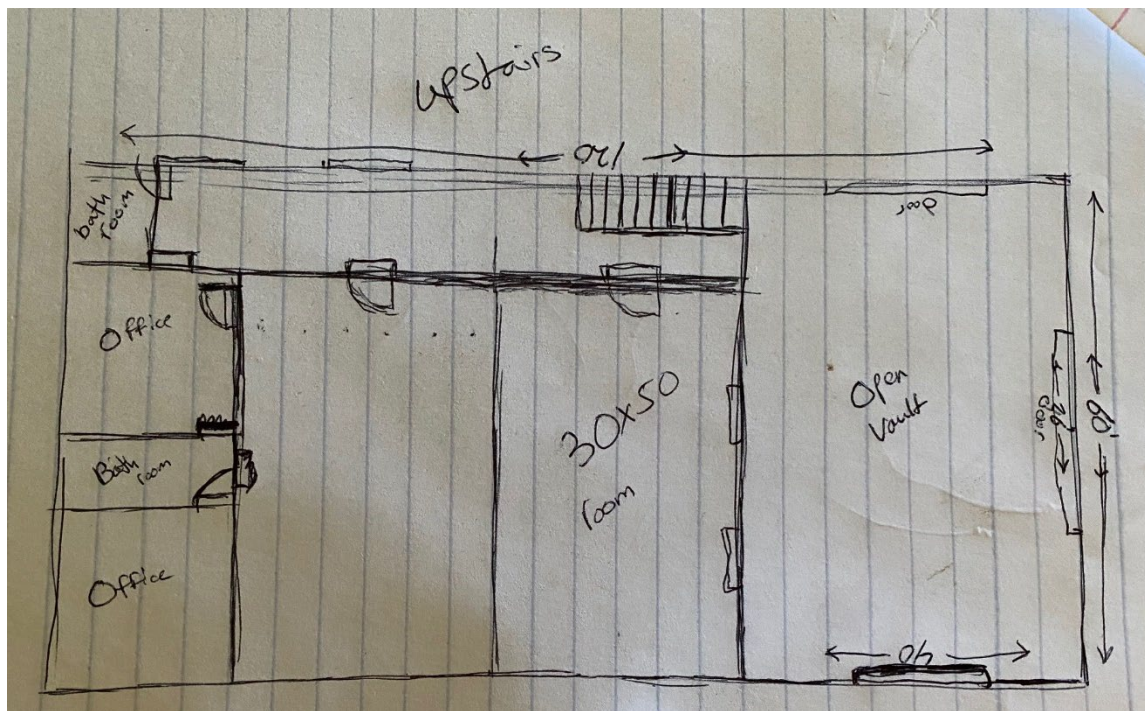


Figure 5. Proposed Layout of Multi-Use Building.

This building will provide propane sourced hot water and heating. The project will have a 300 to 500 gallon propane tank installed and filled by a permitted propane company (Sequoia gas or equivalent); it will be located adjacent to the Multi-Use Building on a concrete pad. All electrical will be installed by a certified electrician. Electricity needs (See section 2.7, 'Power') will be met by the proposed alternative energy source that is currently being developed by Norm Ehlich, a mechanical engineer at Six Rivers Solar in

Eureka, CA. All exterior lighting will minimize B.U.G (backlight, uplight, glare) and adhere to the International Dark Sky Association recommendations for Zones 0 and 1.

Water storage will be supplemented by a 1,000,000 gallon rainwater catchment tank. This steel tank has a diameter of 167 feet and a footprint of approximately 21,904 sq. ft (Appendix I). To secure a tank of this size, the tank will be bolted to an engineered concrete slab. The large diameter and sloped roof design will allow catchment of rainwater and provide a secure and safe (for animals and from leaks/collapse) water storage option for the project.

2.5.2 Proposed Cannabis Cultivation

Per the Humboldt County Commercial Medical Marijuana Land Use Ordinance (CMMLUO) No. 2559, new cultivation must be located on Prime Agricultural Soils and the total cultivation area must not occupy more than 20% of the total Prime Agriculture Soils on the property. The project employed Lindberg Geologic Consulting to conduct an onsite soil review and sampling of the project area. Accordingly, the findings, described in detail in the 2016 Engineering-Geologic Review: Prime Soil Classification letter (Appendix E) describe the conclusions by the geologist that the site soils are Grade 1 (excellent) soils that should qualify as prime agricultural soils for the purposes of the Humboldt County Cannabis Cultivation Ordinance. The letter describes the apparent extent of the prime soils as an area, across the Sherman Flat prairie pastureland area, of approximately 40 acres (1,742,400 sq. ft). Therefore 20% of the Prime Ag soils, and the maximum total available area for cannabis cultivation, would be eight (8) acres (348,480 sq. ft). The project will cultivate a maximum of 278,160 sq. ft. (existing and proposed cultivation area), or around 16% of the available Prime Ag Soils; the project complies with the Humboldt County CMMLUO (No. 2559).

The slope of Sherman Flat on which the development is proposed, has been described as “nearly level to gently sloping” and as “relatively level” by the geological and archeological consultants that visited the property (Appendix E and F).

The entirety of the proposed cultivation area (261,360 sq. ft or six (6) acres) will be fenced with 6-foot tall rodent proof fencing.

Full Term Outdoor (3 acres)

Phase I of the project includes planting one (1) acre of full term outdoor plants. All plants will be planted directly in the ground in early Summer and harvested in late Fall. Drip irrigation systems will be installed to serve the additional acre of full term outdoor. Phase II and III will see three (3) acres of full term outdoor planted and drip irrigation completed.

Proposed Light Deprivation (3 acres)

There will not be any light deprivation cultivation during Phase I. During Phase II, all three (3) acres of outdoor/light deprivation will be tilled and fertilized with plants in the ground by late March or early April. The light deprivation structures are composed of rebar/pvc with a cable and rope pulley system to close the light deprivation tarps. The blackout tarps will be ‘panda’ tarps that are white on the outside and black on the inside; these are pulled by hand. The first harvest from the light deprivation cultivation is anticipated in

early July, with new plants in the ground by late July (see Table 2 below). All tarps will be removed and stored in the Multi-Use Building or in an additional storage container for the winter.

2.6 Roads and Access

From the north (Eureka area), the route to the project parcels is primarily on Highway 36 (24 miles) and Alderpoint Road (16 miles). Traveling south on Alderpoint road, approximately three (3) miles north of Blocksburg, the route leaves public roads and turns northeast on an un-named private road for 3.2 miles. From the south (Garberville), the project parcels are accessed from Highway 101 via Alderpoint Road (31 miles). The 3.2 miles of un-named private road is composed of preexisting access roads. The project will not develop new access roads for cannabis operations. Roads were in place for cattle ranching and the property owner or ranching lessee will continue to have access to the existing roads for cattle ranching use. The Road Evaluation, performed in February 2020, found that the roads to be used by the project are in good condition with no significant sediment sources observed. The evaluation concluded that, with annual maintenance (maintenance grading, ditch upkeep, and spot rocking), the un-named private roads meet the Humboldt County Category 4 Standards (Appendix G). The project will surface 100% of driving and parking surfaces with rock in order to facilitate wet season travel (early spring) and reduce fugitive dust that would be present in the late summer and early fall. The rock will be native rock sourced from an onsite borrow pit (Figures 2 & 3) as well as gravel sourced from a local supplier. The project will observe a 10mph speed limit; this speed limit will be posted.

The project will include three parking areas for vehicles. The existing carpool parking area located off of Alderpoint road approximately one (1) mile east on the project access road will be the primary parking area for employees, visitors, and staging area for equipment. This existing parking area is approximately 2,800 sq. ft. in size and can accommodate up to 15 standard vehicles in standard parking spaces (9ft by 20ft). This parking area is expected to accommodate employees during Phase I as they will carpool to the project area. This parking area will be heavily graveled in order to accommodate wet weather use; gravel will eliminate splash erosion and sediment mobilization. A preexisting parking area on the northwest side of the existing cultivation area and immediately adjacent to the exiting road will also be defined and graveled. This area will accommodate up to five (5) standard parking spaces (approximately 900 sq. ft.). The project will also gravel and delineate a minimum of five (5) standard parking spaces on the west face of the proposed Multi-Use Building (approximately 900 sq. ft.). One of these spaces near the entrance to the building will be concrete and ADA compliant. The project will incorporate, at the discretion of the engineer, designated van parking adjacent to the Multi-Use Building. This space will add an additional 200 sq. ft. of gravel parking area.

2.7 Power

The project will use electric energy in the following ways: LED security lighting on the exterior of the Multi-Use Building, satellite video surveillance systems, water pump, supplemental lighting in propagation greenhouses, string lighting inside of light deprivation greenhouses, and space lighting, fans and dehumidifiers inside the Multi-Use Building.

The project intends to meet or exceed established Humboldt County (Ordinances 2559 & 2599) and upcoming CalCannabis limitations on greenhouse gas emissions (§8203(g)(1-4) and §8305(a) and (b)) and generators (§ 8306) by installing a solar electric system, integrated passive heating and cooling design, and

support from a net zero emissions generator. To reach the desired net zero emissions, the system will be designed in stages. During Phase I, gas generators will be used while the system is built and installed. The system will be executed in Phase II. Phase II of the project will be a testing and monitoring phase for the alternative energy system, at the end of which the solar electric and passive heating/cooling systems will be evaluated and improved by the engineer to meet the project's demonstrated needs. Because it is a testing phase, one or more gas generators may also be used during Phase II. If used, generators will be used at maximum efficiency to charge the electrical system (batteries); direct charging of the system will avoid losses from conversion (where DC is converted to AC). During Phase III, the project will be calibrated to produce the most efficient amount of solar and will have predictable energy demands which will allow for the successful transition from gas generator to a power generating gasifier (Energy Compliance Workbook, Appendix P).

2.7.1 Temporary Power (Phase I) - Generators

During the initial phase of the project, Phase I, the project will use gasoline powered generators (Appendix H). Phase I is not to exceed one (1) year (including the growing season, March through November). During Phase I, a Honda EU7000iS generator will run the two (2) proposed propagation greenhouses, including supplemental lighting and fans. A Honda 3000iS gasoline generator will run the existing one (1) propagation greenhouse at the existing garden, including supplemental lighting and fans. The project anticipates using seven (7) gallons of gas every four (4) days for all three (3) propagation greenhouses and plans to keep four (4), five (5) gallon containers on hand (split between the two (2) generators). The project will refill gas cans once a week during the anticipated weekly supply run. During Phase I, the propagation greenhouses are anticipated to run around eight (8) weeks.

In the event that the alternative power system is not running by October (Phase I) when harvest and drying of cannabis begins (all crops are outdoor in Phase I: new 1 acre, and existing 16,800 sq. ft.), the project proposes to use one or two (1-2) Honda 7000iS generator to run the indoor circulation fans, and dehumidifiers in the drying rooms of the Multi-Use Building. The cannabis will be harvested and dried in batches with the generators used as needed to maintain appropriate climate control. If the weather is hot and dry, the project proponents expect that the energy use will be minimal (several hours a day); if the weather is cloudy and rainy, the fans and dehumidifiers may be needed 24 hours a day. Based on their experience, the project proponents estimate that it will take approximately one (1) week to dry one (1) acre of harvested product. Therefore, the maximum estimated drying time for the potential Phase I planning of one (1) acres plus existing garden product will be 1.5 weeks.

According to the generator specification provided by Honda (Appendix H), five (5) gallons of gas results in 6.5 hours of runtime, or 0.769 gallons/hr. So, 24 hours of runtime would be 18.462 gallons of gas. If the generator runs (to power dehumidifiers and fans during extended cloudy and/or wet weather) 24 hours a day for 1.5 weeks, the project will burn approximately 194 gallons of fuel. If both Honda 7000iS generators are needed, the maximum gallons for Phase I drying will be 388 gallons of gasoline.

2.7.1.1 Generator Specifications

Honda EU7000iS

According to the specifications of the Honda EU7000iS, five (5) gallons of gasoline will provide 6.5 hrs. of runtime when producing 7000W (AC). If the demand is lowered to a quarter of the rated capacity, the Honda EU7000iS can run for 18 hrs.

Like fuel consumption, the noise that the generators produce fluctuates as the engines run at various loads. At 100% rated capacity (7000W AC), the Honda 7000 generator produces 58 decibels (dBA) at 23-feet away from the generator. At 1/4 load the Honda 7000 generator produces 52 dBA at 23-feet away.

Honda EU3000iS

According to the specifications of the Honda EU3000iS, 3.4 gallons of gasoline will provide 7.1 hrs. of runtime when producing 3000W (AC). If the demand is lowered to a quarter of the rated capacity, the Honda EU3000 can run for 20 hrs.

Like fuel consumption, the noise that the generators produce fluctuates as the engines run at various loads. At 100% rated capacity (3000W), the Honda EI3000iS generator produces 57 decibels (dBA) at 23-feet away from the generator. At 1/4 load, the Honda 3000 generator produces 50 dBA at 23-feet away.

2.7.2 Long Term Power - Alternative Energy System

The project is currently working with Six Rivers Solar (Eureka) to develop an integrated alternative energy system that will include integrated climate control systems for the Multi-Use Building and solar electric energy. The system will be fully installed and active for Phase II with the goal of achieving 100% renewable energy by the end of the season. Phase II will be the designated test year for the alternative energy system; the system engineer will be monitoring power loads and production throughout the season and evaluating the system upon completion (drying) of the harvest. With the data collected during the Phase II season (March through November), the engineer will fine tune the system design and make changes where necessary in advance of Phase III (See 2.7.2.1 below). Phase III will achieve 100% energy from alternative sources.

The interior climate control system for the Multi-Use Building includes a 100-foot long earth tube that will be buried 12 feet underground and have a diameter of four (4) feet and will include a passive (unpowered) exhaust fan. Climate control will also include a solar water heating component (roof mounted) that will provide hot water for the restrooms and an in-slab hydronic system for interior space heating. The roof of the Multi-Use Building will carry solar electric panels that will provide electricity for the building's interior and exterior lights, security system, and equipment used inside. The propagation greenhouse located near the 16,800 sq. ft. existing garden and the proposed propagation greenhouses on Sherman Flat will each have a solar array with backup batteries that will provide the necessary support for fans and lights. These arrays will also support the workspace lighting (string lights) in the light deprivation greenhouses. All solar electric arrays will store power in battery banks; the batteries will be available as a source of power during evenings/nights and during cloudy days.

Currently onsite, there is an existing small solar collection system of seven (7) panels that provides the necessary electricity to power the well pump during most weather conditions (project is inactive and no

people are on site during the winter months (Nov-Feb)); the cultivators have determined that a battery bank is unnecessary and do not plan to add batteries to the well pump system.

2.7.2.1 Long Term Power - Alternative Energy System: Array Size Estimates

Multi-Use Building

At this time, estimates for propagation greenhouse solar array size are available based on known and extrapolated fuel consumption. The electrical engineer used estimates from project proponents for gasoline consumption to anticipate potential energy demand for the Multi-Use Building. The engineer recommends, in addition to the passive heating and cooling elements in the building design, that the project install (2) 12.8kw Six Rivers Solar Apollo 13 solar systems comprised of (64) 400W PV panels, 60kw lithium ion battery storage, and a 4kw generator for back up battery charging (Appendix P). These systems, each 12.8kw array occupying approximately 742 sq.ft. of area (1484 sq. ft. total), will be installed on the roof of the Multi-Use Building. The Multi-use Building will have a footprint of 7,200 sq. ft. with a similar estimated roof capacity. If evaluation of the system at the termination of Phase II growing system results in an additional two (2) 12.8kw systems, the total area occupied by solar panels will be 2,968 sq.ft. The roof of the Multi-Use Building will have the capacity to accommodate all planned (2) and potential (2) arrays.

Propagation Greenhouses

The project currently uses around two (2) gallons of gasoline every four days to run the existing propagation greenhouse. For three (3) propagation greenhouses at full operation (Phase I), it is anticipated that seven (7) gallons of gas will be burned every four (4) days (approximately 52.5 gallons/month). According to the engineer (see Generator Worksheet, Appendix P), a gallon of gas in an average gas burning generator will produce approximately 8.7kwh. Therefore, 52.5 gallons of gasoline is the equivalent of a 456.75kwh/month electrical demand. To provide a system that would produce around 500kwh/month, most sources (various web sources) recommended a 4kw solar system. These systems are described as occupying between 240 to 300 sq. ft. of space. Requiring only one third of the 500kwh/month estimated for propagation, the existing propagation greenhouse will have a ground mounted solar array of approximately 200 sq. ft. or smaller installed adjacent to the greenhouse. Battery storage will be in a weatherproof shed/cabinet (max 120 sq. ft.) that will be located adjacent to the greenhouse. Requiring only two thirds of the 500kwh/month estimated for propagation, the proposed Phase I propagation greenhouses (2) will have a ground mounted solar array of approximately 200 sq. ft. installed adjacent to the greenhouses. Battery storage will be in weatherproof shed/cabinet (max 120 sq. ft.) that will be located adjacent to the greenhouse (project may repurpose generator shed). When the additional two (2) propagation greenhouses are added for Phase II, an additional 200 sq. ft. of solar array will be installed adjacent to the greenhouses.

The footprint of the alternative energy system will consist of the roof of the Multi-Use Building, an underground earthtube that extends downslope (west) of the Multi-Use Building for 100-feet (100ft x 4ft), and up to 840 sq. ft. of solar array and battery storage adjacent to propagation greenhouses (See Table 1.). The approximate location of the solar panels and battery sheds are depicted on the Plot Plan and maps in this document (Figures 2 & 3). All panels will be located within the immediate vicinity of propagation greenhouses for maximum power conservation. All proposed panels for proposed propagation greenhouses are located in areas that are outside of riparian setbacks and in areas that have had cultural and biological surveys (Appendixes B & F). The proposed ground based solar array will be located in a location within the currently disturbed area of the cultivation site. While maintaining the aforementioned parameters for

location, the solar engineer may modify to some extent the exact footprint and orientation of the panels during installation based on site conditions for maximum solar exposure.

2.7.2.1.1 Back Up Power Supply

Phase II

Because Phase II will be a test year (Phase II will not exceed one (1) year) for the Alternative Energy System, there may be a need for a flexible back up power supply. A generator is recommended as a backup supply during Phase II because a generator will better meet the fluctuations in demand that may occur as a result of the untested system. During Phase II, the maximum amount of gasoline that will be required by generators used to charge system batteries is assumed to be equal or less than the maximum amount required by one 7000iS generator running 24 hours a day for six (6) weeks. See Greenhouse Gas Emissions (section 4.8) for details on estimated gallons of fuel burned. At the end of the Phase II season, the project will remove all Honda EU3000iS and/or Honda EU7000iS generators offsite.

Phase III

After the system evaluation and associated adjustments have been made at the conclusion of the Phase II growing season, the project will begin Phase III operations using 100% alternative energy sources. The backup power system that will be in place to recharge project batteries for times of extended cloud cover will be a part of the alternative energy system. The backup power for the system will be a small 4kw generator that is powered by a gasifier, a wood biomass system. As recommended by the electrical engineer, the project will use a wood gasifier to provide backup electricity production to charge the battery bank. Depending on the time of year, the charged batteries will be used in the Multi-Use Building or moved to the propagation greenhouses. A gasifier is a generator that is fueled with wood (Gasifier, Appendix P). The wood fuel (chips, pellets, or other small pieces) is burned in a partial combustion process using a limited oxygen environment and extremely high temperatures to create wood gas. The resultant wood gas, called 'syngas,' is then used to power a generator which will recharge project batteries. The syngas is transferred to the generator in a closed system with no direct environmental emissions of syngas into the environment. In addition to the production of syngas, the gasifier produces a byproduct called biochar. Biochar is a stable charcoal that is high in carbon that will be composted onsite.

Emissions from the burning of syngas in the generator are generally found to be comparable to that of a diesel fuel generator (Palmer, K. et. al., 2018), but can vary depending on the fuel burned, the type of fuel, the moisture content of the fuel, and the gasifier itself. However, these potential project emissions, according to a 2018 Environmental Protection Agency (EPA) Policy Statement, are carbon neutral due to the fact that they are directly associated with the use of forest biomass for energy. The declaration of carbon neutral is based on the biological process of sequestration, in which plants absorb CO₂ from the atmosphere as they live and grow. When the plant decays, or is harvested and burned, the CO₂ is released back into the atmosphere (EPA, 2018c). Biomass emissions are also sometimes described as 'recycled' CO₂ versus the 'new' CO₂ emission from the burning of fossil fuels. With regard to air quality, the small size of the engine (4kw) and the irregularity of use (backup system) imply a system that is not expected to contribute significantly to the degradation of the North Coast Air Basin. The gasifier and generator back up system for battery charging during periods of extended cloud cover is not subject to permitting by the North Coast Unified Air Quality Management District (NCUAQMD Rule 110; Correspondence: NRM with

NCUAQMD permitting engineer and Humboldt County Planning and Building Department, March 9, 2021).

The gasifier recommended by the project's electrical engineer at Six Rivers Solar and the associated 4kw generator (ie: Honda EU2200i or equivalent) will be installed adjacent to the Multi-Use Building, replacing, or occupying the proposed generator shed. Fuel storage will be stored immediately adjacent to the shed or in the Multi-Use Building. The gasifier will utilize slash or chips from logging or maintenance projects on the ranch or purchase or receive chips or pellets from local sources. This gasifier will need to burn approximately 22 pounds of wood chips to replace one gallon of gasoline. While true charging time will depend on the specifications of the equipment (charger) and battery state (% charge), equivalent charging estimates (Tesla car charging) for 60kW of lithium ion battery storage with a 220V charging source describe an average charge time of six (6) to twelve (12) hours (Enel X, 2019). The EU2200i requires one (1) gallon of gasoline to provide 3.2 hours at maximum load. Assuming the generator will run at maximum load for the maximum time, the project will need 88 pounds of wood fuel to gain the equivalent of four (4) gallons of gas and 12 hours of charge time. The number and frequency of battery recharging with the gasifier will depend on the stage of the project (planting versus drying) at the time of battery recharge. To ensure that the project is prepared for a low battery charging event (extended cloudy weather), the project will keep approximately 300 pounds of wood fuel on hand. For reference, this would be around eight (8) 40lb bags of pellets.

If the project experiences a catastrophic emergency that results in a total failure of the project's internal distribution system (CARB, 2018), the project will use a portable generator to maintain plant viability (power to support propagation and drying). This emergency backup generator will be brought in from offsite; it will meet current engine requirements and will be equipped with a non-resettable hour-meter (3 CCR § 8306).

2.8 Construction

The project and associated construction components will be split into two (2) phases as identified in the Project Timeline (2.4). The combined construction period (all Phases) will be between 13 and 16 weeks.

All construction will take place during daylight hours; no lighting will be required for construction purposes. Heavy equipment used during the construction phase will include a backhoe, compactor/roller, dump truck, water truck, concrete truck, and power tools. Power tools will use a generator provided by the contractor. Equipment will reach the sites using Highway 36 and Alderpoint Road and the un-named private ranch road. The contractor will operate in a manner that meets established construction BMPs: if any equipment is stored on site a drip pan will be placed underneath, fuel for the equipment will not be stored on site, and equipment will be inspected for leaks. During the construction phase, a portable toilet and handwashing station will be provided for construction workers and serviced at regular intervals by a portable toilet service provider. The project estimates that there will be an average of five (5) construction employees onsite during project construction.

The roads and the construction sites will be watered between 0-3 times per day, as necessary depending on meteorological conditions to suppress fugitive dust (PM10). Water used to fill the water truck for dust abatement will come from the existing water source (well). The maximum amount of water needed for dust

suppression is estimated to be as low as 1,671 gallons a day and as high as 34,335 gallons (for three (3) passes on roads) a day. See section 2.10.2 for more details.

Following the construction of all infrastructure, areas of bare dirt will be seeded with grass seed (no species on the California invasive list will be included in this mix) and covered with two (2) inches of weed free straw.

2.8.1 Phase I

Part one of the Phase I construction will be a limited amount of earth work. The earth work will include upgrades to the main access road and existing garden access spur road (annual maintenance as recommended in the roads surveys (Appendix G) and addition of gravel to road). The proposed Multi-Use Building is a rebuild of a burned down barn and will require scraping or ‘blading’ to level the site. The septic system and the alternative power system will require a limited amount of trenching. The earthwork is estimated to take between one to two (1-2) weeks to complete.

Part One (earthmoving)

Estimated Time for Completion = 1 - 2 weeks

- rocking of main access road, spur, and parking areas
- grading/compacting for Multi-Use Building and slab foundation
- trenching for septic system
- trenching for alternative power system (earthtube)

Part Two of Phase I includes the construction (concrete slab, framing, siding, etc.) and the finish work (wiring, plumbing, etc.) of the large Multi-Use Building. The septic system, the propane tank, and the alternative electricity system will be installed and connected. The project proponent is also planning to construct two (2) 2,000 sq. ft. propagation greenhouses during Phase I.

Phase I also includes planting one (1) new acre of full term cannabis and the existing 16,800 sq. ft. garden. The new acre has a low slopes and will not require grading; individual planted areas will be hand tilled with amendments in situ and the plants will be planted directly in the ground. No earthwork or construction is required for the full term outdoor cultivation in Phase I.

Part Two (construction & finish work)

Estimated Time for Completion = 8 - 9 weeks

- irrigation system installation
- slab for Multi-Use Building
- construction of Multi-Use Building
- septic tank installation
- propane tank installation
- propagation greenhouse installation
- alternative power system installation
- all electrical and plumbing connections

2.8.2 Phase II

During Part One of Phase II, the 1,000,000 gallon rainwater catchment tank pad will be graded. This steel tank has a diameter of 167 feet and a footprint of approximately 21,904 sq. ft (Appendix I). To secure a tank of this size, the tank will be bolted to an engineered concrete slab. Because the location of the tank (Figures 2 & 3) will be a low slope area, the grading for the slab is expected to be minimal. The total grading and compacting earthwork portion of Phase II (Part One) will be less than one (1) week.

Part One (earthmoving)

Estimated Time for Completion = 1 week

- grading/compacting for rainwater catchment tank

Part Two of Phase II consists of finishing the slab and installation of the rainwater catchment tank. This is estimated to take approximately one (1) week. The light deprivation systems will be installed in very early spring during Phase II. The light deprivation structures are a low impact construction component as they consist of a tarp/curtain system set up with rebar/pvc supports and cables. The tarps are put up every spring and removed to storage every winter. The final two (2) propagation greenhouses will be constructed during Phase II.

If the Phase II evaluation of the alternative energy system resulted in inadequate electric power, additional solar arrays will be incorporated into the alternative energy system. One (1) or two (2) additional 12.8kw solar array systems may be mounted on the roof of the Multi-Use Building per the analysis of the solar engineer. The installation of these systems will equate to one to three days of work by two Six Rivers Solar Employees that will take place before the Phase III cultivation season begins.

Part Two (construction & finish work)

Estimated Time for Completion = 3 - 4 weeks

- slab for rainwater catchment tank
- installation of rainwater catchment tank
- propagation greenhouse installation
- installation of gasifier and additional solar arrays (if required) before Phase III begins

2.8.3 Phase III

There is no planned construction during Phase III. Phase III is the beginning of standard annual project operations.

2.9 Project Operations

When the project is running at full capacity (Phase II -III) employees will be onsite in early spring to start the propagation greenhouse. In early spring (usually March) the propagation greenhouses will receive clones in soil cubes that come in sets of 100 on trays. When the cultivators transport the clones to the Project Parcel in early spring, they also bring one load of soil from a supplier in Eureka. The clones are immediately transplanted into four inch (4") pots. All soil is used. These clones are then set on the floor of the propagation greenhouse (weed matting) to mature and are hand watered. In March, the light deprivation three (3) acres are tilled and fertilized before receiving transplants from the propagation area (late March or early April). After the light deprivation area plants are in the ground, the full term acreage (six (6) acres

plus existing 16,800 garden) is prepared by tilling and fertilizing and another round of clones is brought into the propagation greenhouses. The full term gardens are generally planted with plants from the propagation greenhouse in May. In early July, the propagation greenhouses are supplied with an additional load of clones and soil for replanting to supply the second run of light deprivation cultivation. See Table 2 for approximate full term and light deprivation planting and harvesting schedules.

During Phase I, all cultivation will be full term and the harvest will occur in October/November. When the project is running at full capacity (Phase II - III), the first (1) harvest from the light deprivation acres (3) will take place in July; the second (2) harvest will take place in October/November when the second (2) light deprivation run and the outdoor will be harvested.

Harvests will consist of cutting the plants of excess stem and leaves and transporting them to the Multi-Use Building. The product from the existing 16,800 sq. ft. garden will be transported from the garden to the Multi-Use Building on a truck trailer; the product from the proposed six (6) acres of cultivation will be cut and walked out of the garden to the road where it will be loaded onto a truck trailer. The cut stems and leaves will be moved in a truck to the compost area. After drying in the Multi-Use Building, the plants will, most often, be moved offsite for processing; some plants may also be moved to a designated processing area in the Multi-Use Building where the plants will be finished/trimmed by hand and/or machine and then packed for transport offsite. The project anticipates finishing most product offsite. All product that is awaiting transport offsite will be held in a secured room or in a secured shipping container inside of the Multi-use Building.

Table 2. Proposed Cultivation Schedule(s)*

<i>Full Term Gardens</i>	<i>Light Dep 1st Run</i>	<i>Light Dep 2nd Run</i>
May-June (Veg) June-October (Flower) November (Flower/Harvest)	March-April (veg) May-July (flower) July (harvest)	July-August (veg) August-October (flower) October (harvest)

*Actual start date will vary; dependent on a variety of factors including local weather and specific cannabis strain requirements.

All soils for plants (propagation, full term, and light dep plants) are fertilized the same way. After tilling with hand tillers, the fertilizer is dissolved or mixed into water and delivered to plants by hand in five (5) gallon buckets. Plants, when needed, are treated for pests and fungus using beneficial bugs or a powdered sulfur fog. All irrigation of cannabis (apart from hand watered propagation greenhouses) is completed by a timed, metered, drip irrigation system that prevents over watering. During the summer months, the cultivator may supplement the watering system with hand watering where necessary (depending on individual plant needs).

2.9.1 Site Winterization

Before wet season rains begin, and in preparation to leave the site until Spring, the following winterization protocols from the SWRCB Cannabis General Order WQ 2019-001-DWQ will be observed:

- All organic materials will be removed to the compost pile. Compost pile will be covered with a roof and three sides and an impermeable floor or the proponents will use a weighted tarp system with a straw wattle perimeter.
- Propagation greenhouse sheeting and systems will be removed to storage for overwintering.

- All light deprivation tarps will be collected and moved to storage in a shipping container or the Multi-Use Building.
- All solar electric battery components will be removed to storage in Multi-Use Building (with spill containment).
- All gasoline containers, nutrients, and other chemicals will be removed to long term storage in Multi-Use Building (with spill containment).
- Culverts will be inspected to ensure they are not blocked by debris or sediment.
- The site will be inspected for garbage and all solid waste and recycling removed offsite for the winter.
- All planted acres will be seeded with a cover crop (i.e. clover) with weed free straw used.

2.10 Employees

During Phase I, the project anticipates six (6) full time employees. Employees are expected to be hired from the existing workforce in the nearby communities of Alderpoint and Blocksburg; they will work during the day and return home in the evening. A round trip commute from Blocksburg to the project site will be just under seven (7) miles. Extending the round trip to the community of Alderpoint will add an additional 20 miles. Phase I employees will drive personal vehicles to the existing carpool parking area (See description in section 2.6). The majority of employee vehicles will remain in the parking area as the employees will be required to carpool to the project site. Only one to two (1-2) vehicles are expected to travel the remaining length of the access road to the cultivation area.

Phase II/III of the project anticipates using approximately 20 employees on average throughout the season to plant, tend, harvest, and process the 278,160 sq. ft. of total project cultivation. For five to eight (5-8) weeks, during times of increased labor (planting and processing the final crop(s)), the project might, depending on availability of labor, increase the number to 25. The project will purchase one (1) or two (2) passenger vans that will seat 12 to 15 people. Employees will be picked up and dropped off at their houses using a project van. The van will make two (2) morning and two (2) evening trips per day for a total of four (4) round trips a day. The exception to this will be those times in the early spring and late fall when employee numbers are low (six (6) or less) due to a ramping up or a slowing down of cultivation activity. During these times, as in Phase I, employees will utilize their personal vehicles and the carpool parking lot.

From the parking area near the Multi-Use Building and the parking area in front of the existing 16,800 sq. ft. garden, employees will walk to their assigned work locations using designated natural surface paths that will be approximately two (2) feet wide. These paths are anticipated to maintain grass cover for most of the season as the area is a natural grassland with existing and well established vegetation communities; the anticipated use (walking) is not considered intensive.

2.11 Water

2.11.1 Water Infrastructure

The project currently has 7,500 gallons of hard tanks on the project parcels made up of three (3) 2,500 gallon tanks (Site Plan, Figure 2); these tanks primarily serve as water transfer and storage for the existing 16,800 sq. ft. full term garden. During Phase I of the project, the cultivators will add an additional 48,000 gallons of water storage in the form of seven (7) 5,000 gallon tanks, one (1) 2,500 gallon tank, and three (3) 3,500 gallon tanks. The total project capacity will be brought to 85,000 gallons of water storage. The project will also add an additional 1,000,000 gallon rainwater catchment tank during Phase II; the tank will be in use during Phase III. Water conservation efforts will include a timed drip irrigation system(s) for all

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gardens and the use of mulching to manage soil evaporation. Water transfer lines will be checked regularly for leaks from poor seals, cracks, and other damage; if damage is found, the system will be immediately repaired.

The well onsite has a production rate of 28 gallons/minute, as established in a recent drawdown pump test (Appendix J). This production rate will allow the project to pump up to 40,320 gallons in 24 hours.

2.11.2 Estimated Water Use

- **Construction**

The project will use water during construction to manage fugitive dust. A toilet and handwashing station will be a rented and maintained by a local portable toilet company. Drinking water will be brought onsite by individuals for individual use and the toilet facility.

A water truck will be onsite to spray roads, grading areas, and spoils piles, if necessary, during initial road improvements and during project construction. If a water truck is needed, the truck will spray roads during gravel spreading and grading sites/spoils between zero to three (0-3) times per day. For this project, dust is anticipated during the removal of gravel from the onsite borrow pit (see Figures 2 & 3), the transport and spreading of the gravel on the road surface, and during the scraping/grading and excavation components. The Multi-Use Building will be scraped with some excavation for the installation of the alternative energy system (see section 2.7). The project will require some grading to level the ground where the rainwater catchment tank will be located, and there will be limited excavation for septic tank and system installation.

Establishing a representative number of gallons of water needed for dust suppression is difficult and application rates can vary; the difficulty lies in that water demand is directly relative to the meteorological conditions leading up to and during the planned dust emission events, traffic on the road or site during dust suppression (BLM, 2016), as well as soil condition and type (Yonkofski, 2018). In order to gauge this complexity on the ground, water sprayer/truck operators often rely on trial and error, with best management practices (BMPs) that describe indicators in terms of visible emissions (40% opacity); or track out where dirt, either dry and loose, or too wet and mobilized, is carried out of the construction area (NCUAQMD 2015). This variability is noted in the records of water use; in one review of common practices, the application of water for dust suppression ranged from 0.1 to 4.5 L/m² (Yonkofski, 2018).

In an effort to estimate the gallons of water needed to suppress fugitive dust during earth moving activities, this analysis takes the mean amount (2.3 L/m²) from the aforementioned ranges. At 2.3L/m², the road would require 11,445 gallons of water to prevent dust (up to 34,335 gallons for three (3) passes). At 2.3L/m², the grading/scraping and excavation would require 1,671 gallons of water to prevent dust. See Table 3 below. While the reality of the construction progress is not parsed into specific units as described in the Table 3 (i.e. the entire road may be rocked over several days, requiring water for dust prevention only once or multiple times per work area), the totals provide working estimates of potential water use for dust suppression. Therefore, with the project's proposed water storage at 85,000 gallons and a daily recharge rate of 40,320 gallons, the project would be able to provide and sustain all estimated water needed for effective and ongoing dust suppression.

Table 3. Estimated Gallons of Water Required for Project Construction Dust Prevention by Area

Water Application rate = 2.3L/m2				
Project Feature	Area (sq. ft.)	Area (m2)	Water needed - Liters	Water needed - Gallons
Primary and Spur Roads	3.2 miles (16,896ft) @ 12ft wide = 202,752	18,836.3	43,323.49	11,445
(P) Rainwater Catchment Tank (1,000.000 gal)	21,904	2035	4680.5	1,236
(P) Generator Shed(s)	100	9.3	21.2	5.6
(P) Multi-Use Building (120' x 60')	7,200	669	1538.7	406.5
Proposed Alternative Energy System	+/- 400	37	85.1	22.5

- **Operations**

Water will be used during project operations to irrigate crops and provide water for drinking, sinks, and toilets. According to the Federal Water Use Indices, employees in a range of commercial setting use between 10 to 15 gallons of water per day (includes drinking water, toilet, and handwashing) (2020; US Dept Energy). This agricultural setting is likely to demand water at the upper range of 15 gallons per day per employee. Therefore, with 20- 25 employees on site per day during Phase II/III (see section 2.13), the project will provide an additional 9,000 to 11,250 gallons per month (30 days), or 54,000 to 67,500 gallons per season (six (6) months). During Phase I, with six (6) employees, the project will demand an additional 2,700 gallons per month (30 days), or 16,200 gallons per season (six (6) months).

Based on the project proponents' experience with outdoor and light deprivation cannabis cultivation in the same geographic area as the proposed project (existing 16,800 sq. ft. and additional nearby cultivation (PLN-10812-CUP), the project estimated that each acre (includes both full term and light deprivation) of cannabis cultivation will require between 5,000 to 7,000 gallons of water every two to three (2-3) days depending on time of year and weather conditions. This means that during Phase I, when the project anticipates planting one (1) acre of full term outdoor in addition to the existing 16,800 sq. ft of existing full term outdoor (total of 1.385675 acres), the project could use between 424,940 and 892,376 gallons of water for crop irrigation; these numbers represent the extreme minimum number of gallons and the extreme maximum number of gallons that could be used. A more likely number (Table 4, blue) is based on seasonal averages in which the hottest months (July, August, September) use the most water and the cooler months (May, June, October) use the least water. This more likely scenario results in approximately 658,658 gallons of water to irrigate one (1) acre and 16,800 sq. ft. of outdoor cannabis. See Table 4 below for irrigation use calculations. Adding in the employee water use, the total increases to 674,858 gallons of annual project use.

Phase I of the project, including employee use, is estimated to be 674,858 gallons of water.

During Phase II/III, the total acreage planted will be six (6) acres plus the existing 16,800 sq. ft. of existing (total of 6.385675 acres). Project operations at full capacity could consume a maximum (drought conditions) of 4,112,375 gallons and as little as 1,958,274 gallons of water for crop irrigation. These numbers represent the extreme maximum number of gallons and extreme minimum number of gallons that could be used. A more likely number is based on seasonal averages in which the hottest months (July, August, September) use the most water and the cooler months (May, June, October) use the least water. This more likely scenario results in approximately 3,035,326 gallons of water for crop irrigation. Adding in the average anticipated propagation water use moves the number up to 3,090,326 gallons of water for the project. See Table 5 below for irrigation use calculations (numbers in blue represent most likely scenario of water use). Including the additional maximum 67,500 gallons for employee use, the total increases to 3,157,826 gallons of annual project use.

Phase II/III of the project, including employee and propagation greenhouse use, is estimated to be 3,157,826 gallons of water.

Table 4. Phase I: Expected Use (Blue) and Max/Min Range of Irrigation Water Use *

	Jan	Feb	March	April	May 31 days	June 30 days	July 31 days	August 31 days	September 30 days	October 31 days	Nov	Dec	TOTAL gal/year
Max H2O = 7,000 gallons /2 days per acre	0	0	0	0	150,346	145,496	150,346	150,346	145,496	150,346	0	0	892,376
Min H2O = 5000 gallons /3 days per acre	0	0	0	0	71,593	69,284	71,593	71,593	69,284	71,593	0	0	424,940
*Where total acres = 1.385675											Expected Use = 658,658		

Table 5. Phase II/III: Expected Use (Blue) and Max/Min Range of Irrigation Water Use

	Jan	Feb	March	April	May* 31 days	June* 30 days	July* 31 days	August* 31 days	September* 30 days	October* 31 days	Nov	Dec	TOTAL gal/year
Max H2O = 7,000 gal /2 days per acre	0	0	0	0	692,846	670,496	692,846	692,846	670,496	692,846	0	0	4,112,375
Estimated average propagation water use**	0	0	10,000	10,000	10,000	10,000	10,000	5,000	0	0	0	0	55,000
Min H2O = 5000 gallons /3 days per acre	0	0	0	0	329,927	319,284	329,927	329,927	319,284	329,927	0	0	1,958,274
*Where total acres = 6.385675 and where light deprivation cultivation and full term are not distinguished ** Where propagation water use is approximately 2,500 gallons/week											Expected Use = 3,090,326		

2.11.3 Sustainability

The well onsite has a production rate of 28 gallons/minute, as established in a recent drawdown pump test (Appendix J). This production rate will allow the project to pump up to 40,320 gallons in 24 hours. In Phase I, the project will plant 1.385675 acres of full term outdoor cultivation. If the temperature demands the maximum anticipated amount of water (7,000 gallons per acre per two (2) days) for plant success, the water use will be 9,700 gallons every other day. The project will stagger garden watering and administer 4,850 gallons per day over eight (8) hours. Table 6 below shows that even at high temperatures, represented by the maximum irrigation demand, the amount of water used daily for irrigation of flowering crops is readily replaced by the project well. Water demand for Phase I irrigation is sustainable.

Table 6. Phase I: Sustainable Water Supply

Starting volume, storage (gal)	Balance in storage after daily use (gal) <i>Daily use = 9,700 gal (for 1.385675 acres @ max temps)</i>	Total after daily recharge (from well to storage) <i>Recharge = 40,320 gal</i>
85000	75,300	85,000 (30,620 over)
85000	75,300	85,000 (30,620 over)
...		

During Phase II and beyond, the project will plant up to 6.385675 acres of full term outdoor and light deprivation cannabis. If the weather conditions during the growing season (does not include propagation water) require the maximum amount of water, 7,000 gallons every two days, the project will use 44,700 gallons every other day. The project will stagger garden watering and administer 22,350 gallons per day. Table 7 below shows that even at high temperatures and maximum demand, the amount of water used daily can be replaced by the project well. Water demand for Phase II irrigation is sustainable.

The addition of employee water use (9,000 to 11,250 gallons per month or a maximum of 375 gallons per day) and propagation water requirements (10,000 per month or approx. 333 per day; see Table 5) would mean that demand during Phase II could reach a total of 23,058 gallons per day. This amount is still within the daily capacity of the well (recharge rate is over this amount); total water demand for Phase II is sustainable.

Table 7. Phase II: Sustainable Water Supply

Starting volume, storage (gal)	Balance in storage after daily use (gal) <i>Daily use = 22,350 gal (for 6.385675 acres @ max temps)</i>	Total after daily recharge (from well to storage) <i>Recharge = 40,320 gal</i>
85,000	62,650	85,000 (17,970 over)
85,000	62,650	85,000 (17,970 over)
...		

Phase III will see the same potential water demand as Phase II, but will include a 1,000,000 gallon rainwater catchment tank (to begin filling during rainy season between the tank's Phase II fall installation and Phase III irrigation season) that will provide support in drought years in the event that consecutive drought years

mean a significant drop in well production below the current production of 28 gallons per minute. Total water demand for Phase III is sustainable.

2.12 Water Quality

In an effort to minimize concentrated stormwater runoff from the cumulative addition of approximately 7,200 sq. ft. of impermeable roof surfaces (Multi-Use Building), the project will employ infiltration tranches/french drains as a method of managing the runoff from the Multi-Use Building.

Much of the storm water is expected to infiltrate in the approximately 250-feet between the gutter exit points and the nearest water features (wetlands). Any bare ground resulting from construction disturbances will be seeded with a native erosion control mix. Supported (seed casting) and natural seeding from the surrounding grasslands is expected to rapidly re-populate disturbed areas with grasses; revegetation and the low slope of the building site are expected to eliminate sediment mobilization associated with construction of the Multi-Use Building.

The threat to water quality from agricultural runoff is not significant at this project location. No significant soil disturbances will occur as the project will not grade the proposed planting areas (6 acres) or conduct large scale tilling. Instead, each designated plant location will be individually tilled by hand.

Plants will be watered by a controlled and automated watering system at agronomic rates to prevent overwatering and eliminate runoff. The watering system will be periodically inspected for leaks and worn parts will be immediately replaced. The natural slope of the site is low, described as “nearly” or “relatively” level by the geological consultants and archeological that visited the site (Appendix E & F). Any escaped runoff would travel through the mulch used by the project and across the site at a low velocity and over grazing land (grass); the potential for escaped cultivation runoff to move sediment and contaminate streams is very low.

The gardens, propagation greenhouses, Multi-Use Building, compost area, and rainwater catchment tanks observe all Humboldt County and State (SWRCB) setbacks to riparian habitats. The project parcels have two (2) seasonal wetlands and a perennial wetland features located to the east of the proposed expansion area as well as an additional wetland feature located northeast of the existing 16,800 sq. ft. full term garden. The proposed six (6) acres of outdoor cultivation on APN 217-471-001 will observe the most conservative (maximum) setback of 100 feet from the seasonal wetlands (SWRCB) and a setback of 150 feet from the perennial wetland (Humboldt County SMA).

There are five (5) stream crossings on the project parcels (CDFW LSAA No. 1600-2020-0271-R1, Appendix L). The existing 16,800 sq. ft. project was originally enrolled in the North Coast Regional Water Quality and Control Board order (R1-2015-0023; WDID 1B161057CHUM) and is now enrolled in the current State Water Resources and Control Board General Cannabis Order (WQ 2019-0001-DWQ; WDID 1_12CC419213). Pending project approval, the enrollment will be modified to include the additional proposed cultivation.

2.13 Hazardous Materials - Fertilizers, Pesticides, Rodenticides and Petroleum Products

Fertilizers, Pesticides, Rodenticides

The project will apply fertilizers and pesticides. The project will not use rodenticides. The nutrients and pesticides will be stored in locked metal storage cabinets and all liquid chemicals will have secondary spill containment in the form of plastic totes or spill containment pallets. Granular fertilizers will be located in the Multi-Use Building in their original bags/buckets on top of a tarp/sheeting with perimeter edges wrapped upward to prevent spill out. A spill kit will be kept in the Multi-Use Building; this spill kit will contain kitty litter, sorbent pads, shovel, polypropylene broom, a large bucket with a lid, disposal bags, gloves, and safety goggles.

In order to limit over fertilizing, the project has had site soils tested for chemical composition (TeaLAB, Appendix M); this analysis will be the basis for fertilizer composition. The fertilizer will be a granular recipe containing the missing/necessary chemical components and will be applied at 50 pounds per 100 sq. ft. The granular ‘tea’ will be applied to the six (6) acres (261,360 sq. ft.) of new cultivation over two (2) seasons (Phase I and Phase II); this will result in an approximate total of 130,680 lbs. of fertilizer applied. The project anticipates that once the soil is brought up to an improved level with planned initial amendments, subsequent testing will show a more even chemical balance with a less intensive (lbs./sq. ft.) amendment regime going forward. The project proponents will submit the fertilizer recipe and anticipated amounts to the county CUPA officer for review (See Section 4.9 for more details). All Safety Data Sheets (SDSs) will be posted wherever chemicals are stored or applied.

Pests will be managed in two ways. The first method is through the use of predator insects. These ‘beneficial bugs’ are applied by hand to the plants; they are shaken onto targeted plants. These insects are not stored onsite, but instead are brought to the project parcels and used immediately (within 24 hours).

The second method of managing pests is through the application of powdered sulfur. The sulfur is stored in the Multi-Use Building in sealed plastic totes. One to two (1-2) 40-pound bags are kept on hand. Sulfur is commonly used on agricultural products and is ubiquitous in the environment. The EPA’s pesticide reregistration factsheet (EPA, 1991) and subsequent reregistration review (EPA, 2015) conclude that negative human health impacts from sulfur, when used as a pesticide, are generally associated with inhalation by handlers. As recommended by the EPA, the project’s sulfur handler will wear a respirator, goggles, gloves and protective clothing when applying powdered sulfur. Sulfur will be applied on calm days to maximize the application of the product and to avoid drift.

Sulfur impacts on aquatic and terrestrial species, to the extent known, are essentially less than significant as the EPA has found that sulfur has “no effect” on listed aquatic species and listed terrestrial vertebrates that do not rely on insects as a primary food source. The National Pesticide Information Center (NPIC) publication about sulfur describes sulfur as being “practically non-toxic” to honeybee pollinators (Boone, C. et. al., 2017).

The project will keep cleaning chemicals (one (1) gallon industrial peroxide) on hand for cleaning and sanitizing of the drying/processing areas and equipment, as well as the periodic cleaning and sanitizing of other workspaces and equipment. The cleaning chemicals will be kept in a storage bins in the Multi-Use Building.

Petroleum Products: Gasoline and Propane

The project will use gasoline onsite. During normal project operations (Phase II/III), the project will keep 20 gallons of gasoline on hand in four (4), five (5) gallon containers) as fuel for property maintenance and cultivation equipment (gasoline powered pesticide (sulfur) fogger, string trimmer, lawn mower, and emergency vehicle needs). Property maintenance equipment and fuel will be stored apart from the fertilizers in the Multi-Use Building. This building will have an impermeable concrete floor and the fuel will be stored in corrosive resistant plastic bins. In addition to property upkeep equipment and fuel, there will also be a location for the storage of other cultivation related components. These components include irrigation tubing and repair equipment, plant support stakes, and biodegradable trellis among other things.

During Phase I, the project will keep fuel for gasoline generators in addition to the 20 gallons of general property maintenance and cultivation equipment fuel. In general, the generator fuel (two (2), five (5) gallon containers) will be stored in waterproof totes in the generator sheds when generators are used.

Because the generators will be necessary to run the drying rooms in the Multi-Use Building during Phase I and possibly Phase II, the project will add additional fuel (gas cans in noncorrosive totes with spill capacity) that will be stored inside of the Multi-Use Building. Depending on meteorological conditions, the drying could require up to 24 hours of generator use and around 18.5 gallons of gasoline per day (37 gallons for two 7000iS generators). To accommodate this demand, the project will add between 20 to 50 gallons of additional fuel storage. The project will resupply daily or every other day depending on amount of fuel used. All fuel containers will have secondary containment (corrosion resistant totes or other spill basins).

Heating fuel for the project will be provided by propane. Propane is not regulated by the Aboveground Petroleum Storage Act (APSA) as it volatilizes when not under pressure. The propagation greenhouses and the Multi-Use Building will utilize propane heaters to manage climate during propagation and drying of the crop. The propagation greenhouses are expected to use between 25 to 50 gallons of propane per week (per greenhouse). In a typical year (Phase II/III) propagation heating will only be needed in the spring (not anticipated for mid-season clones) for approximately eight (8) to 16 weeks; the range of propane used will be between 200 to 800 gallons of propane for one (1) season of regular propagation greenhouse use. Propane will be sourced from portable 100-pound bottles of propane (approx. 24 gallons each).

During harvest, the drying room in the Multi-Use Building will be carefully controlled. Propane heat will be used during this time to bring up the ambient temperature. Approximately 75 gallons of propane use per week is anticipated during harvest season. The staggered harvests mean that the project will harvest light deprivation during July and October (approx. six (6) weeks of drying) and the full term outdoor during November (another four (4) weeks of drying). The 10 weeks of drying means that the heaters in the drying room of the Multi-Use Building could burn up to 750 gallons of propane per season. The propane for the Multi-Use Building will be sourced from a 300 to 500 gallon propane tank located near the Multi-Use Building that is above ground and bolted to a concrete pad. This tank will be installed and filled two to three (2-3) times per season depending on final tank size decision by a licensed operator (Sequoia Gas or equivalent). In addition to space heating, the propane may also be used to heat water for the restrooms. The amount of propane that the Multi-Use Building will use is expected to decrease as the alternative energy system should accommodate most heating requirements.

2.14 Solid Waste

The solid waste produced by the project will be cultivation and employee generated. During project operations, cultivation related refuse will primarily consist of plastics used for packaging. Employee generated refuse will be non-recyclable plastic packaging and food waste. All solid waste will be collected in cans with lids that will be located inside of the Multi-Use Building. Refuse will be removed weekly to the Eel River transfer station in Fortuna.

Cultivation related recyclables will primarily consist of recyclable plastic containers from nutrients, and cardboard packaging (depending on how the nutrient tea is packaged). All nutrient containers that are recyclable will be rinsed before they are put in the recycling collection can. The employee generated recyclables consisting of plastic containers, glass, aluminum, and cardboard/paper will be put in the recycling collection cans. Recyclables will be collected in cans with lids and stored alongside the refuse cans inside of the Multi-Use Building. Recyclables will be removed weekly to the Eel River transfer station in Fortuna (with the refuse).

An additional component of cultivation waste produced by the project will be compostable green waste in the form of root balls, stems, leaves, and trim. This green waste will be processed onsite in a contained composting area that is expected to be located north of the proposed cultivation area adjacent to the project road (See Site Plan, Appendix A). The composting area will be approximately 900 sq. ft. (max) in size with an impermeable floor; it will have a roof and three sides or be tarped with straw wattles during rain events. The composting operation is not expected to exceed 500 cubic yards of materials at any one time; it is exempt from the SWRCB general order concerning composting operations (WQ 2015-0120-DWQ). The site is exempt from State of California regulations limiting and regulating composting operations because the project handles only 100% agricultural materials derived from an agricultural site with the end product returning to the soil onsite (14 CA ADC 17855). The project will cover plant materials with soil and a cover crop (and hay when necessary for erosion control) to facilitate breakdown of the woody structures.

Construction related waste will be removed for recycling (i.e. cardboard) or landfill (plastic packaging of greenhouse materials, caulking tubes, etc.) by the contractor. A portable chemical toilet and handwashing station will be provided for construction crew (rented and maintained by Eel River B&B or equivalent) for the duration of the construction period.

2.15 Wastewater

Like most rural areas in Humboldt County, the project will rely on a permitted septic system to manage wastewater that will be produced by the site. Wastewater from the project will come from ADA compliant restrooms and sinks in the large Multi-Use Building. Irrigation water will be applied to plants in the ground at the appropriate agronomic rate; no indoor or hydroponic systems are proposed. The project area is in the Upper Larabee Creek hydrologic unit (HU) and the Lower Eel River Planning Watershed. This HU is not identified by Humboldt County's Onsite Wastewater Treatment System (OWTS) Regulations and Technical Manual as an area of special concern (2017b). The project has had soil testing for septic siting completed by David Lindberg in 2016. Out of five (5) test pits, four (4) revealed samples characterized as "Zone 2" soils. Soils in these zones are loam to sandy clay loam, typical of a Prime Ag designation, and are often readily permitted for conventional septic systems (i.e.: tank and leach field). There are several areas in the vicinity of the large Multi-Use Building that are potential locations for a leach field as they are in

open grassland and outside of riparian setbacks. The final septic siting and design will be completed during the building permitting stage. See Appendix E for a complete description of soils and for the results of the soil suitability analysis.

2.16 Security

The project's security plan consists of three (3) major components: physical barriers, cameras, and security lighting. The project will fence the perimeter of the cultivation areas with six (6) foot tall steel rodent proof fencing. The proposed garden entrances, like the existing garden, will have locked entrance gates. The access road and the spur roads to the garden areas (existing and proposed) have locked gates that will block uninvited vehicle access.

The project will place battery powered satellite security cameras to monitor the garden entrances, the entrances of the Multi-Use Building, and the access road. The garden and Multi-Use Building entrances/exits will also have security lighting. These will be shielded exterior LED lights with low B.U.G. (backlight, uplight, glare) with a color rating of 2500K (soft warm). There will not be overnight security or onsite housing.

3. Environmental Setting and Surrounding Land Uses

3.1 Topology and Hydrology

The project area is situated on a wide, low gradient topographic bench at an approximate elevation of 2,440 feet. The proposed cultivation area drains both to the southwest towards McMahon Creek and to the northeast towards a seasonal depressional wetland. The seasonal wetland maintains standing water through May or June; a historic pond (perennial wetland) onsite can retain water year-round on normal to heavy rainfall years. Both the seasonal wetland and the pond appear to primarily receive rainwater runoff, although a spring may exist within the perennial wetland/pond area; there are several channelized inflows to both the seasonal wetland and perennial wetland.

The seasonal wetland is hydrologically disconnected from the pond by a berm; the pond drains to McMahon Creek, a Class I watercourse that flows southwest through the parcel, approximately 1,000 feet north of the proposed cultivation area

Historic imagery for this parcel (2014 imagery; Google Earth Pro 2019) shows modification to the pond occurring between 2015 and 2016 with the addition of a berm and culvert. This modification appears to maintain water on the east side of the berm for longer periods than the west side. Imagery for this area is available beginning in 1998 when the pond area appeared larger and more established, which may be an artifact of the time of year it was taken, or it may be that it has been slowing filling in with transported sediment and getting shallower over the years.

Northeast of the project parcel is the Charles Mountain area, with peaks averaging around 4,000 feet in elevation and sloping south towards the parcel and the Larabee Creek watershed. East of the project parcel approximately 1.8 miles is Six Rivers National Forest, and the Trinity County line is approximately 4.5 miles.

3.2 Land Use

The project area has been used historically and currently to graze livestock. The project parcel is currently bound by the Williamson Act, a land conservation contract that limits development and use to approved agricultural uses. The local authority to approve or deny development and use on land bound by the Williamson Act is the Williamson Act Committee of Humboldt County (See Agriculture and Forest Resources, 4.2, for more information).

When viewing historic imagery for the project area, it appears there have been little to no changes as captured by satellite imagery (1993 to 2016), with the (former) barn at Sherman Flat being the only structure visible. This barn burned down in 2019 and was located on a small rise, approximately 325 feet southeast of the pond at an elevation of 2,480 feet.

Over the local region (within 10 square miles) historic imagery is of poor quality until 2005, when some potential cannabis cultivation activity maybe started west of Alderpoint Road and the town of Blocksburg (south of the parcel boundary approximately 2.5 air miles). By 2009, this region is populated my numerous cannabis cultivation sites. By 2014, the same area has numerous hoop houses visible and evidence of cultivation.

3.3 Vegetation

The project site is within the USDA Ecoregion Section M261B: Sierran Forest - Alpine Meadows Province/Northern California Coast Ranges Section (CALVEG 2004). The survey area lies within a section of open, prairie habitat within a larger landscape mosaic of Bald Hills Prairie, Mixed Evergreen Forest, and Oregon Oak Woodland (Holland 1986). This prairie is dominated by a mix of native and non-native annual and perennial grasses and forbs. This herbaceous vegetation has been highly manipulated by grazing practices over the last 100 years. Some common species include hedgehog dogtail grass (*Cynosurus echinatus*), sweet vernal grass (*Anthoxanthum odoratum*), blue flax (*Linum bienne*), wild oat (*Avena barbata*), American bird's foot trefoil (*trifolium dubium*), brome fescue (*Festuca bromoides*), silvery hairgrass (*Aira caryophyllea*), California oatgrass (*Danthonia californica*), and blue wild rye (*Elymus glaucus*).

The depressional seasonal wetland on the southeast side of the survey area is vegetated by an assemblage of hydrophytic vegetation. Many common perennial wetland species are present such as pennyroyal (*Mentha pulegium*, OBL), green sheathed sedge (*Carex feta*, FACW), spikerush (*Eleocharis macrostachya*, Not Listed), and rushes (*Juncus patens* FACW, *Juncus c.f. balticus*, FACW). However, also present were some annual plant species typically associated with what are referred to as 'vernal pool' ecosystems, especially in other regions of California (such as the Central Valley). These include toothed downingia (*Downingia cuspidata*, OBL), smooth lasthenia (*Lasthenia glaberrima*, OBL), and Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*, OBL). These three species are uncommon in Humboldt County and Baker's navarretia is a special status species (CNPS 1B.1).

The pond on the northeast side of the study area was vegetated by rings of hydrophytic vegetation corresponding to frequency of inundation along an elevation gradient, including pacific rush (*Juncus effusus* ssp. *pacificus*, FACW), cattail, (*Typha c.f. latifolia*, OBL), spikerush (*Eleocharis macrostachya*, Not Listed), and many-fruited bulrush (*Scirpus microcarpus*, OBL).

The adjacent oak woodlands are composed of approximately 80% Oregon white oak (*Quercus garryana*), with California black oak (*Quercus kelloggii*), Douglas-fir (*Pseudotsuga menziesii*), madrone (*Arbutus menziesii*), and bay (*Umbellularia californica*) also present.

4. Environmental Checklist and Explanatory Notes

This project includes impacts that are identified, as indicated by the checklists on the following pages, as having ‘no impact,’ a ‘less than significant impact,’ and a ‘less than significant impact with mitigation incorporated.’ None of the environmental factors analyzed in this document, as summarized in the checklist below, have been determined to have ‘potentially significant impacts.’

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forestry Resources	<input type="checkbox"/> Air Quality
<input type="checkbox"/> Biological Resources	<input type="checkbox"/> Cultural Resources	<input type="checkbox"/> Energy
<input type="checkbox"/> Geology/ Soils	<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Hazards & Hazardous Materials
<input type="checkbox"/> Hydrology / Water Quality	<input type="checkbox"/> Land Use / Planning	<input type="checkbox"/> Mineral Resources
<input type="checkbox"/> Noise	<input type="checkbox"/> Population / Housing	<input type="checkbox"/> Public Services
<input type="checkbox"/> Recreation	<input type="checkbox"/> Transportation	<input type="checkbox"/> Tribal Cultural Resources
<input type="checkbox"/> Utilities / Service Systems	<input type="checkbox"/> Wildfire	<input type="checkbox"/> Mandatory Findings of Significance

Determination

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 mitigation measures have been identified to reduce the impacts to less-than-significant levels. 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

Printed Name

For

4.1 AESTHETICS

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>Would the Project:</u>				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?				X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X

Regulatory Setting

California Scenic Highway Program (Senate Bill 1467)

Humboldt County General Plan (Oct 2017; chapter 10; section 7)

The Humboldt County General Plan, adopted October 2017, identifies five (5) highways in Humboldt County that are considered eligible for official designation by the California State Scenic Highway Program:

- Route 36 from Route 101 near Fortuna to the Trinity County line
- Route 96 from Route 299 at Willow Creek north to Siskiyou County
- Route 101 for its entire length in Humboldt County
- Route 254 in the Avenue of the Giants Community Plan Area
- Route 299 from Arcata to Willow Creek

The Plan describes a General Plan Scenic Highway Roadway Map that is to be prepared and adopted. Until the map is adopted, the county intends to consider the above listed highways to be scenic highways and afforded Scenic Highway Protection (SR-P1, SR-P3) as described in the General Plan's Scenic Highway Standards (SR-S2). The key feature of which is a 200-foot visual buffer that defines the extent of the protected scenic zone.

Humboldt County CMMLUO ord. 2559

55.4.11 Performance Standards for all CMMLUO Cultivation and Processing Operations

Performance Standards for Mixed-Light Cultivation

- v) Those cultivators using artificial lighting for mixed-light cultivation shall shield greenhouses so that little to no light escapes. Light shall not escape at a level that is visible from neighboring properties between sunset and sunrise.
- w) The light source should comply with the International Dark Sky Association standards for Lighting Zone 0 and Lighting Zone 1, and be designed to regulate light spillage onto neighboring properties resulting from backlight, uplight, or glare (BUG).

Existing Conditions

The project area is characterized by open range lands punctuated by infrequent residential and agricultural buildings (single family residences often with adjacent greenhouses and/or barns). The project parcel is located approximately 3.2 miles away from a public road (Alderpoint Road) on private ranch land. The project development is located approximately 1.8 miles from the boundary of the Six Rivers National Forest.

Analysis of Potential Impacts

The project proposes to add 300,348 sq. ft. of new cultivation and facility/storage space to the existing 21,412 sq. ft. of garden, propagation greenhouse, and storage that is already built. Of this new development, 7,200 sq. ft. is a rebuild of a burned down barn and all six (6) acres will be planted in the ground (Table 1); three (3) acres will be full sun and three (3) acres will be light deprivation. The light deprivation garden will also be planted in the ground. The light deprivation structures will have a removable tarp system that utilizes cables in lieu of pvc 'ribs.' All propagation greenhouses will have black out tarps and to prevent light leakage. The project will add LED security lighting to the doorways of the Multi-Use Building. At this time, the construction plans for the Multi-Use Building describe three (3) roll up doors (Appendix D). Two (2) of which would be oriented toward the west and the other toward the south (specific design is subject to change pending final building permit).

Because aesthetics is inherently subjective, one (1) appropriate method of qualifying the impact is by considering whether the additional greenhouses, light deprivation structures, outdoor gardens, and Multi-Use Building will impact a significant number of people and to what degree.

According to the US Census Data from 2010, the Blocksburg area (Zip code 95514) was home to a total of 254 people counted over a total of 102 square miles. Those numbers describe an area with approximately 2.5 people per square mile or five (5) people per two (2) square miles. A review of aerial imagery suggests that there is a concentration of residential building around the town of Blocksburg and the primary access road, Alderpoint Road. Apart from another cannabis project (APN 217-212-006; also owned by project proponents), there are no other structures in the immediate vicinity of the project. The nearest structure is a residence off of Alderpoint Road (APN 217-214-010; old APN:217-214-002) with which the project shares access to Alderpoint Road. This residence is 1.5 miles west, southwest of the project.

Discussion of Significance

a) No Impact. While there are no designated scenic vistas at or near the project site, the area is considered scenic as the nature of the valley is open agricultural fields with residential and agricultural buildings. By reference, this document hereby incorporates the conclusions made by the Humboldt County's Draft Commercial Cannabis EIR, in which the county concludes that "improvements to existing cannabis operations and new cannabis operations permitted under the proposed ordinance [no. 2599] would be visually consistent with the existing rural and agricultural character of the County" (Impact 3.1-2). The addition of greenhouses to the landscape for cannabis is not visually different from adding, for example, greenhouses for flowers or trees. Because cannabis operations are aesthetically not substantially different in appearance from other agricultural operations, the proposed project will have no impact on scenic vistas.

b) No Impact. Highway 36, from its intersection with Highway 101 in Humboldt County to its intersection with Highway 3 in Trinity County, is an eligible scenic highway. The county of Humboldt has a stated goal to map and preserve scenic highways. The project can be accessed via Highway 101 or Highway 36, but not directly; access to each route requires substantial travel (miles) on Alderpoint Road. The proposed project will have no impact on scenic resources within a state scenic highway.

c) No Impact. The project will not substantially degrade the existing visual character or quality of public views of the site and its surroundings. As described above, the project development is situated over three (3) miles from a public road and will be clustered in the center of a large (>1,000 acre) parcel, which is part of a privately owned 7,000 acre ranch. The ranch area itself is beholden to the basic provisions of the Williamson Act and cannot be developed in ways that impede or conflict with the primary use of the land – agriculture. Therefore, the projected increase in public views effectively remains at zero.

d) No Impact. The project will not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. The project, as proposed, will comply with the International Dark Sky Standards for lighting. For Lighting Zones 0 and 1, no uplighting (lighting above 90°) is allowed, so all fixtures will be fully shielded (bulb is contained fully within the bell/cover). The project proposes to add shielded LED down lighting with a warm color rating (approx. 2500K) and a low BUG (backlight, up light, glare) rating. The lighting will be placed above the entrances/exits and roll up doors on the Multi-Use Building and will be for security purposes only. The Dark Sky standards also propose a limit to the total amount of lumens that can be installed at a new project. Using the hardscape method of calculating lumens (1.25 lumens per sq. ft.), the project is limited to approximately 9,800 lumens (Zone 1 allowance) at the site (Table B, p24; Dark Sky International, 2011). The project will have a total of five (5) propagation greenhouses that will use some supplementary lighting during part of the year. To ensure that these greenhouses are not a significant new source of light or glare, and to comply with the Humboldt County CMMLUO (ord. 2559), the project will employ manually drawn and secured black out tarps to prevent light escape whenever supplemental lighting is used. The project will not add lighting on roads or gates. Therefore, while the project will add lighting to the area, the additional lighting will be less than significant. The project lighting will have no impact on day or nighttime views in the area.

Cumulative Impacts

The overall impacts to aesthetics of the region will be less than significant as the project has no nearby neighbors and is not visible from any public road. The project lighting will conform to International Dark Sky standards for Zones 0 and 1 and will not have a cumulative impact on local or regional aesthetics.

4.2 AGRICULTURE AND FOREST RESOURCES

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

Regulatory Setting

State

California Land Conservation Act, 1965 (Williamson Act)

Overseen by the California Department of Conservation, the Williamson Act's basic premise and goal is the conservation of open space and preservation of agricultural land use. In return for contractual restriction on use and development, California landowners receive a reduced tax assessment on their land.

The County of Humboldt's Williamson Act Committee implements the Act at the local level. The Williamson Act Committee reviews enrollment, acreage minimums and determines compatible uses among other things.

California Health and Safety Code Sec 11362.777(a) and Business and Professional Code Sec 26067(a)

According to the Humboldt County's Draft Commercial Cannabis EIR, the amendments to the California State Code define medical and adult-use cannabis as agricultural products.

Local

Humboldt County Zoning Regulations (Section 314-7.2 and 314-43.1.6), Dec 2019 (through ordinance 2637).

Humboldt County defines (AG) Agriculture General as areas in which agriculture is the desirable predominant use and rural residential uses are secondary. In the Zoning Regulations, the principle permitted use is agriculture with variations permitted with a special use permit

43.1.3 Permitted Agricultural Accessory Uses. The following accessory uses shall be permitted in the (AE) Agricultural Exclusive, (AG) Agriculture General, and (TPZ) Timber Production zones:

43.1.3.2 Greenhouses

Greenhouses which do not result in lot coverage exceeding five (5) acres on lots 20 acres or larger in size, or exceeding 25% of the lot coverage for lots less than 20 acres in size, either individually or collectively, with or without a perimeter foundation, and without an improved floor or footpath which will preclude the agricultural use of the underlying soil. Greenhouses with an improved floor or footpath which will preclude the agricultural use of the underlying soil shall not be located on prime agricultural soils, but may be located on non-prime agricultural soils with a special permit. Concrete, asphalt, and similarly constructed footpaths are permitted within a greenhouse located on non-prime agricultural soils, and may be permitted on prime agricultural soils with a Special Permit.

43.1.3.10 Other Necessary and Customary Uses.

Accessory uses and structures in addition to those identified above, which are necessary and customarily associated with, and are appropriate, incidental, and subordinate to agricultural activity as determined by the Planning Director. Buildings or structures, which result in lot coverage exceeding 5 acres on lots 20 acres or larger, or exceeding 25% lot coverage on lots less than 20 acres, either individually or collectively, shall not be permitted as agricultural accessory structures and shall only be permitted with a Special Permit

Humboldt County General Plan (Oct 2017; part 2, chapter 4; section 4.4-4.5)

In the County's General Plan, Land Use Element, the applicable Policies and Goals apply:

- AG-G1. Agricultural Production. Economically viable agricultural operations contributing to the growth and stability of the economy and a strong market demand for agricultural lands dedicated to agricultural production.
- AG-G2. Preservation of Agricultural Lands. Agricultural land preserved to the maximum extent possible for continued agricultural use in parcel sizes that support economically feasible agricultural operations.

Humboldt County Commercial Medical Marijuana Land Use Ordinance (CMMLUO) no.2559 (1.0)

In the County Cannabis Ordinance no. 2559, Prime Agricultural Soils mean “all lands which qualify for rating as Class I or Class II in the Soil Conservation Service land use capability classifications or qualify for rating 80 through 100 in the Storie Index Rating. Additionally, where determined through site-specific fieldwork prepared by a qualified professional, soils meeting these characteristics may be recognized as prime.”

In the Ordinance (no. 2559), Humboldt County explicitly regulates cultivation amounts per parcel in terms of the amount of Prime Agricultural Soils – referring to an overriding “20% prime soil cap” throughout the document.

- The cultivation area shall be located on the Prime Agricultural Soils on the parcel and no more than 20% of the area of Prime Agricultural Soils on the parcel may be permitted for commercial medical marijuana cultivation.

Existing Conditions

The project is located in rural Humboldt County in an area characterized by a mosaic of Bald Hills Prairie, Mixed Evergreen Forest, and Oregon Oak Woodland (Holland 1986). The project parcel's general land use designation is 'AG,' Agricultural Grazing, and is zoned for both agriculture exclusive (AE-B-5(160)) and timber harvesting (TPZ). There are strips of TPZ zones that generally follow watercourses with a larger area of TPZ in the lower west, southwest portion of the project parcel.

The tree composition on the project parcel consists of Oregon White Oak and Doug Fir/mixed evergreen and California Bay; the forested stands appear to have experienced infrequent logging, with the last Timber Harvest Plan dated in 1998 (THP 1-98-134-HUM). The landowner may pursue timber harvest activities on the larger ranch as their discretion and the activities are not expected to interfere significantly with the project for several reasons; one: the main access road meets Humboldt County Category four (4) road standards with adequate visibility and frequency of pull outs (Appendix G), two: as evinced by the permitted preexisting cultivation operation run on the property by the project proponents, it is clear the project proponents have established a collaborative relationship with the landowner. Future timber harvests will be discussed to maintain mutual trust and ensure safety of all parties. Measures may include truck traffic communication and potential dust mitigation strategies to maintain plant health.

The entirety of the property, including the project parcels, is dedicated to preserving the historic and current use of the property through enrollment in the Williamson Act. The property is currently obligated to uphold a Class B land preserve contract. According to Humboldt County's Revised Guidelines for Agricultural Preserves (Resolution No.16-144; 2016a), there are four (4) different classifications (A through D). A Class B preserve is a "Grazing Land Preserve and Contract" that is primarily composed of NON-Prime agricultural land. Regardless of classification, the general provisions clearly state that "the majority of the land area of any property under contract must be devoted to agricultural pursuits consistent with the purpose of the preserve in which the property is located" (F(4)).

The project proposes to fulfill the Williamson Act commitment and maintain the land as a grazing land preserve, while also pursuing commercial cannabis production. As described in the Humboldt County Mitigated Negative Declaration for the CMMLUO (2015b), "discretionary permitting will also be subject to review and consideration by the Williamson Act committee" (p.9). On November 5, 2019, the Williamson Act Committee heard this project to review for consistency with the Class B assignment attached to the property (Appendix K). The Committee allowed for supplemental activities pertaining to cannabis uses as long as it doesn't impede on the current designated use of grazing.

Analysis of Potential Impacts

The proposed expansion of the cannabis operation on the project parcels includes an additional six (6) acres of cannabis cultivation to the existing 16,800 sq. ft. already in place for a total of 278,160 sq. ft., or 6.39 acres of cultivation. Per the Humboldt County Commercial Medical Marijuana Land Use Ordinance (CMMLUO) No. 2559, new cultivation must be located on Prime Agricultural Soils and the total cultivation area must not occupy more than 20% of the total Prime Agriculture Soils on the property. The project employed Lindberg Geologic Consulting to conduct an onsite soil review and sampling of the project area. Accordingly, the findings, which are described in detail in the 2016 Engineering-Geologic Review: Prime Soil Classification letter (Appendix E), describe the conclusions by the geologist that the site soils are Grade

1 (excellent) soils that should qualify as prime agricultural soils for the purposes of the Humboldt County Cannabis Cultivation Ordinance. The letter describes the apparent extent of the prime soils as an area, across the Sherman flat prairie pastureland area, of approximately 40 acres (1,742,400 sq. ft). Therefore 20% of the Prime Ag soils, and the maximum total available area for cannabis cultivation, would be eight (8) acres (348,480 sq. ft). The project will cultivate a maximum of 6.39 acres (278,160 sq. ft.), or around 16% of available Prime Ag Soils; the project complies with the Humboldt County CMMLUO (No. 2559).

Discussion of Significance

a) No Impact. All new cultivation, six (6) acres of cannabis cultivation, will occur on Prime Agricultural soils (Figures 2 & 3, Appendix A). All plants, new and existing, will be planting in the ground. The propagation greenhouse floors will remain dirt and be covered with permeable landscape fabric (mats) to limit dust and provide a clean and stable work surface. The project will harden the delineated prime agricultural soil in one place; the project will pour a concrete pad for the proposed 1,000,000 gallon rainwater catchment tank. The tank will occupy an area of approximately 21,904 sq. ft. This area will be graded to some degree to achieve a level pad for the concrete slab; the grading is expected to be minimal as the area, typical of prime agricultural soils, has a low slope. While there will be some hardening of prime ag soils, the prime soil that is present on the parcels will not be removed off-site and the structure (water tank) is specifically to support the proposed agriculture. As cannabis is considered an agricultural product by the State of California and the County of Humboldt; the project will have **no impact** on Prime Farmland.

b) No Impact. The land use designation of the project parcel is AG (Agriculture Grazing), the present zoning is Agricultural Exclusive (AE) with a minimum building site area of 160 acres (B-5(160)), and combining with Timberland Production Zones (TPZ). According to the current Humboldt County General Plan (2017), the allowable uses of AG designated and AE zoned areas include general agriculture and intensive agriculture. Because the county and state recognize cannabis as an agricultural project, the construction of greenhouse and support facilities does not conflict with existing zoning which supports agricultural activities as the primary use of AG/AE land.

The AG land use designation limits total development of accessory structures by a percentage of the total lot coverage to less than five (5) acres on lots 20 acres or larger. The project proposed to put all flowering plants in the ground; therefore, the accessory development will include five (5) propagation greenhouses, the project Multi-Use Building, a rainwater catchment tank, a generator shed, and two (2) storage containers. These accessory structures will contribute approximately 37,136 sq. ft. or 0.85 acres of lot coverage. This is less than one (1) percent (1%) of the total APN acreage, measured (Hum GIs) as 1,230 acres total. This percentage complies with the total lot coverage limitation as set by the County of Humboldt Zoning Regulations (43.1.3.10).

The project is beholden to a Williamson Act contract. The Williamson Act Committee of Humboldt County found the proposed project to be a compatible use provided that the cattle ranching will not be significantly impacted by the proposed project (project was reviewed by the Committee on November 5, 2019; Appendix K). The project will have **No Impact** on zoning for agricultural use or conflict with a Williamson Act contract.

c, d) No Impact. The project will have no impact on forest land (as defined in Public Resources Code section 12220(g), or timberland (as defined by PRC section 4526); it will not conflict with existing zoning for, or cause rezoning of, forest land timberland or timberland zoned Timberland Production (as defined by Government Code section 51104(g)). No trees will be removed as a result of this project. All development will take place on open meadow areas (Figures 2 & 3). All roads are existing.

e) No Impact. The project will not involve other changes in the Existing Conditions that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forestland to non-forest use. The changes to the environment are limited to those additions of accessory structures and components as described in the project description. The changes will not cause conversion of land use to uses other than currently designated.

Cumulative Impacts

This project brings legal agricultural employment to an area that currently sees intermittent logging projects, ranching, and cannabis cultivation. The project is aligned with Humboldt County's zoning regulations. This agricultural employment will make permanent improvements to existing roads (improving watercourse crossings and adding gravel to an existing road) that will provide enhanced watershed, soil and air quality protection. This project will preserve identified prime ag soils by avoiding grading for greenhouses; the project will plant directly in the ground. The project will not remove trees. This project will not have a significant cumulative impact on Agricultural and Forest Resources.

4.3 AIR QUALITY

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>Would the Project:</u>				
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?				X
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?				X

Regulatory Setting

Federal

Environmental Protection Agency (EPA)

Authorized by the Clean Air Act (1990), the EPA's Office of Air Quality Planning and Standards (OAQPS) sets and works to monitor and attain the National Ambient Air Quality Standards (NAAQS). Currently, there are six principle pollutants that are known to cause harm to personal health, environmental health, and cause property damage: ozone, particulate matter, carbon monoxide, lead, sulfur dioxide, and nitrogen dioxide.

State

California Air Resources Board (CARB)

CARB is responsible for implementing the California Clean Air Act (CCAA, 1988) by establishing standards for California (CA ambient air quality standards (CAAQS)) and establishing authority to local air districts.

Tanner Air Toxics Act & Air Toxics Hot Spots Information and Assessment Act (AB 1807 & 2588, 1987)

AB1807 provides a pathway for CARB to evaluate and determine the toxicity of a substance. Designated substances are known as TACs, toxic air contaminants. CARB is tasked with designating safety thresholds and control measure(s) for the sources that emit particular TACs. Particulate Matter (PM) from diesel engines has been designated a TAC.

AB2588, the Hot Spots Act, mandates that sites that emit toxic substances above a specific threshold prepare a risk assessment, notify the public, and implement risk reduction actions.

California Air Pollution Control Officers Association (CAPCOA): Health Risk Assessments for Proposed Land Use Projects -Guidance Document, 2009.

- Source A - source is referred to as the locality where toxic emissions originate and are released into the atmosphere. Sources of emissions are categorized into groups such as point source (e.g., refinery) or line source (e.g., roadway).
- This document identifies several pollution line sources:
 - Freeways
 - Urban roads with traffic >100,000 vehicles/day
 - Rural roads with traffic >50,000 vehicles/day
- This document identifies several pollution point sources:
 - Distribution Centers with > 100 trucks/day or >40 trucks/day with transport refrigeration units.

Regional

North Coast Unified Air Quality Management District (NCAQMD)

Under authority provided by the CCAA and CARB, the NCAQMD is responsible for planning and meeting the national and state level air quality standards (CAAQS). The NCAQMD evaluates and regulates potential air quality pollutants through the permitting process and reviews CEQA documents as a responsible agency (submitting comments and suggestions to the lead agency on the analysis of Air Quality impacts).

The NCAQMD recommends that lead agencies evaluate significance thresholds for new sources and toxics in terms of the Best Available Control Technology (BACT) as defined in:

- NCUAQMD Rule 110 - New Source Review (NSR) And Prevention of Significant Deterioration (PSD)
- Health Risk Assessments for Proposed Land Use Projects guidance prepared by the California Air Pollution Control Officers Association.

The only standard (CAAQS) currently listed as non-attainment in the North Coast Air Basin is the state standard for particulate matter under 10 microns in size, PM-10.

- Draft attainment plan for PM-10 in the NCAB (1995)
- NCUAQMD Rule 104 - Prohibitions (resolution 2015-9)
 - Particulate Matter (section C)
 - Fugitive Dust (Section D).
 - a) Covering open bodied trucks when used for transporting materials likely to give rise to airborne dust.
 - b) Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Containment methods can be employed during sandblasting and other similar operations.
 - c) Conduct agricultural practices in such a manner as to minimize the creation of airborne dust.
 - d) The use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
 - e) The application of asphalt, oil, water or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts.
 - f) The paving of roadways and their maintenance in a clean condition.
 - g) The prompt removal of earth or other track out material from paved streets onto which earth or other material

Existing Conditions

The project site is located in Humboldt County, which lies within the North Coast Air Basin (NCAB) and is managed by the North Coast unified Air Quality Management District. According to the NCUAQMD's website, while the NCAB has not exceeded the National air quality standards for the last five (5) years (NAAQS), the PM10 levels in the area continue to exceed the California State standards (CAAQS). Specifically, NCUAQMD website describes the primary sources of particulate matter in the Eureka area to be on-road vehicles (engine exhaust and dust from paved and unpaved roads), open burning of vegetation (both residential and commercial), residential wood stoves, and stationary industrial sources (factories). Of these, fugitive dust emissions from vehicle traffic on unpaved roads is the primary source of PM-10.

Currently, the project proponents have a 16,800 sq. ft. full term outdoor garden on the project parcel and a propagation greenhouse that is used once a year to get clones ready for outdoor planting. This propagation greenhouse is powered (fans and lights) by a Honda EU3000iS portable generator for approximately four to six (4-6) weeks a year. Several miles from the existing garden and past Sherman Flat (proposed project expansion area), there is another existing cultivation that consist of full term outdoor and light deprivation (pending) acreage (PLN 10812-CUP).

Analysis of Potential Significance

There are components of this proposed cannabis project that could impact air quality, both in the construction and the operations phases of the project; these are discussed below.

The potential for greenhouse gas contributions from construction and operation related activities is addressed in the Greenhouse Gasses section of this document.

Construction Phase

Project construction will include delivery and use of construction materials/machinery/equipment and travel of construction employees. To complete the project as proposed, the project will use a backhoe, excavator, compactor, concrete trucks, dump truck, water truck, and power tools to complete the construction phases of the project. Construction components that require power (power tools) will utilize a contractor provided generator. The project construction will not exceed average daytime working hours and will utilize no lighting. The construction details described in the Project Description are summarized below:

Phase I

Part One (earthmoving)

Estimated Time for Completion = 1 - 2 weeks

Rocking of main access road and spurs

Grading/compacting for Multi-Use Building slab foundation

Trenching for septic system

Trenching for alternative power system

Part Two (construction & finish work)

Estimated Time for Completion = 8 - 9 weeks

Irrigation system installation

Slab for Multi-Use Building

Construction of Multi-Use Building

Septic tank installation

Propane tank installation
Propagation greenhouse installation (2 greenhouses)
Alternative power system installation
All electrical and plumbing connections

Phase II

Part One (earthmoving)

Estimated Time for Completion = 1 week

Grading/compacting for rainwater catchment tank

Part Two (construction & finish work)

Estimated Time for Completion = 3 - 4 weeks

Slab for rainwater catchment tank

Installation of rainwater catchment tank

Propagation greenhouse installation (2 greenhouses)

Potential installation of additional solar arrays and gasifier system.

The increased construction traffic for the project is a short term increase. The project expects to have, on average, five (5) construction employees on site at any one time. During the earth moving phase(s), Phase I Part One and Phase II Part One, the employees will operate large trucks and earth moving equipment (see Greenhouse Gas Emissions, Table 20) intermittently throughout the day and will not idle engines. The earth moving component of the project is anticipated to be minimal as the parcel has low slopes (under 15%). The project expects that all grading will be under 50 cubic yards. The project expects to limit the large equipment use to one to two (1-2) weeks in Phase 1 and one (1) week in Phase 2: two to three (2-3) weeks total. All proposed project construction, including earth moving, is expected to be completed in 13 to 16 weeks total.

Two (2) categories of air pollutants could result from the construction phase of this project: emissions, including odors from vehicles and fugitive dust.

- Emissions

Emissions from passenger vehicles moving construction employees to the site (five (5) onsite each day), equipment, trucks used for transporting materials, as well as excavation and construction activities within the project site that burn petroleum products will have a short term impact on air quality. Their use will be temporary or sporadic and will not have a significant effect on air quality. See Greenhouse Gases section for more detail regarding construction activities and related fuel burning emissions.

- Fugitive Dust

The other pollutant of concern is fugitive dust. In compliance with the North Coast Unified Air Quality Management District (NCUAQMD) Rule 104, Section C, the project will use a water truck to spray road and land surfaces as they are graded and after grading as needed to control for fugitive dust. The water truck will be filled with water from the project well. The roads will be rocked before other construction begins as the first step in reducing airborne particulate. The rock will come, in part, from the onsite borrow pit (productivity of the pit is unknown) located on the south side of the spur road to the existing cultivation site (Figures 2 & 3), with additional rock sourced from local suppliers. In its current state, the access road and spur are partially graveled. The project proponents estimate that approximately one mile of gravel (from

one (1) inch to three (3) inches deep) is needed to completely gravel the access road and spur. By this estimate, the total project will add between 250 and 750 tons of gravel. The gravel will be delivered to the site in dump trucks with trips ranging from 12 to 36 truckloads.

The roads traveled by equipment will be sprayed between one to three (1-3) times a day depending on meteorological conditions (i.e.: fog, rain, high temperatures, etc.). Stockpiles will be sprayed 15 minutes before anticipated use and covered when not in use, and if conditions are windy. The water trucks will also spray any grading sites, dry spoils piles, and gravel piles during the grading stage that may contribute fugitive dust. All trucks carrying materials (gravel) through the project site will be covered or sprayed with water to avoid materials becoming airborne. The project will employ BMPs to limit the tracking out of soil onto graveled roads and protect work sites from wind erosion on windy days by selecting protected work sites or limiting work. Compliance with the NCUAQMD Rule and observation of Construction BMPs reduces the risk of fugitive dust pollution to Less than Significant.

- Odor

Odor from diesel fuel burning construction equipment is known to adversely affect some sensitive receptors. This project proposed only two to three (2-3) weeks to complete all earthwork for the project. The nearest residential development is the residence that is located at the intersection of the un-named access road and Alderpoint Road; the residence is approximately 1.5 miles southwest of the project area.

The United States Environmental Protection Agency (EPA) (AP42, Ch13, 3.2-2, 1995) has determined that at an average wind speed of 10 m.p.h. most larger particles (30 to 100 μm in size) generally settles out of the atmosphere within 300 feet of the source, with larger particles traveling less distance and smaller particles traveling a longer distance. The unburned particles of diesel fuel, the diesel PM, and those most associated with the fuel's odor are composed of larger particles that would behave as described above. Because the closest neighbor is over 1.5 miles away and because the nature of the construction for this project is short term (two to three (2-3) weeks for earthmoving) and temporary, the odor of the diesel fuel burning equipment would not have a significant impact on sensitive receptors.

Operation Phase

- Emissions

The project will not be incinerating waste. During project operations, vegetative waste, including biochar from the gasifier, will be composed on site; solid waste will be hauled to the Recology Eel River Transfer Station in Fortuna.

Generator emissions will be a part of the project during Phases I and II. During the initial phase of the project, Phase I, the project will use gasoline powered generators. A Honda EU7000iS generator will run the supplemental lighting and fans in the two (2) proposed propagation greenhouses. The second set of two (2) propagation greenhouses will be constructed for Phase II. A Honda 3000iS gasoline generator will run the existing one (1) propagation greenhouse at the existing garden, including supplemental lighting and fans. During Phase I, one or two Honda EU7000iS generators will be used to power dehumidifiers, fans and lights in the Multi-Use Building. Together, the project anticipates that Phase I will account for **486 gallons of gasoline burned**.

During Phase II, generators are expected to supplement the alternative energy system as the system will be in a testing/monitoring stage; the goal of Phase II will be to determine the total electrical demand of the project and appropriate system design. The exact use of the generators is speculative, but is not expected to significantly exceed that of the combined generator use in Phase I. Therefore, for the purposes of this analysis, the amount of gasoline burned will be **486 gallons**.

Phase III will see the alternative energy system at a level that will allow the project to discontinue petroleum fuel based generator use. The project will use a gasifier, a wood burning, carbon neutral generator, to make up seasonal shortfalls in solar electrical production (extended cloud cover). The EPA identifies gasifiers as carbon neutral based on the biological process of sequestration, in which plants absorb CO₂ from the atmosphere as they live and grow. When the plant decays, or is harvested and burned, the CO₂ is released back into the atmosphere (EPA, 2018c). Biomass emissions are also sometimes described as ‘recycled’ CO₂ versus the ‘new’ CO₂ emission from the burning of fossil fuels.

The gasoline burned by generators during Phase III is **zero (0) gallons**.

These amounts of fuel burned from generator use, as it represents the total gallons burned over the life of the project, do not constitute a significant source of emissions. See Greenhouse Gas Emissions, section 4.8, for more details.

The NCUAQMD’s Rule 110 (2010) describes those sources that require evaluation and permitting. The purpose of Rule 110 is to “provide for no net increase in emissions, pursuant to Section 40918 of the H&SC, from new or modified stationary sources which emit, or have the potential to emit, 25 tons per year or more of any non-attainment pollutant or its precursors.” The project will use gas powered generators that are under 50HP. These types of generators are not considered significant sources and do not currently require permitting by the NCUAQMD.

The gasifier and generator back up (4kw engine) for battery charging during periods of extended cloud cover is not subject to permitting by the North Coast Unified Air Quality Management District (NCUAQMD Rule 110; Correspondence: NRM with NCUAQMD permitting engineer and Humboldt County Planning and Building Department, March 9, 2021). Air quality will not be significantly impacted by the use of the project generators and will not be discussed further in this section.

Annual project operations take place over approximately eight (8) months of the year (April/March through October/November). During Phase I project operations, the daily vehicle traffic is estimated to be 6.25 roundtrips per day (see Transportation 4.17). The existing traffic (data from 2010 County Road Log) on the primary access road, Alderpoint Road, is 2,083 trips per day. The anticipated project increase to traffic brings the total to 2,089.25 trips per day. The CAPCOA (Health Risk Assessments for Proposed Land Use Projects -Guidance Document, 2009) outlines the threshold of 50,000 vehicles per day as the level at which a rural road becomes a significant source of air quality pollution. This projected project increase in vehicle travel is not expected to contribute significantly to toxic air pollutants as the daily traffic number contributes a small percentage of trips and the primary access road, Alderpoint Road, is substantially under the 50,000 vehicles per day threshold. Phases II and III will see the number reduced to 2.25 roundtrips per day. Air quality in the region will not be significantly impacted by additional project traffic and will not be discussed

further in this section. See Greenhouse Gas Emissions for more detail on project operations and anticipated vehicle and generator emissions.

The listed air pollutant that the project, during operations, is likely to contribute is PM₁₀ as fugitive dust. During project operations, fugitive dust could occur from driving vehicles or from unsustainable agricultural practices.

- Fugitive Dust

According to the Federal Highway Administration (2006), successful strategies to mitigate PM emissions from unpaved road dust are divided in three categories:

1. Vehicle restrictions to limit the speed, weight, or number of vehicles
2. Surface improvement, such as paving or adding gravel to the surface
3. Surface treatment, such as watering or chemical treatment

This project, as designed, applies U.S. Federal Highway Administration strategies.

1. Vehicle restrictions:
 - All vehicles will be limited to a speed of 10 mph on the unnamed access road and spur. Slower speeds decrease the upward velocity (plume height) of particulate.
 - The project will limit the number of vehicles traveling the road. The unnamed access road will see 6.2 vehicles per day during Phase I, and only 2.25 per day during Phases II and III.
 - Driving and parking areas will be defined. Protocols for employee van pool and carpool areas are established (See Section 2.10). Parking areas and vehicle access roads will be clearly defined with gravel and signage (unauthorized roads will be indicated with a 'no entry' or 'road closed' signage).
2. Surface improvement
 - By rocking the access road, spur, and parking areas, the project limits the amount of fine particulate (percentage of silt) that can be ejected into the air.
 - The PM₁₀ that is currently produced as people access the existing cultivation on the parcel and existing cultivation to the north of the parcel will be reduced to a level lower than baseline as baseline is a partially dirt and partially gravel road.

Additionally, the project access road, by virtue of its rural location, benefits from the forest canopy's documented ability to trap and reduce airborne PM₁₀. In 2001, an expert panel for the EPA concluded that "in forest situations, with large roughness heights and surface areas, deposition will be much faster, greatly reducing (or eliminating) the fraction of PM that is transported" (Countess, R. et al, 2001).

The project design features (carpooling, a speed limit, and road rocking), in conjunction with the passive PM collection from the forested area around portions of the access road, and compliance with the NCUAQMD Rule 110 will ensure that the PM₁₀ generated by the project will be less than significant.

The project will take steps to conserve soil moisture and prevent the erosion of topsoil that could produce fugitive dust; the project will use hand tilling to minimize soil disturbance, planting of cover crop in the off season (winter), and the use of mulching or equivalent around crops to conserve soil moisture and prevent wind erosion.

- Odor

Because the project is located over 1.5 miles from the nearest residential structure and public road (Alderpoint Road), the odor from the cannabis is not expected to reach sensitive receptors (residents or public).

Discussion of Significance

a-b) Less than Significant

Construction

The Draft EIR for Humboldt County CCLUO describes the results of modeling that the county did as a tool for determining significance of PM10 during new construction of new cannabis cultivation facilities. This document hereby incorporates the analysis of the Draft EIR for Humboldt County Ordinance 2599, used herein as a reference document containing pertinent analysis and not as a document under which this project is to be permitted. The CCLUO Draft EIR states that “construction-generated emissions of PM10 would not exceed the NCUAQMD recommended daily emission threshold, even if 10 cultivation operations and two non-cultivation operations were constructed simultaneously;” and the conclusion that, “due to the attainment status of the NCAB for [ROG, NO_x, PM_{2.5}, and CO], the temporary nature of construction activities, and minimal level of emissions, construction-related emissions of these pollutants would not be significant” (Table 3.3-6; 2017). The construction phase will have a less than significant impact on air quality through the virtue of its temporary nature, compliance with the NCUAQMD’s Rule 104, an observation of the project speed limit (10 mph).

Operations

The PM10 in the form of fugitive dust will be controlled during project operations with the application of road rock surfacing, limited vehicle traffic, and the application of a conservative speed limit (10 mph). The access road will be rocked. The access road to the greenhouses will be traveled an average maximum of 6.25 round trips per day in Phase I and 2.25 in Phases II/III. These elements will prevent dust from entering the atmosphere and contributing to the non-attainment of the pollutant in the NCUAQMD. The project operation phase will have a less than significant impact on air quality through compliance with the NCUAQMD’s Rule 104, and the incorporated project design for PM10 abatement. During Phases II/III, the vanpool component of the project will reduce overall round trips to 2.25 per day. With the use of the speed limit and the application of the van pool (Mitigation Measure-Transportation 1), the project will have a less than significant impact on Air Quality.

c) No Impact. The nearby sensitive receptors that could experience exposure to substantial pollutant concentrations are the neighbor that are over a mile away. Sensitive wildlife is discussed in the Biological Resources section (section 4.4). The project is an agricultural project engaging in the outdoor (no artificial lights for flowering) cannabis production and limited processing (trimming and drying) of plant material. The project will not produce any pollutants in substantial concentrations. PM10, for which the NCUAQMD is in non-compliance, will not be exacerbated by this project during construction due to the limited grading and hauling activities and corresponding limited use of heavy equipment and the project BMPs to eliminate fugitive dust. PM10 will not be exacerbated by the project operations due to the limited number vehicles traveling on project roads, the addition of gravel on road surfaces, the use of hand tillers instead of tractor disking and the use of cover crops during project operations and over winter.

d) No Impact. This project will not result in other emissions (such as odors – diesel and cannabis) that would adversely affect a substantial number of people. Because the closest neighbor is approximately 1.5 miles away and because the earthmoving and heavy equipment components for this project are short term (two to three (2-3) weeks) and temporary, the odor of the diesel fuel burning equipment would not have a significant impact on sensitive receptors. The odor generated by the cultivation and processing of cannabis in gardens, greenhouses and processing buildings will be too far from nearby neighbors to be detected.

Cumulative Impact

The NCAB is currently in non-attainment for PM10. Particulate matter generated by this project during construction will be controlled by observing the NCUAQMD Rule104 prohibitions: observance of fugitive dust prevention BMPs. Construction will be limited in time and scope. Project operations that include a defined speed limit of 10mph (See Air Quality, 4.3), the use of car/vanpooling (Mitigation Measure-Transportation 1), and the addition of gravel to roads and parking areas will mean that fugitive dust will be at or below baseline conditions. As discussed above (Federal Highway Administration, 2006), road surface improvements, including gravel, will reduce fugitive dust from vehicle travel. The existing traffic from employees currently accessing the existing garden on the project parcel as well as use by the land owner for cattle ranching purposes, north of the parcel on the unnamed access road will experience reduced related dust production reduced as a direct result of the gravel application. The project will have a less than significant impact on the cumulative level of PM10 in the NCAB and Less Than Significant cumulative impact on air quality.

4.4 BIOLOGICAL RESOURCES

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

Discussion and conclusions for Biological Resources have been adapted from: Revised Biological Report, Humboldt County APN 217-215-001 [new APN = 217-471-002]; Natural Resources Management Corporation, October 15, 2019. See full report, Appendix B.

Regulatory Setting

Federal

- *US Fish and Wildlife Service*

Arcata Fish and Wildlife Office, Jul 31, 2006: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California.

- *Migratory Bird Treaty Act, 1918*

This international treaty (Canada, Mexico, Japan, Russia) protects identified migratory birds from a person or persons who would pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird, unless permitted to do so.

State

State Water Resources and Control Board (SWRCB)

- Cannabis Policy – Principles and Guidelines for Cannabis Cultivation, General Order No. WQ-2019-0001-DWQ

Establishes thresholds for water quality protection expressed as minimum setback distances and develops standards, Best Possible Treatment of Control, for erosion and sediment mobilization prevention and control.

- State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State, April 2019

Local

Humboldt County

- **Streamside Management Area Ordinance (SMAO)**

As described in 2017 Humboldt County General Plan, Ch.10. Conservation and Open Space (10.3.4) BR-S5

1. 100 feet, measured as the horizontal distance from the top of bank or edge of riparian drip-line whichever is greater on either side of perennial streams.
2. 50 feet, measured as the horizontal distance from the top of bank or edge of riparian drip-line whichever is greater on either side of intermittent streams.
3. The width of Streamside Management Areas shall not exceed 200 feet measured as a horizontal distance from the top of bank

BR-S10.

Development standards for wetlands shall be consistent with the standards for Streamside Management Areas, as applicable except that the widths of the SMA for wetlands are as follows: seasonal wetlands = 50 ft., perennial wetlands = 150 ft. and the setback begins at the edge of the delineated wetland.

- **Planning and Building Department Policy Statement NO 16-005:**

Regulation of Generator Noise in Areas of Habitat or Potential Habitat for the Murrelet or the Northern Spotted Owl

Where located within one (1) mile of mapped habitat for Marbled Murrelet or Spotted Owls where timberland is present, maximum noise exposure from the combination of background cultivation related noise may not exceed 50 decibels measured at a distance of 100 feet from the noise source or the edge of habitat, whichever is closer.

4.4.1 Analysis of Potential Impacts

Construction

Light

The construction phase of the project will not require any supplemental lighting. Construction will be performed during daylight hours. No construction lighting means that construction lighting will have no impacts on sensitive species and will not be discussed further.

Dust

The topography of the project area offers a natural grade of approximately 2% to 15%. The large Multi-Use building is a rebuild (2019 barn burn down) and will only require scraping to clear debris and organic materials. The 1,000,000 gallon rainwater tank will necessitate a concrete slab and some leveling, but as the site plan (Figure 2) shows this slope to be lower than 15%, the grading will not be significant. In addition to these earthmoving components, the project will excavate for septic and the alternative energy system. The unnamed access road and parking areas will also see the addition of gravel (from the onsite borrow pit).

The project will apply pertinent standards, Best Management Practices (BMPs) for fugitive dust (NCUAQMD Rule 104) in order to eliminate the creation of fugitive dust by project construction. Specifically, the project will limit all road traffic speeds to less than 10mph. During project construction, water will be used to control fugitive dust during the dry season; it will be applied zero to three (0-3) times a day to grading areas and stockpiles and the borrow pit, as is meteorologically appropriate. Incoming loads of rock will be covered or sprayed to inhibit dust from becoming airborne. The water will be sprayed using a water truck; water will be provided from the onsite well.

The temporary and limited nature of project construction (limited grading), low speed limit, and use of water for dust control will eliminate the potential for the project to create a significant source of fugitive dust during project operations (See Air Quality 4.3 for more details); construction related fugitive dust will not have an adverse significant impact on Air Quality and therefore will have no impact on sensitive wildlife or sensitive botanical species. Dust will not be discussed further in this section.

Noise

The following description and analysis of noise created by the proposed project and its components relies on several basic definitions of sound and types of sound measurements.

Ambient- in this document, refers to the typical background sounds at the project location.

Attenuation – refers to the reduction of noise levels in relation to distance, interference, etc. A point source of sound attenuated at a rate of 6dB for every doubling of the distance away from the source.

Decibels- (dB) express sound intensity as a logarithmic unit of sound. *dBA* is the expression of the decibel with the most common method of weighting applied –‘A’ weighting. *dBA* is often described as the measurement of noise perceived by the human ear.

The sensitive receptors in the vicinity of the project sites include rural residences and sensitive wildlife. The nearest residence is at the junction of the unnamed access road with Aldercreek Road (approximately 1.5 miles due west, southwest of the proposed development). Sensitive receptors – neighbors, are discussed in the Noise section (4.13) of this document.

The construction noise will come from a variety of heavy equipment (Table 8) and be intermittent, depending on the phase of construction and equipment in use. The project anticipates that all construction (road improvements, earthwork, Multi-Use Building, septic, and finish work) will be completed in a time frame of 13 – 16 weeks (not consecutive). All outdoor construction activity and use of heavy equipment outdoors shall take place between 7:00 a.m. and 6:00 p.m., Monday through Friday, and between 9:00 a.m. and 6:00 p.m. on Saturday and Sunday. The primary source of noise will be concentrated in the span of three (3) weeks as the construction focuses on completing the surfacing of the access road, grading for the Multi-Use Building, the excavation work for the septic system and the alternative power system, and, in Phase II, grading for the rainwater catchment tank. Additional noise will come from the concrete trucks delivering loads (potentially over several days) for the Multi-Use Building and water tank slabs. The Multi-Use Building is not considered ‘new’ construction as it is a rebuild of a burned down barn (See April 2020 communication from Humboldt County Planner, Appendix N)

Table 8. Sound levels for heavy equipment

Sound Source	Receptor	Level (dBA)	dBA at 50ft	dBA at 1000ft	dBA at 2000ft	dBA at 4000ft
	Dist. (ft)					
Backhoe/ Loader	20	84	~76	~50	~44	~38
Concrete Truck/Mixer	20	84	~76	~50	~44	~38
Compactor	50	80	80	~56	~46	~43
Dump Truck	50	84	84	~60	~54	~48

Source: Federal Highway Administration Construction Noise Handbook. Accessed 12/10/18
https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook09.cfm

The loudest sound source, produced by the action of the dump truck (Table 8), will be primarily a result of road surfacing, a common activity on rural ranching lands like the project parcel. Construction noise from heavy equipment during new project construction, grading and slab of the rainwater catchment tank and the excavation for the septic and the alternative energy system, will be below 60dBA (50-56) at 1000-feet away from the noise source. See Figure 6 below.

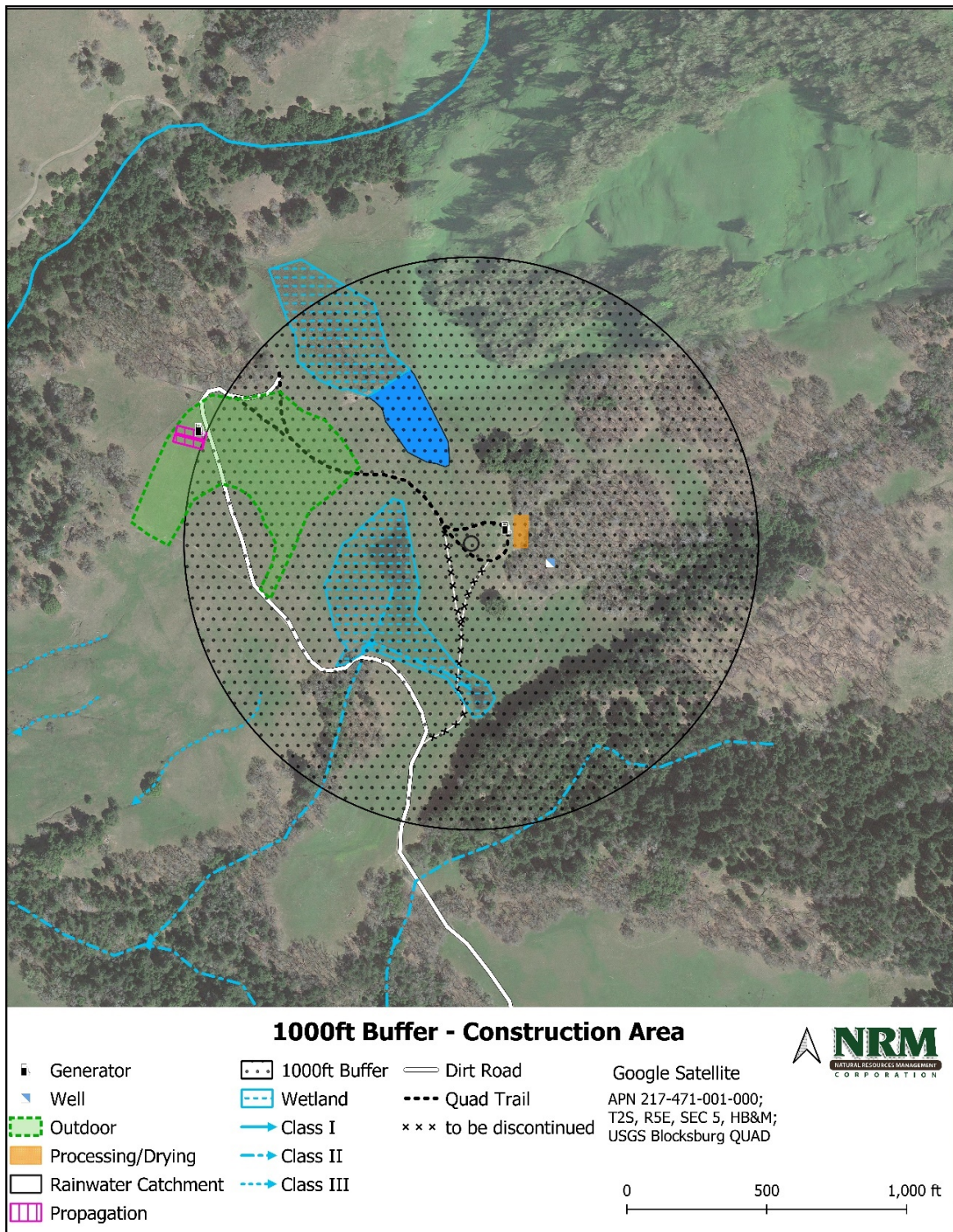


Figure 6. 1000-foot radius around construction area in which noise levels may reach up to 60 dBA.

Operational

The total footprint for the cannabis project is 322,356 square feet (7.4 acres). As a component of the mapped parcel acreage, the project will develop a total of 0.6% of the parcel (Table 1). The project will operate approximately eight (8) months out of every year. During the winter months, the soil in all gardens will be resting (only cover crops and hay) and all greenhouses covers (propagation and light deprivation) will be removed. The Multi-Use Building, at 7,200 sq. ft., and the rainwater catchment tank, at 21,904 sq. ft., are the only long term, permanent structures to be added to the landscape; of those, the Multi-Use Building is a rebuild of a preexisting barn.

Light

The artificial light included in this project will be found in the propagation greenhouses and on the exterior and interior of the Multi-Use Building. The propagation greenhouses will be enclosed greenhouses constructed out of wood and steel and sided with polyethylene siding; these greenhouses will use string lighting (ten (10) 25 Watt bulbs) to maintain cannabis clones during the Spring and once during the Summer (Table 2). Blackout tarps will be used to ensure supplemental lighting does not escape greenhouses. If project employees are not able to secure blackout tarps, the lighting will not be active in the greenhouse until the blackout tarps or method of securing the tarps has been repaired. No light will escape the greenhouses when supplemental lighting is used.

Security lighting will be placed above the doors to the Multi-Use building. Lighting will be shielded and pointed downwards into the building sites. Lights will illuminate entry ways (man doors and roll up doors) only. Lighting will minimize B.U.G (backlight, uplight, glare) and adhere to the International Dark Sky Association recommendations for Zones 0 and 1. The cultivation gardens will not be lit at night, as any lighting could interfere with the success of outdoor plants.

Dust

The primary source of fugitive dust that may occur during the operation phase would come from vehicle travel on unpaved roads. The main access road, Alderpoint road is paved. The secondary access road, approximately 3.2 miles of travel on Unnamed Access Road, will be surfaced in its entirety in gravel; the road is currently a mix of native surface and spot treatments with gravel. The road is currently used by 1-2 employees traveling to the site daily during the growing season to tend to the permitted existing garden. The use of unnamed access road will increase from existing use during Phase I when the number of employees driving to the carpool parking area increases to 6; however, the use of the road will drop to baseline levels in Phases II/III when the vanpool limits use of the road for employee trips to 2 round trips. The road speed limit that the proponents and employee (tending existing garden) currently observe for safety, and road preservation is 10mph. This 10mph speed limit will continue to be observed as the project expansion is carried out.

These three (3) factors, minimized road use (long term operational use limited to 2 roundtrips per day), gravel road surfacing, and a low speed limit, will eliminate the potential for the project to create a significant source of fugitive dust during project operations (See Air Quality 4.4 for more details); operational fugitive dust will not have an adverse significant impact on Air Quality and therefore will not have an adverse impact on sensitive wildlife receptors. Dust will not be discussed further in this section.

Noise

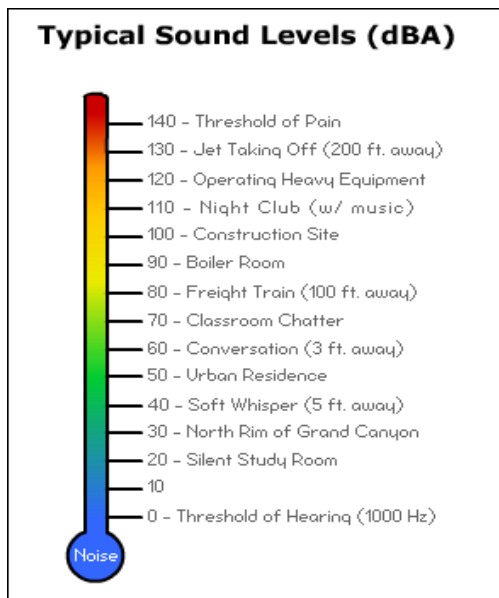


Figure 7. Typical sound levels; retrieved 4/19 from OSHA.gov

Operational noise will come from project employees driving on project roads and talking/laughing while working in the gardens and in the Multi-Use Building. The project will also experience noise from operational systems. Operational systems include fans, dehumidifiers and generators (Phase I/II).

Vehicle Travel

Vehicle traffic associated with daily project operations will be, primarily, the employees (Phase I) or the project van(s) (Phase II/III) traveling to and from the site. During Phase I, the employees are anticipated to number approximately six (6); the trips for Phase I employee travel will be six (6) round trips per day. During Phases II and III, the project will use a van or vans to pick up the 20-25 employees from their place of residence. The van trips for employee travel will be two (2) round trips. Additional anticipated vehicle traffic will come from a weekly project trip that will include, among other

things, garbage/recycle removal, propane refilling, and general supply pickup (fertilizers/pesticides, wood product for gasifier if needed, and miscellaneous.). There will also be a clone and potting soil pickup and delivery to the site two (2) times a year that will be made by the project proponents or an employee, and an annual (or bi-annual) refill of the propane tank. The project traffic will have a maximum daily average of 6.25 vehicles during Phase I and a maximum daily average of 2.25 during Phase II/III (See Transportation, 4.17).

The project will increase the number of cars and trucks driving on the primary access road, Alderpoint Road during morning and evening commute times when the road is likely to receive much of its daily traffic. Because Alderpoint Road is paved, and because the road is a major collector that is designed for commuting traffic, a daily addition of 6.25 round trips per day will not add a significant level of new traffic and therefore will not add a significant level of noise.

The unnamed access road will also see project traffic, though less than 6.25 due to the carpooling strategy that will be followed during Phase I, whereby only one to two (1-2) vehicles (accommodating around 6 employees) will travel the full length of the access road, and the vanpooling that will be implemented during Phase II/III.

Employee Generated Noise

It is generally agreed that conversation and background music in an office is around 60 dBA (Figure 7). The work taking place inside of the Multi-Use Building will include talking, listening to music, etc., but these noise levels will be attenuated by the walls of the building and will not have a significant impact outside of the building. The employees will generally be working alone in the gardens. The project proponents expect that the employees will listen to music on headphones or occasionally communicate with

other employees that are near as they work in the cultivation areas. Employee work includes soil preparation and plant tending. The soil preparation will include tilling by hand (non-motorized) and mixing in of amendments. Plant tending includes application of sulfur with a gas powered fogger. The fogger will be used twice (2) per season and will have a temporary and less than significant impact (similar to string trimmer or a chainsaw). The work areas (six (6) acres of proposed outdoor on Sherman Flat and 16,800 sq. ft. of existing) are very large and located on a large parcel (over 1,000 acres). Occasional talking at various and variable locations at a level of average conversation (60dBA at three (3) feet) and the temporary and uncommon use of a motorized sprayer will not have any significant impact on sensitive receptors.

Fan/Trimmer Noise- Multi-Use Building

There will be systems that make noise inside of the Multi-Use Building. These consist of ceiling mounted interior circulation fans (they do not vent to the exterior) and the possible use of electric trimmers. The County of Humboldt, in the 2017 draft EIR of the Cannabis Ordinance, 2.0, described the noise from motorized trimmers as meeting the General Plan Noise Compatibility Standards (daytime) by virtue of established setbacks alone (Impact 3.10-2). This means that the noise from the project's interior processing systems are expected to comply with the county nuisance regulations. However, each site is a unique combination of components and should be individually analyzed. The following is a site specific analysis of expected noise generated by the Multi-Use Building.

Humboldt County's General Plan describes a standard frame house as reducing sound transmission by 15dBA (Ch13, 2017a). This degree of sound reduction is reproduced from the Humboldt County Framework Plan from 1984 (Volume 1, section 3240. Other sources describe the reduction of noise as more significant, depending on the materials the sound will pass through. For example, the U.S. Department of Housing and Urban Development's (HUD) *Noise Guidebook* (2009) lists a two (2) inch piece of cedar and a sheet of 24 gauge steel as having a Transmission Loss (TL) value of 18 dBA where TL represents the amount noise levels will be reduced when the sound waves pass through the material. The reduction in noise transmission will be more than the result of the specific material used on the outside of the building; The interior fans and sporadic potential use of motorized trimmer noises on this project will have the additional noise reduction provided by the insulation in the walls of the Multi-Use Building. as well as the material that covers the walls (gypsum board/dry wall, etc.). Therefore, while the benefit from the wall insulation and cover is greatly dependent on the wall assembly (spacers, dead air, insulation type, etc.) and the frequency of the sound itself, it can be assumed that structure will result in no less than 18dBA loss in noise volume (dBA).

If a power trimmer is used, it can be quite loud, around 81 dBA at three (3) feet away, according to the source used in the Humboldt County Draft EIR for the CCLUO (2017). Assuming that the trimming machine is located a least 1-foot off the wall (on a table) and that there is at least 23-feet between the outside of the building and the forest edge (Figure 8 below), distance attenuation, most commonly understood to be 6dBA every doubling of the distance away from the source, will result in drop from 81dBA to 51dBA (Table 9). A further, minimum reduction of 18 dBA is taken to account for the attenuation of the building with the result an estimated noise level of 33 dBA at 23-feet from the source at the tree line. This building constitutes the closest noise source to forest habitat (Figure 8). The forest in this area is a 'finger' of oak and mixed conifer. Noise exposure will not exceed 50 decibels the edge of habitat.

Table 9. Estimated mechanized trimmer noise (dBA) with distance attenuation*

Feet	3	6	12	24
dBA	81	75	69	51

* Distance attenuation is a result of an increase in distance from the source only. Sound attenuated (is reduced) from a point source at a rate of 6dBA per doubling of the distance from the source. Other factors, such as topography, physical, barriers, humidity, wind, etc. are not included in this table.



Figure 8. Barn in 2016 and location of proposed Multi-Use Building. (rebuild of barn in preexisting barn footprint) - Distance to tree line ranging from approximately 23-feet to 76-feet.

Fan Noise- Propagation Greenhouses

The propagation greenhouses on the project will require environmental controls for managing interior conditions and clone success. Ventilation fans are the primary source of air exchange in the greenhouses and have the potential to impact total project noise. In the existing propagation greenhouse, just south of the 16,800 sq. ft. cultivation, there are two (2) endwall fans (one (1) on each side of the greenhouse): 28-inch AC fans from Snap-Fan in Arcata. The project will also install one (1) endwall fan on each end of the four (4) proposed propagation greenhouse on Sherman Flat. According to the Snap-Fan representative (See correspondence in Appendix C), these fans, at 100% power, produce a noise level of 45 dBA at three (3) meters (9.8-feet) which attenuates to 39 dBA at six (6) meters (19.7-feet). For two (2) fans, the initial noise level is increased by 3-dBA; the noise from two (2) fans is 48 dBA at 10-feet. See Table 10 below and the Noise section (4.13) of this document for full analysis.

Table 10. Snap Fan noise levels at select distances

	Distance (m) <i>((nearest foot))</i>	3 <i>(10)</i>	6 <i>(20)</i>	12 <i>(40)</i>	24 <i>(79)</i>	48 <i>(158)</i>	96 <i>(316)</i>
1- 28" Snap-Fan @ 100% power	Decibels	45	39	33	27	21	15
2 - 28" Snap-Fans @ 100% power	Decibels	48	42	36	30	24	18

* Distance attenuation is a result of an increase in distance from the source only. Sound attenuated (is reduced) from a point source at a rate of 6dBA per doubling of the distance from the source. Other factors, such as topography, physical, barriers, humidity, wind, etc. are not included in this table.

The four (4) proposed seasonal propagation greenhouses (on Sherman Flat) will be in an open grassland area over 150-feet from nearby forested habitat, around 1.5 miles from the nearest rural resident, and approximately 1,784-feet (just under 1/3 mile) to the nearest parcel boundary (Figure 9 and 10). The forested area will experience fan noise just above that of a silent study room (Figure 7).

The existing propagation greenhouse is located on the south side of the existing 16,800 sq. ft. garden in an open grassland area over 300-feet from nearby forested area, around 1.5 miles from the nearest rural resident, and approximately 825-feet to the nearest parcel boundary (Figures 9 and 10). The forested area will experience fan noise below that of a silent study room (Figure 7).

Noise from project fans will be effectively limited to the immediate footprint of the propagation and cultivation area.

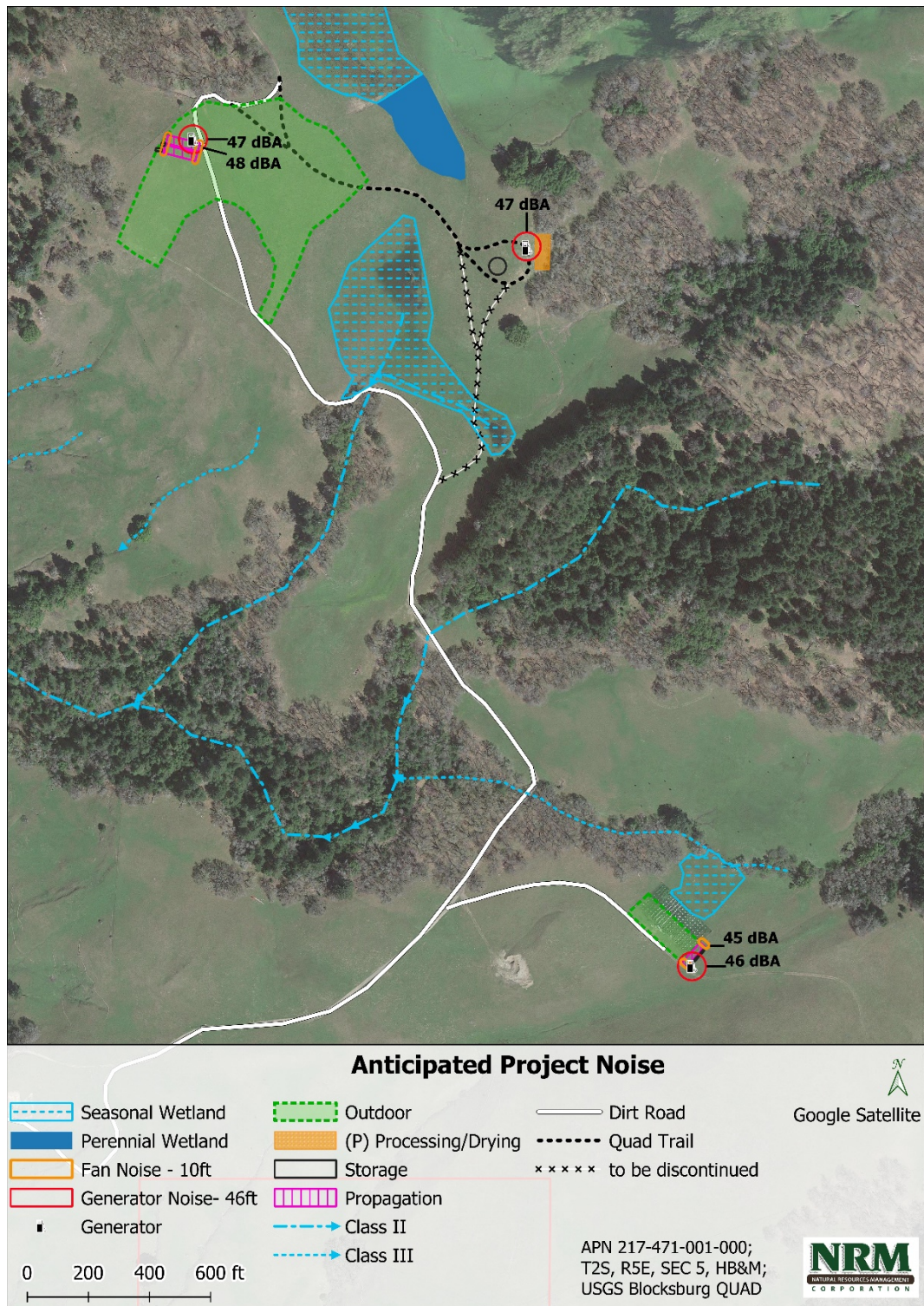


Figure 9. Phase I layout- Location of existing and proposed generators (temporary power) and fans with estimated noise levels (Tables 34 and 36). Note: generator noise at (P) Processing/Drying Building represents one (1) generator.

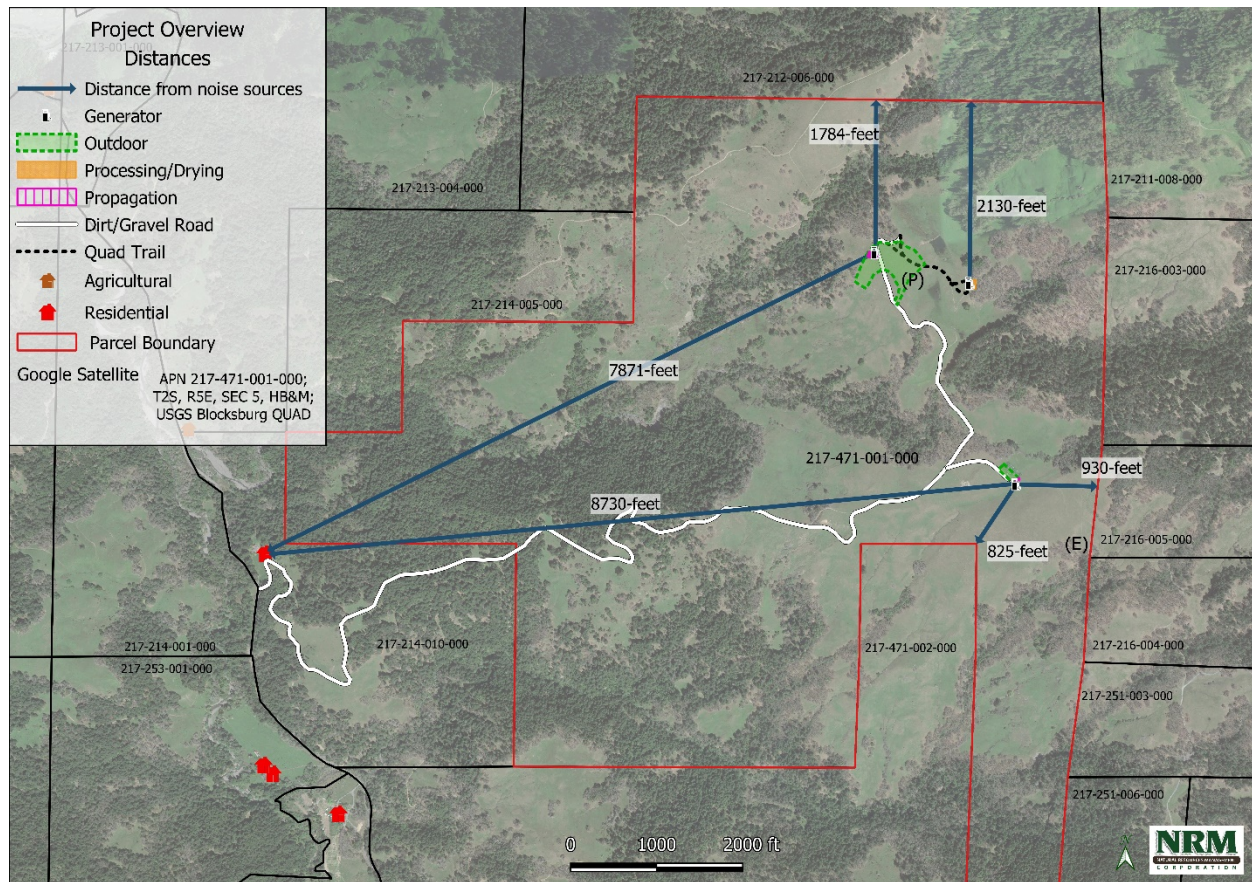


Figure 10. Distances between major noise sources, parcel boundaries, and nearest neighbor

Gasifier

The noise level of the gasifier is directly related to that of the generator used; because the proposed generator, a 4kw generator, is significantly smaller and quieter than the project's primary generators (2.7.1.1), and because it will occupy the same location as the project's primary generators, all analysis associated with the primary generators (see below and section 4.4.2) will include the potential impacts of the gasifier and no further discussion or analysis regarding the gasifier/generator noise impacts are required.

Generator Noise

During Phase I, the project will use one (1) Honda EU7000iS generator to run lights and fans in the propagation greenhouses during Phase I to grow clones to an appropriate outdoor planting stage and one (1) or two (2) Honda EU7000iS generators at the Multi-Use Building for flower drying. The project will use one (1) Honda EU3000iS generator to run lights and fans in the existing propagation greenhouse. This Phase, Phase I, represents the maximum generator use that the project will experience. By Phase III, with the final installation of the alternative energy system components, no gasoline generators will be onsite barring emergency loss of operating system power. The gasifier generator is wood powered and not expected to contribute significantly to noise.

In the figure above (Figure 9), the proposed generator for the proposed propagation greenhouses is located nearest to potential wildlife habitat; this location represents the location with the greatest potential to impact sensitive species and is used in this analysis as a worst case scenario approach. The Multi-Use Building is

mapped (Figure 9) with generator(s) located on the west side of the building. This is expected to be an accurate presentation of the generator location as the north, east, and south sides of the building do not offer sufficient open space for safe generator operation.

The noise that each generator produces fluctuates as the engines run at various loads. At 100% rated capacity (7,000 Watts AC), the Honda 7000iS generator produces 58 decibels (dBA) at 23 feet away from the generator. At 25% load the Honda 7000iS generator produces 52 dBA at 23 feet away. The smaller powered generator that is located at the existing garden runs only slightly quieter. At 100% rated capacity (3,000 W), the Honda EU3000iS generator produces 57 decibels (dBA) at 23 feet away from the generator. With distance attenuation (reduction of six (6) decibels every doubling of the distance away from the source) and barrier attenuation (a five (5) dBA reduction in noise), the Honda EU7000iS generator and the EU3000iS generator will produce a level of noise **below 50 dBA at a point before 46 feet away**. Generator noise complies with Humboldt Planning and Building Dept Policy Statement 16-005. Please see Table 11 below and the Noise section, 4.13, of this document for full analysis.

Table 11. Estimated generator noise (dBA) with distance* and barrier attenuation

	Distance (feet)	23	46	92	184	368	736
Honda EU 7000 iS	Decibels (dBA)	53	47	41	35	29	23
Honda EU 3000 iS	Decibels (dBA)	52	46	40	34	28	22

* Distance attenuation is a result of an increase in distance from the source only. Sound attenuated (is reduced) from a point source at a rate of 6 dBA per doubling of the distance from the source. Other factors, such as topography, physical, barriers, humidity, wind, etc. are not included in this table.

By the time the sound reaches the nearest parcel boundary at 825-feet away from the existing cultivation area, the noise from the Honda EU3000iS generators is less than 22 dBA and is not be likely to be distinguishable from ambient noise. The sound from either generator at any place of use will be almost imperceptible at distances over 736-feet. See Figures 9 and 10 above. No property boundary or resident will perceive noise from the fans or generators used during project operations.

Cumulative Noise

Generators

As discussed previously, if needed, the project will use two (2) Honda EU7000iS generators to power the Multi-Use Building during Phase I and Phase II (though Phase II use is not anticipated). In this parallel configuration, the generators are expected to produce additional noise. Using the Engineering Toolbox resource (Table 13), adding two identical noise sources will result in an increase of three (3) decibels. Accordingly, the noise from the parallel configuration of Honda EU7000iS generators will result in 61 (58+3) dBA at 23-feet. With barrier attenuation, a 5-dBA noise reduction, the noise is reduced to 56 dBA at 23-feet away. With attenuation (See Table 12), the result is that, at a distance greater than 46-away from the source, the noise level will be less than 50dBA.

Table 12. Estimated noise (dBA) of two (2) generators in parallel configuration with distance* and barrier attenuation

	Distance (feet)	23	46	92	184	368
Honda EU7000iS (2 generators, parallel configuration)	Decibels (dBA)	56	50	44	38	32

* Distance attenuation is a result of an increase in distance from the source only. Sound attenuated (is reduced) from a point source at a rate of 6 dBA per doubling of the distance from the source. Other factors, such as topography, physical, barriers, humidity, wind, etc. are not included in this table.

Table 13. Adding Identical Noise Sources: Engineeringtoolbox.com

Number of Identical Sources	Increase in Sound Power Level (dB)
2	3
3	4.8
4	6
5	7
10	10
15	11.8
20	13

Generators and Fans

The propagation greenhouse fans and the generators are unlikely to impact the cumulative noise present in the immediate vicinity of the project. However, in the event that the frequencies of the noise sources do overlap, using the reference table from the Engineer's Toolbox for adding different signal strengths (Table 14 below) and assuming the maximum increase in noise, 3dBA, the total maximum potential cumulative noise in any area of overlap could increase to approximately 51 dBA (7000iS generator and two endwall fans). The cumulative noise would not persist beyond the immediate overlap as the sound sources are different and the sound waves are traveling at different speeds.

Table 14. Adding Different Noise Sources: Engineeringtoolbox.com

Signal Level Difference between two Sources (dB)	Decibels to Add to the Highest Signal Level (dB)
0	3
1	2.5
2	2
3	2
4	1.5
5	1
6	1
7	1
8	0.5
9	0.5
10	0.5
> 10	0

Cumulative noise from generators and propagation greenhouse fans will not be significant and will not be discussed further.

4.4.2 Discussion of Significance - Sensitive Wildlife

Prior to initiating field surveys, a query of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Data Base (CNDDB, 2019) for wildlife species occurrences within a nine-quad topographical map area of the parcels was conducted. This provided a comprehensive target species list from which the biologist determined habitat, presence, or sign of species, as well as any known locations for special status species in the general area. On April 18th, 2019, the site was surveyed for the presence of terrestrial and aquatic species. The only special status species detected during the survey were western pond turtles (*Emys marmorata*).

An additional nine-quad search of the CNDDB database was conducted in 2020 using the RareFind Quickview tool. This search provided a list of updated species and occurrences in the project vicinity.

Of the 27 species identified in both of the nine-quad CNDDB searches (2018 and 2020), only nine (9) species were identified as having suitable habitat in the project area or as being potentially impacted by project development: golden eagle, northern goshawk, Cooper's hawk, Fisher, American badger, northern red-legged frog, western pond turtle, Townsend's big-eared bat, western bumble bee. These species, and the Northern Spotted Owl and migratory birds, are discussed in more detail below (Table 15). Also see Revised Biological Report (NRM, 2020) in Appendix B.

Table 15. Special status wildlife species, suitable habitat in project area, and potential impacts

Common Name	Listing Status	General Habitat Description	Presence of Suitable Habitat w/in Site?	Potentially Impacted by Project?	Comments
BIRDS					
northern spotted owl	FT, ST	Old-growth forests or mixed stands of old-growth and mature trees; occasionally in younger forests with patches of big trees	No	No	No impact, due to distance from known ACs to project area; nearest suitable habitat in area of known ACs, approximately 2.3 miles west of project area
golden eagle	FP, WL, BCC	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas	No	Yes	Less than significant impact; unclear if cow presence discourages use by foraging eagles but unlikely; cultivation could impact this species if previously foraged in the area of Sherman Flat; unlikely to nest in vicinity of project area due to lack of appropriate-sized trees, snags (see Species Accounts, [Biological Report, Appendix B).
northern goshawk	SSC	Within, and in vicinity of, coniferous forest with mixed age, some older trees for nest structures; uses old nests, and maintains alternate sites	Yes	No	No impact; forested habitat in the surrounding area likely provides optimal feeding habitat for this species; somewhat intolerant of humans, unlikely to forage or nest in the near vicinity; nearest potential nesting habitat likely in areas of NSO ACs where large trees for nesting may persist, over 2 miles west and east

Cooper's hawk	WL	Hunts in broken woodland and habitat edges; highly maneuverable in dense cover; seldom found in areas without wooded patchy habitat or dense tree stands	Yes	No	No impact, given the amount of optimal habitat available in the general area; project area within 800 feet of woodland habitat, so likely to forage and nest in vicinity of project area
MAMMALS					
fisher	ST, SSC	Intermediate to large tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure	Yes	No	No impact; the nearest potential denning habitat likely associated with NSO ACs west project area or in the Little Van Duzen watershed east of project area, both approximately 2.3 miles; may be potential for large oak or Douglas-fir trees appropriate for denning but none observed during site visit. Fisher have been observed by biologist moving through similar habitat to the north, therefore, this wide-ranging species expected to forage in the vicinity of the project area, as there is suitable to optimal foraging habitat throughout the general area
American badger	SSC	Most abundant in drier, open shrub, forest, and grassland habitats; requires friable soils for denning burrows that are usually in areas with sparse overstory cover	Yes	No	No impact; project areas surveyed revealed no sign of this species, but may occur in similar habitats elsewhere on the ranch that are not part of this cultivation operation. The parcel occurs in what appears to be optimal habitat for this species; the fact that cows have been present historically and currently should not discourage presence of badger, although there was no sign of their distinctly-shaped burrows
HERPETOFAUNA					

northern red-legged frog	SSC	Humid forests, woodlands, grasslands, and stream sides in northwestern California, usually near dense riparian cover. Highly aquatic, little movement from streams or pond; the main <i>Rana</i> species found in pond habitats in Humboldt County	Yes	No	No impact, due to no presence of any part of life cycle detected during site visit; likely unable to exist in Sherman Flat pond due to numerous western pond turtles, who consume amphibian eggs and larvae
western pond turtle	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation; requires basking substrate	Yes	Yes	Less than significant impact; numerous individuals in Sherman Flat pond and wetland area unlikely to traverse into proposed, adjacent cultivation area. Watercourse and wetland setback requirements must be strictly adhered to and all attempts to ensure no sediment delivery to watercourses must be taken

Federal:
FC Candidate
FE Endangered (legally protected)
FT Threatened (legally protected)

State:
FP Fully protected (legally protected)
SC Candidate: Threatened or Endangered
SE Endangered (legally protected)
SSC Species of special concern
ST Threatened (legally protected)

Northern Spotted Owl (NSO)

Regulatory Status: The northern spotted owl is a Federal and State Threatened species.

Habitat Requirements and Natural History: This species is an uncommon, permanent resident that resides in dense, old-growth, multi-layered mixed conifer, Redwood and Douglas-fir habitats and breeds early March through June, with young independent and dispersing by September/October.

Potential for Occurrence within the Project Area: The nearest NSO habitat appears to be associated with known ACs, the closest of which (HUM1095) is approximately 2.3 miles West of the project. The survey protocol for NSO Activity Centers (USFWS Revised 2012) in non-redwood (inland) habitat (USFWS 2008) requires a 1.3-mile habitat analysis buffer for determining potential project effects. Recent NSO data for the nearest ACs are listed in Table 16. There are no northern spotted owl (NSO) Activity Centers in the vicinity (1.3 miles) of the proposed development on this parcel (Figure 11), and there is no NSO habitat in the project area (Revised Biological Report, Appendix B).

Project Impacts – Construction & Project Operations

There are four NSO ACs at or beyond 2.3 miles from the project area: two are west of Larabee Creek, and two are east on US Forest Service land in the Little Van Duzen watershed, east of the Charles Mountains. There does not appear to be suitable habitat for NSOs within the 1.3 miles analysis buffer, as forest patches within this radius either appear to have insufficient canopy cover or patches are limited in size. Nesting/roosting habitat for NSOs is described as having greater than 60 percent canopy cover and foraging habitat as greater than 40 percent canopy cover, with conifer and deciduous trees greater than 11 inches in diameter at breast height (USFWS, Revised 2012). In general, the ACs in the Larabee Creek and Little Van Duzen watersheds appear to be in the best remaining habitat in the area. Outside of these areas, habitat for NSOs becomes sparse as the forested habitat gives way (decreasing canopy cover) to naturally occurring open grasslands, interspersed with openings from timber harvesting. The project occurs in open fields surrounded by sparse oak and mixed conifer woodlands. At the edge of habitat, the generators will produce less than 50 dBA. A review of Figure 9 shows the generator noise at 46-feet. With two (2) generators this noise will increase, at the same distance, to 50dB.

Determination: Due to the lack of foraging and nesting habitat in the project vicinity (2.3 mile radius), the project will have **No Impact** on NSO.

Table 16. NSO Activity Centers in the vicinity of project site on APN 217-215-001

NSO Activity Center	CNDDDB Reported Positive Data	CNDDDB Reported Negative Data	Approximate Distance to Nearest Project Area (miles)
HUM1095	2013-2014 non-nesting pair	--	2.3
HUM0514	2003 single owl 2013-2014 non-nesting pair	2004, 2005	2.4

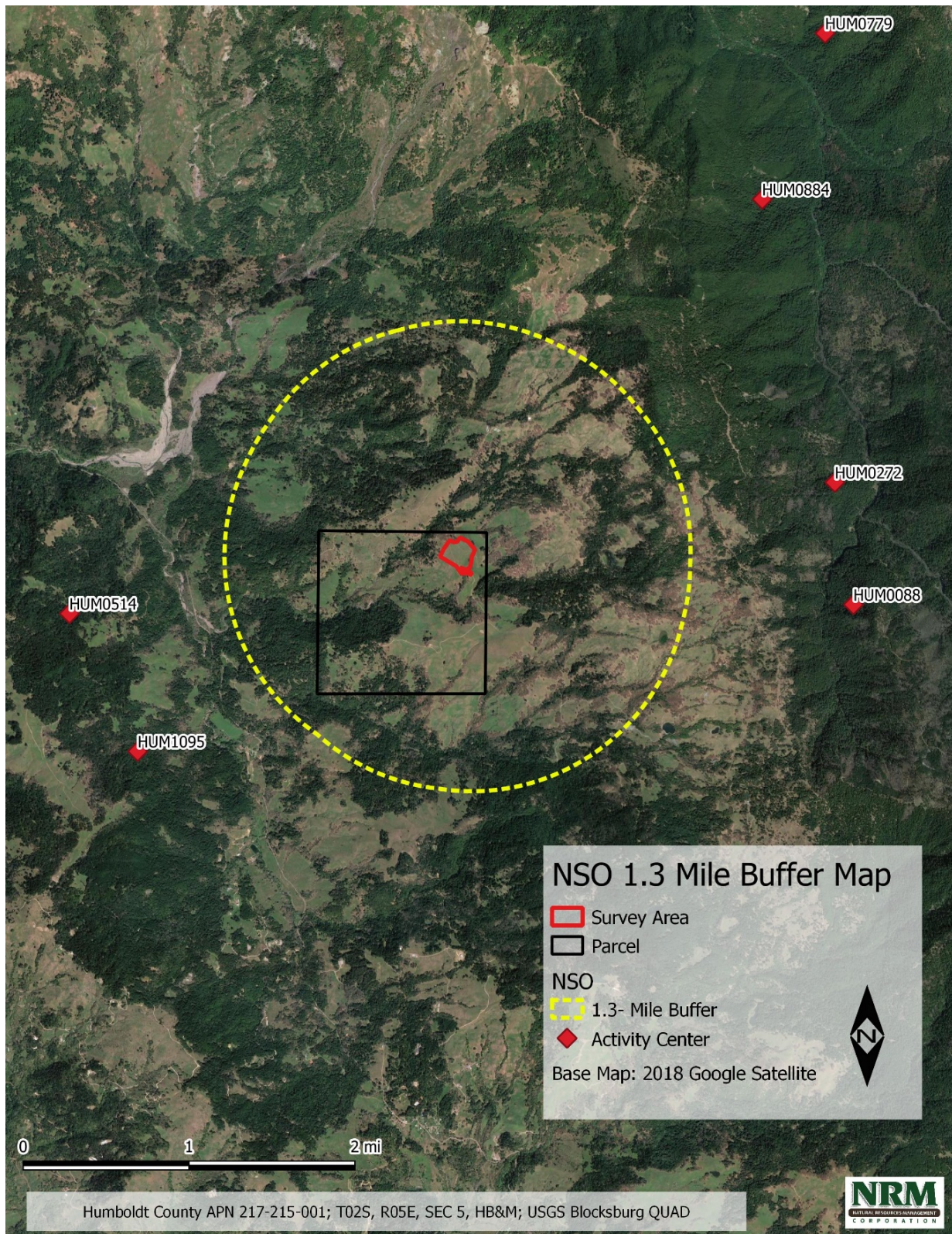


Figure 11. NSO Activity Centers in Vicinity of Survey Area; Survey area reflects area of proposed development.

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Golden eagle

Regulatory Status: The golden eagle is a Fully Protected and USFWS Bird of Conservation Concern species

Habitat Requirements and Natural History: This species is present in rolling foothills, mountain areas, sage-juniper flats, and desert. In the coast range of California this species nests are almost exclusively in large trees. Foraging habitat consists of open areas where rabbits and rodents are available; this species will utilize live or dead tree perches for hunting if near open areas, otherwise is a soaring predator. Breeding occurs in early to mid-February with young hatching by mid-March or April. Young remain at nest for 10 weeks, fledging by June but still being fed by adult birds until dispersing from the natal area in July- August. This species is generally described as sensitive to human disturbance, but with exceptions; breeding pairs have been known to abandon nests when disturbed (Richardson and Miller, 1997; US FWS, 2010); other pairs have been documented nesting along major highways and near homes (Thelander, C. G., 1974) and still others tolerated hundreds (227) of Apache helicopter overflights with no reduction in nesting success (Grubb, T. G. et al, 2010).

Potential for Occurrence within the Project Area:

The distribution and habitat use of golden eagles on the north coast of California is not well studied, and the CNDDDB search, while revealing no known occurrences of Golden Eagle in the immediate area, potentially still has unprocessed occurrences statewide. The CNDDDB has six (6) discreet nest locations described in the 9 quad area of the project. None of which are located in the Blocksburg Quad that is occupied by the project.

Nesting

Possible nesting habitat can be inferred from regional studies. A preference for canyon habitats in the vicinity of nest trees (CDFW, 2019) suggest that locally this species most likely to occur within mainstem river corridors, such as the Eel River, approximately seven (7) miles west of the project area; Little Van Duzen River, approximately 2.4 miles east; Van Duzen River, approximately eight (8) miles east; and the Mad River, approximately 11 miles east. Thus, the closest best nesting habitat would be the Little Van Duzen at over 2.4 miles away from the project area. There are currently no documented (CNDDDB) nest sites on the Little Van Duzen in the vicinity of the project.

An additional further limitation on nesting sites is the species preference for large diameter trees for nesting and for cover. Estimates of nesting golden eagles in Humboldt County, drawn from over 10 years of surveys (2001-2012) for timber harvest plans on Green Diamond Resource Company (GDRC) and Humboldt Redwood Company (HRC) lands, determined up to 17 nests existed, as of 2012. Information from a sample of nests on HRC land showed that all nests occurred in large Douglas-fir trees and trees had average height of 223 feet and a 72- inch diameter at breast height (Chinnici, S. et. al., 2012). Therefore, potential nesting habitat for the golden eagle appears to be synonymous with NSO high quality nesting/roosting habitat; given this, no nesting habitat exists in the immediate vicinity of the project areas as the nearest and best NSO nesting habitat is over two (2) miles away from the project area (See NSO discussion above).

The nearest documented nest occurrence of the Golden Eagle is over seven (7) miles to the west of the project area in the Meyers Flat Quad on the south side of the Eel River. Demonstrating predictable nesting selection, the nest tree is described as a Douglas-fir (68" dbh, 72' tall, broken-top), located in old growth (80+ years) Douglas-fir /tan oak stand. The nest, known as the Sonoma Creek or Sonoma nest, is recorded as active in 2003. The second closest documented nest (9.5 miles southwest of the project) has a recent documented nest occupation (one (1) chick in 2007). CNDDDB, 2020; Appendix B .

There are no known nest sites in the project area or immediate vicinity and the lack of large diameter trees and old growth forest precludes the project area from being suitable or optimal nesting habitat.

Foraging

A strong pattern of foraging habitat within a 1.8-miles radius of the nest tree has been reported for Humboldt County (Chinnici, S. et al., 2012). A study in Idaho focusing on habitat selection and use found that the breeding ranges had a maximum average of 2.8 miles (4.5 km) (Marzluff, J. M, et al, 1997); it is generally understood that Golden Eagles constrict travel during breeding season. Because nesting has not been documented within seven (7) miles and suitable nesting habitat is not likely within 2.3 miles from the project, foraging by nesting pairs is not likely to be present in the project area during the spring and summer while breeding pairs are nesting and tending to young.

General foraging territories of Golden Eagles in Northern California have been known to occupy up to 48 square miles (CDFW, 2019). Therefore, foraging in the project area during project spring and summer is possible if there is a nonbreeding bird present; foraging in the project area by adult birds or independent young is possible during the fall and winter.

Observed Occurrences Within the Project Area

Because the project location exists in a large contiguous ownership and has not been surveyed for special status species, surveys for Golden Eagle occupancy were performed. Surveys were timed to capture the most visible period of breeding, the courtship period in which adult eagles perform aerial displays (Driscoll 2010, Pagel et al 2010). Two (2) survey stations were visited two (2) times for a duration of four (4) hours each. This resulted in 16 total survey hours. Surveys were performed on February 4th , 5th and February 8th in the mornings during periods of dry, clear weather. Despite the parcel appearing to have optimal GOEA foraging habitat, there were no GOEA or bald eagle detections at the project parcel. The most commonly observed species was the red-tailed hawk (RTHA), which was observed pair soaring on multiple occasions, suggesting courtship. The survey report, maps, and forms are available in Appendix B.

Short Term Project Impacts - Construction

The construction of the infrastructure portion of the cannabis operation (grading, road work, excavation for septic and the alternative power system, and building of the Multi-Use Building) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 8) and is expected to be totally completed within 13-16 weeks (not cumulative). Construction will be performed during daylight hours only.

Direct Effects: No significant direct effects expected. The project will not impact nesting habitat. There are no known occurrences of Golden Eagles in the vicinity of the project (Appendix B) and given the known nesting and foraging preferences of the Golden Eagle in Humboldt County (similar to that of NSO), the Eagle is not likely to establish a new nest within 2.3 miles of the project. Additionally, because breeding pairs tend to reduce foraging to an area near the nest, it can be determined that project construction would not impact breeding pairs were they to move into the area.

The construction could impact other, non-breeding eagles, if present. If non-breeding eagles are foraging in the area during construction when heavy equipment is used, it is possible that the eagles will be deterred from utilizing the impacted area. However, the disturbance will be equivalent to common rural property maintenance - the rebuilding of a burned down barn and improvements to existing ranch roads. These types of disturbances are not generally considered significant. The only new construction elements that could disturb the potential foraging of golden eagles to an extent greater than that of general property maintenance would be the trenching for septic and the alternative energy system, the grading and slab construction for the rainwater catchment tank. All earthwork is expected to take a maximum of three (3) weeks, with the 'new' construction components expected to take one (1) week or less.

At a distance over 1000-feet away from the new construction area (Figure 6), the construction noise will be less than 60dBA (refer to Table 8). Removing this area of significant noise (72 acres or 0.11 square miles), will have a less than significant adverse impact on potential eagle foraging. As mentioned above, the Golden Eagle can range up to 48 square miles in northern California. The new construction area that will experience noise above 60dBA constitutes 0.23 square miles - less than one percent (1%) of an eagle's possible territory.

Indirect Effects: No indirect effects expected.

Determination: No Impact.

Ongoing Activity Impacts - Cannabis

The project will not use any rodenticides and lights in the propagation greenhouses will be shielded to prevent light pollution on the natural landscape. Noise and human presence could impact foraging of Golden Eagles in the area.

Direct Effects: No significant direct effects expected. The project will not impact nesting habitat. Noise and human activity could impact Golden Eagles if present. Currently, there are no known occurrences of Golden Eagles in the vicinity of the project (Revised Biological Report, Appendix B), and given the known nesting and foraging preferences of the Golden Eagle in Humboldt County, the Eagle is not likely to establish a new nest within 2.3 miles of the project and breeding pairs tend to reduce foraging to an area near the nest, it can be determined that ongoing project operations will not impact breeding pairs.

Project operations could impact foraging of non-breeding eagles, that could utilize the area. It is possible that eagles will be deterred from utilizing the project area when generators are running (Phase I), and/or when people are outside working. The exact nature of the disturbance is hard to quantify due to individual animal preferences, as there are instances of eagles nesting near residential homes and highways

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(Thelander, C. G., 1974) as well as plentiful anecdotes of eagles flushing from perches at the approach of a car. To provide a worst case scenario quantification of the amount of foraging land that will be removed, this analysis will use the total cannabis footprint as the amount of land that will be impacted. The possible impacts of generator noise are not relevant as the generators produce noise that is under 50dBA at under 50-feet away (Figures 9); as such, they are almost entirely included in the footprint. As described in Table 1, the total cannabis footprint is 7.4 acres (0.011 square miles). If a non breeding eagle's foraging territory is approximately 48 square miles, then removal of the project footprint would result in the removal of approximately 0.023% of an eagle's possible territory. Adding an additional acre to account for primary traffic and activity areas near the Multi-Use Building would not change the figure in a significant way. This worst case scenario of foraging removal shows that the project, while humans are present, will remove potential foraging habitat for non breeding eagles, but that the amount of area impacted is less than significant.

Indirect Effects: No indirect effects are anticipated.

Determination: **Less Than Significant** impact. The long-term impacts to nesting golden eagles in the vicinity will be minimal, given that there are no known occurrences in the vicinity and recent courtship season surveys resulted in no observations (Appendix B), and because they are unlikely to occur in the project area due to nesting preferences (and by association, expected foraging ranges). If Eagles begin to use the area for foraging, project operations, while humans are present, could remove 0.023% of potential foraging habitat (in the context of a typical 48 square mile range).

Cumulative Impacts

Because the project will not impact the nesting or foraging of breeding pairs, and because the non-breeding foraging will be reduced by only 0.023% of the typical eagle range, the project will not have any cumulatively impactful adverse effects on the Golden Eagle. This project is set in a parcel of over 1000 acres that is, along with other holding by the owner, bound, by contract, by the Williamson Act. This contract limits development to agricultural development and helps define the land as open and natural which will contribute to habitat preservation. The project is, itself, not adding permanent new structures apart from the 1,000,000 gallon rainwater catchment tank that is proposed. Therefore, this project, while it may deter foraging by non-breeders during operations (project will not operate during winter months), will not contribute to significant impacts in terms of permanent foraging habitat loss. **Less than Significant.**

Northern Goshawk

Regulatory Status: The Northern Goshawk is a State Species of Special Concern.

Habitat Requirements and Natural History: Hunts primarily in wooded areas and can establish territories of 0.5 square miles to 15 square miles (CDFW, 2019); breeding ranges are average only 10 square miles (Keane, J.J., 2008)). Uses snags and dead-topped trees for observation and prey-plucking perches. Feeds mostly on birds, from robin to grouse in size. Small mammals, of squirrel and rabbit size, often taken. Prey caught in air, on ground, or in vegetation, using fast, searching flight, or rapid dash from a perch. Uses mature and old-growth stands of conifer and deciduous habitats interspersed with meadows, other openings,

and riparian areas required. Nesting habitat includes north-facing slopes near water and often the Goshawk chooses the densest parts of forest stands near openings for nesting. In most cases, the canopy cover around the nest tree is usually >60%-100% (Shuford, W.D. and Gardali, T., 2008). This species uses old nests, and maintains alternate sites. In northern California, this species begins breeding in June with an incubation period of 36-41 days; young fledge at around 45 days and are independent often by 70 days. (CDFW, 2019).

Potential for Occurrence within the Project Area: The Northern Goshawk, known as a bird of the “wild forest,” (Cornell Lab, 2019), will likely utilize larger, denser forested areas for nesting as discussed above. The nearest available habitat that offers mature old-growth forest is 2.3 miles away, synonymous to the NSO habitat in terms of tree size and cover preferences; this species is unlikely to nest in the immediate project area. However, because hunting, while most common in mature and old growth forests with dense canopies and open understories, also occurs on edge habitats, and because the Northern Goshawk, can have a territory that extends up to 10 square miles during breeding season, it is possible that the Northern Goshawk could forage in the project area.

Short Term Project Impacts - Construction

The construction of the infrastructure portion of the cannabis operation (grading, road work, excavation for septic and the alternative power system, and building of the Multi-Use Building) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 8) and is expected to be totally completed within 13-16 weeks (not cumulative). Construction will be performed during daylight hours only.

Direct Effects: No significant direct effects expected. The project will not impact nesting habitat. The Figure above, Figure 6 shows the environment in the immediate vicinity of the construction area and the area where construction noise will be above 60 dBA. In general, if there is raptor nesting habitat in the area and construction were to take place during breeding or nesting, the habitat area would undergo preconstruction surveys to account for any nesting birds within 1000-feet of the possible disturbance. Therefore, it can be assumed that any suitable nesting habitat outside of this 1000-foot radius of the impacted construction noise area would be outside of the scope of the potential disturbance by the project construction. The forested area nearest the proposed construction, the area to the south of the construction zone on Sherman Flat, is relatively sparse and not extensive enough to support Goshawk nesting given the preferences discussed above. No impacts to Northern Goshawk nesting sites will occur as a result of project construction.

Foraging by Northern Goshawk is possible, though unlikely given that the open and interspersed forest/grassland habitat that is occupied by the project is not optimal foraging habitat; According to a USDA Forest Service literature Review for the Fire Sciences Laboratory of the Rocky Mountain Research Station, “ideal foraging habitat includes space under the canopy to allow for flight, abundant trees perches, and available prey Preferred perches while hunting are low (usually <3 feet (1 m)), bent-over trees or saplings. Plucking perches where northern goshawks consume prey are usually located in dense vegetation below the main forest canopy and are often upslope and fairly close to the nest in the breeding season” (Stone, K. R., 2013). Therefore, while it is possible that the Northern Goshawk, if present, could use the area for

foraging. A short term removal of non-prime foraging habitat due to limited construction noise impacts will have a less than significant impact on foraging Goshawks.

Indirect Effects: No indirect impacts are anticipated.

Determination: **No Impact.**

Ongoing Activity Impacts - Cannabis

Direct Effects: No significant direct effects expected. The project will not impact nesting habitat because the Northern Goshawk is not likely to nest within 2.3 miles of the project due to a lack of suitable nesting habitat. As described above, it is possible that the goshawk could use the denser canopy areas adjacent to the project for foraging. In this case, as a daylight hunter and a raptor sensitive to humans, the goshawk could be deterred from using the area due to project noise and a human presence.

The project noise constitutes limited fan and generator noise. Generators will only be present during Phase I/II of the project; they will produce under 50dBA at less than 50-feet away which means that generator noise will generally be limited to within the project footprint. Fan noise will be ongoing throughout all phases of the project. Fans noise is under 50dBA at within 10-feet of the propagation greenhouses. There is also ongoing (all Phases) noise from employees talking; These noise levels are very low and limited to the project footprint. As described in Table 1, the total cannabis footprint is 7.4 acres (0.011 square miles) and approximately 1% of the Northern Goshawk's nesting territory (average of 10 square miles). Adding an additional acre to account for primary traffic and activity areas near the Multi-Use Building would not change the figure in a significant way. In this worst case scenario, where all human presence results in a total loss of foraging territory, the area that the project impacts is still only 1%. This small percentage, given the large acreage of the project parcel (over 1000 acres) and the lack of current occupation of the area by the Goshawk mean that this potential reduction of potential foraging habitat is less than significant.

Indirect Effects: No indirect effects are anticipated.

Determination: **Less than Significant Impact**

Cumulative Impacts

As discussed above, the project area offers no potential nesting habitat for the Northern Goshawk, though it offers possible, but not ideal, foraging habitat. The project will, seasonally, have employees that are outside and visible to foraging raptors that might be utilizing the forest edges. Goshawks, like Golden Eagles, tend to be sensitive to the presence of humans on the ground, prompting special spatial and temporal protections recommendations of nest sites to prevent flushing and nest abandonment (Richardson & Miller, 1997); however, the specific impacts to foraging as a result of human activity is not clearly understood. Some species show a shift in home ranges due to disturbances, but it is habitat typing and prey abundance that are the current key indicators in evaluation of species threat and success (Anderson, D. E. et al, 2003), which means that, at this time, because the project is not directly disturbing potential nesting habitat or compromising forest type or prey abundance (no trees will be removed and insecticides will be sulfur that is sprayed on effected plants only), that project will not have a significantly cumulative impact. **Less than Significant.**

Cooper's hawk

Regulatory Status: The Cooper's hawk is on the CDFW Watch List.

Habitat Requirements and Natural History: Breeds March through August; peak activity is May through July. Often uses patchy woodlands and edges with snags for perching. Hunts in broken woodland and habitat edges; catches prey in air, on ground, and in vegetation. Often dashes suddenly from perch in dense cover and pursues prey in air through branches. Sometimes runs prey down in dense thickets. Uses cover to hide, attack, and approach prey. Dense stands with moderate crown-depths used for nesting; usually in second-growth conifer stands or deciduous riparian areas near streams. Foraging and nesting usually occur near open water or riparian vegetation. CDFW, 2019

Potential for Occurrence within the Project Area: Project areas are in open grasslands directly adjacent to patchy forested areas. The edge habitats provided by interspersed forested patches are ideal hunting for Cooper's hawks. Nesting in close vicinity to the project area is not expected.

There is a paucity of empirical studies of Cooper's hawk habitat use and home ranges in California, despite declining populations observed in western portions of their range. A telemetry study in Orange County measuring home range and habitat use of adult male Cooper's hawks in urban and natural areas found they used forested habitats more often than expected and used edges and open fields less than expected compared to availability. In this southern California setting, Cooper's hawks nesting in natural areas used coast live oak and riparian habitat more often than expected. Specifically, the coast live oak habitat often occurred in association with riparian areas, suggesting this species' strong association for riparian woodland vegetation (Chiang, S. N., et al, 2012).

Given this association, optimal nesting habitat in the vicinity of the project areas is most likely more proximate to larger, more well developed riparian areas of Larabee Creek, and the Eel and Van Duzen Rivers. Otherwise, tree densities associated with smaller drainages in the area appear too sparse (generally less canopy cover and less established riparian vegetation (i.e.: Alder)).

Also, because the average home range reported for this species from other areas of the US averaged from 500 to over 700 acres (CWHR 2019), it is assumed that if a Coopers Hawk pair is present in the area of the project, this pair would first choose to nest in the most optimal habitat available in their range. The most optimal habitat is present in the larger riparian drainages of Larabee Creek, and the Eel and Van Duzen River.

In addition, Cooper's hawks have been reported to be tolerant of human presence and habitat alteration (Rosenfield, R. N., et al. 1992) with a level of reproductive successes in urban environments that has surpassed, in at least one study, natural nest settings (Chiang, S. N., et. at., 2012); overall, the presence of humans and human activity in an area is not expected to displace hawks that are nesting in the vicinity of the project areas. According to one study of 18 nests in New Jersey,

Short term Project Impacts - Construction

The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used and is expected to be completed in 13 to 16 weeks total, with heavy equipment limited to around 3 weeks.

Direct Effects: This species nests in the forested areas where no direct project impacts are occurring. No nesting habitat will be removed. Habitat within 1000-feet of the construction area (where noise levels from construction will be greater than 60dBA; Table 8, Figure 6) is not likely to host nesting birds as the streams are seasonal with sparse riparian vegetation (McMahon Creek to the north is a blue line, Class I stream, but is likely intermittent near the headwaters on the project parcel). Impacts to nesting and foraging hawks are expected to be **Less Than Significant**.

Indirect Effects: No indirect Impacts

Determination: **Less Than Significant.**

Ongoing Activity Impacts – Cannabis

Direct Effects: As discussed above, the project includes ongoing project related noise that could have some impact on raptors. The project noise constitutes limited fan and generator noise. Generators will only be present during Phase I of the project; they will produce under 50dBA at less than 50-feet away which means that generator noise will generally be limited to within the project footprint. Fan noise will be ongoing throughout all phases of the project. Fans noise is under 50dBA at within 10-feet of the propagation greenhouses. There is also ongoing (all Phases) noise from employees talking; These noise levels are very low and limited to within the project footprint.

The Cooper's Hawk, as it has demonstrated successful reproduction in urban environments, is not expected to suffer adverse impacts to foraging if in the area as a result of project related noise. Nesting is not expected in the area near the project, as more optimal riparian habitat exists nearby.

Indirect Effects: No Indirect Impacts.

Determination: **Less than Significant Impacts**

Cumulative Impacts: As discussed above, the project area offers no optimal/preferential nesting habitat for the Cooper's Hawk, though it offers foraging habitat. The project will not physically remove a significant amount of foraging area as the new construction is limited to the 21,904 sq. ft. of the rainwater catchment tank; the proposed agricultural operations will be in ground and outdoor, thus allowing the natural predator and prey relationships to continue without significant or permanent interference. There are many anecdotes and studies that frequently cite the permissive nature of Cooper's Hawks among raptors (Hennesy, S. P., 1978). The Cornell Ornithology Lab has even posted instructions on how to get cooper's Hawks to stop preying on song birds at backyard feeders (allaboutbirds.org). The clear implication of which is that foraging is not expected to retract in any significant or significantly

cumulative manner due to nearby human activity. The work that cites Coopers as needing protection from human disturbance (Richardson and Miller, 1997) implies protection from habitat disturbance as it is built on only study composed of a collection of nest observations and documentation of habitat clear cuts and housing developments (Bosakowski, T.R. et al, 1993). Interestingly, two (2) of the six (6) cases presented were indicative of high levels of tolerance for human noise and presence by nesting Cooper's Hawks (the other cases did not clearly indicate success or failure) – in one example, a chainsaw was operated (clear cut operation) within 100m of an incubating female; the nest fledged successfully. The project will not cut trees or remove a significant amount of foraging area. The project will not have a cumulatively considerable impact on Cooper's Hawks. **Less Than Significant.**

Fisher

Regulatory Status: The west coast population of fisher is a Federal and State Proposed Candidate Threatened species, and a State Species of Special Concern.

Habitat Requirements and Natural History: This species is found in forests with intermediate to large trees in coniferous forests and deciduous riparian habitats with greater than 50 percentage canopy closure. Important features include large tree/snag cavities, hollow logs, rock areas, or shelters provided by slash or brush piles for reproduction and cover. Fishers are generally associated with large, unfragmented blocks of mature conifer forest, preferring habitats with closed canopies and structural complexity near the forest floor.

Riparian stands dominated by Douglas fir (*Pseudotsuga menziesii*) are important to fishers in the West (Powell, R. A., et al, 2003). Riparian habitats are also important and may be used as travel corridors between suitable habitat patches. Fishers avoid open habitats such as grasslands and white oak woodlands. Rest sites are rarely reused, which means that many structures must be well-distributed throughout a fisher's home range, which can be as large as 22 square miles. (NPS, 2017)

Denning for this species is typically complete by late spring, with young born February through May. Young stay with females through autumn. Streams are an essential component of fisher habitat, particularly in regards to rest sites, which are especially important in areas that experience hot, dry conditions. Like the Humboldt marten, but at nearly twice the size, fisher are mesocarnivores that are active mostly at night or near dawn and dusk (crepuscular). This species also avoids non-forested areas but may have less potential for predation when utilizing openings due to its larger size. (CDFW, 2018).

Potential for Occurrence within the Project Area: The parcel may have suitable denning habitat with adequate-sized trees or down logs in the area but none were observed in the general vicinity of the projects. Further, the forested portions of the parcel in the project areas may lack the high canopy cover and dense understory this species seems to prefer, even in the watercourses where understory vegetation is expected to be most dense. For the purpose of this analysis, the nesting/roosting habitat requirements of the northern spotted owl, is synonymous with foraging and denning habitat requirements of the fisher.

As all recorded NSO activity, attributed to forest composition, is over 2 miles away from the project area, the assumption is that optimal denning habitat is not in the project area. Due to the large range of the fisher, the project parcel may host fishers as they forage and travel the riparian corridors, but the grassland

development that the project proposes is not of immediate use to the fisher as denning or foraging habitat.

Ongoing Activity Impacts – Construction

As Fisher are known to be most active at dawn and dusk and because the limited construction activity proposed by the project will take place during daylight hours, construction activity (noise) will not impact Fisher that may be traveling through the area.

Direct Effects: No direct effects anticipated.

Indirect Effects: No indirect effects anticipated.

Determination: **No Impact.**

Ongoing Activity Impacts – Cannabis

Direct Effects: The greatest threat to this species with regards to cannabis cultivation is the use of rodenticides, particularly anticoagulant rodenticides, for the management of perceived pests in the project area (CDFW, 2018). Anticoagulant rodenticides lead to direct impacts on the species by contributing to animal mortality. As planned, no rodenticides of any kind will be used by the project for pest management. The project will not remove denning or foraging habitat.

Project noise will be limited to the project footprint during Phase I (generator use) and contract to the immediate (10-ft) vicinity of noise sources during Phases II and III (10-ft of propagation fans and immediate vicinity of employees). Noise is not expected to have any impact on Fisher.

If the alternative energy system is not running by Oct/Nov of Phase I, the project will contribute noise to the area at night during the 1.5 weeks that the Honda EU7000iS generator will be used to power the fans and dehumidifiers in the Multi-Use Building. With attenuation from the generator shed and by virtue of distance, the noise from the generator the nearest conifer stand (800-feet to the south) will be less than 23dBA; at the nearest major riparian corridor, McMahon Creek (approximately 1,500-feet away), the noise level will be imperceptible (Table 17). These levels are at the approximate value of nighttime ambient levels for a rural area. Given the low decibel levels, the temporary nature of the generator use, and a lack of current known occupation of the area by Fisher, the impact is expected to be less than significant.

Table 17. Estimated Honda EU7000iS generator noise (dBA) with distance and barrier attenuation

	Distance (feet)	23	46	92	184	368	736	1,472
Honda EU7000iS	Decibels (dBA)	53	47	41	35	29	23	17

Light escape from propagation greenhouses will be eliminated by the use of blackout tarps. These will be used from at least one (1) hour before sunset to at least one (1) hour after sunrise. As the fisher is most active at night and during dawn and dusk, the use of blackout tarps will ensure that the propagation greenhouses do not contribute to an indirect disturbance. The Multi-Use Building will have low light, shielded lighting for security reasons only that are located above entrances to the building. The light is expected to impact the immediate area in front of the entrances only. As such, the light is not expected to adversely impact Fisher foraging or use of the area for travel.

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The project will not remove trees from the parcel. As described above, trees, especially along streams provide important cover for the fisher that is needed as the fisher uses riparian areas as travel corridors and as rest areas. The riparian habitats onsite will be protected as all riparian setbacks, established by the SWRCB and the county of Humboldt, will be observed.

Indirect Effects: No indirect impact anticipated.

Determination: While the project may create noise at night for 1.5 weeks, the noise level is expected to be under 27 decibels by the time the sound of the generator reaches the potential travel corridor or foraging ground of the fisher. The impact is temporary and **less than significant**.

Cumulative Impacts

This project will not remove either directly, or indirectly, fisher denning or foraging habitat. There is some potential for temporary disturbances due to the possible presence of generator noise during the night when the fisher is most active. This disturbance is likely to have a temporary and less than significant impact on the fisher that will not contribute to a cumulatively impactful effect.

American Badger

Regulatory Status: The American Badger is a State Species of Special Concern.

Habitat Requirements and Natural History: Most abundant in drier, open shrub, forest, and grassland habitats; requires friable soils for denning burrows that are usually in areas with sparse overstory cover. Badgers are carnivores; they eat rats, mice, chipmunks, ground squirrels and gophers as well as reptiles, insects, earthworms, birds and carrion. Active day and night, Badgers are somewhat tolerant of humans, but suffer from indiscriminate trapping and the use of persistent poisons (bio accumulating) by humans to control rodents causes extensive losses. CDFW, 2019.

Potential for Occurrence within the Project Area: The project areas were surveyed by a qualified biologist (Appendix B). The survey of the project area (ideal Badger habitat of open grassland with friable soils) revealed no sign of this species, but the animal may occur in similar habitats elsewhere on the ranch that are not part of this proposed project. The parcel occurs in what appears to be optimal habitat for this species; the fact that cows have been present historically and currently should not discourage presence of badger, although there was no sign of their distinctly-shaped burrows.

Short term Project Impacts (Construction)

Direct Effects: There are no Badgers present in the project area and no badgers will be disturbed by noise that will be present during project construction. No direct effects from construction are anticipated.

Indirect Effects: No indirect impacts are anticipated.

Determination: No impact

Long term Project Impacts (Operations)

Direct Effects: The project will erect rodent fencing in to keep rodents out of the cultivation area. Doing so will eliminate the possibility that the Badger will use the project area for denning or foraging in the future. As there were no signs of Badger presence during the biological survey, the removal of the new cultivation area will have no impact on the Badger.

Another significant source of Badger mortality is road crossing mortality that is indicated as one of the major threats to the Badger as the species ranges widely and therefore cross roads often; dispersing young males have been known to travel up to 110 km (as found in Lay, C., 2008). This project will utilize pre existing ranch roads that have low speed limits and will not be traveled at night. The project, as proposed, will not contribute to road crossing mortality.

Indirect Effects: No indirect impacts are anticipated. The use of rodent fencing will eliminate the need for rodenticides or traps that could lead to secondary poisoning and Badger mortality.

Determination: No Impact

Cumulative Impacts:

Because there were no signs of Badgers in the project area, the project will not have a cumulatively adverse impact on the American Badger. If a Badger were to return to the area, the 6 acres of new and 16,800 sq. ft. of existing fenced cultivation would not be accessible for hunting or denning; however, the only permanent change to the landscape that the project proposes is that of the 21,900 sq. ft. rainwater catchment tank. This amount of permanent structure is not significant given that the landscape is actively grazed ranch land on a parcel of over 1000 acres of similar open grassland interspersed with oaks and conifers.

Western pond turtle

Regulatory Status: The western pond turtle is a State Species of Special Concern.

Habitat Requirements and Natural History: A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation and below 6000 feet elevation. This species needs basking sites and suitable upland habitat (sandy banks with vegetation, open forest with moderate understory vegetation, tall grass). Eggs are laid from March to August depending on local conditions. The incubation period for eggs is approximately 80 days. (CDFW, 2000). Most nests will be within 100m/330ft of the aquatic habitat and all nests will be within 200m/660ft (Rosenburg, et. al, 2009; Reese, D.A., 1998). According to the 2009 Conservation Assessment of the Western Pond Turtle in Oregon (Rosenberg, D. et al), sponsored by the Bureau of Land Management (BLM), the Forest Service, and other agencies, the most salient threats to this species are: loss of wetland and adjacent terrestrial habitat, elevated predation, road mortality, collection of western pond turtles and release of non-native/invasive turtle species, recreation (direct human) disturbance. As discussed above, In a 2004 synthesis of current research, the Federal Highway Administration reviewed noise impacts on wildlife. For amphibians and reptiles, roads with low traffic volumes (country roads) and lacking vehicles with high sound potential (95dB; i.e.: motorcycles) had a physical impact (mortality) on species, but, unlike busier roads, had no direct sound related impacts.

Potential for Occurrence within the Project Area: Western pond turtles are onsite and overwinter in mud bottom of the pond (perennial wetland). Turtles could be found in the construction areas (trenching for septic and energy systems, grading/scraping for Multi-use Building and rainwater catchment tank) during nesting season (April to August); during this time, turtle will range to within 300-ft of the perennial wetland/pond. Outside of nesting, turtles will be present in the immediate vicinity of the perennial wetland/pond.

Short term Project Impacts (Construction)

Direct Effects: Development will occur over 150 feet from the wetland and pond habitat. At this distance, noise from construction equipment (Table 8) will be less than 84 decibels. While it is possible that western pond turtles may have an adverse reaction to the noises associated with heavy construction equipment if they are over 95dB (FHA, 2004), research suggests that turtle ears are adapted for underwater hearing and have poor sensitivity to sound; they may not even perceive airborne sound until around 60 dB (Christensen-Dalsgaard, J. et al., 2012). In one study, turtles (yellow blotched map turtles) were more impacted by the proximity of anglers in boats than the proximity of jet skis (Moore, M. & Seigel, R., 2006). This project will not employ the use of any impact drivers, jack hammers, or other impact equipment that would cause extensive ground vibrations or decibels that reach over 95dB in the vicinity of the pond. Heavy equipment for construction will be limited to dump trucks, grader/scrapper, excavator, dump and concrete trucks; earthwork for the Multi Use Building will occur over a period of 1-2 weeks. The leveling/grading and pouring of concrete for the metal processing building will take place during a different time (see section 2.8) and last for approximately 1-week. Because the project will not produce significant vibrations during construction or project operations and because turtles are not particularly sensitive to noise, direct impacts to the western pond turtle from noise will be less than significant.

Construction may have adverse direct impacts on turtles if occurring during the nesting period as the construction areas are located within the typical range of a nesting turtle (the Multi-Use Building is located 300-feet from perennial water source). If the project construction occurs during the potential nesting period (April to August), mitigation in the form of pre-construction surveys will be required. A qualified biologist will survey the area for transitory turtles and turtle nests. If the biologist discovers turtles or nests, the biologist will take appropriate steps, including contacting CDFW and stopping all construction work until an appropriate action and/or protection buffer has been established.

Indirect Effects: No indirect impacts are anticipated.

Determination: Less than Significant with Mitigation Incorporated

Long Term Project Impacts (Operations)

Direct Effects: The most immediate potential impacts from this project on western pond turtles are the potential for road mortality and human disturbance. Unlike noise, these threats are specifically mentioned in the 2009 Conservation Assessment.

Road mortality will be addressed via a speed limit. The project speed limit of 10 mph, important as a dust reduction measure for outdoor cannabis, will be essential for limiting potential impacts to turtles that may be on the road. Lastly, the number of vehicles on the road itself near the perennial wetland will be limited to a maximum of 6.25 vehicle per day (See Transportation for details). This agricultural project with low number of vehicles present will not contribute significantly to road mortality of western pond turtles.

The other most significant disturbance to turtles that is commonly discussed is disturbance from human recreation activities. These disturbances are described as approaching bicycles, people walking or fishing (from boats and shore) and other close proximity direct disturbances of the turtles while basking or leaving the water. The nature of the impact is basking abandonment or delays in nesting; all of which, if enduring, could lead to a lack of sufficient thermoregulation, poor overall fitness, and species decline (Nyhof, P. 2013; Rosenberg, D. et al, 2009; Moore, M. & Seigel, R., 2006). This project will have maximum of 25 employees onsite during the peak labor seasons (harvest) (Phase II/III). The majority of employees will be working within the proposed cultivation area on Sherman Flat. This area will be fenced and no incidental trespass into the wetland buffer or wetland/pond will occur. During break times, the proponent describes employees as seeking shade in the form of a tent provided near the work area or trees. While this project is not a recreation destination, the project will add signage to their project that will inform all visitors and employees to the site that the area is an environmentally sensitive area and no entry into the wetland/pond area is allowed. Sign posted at the boundary of the setbacks will ensure that the project will not contribute significantly to basking abandonment or delays in nesting; there will be not significant impacts to the western pond turtle as a result of disturbance from humans.

Indirect Effects: The project anticipates no changes to the nearby aquatic environments during construction. There will not be increased sedimentation, temperature change or water volume as a result of the project operations. No trees will be removed, dust will be controlled, and the projected runoff from the impervious surfaces of the rebuilt barn (Multi-Use Building) and general construction will be managed. This includes all recommended drainage management of the Multi-Use Building, seeding of all bare soils after construction is complete, graveling of the access road and spur, as well as the use of hay and cover crops. The project also has low slopes and large breaks of grass between most riparian and wetland areas and proposed and existing project components. See Hydrology and Water Quality for more details. No indirect effects are anticipated

Determination: **Less than Significant Impact with Mitigation Incorporated.**

Mitigation:

Mitigation Measure- Biological 1: If construction takes place during the nesting season for *Western Pond Turtles* preconstruction surveys by a qualified biologist will be conducted. If turtles are found in the construction area, they will be left in place (not handled) and construction activities will stop in the vicinity of the turtle until it leaves the area. If nests are found, a 200-foot no-work buffer will be established. Often CDFW considers specific local factors when making buffer size decisions and will be consulted if nests are found. Nest buffers will remain in place until turtles have hatched and left the nest. If work takes place outside of the nesting season, no surveys are necessary.

Mitigation Measure- Biological 2: As an additional precaution, if the construction takes place during nesting season, the qualified biologist onsite will provide a short onsite training to construction employees that will be working in the area and may encounter turtles after the preconstruction survey. The training will be successful if after the training, the employees will be able to (1) identify by sight, a Western Pond Turtle, (2) know the appropriate activity buffer to provide the turtle, and (3) know when to resume construction work in the area where the turtle was found.

Mitigation Measure- Biological 3: The project will install permanent, all-season signs that describe wetland and pond setback areas as an Environmentally Sensitive Area (ESA). Signs will have a clear mandate for ‘no entry.’ Because the proposed six (6) acres of cultivation area will be fenced, the west side of the wetlands and pond will not be directly exposed to intrusion by humans. The east side of the pond and wetlands faces the proposed Multi-Use Building, a future construction site and hub of project activity; the eastern side of the wetland/pond is therefore more likely to see increased human and vehicle intrusion. On this eastern side, the project will install a minimum of six (6) signs that demarcate the riparian area setbacks. The signs will be installed prior to construction at which point they will be flagged to ensure that they are seen by construction crews. Signs will be placed along road borders and/or wetland setback boundaries in such a way that the potential for wetland damage is prevented. Sign locations will be identified by a qualified biologist prior to project construction. The qualified biologist will have the authority to require additional signs.

Mitigation Measure- Biological 4: To ensure that Western pond turtles are not adversely impacted by vehicle traffic, the project will enforce a 10mph speed limit on the unnamed project access road. Before construction begins, the project will post at least two (2) 10mph speed limit signs: once to inform eastbound drivers entering the access road from Alderpoint Rd. and once to inform westbound drivers leaving the Multi-Use Building and returning to the Alderpoint Rd. intersection. The speed limit signs will be posted at a height of five (5) feet above the ground and clearly visible to oncoming traffic. The project speed limit will be enforced by the project proponents as dust reduction is critical for cannabis plant health. Humboldt County Planning and Building, Cannabis Services Division will ensure that the speed limits have been posted as described.

Cumulative Impacts

The aquatic and riparian environments in and near this project will be not be impacted. Increased water runoff from impermeable surfaces will be managed to limit sediment mobilization and trap stormwater runoff (See 4.10 Hydrology and Water Quality). The addition of ‘no entry’ signage, preconstruction crew education and surveys, and a low project speed limit will ensure that the western pond turtle population at Sherman Flat will continue to thrive. The project will not contribute to cumulatively significant adverse impacts to the Western Pond Turtle.

Northern red-legged frog

Regulatory Status: The northern red-legged frog is a California species of special concern.

Habitat Requirements and Natural History: Humid forests, woodlands, grasslands, and stream sides in northwestern California, usually near dense riparian cover. Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season. Breeding season begins in January, and tadpoles develop into froglets from May through July.

Potential for Occurrence within the Project Area: Northern red-legged frogs could potentially be present in McMahon creek to the north of the project area, though habitat was not optimal and no life state of the amphibian was observed. Occupation of the wetlands/pond on Sherman Flat is not likely due to the presence of the Western Pond Turtle, as the turtles consume amphibian eggs and larvae.

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Short term Project Impacts (Construction)

Direct Effects: No direct effects are expected, as construction will not impact waterways or wetland habitats; all SWRCB setbacks to these are observed (Figure 22). Neither noise, nor lighting are documented as elements that could be expected to disturb the Northern red-legged frog. Dust and erosion control measures and adherence to SWRCB (and Humboldt County) setbacks and BMPs will prevent the degradation of the riparian areas potentially inhabited by the frog. This includes seeding of all bare soils after construction is complete. See Hydrology and Water Quality for more details.

Indirect Effects: None.

Determination: The project anticipates no changes to the nearby aquatic environments. The Northern Red Legged Frog was not observed by the surveying biologist in the possible habitat of McMahon Creek. It is determined that the project will have **No Impact** on the Northern Red-Legged Frog.

Ongoing Activity Impacts (Cannabis Operations)

Direct Effects: No direct effects are expected, as the project footprint and activities will not impact any riparian or wetland areas. All protection setbacks will be carefully observed (See Hydrology and water quality, Section 4.10). Neither noise, nor lighting are documented as elements that could be expected to disturb the Northern red-legged frog. The riparian habitats in the area will not experience significant negative impacts from the project. There will not be increased sedimentation, temperature change or water volume as a result of the project operations. No trees will be removed, dust will be controlled, and the projected runoff from the addition of impervious surfaces will be managed with reseeding, the addition of gravel to road surfaces, and the use of hay and cover crops during and after the planting season. The project also has low slopes and large breaks of grassland between riparian areas and proposed and existing project components.

Indirect Effects: None.

Determination: The project anticipates no changes to the nearby aquatic environments. It is determined that the project will have **No Impact** on the northern red-legged frog.

Cumulative Impacts

The aquatic and riparian environments in and near this project will be not be adversely impacted by the project. Increased water runoff from impermeable surfaces will be managed to limit sediment mobilization and trap stormwater runoff among other reasons. The project will not contribute to cumulatively significant impacts to the Northern Red-Legged Frog.

Townsend's Big-eared Bat

Regulatory Status: The Townsend's big-eared bat is a California species of special concern.

Habitat Requirements and Natural History: Found throughout California in a wide variety of habitats. Roosts in the open, hanging from walls and ceilings. Roosting sites are a limiting factor as they prefer abandoned human structures and old growth trees, but are extremely sensitive to human disturbance. This species is a moth specialist. According to a report on Townsend's Big-eared Bat prepared for the USDA

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FS, bats in California avoid open fields and prefer to forage along forested and riparian habitat edges (Gruver et. al., 2006). Specifically, “In California, both males and females foraged along the edges of riparian vegetation dominated by Douglas-fir, California bay, and willow species” and avoided open grasslands when traveling and foraging (Fellers, G. & Pierson, E., 2002). Foraging activity peaks one to two hours after sunset; bats emerge to drink and forage close to the roost before expanding foraging into the vicinity (Gruver et. al., 2006).

Potential for Occurrence within the Project Area: Roosting sites are unlikely in the immediate vicinity of project as human activity, including truck driving and horse riding for ranching, is an established use. In the recent past (last decade), the burned down barn (2019) was also utilized as a processing and storage area for cannabis. Logging in the vicinity, while infrequent (1998; THP 1-98-134-HUM), has impacted the immediate area around the proposed and existing cultivation area.

Foraging, however, is likely along the riparian corridors near the existing and proposed cultivation areas if bats are roosting in less disturbed forest stands in the vicinity. There are existing, if patchy, stands of less disturbed, older forest to the north and west of the project as well as a large, mostly contiguous, extent of forest in the Six Rivers National Forest to the east (between 0.5 and 1.5 miles away).

Short term Project Impacts (Construction)

Direct Effects: Project construction will not remove any roosting habitat. Construction noise levels will not have any impact on roosting areas for the Townsend’s bat as the project is not near any known or optimal roosting areas. Project construction will not impact foraging bats because construction will take place during daylight hours only; bats are nocturnal and emerge one to two hours after sunset to forage.

Indirect Effects: None.

Determination: It is determined that project construction will have **No Impact** on the Townsend’s big-eared bat.

Ongoing Activity Impacts (Cannabis Operations)

Direct Effects: Ongoing project activity will not result in impacts to any roosting habitat as the project is not near any known or optimal roosting areas. Neither will the project have a significant impact on foraging habitat. According to a report on Townsend’s Big-eared Bat prepared for the USDA FS, bats in California along the edges of riparian vegetation dominated by Douglas-fir, California bay, and willow species” and avoided open grasslands when traveling and foraging (Fellers, G. & Pierson, E., 2002). While there are various riparian corridors and wetland areas near the project footprint, the project observes all riparian setbacks as established by the SWRCB and has not removed and does not plan to remove any riparian vegetation. The project will have no impact on the primary foraging habitat of the Townsend’s Big Eared bat.

Noise impacts on the nocturnal foraging of the Townsend’s Bat are not likely in that the fan and generator noise will be well below 50dBA at the edge of (oak forest) habitat (See Figure 9 above). In addition, propagation greenhouse fans will not be run in the late evening when the bat is most active. The project may run fans for one hour after sunset when temperatures are high. Because Townsend’s bats do not usually emerge from their roost until one to two (1-2) hours after sunset, the occasional use of fans after sunset to clear the air for one hour is not expected to have any impact on the Townsend’s Bat.

If artificial lighting is used in the propagation greenhouses after dark, the project will use blackout tarps to eliminate 100% of the lights from the greenhouses. The only light from the project during dark hours will be security lighting at the processing building. This lighting will be shielded and have a low B.U.G. (backlight, uplight, glare) rating; it will be of a 'warm' color temperature (2400K). The lighting will impact the environment in the immediate zone in which it is located (the space below the man doors and roll up doors on the west and south sides of the processing building). Shielded security lighting in one location on the project (the processing building) will not result in a significant impact on foraging opportunities for the Townsend's Big-eared bat.

Indirect Effects: None

Determination: Because neither roosting nor foraging will be adversely impacted by the development of the proposed project, the project will have a **Less Than Significant Impact** on the Townsend's big-eared bat.

Cumulative Impacts

Cumulative impacts are **Less Than Significant**. While there are other cannabis projects proposed and/or pursued in the area, no significant cumulative impact to roosting habitat or foraging habitat is expected.

Foraging habitat is known to suffer from the following (adapted from USDA FS study on Townsend's Big-eared Bat, Gruver L. et al, 2006):

- *Elimination of Forest canopy*
- *Elimination/alteration of wetland and riparian habitat*
- *Conversion of native shrub and grasslands to urban or agricultural use*

The Humboldt County CMMLUO preserves forested areas. This project and others like it (cannabis) will not eliminate forest or riparian canopy. Water quality and riparian habitat will not be negatively impacted by the project or projects (THP and other cannabis projects) in the area as these also observe riparian setbacks and stormwater management plans. The conversion of native lands to urban or agricultural uses refers to cumulative impacts on food supply. This project will convert six acres of grazing land to in-ground cannabis cultivation. This project will impact approximately 7.4 acres (less than 1%) and will be the only development on a parcel that is 1,230 acres in size and obligated to a Williamson Act land conservation contract. Of the 1% that the project will impact, the potential foraging area to be impacted is significantly less as foraging area is limited to the areas directly adjacent to the woodlands surrounding riparian corridors. Due to the very small impact that this project will have on the foraging and prey habitat of the Townsend's big-eared bat, any cumulative impacts from nearby projects would be less than significant.

Western Bumble Bee

Regulatory Status: The western bumble bee is a California state Candidate Endangered species.

Habitat Requirements and Natural History: The western bumble bee, *Bombus occidentalis*, was historically known throughout the mountains and northern coast of California, it is now largely confined to high elevation sites. Meadows and grasslands with abundant floral resources are the appropriate habitat for this species. Like most bumble bees, the western bumble bee is a generalist forager; however, the western bumble bee has a very short tongue and is best suited to forage at open flowers with short corollas (though

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it has been observed biting through corollas of plants with longer corolla tubes. Bumble bees require plants that bloom and provide adequate nectar and pollen throughout the colony's life cycle, which is from early February to late November (actual dates likely vary by elevation and local climatic conditions). Nests of this species are large relative to other bumble bee species (as many as 1,685 workers) and are primarily in underground cavities such as old squirrel or other animal nests and in open west-southwest slopes bordered by trees, although a few nests have been reported from above-ground locations (Adapted from Xerces Defenders Bombus Petition, 2018). Bumble bees locate nests preferentially near linear features (fence lines, forest borders, hedge rows) (Osborne, et al, 2008; Lye et al., 2009).

The reduction in bee abundance is attributed to the following: intensive agriculture (destruction of colonies and/or overwintering queens, pesticide use on crops, change in composition and abundance of floral resources, use of agricultural bee that introduce disease), intensive grazing (destruction of colonies and/or overwintering queens, change in composition and abundance of floral resources), climate change (overwintering queen emergence and success), and other habitat loss (Xerces, 2018),

Potential for Occurrence within the Project Area: The project area, Sherman Flat, is grazed as part of a large 1000 acre plus range; the impacts here are to an unknown degree. The project areas are gently sloping meadows bordered by trees with primarily southern aspects. If the western bumble bee is present in the area, the bumble bee is may utilize the project area for nesting and foraging.

Occurrences of the western bumble bee in the 9-quad area are limited to five (5) mapped occurrences (CNDDDB, Rarefind, 2020) and one unmapped occurrence in the McWhinney Creek quad (CNDDDB Quickview, 2020). The dates from the mapped occurrences range from 1939 to 1970; the observation date of the unmapped occurrence was not available. In California the most recent confirmed reports of western bumble bee (CNDDDB, Rarefind, 2020; Bumblebeewatch.org) are from 2013 and 2015; these reports consisted of multiple insects at approximately 5,300 feet elevation near Spike Buck Mountain (Grouse Mountain Quad) in Humboldt County. While these occurrences are not a comprehensive picture of the bee's current abundance, the lack of contemporary occurrences in the lower elevations supports the conclusion that the western bumble bee is no longer present in much of its historic range and is now generally found only in montane areas of its range (Xerces, 2018).

Short term Project Impacts (Construction)

Direct Effects: While it is unlikely that the western bumble bee currently occupies the project area, their presence or absence has not been determined. As all cultivation (hand tilling of six (6) acres) includes earthwork in open meadows, this project has the potential to impact the western bumble bee directly through the removal of nests if present in the area.

Indirect Effects: No indirect effects are expected.

Determination: **Less than Significant with Mitigation for Incorporated.** Because all proposed earthwork and development proposed in open grasslands will be preceded by preconstruction surveys, if nests are found the area will be buffered and construction will not proceed until the nest has been abandoned. The project will not result in direct impacts to colonies.

Mitigation:

Mitigation Measure – Biological 5: There is currently no adopted or established protocol (CDFW) for determining presence or absence of the western bumble bee for project level analysis. Based on known presence/absence protocols and professional recommendations (See Appendix Q: Bombus Limited Literature & Working Protocol Review) the following ‘Working Protocol*’ is proposed:

The project will first determine presence/absence. This can be achieved with three (3) nest seeking queen surveys **or** three (3) flight season surveys.

- Nest-seeking queen surveys will target suspected preferred nesting areas (linear features with emphasis on forest transition zones). These surveys will be evenly spaced (approx. every two weeks) over the span of two months (Feb/March or March/April) depending on the expected emergence of the bee at the project area (weather dependent – queens are active after top layer of soil is consistently warm). The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Surveyors will spend approximately one person hour per every three (3) acres surveyed. Searches will be conducted by a qualified biologist and use photography as means of positive identification of Bombus species unless a permit for handling bees is secured.
- Flight season surveys will target the optimal habitat in the project area and consist of a minimum of one (1) person hour per three (3) acres of optimal habitat. Habitat that does not offer floral resources will not be surveyed. These three (3) surveys will be ‘free searches.’ They will be evenly spaced (one week apart) in the month of July (June/Aug depending on site conditions/season). The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Searches will be conducted by a qualified biologist and use photography as means of positive identification of Bombus species unless a permit for handling bees is secured.
- If present presence is determined during the nest seeking queen surveys or three flight season surveys, the project will conduct nest searches in the impacted (earth disturbance) area.
 - These will be conducted during the flight season using a modified version of the transect methodology presented by Osborne, J. et al. (2008). Qualified surveyors will utilize compass and pacing to walk a grid of the impact area (the impact area is the project footprint plus a 100 ft buffer). In general, surveyors will spend five (5) minutes nest searching (watching for bees entering or exiting nest) for every 6m x 6m area. The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Any nests that are found will be flagged and mapped and surveyor will consult with CDFW to determine appropriate action/nest buffer areas.

*Alternatively, at the discretion of CDFW, the frequency (number of surveys) and intensity (length of time) can be reduced.

Ongoing Project Impacts (Operations)

Direct Effects: The western bumble bee has no known sensitivity to noise, light, vehicle use, or foot traffic. The project will apply powdered sulfur to cannabis plants as well as biological controls (ladybugs). Powdered sulfur is not among the classes of pesticides (broad spectrum pesticides and/or neonicotinoids), that have been known to or are alleged to kill or harm bees or colonies.

Indirect Effects: This cannabis project, like all cannabis projects, does not use agricultural bees to fertilize plants for fruit/ seed set, which means that disease from agricultural bees is not a risk factor for any bees in the area. No direct impacts from ongoing project operation are anticipated.

Determination: **No Impact.**

Cumulative Impacts

With mitigation incorporated, no cumulative impacts from the proposed project on regulated species are expected. The proposed disturbance in the open meadow (Sherman Flat) for cultivation and propagation greenhouses will result in a loss of potential nesting and foraging. Proposed and existing cannabis development will constitute a total of 7.4 acres (or 0.6 percent) of the parcel (1230 acres). A general observation of the satellite imagery of the parcel shows that roughly half of the parcel is open grassland; therefore, the 6 acres of proposed cultivation will remove approximately 0.98% of existing open grassland on the parcel. Because, at the full build out of the project (Phase II/III), both the total habitat to be removed and the specific open grassland habitat that will be removed amount to less than 1% of available habitat on the parcel, there will be less than significant cumulative impacts to western bumble bee habitat.

Migratory Birds

Regulatory Status: Fully Protected; Migratory Bird Treaty Act (MBTA, 1918) and California Migratory Bird Protection Act (AB 454, 2019).

Habitat Requirements and Natural History: The Migratory Bird Treaty Act and CA AB 454 protect a range of bird species that are based on bird families and species included in four international treaties.

Potential for Occurrence within the Project Area: In this project area, ground nesting grassland bird species are presumed present.

Short term Project Impacts (Construction)

Direct Effects: In addition to the construction of the rainwater catchment tank and excavation for septic and the alternative energy system, all grassland mowing, tilling and human activity could flush nesting birds and/or physically crush nests and eggs.

However, the probability of nesting in the grasslands is low. The project parcel is a part of a larger ownership that has been used for decades to raise cattle. The area known as Sherman Flat is grazed by cattle every year. The presence of cattle has been found to benefit some bird species (Bock, C.E., et al, 1993), but in general, it is thought that cattle have a direct and negative impact on birds that could be nesting in grasslands (USDA, Wetlands Reserve Program, 2006); Therefore, due to the use of Sherman Flat and the surrounding ranch areas for cattle grazing, impacts to nesting birds are unlikely and the project impact are less than significant.

However, because the degree of impacts on the site are unknown, the project will perform preconstruction surveys to eliminate the possibility of nest abandonment or destruction of eggs by project activities. With Mitigation incorporation, the project will have a less than significant impact on migratory birds.

Indirect Impacts: no indirect impacts are anticipated.

Determination: Less than Significant with Mitigation Incorporated.

Ongoing Project Impacts (Operations)

Direct Impacts: Because the majority of the project (three (3) acres and 16,800 sq. ft.) proposes full term outdoor cultivation, migratory bird species will have access for feeding and hunting. The proposed light deprivation acreage (three (3) acres) is closed for only a part of the growing season. The migratory birds that may have utilized the open fields for nesting and feeding, will still have foraging access in the area that the existing and proposed outdoor cultivation will occupy. Because the majority of the project area will be available to birds for foraging and because the project parcel contains acres of similar landscapes, the project will have a less than significant impact on migratory bird foraging.

Indirect Impacts: The use of sulfur by the project as a pesticide is not expected to have any secondary poisoning or otherwise impact migratory birds that would consume insects in the project vicinity. There are no indirect impacts anticipated.

Determination: The project will have a **Less Than Significant Impact with Mitigation Incorporated.**

Mitigation

Mitigation Measure- Biological 6: To mitigate for potential impacts to migratory birds, 3 consecutive preconstruction surveys for these species should take place no more the one week prior the planting (and associated mowing and other disturbances) and construction planned for Phase I of the project. The survey area will include the six (6) acres where cultivation is proposed on Sherman Flat and the footprint of the propagation greenhouses, proposed rainwater catchment tank location and burned down barn (Multi-Use Building). The footprint of the disturbance areas and a 300-foot buffer will be surveyed. Should any nests be found, a 100-foot no-work buffer around the nest will be established and CDFW will be consulted for additional going forward, such as buffer modifications or the delaying of work until nestlings have fledged. Alternatively, if ground disturbance begins in August (or later in the season), these species will have completed breeding for the season and no surveys are necessary.

Cumulative Impacts

The project will not have any cumulative impacts on Migratory birds; the impacts to migratory birds are expected to have occurred due to cattle ranching over many decades as cattle contribute to vegetation composition (species, density, etc.) that have impacts on bird nesting selection as well as directly contributing to bird mortality and nest abandonment.

4.4.3 Discussion of Significance: Effect on Sensitive Botanical Species

Botanical surveys were conducted on April 18th and May 28th, 2019 to assess the proposed project area (Sherman Flat) for the presence of or habitat for special status plant species and sensitive natural communities (complete report available, Biological Report, Appendix B). No new development is proposed near the existing 16,800 sq. ft. of cultivation and was not include in this survey. These surveys were floristic in nature and followed the 2018 CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018d). The timing of the surveys was such as to capture the bloom window of the target species with potential to occur at the site elevation and within habitat and soil types present.

Prior to the surveys, the current inventories of the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2019a) and the California Natural Diversity Database CNDDB (CNDDB 2019) were consulted to determine which special status plant species may occur within the project area and to compile a target species list These resources were consulted again in 2020, following surveys. A nine-quad query of CNDDB and CNPS Inventory records resulted in 57 listed vascular and nonvascular plant species. Of these, 37 species were determined to have no suitable or marginal habitat in the project area and will not be discussed in further.

Of the 57 special status species, 20 were identified as having suitable or marginal habitat on the property; eight (8) species were identified as having suitable habitat and 12 were identified as having marginal habitat. These 20 species are described in the table below (Table 18). None of the 20 potentially present botanical species were observed during site visits and the project will have no direct or indirect on these species.

Table 18. Summary of Botanical Survey Results for Special Status Plan Species with habitat present in project area; NRM, 2020.

Scientific Name	Common Name	CRP R	GRank	SRank	CESA	FESA	Blooming Period	Habitat	Elevation Low (ft)	Elevation High (ft)	Detected?	Habitat Present?
<i>Astragalus agnicidus</i>	Humboldt County milk-vetch	1B.1	G2	S2	CE	None	Apr-Sep	Broadleafed upland forest, North Coast coniferous forest	390	2625	No	Marginal- Possible but unlikely due to grazing impacts
<i>Astragalus rattanii</i> var. <i>rattanii</i>	Rattan's milk-vetch	4.3	G4T4	S4	None	None	Apr-Jul	Chaparral, Cismontane woodland, Lower montane coniferous forest	95	2705	No	Marginal- Possible but unlikely due to grazing impacts
<i>Carex praticola</i>	northern meadow sedge	2B.2	G5	S2	None	None	May-Jul	Meadows and seeps (mesic)	0	10500	No	Yes- Possible in wetland area
<i>Carex scabriuscula</i>	Siskiyou sedge	4.3	G4G5	S4	None	None	May-Jul	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest	2325	7695	No	Possible in wetland area
<i>Collomia tracyi</i>	Tracy's collomia	4.3	G4	S4	None	None	Jun-Jul	Broadleafed upland forest, Lower montane coniferous forest	980	6890	No	Marginal- Possible but unlikely due to grazing impacts and lack of serpentinite
<i>Cryptantha rostellata</i>	red-stemmed cryptantha	4.2	G4	S3	None	None	Apr-Jun	Cismontane woodland, Valley and foothill grassland	130	2625	No	Marginal-No volcanic soils
<i>Epilobium oreganum</i>	Oregon fireweed	1B.2	G2	S2	None	None	Jun-Sep	Bogs and fens, Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest	1640	7350	No	Yes- Possible in wetland area

<i>Epilobium septentrionale</i>	Humboldt County fuchsia	4.3	G4	S4	None	None	Jul-Sep	Broadleafed upland forest, North Coast coniferous forest	145	5905	No	Marginal- Unlikely die to grazing impacts, typically associated with rocky and sandy river banks
<i>Erigeron maniopotamicus</i>	Mad River fleabane daisy	1B.2	G2?	S2?	None	None	May-Aug	Lower montane coniferous forest, Meadows and seeps (open, dry)	4180	4920	No	Marginal- Usually found at higher elevations
<i>Erythronium oregonum</i>	giant fawn lily	2B.2	G4G5	S2	None	None	Mar-Jun (Jul)	Cismontane woodland, Meadows and seeps	325	3775	No	Marginal- Usually associated with canopy cover, unlikely due to grazing impacts
<i>Eucephalus glabratus</i>	Siskiyou aster	4.3	G4	S3	None	None	Jul-Sep	Lower montane coniferous forest, Upper montane coniferous forest	390	8875	No	Marginal-Possible but unlikely due to grazing impacts
<i>Gilia capitata ssp. pacifica</i>	Pacific gilia	1B.2	G5T3	S2	None	None	Apr-Aug	Coastal bluff scrub, Chaparral (openings), Coastal prairie, Valley and foothill grassland	15	5465	No	Yes- Possible but unlikely due to grazing impacts.
<i>Howellia aquatilis</i>	water howellia	2B.2	G3	S2	None	FT	Jun	Marshes and swamps (freshwater)	3555	4230	No	Marginal- Usually found at higher elevations
<i>Lilium rubescens</i>	redwood lily	4.2	G3	S3	None	None	Apr-Aug (Sep)	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest	95	6265	No	Marginal-Unlikely due to grazing impacts

<i>Montia howellii</i>	Howell's montia	2B.2	G3G4	S2	None	None	(Jan-Feb) Mar-May	Meadows and seeps, North Coast coniferous forest, Vernal pools	0	2740	No	Yes- Possible in low-gradient road sections
<i>Sanicula tracyi</i>	Tracy's sanicle	4.2	G4	S4	None	None	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest	325	5200	No	Yes- Possible in grassland
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	4.2	G3	S3	None	None	(Mar)Apr -Aug	Broadleafed upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland	0	2395	No	Marginal- Possible in grassland, especially along fence line, but unlikely due to grazing impacts
<i>Sidalcea malviflora ssp. patula</i>	Siskiyou checkerbloom	1B.2	G5T2	S2	None	None	(Apr)May -Aug	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest	45	2885	No	Marginal- Possible in grassland, especially along fence line, but unlikely due to grazing impacts
<i>Tracyina rostrata</i>	beaked tracyina	1B.2	G2	S2	None	None	May-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland	295	2590	No	Yes- Possible in Grassland
<i>Wyethia longicaulis</i>	Humboldt County wyethia	4.3	G4	S4	None	None	May-Jul	Broadleafed upland forest, Coastal prairie, Lower montane coniferous forest	2460	5005	No	Yes- Possible in open grassland

*Listing codes are as follows (CNPS 2018a):California Rare Plant Rank (CRPR) 1B = rare, threatened, or endangered in CA and elsewhere; 2B = rare, threatened, or endangered in CA, but more common elsewhere; 3 = plants about which more information is needed; a review list; 4 = of limited distribution or infrequent throughout a broader area in California. Ranks at each level also include a threat rank and are determined as follows: 0.1-Seriously threatened in California; 0.2-Moderately threatened in California; 0.3-Not very threatened in California. Global Ranking (GRank) - The global rank (G-rank) is a reflection of the overall condition of an element throughout its global range: G1 = Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres; G2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres; G3 = 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres; G4 = Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat; G5 = Population or stand demonstrably secure to ineradicable due to being commonly found in the world. State Rank (SRank) The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank: S1: Fewer than 6 viable occurrences worldwide/ statewide, and/ or up to 518 hectares; S2: 6-20 viable occurrences worldwide/ statewide, and/ or more than 518-2,590 hectares; S3: 21-100 viable occurrences worldwide/ statewide, and/or more than 2,590-12,950 hectares; S4: Greater than 100 viable occurrences worldwide/ statewide, and/or more than 12,950 hectares; S5: Demonstrably secure because of its worldwide/ statewide abundance. Additional Threat Ranks: 0.1=Very threatened; 0.2=Threatened; 0.3= No current threat known. CESA: California Endangered Species Act: CR: state-listed (NPPA) RARE; CE = state-listed ENDANGERED; FESA: Federal Endangered Species Act: FE = federally listed ENDANGERED

Table 19. Special Status Plant Observation Data

SurveyDate	ScientificName	TotalIndividuals	Collection?	Observer	%Vegetative	%Flowering	%Fruiting	Habitat	SiteQuality	SiteComments	Notes	Threats	Visible Disturbances	Land Use	Datum/ coordinate system	x	y
5/28/2019	Navarretia leucocephala ssp. bakeri	200-500	Yes	Claire Brown	50	50	0	Seasonal depressional wetland/Vernal Pool in open prairie. Associates Downingia cuspidata, Lasthenia glaberrima,Eryngium c.f aristulatum	Fair	standing water at time of observation.	Site revisited 6-13-19, TOTALLY trashed by cattle. ID support from Dana York (Caltrans) Leigh Johnson (Brigham Young University), Robin Bencie (HSU)	Cattle grazing	Yes, especially on subsequent visit on 6-13-19, heavy trampling by cattle	Cattle Ranching	NAD83/UTM Zone 10, Decimal Degrees	-123.631	40.32506

Special Status Plants

There was one, unanticipated, special status plant species observed during project site visits (Table 19, Figure 16). During fields surveys, one (1) occurrence of *Navarretia leucocephala ssp. bakeri* was located within the seasonal depressional wetland in the southeastern portion of the Study Area. This occurrence included an estimated several hundred (200 to 500) plants. A subsequent site visit was made on June 13, 2019 in order to collect fruiting specimens and identify additional associates, but recently branded cattle had been let into the area. Most plants were destroyed by trampling, and the aggravated behavior of the cattle (and limited time on private property) made further investigation impossible.

Navarretia leucocephala ssp. bakeri is an annual herbaceous member of the vascular plant family Polemoniaceae. It is only known from 58 distinct occurrences in California, including Colusa, Glenn, Lake, Lassen, Mendocino, Marin, Napa, Solano, Sonoma, Sutter, Tehama, Yolo (CNPS 2019a). It is also known from a 1928 Joseph P. Tracy collection from Yeager Creek in Humboldt County, but has not been officially observed in Humboldt County since that time (Calflora 2019, CCH 2019).

These findings are significant given that this species is not only very rare in the state, but seemingly extremely rare in Humboldt County. Great care was taken in positive identification. We contacted the Humboldt State Herbarium, Dana York (Chief, North Region Environmental E2 at Caltrans) and Leigh Johnson (Brigham Young University, author of the 2012 Jepson manual Key to the genus *Navarretia*) for identification support. The important diagnostic feature was having “stamens attached at or just below corolla sinuses” and having white corollas (Baldwin et. al 2012). Specimens were sent to Leigh Johnson, who provided photographs of this feature. Additionally, an herbarium accession was made to the Humboldt State Herbarium (Robin Bencie, director).

Navarretia leucocephala ssp. bakeri has the California Rare Plant Rank (California Rare Plant Rank) of 1B.1. Plant species with a California Rare Plant Rank of 1B are considered by the CNPS Inventory of Rare and Endangered Plants to be “rare throughout their range” (CNPS 2019a). The Threat Rank of 0.1 indicates that this species is “seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)” (CNPS 2019a). Plants with a CRPR of 1B meet the definition of rare or endangered under CEQA Guidelines section 15380 subdivisions (b) and (d) (CDFW 2018d).

Sensitive Natural Communities

Site visits also revealed that the seasonal depressional wetland in the southeast portion of Sherman Flat is vegetated by a community comprising the *Lasthenia glaberrima* Herbaceous Alliance (S2), or smooth goldfields vernal pool bottoms, a sensitive natural community (CNPS 2019b). A total of approximately 0.6 acres of this community was identified. See Figure 16.

The *Lasthenia glaberrima* Herbaceous Alliance (S2), or smooth goldfields vernal pool bottoms (CNPS 2019b) in the seasonal depressional wetland in the southeast portion of the Study Area is designated by CDFW as an S2 (CDFW 2018a). According to the information available on the Manual of California Vegetation online (CNPS 2019b), this is not a community type known to commonly occur in Humboldt County or on the North Coast generally. The characteristic species (*Lasthenia glaberrima*) has not been

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officially collected or otherwise observed in Humboldt County since 1935 (CCH 2019, Calflora 2019). The dominant association within this community type, as identifiable at the time of the survey, was *Lasthenia glaberrima* - *Downingia cuspidata*- *Eryngium c.f aristulatum* (identified vegetatively due to phenology) - *Navarretia leucocephala ssp. bakeri*. Each of these four associates contributed approximately 10 % of the total cover. This is not an association type included in the Manual of California Vegetation for this Alliance (Calflora 2019b). All four of these species are very uncommon in Humboldt County (CCH 2019, Calflora 2019, CCH 2019). Therefore, this association should be considered (very) sensitive.

Determination - Effect on Sensitive Botanical Species

The wetland habitat where the populations of *Navarretia leucocephala ssp. bakeri* and *Lasthenia glaberrima* Herbaceous Alliance (S2), was identified is outside of the proposed project footprint (Figure 16), as wetland habitat is protected from development for cannabis cultivation by riparian protection measures outlined in the North Coast Regional Water Quality Control Board (NCRWQCB) Order no. 2015-0023 and the California State Water Resources Control Board (SWRCB) “General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Dischargers of Waste Associated with Cannabis Cultivation Activities.” (NCRWQCB, 2015; SWRCB 2017).

However, due to the presence of rare and special status plant species (*Navarretia leucocephala ssp. bakeri*, CRPR 1B.1) and sensitive natural communities (*Lasthenia glaberrima* Herbaceous Alliance, S2) found in the seasonal depressional wetland in the southeast portion of the Study Area, additional precautions are recommended.

The impact of cattle on this sensitive species is unknown. The cattle presence has been consistent throughout the history of the site and will not vary from baseline. Therefore, the removal of cattle from the wetland/pond areas is not recommended.

Humans have not had a significant historical presence in this area; humans have used the land for cattle ranching and more recent small scale cannabis cultivation in the vicinity. Human occupants can both trample sensitive species as well as introduce invasive plants species on shoes and clothing as well as potentially tracking fungal or other biological pathogens to this sensitive area. Because the proposed 6 acres of cultivation area will be fenced, the west side of the wetlands and pond will not be directly exposed to intrusion by humans. The east side of the pond and wetlands faces the Multi-Use Building and is therefore more likely to see increased human and vehicle intrusion. On this eastern side, the project will install a minimum of six (6) signs that demarcate the riparian area setbacks. The signs will describe the area as an Environmentally Sensitive Area (ESA) and have a clear mandate for ‘no entry.’ The sign locations will be reviewed by a qualified biologist and will be installed prior to construction. During the construction components of the project, the signs will be flagged to ensure that they are seen by construction crew members. This mitigation measure (described for the western pond turtle; Mitigation Measure -Biological 3) will provide *Navarretia leucocephala ssp. bakeri* and *Lasthenia glaberrima* Herbaceous Alliance (S2), additional protection from human impacts.

To further protect the sensitive species found in the seasonal depressional wetland in the southeast portion of the Study Area, *Navarretia leucocephala ssp. bakeri* and *Lasthenia glaberrima* Herbaceous Alliance

(S2), an additional 50-feet of riparian setback is to be added to the standard 100-foot setback (SWRCB, 2019) around the seasonal depressional wetland in the southeast portion of the Study Area (Figure 17). This buffer increase is recommended as an appropriate mitigation (Mitigation Measure -Biological 7) to better protect the documented sensitive special status plant species from potential project impacts. The impact on sensitive botanical species will be **Less Than Significant with Mitigation Incorporated**.

Mitigation

Mitigation Measure- Biological 7: To ensure that the sensitive species found in the seasonal depressional wetland in the southeast portion of the Study Area, *Lasthenia glaberrima* Herbaceous Alliance, and *Navarretia leucocephala ssp. bakeri*, are adequately protected, an additional 50-feet of riparian setback is to be added to the standard 100-foot setback (SWRCB, 2019) around the seasonal depressional wetland in the southeast portion of the Study Area (Figure 17). This buffer increase is recommended as a site specific mitigation to better protect the documented sensitive natural community and special status plant species from potential project impacts.

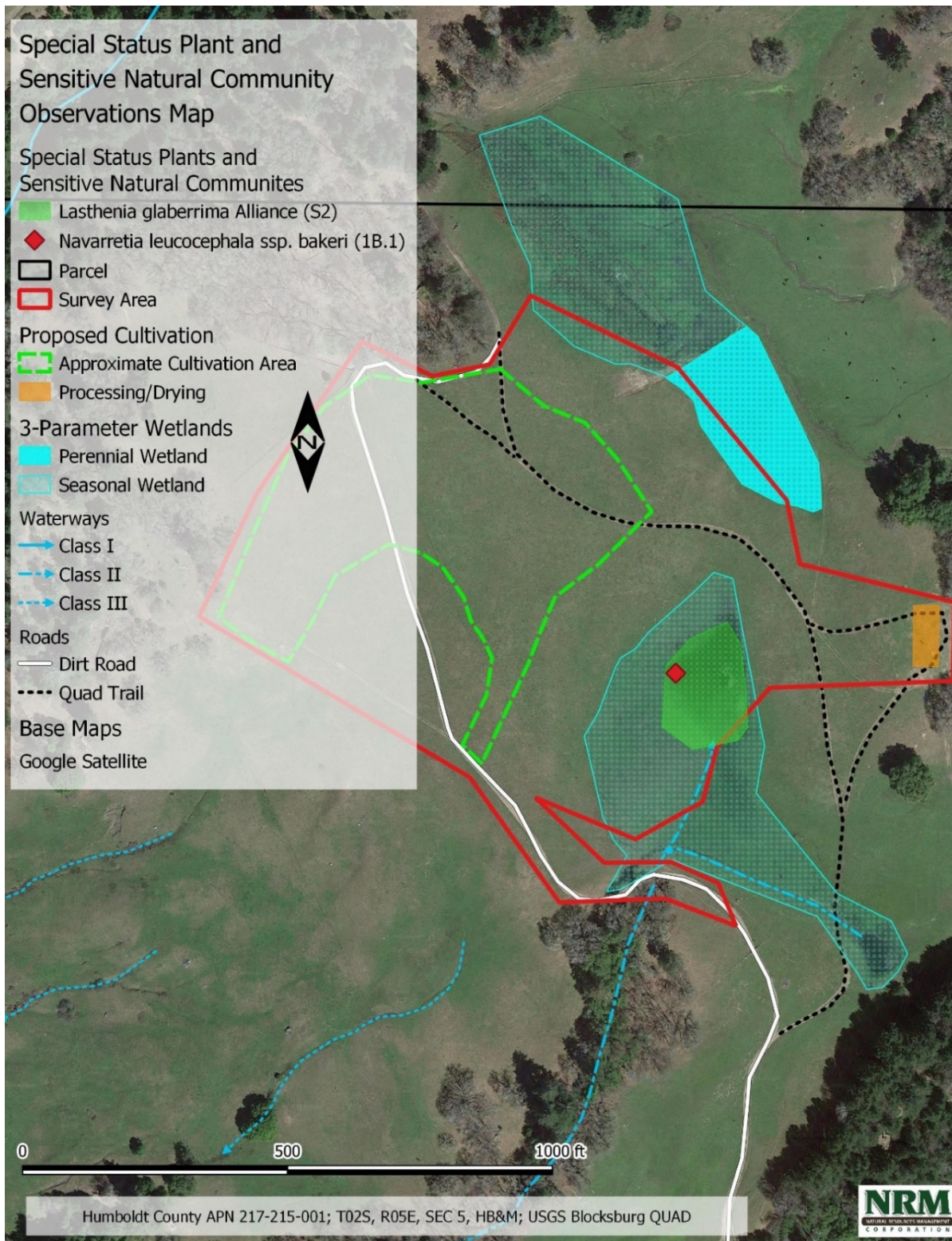


Figure 12. Special Status Plant and Sensitive Natural Community Observations

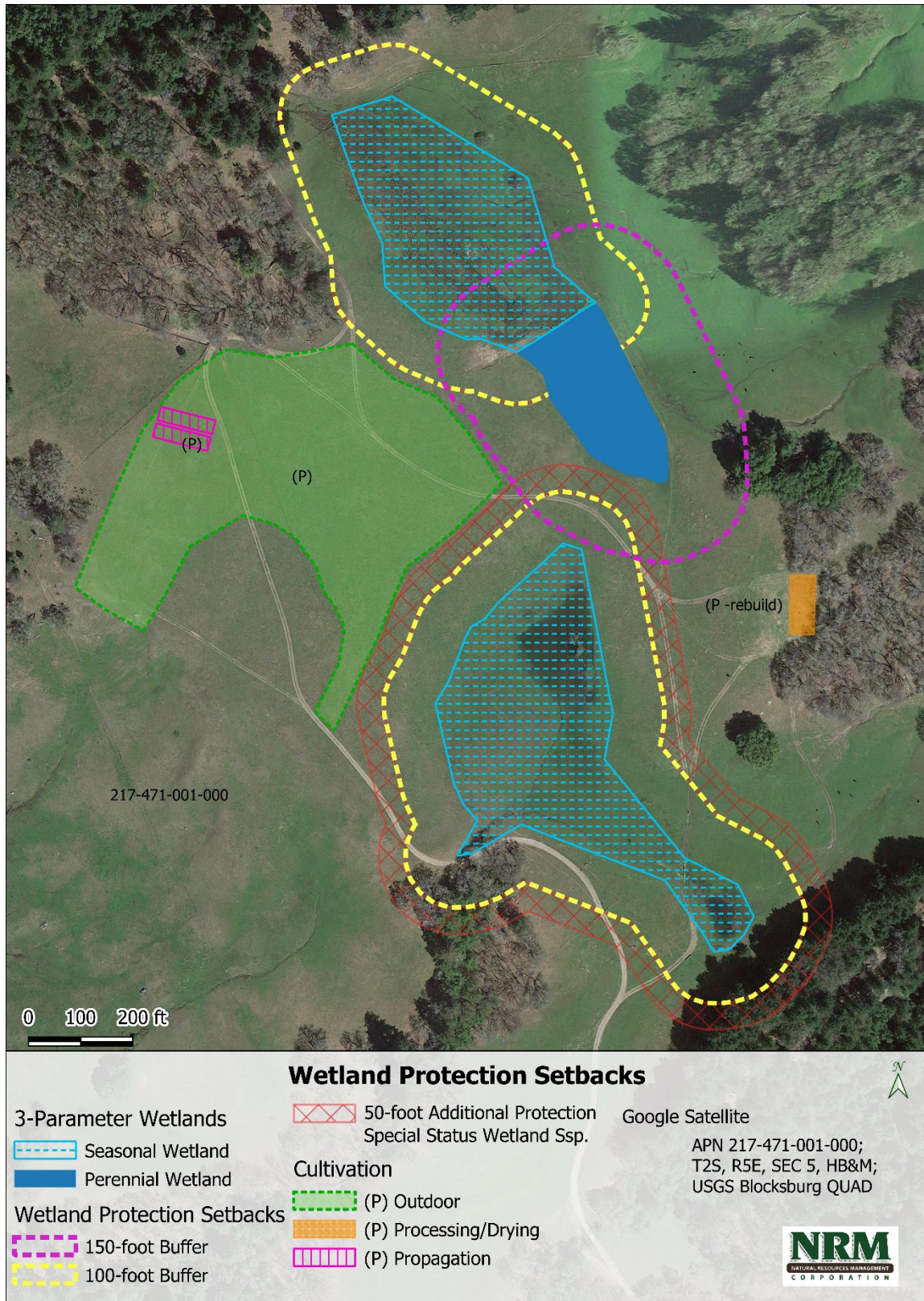


Figure 13. Special Status Plant and Sensitive Natural Community Protection Setback, Mitigation Measure- Biological 7

4.4.4 Discussion of Significance – Wetland and Riparian

Wetlands - Existing Cultivation Area

The descriptions and references in this section are reproduced from and found in the NRM 2019 Aquatic Resources Investigation Report, and the NRM November 2019 Cannabis Relocation Report (APN 217-216-00, WDID# 1B161057CHUM). All references are found in aforementioned reports; all Table and Figure numbers are references to this document.

In 2016, the project proponents relocated an existing garden to an open meadow area with easier vehicle access (Figure 12, pre-existing to ‘new’). A fence was constructed, and pots were set on the natural grade. The pre-existing (pre 2016) site was cleared of all materials and has revegetated.

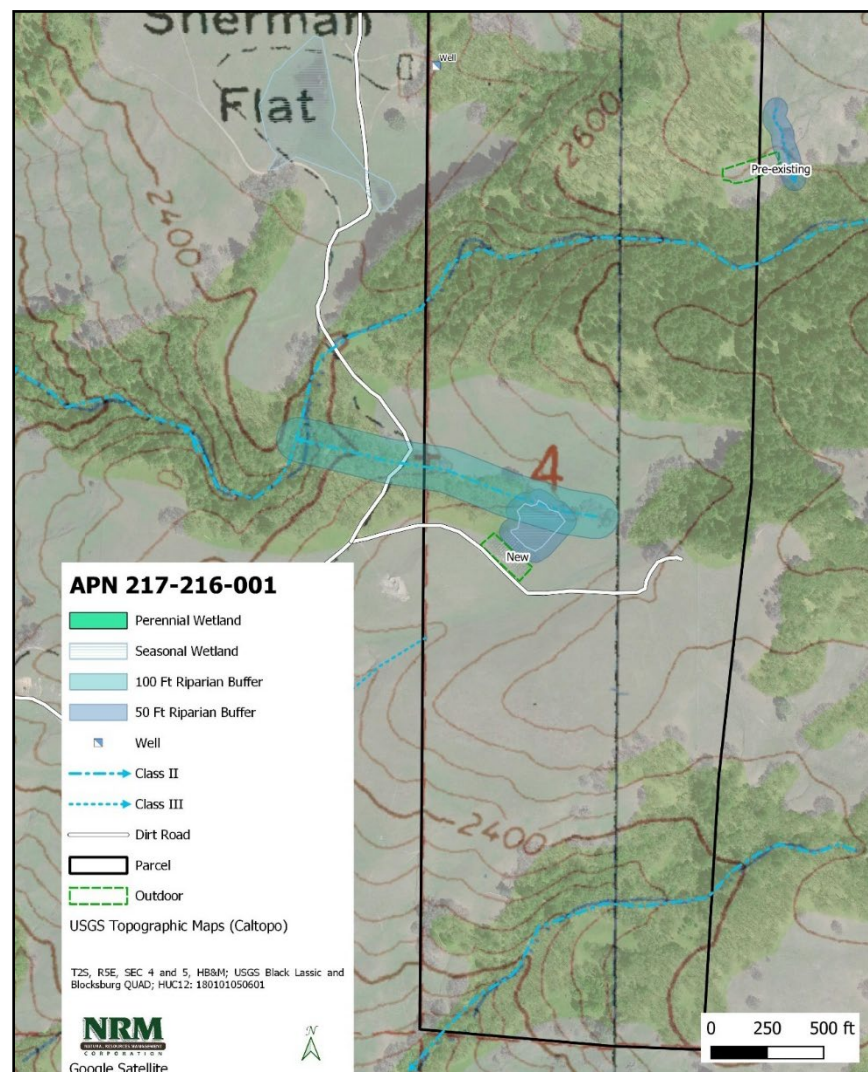


Figure 14. Pre-existing (pre 2016) cultivation area and 2019 relocation (Please note: GIS lines are not correct; survey documents in Humboldt County project files describe accurate boundary lines)

In 2019 the new garden area was observed to have a wet area nearby, just outside of the northern fence. Claire Brown of Natural Resources Management Corporation conducted an investigation of aquatic resources and a wetland delineation on Humboldt County APN 217-216-001 [new APN is 217-471-001] on May 28th, 2019. This investigation surveyed the potential presence of 3-parameter (USACE) wetlands in the vicinity of an existing cannabis cultivation site; the investigation was conducted in accordance with the 1987 *Corps of Engineers Wetland Delineation Manual* (USACE 1987) and the 2010 *Regional Supplement: Western Mountains, Valleys and Coast Region* (Version 2.0) (USACE 2010).

A 3-parameter wetland feature was identified within the Study Area. This feature can be classified as Seasonally Saturated Nontidal Palustrine Non-persistent Emergent Wetland (PEM2B) (Cowardin et. al 1977). The boundary between 3-parameter wetland and upland was delineated within the Study Area, to the extent necessary to determine an appropriate wetland protection setback for the cultivation area. A small portion (~10-foot wide strip) of the northern end of the current cultivation footprint is within the 3-parameter wetland feature.

Figure 13a shows the mapped boundaries of this features [and describes Plot points]. Boundaries were determined by using plot data to interpret where vegetation cover, hydrologic and soil gradients indicated a change from potential wetland to upland. However, only the boundaries necessary to determine the appropriate wetland protection setbacks were delineated and mapped. **The wetland boundaries outside the Study Area were approximated.** Plots 1A and 2A define the potential wetland feature, while plots 3A, 4A and 5A define upland area.

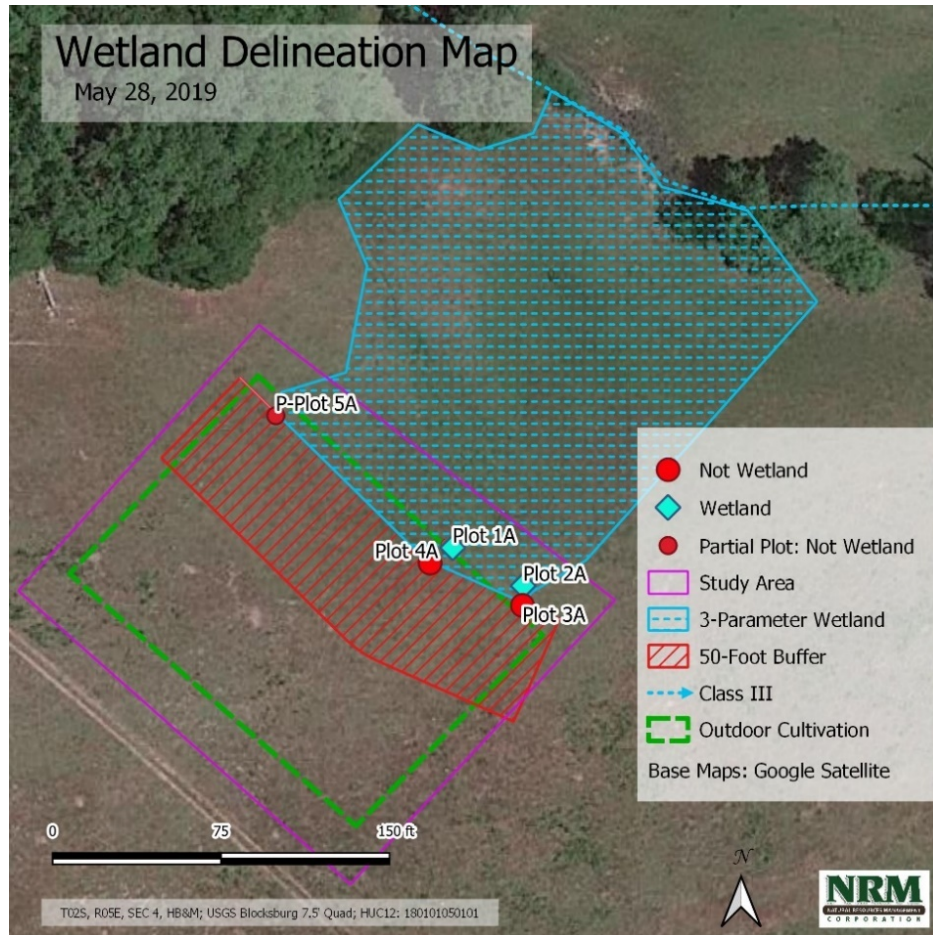


Figure 15a. Wetland delineation map; NRM 2019

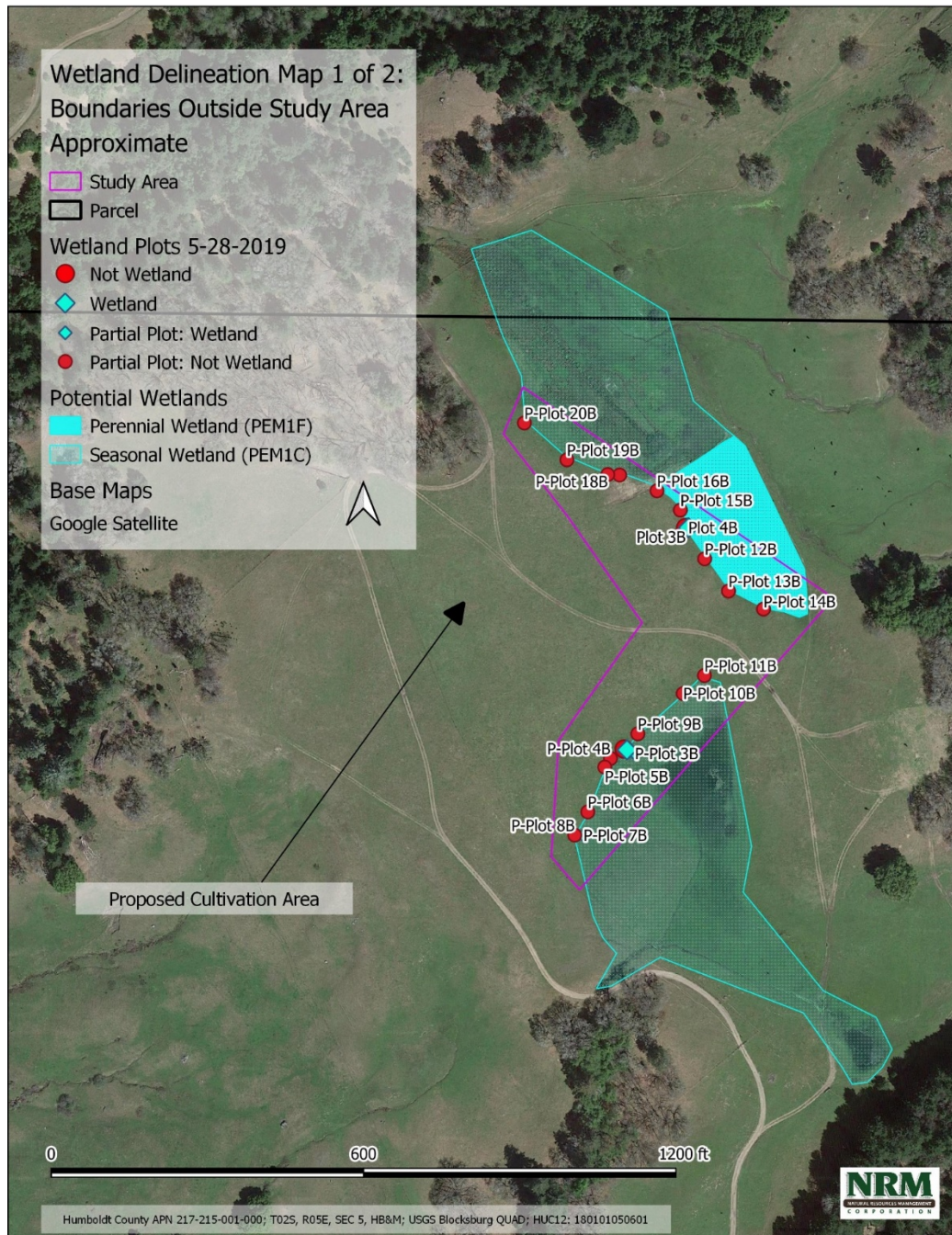


Figure 13b. Wetland Delineation Map (overview map): Sherman Flat, APN 217-471-001
(See full report in Appendix B).

A 50-foot setback buffer (adhering to the NCRWQCB 2015-0023 requirements under which the site was enrolled) from the 3-parameter wetland boundary was measured and marked in the field, to facilitate the relocation of the cultivation footprint. In the Spring of 2019, the cannabis garden (16,800 sq. ft. of full term outdoor) was shifted approximately 50-60-feet south, southwest, and relocated outside of the 50-foot wetland setback. See Figure 13.

Relocation clean up consisted of removing all cannabis infrastructure (pots and irrigation) and growing materials from within the buffer. Revegetation is occurring naturally with the surrounding pasture grasses naturally. Invasive species removal protocol will be followed to ensure invasive don't establish on the disturbed areas. Monitoring will occur for two years (2020 and 2021). If by 2021 there are still areas of exposed soils within the buffer after additional native grass seed will be applied and the site will then be monitored for an additional two years. The re-vegetation will be considered successful if after 2 years of monitoring the areas of bare dirt have 100% vegetative cover with less than 10% cover of invasive species listed as high on the Cal-IPC Inventory.

Wetland - Proposed Cultivation Area

Claire Brown of Natural Resources Management Corporation conducted an investigation of aquatic resources and wetland delineation on Humboldt County APN 217-215-001 [new APN is 217-471-001] on May 28th, 2019 (Appendix B). This investigation surveyed the potential presence of 3-parameter (USACE) wetlands in the vicinity of the proposed cannabis cultivation on Sherman Flat. Therefore, the investigation was conducted in accordance with the 1987 *Corps of Engineers Wetland Delineation Manual* (USACE 1987) and the 2010 *Regional Supplement: Western Mountains, Valleys and Coast Region* (Version 2.0) (USACE 2010).

Two 3-parameter wetland features were identified within the Study Area. One feature can be classified as Seasonally Flooded Nontidal Palustrine Persistent Emergent Wetland (PEM1C), while the second feature is of two types: Seasonally Flooded Nontidal Palustrine Persistent Emergent Wetland (PEM1C) and Semipermanently Flooded Nontidal Palustrine Persistent Emergent Wetland (PEM1F) (Cowardin et. al 1977). The boundary between 3-parameter wetland and upland was delineated within the Study Area, to the extent necessary to determine an appropriate wetland protection setback for the proposed cultivation area.

Figure 13b shows the mapped boundaries of these features. Boundaries were determined by using plot data to interpret where vegetation cover, hydrologic and soil gradients indicated a change from potential wetland to upland. However, only the boundaries necessary to determine the appropriate wetland protection setbacks were delineated and mapped. The wetland boundaries outside the Study Area were approximated.

The wetland features delineated by NRM biologist, Claire Brown, will be protected with appropriate setbacks (protection buffers) as described by Humboldt county Streamside Management Area Ordinance (SMAO) and the State and Regional Water Board orders, WQ-2019-001-DWQ and R1-2015-0023 respectively (Figure 14). Under the regional order, the wetland to the north of the existing cultivation (16,800 sq. ft.) has an observed setback of 50-feet. Under the new State Order, the seasonal wetlands on Sherman Flat near the proposed cultivation area will receive a setback of 100-feet. The perennial wetland feature on Sherman Flat will be protected under the State order with a setback of 150-feet. The Waterboard mandated setbacks in all cases meet or exceed those setbacks defined by Humboldt County's Streamside Management Area Ordinance (SMAO) which provides seasonal wetlands with 50-feet of protection and perennial wetlands with 150-feet of protection.

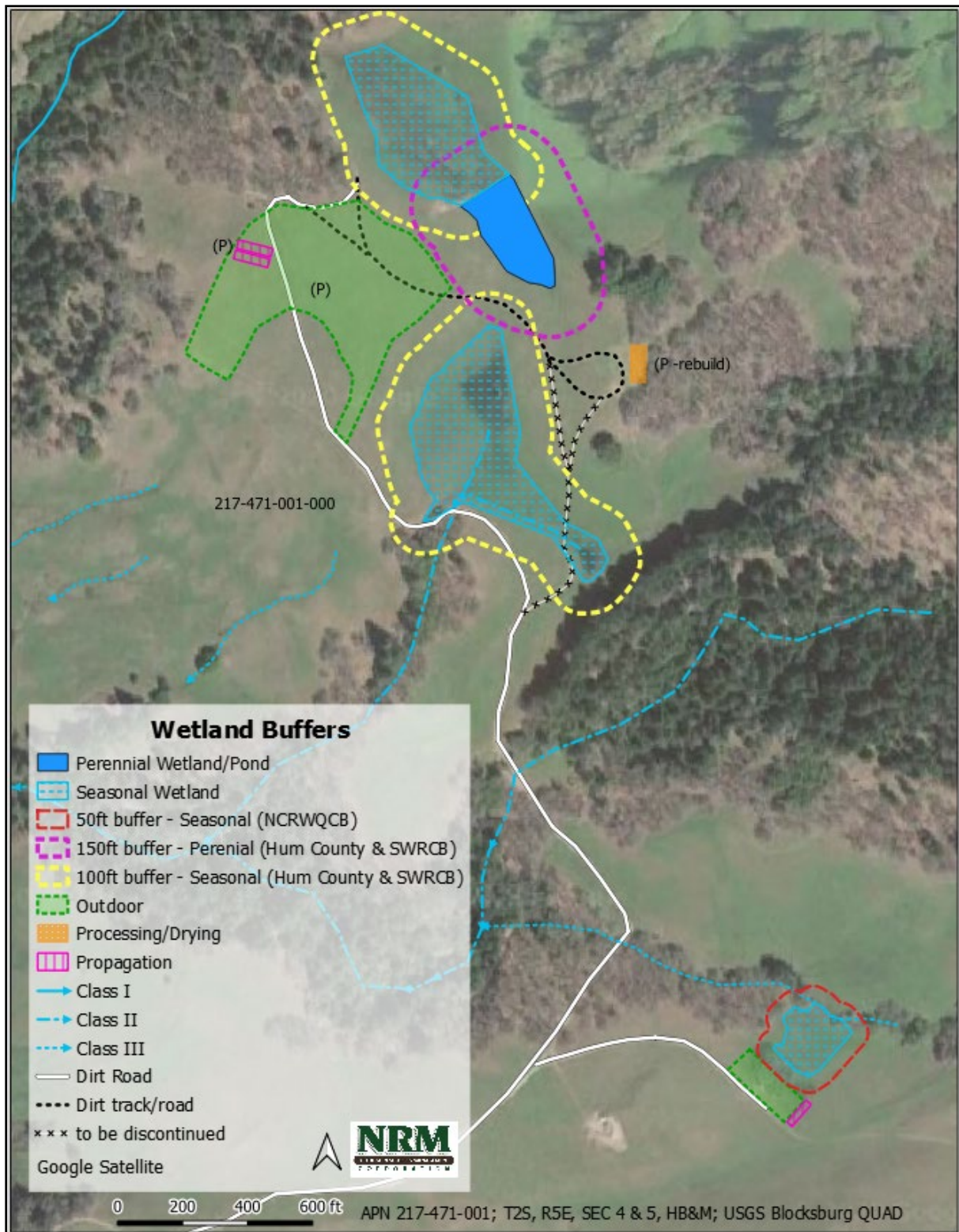


Figure 16. Wetland features and setbacks (Buffers) on project parcel (APN 217-471-001)

In Figure 14 above, a road is mapped as crossing the southern portion of the southernmost wetland on Sherman Flat. Though this road is currently not used by the project, it will be officially decommissioned

with a physical blockade and/or clear signage. Currently, the road is a dirt track with grassland vegetation established through the center (road is tire tracks only). The road will be allowed to revegetate naturally.

Riparian Areas

Apart from the wetland features in the immediate vicinity of the project, there are multiple watercourses in the area. McMahon Creek, to the north of the proposed project area on Sherman Flat, is a fish bearing, anadromous stream (CCC & AmeriCorps, 2001). This creek is approximately 675-feet, at its closest point, to the project.

The Lake and Streambed Alteration Agreement (LSA) application and Draft Agreement (Appendix L) to CDFW identifies five (5) stream crossings that will be improved, a bridge that will be replaced, and prescribes work to stabilize and resize the existing pond culvert and berm. (See Section 4.10 for more information). The LSA application also identifies a dirt track that crosses the southern portion of the southernmost wetland on Sherman Flat. This road will be discontinued. The road will be physically blocked. As the road is a dirt track with grassland vegetation already established, the road will be allowed to revegetate naturally. All Humboldt County (SMA) and State (SWRCB) riparian setback areas are observed (Figure 14 & 15; see 4.10 for more details)

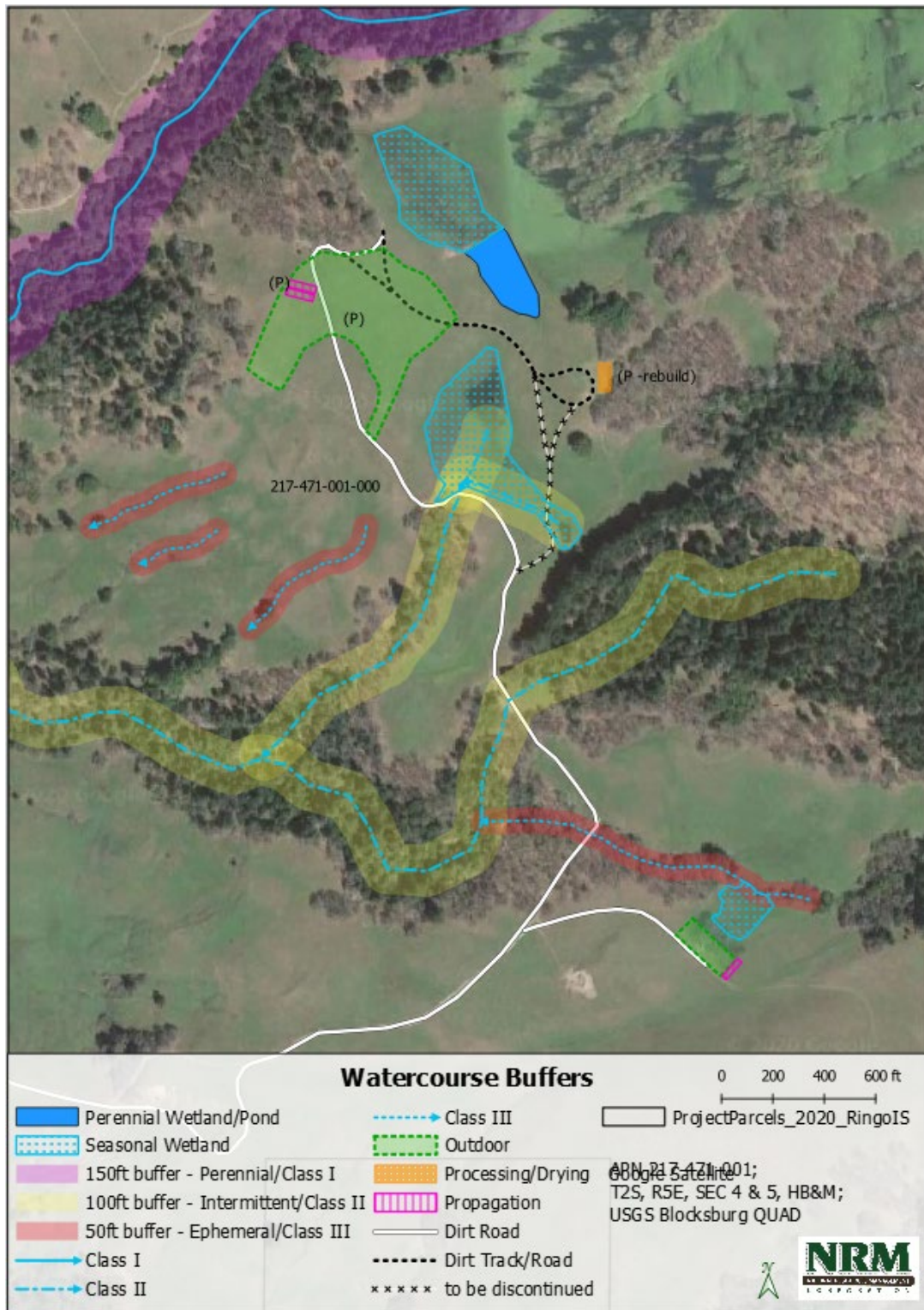


Figure 17. Watercourses and setbacks (protection buffers) on project parcel (APN 217-471-001)

Determination - Wetland and Riparian Areas

Because no project components are or will be located within the designated protection areas (setbacks) the project will have no direct impacts on nearby wetlands or riparian areas. Because the project will manage runoff and water quality (LSA describes applicable BMPs, Multi-Use Building will have gutters with infiltration trenches, roads will be graveled, all irrigation will be monitored and be applied at agronomic rates, and disturbed areas will be seeded immediately after construction), the wetlands and riparian areas will not suffer any indirect impacts as a result of compromised or significantly modified area hydrology. Due to the sensitive nature of the species in the southernmost depressional wetland and the perennial wetland/pond, extra protection of this ESA is called for. As described in Mitigation Measure- Biological 3, the project will install permanent, all-season signs that describe wetland and pond setback areas as an Environmentally Sensitive Area (ESA). Signs will have a clear mandate for ‘no entry.’ The signs will be installed prior to construction at which point they will be flagged to ensure that they are seen by construction crews. As described in Mitigation Measure- Biological 7 (section 4.4.3, Effect on Sensitive Botanical Species), an additional 50-feet of riparian setback is to be added to the standard 100-foot setback (SWRCB, 2019) around the seasonal depressional wetland in the southeast portion of the Study Area (Figure 17). This buffer increase is recommended as a site specific mitigation to better protect the documented sensitive natural community and special status plant species (*Lasthenia glaberrima* Herbaceous Alliance, and *Navarretia leucocephala* ssp. *bakeri*) from potential project impacts. The impact to Wetland and Riparian areas will be **Less Than Significant with Mitigation Incorporated**.

4.4.5 Biological Resources - Checklist Summary

a) **Less Than Significant with Mitigation Incorporated.** With mitigation incorporated, the project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. To protect these sensitive species, the project will observe Mitigation Measure- Bio 1, 2, 3, 4, 5, 6, 7.

b) **Less Than Significant with Mitigation Incorporated.** The proposed project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. The southern seasonal wetland depressional wetland and pond are identified as an Environmentally Sensitive Area (ESA). The Mitigation Measure- Bio 3 and 7 are applied to provide sufficient protection for the area.

c) **No Impact** The project will not have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

d) **Less than Significant with Mitigation Incorporated.** The project will not 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. The nearest fish bearing stream is McMahon Creek; project development will not impact McMahon Creek and will have no impact on migratory fish. Wildlife corridors in the form of riparian traveling corridors used by Fisher will not be impacted by project development (see discussion of Fisher above).

Migratory bird nesting is not likely due to use of the area by cattle; however, nesting in the area is possible and therefore, the area will be surveyed prior to the initial disturbance of the area (Mitigation Measure- Bio 6)

e)-f) **No Impact.** The project will not conflict with any local policies or ordinances protecting biological resources or Habitat Conservation Plan or natural community conservation plan. The project parcel is privately owned and managed. The parcel is not included in any habitat conservation plan or natural community conservation plan nor do they carry the legally binding mitigations from any previous HCP. The parcel is bound by a Williamson Act Contract that limits the development of the parcel. The Williamson Act has heard the project proposal and has approved the project as proposed with the condition that the grazing activity on the ranch (of which the project parcel is a component) is continued. See Agriculture and Forest Resources (section 4.2) for more information. The project meets or exceeds requirements for noise impacts as established by the Planning and Building Department Policy Statement NO 16-005.

4.4.6 Biological Resources – Mitigation Summary

Mitigation Measure- Biological 1: If construction takes place during the nesting season for **western pond turtles** preconstruction surveys by a qualified biologist will be conducted. If turtles are found in the construction area, they will be left in place (not handled) and construction activities will stop in the vicinity of the turtle until it leaves the area. If nests are found, they will be buffered and undisturbed until turtles have hatched and left the nest. As is standard practice CDFW will be consulted to help with buffer sizing. Often CDFW considers specific local factors when making buffer size decisions. If work takes place outside of the nesting season, no surveys are necessary.

Mitigation Measure- Biological 2: As an additional protection for **western pond turtles**, if the construction takes place during nesting season, the qualified biologist onsite will provide a short onsite training to construction employees that will be working in the area and may encounter turtles after the preconstruction survey. The training will be successful if after the training, the employees will be able to (1) identify by sight, a Western Pond Turtle, (2) know the appropriate activity buffer to provide the turtle, and (3) know when to resume construction work in the area where the turtle was found.

Mitigation Measure- Biological 3: The project will install permanent, all-season signs that describe wetland and pond setback areas as an **Environmentally Sensitive Area (ESA)**. Signs will have a clear mandate for ‘no entry.’ Because the proposed six (6) acres of cultivation area will be fenced, the west side of the wetlands and pond will not be directly exposed to intrusion by humans. The east side of the pond and wetlands faces the proposed Multi-Use Building, a future construction site and hub of project activity; the eastern side of the wetland/pond is therefore more likely to see increased human and vehicle intrusion. On this eastern side, the project will install a minimum of six (6) signs that demarcate the riparian area setbacks. The signs will be installed prior to construction at which point they will be flagged to ensure that they are seen by construction crews. Signs will be placed along road borders and/or wetland setback boundaries in such a way that the most potential for wetland damage is prevented. Sign locations will be identified by a qualified biologist prior to project construction.

Mitigation Measure- Biological 4: To ensure that Western pond turtles are not adversely impacted by vehicle traffic, the project will enforce a 10mph speed limit on the unnamed project access road. Before construction begins, the project will post at least two (2) 10mph speed limit signs: once to inform eastbound drivers entering the access road from Alderpoint Rd. and once to inform westbound drivers leaving the Multi-Use Building and returning to the Alderpoint Rd. intersection. The speed limit signs will be posted at a height of five (5) feet above the ground and clearly visible to oncoming traffic. The project speed limit will be enforced by the project proponents as dust reduction is critical for cannabis plant health. Humboldt County Planning and Building, Cannabis Services Division will ensure that the speed limits have been posted as described.

Mitigation Measure – Biological 5: There is currently no adopted or established protocol (CDFW) for determining presence or absence of the **western bumble bee** for project level analysis. Based on known presence/absence protocols and professional recommendations (See Appendix Q, Bombus Limited Literature & Working Protocol Review) the following ‘Working Protocol’ is proposed:

The project will first determine presence/absence. This can be achieved with three (3) nest seeking queen surveys **or** three (3) flight season surveys

- Nest-seeking queen surveys will target suspected preferred nesting areas (linear features with emphasis on forest transition zones). These surveys will be evenly spaced (approx. every two weeks) over the span of two months (Feb/March or March/April) depending on the expected emergence of the bee at the project area (weather dependent – queens are active after top layer of soil is consistently warm). The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Surveyors will spend approximately one person hour per every three (3) acres surveyed. Searches will be conducted by a qualified biologist and use photography as means of positive identification of *Bombus* species unless a permit for handling bees is secured.
 - Flight season surveys will target the optimal habitat in the project area and consist of a minimum of one (1) person hour per three (3) acres of optimal habitat. Habitat that does not offer floral resources will not be surveyed. These three (3) surveys will be ‘free searches.’ They will be evenly spaced (one week apart) in the month of July (June/Aug depending on site conditions/season). The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Searches will be conducted by a qualified biologist and use photography as means of positive identification of *Bombus* species unless a permit for handling bees is secured.
- If present presence is determined during the nest seeking queen surveys or three flight season surveys, the project will conduct nest searches in the impacted (earth disturbance) area.
- These will be conducted during the flight season using a modified version of the transect methodology presented by Osborne, J. et al. (2008). Qualified surveyors will utilize compass and pacing to walk a grid of the impact area (the impact area is the project footprint plus a 100 ft buffer). In general, surveyors will spend 5 minutes nest searching (watching for bees entering or exiting nest) for every 6m x 6m area. The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Any nests that are found will be flagged and mapped and surveyor will consult with CDFW to determine appropriate action/nest buffer areas.

Mitigation Measure- Biological 6: To mitigate for potential impacts to **migratory birds**, 3 consecutive preconstruction surveys for these species should take place no more the one week prior the planting (and associated mowing and other disturbances) and construction planned for Phase I of the project. The survey area will include the six (6) acres where cultivation is proposed on Sherman Flat and the footprint of the proposed rainwater catchment tank location and burned down barn (Multi-Use Building). The footprint of the disturbance areas and a 300-foot buffer will be surveyed. Should any nests be found CDFW will be consulted for appropriate actions going forward, such as buffers or the delaying of work until nestlings have fledged. Alternatively, if ground disturbance begins in August (or later in the season), these species will have completed breeding for the season and no surveys are necessary.

Mitigation Measure- Biological 7: To ensure that the sensitive species found in the seasonal depressional wetland in the southeast portion of the Study Area, *Lasthenia glaberrima* Herbaceous Alliance, and *Navarretia leucocephala ssp. bakeri*, are adequately protected, an additional 50-feet of riparian setback is to be added to the standard 100-foot setback (SWRCB, 2019) around the seasonal depressional wetland in the southeast portion of the Study Area (Figure 17). This buffer increase is recommended as a site specific mitigation to better protect the documented sensitive natural community and special status plant species from potential project impacts.

4.5 CULTURAL RESOURCES

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

Regulatory Setting

Federal

National Historic Preservation Act (NHPA) 1966 & the National Register of Historic Places (NRHP)

Established criteria for evaluating historic resources and a created/maintains a list of significant historic national resources. Listed resources are entitled to consideration in planning projects, qualification for preservation assistance, and some tax breaks. The listed resources are also required to be analyzed under CEQA.

State

California Register of Historic Resources (CRHR)

The CRHR uses criteria for evaluating potential resources that is similar to the NRHP, but is intrinsically broader in that it includes local and statewide buildings, structures, sites, or places that have been determined to have significance. The listed resources are also required to be analyzed under CEQA.

California Native American Historical, Cultural, and Sacred Sites Act

California Pub. Res. Code Section 5024, 5024.5 & 5097

California Health and Safety Code, Sections 7052 and 7050.5

This Act and sections of the CA Public Resources Code establish inadvertent discovery protocol for human remains and procedures for contacting the California Native American Heritage Commission (NAHC).

SB 18 & AB 52 (Tribal Cultural Resources), 2014

Provides the addition of a new point of evaluation under CEQA titled ‘Cultural Resources’ and defines steps and rules for tribal consultation.

Local

Humboldt County General Plan (Chapter 10, section 6, Cultural Resources)

Consistent with the goals of CEQA the CRHR, Humboldt County is committed to identifying, enhancing, respecting, and preserving cultural resources. Exceptions are provided in the case that consultation with the affiliated Tribe finds the resource not significant or a public benefit supersedes the value of the resource protection (CU-PU).

Humboldt County Commercial Medical Marijuana Land Use Ordinance (CMMLUO) no. 2559 (1.0)

55.4.10 c) Describes an applicant's responsibility to establish the existence and location of any Tribal Cultural Resources for the purpose of maintaining a minimum of a 600-foot setback.

55.4.10 o) Acknowledges that the county has the right to consult with local Tribes if the cultivation occurs in an area of Traditional Tribal Cultural Affiliation.

Existing Conditions

The following section has been adapted from: Archeological Survey Report: Blocksburg Family, September 11, 2017; Alta Archaeological Consulting, Santa Rosa, CA. See all figures and references in the full report: Appendix F of this document. Specific locations and other sensitive information is confidential and has been removed from this document.

Prior to Euro-American occupation, the project area was inhabited by the Nongatl (Figure 3). The Nongatl are speakers of the southern Athabaskan language. The Nongatl occupied the drainage of the Van Duzen River and Upper Mad River (Baumhoff 1958:181). Ethnographic accounts indicate that Nongatl were arranged into eight (8) subgroups (possibly more) (Baumhoff 1958:181). The district around the Blocksburg area was occupied by the Kuskatundum and the Bridgeville area by the Nai'aitci (Baumhoff 1958:181). There were at least 35 Nongatl villages (Baumhoff 1858:181-184). The majority of villages are situated along the middle fork of Yager Creek, north fork Indian Creek, and Larabee Creek (Baumhoff 1958: Map 9 and 10). Little detailed ethnographic information is available regarding the Nongatl. In general, the southern Athabaskan speakers made extensive use of salmon and other fish. The Nongatl people likely subsisted primarily on game such as deer and Roosevelt elk and vegetal foods such as acorns, buckeye, and berries (Elsasser 1978:192-193; Baumhoff 1953).

Nine (9) ethnographically described villages are located within five (5) miles of the project area (Baumhoff 1958; Map 10). A cluster of Senuka villages are present along the Larbaee Creek about four (4) miles west of the project area (Baumhoff 1958).

The town of Blocksburg is named for Benjamin Blocksburger, who immigrated in 1853 and participated in Indian fights. He established a store at this place in 1872. At its peak, Blocksburg included a hotel, store, stable, church, town hall, and post office. Review of historic maps revealed limited information regarding historic-era development within the project area. The 1873 GLO Plat map depicts the cabin of W J Sherwin is located less than one half mile southeast of the project area along the northern bank of Dry Brook (Figure 5). The Blecher Atlas (1921:Sheet 15) depicts a trail that originates in Blocksburg and heads northeast through the southeast quarter of Section 10 uphill to Charles Mountain. At the time the ranch was owned by Tooby and Prior Incorporated (Blecher 1921). In 1949, the subject property is still part of a large ranch owned by the Tooby and Prior, Incorporated (Metsker 1949). Trails are apparent between Blocksburg and along the ridgeline of Charles Mountain. Access roads to the parcel are present in the late 1970s (USGS

1979), however, these roads were likely constructed much earlier. No historic features are depicted within the project area on any of these map reference sources.

Analysis of Potential Impacts

The following section has been adapted from, “Archeological Survey Report: Blocksburg Family Farms,” September 11, 2017; Alta Archaeological Consulting, Santa Rosa, CA. See all figures and references in the full report, Appendix F of this document. Where necessary, clarification by NRM has been added in [] and italics and, for confidentiality, sensitive information has been removed.

No cultural resources were identified within the project area [*existing or proposed*] as a result of the records search, literature review, or consultation with Native American groups.

Archaeological field survey identified a resource (Site 40-1) as present within the [*proposed*] project area. In addition, an isolated resource was noted (ISO 40-1). It is located east of the cultivation area and will not be impacted by the project.

Disturbances to the Site 40-1 include livestock grazing, active dirt roads and assumed artifact collection. This site is situated within the proposed commercial cannabis cultivation area.

Discussion of Significance

a-c) Less than Significant with Mitigation Incorporated. In order to avoid disturbing cultural resources identified in 2017 as a result of the Archeological Survey, the project proponents have modified the proposed project area. Ongoing protection will be provided with the implementation of the Environmentally Sensitive Area (ESA) Action Plan, as developed by the archeology consultant, and reproduced below as ***Mitigation Measure- Cultural Resources 1.***

Due to the sensitive nature of the area and in order to ensure that potential future discoveries by contractors or employees are correctly and respectfully managed as the project area as it is scraped/graded by contractors and tilled by employees, standard Inadvertent Discovery Protocols (*Unanticipated Discovery of Cultural Resources* and *Inadvertent Discovery of Human Remains*), included below as ***Mitigation Measure- Cultural Resources 2***, will be observed.

By including an ESA Action Plan and by observing standard Inadvertent Discovery Protocols, the project will not significantly disturb human remains or cause a substantial adverse change in the significance of a historical or archeological resource pursuant to §15064.5.

Mitigation

Mitigation Measure - Cultural Resources 1: To ensure that the identified cultural resources are not adversely affected by the proposed project, the Archeology Report provides the following mitigation:

Avoidance of Cultural Resources

This Environmentally Sensitive Area (ESA) Action Plan provides guidance to ensure that Site 40-1 is not inadvertently affected by construction or cultivation activities. The ESA calls for no ground disturbing

activities to occur within the limits of Site 40-1. No staging, equipment parking, or laydown of materials shall occur within the ESA. Within the ESA all vehicle traffic will be confined to within existing roadways.

The ESA shall consist of colored stakes placed every 30 feet along the perimeter of the recorded site limits to ensure that no ground disturbing activities associated with the project are allowed into this area without appropriate archaeological and Native American monitors. The ESA boundaries will allow traffic and equipment to move through the ESAs and will provide personnel with clearly defined limits where ground disturbance can take place. Ground disturbing construction activities, however, will be allowed to take place within an ESA only in the presence of archaeological and Native American monitors. The ESA stakes will be erected as a first order of work and prior to any construction/cultivation activities under the direction of a qualified professional archaeologist.

Mitigation Measure - Cultural Resources 2: To ensure that accidentally discovered cultural resources or human remains are not adversely affected by the proposed project, all project employees that will be breaking ground (project construction, tilling, etc.) will be appraised of the accidental discovery protocols, described below. The project proponent will deliver the protocols as an oral presentation or in writing. All employees will acknowledge that they have heard/read the protocols by signing their names. The project proponent will deliver the signed document to the Humboldt County Planning and Building Department.

Unanticipated Discovery of Cultural Resources

If previously unidentified cultural resources are encountered during project implementation, avoid altering the materials and their stratigraphic context. A qualified professional archaeologist should be contacted to evaluate the situation. Project personnel should not collect cultural resources. Prehistoric resources include, but are not limited to, chert or obsidian flakes, projectile points, mortars, pestles, and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources include stone or abode foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.

Inadvertent Discovery of Human Remains

If human remains are discovered during project construction, work will stop at the discovery location, within 20 meters (66 feet), and any nearby area reasonably suspected to overlie adjacent to human remains (Public Resources Code, Section 7050.5). The Humboldt County coroner will be contacted to determine if the cause of death must be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the NAHC (Public Resources Code, Section 5097). The coroner will contact the NAHC. The descendants or most likely descendants of the deceased will be contacted, and work will not resume until they have made a recommendation to the landowner or the person responsible for the excavation work for means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, Section 5097.98.

4.6 ENERGY

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>Would the Project:</u>				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				X

Regulatory Setting

State

State of California, Building Energy Efficiency Standards (Title 24)

California has established energy requirements for new residential and commercial construction; generally known as Title 24. These standards are updated every three (3) years and form a key component of California's zero net energy (ZNE) goal as described in the California Energy Efficiency Strategic Plan. In this plan, all new commercial construction will be ZNE by 2030. The Title 24 requirements for new constructions (commercial and residential) include detailed energy calculations, ventilation, and lighting improvements. Additionally, Title 24 requires (in effect in 2020) solar offsets for new residential construction.

State of California, Department of Food and Agriculture, Cal Cannabis

The California Department of Food and Agriculture (CDFA) that regulates and manages cannabis permitting (Cal Cannabis) has specific renewable energy requirements that will apply to indoor and Tier 2 mixed light licenses in 2023. Tier 2 mixed light licenses are those that use artificial lighting at a rate of six (6) and below or equal to 25 watts per square foot. Beginning January 1st, 2023, cultivators will "ensure that electrical power used for commercial cannabis activity meets the average electricity greenhouse gas emissions intensity required by their local utility provider."

County

Humboldt County General Plan (Part 3, Ch 12, Energy)

- E-G1/E-P5. Regional Energy Authority.

The county is actively pursuing partnerships with alternative energy providers and attempting to streamline permitting for alternative energy sources. To that end, Humboldt County is one of the governing agencies of the Redwood Coast Energy Authority; whose purpose is:

To develop and implement sustainable energy initiatives that reduce energy demand, increase energy efficiency, and advance the use of clean, efficient and renewable resources available in the region for the benefit of the Member agencies and their constituents.

- E-IM14

Local regulations and requirements for general residential and commercial energy consumption are not yet standardized. In the 2017 General Plan Update, the county declared the intention to “adopt a residential and commercial energy conservation ordinance for building construction and retrofit that establishes energy conservation incentives and performance standards for projects exceeding state building codes”.

Humboldt County Commercial Cultivation and Land Use Ordinance, No. 2559 & 2599

Ordinance 2559 (1.0)

55.4.8.3

Humboldt County has developed specific energy requirements for cannabis cultivation. In the Humboldt County Commercial Cultivation and Land Use Ordinance No. 2559 (known as 1.0), the county specifically describes renewable energy requirements for indoor cultivation as being composed of 100% renewable source power or on-site zero net energy; and energy not from renewable sources are to be balanced with carbon offsets. According to the Ordinance 1.0, “indoor” means cultivation using exclusively artificial lighting. Energy for mixed-light cultivation and outdoor cultivation is not described in Ordinance 1.0.

Ordinance 2599 (2.0)

55.4.1.12.5

In the more recent iteration of the Humboldt County Commercial Cultivation and Land Use Ordinance, No. 2599 (known as 2.0), all cultivation, manufacturing, or processing activities that have grid power must be supplied from 100% renewable sources or from non-renewable sources with the purchase of carbon offset credits.

Existing Conditions

According to the General Plan (2017 update), Humboldt County receives most of its primary energy from out of the area (90% of Humboldt’s natural gas is imported). However, there are some natural gas fields near Tomkins Hill and in the Grizzly Bluff area near Alton. The other locally available energy source is the energy produced from local biomass resources – these are wood residues from lumber mills and are anticipated to expand to utilize logging slash, forest thinning and/or other fuel load reduction techniques. Currently, local biomass resources provide 25-30% of the area’s electrical needs.

In the updated General Plan, the county encourages solar and alternative energy production through specific allowances for alternative energy infrastructure (height exceptions and setback allowances) as well as large scale support of county wide systems development and ongoing support of the existing Community Choice Program (Redwood Coast Energy Authority).

Analysis of Potential Impacts

The project proposes adding additional six (6) acres of outdoor (full term and light deprivation) to the existing full term 16,800 sq. ft. of existing garden and expanding the propagation space from 2,000 sq. ft. to 10,000 sq. ft. The expansion will also include a Multi-Use Building (with septic) and a 1,000,000 gallon rainwater catchment tank. To support this expansion, the project will build an alternative energy system.

The project is currently working with Six Rivers Solar (Eureka) to develop an integrated alternative energy system that will provide climate control systems for the Multi-Use Building as well as provide electric

energy for project lights. The interior climate control system for the Multi-Use Building includes a 100-foot long earth tube that will be buried 12 feet underground and have a diameter of four (4) feet and will include a passive (unpowered) exhaust fan. Climate control will also include a solar water heating component (roof mounted) that will provide hot water for the restrooms and an in-slab hydronic system for interior space heating. The roof of the Multi-Use Building will carry a solar electric array that will provide electricity for the interior and exterior lights and equipment in the Multi-Use Building and power security systems. The propagation greenhouse located near the 16,800 sq. ft. existing garden and the four (4) proposed propagation greenhouses on Sherman Flat will have a freestanding solar array with backup batteries (30 kwh) that will provide the electricity necessary to run the greenhouse fans and lights; the batteries will be available as a source of power during evenings/nights and during cloudy days. The solar requirements will be evaluated and designed by the project's electrical engineer (Norm Ehlich) and located adjacent to the greenhouses.

Currently onsite, there is an existing small solar collection system (seven (7) panels) that provides the necessary electricity to power the well pump during most weather conditions. The project is inactive status and no people are on site during the winter months (late Nov-Feb); the cultivators have determined that a battery bank is unnecessary and do not plan to add batteries to the well pump system.

The alternative energy system will be in place by the end of Phase I. During Phase I, the project will use two (2) gasoline powered generators (Honda 3000 and 7000) to run the propagation lights and fans in the propagation greenhouses and for harvest drying. These generators will be active for up to eight (8) weeks during Phase I (timing of generator activity is variable depending on final project permitting). The Honda 7000iS may be used in the fall to run dehumidifiers and fans in the Multi-Use Building in case the alternative energy system is delayed.

When the alternative energy system is active during Phase II, the generators will be discontinued to the extent possible, with most electrical power needs will be met through the alternative energy system. These needs include, but are not limited to, supplemental lighting in the propagation greenhouses, work space lighting, fans, dehumidifiers, and electric trimmers (if used) in the Multi-Use Building as well as heating and cooling systems.

At the conclusion of Phase II, the alternative energy system will be evaluated and improved if necessary such that Phase III will include zero use of petroleum based fuels for energy.

The materials and dimensions of the propagation greenhouses are known (have been built before by project proponents). The Multi-Use Building is engineered (Appendix D) and, like many steel buildings, is expected to be constructed on site with a portable roll forming machine (for standing seam steel siding/roofing). The project, therefore, expects an efficient work period with very little wasted materials. The construction of the propagation greenhouses and the Multi-Use Building will not include multiple small deliveries of materials or extra deliveries and pickups due to miscalculations (over ordering).

All project construction (Phase I and Phase II) will take place during working, daylight hours and will not require night lighting.

Discussion of Significance

a) Less Than Significant Impact. The implementation of the project as proposed will not have a significant impact on the environment due to wasteful, inefficient, or unnecessary consumption of energy resources

during project construction or operation. Project construction will only take place during daytime hours and utilize efficient construction methods (reduced overbuying and returns of materials) by constructing the large Multi-Use Building (7200) sq. ft.) with steel framing and siding/roofing and utilizing a propagation greenhouse structure that is familiar to the proponents. The cannabis propagation greenhouses are designed to supplement the natural energy of the sun, which will support most of the cannabis growing cycle. The entire cultivation area, six (6) acres proposed and existing 16,800 sq. ft. is outdoor cultivation; these areas will never rely on any energy source other than the sun for growth and flowering.

b) No Impact. The project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Under the county's cannabis cultivation Ordinance no. 2559, generators are an allowable component of a cultivation plan. As the Multi-Use Building is new construction, all of California's applicable energy saving requirements will apply to this project (Title 24). During Phase II, the project's power will be 100% renewable. This is in line with local and state efforts to increase renewable energy use.

Cumulative Impact

The alternative energy system proposed for Phase II/III means that the project, when it is running at full capacity (six (6) acres and 16,800 sq. ft. of outdoor cultivation with onsite drying) will use 100% renewable energy. This project supports CA energy goals for a clean energy future. The project will not have significantly cumulative impact on Energy.

4.7 GEOLOGY AND SOILS

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			X	
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.				X
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?				X
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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X

Regulatory Setting

State

California Alquist-Priolo Earthquake Fault Zoning Act (1972)

The purpose of this law is to mitigate the hazard of surface fault rupture by regulating development on or near active faults.

California Seismic Hazards Mapping Act (1990)

The purpose of this law is to identify and map areas at risk of strong seismic shaking, landslides, potential liquefaction, and other possible risk area. The local authority is to use the information when reviewing projects with discretionary permits.

California Public Resources Code, Ch 17, Sec 5097.5 Archeological, Paleontological, and Historical Sites
Outlines the parameters of the State's jurisdiction (public lands only) over known or buried archeological, paleontological, and historical sites. CEQA, Appendix G requires evaluation of these resources on private lands.

California Building Code, 2016; Chapter 18 (1803.5.3 Expansive soil)

Soils meeting all four (4) of the following provisions shall be considered expansive, except that tests to show compliance with Items 1, 2, and 3 shall not be required if the test prescribed in Item 4 is conducted:

Plasticity index (PI) of 15 or greater, determined in accordance with ASTM D4318.

1. More than 10 percent of the soil particles pass a No. 200 sieve (75 µm), determined in accordance with ASTM D422.
2. More than 10 percent of the soil particles are less than 5 micrometers in size, determined in accordance with ASTM D422.
3. Expansion index greater than 20, determined in accordance with ASTM D4829.

Regional

Humboldt County General Plan (2017 Update) Part 4, Health and Safety

- S-P11.
Site Suitability. New development may be approved only if it can be demonstrated that the proposed development will neither create nor significantly contribute to, or be impacted by, geologic instability or geologic hazards.
- S-S1.
Geologic Report Requirements. Site specific reports addressing geologic hazards and geologic conditions shall be required as part of the review of discretionary development and ministerial permits. Geologic reports shall be required and prepared consistent with land use regulations (Title III, Land Use and Development, Division 3, Building Regulations, Chapter 6—Geologic Hazards.)
- S-S2.
Landslide Maps. Utilize California Division of Mines and Geology, North Coast Watersheds landslide mapping as information to assist in review of developments.
- S-S3.
Alquist-Priolo Fault Hazard Zones. Utilize California Mines and Geology Board Policies and Criteria for Alquist-Priolo Fault Hazard Z
- S-S5.Flood Regulations.
Regulatory standards for flood mitigation shall be based on FEMA Flood Insurance Rate Maps and regulations and local ordinances.

Humboldt County Code, Section 331-14 -Grading, Excavation, Erosion, and Sedimentation Control

This section describes the requirements and thresholds for grading permits and associated engineering reports.

- Grading permit for any activity disturbing greater than 50 cubic yards of material.
- Grading of more than 5,000 cubic yards of material must be conducted in accordance with an approved grading plan prepared by a civil engineer and including a soils engineering report and engineering geology report prepared by a licensed professional.

Humboldt County Commercial Medical Marijuana Land Use Ordinance (CMMLUO) no.2559 (1.0)

55.4.8.2.1 Approvals for New Outdoor and Mixed-Light Cultivation Areas

- The natural slope of the land is 15% or less.

Existing Conditions

Humboldt County is generally a high risk area for landslides and erosion as well as ground shaking and fault rupture. The potential for ground shaking and fault rupture is a commonly assumed risk in all of California as well as Humboldt County. In order to reduce the risk of ground shaking and fault rupture, the State of California has identified some of the major seismic risk factors – proximity to active faults, potential for liquefaction, intensity of ground shaking, potential tsunami and flooding areas, slope stability, and landslide potential.

The project is not impacted by any active fault zones or Alquist Priolo Fault Hazard Zones, in which building restrictions are regulated. The Little Salmon Fault Zone is the nearest Alquist Priolo Hazard area and it is over 24 miles to the northwest. There is an unnamed fault approximately 3.2 miles south of the project area near Blocksburg; approximately 5.0 miles to the west of the project area is the Eaton Roughs fault zone to the west.

A search of the last 10 years of the United States Geological Society (USGS) earthquake data provides data for only one earthquake in the vicinity that measured over 2.5 on the richer scale. See Figure 18 below.

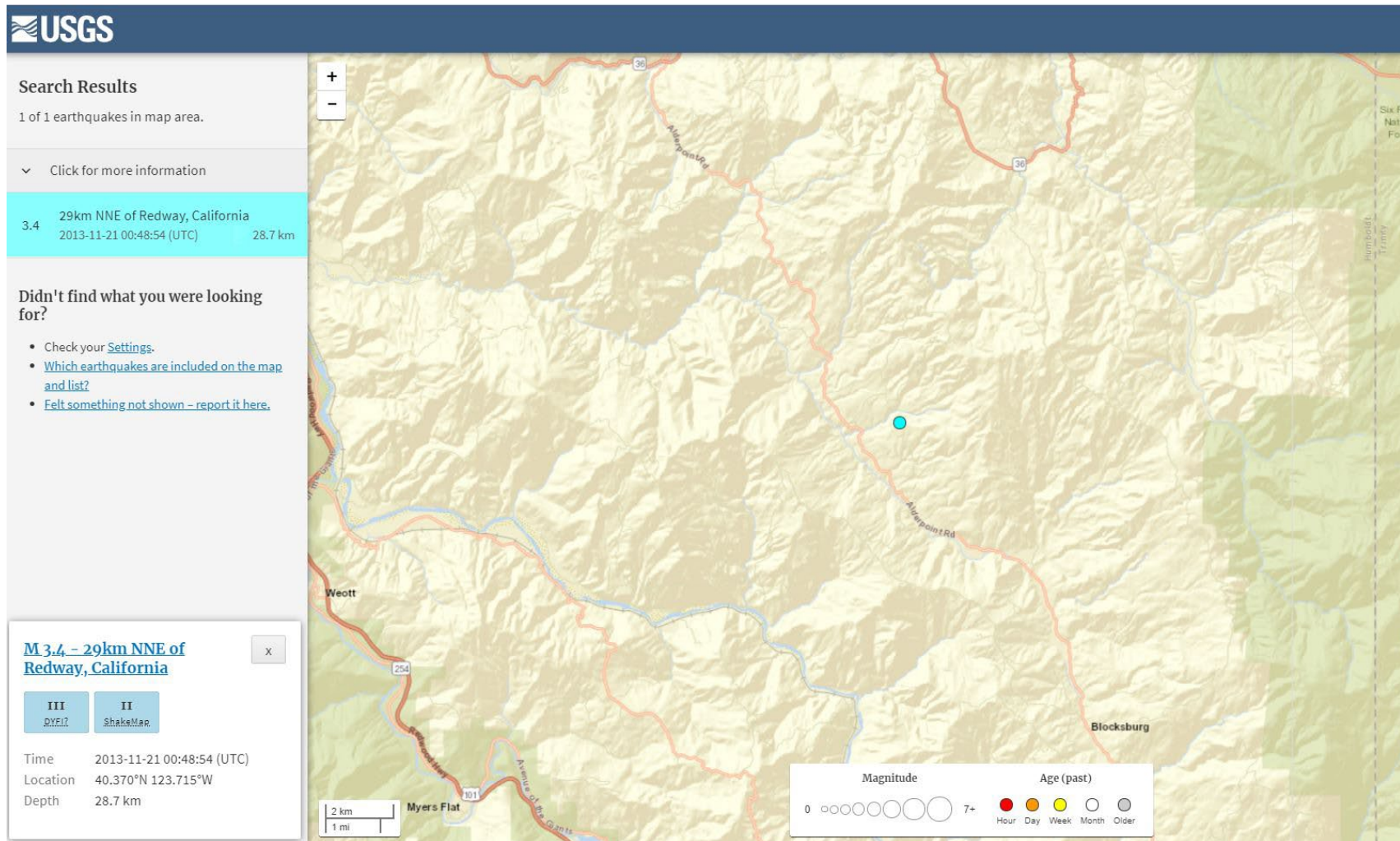


Figure 18. Earthquakes in project vicinity between 2010 and 2020; USGS

The proposed new cultivation area has a slope described by the geologic consultants as “nearly level to gently sloping” (See Prime Ag Soils Letter, Appendix E); the Multi-Use Building is similarly located on low slopes (under 15%).

The parcels are outside of an area of potential liquefaction; the nearest zone, according to the Humboldt County GIS, that has liquefaction potential is almost 30 miles northwest of the project area near Rio Dell on the Eel River. The parcels are located over 1000 feet above and over 1.75 miles (to the west) away from Larabee Creek, the nearest FEMA 100yr and 500yr predicted flood zone area.

At this time, the California Department of Conservation, Division of Mines and Geology does not have any mapped historic landslides data available for the project area (CA dept of Conservation and mapped by Hum GIS).

Soils

The National Earthquake Hazards Reduction Program (NEHRP) has identified the project area (per Hum County GIS database) as Geologic Unit C. The units are a measure of seismic stability based on the velocity at which the rock or soil transmits shear waves (S-waves) and an important component when calculating seismic amplification. Shaking is stronger where the shear wave velocity is lower. A Unit C rating puts the shear velocity of the project’s geologic unit between the most rapid and the least rapid transmission of S-waves and therefore within the range of relative seismic stability (Figure 19). However, the rating for seismic stability, according to the Hum county GIS is a “3” which is a rating of High Instability.

Soil type A	Vs > 1500 m/sec	Includes unweathered intrusive igneous rock. Occurs infrequently in the bay area. We consider it with type B (both A and B are represented by the color blue on the map). Soil types A and B do not contribute greatly to shaking amplification.
Soil type B	1500 m/sec > Vs > 750 m/sec	Includes volcanics, most Mesozoic bedrock, and some Franciscan bedrock. (Mesozoic rocks are between 245 and 64 million years old. The Franciscan Complex is a Mesozoic unit that is common in the Bay Area.)
Soil Type C	750 m/sec > Vs > 350 m/sec	Includes some Quaternary (less than 1.8 million years old) sands, sandstones and mudstones, some Upper Tertiary (1.8 to 24 million years old) sandstones, mudstones and limestone, some Lower Tertiary (24 to 64 million years old) mudstones and sandstones, and Franciscan melange and serpentinite.
Soil Type D	350 m/sec > Vs > 200 m/sec	Includes some Quaternary muds, sands, gravels, silts and mud. Significant amplification of shaking by these soils is generally expected.
Soil Type E	200 m/sec > Vs	Includes water-saturated mud and artificial fill. The strongest amplification of shaking due is expected for this soil type.

Figure 19. National Earthquake Hazards Reduction Program (NEHRP) Soils description; USGS

Specifically, the soils within the survey area are mapped by the NRCS as Map Unit 4421- 4421—Highyork-Elkcamp-Airstrip complex, 9 to 30 percent slopes (NRCS 2019). The Highyork series has parent materials of colluvium derived from sandstone and/or earthflow deposits derived from schist (NRCS 2019). The Elkcamp series has parent materials of colluvium derived from mudstone and/or colluvium derived from sandstone and the Airstrip series has parent materials of residuum weathered from sandstone (NRCS 2019). See Biological Report (Appendix B) for NRCS Soils map.

Analysis of Potential Impacts

The project's proposed expansion of the project area will locate cultivation on very low slopes that will involve hand tilling and in ground planting. The proposed 7,200 sq. ft. Multi-Use Building will be located on the footprint of a burned down barn; the area is already very level and will only require blading to clear the area for the rebuild. The earthwork at the project area is limited to the grading/blading for the Multi-Use Building, grading for the rainwater catchment tank, and the limited trenching for the septic and alternative power systems. The project area has slopes that are very low, with no nearby fault zones, mapped landslides or earthquake activity, and the land disturbance (cut/fill) will be minimal (less than 50 cubic yards); therefore the stability rating of 'high instability' attributed to the general project area (HumGIS), though descriptive at a the landscape level, does not accurately describe the stability of the immediate project footprint.

Discussion of Significance

a) Less than Significant. The proposed project will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Fault rupture. The project is outside any Alquist-Priolo Fault Zones (as mapped by Hum GIS). According to the Revised Special Publication 42 from the California Department of Conservation (2018), the purpose of the Alquist-Priolo Earthquake Fault Zoning Act is to regulate development near active faults so as to mitigate the hazard of surface fault rupture. As mapped by Humboldt County's GIS, there is an unnamed fault, or fault trace, approximately 3.2 miles South of the project area near Blocksburg; approximately 5.0 miles to the west of the project area is the Eaton Roughs fault zone. As neither fault is identified as an Alquist-Priolo Fault Zone, the risk of fault rupture at the proposed project location is not significant and will not cause substantial adverse effects. **No Impact.**

ii) Strong seismic ground shaking. The likely impact of strong seismic ground shaking combines the proximity to a fault with the underlying soil composition. The geologic unit of the area is described as Geologic Unit (NEHRP Soil Type) C. This is in the middle of the scale for seismic wave amplification (Figure 19). The California building codes accommodate a large range of ground acceleration numbers as part of building in California, a state that experiences earthquakes regularly. The industrial Multi-Use Building, will be built to the standards of the CA building code. The 200,000 gallon rainwater catchment tank will be engineered. The CA building code accounts for seismic shaking, so the addition of the planned Multi-Use Building and the proposed propagation greenhouse structures will have a **Less Than Significant** impact on the potential for loss, injury, or death.

iii) Liquefaction. The project is not in a mapped potential liquefaction zone. The project development is not located on alluvial flood plain soils or coastal sands, soil types that pose the highest liquefaction

hazard (Humboldt County, 2017). All groundwater from the well will be used at agronomic rates and no agricultural runoff or excessive saturation is expected. the project will allow the rainwater to infiltrate into the nearby wetland without changing the hydrology of the area through the inclusion of french drains or infiltration trenches into the design of the Multi-Use Building. **No Impact.**

iv) Landslides. According to the Humboldt GIS map (reflecting the authoritative Landslide Inventory compiled by the California Dept. of Conservation and mapped by the California Geological Society), there is no data providing mapped landslides on or immediately adjacent to the project parcels. The project will have **No Impact** on Landslides.

b) No Impact. The project will not contribute to the loss of topsoil. The project will plant all proposed additional cannabis acreage (six (6) acres) directly into the ground. The individual plant areas will be hand tilled and fertilized. After fertilization, the plant areas will receive transplants from the propagation greenhouses; no top soil will be lost in this process. There will be some scraping to build the Multi-Use Building and to establish the pad for the rainwater catchment tank. These areas are on low slope areas (<15%) and will require minimal grading. The large Multi-Use Building (7,200 sq. ft.) is a rebuild of a burned down barn and will only be 'bladed' to clear the area. Any soil removed through grading/blading will be relocated out of riparian setbacks where it will be contoured to the natural slope and reseeded with a native plant mix. Straw will be applied at a rate of two (2) tons per acre if determined to be necessary based on site conditions (slope, wind exposure, etc.).

The project will add four (4) new propagation greenhouses for a total of five (5) on the project parcel. The proposed greenhouses, like the existing greenhouse, will be built directly on the native land; the top soil will remain in place, covered with weed matting to provide a stable and dust-free surface.

No topsoil will be lost to wind erosion. The earthwork portions of the project (Phase I, Part 1 and Phase II, Part 1) of the project are expected to last a combined total of approximately two to three (2-3) weeks. During these times, the project will utilize water (zero to three (0-3) times per day as necessary; to be determined by soil moisture level and meteorological conditions) to keep dust from becoming airborne. Water may be applied to roads, spoils piles, and grading/scraping areas during earthmoving. This will result in zero (0) loss, or a negligible loss, of topsoil during construction. All cut and fill is expected to be balanced on the property; no topsoil will be physically removed from the site. Project operations will not impact topsoil in that the soil will remain in place (gravel added on top of dirt roads, weed matting on top of native ground in propagation greenhouses) with the addition of gravel on roads and in greenhouses.

Project construction will limit wet erosion of soil (mobilization of sediment) through scheduling and use of erosion control BMPs. All work will take place during the dry season; ideally occurring in early spring when the ground is moist, but without standing water. The project will implement construction BMPs including the installation of preventative wattles around bare soil areas (downslope of disturbed areas not on-grade), and immediate (within seven (7) days of disturbance) reseeding of bare ground. The amount of sediment captured by wattles is expected to be minimal and will remain in place. The project operations will maintain the erosion control system by promoting vegetation growth and checking wattles for effectiveness and intactness.

c) Less Than Significant Impact. The proposed project development will not be located on a geologic unit that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse. The area collects water in the seasonal and perennial wetlands and there are multiple streams in the area, but there is no indication (mapped occurrences or published evaluation of risk) that liquefaction or subsidence would be recognized as a hazard in the project vicinity. Landslides tend to be the focus of geologic instability experienced in the region.

The project parcel, as a whole, has a relative slope stability of ‘High Instability’ (Hum GIS). This rating was a result of the digitizing of the 1984 Humboldt County General Plan Geologic Map. In the 1984 and 2017 General Plan, Humboldt County specifies that the level of detail and accuracy of the geologic maps is variable and more specific onsite review is often necessary (Part 1, 2.6). A specific review of the proposed project location means first understanding the fundamental components involved in determining relative slope stability. In 1979, the USGS released a professional publication (PP 944) titled, “Relative Slope Stability and Land-Use Planning.” This document outlined the four (4) most important factors that cause slope failures as (1) the nature of the underlying bedrock or unconsolidated deposits, (2) the angle of slope, (3) rainfall, and (4) the presence of older landslide deposits. Humboldt County identifies six (6) factors relating to landslide susceptibility: (1) type and structure of earth materials, (2) steepness of slope, (3) water, (4) vegetation, (5) erosion, and (6) earthquake-generated ground shaking (Part 4, 14.3; 2017). While there is currently no data on historic landslides in the region, there is an established indicator of landslide susceptibility – most landslides, irrespective of other factors, occur on slopes greater than 15% slope (USGS, 1979).

The project cultivation will occur on slopes less than 15%; the proposed rainwater catchment tank and propagation greenhouses will be located on slopes less than 15% and even the Multi-Use Building will be located on slopes less than 15%. Therefore, while the underlying geology and the hilly nature of the area may contribute to the generalized rating of ‘High Instability,’ the project’s proposal for limited development and inground cultivation on a grassy, low slope area (a geographic bench known as Sherman Flat) means that the area is unlikely to have experienced significant landslides in the past and is unlikely to experience a landslide in the future.

d) No Impact. The project parcels’ soils were evaluated by an engineer from -- engineering that produced a Prime Agricultural Soils Review and a general Soils Report (Appendix E). The Prime Ag Soils Report concludes that all of the soil in the project area can be classified as Class I soils (Prime Ag). Prime Ag soils are not considered expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994).

e) No Impact. The project will not have soils incapable of adequately supporting the use of septic tanks. A septic system is planned for installation adjacent to the Multi-Use Building (to support the ADA restrooms and handwashing planned for project employee use). Septic suitability soil testing has been performed (See Appendix E) in the area; the suitability testing demonstrated that a standard septic system would be adequate. Additionally, the project area is not in an area identified by Humboldt County as being within a Variance Prohibition Area due to the area having a high density of domestic wells, a high density of onsite wastewater systems, or a generally high water table, a non-standard system is generally the only option in this area.

f) No Impact. The project will not directly or indirectly destroy a unique geologic feature as there are no unique geologic features on the parcels. By implementing the mitigation described in the Cultural Resources section, 4.5, and establishing an Environmentally Sensitive Area Buffer around the cultural resource discovered by the archeologists (Appendix F), there will be a less than significant impact paleontological resources on the project parcel. Standardized inadvertent discovery protocols will be incorporated.

Cumulative Impact

As described previously, the project will develop four (4) additional greenhouses for propagation and a rainwater catchment tank on low slope areas, add additional outdoor cultivation on low slope areas (in ground cultivation with hand tilling only), rebuild a burned down barn, and improve existing access roads. Because the project will avoid overwatering (automated drip system), is developing an area with low slopes, and requires a limited amount of grading/excavation/land disturbance, the cumulative effects of this project will not create a more unstable geologic and edaphic environment than exists at present.

4.8 GREENHOUSE GAS EMISSIONS

Issues and Supporting Information	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?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X

Regulatory Setting

State of California

- Executive Order B-30-15:
Sets a greenhouse gas emissions reduction goal of 40 percent below 1990 levels by 2030.
- Senate Bill 32:
Codifies the 2030 emissions reduction goal of Executive Order B-30-15 by requiring a reduction goal of 40 percent below 1990 by 2030.

County

Climate Action Plan (CAP)

Compliance with state mandates for reduction in greenhouse gas emissions is best achieved at the regional scale. To this end, in 2019, Humboldt County, the Redwood Coast Energy Authority, and the cities of Arcata, Eureka, Blue Lake, Ferndale, Fortuna, Rio Dell and Trinidad began working together to create the regional CAP. The policies are in progress and no draft is available to date.

Humboldt County General Plan (Part 3, Ch 12, Energy)

- E-G1/E-P5. Regional Energy Authority.
The county is actively pursuing partnerships with alternative energy providers and attempting to streamline permitting for alternative energy sources. To that end, Humboldt County is one of the governing agencies of the Redwood Coast Energy Authority; whose purpose is:

To develop and implement sustainable energy initiatives that reduce energy demand, increase energy efficiency, and advance the use of clean, efficient and renewable resources available in the region for the benefit of the Member agencies and their constituents.

Existing Conditions

Greenhouse Gas (GHG) Emissions are said to result in an increase in the earth's average surface temperature commonly referred to as global warming. This change in global temperature is associated with long-term changes in precipitation, temperature, wind patterns, and other elements of the earth's climate system, known as climate change. These changes are now broadly attributed to GHG emissions, particularly those emissions that result from the human production and use of fossil fuels. Climate changes resulting from

Initial Study, Blocksburg Family Farms, LLC.

Humboldt County APN: 217-471-001

PLN-12265-CUP

GHG emissions could produce an array of adverse environmental impacts including water supply shortages, severe drought, increased flooding, sea level rise, air pollution from increased formation of ground level ozone and particulate matter, ecosystem changes, increased wildfire risk, agricultural impacts, and ocean and terrestrial species impacts among other adverse effects.

In 2006, the state passed the Global Warming Solutions Act of 2006, commonly referred to as AB 32, which set the greenhouse gas emissions reduction goal for the State of California into law. The law requires that by 2020, state emissions must be reduced to 1990 levels by reducing greenhouse gas emissions from significant sources via regulation, market mechanisms, and other actions.

It should be noted that an individual project's GHG emissions will generally not result in direct impacts under CEQA, as the climate change issue is global in nature, however an individual project could be found to contribute to a potentially significant cumulative impact.

The gasses most commonly associated with climate change are identified as greenhouse gases and include: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases. Carbon dioxide is commonly identified as a major contributor of climate change for several reasons: it remains in the climate for a very long time and has a very “high radiative efficiency”, or ability to absorb energy. It is also the most common greenhouse gas emission. In 2017, CO₂ constituted 82% of all US greenhouse gas emissions (EPA, 2017). In California, CO₂ was 83% of the total greenhouse gas emissions (CARB, 2019).

Because carbon dioxide is the primary contributor of global climate change and the largest component of US greenhouse gas emissions, CO₂ will be evaluated in this document. The other greenhouse gasses, methane (CH₄), nitrous oxide (N₂O), and fluorinated gases will not be considered at this stage of evaluation for several reasons. Primarily, because the proposed project is not expected to have significant greenhouse gas impacts and the use of CO₂ provides clear indication of proximity to possible greenhouse gas thresholds. A close proximity to threshold would be expected to trigger further investigation.

Another reason that CO₂ alone will be used to evaluate greenhouse gas emissions in this document, is that the proposed project sees the largest contributions to emissions as a result of the project geography and subsequent motor vehicle use (Tables 20 and 22). The EPA (2018), describes the evaluation of other emissions, methane (CH₄), nitrous oxide (N₂O), and fluorinated gases, as dependent on the vehicle design (engine type and year) and maintenance. This lack of accuracy coupled with the fact that, on average, CO₂ emissions are 95-99% of the total greenhouse gas emissions from passenger vehicles means that the use of CO₂ as a means of determining greenhouse gas emissions is appropriate.

The conversion of pounds of carbon dioxide per gallon of gas (19.5 lbs./gal) or diesel (22.4 lbs./gal) constituted the methodology used in the analyses below to determine potential project contributions to greenhouse gases.

Analysis of Potential Impacts: Project Construction

The total cumulative time for project construction is estimated to be between 13 and 16 weeks. The construction components of the project include short term, specific goal oriented transportation trips that are not reoccurring. These are the delivery and return of earthmoving equipment and the delivery of project

specific materials needed to achieve project construction goals (construction of the Multi-Use Building, the installation of the rainwater catchment tank and other water tanks, road rocking, installation of a septic system, and the alternative energy system. The heavy equipment phase of construction is estimated to take between two to three (2 – 3) weeks; the finishing phase of construction is estimated to take an additional 11 to 13 weeks.

The expected vehicle trips, frequency, and combined emissions from construction related vehicle use is detailed below in Table 20. The calculations below use Garberville as the source for construction vehicles and materials as a local business (Randall Sand & Gravel) was named by the project contractor. This location was also used as a base for construction employee traffic in the absence of specific or estimated details. The analysis shows that construction related vehicle use could result in a one-time release of 62,513 pounds or **28.4 metric tons of carbon dioxide** into the environment.

Table 20. Project Construction Estimated GHG (Metric Tons of Carbon dioxide) From Vehicle Use

Activity	Vehicle Type	Number of round trips for construction	Total miles traveled From Garberville = 70 miles roundtrip	Miles per gallon of fuel † D -diesel G- gasoline	Total gallons of fuel burned (miles/mpg)	CO ₂ pounds released per year 22.4lbs/1gal diesel 19.5 lbs./1gal gas
Deliver concrete	Concrete Truck	36	2,520	3.5†† (D)	720 gallons	16,128 lbs. CO ₂
Deliver excavator	Class 8 truck or truck and trailer	1	70	5.3 (G)	13.2 gallons	257.4 lbs. CO ₂
Deliver Backhoe/loader	Class 8 truck or truck and trailer	1	70	5.3 (G)	13.2 gallons	257.4 lbs. CO ₂
Deliver Gravel	Dump truck	1	70	5.3 (G)	13.2 gallons	257.4 lbs. CO ₂
Onsite transport of gravel from borrow pit	Dump truck	n/a	30 onsite miles	5.3 (G)	5.7 gallons	111.2 lbs. CO ₂
Dust abatement	Water truck	1	70	5.3 (G)	13.2 gallons	257.4 lbs. CO ₂
Deliver Compactor/roller	Class 8 truck or truck and trailer	1	70	5.3 (G)	13.2 gallons	257.4 lbs. CO ₂
Deliver Propane Tank	Class 8 truck or truck and trailer	1	70	5.3 (G)	13.2 gallons	257.4 lbs. CO ₂
Deliver Building Materials	Flatbed truck	5	350	6.5 (G)	53.8 gallons	1049.1 lbs. CO ₂
Construction Employees*	Light duty truck	560	39,200	17.5 (G)	2,240 gallons	43,680 lbs. CO ₂
Total Estimated Construction CO ₂ Emissions from Vehicles = 62,513 lbs. / 28.4 metric tons of CO₂						

* Assuming an average load of eight (8) cubic yards of concrete per truck; † Fleet Survey Final Report, Table 12; NRMCA, 2014

** Assuming 20 yards per delivery with truck and trailer transfer option from Randall Sand and Gravel in Garberville

***Construction employees (5 maximum onsite daily) will be onsite daily for the duration of the project (16 weeks maximum for all phases).

† Average Fuel Economy, FHA Highway Statistics, 2016; mpg given in 'Gasoline Gallon Equivalents'

† † Concrete truck fuel economy from Fleet Survey Final Report, Table 12; NRMCA, 2014

In the event that Eureka is the location from which construction equipment/vehicles are sources, the CO₂ release would be essentially doubled (from 70 miles round trip to closer to 140 miles round trip), resulting in an approximate release of 56.8 metric tons of CO₂.

It is also true that the equipment brought onto the site for use in construction (backhoe, dump trucks, water truck, etc.) will be burning fuel while onsite. The amount of fuel burned onsite and the corresponding amount of emissions released are directly related to the number and type of equipment onsite, including the engine year and horsepower (EPA 2010), the “duty hours” and “duty cycles” of the equipment use, where “cycles” is used to differentiate equipment activities (idling, hauling, digging, etc. (Lewis, 2009)), and even the specific haul routes of the proposed project site (Ahn, C., et al, 2009).

To reduce fuel consumption and GHG emissions, the project construction team will follow best practices and will not allow engines to idle. Fuel use will be limited to active work times. Active work times by heavy equipment will occur over a period of approximately two to three (2-3) weeks. No heavy equipment will be used during the finishing phases (building of the Multi-Use Building and proposed propagation greenhouses, electrical, plumbing, etc.).

Because this project proposes to use heavy equipment for a limited amount grading and trenching (see Project Description 2.8) in support of agricultural activities on rural ranching land, the emissions from this onsite work is expected to be less than significant.

Analysis of Potential Impacts: Project Operations

The components of the project that will contribute to greenhouse gases are the use of propane gas as a primary heating source for the propagation greenhouses and Multi-Use Building, the vehicle traffic associated with the project operations (employees, delivery of supplies to the site, and product transport off site), and the use of generators during some project phases. A carbon neutral gasifier is proposed for Phase III; because gasifiers burn biomass, they are considered carbon neutral (EPA, 2018c), it will not produce significant emissions and will not be further discussed in this section.

Propane

Heating fuel for the project will be propane. Propane is not regulated by the Aboveground Petroleum Storage Act (APSA) as it volatilizes when not under pressure. The propagation greenhouses and the Multi-Use Building will utilize propane heaters to manage climate during propagation and drying of the crop. The propagation greenhouses are expected to use 25 to 50 gallons of propane per week per greenhouse. In a typical year (Phase II/III) propagation heating will only be needed in the spring (is not anticipated for mid-season clones) for up to 16 weeks. The range of propane use will be between 400 to 800 gallons per greenhouse with a maximum potential total of **2,400 gallons of cumulative propane for propagation**. Propane will be sourced from portable 100-pound bottles of propane (approx. 24 gallons each).

During harvest, the drying room in the Multi-Use Building will be carefully controlled. Propane heat will be used during this time to bring up the ambient temperature. Approximately 75 gallons of propane per week is anticipated during harvest season. The staggered harvests mean that the project will harvest light deprivation during July and Oct (approx. six (6) weeks of drying) and the full term outdoor during November (another four (4) weeks of drying). The 10 weeks of drying mean that the heaters in the drying

room of the Multi-Use Building could burn up to **750 gallons of propane per season**. This number is expected to diminish in Phases II and III, as the alternative energy system will also provide hydronic heating to the Multi-Use Building.

Therefore, during normal ongoing project operations (Phase II and Phase III), maximum annual propane use (propagation and drying) is estimated to reach a maximum of 3,150 gallons per year.

According to the EPA Emission Factors for Greenhouse Inventories (2018), one (1) gallon of propane burned will result in 5.7 kg of CO₂, or 12.5 lbs. of CO₂. Using the conversion from the EPA, the heating from propane will contribute a maximum of **39,375 pounds, or 17.9 metric tons**, of carbon dioxide to the atmosphere during every year. See Table 21 below.

Table 21. Annual Metric Tons of CO₂ from Propane

3,150 gallons	x 12.5 pounds CO ₂	= 39,375 lbs. CO ₂ per year = 17.9 Metric Tons CO₂/year
year	gallon	

Gasoline and Diesel

Vehicle Contributions

Carbon dioxide comes from many different sources, but the largest contributor of CO₂ in California is transportation. In 2017, transportation contributed 41% of total CO₂ in the state (EPA, 2019). The project has reoccurring vehicle traffic that will be consistent as part of normal project operations. The existing traffic includes the one to two (1-2) employees that the project uses to help plant, tend and harvest the existing 16,800 sq. ft. garden (one to two (1-2) vehicles per day). When the proposed project operations are running, this traffic will increase to include additional employees and vehicle trips. During Phase I, the project will have an average of six (6) employees onsite per day. The vehicle traffic for project operations will also include weekly supply runs, seasonal clone pick-ups, and delivery of product and waste off site. The project will see a maximum of 6.25 vehicle trips per day during Phase I (see section 4.16). During Phase II/III, the number of employees will increase to 20-25 onsite per day. With the incorporation of one or more passenger vans (**Transportation Mitigation 1**), the employee travel will be reduced to two (2) trips per day; including weekly supply runs, seasonal clone pick-ups, and delivery of product and waste off site, the total daily average will increase to 2.25 trips per day during Phase II/III.

The expected vehicle trips, frequency, and combined annual emissions from operational vehicle use is detailed below. While the project will use employees and products that come from a variety of locations around the county, the calculations below, based on project proponents descriptions, use Alderpoint as a maximum anticipated distance for employee travel (40 miles roundtrip) and Eureka as a maximum baseline source for weekly supply/chore runs and delivery of product (120 miles roundtrip).

Phase I - Based on the analysis below (Table 22), the estimated maximum production of operational CO₂ Emissions from Vehicles = 79,507 lbs. or **36 metric tons of CO₂**

Phase II/III - Based on the analysis below (Table 22), the estimated maximum production of operational CO₂ Emissions from Vehicles = 54,420 lbs. or **25 metric tons of CO₂**

Initial Study, Blocksburg Family Farms, LLC.

Humboldt County APN: 217-471-001

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Table 22. Project Operations Estimated Annual GHG (Metric Tons of Carbon dioxide) from Vehicle Use.

Activity	Vehicle Type	Number of roundtrips /month (30 days)	Number of roundtrips /year The project is active March – November (240 days / 8 months)	Total miles traveled /year	Miles per gallon of fuel D -diesel G- gasoline	Total gallons of fuel burned (miles/mpg)	CO ₂ pounds released per year 22.4lbs/1gal diesel 19.5 lbs./1gal gas
Employees travel* Phase I: (6 personal vehicles making one roundtrip each)	Light duty truck/sedan	180	1,440	57,600	17.5 (G) †	3,291	64,174.5
Employee travel* Phase II/III (van/s making 2 round trips)	12 or 15 passenger van	60	480	19,200	11 (G) †	1,745	39,088
Clone/potting soil pick up**	Truck & trailer	-	3	360	11 (D) ††	32.7	732.5
Product offsite**	Truck & trailer	-	6	720	11 (D) ††	65.5	1,467.2
Propane fuel delivery** (Refill every 6 months)	Propane truck	-	3	360	5 (G) †	72.0	1,404.0
Nutrients and supplies to site; Garbage and recycle off site**	Truck and trailer	5	48	5,760	11 (D) ††	523.6	11,728.6
<p>Phase I: Estimated Annual Operational CO₂ Emissions from Vehicles = 79,507 lbs. or 36 metric tons of CO₂</p> <p>Phase II/III: Estimated Annual Operational CO₂ Emissions from Vehicles = 54,420 lbs. or 25 metric tons of CO₂</p>							

* Number based on the expectation that employees will be traveling from as far away as Alderpoint (40 miles round trip).

** Number based on expectation that these trips will not extend past Eureka (max of 120 miles roundtrip)

† Average Fuel Economy, FHA Highway Statistics, 2016; mpg given in 'Gasoline Gallon Equivalents'

†† Fuel use numbers from project specific vehicle

Generator Contributions

During the initial phase of the project, Phase I, the project will use gasoline powered generators. A Honda EU7000iS generator will run the supplemental lighting and fans in two (2) proposed propagation greenhouses. A Honda 3000iS gasoline generator will run the existing (1) propagation greenhouse at the existing garden, including supplemental lighting and fans. The project anticipates using seven (7) gallons of gas every four (4) days (1.74 gallons per day) for all three (3) propagation greenhouses and plans to keep four (4) five-gallon containers on hand (split between the two (2) generators). The project will refill gas cans once a week during the anticipated weekly supply run. During Phase I, the propagation greenhouse for the existing garden will be operating for approximately eight (8) weeks. The proposed propagation greenhouses will run up to eight (8) weeks. Accordingly, the combined use of the generators for propagation lighting, over eight (8) weeks, will be around 98 gallons of gas and this will result in a total of 1,911 pounds of carbon dioxide released into the atmosphere.

Table 23. Generator CO₂ Contribution – Phase I Propagation Greenhouses- 8 Weeks

98 gal of gasoline	x 19.5 pounds CO ₂	= 1,911 lbs. CO₂ (0.87 MT)
	Gallon of gasoline	

Anticipating that the alternative power system is not running by October of Phase I, when harvest and drying of cannabis begins (all crops are outdoor in Phase I: new one (1) acre, and existing 16,800 sq. ft.), the project proposes to use one to two (1-2) Honda 7000iS generators to run the indoor circulation fans and dehumidifiers in the drying rooms of the Multi-Use Building. The cannabis will be harvested and dried in batches with the generators used as needed to maintain appropriate climate control. If the weather is hot and dry, the project proponents expect that the energy use will be minimal for only several hours a day; if the weather is cloudy and rainy, the fans and dehumidifiers may be needed 24 hours a day. Based on their experience, the project proponents estimate that it will take approximately one (1) week to dry one (1) acre of harvested product. Therefore, the maximum estimated drying time for the potential Phase I planning of one (1) acre plus existing garden product will be 1.5 weeks. The alternative energy system will be in place for Phase II planting; generators (all uses) will be used during Phase I with some back up use during Phase II as the alternative energy system is tested and adjusted.

According to the generator specification provided by Honda (Appendix H), five (5) gallons of gas results in 6.5 hours of runtime, or 0.769 gallons/hr. So, 24 hours of runtime would be 18.462 gallons of gas. If one (1) generator runs (to power dehumidifiers and fans during cloudy weather) 24 hours a day for 1.5 weeks, the project will burn approximately 194 gallons of fuel. The use of one (1) Honda 7000iS to power the dehumidifiers and fans for 1.5 weeks will result in 3,783 pounds of carbon dioxide released into the atmosphere. The use of two (2) Honda 7000iS generators to power the dehumidifiers and fans for 1.5 weeks will result in **7,566 pounds of carbon dioxide** released into the atmosphere.

Table 24. Generator CO₂ Contribution – Phase I Drying – 1.5 Weeks

194 gals of gasoline	x 19.5 pounds CO ₂	= 3,783 lbs. CO₂ (1.72 MT) /Generator
	Gallon of gasoline	

The total carbon dioxide that will be released due to all generator use during Phase I is **9,477 lbs., or 4.3 metric tons of CO₂.**

During Phase II, generators are expected to supplement the alternative energy system as the system will be in a testing/monitoring stage; the goal of Phase II will be to determine the total electrical demand of the project and appropriate system design. The exact use of the generators is speculative, but is not expected to significantly exceed that of the combined generator use in Phase I. Therefore, for the purposes of this analysis, the total carbon dioxide that will be released due to all generator use during Phase II is **9,477 lbs., or 4.3 metric tons of CO₂**

Phase III will see the alternative energy system at a level that will allow the project to discontinue petroleum fuel based generator use. The project will use a gasifier, a wood burning, carbon neutral generator, to make up seasonal shortfalls in solar electrical production. Because gasifiers burn biomass, effectively re-releasing stored carbon back into the atmosphere in the same way that a decaying tree would, they have been determined to be carbon neutral (EPA Policy Statement, 2018c). Therefore, effectively, the total carbon dioxide that will be released due to all generator use during Phase III is **0 lbs., or 0 metric tons of CO₂.**

Discussion of Significance

a) Less than Significant. Humboldt County does not have a threshold for determining the significance of a single project. The General Plan includes a policy, AQ-P11 that describes the county's obligation to review the potential GHG emissions of "new large scale residential, commercial and industrial projects for compliance with state regulations and require feasible mitigation measures to minimize GHG emissions" (General Plan, 2017; Ch.11). The review of discretionary projects for GHG emissions most commonly occurs as a component of the CEQA process.

The CA Office of Planning and Research's (OPR) CEQA and Climate Change Advisory (Discussion Draft, Dec 2018) suggests that quantification of a project's emissions is preferable, even when numeric thresholds have not been established. The quantification allows a clear picture of the sources and amounts of greenhouse gasses.

Accordingly, this project's annual greenhouse gas contribution (using carbon dioxide as the primary indicator) has been quantified (Tables 20-24). The results are summarized in Table 25 below. The combined temporary emissions (two (2) years of development that includes construction, Phase I, and Phase II) are projected to be 133.8 Metric Tons of CO₂. The average annual for temporary emission for Phase I and Phase II is approximately **70 Metric Tons (MT)** per year. In Phase III, the project is operating with close to 100% onsite renewable energy and minimized (Transportation Mitigation 1) vehicle contributions. The Phase III long term emissions are anticipated to be **42.9 Metric Tons per year.**

Table 25. Projected CO₂ Emissions for Project Operations (All Phases Combined)

	Source	CO ₂ emissions (Metric Tons)
Temporary/Construction	Construction Vehicles	28.4
Construction Emissions = 28.4 Metric Tons		
Temporary/Phase I	Propane	17.9
	Operational Vehicles	36
	Generator Use	4.3
Phase I, Temporary Emissions = 58.2 Metric Tons		
Temporary/Phase II	Propane	17.9 (or less)
	Operational Vehicles	25
	Generator Use	4.3 (or less)
Phase II, Temporary Emissions = 47.2 Metric Tons		
Long Term/Phase III	Propane	17.9 (or less)
	Operational Vehicles	25
	Generator Use	0
Phase III, Operational Emissions = 42.9 Metric Tons		

Because no specific county thresholds have been established, and while CEQA state guidelines are currently in the discussion and draft stage, the GHG analysis for the ongoing project operations will be set into the context of other local projects and potential thresholds. In the analyses below, additional gases (Methane (CH₄), Nitrous oxide (N₂O), and Fluorinated gases) are not included. Carbon dioxide alone, as the most substantial gas emission, is used to determine proximity to established thresholds from which further investigation could, if necessary, be pursued.

Samoa Peninsula Wastewater Project Draft EIR

By reference, this document incorporates the conclusions made by the Samoa Peninsula Wastewater Project Draft EIR (Jan 2019). The Samoa Peninsula Wastewater Project is used here because, as a Humboldt County project, the Wastewater Project will be reviewed by some of the same agencies (lead and responsible agencies) that will review the cannabis project proposed herein; therefore, the thresholds and analysis applied in the Wastewater Project can be assumed to be applicable to the project proposed in this document. The Samoa Wastewater Project applies, in lieu of established state or local thresholds, the national level thresholds established by the Council on Environmental Quality (CEQ) in the 2010 Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions. In this document, the project identifies an annual indicator threshold of 25,000 MT of CO₂ equivalent emissions. Projects producing an amount of greenhouse gas emissions near this threshold would indicate a need for further evaluation and mandatory reporting under the Clean Air Act and possible mitigation.

This project will produce an average annual total of 70 MT of CO₂ (temporary) and 42.9 MT of CO₂ (long term). Using the 2010 threshold recommended by the CEQ and used in the Samoa Peninsula Wastewater Project Draft EIR – 25,000 MT per year of CO₂, this project would produce a **Less Than Significant** amount of CO₂.

Bay Area Air Quality Management District (BAAQMD)

The BAAQMD, like many agencies, is currently in the process of updating their CEQA guidelines for GHG compliance. Their available metric for analyzing GHGs comes from their CEQA Guidelines, May 2017.

These guidelines are used in this document because the Bay Area is an area in close physical proximity to Humboldt County that has clear, evidence based thresholds of significance (2017, BAAQMD: Appendix D). The BAAQMD distinguishes between stationary and non-stationary sources of GHG emissions. Stationary sources have an annual threshold of 10,000MT of CO₂ equivalent emissions. Nonstationary sources have an annual threshold of 1,100MT of CO₂ equivalent emissions. If determined to be under the threshold, a project's operational level GHGs would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions. For both stationary and non-stationary projects, the BAAQMD has not created a threshold for determining construction related CO₂ significance.

The project has both stationary source emissions and non-stationary emissions. The stationary source emissions come from multiple fixed propane heaters in the greenhouses and the Multi-Use Building as well as a propane sourced water heater (Table 21). The non-stationary source emissions are the project related transportation components (Table 22). The table below compares the BAAQMD thresholds with the project's estimated annual CO₂ contribution for both stationary and non-stationary from Phase III.

Table 26. BAAQMD Analysis of Significance:

Projected Annual CO₂ Emissions for Phase III Project Operations

Parameter	Emission per Year (MT CO ₂)
Propane	17.9 (total stationary)
BAAQMD District Stationary Threshold Applied	10,000
Significant Impact?	NO
Transportation	25 (total non-stationary)
BAAQMD District non-Stationary Threshold Applied	1,100
Significant Impact?	NO

Analyzed as stationary and non-stationary using, in the absence of a Humboldt County threshold, the BAAQMD thresholds (Table 26), the project's annual operational emissions (Phase III) are determined to be **Less Than Significant**. At no point in the project's operation (from Construction to Phase III), does the project exceed the thresholds established by the BAAQMD.

b) No Impact. Because the GHG emissions anticipated by the project are less than the amount indicated as the threshold by the 2010 CEQ and the BAAQMD, the project would not be considered to substantially conflict with existing CA legislation adopted to reduce statewide GHG emissions.

Cumulative Impact

The accumulation of greenhouses gases in the atmosphere is a cumulative process and this project would contribute GHGs; however, the impact that this project, as analyzed here, would have on the global scale is a less than significant cumulative impact. In terms of employee travel (the largest contributor of CO₂ emissions to the project) there will be very little change from the current, baseline conditions in the area as

this project is not growth inducing (See Population and Housing). Cumulative health impacts would also be less than significant as the project's greenhouse gas emissions are less than significant.

4.9 HAZARDS AND HAZARDOUS MATERIALS

Issues and Supporting Information	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?			X	
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?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

Regulatory Setting

State

California Health and Safety Code § 25505

The State of California requires an owner or operator of a facility to complete and submit a Hazardous Materials Business Plan (HMBP) if the facility handles a hazardous material or mixture containing a hazardous material that has a quantity at any one time during the reporting year equal to or greater than: 55 gallons (liquids), 500 pounds (solids), 200 cubic feet for a compressed gas

Regional

Certified Unified Program Agency (CUPA)

CUPAs coordinate permits, inspections and enforcement of State Environmental Health programs (Hazardous Materials disclosure, planning and storage, spill prevention, waste treatment) at the local level. Humboldt County CUPA determines, pursuant to state and federal provisions, if a material or mixture of materials is subject to the HMBP and the provisions of the CA Health and Safety Code § 25505

Humboldt County Cannabis Ordinance, no. 2559 (1.0)

55.4.11 Performance Standards for all CMMLUO Cultivation and Processing Operations

j) Refrain from the improper storage or use of any fuels, fertilizer, pesticide, fungicide, rodenticide, or herbicide. Hazardous materials and wastes from agricultural businesses are regulated by the Humboldt County Environmental Health Division, that administers the Hazardous Materials program as one of the Certified Unified Program Agencies (CUPA). This includes the application, inspection, enforcement, and reporting under the program requirements and standards set by the California Environmental Protection Agency (CalEPA). Any uses of pesticide products shall comply with state pesticide laws and regulations enforced by the County Agricultural Commissioner's Office and the California Department of Pesticide Regulation.

Existing Conditions

The project area is in a rural mountainous area characterized by open meadows and mixed evergreens and oak woodlands. Historically, the project parcel and neighboring parcels have been used for cattle grazing and timber production. Today, the project parcel and surrounding parcels are utilized for cattle grazing, timber production and cannabis cultivation. The area has residences that are generally located along the area's primary travel route, Alderpoint Road. The nearest neighbor to the project area is on Alderpoint road, approximately 1.5 miles (3.2 miles by road) southwest of the project area. Sparsely populated, the nearest school, Casterlin School, is located south of Blocksburg; this K-8 school serves approximately 39 students.

Analysis of Potential Impacts

The project will use various natural fertilizers and pesticide products. Rodenticides are not components of the cannabis cultivation plan. The quantities of stored product (over 500lbs) may require documentation and registration with the county (CUPA) and the state (CERS). All fertilizers and pesticides will be stored in secondary containment (non-corrosive plastic totes in the Multi-Use Building). Gasoline will be stored in secondary containment (non-corrosive plastic totes) in generator sheds. The amount of propane fuel on site will be between 350 and 500 gallons in a large tank serving the Multi-Use Building and six (6) 25-gallon canisters that will serve as heating fuel for the propagation greenhouses. Propane is not regulated as a hazardous material (CUPA or APSA).

The major additions that the proposed project will bring to the location are six (6) acres of irrigated crops, four (4) flame resistant propagation greenhouses, one (1) all steel building (Multi-Use Building), a steel rainwater catchment tank, and an alternative energy system. All structures and energy systems will be built to meet the California building code. The electrical wiring will be done to code and performed by a licensed electrician.

During the spring of Phase I, the project will use generators to supply propagation greenhouses with power for fans and supplemental lighting. The generators will be located in generator sheds in open grassy areas and will not be left unattended.

The project's primary access road, the un-named private road, has sufficient turn outs (Road Evaluation, Appendix G) for emergency vehicle access. The signage off of Alderpoint Road and the un-named private road will clearly identify the address of the facility. All equipment shall be kept in a 'fire-safe' condition.

Discussion of Significance

a) Less Than Significant.

Use: The project will periodically store, and apply granular and/or liquid fertilizers; some of which will have safety data sheets (SDS). The project will use powdered sulfur and predatory insects as treatments for pests and fungus.

The application of the powdered sulfur will comply with all OSHA mandates for safety as described in the product's safety data sheet. The powdered sulfur is applied with a fogger by hand; the distributor of the sulfur wears a respirator, gloves, goggles and protective clothing. The sulfur will be stored in the Multi-Use Building in sealed plastic totes. One to two (1-2) 40-pound bags are kept on hand.

The project will supply all safety data sheets provided by product manufacturers to the designated CUPA agent at Humboldt County for evaluation. If the product is determined to be a hazardous material in the amount on hand, the project will be enrolled in the California Environmental Reporting System (CERS), and create a Hazardous Materials Business Plan (HMBP). If a HMBP is required, the project will comply with the Plan and agree to periodic inspections.

The project will not use rodenticides. The project proponents use physical barriers, rodent-proof fencing and gates, around all garden areas to limit rodent access to plants.

Transport: The propane tank connected to the Multi-Use Building will be refilled by a permitted, professional (Sequoia Gas or equivalent). The project will pick up nutrients and pesticides and self-deliver. The products are transported in sealed bags/drums from the distributor.

Disposal: The project will rinse and recycle all fertilizer drums if used. Plastic bags will be disposed of in the trash containment area and taken with the recycling to the transfer station (Recology) in Fortuna. The petroleum products (gasoline and propane canisters), will also be filled by the cultivator or an employee during once weekly supply runs. The gas cans are five (5) gallons each; two (2) will be filled per supply run at a gas station. The gasoline is needed to supply the generators (one (1) Honda 3000 and one (1) Honda 7000) that will be used to run the propagation greenhouse lighting and fans during the spring in Phase I. The propane canisters that are used to heat propagation greenhouses are 25 gallons; one (1) or two (2) will be filled per supply run during the spring when the propagation greenhouses will be in use. These canisters will be filled at a gas station/ propane provider in Fortuna or Eureka.

Through compliance with federal, state, and local agency regulations, the project will create a less than significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials

b) Less Than Significant. Through compliance with federal, state and local agency regulations, the project will not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As discussed above, the potentially hazardous materials, nutrients, and pesticides onsite will be evaluated by the local CUPA and managed according to state and federal law. The nutrients and pesticide/fungicide will be stored in secondary containment in the Multi-Use Building; this building has a concrete slab foundation. Secondary containment will consist of hard plastic (non-corrosive) totes with labels to be stored in a designated storage area. These products will be removed from storage when needed and replaced in totes in the Multi-Use Building immediately after use. The gasoline will be contained in totes. The generators will be located on impermeable surfaces with spill basins. Accidental release of hazardous materials is insignificant given that appropriate secondary containment is planned.

c) No Impact. The project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The project will not emit hazardous emissions or handle acutely hazardous materials, substances or waste as defined in Section 355.61 of Title 40 of the Code of Federal Regulations. The nearest school is Casterlin School at 24790 Alderpoint Road, Blocksburg, CA. This K-8 school is located approximately 5.4 miles south of the most southern project component (existing 16,800 sq. ft. garden).

d) No Impact. The project is not located on a site which is included on any list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The project site is not on any list of which constitute the Cortese List (CALEPA). A search of the EnviroStor database (a searchable database from the CA Department of Toxic Substances Control; envirostor.dtsc.ca.gov/public/) shows the nearest hazardous materials records to be two (2) oil/diesel contamination points located near Blocksburg and approximately 3.5 miles from the project location. See Appendix O for EnviroStor results and related records.

e) No Impact. The project is not within two (2) miles of any airport or designated military training route. The nearest airport is the Dinsmore Airport, located over 10 miles to the north of the project area. Excessive noise from air traffic will have no impact on project employees working in the project area.

f) No Impact. Humboldt County has a county wide Emergency Operations Plan (2015) as well as a Humboldt County Community Wildfire Protection Plan (CCWPP) (2019) and a “mini CCWPP” specifically for the Eel Planning Unit. For all emergencies, these plans encourage people working and living in the area to sign up for the county’s mass notification system, Humboldt Alerts. It also encourages people to have a plan and evacuate early. For residents and employees in the project area, Alderpoint Road is the only likely evacuation route in case of an emergency. The project facilities are located directly south of Alderpoint Road. During construction, and throughout project operations, Alderpoint Road will remain an open and unimpeded route for daily traffic and in case of emergency evacuations. The project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

g) Less than Significant Impact. The project will not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. As discussed in the Wildfire Section (4.19), the area is in, according to the Humboldt County Web GIS, a designated a High Fire Hazard

Severity Area. This designation is a result of computer modeling that considers a variety of fire hazard elements including fuel, topography, weather, crown fire potential, ember production and movement, and likelihood. The model uses a 200 acre unit for analysis and is therefore not scaled to the project level (CalFire, 2007a). At the project level, fire hazard exposure and associated risk is minimal. The project areas (existing and proposed) do not include key risk factors: fuel loads are low because the project area is within an open meadow environment; slopes are low and therefore less of a risk as fires travel faster up steep slopes; crown potential is limited to the outside of the project footprint because the project footprint, ember production and movement carries the most risk when it is associated with their intrusion into building cracks and this project will not have any residential buildings; the likelihood of a fire in the specific project area is informed by the factors previously discussed in addition to existing fire history. The fire history of the project site (discussed in Wildfire Section (4.19)) shows previous burns in the surrounding tree line to the north of the project and on the timbered slopes to the east, but not in the open meadow area in which the project will be located. Considering the specific project level location parameters, the risk to commuting construction workers and employees will not constitute a significant risk of loss, injury or death involving wildland fires.

Indirect exposure includes the use of heavy machinery during construction, the project's use of generators and the addition of an onsite alternative electrical system. Construction will begin in early spring of 2020 as allowed by the permitting process. The construction equipment will first be used to gravel all primary access routes and designated parking areas. This will limit production of fugitive dust and establish a fire-safe driving surface for the duration of the construction and project traffic activities. All construction equipment will be inspected before use so that it is in a fire safe condition. The California Wildfire Coordinating Group, which includes CalFire and the USDA Forest Service, cites the following as important spark prevention points: do not allow dragging (towing chains are common drag points), maintain vehicle breaks, check tire pressure and avoid parking on vegetation (2019). Observing standard firesafe recommendations, adding gravel as the first component of construction, and beginning heavy equipment use in spring when vegetation is not dry are components of the construction plan that limit the indirect exposure of people or structures to significant risk of loss, injury or death involving wildland fires.

of make the risk of wildfire and for a limited amount of time (spring 2020); generators are new models that will be located in open grassy areas inside of generator sheds with fuel stored away from the generators. Generators will not be left unattended (i.e.: they will not be left on when project employees are not on site). All electrical will be professionally installed. See Wildfire Section (4.19) for more details.

Cumulative Impact

The project, as proposed, will not significantly contribute potential hazards in the form of stored hazardous materials or hazard risks to the environment impacted directly and indirectly by the proposed project. The current practices in the vicinity around the project site include ranching, agriculture, and cannabis cultivation. The cumulative transport and storage of hazardous materials for this site and others will increase the overall amount of these products in the area. This project will observe the rules and regulations surrounding these materials that are designed to minimize and mitigate the risk to an acceptable and Less Than Significant level. Assuming that the other cannabis operators and ranching operations also observe the rules and regulations for the storage, use and transport of hazardous materials, the risk of a spill or associated increase in fire hazard is not cumulatively significant.

4.10 HYDROLOGY AND WATER QUALITY

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

Regulatory Setting

Federal

National Flood Insurance Act of 1968

The Federal Emergency Management Agency (FEMA) produces Flood Insurance Rates maps that delineate flood zones. These maps guide local agencies in management decisions.

Clean Water Act (CWA) of 1972

Gives authority to the CA State Water Resources Control Board (SWRCB) (and its regional control boards) to identify beneficial uses and adopt applicable water quality objectives.

Army Corps of Engineers

CWA, Section 404: regulates discharge into connected waters of the U.S. Includes tributaries and adjacent/connected wetlands.

State

Sustainable Groundwater Management Act of 2014

Calculates the 'at-risk' level of each identified groundwater basin in CA and ranks each as high-medium-low or very low priority basins based on a variety of factors. Provided local agencies the opportunity to establish a local control and submit a groundwater sustainability plan (GSP) for basins within local jurisdiction that were ranked medium or high priority. In lieu of a GSP, basin jurisdictions could submit an alternative to the GSP in the form of an existing plan, a plan pursuant to an adjudication, or an analysis of basin conditions that demonstrate a sustainable yield over the last 10 years.

SWRCB

- Water Rights Division

The water board, in consultation with CDFW, evaluate the cumulative impacts of surface water diversion on the instream flows of impacted water courses. Cannabis cultivators must disclose all water sources (including wells and ponds) used for cultivation. Cultivators must have a valid water right to divert surface water for irrigation and are subject to limits and seasonal forbearance.

- Section 401 & 402 CWA

Implemented by State and Regional Water Boards (nonpoint source pollution).

- SWRCB Cannabis Cultivation Policy (2019) WQ 2019-0001-DWQ

The Cannabis Cultivation Policy defines water quality control criterium for cannabis cultivators including diversion forbearance periods, riparian buffers and erosion control best management practices.

Table 27. Riparian Buffers from Attachment A, SWRCB WQ2019-0001-DWQ

Minimum Riparian Setbacks^{1,2}

Common Name	Watercourse Class ³	Distance
Perennial watercourses, waterbodies (e.g. lakes, ponds), or springs ⁴	I	150 ft.
Intermittent watercourses or wetlands	II	100 ft.
Ephemeral watercourses	III	50 ft.
Man-made irrigation canals, water supply reservoirs, or hydroelectric canals that support native aquatic species	IV	Established Riparian Vegetation Zone
All other man-made irrigation canals, water supply reservoirs, or hydroelectric canals	IV	N/A

¹ A Regional Water Board may adopt site-specific WDRs or an enforcement order for a cannabis cultivator with requirements that are inconsistent with the setbacks in this table if the Executive Office determines that the site-specific WDRs or enforcement order contains sufficient requirements to be protective of water quality.

² Cannabis cultivators enrolled in a Regional Water Board order adopting WDRs or a waiver of WDRs for cannabis cultivation activities prior to October 17, 2017, may retain reduced setbacks applicable under that Regional Water Board order unless the Regional Water Board's Executive Officer determines that the reduced setbacks applicable under that order are not protective of water quality.

Regional

Humboldt County General Plan (2017)

Chapter 10. Conservation and Open Space

Streamside Management Area (SMA) Ordinance: 10.3.4

BR-S5

1. 100 feet, measured as the horizontal distance from the top of bank or edge of riparian drip-line whichever is greater on either side of perennial streams.
2. 50 feet, measured as the horizontal distance from the top of bank or edge of riparian drip-line whichever is greater on either side of intermittent streams.
3. The width of Streamside Management Areas shall not exceed 200 feet measured as a horizontal distance from the top of bank

BR-S10.

Development standards for wetlands shall be consistent with the standards for Streamside Management Areas, as applicable except that the widths of the SMA for wetlands are as follows:

seasonal wetlands = 50 ft., perennial wetlands = 150 ft. and the setback begins at the edge of the delineated wetland.

Humboldt County General Plan (2017)

Chapter 11. Water Resources Element

- Watershed Planning
- Storm Water Management and Drainage

Humboldt County Code

- Grading Ordinance

Title III, Land Use and Development Division 3, Building Regulations Section 331-14

Grading, Excavation, Erosion, and Sedimentation Control

The County establishes requirements for a grading permit for any activity disturbing greater than 50 cubic yards of material. Larger projects involving the grading of more than 5,000 cubic yards of material must be conducted in accordance with an approved grading plan prepared by a civil engineer.

- Wells

Title VI, Water and Sewage- Division 3, Wells

Existing Conditions

The proposed development area is situated on a wide, low gradient topographic bench known as Sherman Flat; it is at an approximate elevation of 2,440 feet on the western slope of Charles Mountain, north of the Blocksburg. The proposed cultivation area drains both to the southwest towards McMahon Creek and to the northeast towards a seasonal depressional wetland. The seasonal wetland maintains standing water through May or June. Adjacent to this seasonal wetland is a historic pond (perennial wetland) that can retain water year-round on normal to heavy rainfall years. Both the seasonal wetland and the perennial wetland appear to primarily receive rainwater runoff, although a spring may exist within the perennial wetland/pond area. Approximately 150-feet to the south of the perennial wetland there is another seasonal wetland. According to the biological report, there are multiple channelized inflows and outflows associate with both the seasonal wetlands and perennial wetland.

The existing development is located on a smaller low slope bench approximately one half mile (0.5) to the south of the proposed development on Sherman Flat. In 2019 the existing 16,800 sq. ft. garden area was surveyed by a botanist. A seasonal wetland was located just outside (north) of the existing cultivation (See Relocation Report, Appendix B; Figure 13); the wetland is drained by a Class III stream on the north side of the wetland. A wetland delineation revealed that a portion of the garden site was within the mandated riparian setback. To comply with Humboldt County Streamside Management Area ordinance and the North Coast Regional Water Resources Control Board riparian setback requirements (site was originally enrolled under R1-2015-0023 and therefore a 50-foot setback from the edge of the delineated wetland is required in lieu of the SWRCB's current order that requires a distance of 100-feet), the cultivation area was shifted slightly southwest and out of the wetland setback of 50-feet. This shift out of the wetland setback occurred in early 2019, prior to planting. All pots, soil, and infrastructure has been removed from within the setback and the garden has been reestablished with plants in beds, watered with drip irrigation, and surrounded by a perimeter of rodent-proof fencing.

Bordered on the north by McMahon Creek and to the south by Cooper Creek, the project parcel is part of the Upper Larabee Creek hydrologic unit (HUC12 180101050601), and constitutes an important component of the Lower Eel River Watershed. The Lower Eel River Watershed is an impacted watershed for temperature and sediment, with total Maximum Daily Load values established by the EPA (2007).

During site visits in 2019, the biologists from NRM identified, between the existing cultivation area and the north end of the northernmost wetland on Sherman Flat, five (5) Class III streams and two (2) Class II streams.

Analysis of Potential Impacts

All planned development north of the existing garden on Sherman Flat will meet or exceed SWRCB and SMA development setback requirements - SWRCB order (WQ-2019-001-DWQ) and the Humboldt County Stream Streamside Management Area (SMA) Ordinance (Humboldt County General Plan, 2017; Ch.10.3.4,

BR-S5). Figures 20-22. The SMA and the SWRCB both mandate a 50-foot development setback for Class III streams. The SWRCB requires that Class II streams are provided a 100-foot development setback versus the 50-foot required by the SMA. The SWRCB mandate is more conservative and therefore, the intermittent Class II streams are given the 100-foot setback. Class I streams are given a 150-foot setback. See Figure 20.

The perennial and seasonal wetlands were delineated by an NRM biologist in 2019 (Bio Report, Appendix B); the map below shows that there are both seasonal and perennial wetlands on Sherman Flat where the proposed development will be located. The seasonal wetland, under the SWRCB general order (WQ-2019-001-DWQ) receive a 100-foot setback to development. The perennial wetland (pond) receives a 150-foot setback.

The existing cultivation area meets the 50-foot setback from the seasonal wetland per the NCRWQCB R1-2015-0023 order; the NCRWQCB setbacks were transferred, 'grandfathered,' in to SWRCB order as the proponents maintained continuous enrollment). The 50-feet meets the 50-foot seasonal waterbody setback requirements described by Humboldt county's SMA guidelines. See Figure 21.

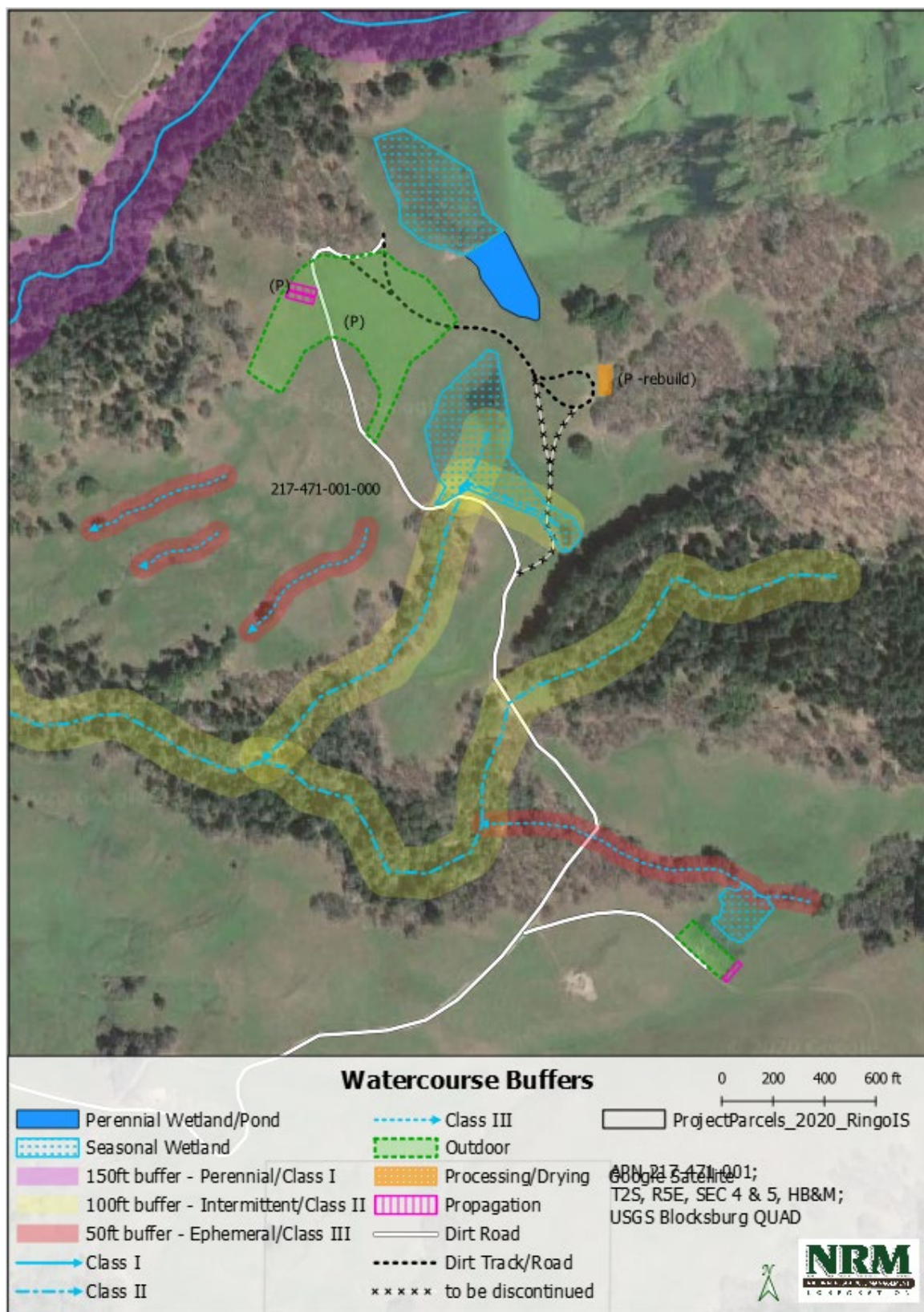


Figure 20. Watercourses and setbacks (protection buffers) on project parcel (APN 217-471-001)

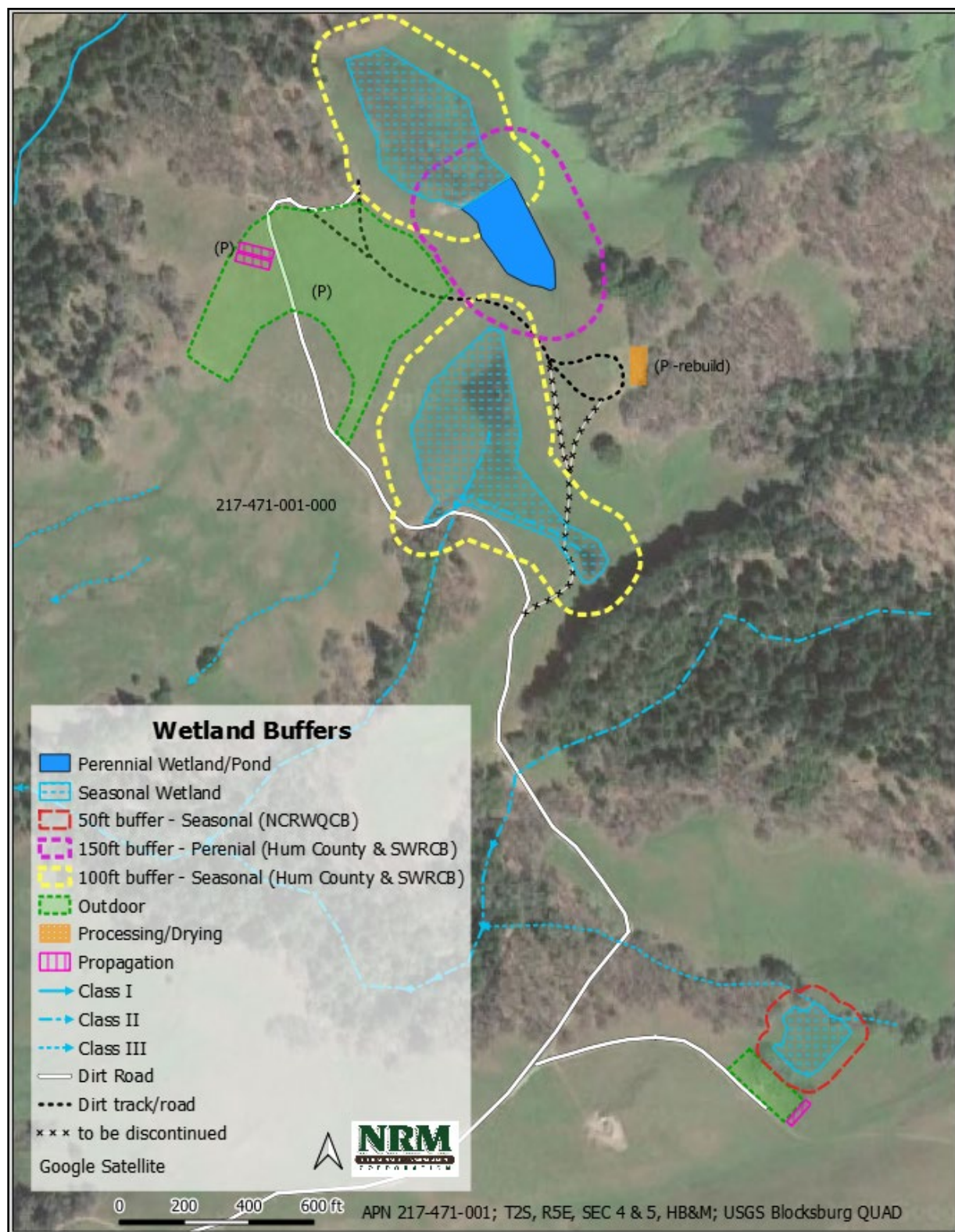


Figure 21. Wetland features and setbacks (Buffers) on project parcel (APN 217-471-001)

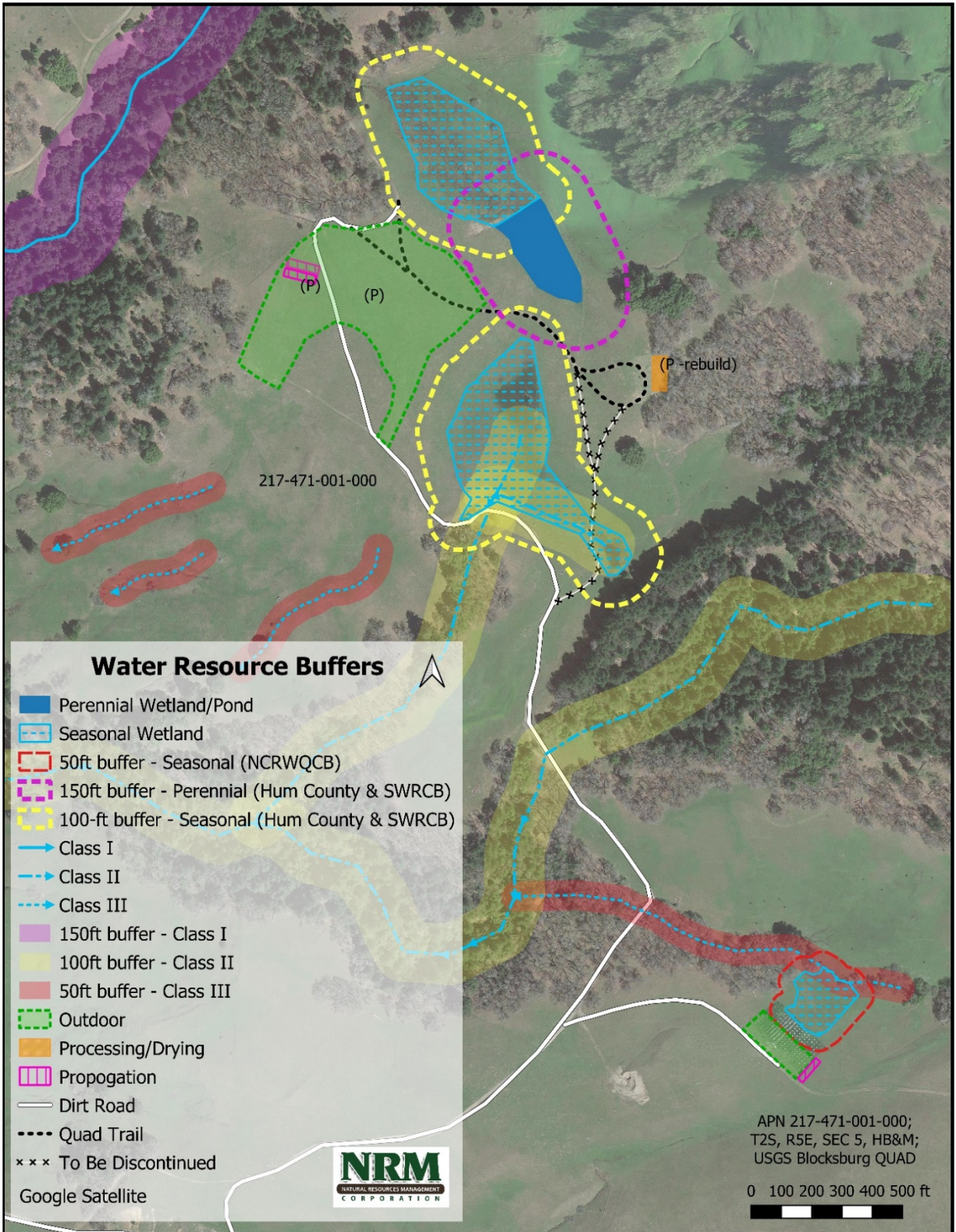


Figure 22. All water resources and setbacks (buffers) on project parcel (APN 217-471-001)

LSAA 1600 Agreement Status and Projects

The project proponents visited the proposed project location in May 2019, with Natural Resources Management (NRM) staff, North Coast Regional Water Quality and Control Board (NCRWQCB)

representatives Adona White, Connor Macintee and with Greg O'Connell, a representative from the regional California Department of Fish and Wildlife (CDFW). During the visit, the agencies, listed above, recommended the following components as steps toward project approval:

1. LSAA will be prepared for this property, multiple culverts and bridge on main access road need to be brought up to meet standards.
2. Project proponents will have qualified person conduct a full roads assessment to find any other LSA/1600 projects and to bring all ranch roads and drainage up to standards. The property is over 1000 acres.
3. Proponents will eliminate driving through the wetland in Sherman flat and will restore to original condition, the track through the wetland (refers to the track through the southern end of the southern wetland on Sherman flat; this track is noted on Figures 19 and 20 as 'to be decommissioned').
4. Delineate wetlands around the proposed cultivation area to ensure future cultivation is outside of wetlands and buffers.
5. Sherman pond: engineer to repair outlet and assess berm. NRM will delineate current wetlands and map areas of fill with in the pond complex. NRM and engineer will assess possibility of removing some fill and the possibility of reconnecting the swale on the east side of the pond that was interrupted by the berm.

A July 31, 2020 follow up site visit by NRM and CDFW staff, David Manthorne and Jonathan Hollis, reviewed the progress and recommendations presented by NRM as discussed in the May 2019 visit (wetland determinations and pond stability assessment and recommendations; CDFW staff gave direction to NRM for completion and approval of the proposed LSAA permit application. This direction included recommendations for culvert replacement and confirmed that the berm by the perennial wetland/pond would be stabilized and remain in place (LSA application available in Appendix L)

The Draft LSAA, notification no. 1600-2020-0271-R1, was issued on September 11, 2020 (Appendix L). The draft was signed and submitted to CDFW on September 14, 2020. The LSAA includes seven (7) projects (Figure 23): a bridge replacement (Crossing-2), five (5) culvert replacements (Crossing-1, Crossing-3, Crossing-5/6/7), and action to stabilize the pond (perennial wetland) berm (Crossing-4). There will be approximately 50 cubic yards of cut/fill needed to accomplish all seven (7) LSAA projects. When the final LSAA is awarded and the project also has the required permits from the SWRCB (401 and 404), the project will pursue grading permits from the county if necessary. The project expects to accomplish the projects in the next few years, but timing will depend on permitting from CDFW and the SWRCB.

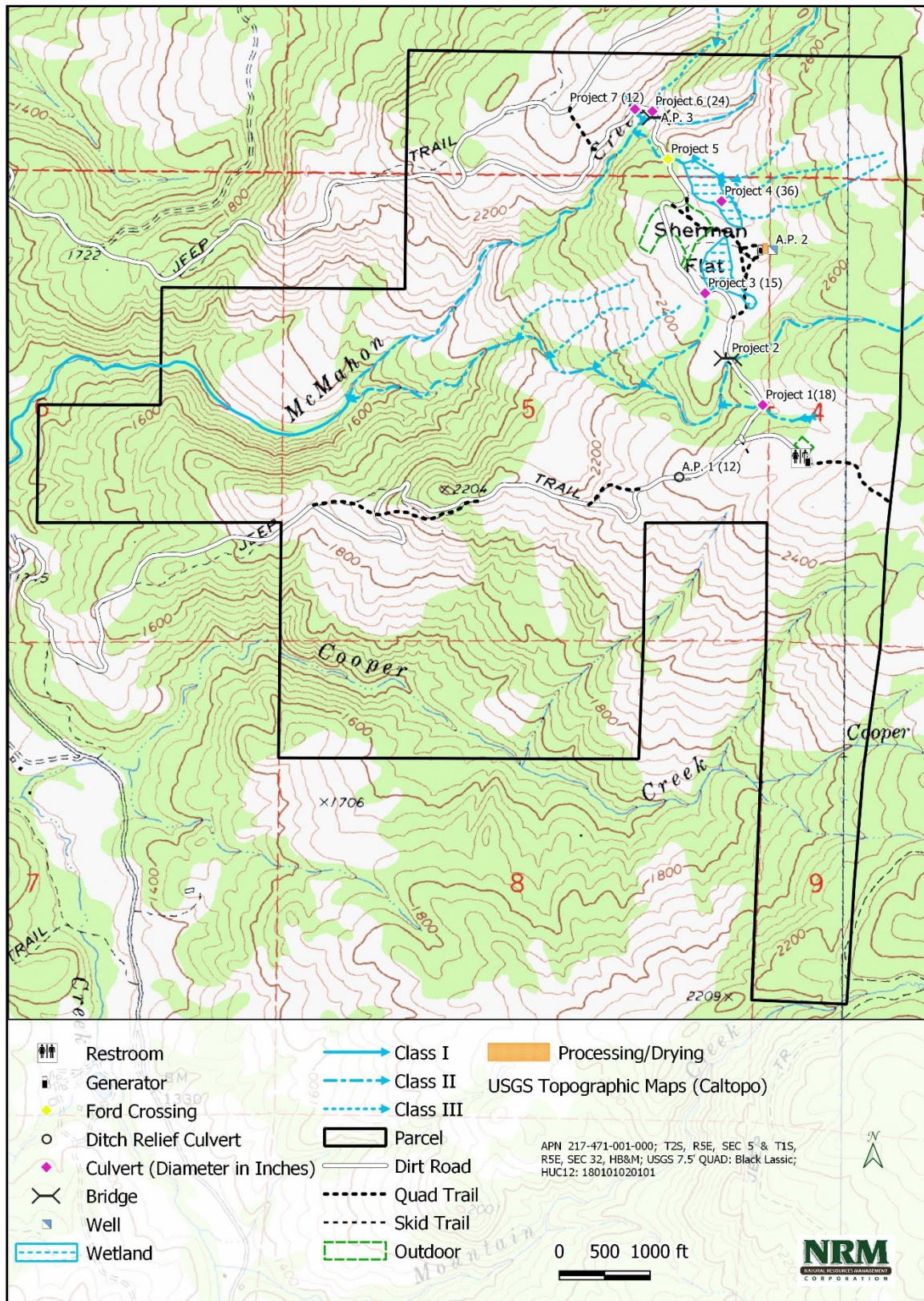


Figure 23. Projects described in Draft LSAA no. 1600-2020-0271-R1

Irrigation Water Source

In rural Humboldt County, wells are a traditional source for irrigation water. All water for irrigation for the existing garden and the proposed cultivation, and domestic use will be supplied from the ground water well and the rainwater catchment tank. There is one (1) well from which the project will draw irrigation and domestic water. This well is located approximately 100-feet to the SE of the proposed location of the Multi-Use Building (40.3280, -123.6247). The elevation of the well is approximately 2,760 feet and the depth of the well is 200 feet. The static water level was recorded as 108 feet. The nearest waters are the seasonal and perennial wetlands located between 450 and 500-feet to the west; there is a Class II stream located 650-feet to the south. The well was evaluated immediately after it was drilled (June 23, 2017); the well was evaluated with an air-lift test that showed a yield of 10 gallons per minute. Suspecting a higher yield, the project proponents commissioned a supplemental test for yield. This test, conducted on May 13, 2020, by Jacob Bushnell of Bushnell Enterprises Water Well Drilling, resulting in a yield of 28 gallons per minute. See Appendix J for Well Report and drawdown test details.

According to the well report, the geologic record shows impermeable materials (clay) directly below the topsoil and above the water line. Below the clay is a layer of shale, another poorly permeable rock, and below that, sandstone, both solid and fractured. The well is screened (for water intake) from 120-feet to 195-feet in the sandstone layers.

Table 28. Geologic Log for project well - Reproduced from Well Completion Report

Depth from Surface (ft to ft)		Description
0	25	Topsoil
25	40	Clay
40	90	Franciscan Shale
90	110	Solid Blu Sandstone
110	140	Frac “”
140	200	Solid “”

The layers of clay and shale effectively disconnect the well from direct surface water inputs. Another indicator that the well is not connected to surface water is the presence of the many Class III streams that are seen on the downslope (W) side of the flat. As is commonly observed in areas with an impermeable layer(s) (clay and shale) under the topsoil, water that is percolated directly through the top layer will often move laterally and seep out of the porous layer in the form of seeps or springs on the downslope side (see Figure 24 below for a diagram of this type of hydrologic feature). The appearance of Class III streams at the slope change demonstrate the hydrologic connectivity of the water above the impermeable clay and shale layers and support the conclusion that the project well is drawing from a ground water source.

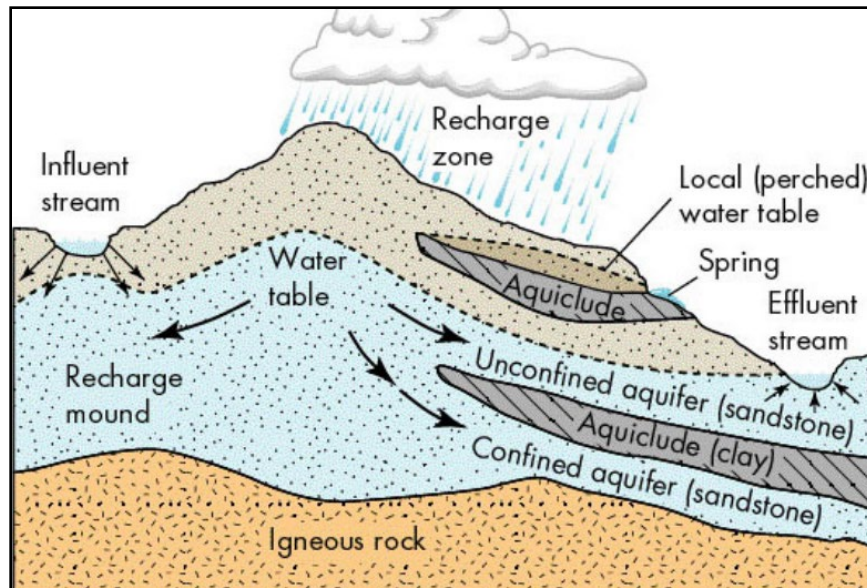


Figure 24. Groundwater Systems Diagram (Keller, E.A., 2000)

Drainage and Erosion Control

The project will replace the burned down barn that was onsite with a new Multi-Use Building that will be built in the footprint of the barn (7,200 sq. ft.). To discourage sheet flow and sediment mobilization from concentrated storm water runoff, the project will direct gutter runoff from the Multi-Use Building directly into french drains/infiltration trenches. With the combination of distance (the rebuilt Multi-Use Building will be approximately 40-feet in elevation above the wetlands/pond and over 100-feet from the wetland/pond buffers) and the use of infiltration technology to manage stormwater the sensitive hydrology and associated ecology (see Biological Resources, section 4.4) will be protected. The rainwater catchment tank, also over 100-feet from the wetland/pond buffers, will not have storm water runoff. The propagation greenhouses, both existing and proposed, will not contribute to storm water runoff because they are taken down at the end of every fall and put up every spring; the sheeting/covers (polyethylene sheeting) is removed at the end of the propagation season and put into storage. The stormwater that falls on these greenhouses during the growing season will be shed in sheet flow on either side of the greenhouses and fall onto a vegetated area with low slope. The existing propagation greenhouse is surrounded by grass, set in a grassy meadow on a slope of approximately 2%, and outside of all riparian setbacks; the growing season runoff that may occur will not create erosion or contribute significantly to sediment mobilization.

All areas that will be graded or disturbed will follow standard construction stormwater management protocols and observe site specific erosion control and sediment capture measures as mandated by the State Water Resource and Control Board Order WQ 2019-0001 DWQ (Section 2, Attachment A). In addition, winterization steps will be taken in preparation for the wet season (SWRCB WQ 2019-0001 DWQ.).

Compliance with SWRCB winterization includes, but is not limited to:

- Implementation of applicable Erosion Control and Soil Control Requirements (including the use of linear sediment controls and seeding and mulching of bare ground)

- Cessation of all heavy equipment use.
- The clearing and maintenance of all ditches and culverts

Septic System

A septic system will be designed for the project to accommodate anticipated peak employee numbers and use (during labor intensive times, planting and final harvest, the project may see up to 25 employees on site). The project has had soil testing for septic siting completed by David Lindberg in 2016. Out of five (5) test pits, four (4) revealed samples characterized as “Zone 2” soils. Soils in these zones are loam to sandy clay loam, typical of a Prime Ag. designation, and are readily permitted for conventional septic systems (i.e.: tank and leach field). There are several areas in the vicinity of the large Multi-Use Building that are potential locations for a leach field as they are in open grassland and outside of riparian setbacks. The final septic siting and design will be completed during the building permitting stage. See Appendix E for a description of soils and for the results of the soil suitability analysis.

Discussion of Significance

a) Less than Significant Impact. The project will not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Setbacks required by the County of Humboldt’s Streamside Management Areas and the State Water Board have been considered during the planning of this project. See Figures 20-22 above for stream and wetland buffers. Additional compliance is observed and documented as the project is enrolled with the State Water Resource and Control Board Order WQ 2019-0001 DWQ. Per the requirements of the WQ-20019-0001-DWQ, the project will complete a Nitrogen Management Plan and a Site Management Plan that will detail the source and amount of nitrogen used on site and all additional sources of sediment and pollution that the project might contribute to the surrounding water resources (respectively). The Site Management and Nitrogen Management Plans are under development and will be submitted to the NCRWQCB following project approval.

Adherence to the Porter- Cologne Water Quality Control Act, Water Code section 13000, et seq., and the Federal Clean Water Act 301 et seq. (33 U.S.C. section 1251, 1311, 1344 et seq.) the Regional Water Quality Control Board, the State Water Resources Control Board and requirements of the permitting agencies will ensure that water quality is not degraded.

b) No Impact. The project will not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. The nearest identified ground water basin is the Larabee Valley groundwater basin (1-033); this basin is approximately 6.8 miles north of the project parcel boundary in the Butte Creek Hydrologic Unit (HUC 12) and the Lower Eel River Watershed. Due to the distance from this basin, the project water will not have any impact on this groundwater basin.

c): (i) – (ii) Less than Significant Impact. The project will not contribute substantial erosion or siltation on or off-site or increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite.

The project reduces the risk of sediment and pollutant delivery to waters of the state by observing the stream and wetland setbacks (Figures 20-22 above) established by Humboldt County and those established by the State Water Resources and Control Board. The project reduces the risk of sediment and pollutant delivery to waters of the state by managing storm water runoff from the roof of the Multi-Use Building in french drains/infiltration trenches. Adherence to the Porter-Cologne Water Quality Control Act, Water Code section 13000, et seq., and the Federal Clean Water Act 301 et seq. (33 U.S.C. section 1251, 1311, 1344 et seq.) the Regional Water Quality Control Board or the State Water Resources Control Board and requirements of the permitting agencies will ensure that water quality is not degraded.

c: (iii) Less than Significant Impact. The project will not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. There are no existing stormwater drainage systems on or near the project site. The project will not add new (above baseline) impervious surfaces to the area. The roofing of the Multi-Use Building will, like the barn that it is replacing, be impervious and cause runoff. However, unlike the barn that was there before, the new building will manage runoff from the rooftop. The Multi-Use Building will connect downspouts to infiltration trenches/french drains as determined by the contractor, to avoid point source erosion around the perimeter of the building and eliminate potential polluted runoff (sediment). The infiltration trenches/french drains will allow infiltration of storm water. The natural hydrology of the site will not be impacted by the storm water runoff.

Potential polluted runoff from the agricultural activities is negligible in that the project will use drip irrigation for all outdoor cannabis cultivation (six (6) acres proposed and existing 16,800 sq. ft) and water at agronomic rates. The propagation greenhouses will hand water plants to provide exact and plant specific watering amounts in order to maximize clone survival.

c: (iv) & d) No Impact. The project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows. The project will not alter or impact in any way, a stream course or river. All state (SWRCB) and local (Humboldt County SMA) setbacks are observed (Figure 20-22). The site will add not add a significant amount of impervious surfaces to otherwise undeveloped agricultural land. As discussed above, c(iii), the Multi-Use Building will replace the barn that burned down in 2019; the 7,200sq. ft. of impermeable surface will be the same amount that was previously existing. The Multi-Use Building will connect downspouts to infiltration trenches/french drains as determined by the contractor, to avoid point source erosion around the perimeter of the building. The infiltration trenches/french drains will allow infiltration of storm water. The project parcels are not within a 100-year flood zone. The project will not, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation. The project is not in a tsunami or seiche zone.

e) Less Than Significant Impact. The project will not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The Environmental Protection Agency's 2007 Lower Eel River TMDL for temperature and sediment (total Maximum Daily Load) document applies to Larabee Creek and its tributaries. McMahon Creek and Cooper creek to the north and south, respectively, of the project areas (existing and planned) are tributaries to Larabee Creek and therefore the Lower Eel River TMDL apply to this project. The EPA analysis of the Lower Eel River describes the human causes

of increase stream temperatures “the result of many physical factors, such as air temperature, solar radiation, shade (i.e., riparian vegetation and topography), channel geometry (i.e., width to depth ratio), and surface water and groundwater flow.” Because the project will observe all setback to water resources and will not remove any trees (among other factors), the project will not negatively impact water temperature. The TMDL document describes human contributions to sediment loads in tributaries as primarily due to timber harvesting and road maintenance. In order to achieve the daily load limits for sediment from human contributions, “the greatest reductions are required from road-related sources (including skid trails), and from chronic sources in particular (e.g., erosion from runoff on inappropriate road surfaces).” Because the project proponents plan to rock all access roads and because the CDFW LSA include evaluation and recommendations of stream crossings on the parcel (Appendix L), the project is working toward reducing the area’s active and potential sediment inputs and helping meet the TMDL for the Lower Eel River.

The nearest groundwater basin (6.8 miles from the project area) is the Larabee Valley Groundwater Basin; this basin does not have a groundwater management plan. See above (b) for more details on the Larabee Valley Groundwater Basin. Adherence to the Porter-Cologne Water Quality Control Act, Water Code section 13000, et seq., and the Federal Clean Water Act 301 et seq. (33 U.S.C. section 1251, 1311, 1344 et seq.) the Regional Water Quality Control Board or the State Water Resources Control Board and requirements of the permitting agencies will ensure that water quality is not degraded.

Cumulative Impacts

The project is new construction and therefore, built to the most current and most environmentally protective code. The building design, the bridge and all stream crossings, and the septic will be designed and reviewed by professionals to eliminate erosion and runoff. The water for irrigation will come from a well that draws from a perched aquifer (assumed to be an aquifer based on depth and elevation and spoils description of well log) and from a rainwater catchment tank. As the parcel is over 1,000 acres in size with the nearest neighboring development consisting of another cannabis cultivation operation run by the project proponents, there is little risk any drawdown from the project well will result in a cumulative negative impact on neighbors. This project will have a less than significant cumulative effect on water quality.

4.11 LAND USE AND PLANNING

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				X

Regulatory Setting

State

California Department of Fish and Wildlife

Lake and Streambed Alteration Program (LSA; code section 1600)

Natural Community Conservation Planning (NCCP; code section 2800)

State Water Resources Control Board

Cannabis Cultivation General Order (WQ 2019-001-DWQ)

General Waste Discharge Order Requirements for Composting Operations (WQ 2015-0121-DWQ)

Construction Stormwater Program (SWPP)

Regional

Humboldt County

General Plan (2017)

CMMLUO no. 2559

Zoning Regulations (County Code, Title III, division 1)

Existing Conditions

The proposed project is located on private land. The access to the site is an un-named private drive, approximately 3.2 miles long off of Alderpoint Road. Alderpoint Road is classified as a rural major collector. According to the US Department of Transportation (2000), a rural collector is a road that connects local roads and streets with arterials; collectors provide less mobility than arterials at lower speeds and for shorter distances. Alderpoint road has an average speed limit of 45 mph and two lanes of traffic.

The principal land use on the project parcel is Agriculture Grazing (AG). In addition to cattle ranching, the Humboldt County General Plan (Table 4-G; Land Use Element) allows an AG land use designation to include general agriculture and intensive agriculture among other uses. The zoning is reported (HUM GIS) as Agriculture Exclusive and Timber Production (AE-B-5(160);TPZ). The B-5(160) means that the parcel must meet specific conditions for development; in this case, the parcel density range is established at a minimum of 160 acres. The project leases the land for cannabis production on a portion of the over 1,000 acre parcel, which is otherwise used primarily for cattle ranching.

Discussion of Significance

a) No impact. The projects will not physically divide an established community. The employees that travel to and from the project for work will travel on Alderpoint Road. They will park in the proposed parking area of the private road off of Alderpoint Road and carpool with other employees the 3.2 miles to the project parking area near the Multi-Use Building. From there, they will walk to their assigned daily workstations. The entirety of the private road and the project footprint (existing and proposed) will be located off of Alderpoint Road on private property that is leased by the project proponent. Alderpoint Road is a rural collector and is therefore intended and maintained as commuting route (connecting to larger capacity roads like Hwy 36 or Hwy 101) for rural residents. This project will not divide a community.

b) No Impact. The project will not cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The proposed development will take place on one (1) parcel of land with the principle land use as Agriculture Grazing and Timber Production. The Humboldt County General Plan specifies the land use as AG, which allows for general and intensive agricultural use. Adjacent lands to the project are zoned similar to the project area and are utilized for agriculture (including large scale greenhouse agriculture and other cannabis cultivation), rural residential, ranching, open space, and wildlife habitat. Water quality compliance is planned for and checked by CDFW LSA and SWRCB regulated Clean Water Act compliance. The project is enrolled in the SWRCB Cannabis General Order and regional air quality conformance is supported with project design elements that include the application of gravel to all project access roads and the watering of graded areas and stockpiles during construction when meteorologically conditions apply. These components reduce the impact on air quality to less than significant. The biological regulations for land use are described in detail in the Biological Section.

The project, per the requirements of the CMMLUO and the General Plan (AG-P16), will be designed to minimize the placement of buildings, impermeable surfaces, or non-agricultural uses on land defined as prime agricultural land. The large Multi-Use Building is a rebuild; it will be located on upland areas and not on the delineated Prime Ag land (Site Plan, Appendix A). The cultivation will be directly inground, and the propagation greenhouses will have weed matting (permeable) over native ground. The only hardening will be associated with the engineered foundation for the 1,000,000 gallon rainwater catchment tank (167-foot diameter). This tank has a direct agricultural use as it will provide irrigation water for the proposed cultivation; therefore, the hardening of the prime ag land by the tank does not conflict with a land use policy.

The project area is not part of a regional conservation plan, habitat conservation plan (HCP) or natural community conservation plan (NCCP). Neither Humboldt County, nor any areas within the county are a part of a binding, regional conservation plan with the California Department of Fish and Wildlife (CDFW, 2019).

Cumulative Impact

These projects will not physically divide an established community. The project consists of activities historically and currently present in the surrounding area. The projects will not conflict with any applicable land use plan, policy, or regulation of any agency with jurisdiction over the project; the project will not have a cumulatively considerable impact.

4.12 MINERAL RESOURCES

Issues and Supporting Information	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?				X
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?				X

Regulatory Setting

Humboldt County General Plan (2017) Chapter 10: Conservation and Open Space

- MR-P3. Right to Mine.

Discretionary projects within 1,000 feet of vested and permitted surface mining extraction sites or a minimum of 300 feet along existing haul routes shall be required to record a notice of the right to mine against the property for which a discretionary permit is sought. The notice shall advise owners and subsequent interests in ownership that the existing mining operation has a permitted right to continued mining operations.

- MR-S7. Hearing Notification.

For discretionary decisions associated with SMARA mining operations shown on maps in Appendix F - Map Book, public notice shall be provided to landowners within 1,000 feet of the mining operation or 1,500 feet from any associated processing plant, and a minimum of 300 feet along proposed haul routes. Similarly, for discretionary projects within 1,000 feet of mining operations, notice shall be provided to the mine owners.

Existing Conditions

Riverine sediment (gravel) is considered an important mineral resource and is widely mined for construction aggregate in Humboldt County. Streamside landslides are important local sources of sediment in places where rock units are highly fractured, slopes are steep, or barren soils are exposed. There is an abundance of riverine aggregate in the Mad River system. According to the example provided by the Humboldt County General Plan (2017; 10.4.2), in 2007, around 70% of all local sand and gravel production came from mining along the Eel and Van Duzen Rivers. There are no Surface Mining and Reclamation Act parcels (SMARA) on or directly adjacent to the project parcel. There is a sand and gravel surface mining operation northwest of the project parcel on Thurman Creek (Mine ID no. 91-12-0060; Figure 25). The California Department of Conservation's Division of Mine Reclamation (DMR) describes this as an active gravel bar skimming/pitting mine owned and operated by Humboldt County. The haul road is assumed to be the main road, Alderpoint Road, with travel to the north and south. The county of Humboldt Public Works Dept, when contacted (April 2, 2020, personal communication), explained that the site was skimmed once to date in an effort to reduce flows and protect the existing bridge (Alderpoint Road) at the site. Public

Works indicated that, pending permitting, the site may be impacted again in the next year to maintain road and bridge integrity.

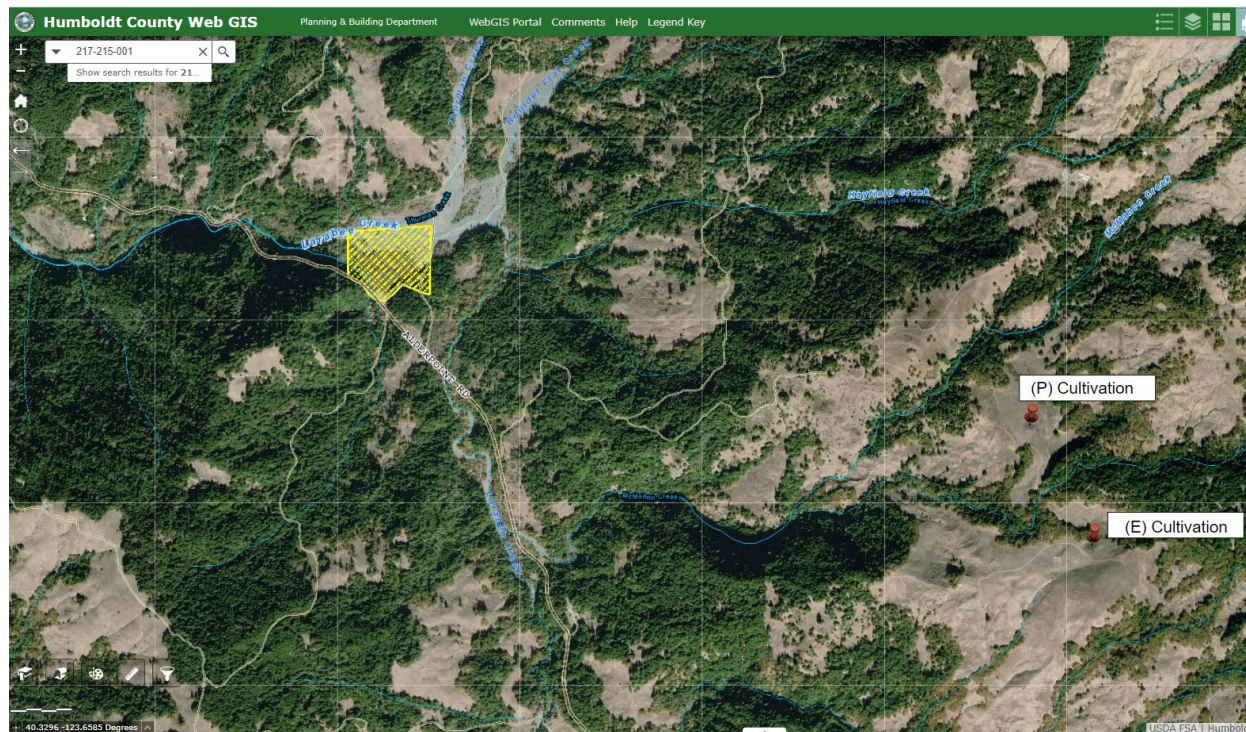


Figure 25. SMARA parcel located on Alderpoint Road in project vicinity

The project site has an onsite borrow pit that is an established and ongoing source of rock for ranch road maintenance. This borrow pit will continue to be utilized at baseline levels by the ranch and the ranch's lessee, the project proponent, to source rock for roads and parking.

Discussion of Significance

a) No Impact. The project will not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. Discussion for finding *b)* applies to both finding *a)* & *b)*. There is a mineral resource recovery site located in the vicinity of the project. The project will have no potentially direct impacts to the mining operation or the mineral resource. Indirect impacts to the mining project would be possible congestion of the mining parcel's haul routes. The haul route, Alderpoint Road, will experience increased traffic during the morning and evening as the project construction workers and then the project employees will add additional vehicles on the road (See Transportation, 4.16, for more information on vehicle traffic). However, because the Humboldt County Department of Public Works describes this SMARA parcel as an operation designed to provide bridge and road security with inconsistent and infrequent activity, the project expects that no direct or indirect impacts to mineral resources or mining operations.

b) No Impact. The project will not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. A search of the most recent California Department of Conservation data includes a map of currently producing aggregate mines

in the area (Map Sheet 52, 2018) revealed one gravel skimming/pitting mine on Thurman Creek. Apart from the registered mines in the area, Humboldt County remains unclassified in terms of Mineral Land Classifications or designated Mineral Resource Zones (Special Pub 51, 2000).

Cumulative Impacts

These projects will not result in the direct loss of availability of a known mineral resource that would be of value to the region and the residents of the state. There are no other SMARA parcels (HUM GIS) on Alderpoint Road. Any traffic increases due to cannabis projects in the area could not, therefore, create a cumulative adverse impact by effecting haul routes. The project is not expected to have a cumulatively considerable impact on mineral resources.

4.13 NOISE

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable plans of other agencies?			X	
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

Regulatory Setting

Regional

Humboldt County General Plan (2015); Land Use/Noise Compatibility Standards (as reproduced in the 2017 Draft EIR for Amendment to Humboldt County Code Regulating Commercial Cannabis Activities)

Table 3.10-3 Land Use/Noise Compatibility Standards

Land Use Category	Maximum interior exposure, L_{dn}^1	Land Use Interpretation for L_{dn} Value			
		Clearly Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable
Auditoriums, Concert Halls, Music Shells	35	Under 50	50-60	60-70	Above 70
Sports Arenas, Outdoor Spectator Sports	N/A	Under 60	60-65	65-75	Above 75
Playgrounds, Neighborhood Parks	N/A	Under 55	55-65	65-75	Above 75
Golf Courses, Riding Stables, Water Rec., Cemeteries	N/A	Under 60	60-70	70-80	Above 80
Office Buildings, Personal, Business and Professional	50	Under 65	65-75	75-80	Above 80
Commercial-Retail, Movie Theaters, Restaurants	50	Under 65	65-75	75-80	Above 80
Commercial-Wholesale, Some Retail, Ind., Mfg., Util.	N/A	Under 70	70-80	80-85	Above 85
Manufacturing, Communications (Noise Sensitive)	N/A	Under 55	55-70	70-80	Above 80
Livestock Farming, Animal Breeding	N/A	Under 60	60-75	75-80	Above 80
Agriculture (except Livestock), Mining, Fishing	N/A	Under 75	Above 75	N/A	N/A
Public Right-of-Way	N/A	Under 75	75-85	Above 85	N/A
Extensive Natural Recreation Areas	N/A	Under 60	60-75	75-85	Above 85
Notes: N/A=Not applicable					
¹ Due to exterior sources.					
Source: Humboldt County 2015					

Humboldt County General Plan (2017 update) Part 4, Ch13. Noise Element

N-S7. Short-term Noise Performance Standards (Lmax).

The following noise standards, unless otherwise specifically indicated, shall apply to all property within their assigned noise zones and such standards shall constitute the maximum permissible noise level within the respective zones.

SHORT-TERM NOISE STANDARDS (Lmax)		
Zoning Classification	Day (maximum)	Night (maximum)
	6:00 a.m. to 10:00 p.m. dBA	10:00 p.m. to 6:00 a.m. dBA
MG, MC, AE, TPZ, TC, AG, FP, FR, MH	80	70
CN, MB, ML, RRA, CG, CR C-1, C-2, C-3,	75	65
RM, R-3, R-4	65	60
RS, R-1, R-2, NR	65	60

Exceptions.

The Short Term Noise levels shown in the above table shall not apply to uses such as, but not limited to:

1. Portable generator use in areas served by public electricity when electrical service is interrupted during emergencies as determined by the Planning Director.
2. Temporary events in conformance with an approved Conditional Use Permit.
3. Use of chainsaws for cutting firewood and power equipment used for landscape maintenance when accessory to permitted on-site uses.
4. Heavy equipment and power tools used during construction of permitted structures when conforming to the terms of the approved permit.
5. Emergency vehicles.

Humboldt County CMMLUO no 2559 (1.0)

55.4.11 Performance Standards for all CMMLUO Cultivation and Processing Operations - (o)

The noise produced by a generator used for cannabis cultivation shall not be audible by humans from neighboring residences. The combined decibel (dBA) level for all noise sources, including generators, at the property line shall be no more than 60 decibels. Where applicable, sound levels must also show that they will not result in the harassment of Marbled Murrelet or Spotted Owl species.

Existing Conditions

As the area has long been used for grazing land, and more recently, for cannabis cultivation. The unnamed private road that serves as the primary access to the project area is currently used by an existing project employee to reach the existing garden (16,800 sq. ft). The cattle rancher that operates on the project parcel will also travel this road as it provides an established and maintained route into the parcel. The rancher uses a truck and trailer as well as horses to find and reach dispersed cattle.

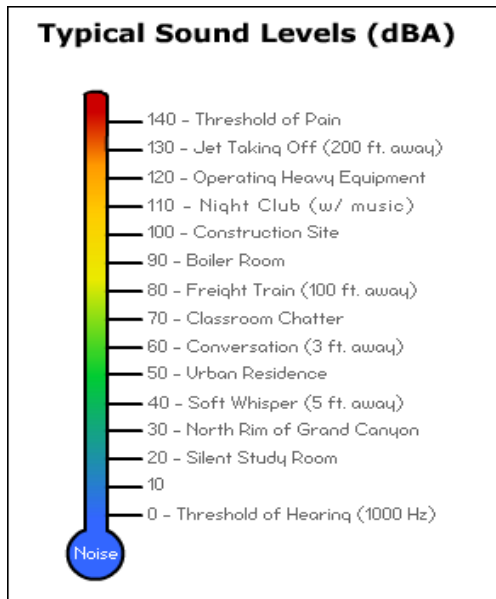


Figure 26. Typical sound levels; retrieved 4/19 from OSHA.gov

Analysis of Impacts

The following description and analysis of noise created by the proposed project and its components relies on several basic definitions of sound and types of sound measurements.

Ambient- in this document, refers to the typical background sounds at the project location.

Attenuation- refers to the reduction of noise levels in relation to distance, interference, etc. A point source of sound attenuated at a rate of six (6) dB for every doubling of the distance away from the source.

Decibels- (dB) express sound intensity as a logarithmic unit of sound. *dBA* is the expression of the decibel with the most common method of weighting applied –‘A’ weighting. *dBA* is often described as the measurement of noise perceived by the human ear.

The sensitive receptors in the vicinity of the project sites include rural residences and sensitive wildlife. The nearest residence is at the junction of the unnamed access road with Alderpoint Road (approximately 1.5 miles due west, southwest of the proposed development).

Sensitive receptors – wildlife, are discussed in detail in the Biological Resources section (4.3) of this document.

Construction

The construction noise will come from a variety of heavy equipment (Table 29) and be intermittent, depending on the phase of construction and equipment in use. The project anticipates that all construction (earthwork, propagation greenhouses, Multi-Use Building, septic, and finish work) will be completed in a time frame of 13 – 20 weeks (not consecutive; see construction details, section 2.8) All outdoor construction activity and use of heavy equipment outdoors shall take place between 7:00 a.m. and 6:00 p.m., Monday through Friday, and between 9:00 a.m. and 6:00 p.m. on Saturday and Sunday. The primary source of noise will be concentrated in the first 1-2 weeks as the construction focuses on completing the surfacing of the access road, grading for the Multi-Use Building and the rainwater catchment tank, and the excavation work for the septic system and the alternative power system. Additional noise will come from the concrete trucks delivering loads (potentially over several days) for the Multi-Use Building and water tank slabs.

Table 29. Sound levels for heavy equipment

Sound Source	Receptor	Level (dBA)	dBA at 50ft	dBA at 1000ft	dBA at 2000ft	dBA at 4000ft
	Dist. (ft)					
Backhoe/ Loader Operation	20	84	≈76	≈50	≈44	≈38
Concrete Truck/Mixer	20	84	≈76	≈50	≈44	≈38
Compactor	50	80	80	≈56	≈46	≈43
Dump Truck	50	84	84	≈60	≈54	≈48

Source: Federal highway administration Construction Noise Handbook. Accessed 12/10/18
https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook09.cfm

▪ Operational noise

Operational noise will come from project employees driving on project roads and talking/laughing while working in the gardens and in the Multi-Use Building. The project will also experience noise from operational systems. Operational systems include fans, dehumidifiers and generators.

Vehicle Travel

Vehicle traffic associated with daily project operations will be, primarily, the employees (Phase I) or the project van(s) (Phase II/III) traveling to and from the site. During Phase I, the employees are anticipated to number approximately six (6); the trips for Phase I employee travel will be six (6) round trips per day. During Phases II and III, the project will use a van or vans to pick up the 20-25 employees from their place of residence. The van trips for employee travel will be two (2) round trips. Additional anticipated vehicle traffic will come from a weekly project trip that will include, among other things, garbage/recycle removal, propane refilling, and general supply pickup (fertilizers/pesticides, wood product for gasifier if needed, and miscellaneous.). There will also be a clone and potting soil pickup and delivery to the site two (2) times a year that will be made by the project proponents or an employee, and an annual (or bi-annual) refill of the propane tank. The project traffic will have a maximum daily average of 6.25 vehicles during Phase I and a maximum daily average of 2.25 during Phase II/III (See Transportation, 4.17).

The project will increase the number of cars and trucks driving on the primary access road, Alderpoint Road during morning and evening commute times when the road is likely to receive much of its daily traffic. Because Alderpoint Road is paved, and because the road is a major collector that is designed for commuting traffic, a daily addition of 6.25 round trips per day will not add a significant level of new traffic and therefore will not add a significant level of noise.

The unnamed access road will also see project traffic, though less than 6.25 due to the carpooling strategy that will be followed during Phase I, whereby only one to two (1-2) vehicles (accommodating around 6 employees) will travel the full length of the access road, and the vanpooling that will be implemented during Phase II/III. This limited daily traffic numbers (less than three (3) round trips on the unnamed private road), and a posted low speed limit of the unnamed private access road (10 mph), and the distance from neighbors, mean that traffic related noise is not expected to have any impact on nearby neighbors or community members. The potential impacts on sensitive wildlife are discussed in more depth in the Biological Resources section of this document (4.4).

Employee generated noise

It is generally agreed that conversation and background music in an office is around 60 dBA (Figure 26). The work taking place inside of the Multi-Use Building will include talking, listening to music, etc., but these noise levels will be attenuated by the walls of the building and will not have a significant impact outside of the building. The employees will generally be working alone in the gardens. The project proponents expect that the employees will listen to music on headphones or occasionally communicate with other employees that are near as they work in the cultivation areas. Employee work includes soil preparation and plant tending. The soil preparation will include tilling by hand (non-motorized) and mixing in of amendments. Plant tending includes application of sulfur with a gas powered fogger. The equipment is used sporadically (once or twice a season) and will have a temporary and less than significant impact (similar to string trimmer or a chainsaw). The work areas (six (6) acres of proposed outdoor on Sherman Flat and 16,800 sq. ft. of existing) are very large and located on a large parcel (over 1,000 acres). Occasional talking at various and variable locations at a level of average conversation (60dBA at 3-feet) and the temporary and uncommon use of a motorized sprayer will not have any significant impact on sensitive receptors.

Fan/Trimmer Noise- Multi-Use Building

There will be systems that make noise inside of the Multi-Use Building. These consist of ceiling mounted interior circulation fans (they do not vent to the exterior) and the possible use of an electric trimmers. The County of Humboldt, in the 2017 draft EIR of the Cannabis Ordinance, 2.0, described the noise from motorized trimmers as meeting the General Plan Noise Compatibility Standards (daytime) by virtue of established setbacks alone (Impact 3.10-2). This means that the noise from the project's interior processing systems are expected to comply with the county nuisance regulations. However, each site is a unique combination of components and should be individually analyzed. The following is a site specific analysis of expected noise generated by the Multi-Use Building.

Humboldt County's General Plan describes a standard frame house as reducing sound transmission by 15dBA (Ch13, 2017a). This degree of sound reduction is reproduced from the Humboldt County Framework Plan from 1984 (Volume 1, section 3240. Other sources describe the reduction of noise as more significant, depending on the materials the sound will pass through. For example, the U.S. Department of Housing and Urban Development's (HUD) *Noise Guidebook* (2009) lists a 2-inch piece of cedar and a sheet of 24 gauge steel as having a Transmission Loss (TL) value of 18 dBA where TL represents the amount noise levels will be reduced when the sound waves pass through the material. The reduction in noise transmission will be more than the result of the specific material used on the outside of the building; The interior fans and sporadic potential use of motorized trimmer noises on this project will have the additional noise reduction provided by the insulation in the walls of the Multi-Use Building, as well as the material that covers the walls (gypsum board/dry wall, etc.). Therefore, while the benefit from the wall insulation and cover is greatly dependent on the wall assembly (spacers, dead air, insulation type, etc.) and the frequency of the sound itself, it can be assumed that structure will result in no less than 18dBA loss in noise volume (dBA).

If a power trimmer is used, it can be quite loud, around 81 dBA at 3-feet away, according to the source used in the Humboldt County Draft EIR for the CCLUO (2017). Assuming that the trimming machine is located a least 1-foot off the wall (on a table) and that there is at least 23-feet between the outside of the building and the forest edge, distance attenuation, most commonly understood to be 6dBA every doubling of the

distance away from the source, will result in drop from 81dBA to 51dBA (Table 30). A further, minimum reduction of 18 dBA is taken to account for the attenuation of the building with the result an estimated noise level of 33 dBA at 23-feet from the source (effectively, the tree line).

Table 30. Estimated mechanized trimmer noise (dBA) with distance attenuation*

Feet	3	6	12	24
dBA	81	75	69	51

* Distance attenuation is a result of an increase in distance from the source only. Sound attenuated (is reduced) from a point source at a rate of 6dBA per doubling of the distance from the source. Other factors, such as topography, physical, barriers, humidity, wind, etc. are not included in this table.

Fan Noise- Propagation Greenhouses

The propagation greenhouses on the project will require environmental controls for managing interior conditions and clone success. Ventilation fans are the primary source of air exchange in the greenhouses and have the potential to impact total project noise. In the existing propagation greenhouse, just south of the 16,800 sq. ft. cultivation, there are two (2) endwall fans (one (1) on each side of the greenhouse): 28-inch AC fans from Snap-Fan in Arcata. The project will also install one (1) endwall fan on each end of the four (4) proposed propagation greenhouse on Sherman Flat. According to the Snap-Fan representative (See correspondence in Appendix C), these fans, at 100% power, produce a noise level of 45 dBA at three (3) meters (9.8-feet) which attenuates to 39 dBA at six (6) meters (19.7-feet). See Table 31.

Table 31. Snap-Fan noise levels (dBA) at select distances (excerpt from Snap-Fan provided data, Appendix C)

28" AC Snap-Fan			
% DutyCycle	RPM	Distance	dB(A) Sound Pressure
50%	470	3m	32
50%	470	6m	26
100%	940	3m	45
100%	940	6m	39
* dB(A) Values Are Calculated Estimates			

At the location of the proposed propagation greenhouses, it is possible that the sound levels will compounded; sound is calculated using a logarithmic scale and not merely added together. Using the table provided by the engineering toolbox below (Table 32), combining the sounds between the two proximal and identical propagation fans on the end walls of each propagation greenhouse results in the addition of three (3) dB. Due to spacing of greenhouses, compounding noise from more than one pair of adjacent endwall fans (ie: from three greenhouses) is not anticipated.

Table 32. Adding Identical Noise Sources: Engineeringtoolbox.com

Number of Identical Sources	Increase in Sound Power Level (dB)
2	3
3	4.8
4	6

5	7
10	10
15	11.8
20	13

Sound power and sound pressure are not identical factors; however, there is a generally a correlation between the increase in overall power (dB) and the increase in perceived level of noise (dBA). One source describes it, in simplified terms, as cause and effect (sengpielaudio.com), with the source of the noise, the fan power, remaining constant. The data from Snap-Fan upholds this assumption, demonstrating that at 3m at 100% power, the sound power is 66 dB and the sound pressure is 45 dBA. After doubling the distance to 6m, the sound power (the cause of the sound that is heard) is still 66 dBA. The three (3) decibel increase in sound power (cause) discussed above (Table 32) will result in an increase in sound pressure (effect). For the purposes of this analysis, we will assign the three (3) decibels directly to the sound pressure measurements provided by Snap Fan. Therefore, with the combined sound power level and resulting sound pressure level described as a 3 dB increase in sound pressure, two (2) fans from two (2) nearby greenhouses could have the potential to contribute 48 dBA at around 10 feet from the greenhouse endwall fans (Table 33).

Table 33. Estimated fan noise with distance attenuation*

2 - 28" Snap-Fans @ 100% power	Distance (m) <i>((nearest foot))</i>	3 <i>(10)</i>	6 <i>(20)</i>	12 <i>(40)</i>	24 <i>(79)</i>	48 <i>(158)</i>
potential increase of 3dB	Decibels	48	42	36	30	24

* Distance attenuation is a result of an increase in distance from the source only. Sound attenuated (is reduced) from a point source at a rate of 6dBA per doubling of the distance from the source. Other factors, such as topography, physical, barriers, humidity, wind, etc. are not included in this table.

The four (4) proposed seasonal propagation greenhouses (on Sherman Flat) will be in an open grassland area over 150-feet from nearby forested habitat, around 1.5 miles from the nearest rural resident, and approximately 1,784-feet (just under 1/3 mile) to the nearest parcel boundary (Figure 27).

The existing propagation greenhouse is located on the south side of the existing 16,800 sq. ft. garden in an open grassland area over 300-feet from nearby forested area, around 1.5 miles from the nearest rural resident, and approximately 825-feet to the nearest parcel boundary (Figure 27).

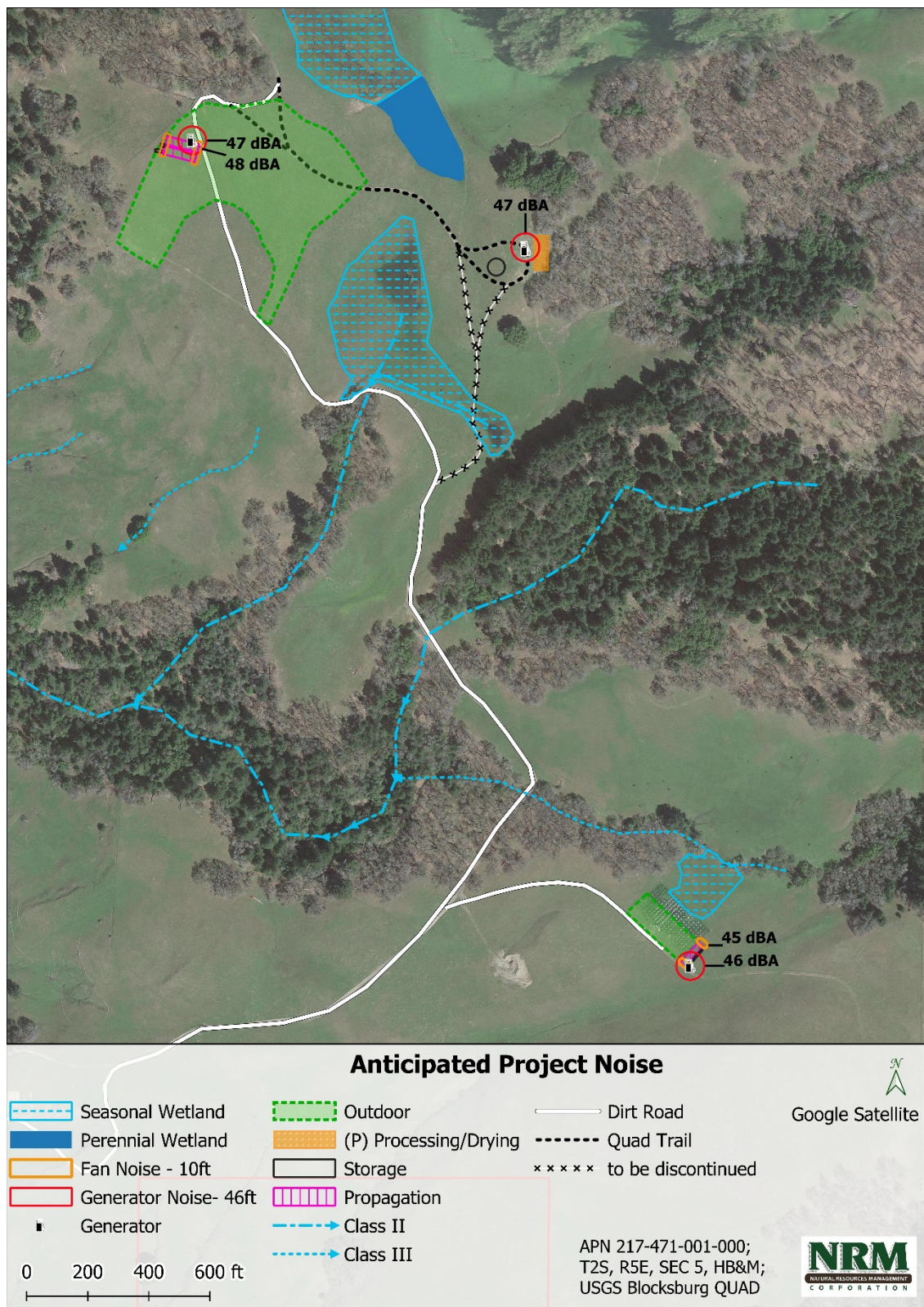


Figure 27. Phase I layout: Location of existing and proposed generators (temporary power) and fans with estimated noise levels (Tables 33 and 35). Note: generator noise at (P) Processing/Drying Building represents one (1) generator.

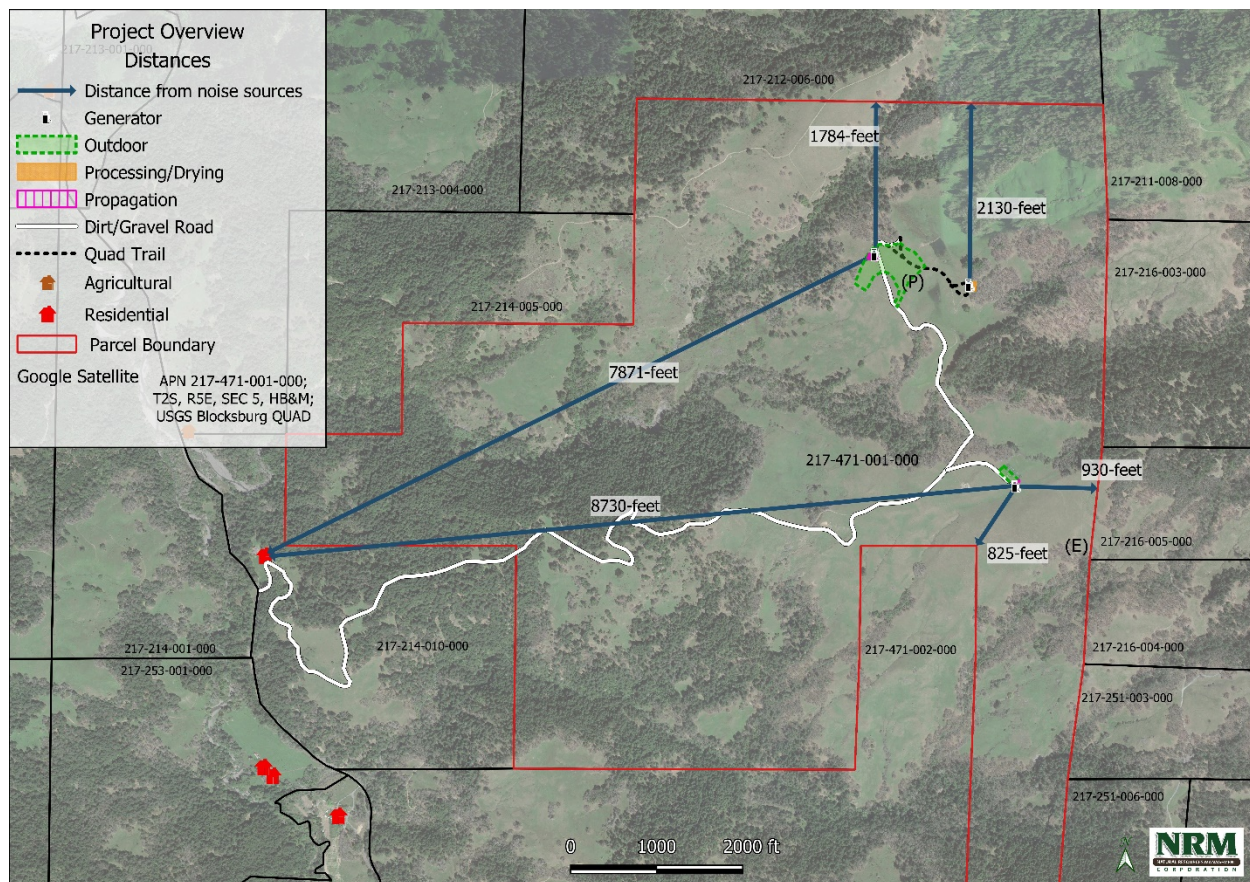


Figure 28. Distances between noise sources, parcel boundaries, and nearest neighbor

Gasifier

The noise level of the gasifier is directly related to that of the generator used; because the proposed generator, a 4kw generator, is significantly smaller and quieter than the project's primary generators (2.7.1.1), and because it will occupy the same location as the project's primary generators, all analysis associated with the primary generators (see below and section 4.4.2) will include the potential impacts of the gasifier and no further discussion or analysis regarding the gasifier/generator noise impacts are required.

Generator Noise

The project will use one (1) Honda EU7000iS generator to run lights and fans in the propagation greenhouses during Phase I to grow clones to an appropriate outdoor planting stage and one (1) or two (2) Honda EU7000iS generators at the Multi-Use Building for flower drying. The project will use one (1) Honda EU3000iS generator to run lights and fans in the existing propagation greenhouse.

The noise that each generator produces fluctuates as the engines run at various loads. At 100% rated capacity (7,000 Watts AC), the Honda 7000iS generator produces 58 decibels (dBA) at 23 feet away from the generator. At 1/4 load the Honda 7000iS generator produces 52 dBA at 23 feet away. The smaller powered generator that is located at the existing garden runs only slightly quieter. At 100% rated capacity (3,000 W), the Honda EU3000iS generator produces 57 decibels (dBA) at 23 feet away from the generator. Attenuating over distance, the 7000iS generator and the 3000iS generators would be reduced to a noise level below 50 dBA at a point before 92 feet away from the generators. See Table 34 below.

Table 34. Estimated generator noise (dBA) with distance attenuation*

	Distance (feet)	23	46	92	184	368	736
Honda EU 7000 iS	Decibels (dBA)	58	52	46	40	34	28
Honda EU 3000 iS	Decibels (dBA)	57	51	45	39	33	29

* Distance attenuation is a result of an increase in distance from the source only. Sound attenuated (is reduced) from a point source at a rate of 6 dBA per doubling of the distance from the source. Other factors, such as topography, physical, barriers, humidity, wind, etc. are not included in this table.

In addition to the physical attenuation over distance, the noise from the generators is further diminished by their location inside of a generator shed (planned shed for the 7000iS and an existing shed for the 3000iS). The existing generator shed is constructed with 2x4s and plywood with no insulation. The planned generator sheds for the 7000iSs will be similarly constructed. As discussed in the Draft EIR (2017) for the Humboldt County CCLUO (no. 2599), shielding of the noise source that is high enough to break the line of sight between the source and the receiver will, on average, result in five (5) decibels of noise reduction. Incorporating the five (5) dB noise reduction to the initial noise measurement (58dB at 23-ft away and 57dB at 23-ft away) the initial sound that is attenuated becomes 53-dB and 53dB at 23-feet. The subsequent noise for project generators, attenuating due to the physical barrier of the sheds and over distance, results in the following:

The 7000iS generator and the 3000iS generator will produce a level of noise below 50 dBA at a point before 46 feet away from the generators.

By the time the sound reaches the nearest parcel boundary at 825-feet away from the existing cultivation area, the noise from the Honda EU3000iS generators is less than 23 dBA and is not be likely to be distinguishable from ambient noise. The sound from either generator at any place of use will be almost imperceptible at distances over 736-feet. See Table 35 below and Figures 27 & 28 above. No property boundary or resident will perceive noise from the fans or generators used during project operations.

Table 35. Estimated generator noise (dBA) with distance* and barrier attenuation

	Distance (feet)	23	46	92	184	368	736
Honda EU 7000 iS	Decibels (dBA)	53	47	41	35	29	23
Honda EU 3000 iS	Decibels (dBA)	52	46	40	34	28	22

* Distance attenuation is a result of an increase in distance from the source only. Sound attenuated (is reduced) from a point source at a rate of 6 dBA per doubling of the distance from the source. Other factors, such as topography, physical, barriers, humidity, wind, etc. are not included in this table.

Cumulative Noise

Generators

As discussed previously, if needed, the project will use two (2) Honda EU7000iS generators to power the Multi-Use Building during Phase I and Phase II (though Phase II use is not anticipated). In this parallel configuration, the generators are expected to produce additional noise. Using the Engineering Toolbox resource (Table 32), adding two identical noise sources will result in an increase of 3 decibels. Accordingly, the noise from the parallel configuration of Honda EU7000iS generators will result in 61 (58+3) dBA at 23-feet. With barrier attenuation, a 5-dBA noise reduction, the noise is reduced to 56 dBA at 23-feet away. With attenuation (See Table 36), the result is that, at a distance greater than 46-away from the source, the noise level will be less than 50dBA.

Table 36. Estimated noise (dBA) of two (2) generators in parallel configuration with distance* and barrier attenuation

	Distance (feet)	23	46	92	184	368
Honda EU7000iS (2 generators, parallel configuration)	Decibels (dBA)	56	50	44	38	32

* Distance attenuation is a result of an increase in distance from the source only. Sound attenuated (is reduced) from a point source at a rate of 6 dBA per doubling of the distance from the source. Other factors, such as topography, physical, barriers, humidity, wind, etc. are not included in this table.

Generators and Fans

At Sherman Flat, the proposed greenhouse fans and the generator are unlikely to impact the cumulative noise present in the immediate vicinity of the project. However, in the event that the frequencies of the noise sources do overlap, using the reference table from the Engineer's Toolbox for adding different signal strengths (Table 37 below) and assuming the maximum increase in noise – 3dBA, the total potential cumulative noise in the area of overlap could increase to 51 dBA. The cumulative noise would not persist beyond the immediate overlap as the sound sources are different and the sound waves are traveling at different speeds.

Similarly, at the existing garden to the South of the proposed development on Sherman Flat, the generator and the propagation fans could experience limited overlap. Using the reference table from the Engineer's Toolbox for adding different signal strengths (Table 37 below) and assuming the maximum increase in noise – 3dBA, the total potential cumulative noise in the area of overlap could increase to 49 dBA. The cumulative noise, if occurring, would not be significant in that the cumulative impact is reduced to the immediate area and does not propagate outward as it would from two identical sources.

Table 37. Adding Different Noise Sources: Engineeringtoolbox.com

Signal Level Difference between two Sources (dB)	Decibels to Add to the Highest Signal Level (dB)
0	3
1	2.5
2	2
3	2
4	1.5
5	1
6	1
7	1
8	0.5
9	0.5
10	0.5
> 10	0

Cumulative noise from generators and propagation greenhouse fans will not be significant and will not be discussed further.

Discussion of Significance

a) Less than Significant. The project will not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable plans of other agencies.

Project Construction

The Humboldt County General Plan Short Term Noise Ordinance (N-S7) allows up to 80 dBA for short term construction related noises in Agricultural zoned land. The CMMLUO setback of 30 feet from the property line is met at this site; the closest development to the property line will be the Multi-Use Building planned for Sherman Flat (Figure 28); this building will be approximately 1,500-feet away from the eastern property boundary and 2,130-feet from the northern boundary. All heavy equipment, virtue of distance, will have decibel reduced to under 60 dBA at the property line (Table 29; see also Figure 6). The nearest sensitive receptors (neighbors) are approximately 1.5 miles to the southwest and not likely to perceive the noise from any components the project's site construction (Figure 28). The noise created by road improvements, including road scraping and the addition of gravel would not be considered excessive or atypical noise in this rural environment where ranch roads are a necessary part of parcel access.

Project Operations

As required by the Humboldt County CMMLUO no. 2559, the combined decibel (dBA) level for all noise sources, including generators, at the property line will not exceed 60 decibels. The noise from project operations (employees, fans, generators, car noises) is limited to the immediate project footprint.

b) Less than Significant.

Project Construction

The potential for groundborne noise comes, primarily, from the proposed use of heavy equipment during the construction phase. Commonly associated with groundborne noise, piledriving and blasting are not a part of proposed project construction. The use of construction equipment will be temporary and removed (1.5 miles) from sensitive human receptors. The temporary nature of the construction (13-16 weeks maximum), the rural setting (trucks and trailers, chainsaw and commercial logging activities are common, currently, and historically, in the project area), and the significant distance from sensitive receptors

(neighbors) combine to render any potential groundborne noise from construction equipment (Table 29) to less than significant.

Project Operations

There will be no impact on groundborne vibrations. The nature of the project is agricultural with the majority of the labor put into tending the crops. Generators and fans will be used (generators only temporarily), but the amounts and sizes of these components are equivalent to home use and not industrial; There will be only three (3) greenhouses with a total of six (6) 28" fans, and there will be only two (2) portable Honda generators. The spacing between the fan groups (two and four (2 & 4) and between generators (existing garden and proposed development on Sherman Flat) also ensures that any potential vibrations could not be cumulative.

The increase in traffic will primarily occur on a paved road, Alderpoint Road; as discussed in the Draft EIR for the CCLUO 2599 (2017), vibration from traffic on smooth roadways creates a vibration that is rarely perceptible. Increased traffic on rough roads can increase the perception of groundborne noise. This project will have rough roads in the form of a gravel access road that will be used mornings and evenings for employee access. On average, this road will experience 2.25 round per day during ongoing project operations; Phase I will see 6.25 roundtrips per day on average. The access road will have a maximum speed limit of 10mph. The low number of daily trips and low speed limit means that the traffic is not expected to have any impact on groundborne vibrations and noise.

c) No Impact. The project is not located within the vicinity of a private airstrip or an airport land use plan; the project is not within two (2) miles of a public airport or public use airport. The nearest airport (public or private) to the project is the Dinsmore airport, located 10 miles to the north. The project will therefore not expose people residing or working in the project area to excessive noise levels due to the proximity of an airport.

Cumulative Impact

The owner's decision to employ solar power as the project's primary power source has the important effect of eliminating, by Phase III, the need for generators on site and therefore, eliminating a potentially cumulative significant noise impact on the area. The Honda generators that will be used during Phases I and II will produce less than 50-dBA at 46-feet away. When the sound reaches the nearest residential neighbor 1.5 miles to the southwest (located on Alderpoint Road), the sound will be so low as to be imperceptible. Similar to the generators, the fans used in the propagation greenhouses will increase the ambient noise level in the immediate area around the greenhouses themselves, but will be so low as to be imperceptible by the time the sound reaches the nearest neighbor at approximately 1.5 miles away. The noise produced by the project will be well under the county mandated decibel limits. The size of the parcel, over 1000 acres, eliminates the possibility of any additional projects adding to the ambient noise level in the immediate vicinity and all sound attenuates over distance. The project noise will not have a significant cumulative impact.

4.14 POPULATION AND HOUSING

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

Regulatory Setting

Regional

Humboldt County General Plan (2017 Update) Chapter 8, Housing Element

- 8.3 Background

The housing needs of the very low income and the shelter needs of the homeless are not being adequately met and the supply of land available for multi-family housing is constrained by infrastructure limitations and zoning.

Existing Conditions

The project is located in unincorporated Humboldt County. The project area and the surrounding areas have been historically, and are currently, used for commercial timber activities and ranching. There is a small network of private dirt roads currently used as access roads for ranching use and older roads from past logging operations. Apart from a barn, that burned down in 2019, the project area has remained undeveloped. There is no power, phone, sewer, or natural gas service to the area. The nearest communities (driving) are Blocksburg and Alderpoint. These towns are characterized by a central residential area surrounded by private land; this landscape currently includes existing cannabis cultivation operations in various stages of permitting. According to the project proponents, many of the residents within these communities already work in the cannabis industry.

Analysis of Impacts

It is estimated that the proposed project will have an average of 20 people on site during the planting and harvest season (Phase II/III). These employees are expected to be sourced from the currently unemployed or underemployed people in the surrounding area (Blocksburg and Alderpoint). The average unemployment rate for Humboldt County in November 2019 was 3% (CA EDD, 2019). While this is an exceptionally low unemployment rate for Humboldt County, the recent COVID-19 Shelter in Place mandate has resulted in many new layoffs as “non-essential” business are forced to close. The project expects to find seasonal employees in the immediate area. Local hiring will mean that jobs are not growth inducing and that no new housing will be required as a result of the project. This project will not have an onsite caretakers; no housing

will be available onsite. The physical barriers to access (gates) and 24-hr monitoring capabilities (satellite connected security cameras) will ensure site security during the off season and overnight.

The project will add an engineered alternative system that is designed to match the energy load required by the project. This system will provide energy for the Multi-Use Building, the five (5) propagation greenhouses (fans and lights), and the string lights in the proposed light deprivation greenhouses.

Discussion of Significance

a) No Impact. The project will not induce substantial unplanned population growth in an area, either directly or indirectly. The proposed project will not produce any significant growth inducing impacts. Growth inducing impacts are generally caused by projects that have a direct or indirect effect on economic growth, population growth, or when the project taxes community service facilities which require upgrades beyond the existing remaining capacity. No community services (roads, gas, sewer, water) or utilities are being extended to the site.

Currently in the surrounding areas there are cannabis cultivation operations employing many people. As illegal industry contracts, the county could see a net loss in the number of people employed in the rural areas of the county. In some cases, the illegal operations are eradicated by virtue of county action. In 2018, Humboldt County sent out 330 ‘Cease and Desist’ violations to county residents were suspected of growing illegally (Marijuana Business Daily, 2018). In November 2019, the county sent 470 letters to county residents that were suspected of growing cannabis illegally (Lincoln, 2019). To some extent, the project will replace this previously existing industry and the employees that were previously attending illegal cannabis gardens in the hills. The economic benefits of these projects would not be such that additional people might be attracted to the area. These projects will not be growth inducing; they will not require new housing.

b) No Impact. The project will not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. The project will not displace any existing housing or people. The Humboldt County General Plan (2017) describes progress toward increasing housing as a component of zoning and infrastructure and states policies and goals to reorient community development in ways that encourage housing and shelter for very low income residents. Small scale commercial development, like this project, will offer income and employment for some of the very low income residents thereby potentially moving them into a higher level of income for which housing is not as impacted.

Cumulative Impact

Currently in the surrounding areas there are numerous illegal and unpermitted cannabis cultivation operations employing many people. As illegal industry contracts, the area should see a net loss in the number of employed people in the more rural areas of the county. To some extent, the project will replace this previously existing industry and the employees that were previously attending the crops. The economic benefits of this project would not be such that additional people might be attracted to the area. This project will not be growth inducing.

4.15 PUBLIC SERVICES

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?			X	
b) Police protection?			X	
c) Schools?				X
d) Parks?				X
e) Other public facilities?				X

Existing Conditions

Located off of Alderpoint Road, north of Blocksburg, the project area has limited fire and police services. The area is served by the Alderpoint Volunteer Fire Company; the company is based in Alderpoint and has a coverage area of 128 square miles and two engines (2017d). The project area is served by CalFire when they are available (seasonal). Police services are provided by the Humboldt County Sheriff's office. The nearest school is Casterlin School at 24790 Alderpoint Road, Blocksburg, CA. This K-8 school is located approximately 5.4 miles south of the most southern project component (existing 16,800 sq. ft. garden). Other public lands in the vicinity of the project area are the Six Rivers National Forest, located over one (1) mile (1.3 miles from parcel boundary, 1.8 miles from proposed project development areas) to the east. There are not public parks or recreation opportunities with five (5) miles.

Analysis of Potential Impacts

The project is not expected to be growth inducing. Employees are expected to come from nearby populations or nearby farms that have been unable to transition to the legal system (See Population and Housing for more details). Neither schools, park, nor other facilities are expected to see any significant impacts from the addition of this project to the outskirts of the small community of Blocksburg.

The project has developed a security plan. As proposed, the security plan includes the following: physical barriers, cameras, and a security alert system. There will be a perimeter fence (existing property fence will be used without modification) and locked gate at several locations (See Plot Plan, Appendix A). The proposed Multi-Use Building will be an all steel building with a safe room/vault that will contain finished product. All doors (person and roll up) will have lighting in the form of shielded, low B.U.G. rated exterior lighting. The exterior lights will be on throughout the night or as determined necessary for security and employee safety. These access points will also be equipped with satellite security cameras. There will also be security cameras at the gated entrance to the property. The security cameras will be installed by a professional security company. The cameras will be operating 24 hours a day during project operations.

The project will be developed to the highest building standards (new buildings meet updated CA building and electrical codes) and use fire resistant materials (polycarbonate cladding and roofing per Ch. 7A

requirements). The project is not mapped as a very high fire hazard severity by California Department of Forestry and Fire Protection (CAL FIRE). A CAL FIRE fact sheet (2007) explains that this rating is based on the features of the area; the project area has low slopes, minimal fuel loads, high number of high humidity days, few significant stands of trees, and no significant fire history. Wildfire is discussed in more detail in this document in the section titled, Wildfire.

Humboldt County has provided a thorough analysis of the potential impacts on fire and police protection in the Draft EIR for the CCLUO. This document hereby incorporates the analysis of the Commercial Cannabis Land Use Ordinance, Draft EIR (Humboldt County, 2017). This document is used herein as a reference document containing pertinent analysis and not as a document under which this project is to be permitted. In this analysis, the county concludes that there is no evidence that permitting cannabis would increase fire protection needs and that, on the contrary, meeting California building codes with requisite electrical code inspections and safe storage of flammable materials is more likely to decrease the risk of fire and fire services. Similarly, the CCLUO analysis determined that permitting cannabis projects would not, in itself, increase the need for police services above baseline. It is recognized that cannabis is a valuable commodity and will continue to be a target for crime, but with increased security measures and an accessible path for reporting crimes, legal projects may also deter crime. Available metrics for evaluating crime, such as that produced by the California Department of Justice do not show that violent crimes are clearly connected to legalized cannabis; in the last ten years (2009 through 2018) Humboldt county experienced the highest number of homicides, (12 per year) in 2015 and 2016, which were years before and during the transition to legal cannabis (DOJ, Executive Summary Homicide in California, 2018).

Discussion of Significance

a) Less Than Significant Impact. The project will not result in physical impacts associated with the provision of new or altered fire protection facilities. As discussed above, Humboldt County found that there is no evidence to suggest that permitting new cultivation under the county ordinance would increase fire protection needs as compared to baseline conditions. This is due to the fact that new buildings and facilities would only be approved if they meet the standards of the current California Fire and Electric codes and pass all requisite inspections. This project is subject to all safety codes and will be more fire resistant due to the use of fire resistant materials in building. The burned down historic wooden barn will be replaced with steel) and the use of gravel on roads will help prevent spark fires. In addition, the project will not use a generator as a primary power source, eliminating another possible fire risk. The impact on fire protection services will be less than significant.

b) Less than Significant Impact. The project will not increase demand for law enforcement to the extent that new facilities would be required. As discussed above, there is no evidence that the security risk for permitted commercial cannabis, like this project, would increase from baseline. Available data on calls for service are not significantly increasing, nor are homicide rates in the county directly or significantly connected to legal cannabis cultivation operations. The project has a security plan that relies on restricting access (locked gates across roads, locked gates to cultivation areas, and a locked product storage area) and satellite video surveillance. This plan is meant to deter potential criminal activity onsite. The impact on law enforcement would be less than significant.

c)-e) No Impact.

Schools: The project is not growth inducing; the project is expected to draw no new families to the area, but to employ un or underemployed people that live in the area and in nearby communities.

Parks) There are no parks near the project area. The closest public land is the Six Rivers National Forest. This project is not expected to increase the population in the area.; therefore, no public lands will see an increase in visitors due to this project.

Other Public Facilities) This project will not increase population growth and includes no residential development; therefore, it will have no impact on other public facilities.

Cumulative Impact

The project will not directly require the provision of any new or physically altered public services (fire protection, police protection, schools, parks or other). The cannabis agricultural operation proposed by the project is at a higher risk of security problems than other agricultural operations. As described above, the security risk from cumulative cannabis facilities does not depart from the security ‘baseline’ under which the county has been operating for over a decade and therefore cannot be considered a significant individual or cumulative impact. This is especially true considering that new development that will be permitted by Cal Cannabis is required to increase security in ways that historical, illegal cannabis cultivation operations never did (no regulation or requirements). The requirement for cannabis support structures to be built to meet strict California building codes means that less fires are expected and there will not be any cumulatively considerable impacts on fire services.

4.16 RECREATION

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Existing Conditions

The land in and near the project area is privately owned and primarily used for agriculture and ranching. The closest public land is the Six Rivers National Forest (1.8 miles from project development and 1.3 miles from project parcel boundary). The NF is located directly east of the project. There is no direct access in the form of a road or mapped route, and any travel would be over private land. There are no planned trails in the vicinity (2017). There are no county parks in the vicinity (Humboldt County, 2010). The nearest camping areas are located off of Hwy 101 (38 miles, driving, to Humboldt Redwoods State Park) and Hwy 36 (28 miles, driving, to Grizzly Creek State Park) (Estimates from Google Maps, 2020).

Discussion of Significance

a)- b) No Impact. The project does not include recreational facilities and would not increase the use of existing neighborhood and regional parks or other recreational facilities in such a way that the facilities would require construction or expansion; nor would the project cause substantial physical deterioration of the facility. There are no parks near the project. The project is expected to hire from an existing pool of under and unemployed residents of Humboldt County; therefore, the employees will not be in a position to seek temporary shelter in nearby parks or National Forest lands. The project is not growth inducing and the use of recreation facilities would be equivalent to baseline condition.

Cumulative Impact

The project will not increase the use of, nor would it require the construction or expansion of, recreational facilities within the surrounding area. As discussed above, the project is located on private land with no direct access to public lands and it is not in the immediate vicinity of any public parks. Employees will be sourced from existing population of under or unemployed permanent residents and will not lead to increased use of the region's camping facilities. The project will not cause a cumulatively considerable addition to the use or construction of recreational facilities in the surrounding area.

4.17 TRANSPORTATION

Issues and Supporting Information	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 addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?				X
b) Conflict or be inconsistent with CEQA guidelines section 15064.3 subdivision (b)?		X		
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
d) Result in inadequate emergency access?				X

Regulatory Framework

State

California Environmental Quality Act (CEQA)

The framework for analysis of traffic impacts is changing from a level of service (LOS) metric to that of vehicle miles traveled (VMT). The requirement to use vehicle miles traveled as the metric for transportation analysis (CEQA Guidelines Section 15064.3) took effect on July 1, 2020.

Local

Humboldt County Association of Governments (HCAOG) Regional Transportation Plan (2017)

The Regional Transportation Plan (RTP), updated in 2017, sets forth the main objectives and project plans and priorities of the associated agencies and jurisdictions in Humboldt County. The main objectives of the RTP are balanced mode share/complete streets; economic vitality; efficient and viable transportation system; environmental stewardship; equitable and sustainable use of resources; and safety.

Humboldt county Proposed Resolution: Vehicle Miles Traveled (VMT) Screening Criteria and Thresholds of Significance; 2020; PLN-2020-16529

This proposed resolution, addressing California Senate Bill 743 (SB743, 2013), adopts the new metric for CEQA as Vehicle Miles Traveled (VMT) and establishes screening criteria and thresholds for significance as applied to Humboldt County. Criteria and thresholds were guided by the Humboldt county General Plan and developed in coordination with Humboldt County Public Works, Caltrans District 1, and the Humboldt county Association of Governments.

Existing Conditions

The project site can be accessed by traveling on Alderpoint Road (via Hwy 36 or Hwy 101). The entirety of Alderpoint Road is developed to the equivalent of a road category four (4) standard (Road Evaluation Report, Appendix G). On the Southern Humboldt Circulation Map, Alderpoint Road is considered a “major

collector” (2017). According the US Department of Transportation, a Collector is a road that connects local roads and streets with arterials; collectors provide less mobility than arterials at lower speeds and for shorter distances. Alderpoint road has an average speed limit of 45 mph and two (2) lanes of traffic. Alderpoint Road is not listed as a road that is above or projected to be above capacity in the Humboldt County General Plan (2017a). According to the 2010 County Road Log, Alderpoint Road has a maximum measured current average daily traffic of 2,083 vehicles (both directions).

Analysis of Potential Impacts

Construction

The vehicle trips for the construction component of the project includes short term, specific goal oriented transportation trips (i.e.: concrete trucks, excavator transport, materials delivery) that are not reoccurring. Project construction will also include the commuting of construction employees (five (5) onsite daily on overage). Construction will occur from five (5) to seven (7) days per week for up to 16 weeks. While the specific employees are not yet hired and their origin point is unknown, the project proponents plan on hiring from the local area (communities of Blocksburg, Alderpoint and possibly as far as Garberville). The construction equipment and foundation materials (concrete, rebar, etc.) will come from Garberville. The gravel will be sourced from an onsite borrow pit. In order to capture the greatest potential impact on transportation (and Greenhouse Gas Emissions, 4.8), the distance of 70 miles roundtrip to Garberville is used as the baseline for construction traffic analysis. Accordingly, the estimated maximum number of round trips for the project construction is **643 round trips** with a maximum of **45,010 miles** traveled. The daily average will be approximately **5.74 round trips** per day. The breakdown of vehicle trips for construction are detailed in the table below (Table 38).

Table 38. Project Construction: Estimated VMT

Activity	Vehicle Type	Number of round trips for construction	Total miles traveled From Garberville = 70 miles roundtrip
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Deliver concrete	Concrete Truck**	36	2,520
Deliver excavator	Semi-truck w/flat bed or truck and trailer	1	70
Deliver Backhoe/loader	Semi-truck w/flat bed or truck and trailer	1	70
Onsite transport of gravel from borrow pit	Dump truck	1	70 30 onsite miles
Dust abatement	Water truck	1	70
Deliver Compactor/roller	Semi-truck w/flat bed or truck and trailer	1	70
Deliver Propane Tank	Flatbed truck	1	70
Delivery of Building Materials (includes gravel***)	Flatbed truck/dump truck	41	2,870
Construction Employees*	Sedan/truck	560	39,200
Total VMT for Construction Trips =		45,010 VMT	
Total number of round trips for Project Construction =		643 trips total	
Total number of round trips per day for Project Construction =		5.74 trips/day	

* Construction employees (max of 5 onsite) will be onsite daily for a maximum of 16 weeks (7 days/week).

** Concrete truck estimate based on 4-inch deep slab and assumes that each fully loaded concrete truck can carry 10 cubic yards of material; The 7,400 square foot Multi-Use Building will require approximately 89 cubic yards of concrete. The rainwater catchment tank will require approximately 270 cubic yards of concrete.

*** Approximately 1-mile of road will need gravel from 1-inch to 3-inches deep. The project will use the onsite borrow pit, but as the production of the pit is unknown; this analysis includes a maximum possible 36 dump truck trips from Garberville needed to deliver a maximum of 750 tons of rock.

Project Operations

The project is the expansion of existing agricultural production on the project parcel (existing 16,800 sq. ft.). Like the existing garden and many other agricultural commodities in California, the greatest amount of labor consists of human laborers that plant, tend, harvest, and process the crop. Vehicle traffic associated with daily project operations will be, primarily, the employees (Phase I) or the project van(s) (Phase II/III) traveling to and from the site. During Phase I, the employees are anticipated to number approximately six (6); the trips for Phase I employee travel will be six (6) round trips per day. During Phases II and III, the project will use a van or vans to pick up the 20-25 employees from their place of residence. The van trips for employee travel will be two (2) round trips. Additional anticipated vehicle traffic will come from a weekly project trip that will include, among other things, garbage/recycle removal, propane refilling, and general supply pickup (fertilizers/pesticides, wood product for gasifier if needed, and miscellaneous.). There will also be a clone and potting soil pickup and delivery to the site two (2) times a year that will be made by the project proponents or an employee, and an annual (or bi-annual) refill of the propane tank that will serve as the heat source for the Multi-Use Building. See Table 39 for the breakdown of trips and miles.

When calculating the vehicle miles traveled (VMT) and daily trips for the project (Table 39), several assumptions were made. The calculations assume that employees will be sourced locally and will travel between 12 miles (Blocksburg) and 40 miles (Alderpoint) roundtrip. The maximum anticipated distance of 40 miles for employee travel is incorporated into the VMT calculations. Supply and product delivery trips in addition to employee travel are assumed to take place between Blocksburg and as far as Eureka (120

miles round trip). The maximum anticipated distance of 120 miles for supply trips is incorporated into the VMT calculations. The calculations for annual rates are not based on a 365 day year, but reflect the actual occupation of the site by the project proponents and employees. As the project is not using artificial lighting for flowering, the project operations are limited to spring through fall; specifically, the project will occupy the site from early March through the end of October (eight (8) months and approximately 240 days).

The estimated maximum total number of round trips for the project operations during Phase I is **1,500 round trips per year**. The estimated maximum daily average will be approximately **6.25 round trips per day**.

The estimated maximum total number of round trips for the project operations during Phase II/III is **540 round trips per year**. The estimated minimum daily average will be approximately **2.25 round trips per day**.

Table 39. Project Operations: Estimated Annual VMT

Activity	Vehicle Type	Number of roundtrips /month (30 days)	Number of roundtrips /year The project is active during 8 mo. of the year March – Nov (240 days)	Annual Vehicle Miles Traveled
Employee travel* Phase I, 6 trips/day	sedan/truck	180	1440	57,600
Employee travel* Phase II/III, 2 van trips/day	sedan/truck	60	480	19,200
Clone/potting soil pick up**	truck & trailer	-	3	360
Product offsite**	truck & trailer	-	6	720
Propane fuel delivery** (Refill every 6 months)	Propane truck	-	3	360
Nutrients and supplies to site; Garbage and recycle off site**		5	48	5,760
* Number based on the expectation that employees will be traveling from as far as Alderpoint (40 miles max roundtrip) ** Number based on expectation that these trips will not extend past Eureka (max of 120 miles roundtrip)			Estimated # of roundtrips/year Phase I: 1,500 Phase II/III: 540	Annual VMT: Phase I : 64,800 Phase II/III: 26,400
			Estimated # of roundtrips/day (total/240 days) Phase I: 6.25 Phase II/III: 2.25	

Discussion of Significance

a. No Impact. The project will not conflict with an applicable plan, ordinance or policy addressing the circulation system. The county circulation system considers the main access road, Alderpoint Road, to be a major rural collector. Alderpoint Road, from Hwy 36 to Redwood Dr. in Garberville (Hwy 101 access), provides 47 miles of paved access for the rural communities of Blocksburg, Alderpoint, and others. Alderpoint Road has an average speed limit of 45 mph and two (2) lanes of traffic. According to the Federal Dept of Transportation, a major collector is designed and maintained with the goal of providing a route between local roads and streets and arterials; arterials generally include highways, freeways, and interstates with speeds of 50-70 mph (US. DOT, 2000). The project's proposed use of Alderpoint Road to connect rural residents to their place of occupation is an appropriate use and the project will have no impact on the local circulation system.

b. Less than Significant with Mitigation Incorporated. The proposed project will not conflict or be inconstant with CEQA guidelines section 15064.3 subdivision (b) in which a project is evaluated for significance based on the potential increase of vehicle miles traveled over baseline. This project is not a residential, office, or retail development which have the greatest influence on vehicle miles traveled. As a rural, agricultural project, the majority of vehicle trips and miles traveled come from the employees.

The Dec 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA from the California Governor's Office of Planning and Research (OPR) offers several metrics for evaluating Transportation impacts using vehicle miles traveled. For general application in screening small projects, the number of trips is less than significant if it is fewer than 110 trips per day. The project will generate significantly less than 110 trips per day (6.25); by this definition, the project will not be a significant transportation impact.

Another OPR suggested screening criterium describes projects as having less than significant impacts if they achieve a 15% lower VMT per employee than currently existing. Humboldt county does not currently have VMT data for the transit analysis zone of the Blocksburg area (personal communication with Keenan Hilton, Humboldt Planning and Building; Dec 2020); therefore, to avoid speculation regarding the current VMT of future employees, this analysis will use trips as a stand in for VMT. The project will hire a maximum of 25 employees (peak labor, Phase II/III). Assuming that these employees were working or were looking for work in the same area as they currently or recently worked, these 25 future employees equate to 25 existing vehicle trips (roundtrips). With the vanpool mitigation measure (**Mitigation Measure-Transportation 1**), the 25 existing vehicle trips is reduced to 2 future vehicle trips (roundtrips). A 15% reduction in trips would result in 21.25 trips per day. The vanpool mitigation proposal provides a 92% reduction in trips. Accordingly, the project will reduce trips (and an assumed equivalent percentage of VMT) from baseline by over 15% and will have no significant transportation impact.

Within the context of the Humboldt County Planning Department's proposed resolution, Vehicle Miles Traveled (VMT) Screening Criteria and Thresholds of Significance (PLN-2020-16529), the Screening Criteria describe cannabis cultivation operations with eight (8) or fewer employees as having a less than significant transportation impact (Exhibit A I.E.13). While the language of the document establishes a specific number of project employees (8), the intent of the criteria is to limit vehicle trips and miles traveled in order to "promote infill, encourage active transportation, and reduce greenhouse gas emissions." The employee number was used for cannabis projects as a proxy for trips per day because, as agricultural operations, "employee travel is the most significant source of VMT" (Exhibit B.I.F). Therefore, a reduction

of daily trips to less than eight (8) for this project would be consistent with the intention of the Screening Criteria. While the Screening Criteria and Thresholds of Significance (PLN-2020-16529) have not been finalized by the county, the document represents an applicable local mandate on vehicle travel.

This project will have six (6) employees making six (6) roundtrips to the site during Phase I (trips per day = 6.25; annual VMT = 64,800). Phase I will have no significant transportation impacts as the employee numbers are below the screening criteria established in PLN-2020-16529.

During Phase II/III, the project will have 20-25 employees. With the incorporation of one (1) or two (2) 12-15 person passenger vans (**Mitigation Measure- Transportation 1**) to pick up and drop off employees, the trips per day is estimated to be 2.25 trips per day, with an annual VMT of 26,400 miles. Phase II/III will have no significant transportation impacts as the employee numbers are below the screening criteria established in PLN-2020-16529. **With Mitigation Incorporated**, the project will have a **Less than Significant Impact** on transportation.

c) No Impact. The project will not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). The engineer's assessment (Appendix G) of the private road revealed that, though the road will see additional transportation of materials and people, it has adequate visibility and sufficient pull outs to provide road safety. The project improvements will be to add gravel to existing roads as well as conduct annual basic annual road improvements where needed. The existing project roads have been used in the past to facilitate logging operations and move cattle. Therefore, the movement of construction equipment and truck and trailers during the dry season will not constitute an incompatible use beyond the baseline use.

d) No Impact. The proposed project will not result in inadequate emergency access. As part of the planning process, the project is required to update signage for visibility and provide firetruck accessible access and turn arounds. The project will also have designated parking areas that will prevent road blockage. See Site Plan (Appendix A) and Figures 2 & 3.

Mitigation

Mitigation Measure - Transportation 1: Beginning in the second season of cultivation (Phase II), when the project intends to hire a number above eight (8) employees, the project will provide one or more passenger vans such that the daily number of employee -generated round trips is less than eight (8). The project proponent will provide to, the Humboldt County Planning and Building Department (HCPBD), Cannabis Services Division, by Dec 31st of the year, with evidence of van use (lease/purchase agreement, contract, or equivalent) beginning the second season of cultivation after permitting (Phase II) and annually until directed otherwise by the HCPBD.

Cumulative Impact

In addition to the thresholds of trips above, it is important to consider that this project is not growth inducing (See Population and Housing, 4.14). These cannabis garden and harvest jobs are currently in the process of moving from the unquantifiable black market arena to that of the legal and observable markets, as represented by the existing garden in this project. While some cannabis farms succeed in moving into the legal market, other operations disappear (abatement) or relocate (RRR). New cannabis farms are expected

to hire displaced workers. This project's potential incremental increase on the vehicle traffic of the area is not expected to be significant as the project will hire local or near local employees for seasonal farm labor.

4.18 TRIBAL CULTURAL RESOURCES

Issues and Supporting Information	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 tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code §5020.1(k)?				X
b) Cause a substantial adverse change in the significance of a tribal cultural resource determined by the lead agency to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1?				X

The following section has been adapted from: Archeological Survey Report: Blocksburg Family, September 11, 2017 & January 30, 2019; Alta Archaeological Consulting, Santa Rosa, CA. See all figures and references in the full reports, Appendix F of this document. Where necessary, clarification by NRM has been added in [] and italics.

Native American Consultation

Assembly Bill 52, which went into effect in July 2015, is an amendment to CEQA Section 5097.94 of the Public Resources Code. AB52 established a consultation process with all California Native American tribes identified by the Native American Heritage Commission (NAHC) with cultural ties to an area and created a new class of resources under CEQA known as Tribal Cultural Resource. The County of Humboldt, as the Lead Agency under CEQA, is responsible for complying with the requirements of CEQA Section 5097.94 of the Public Resources Code.

The Native American Heritage Commission (NAHC) was contacted via email on June 29, 2017 to request a review of the Sacred Lands file for information on Native American cultural resources in the study area and to request a list of Native American contacts in this area. In the NAHC response dated July 3, 2017, Mr. Frank Lienert (Associated Governmental Program Analyst) indicated that no known cultural resources are present in the area. On August 2, 2017 consultation letters were sent all Native American groups listed by the NAHC. On August 3, 2017, Rachel Sundberg (Tribal Historic Preservation Officer Trinidad Rancheria) replied by email to state that the project is situated outside the tribe's area of cultural concern. On August 3, 2017, Janet Eidsness (Tribal Historic Preservation Officer Blue Lake Rancheria) replied by email to state that the project is situated outside the tribe's area of cultural concern. To date, no additional response(s) has been received from the Native American community. Attachment B [*in Appendix F of this document*] provides documentation of Native American correspondences.

Discussion of Significance

a) No Impact. The project would not cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code §5020.1(k). Inadvertent Discovery Protocol applies.

[Inadvertent Discovery Protocol:] If buried archaeological resources are discovered during project implementation all work should be halted within 100 feet of the find and county officials, a professional archaeologist and tribal representatives should be contacted immediately to evaluate the find. If human remains are discovered during project implementation all work shall be halted and the permitting agency, Humboldt County shall be contacted immediately.

b) No Impact. The project would not cause a substantial adverse change in the significance of a tribal cultural resource determined by the lead agency to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. Inadvertent Discovery Protocol, as described above, applies.

4.19 UTILITIES AND SERVICE SYSTEMS

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities or expansion of existing facilities, the construction or relocation of which could cause significant environmental effects?				X
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years			X	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

Regulatory Setting

State

California Integrated Waste Management Act of 1989 (AB 939); updated in 2011 (AB 341)

Designed to minimize the amount of solid waste disposed of in landfills, the California Integrated Waste Management Act requires cities and counties to divert 50% percent of solid waste from landfill facilities. Waste reduction efforts must promote source reduction, recycling and composting.

- Cal Recycle has set an overall statewide diversion rate target of 75% by 2020

State Water Resources Control Board

- WQ 2014-0153-DWQ, General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems
- WQ 2015-0121-DWQ, General Waste Discharge Requirements for Composting Operations

Humboldt County

10.5 Waste Management

Existing Conditions

The project site is part of unincorporated Humboldt County. The area is not served by any municipal or community water or sewer districts. As unincorporated agricultural land, the area does not have a stormwater drainage system. The area is rural and over three (3) miles from the nearest county road and grid power source (Alderpoint Road).

Private landowners in unincorporated Humboldt County generally use septic systems for wastewater treatment as municipal systems are not available to them. The County of Humboldt is responsible for permitting and inspect these Onsite Wastewater Treatment Systems (OWTS). In some areas, known as Variance Prohibition Areas, the county imposes stricter than average regulations and inspection requirements due to a combination of challenging site conditions. The project area is not located in a Variance Prohibition Area.

Analysis of Potential Impacts

The power for the project will come from an engineered and permitted alternative energy system that will be installed onsite. The system will not be connected to the grid. Before the alternative energy system is approved and installed, the project will use two (2) generators to provide lights and fans for propagation greenhouses. This is the first part of Phase I and is expected to last up to eight (8) weeks.

The project has had soil testing performed and adequate soil for a standard septic system was identified (Appendix E, soil analysis)

The water for project use will come from a ground water well that will draw at a maximum rate of 28 gallons/minute from 200 feet below the surface. Like many wells in the area, the water is expected to come from a perched aquifer with no direct connection to surface water (see Hydrology, 4.10).

The project will produce solid waste during both the construction and the operational phases. Waste during construction will be in the form product packaging and shipping waste, concrete clean out spoils, metal cuttings, as well as components of the cultivation set up (pieces of irrigation tubing, tape, etc.). Operations related waste will come primarily from nutrient and pesticide packaging, green waste from harvests and processing, and general food related garbage and recyclables from employees. However, this project, due to its large scale, buys both pesticides and fertilizers in bulk. The ability to buy in bulk means fewer containers and an overall reduction in waste. Operational related solid waste, one large can per week on average, will be removed weekly to the Eel River transfer station.

The stalks, stems, and leaves from the cannabis plants will be composted on-site. The composting area will have impermeable flooring and be covered on three (3) sides and roofed. As agricultural composting that is protected from storm events and less than 500 cubic yards at any one time, the project expects to be exempted from enrollment in SWRCB order WQ 2015-0121-DWQ. All soil used for cultivation activities will be reused with no soil disposal occurring during long-term operations of the project.

Discussion of Significance

a) No Impact. The project would not require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications

facilities or expansion of existing facilities, the construction or relocation of which could cause significant environmental effects.

There are no public wastewater or public water systems serving the site. The site is rural and no connection to a water system or wastewater treatment facility is currently possible. Wastewater will be treated with onsite septic. There will be no impacts on wastewater treatment providers as there are none serving the project. The project will not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. The project will establish one (1) standard septic system with specifications per the designing engineer that provide adequate service. The septic system will not have significant environmental effects because the systems will be designed to meet all specifications of onsite wastewater treatment systems (OWTS) under the County's Local Agency Management Program (LAMP) as approved by the Regional Water Quality Control Board in February of 2018.

The project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Storm water runoff will be managed onsite. Runoff from Multi-Use Building will be captured with gutters at the roofline and directed into infiltration trenches/french drains that will allow for a natural percolation of storm water. The access roads and parking areas will be surfaced with gravel to minimize sediment laden sheet flow. The roads that have inboard ditches will have ditch relief culverts that are installed with such frequency as to avoid significant inputs into any stream (See Hydrology Water Quality, 4.10).

The project's increased electric power supply will be met with an onsite alternative energy system. No overhead or underground grid power is onsite; no overhead or underground grid power is planned. See Sections 2.7 and 4.6.

b) Less than Significant Impact. The project will have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. The project has a 200 foot deep well that will be the primary water supply for irrigation. When tested, the well produced a 28 gal/min draw (Appendix J); the well can produce up to 40,320 gallons of water per day. The project estimates that the water use will be sustainable for Phase I and with the addition of the 1 million gallon catchment tank, will be sustainable for Phases II and III of cultivation. See section 2.10. for water use and sustainability analysis.

c) No Impact. The project will not result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. The site is rural and no connection to a water system or wastewater treatment facility is currently possible. Wastewater will be treated with a County DEH approved OWTS.

d, e) Less Than Significant Impact. The project will comply with federal, state, and local management and reduction statutes and regulations related to solid waste; it will not generate solid waste in excess of standards or otherwise impair the attainment of solid waste reduction goals. The project will recycle, via weekly drop off at Recology Eel River, all recyclable materials including cardboard/paper packaging, rinsed plastic pesticide and nutrient containers, and glass and aluminum. Employee food waste will be diverted to

the composting area. There will be an initial one-time aggregate of project construction and set-up associated solid waste (plastic packaging, ties, scraps from irrigation tubing, etc.). This type waste is typical of a project initial setup and does not contribute excessively to the amount of waste produced.

Apart from this, the project expects that 80% of average operational waste will be diverted to compost or recycle. The waste produced by the project will be appropriate for any environment with employees. The waste, via Recology, will go to one of several permitted landfills (Dry Creek near Medford, Oregon and Potrero Hills facility in Solano County, CA) with sufficient capacity. The Dry Creek landfill, according to the Humboldt County General Plan, could operate at its current level for another 75 to 100 years. This project is agricultural and will not contribute a significant amount of solid waste in excess of standards.

Cumulative Impacts

The area is used for agriculture and ranching; wells and septic systems are a typical and permitted source of water and wastewater disposal for these rural unincorporated Humboldt County. Composting of green waste is a beneficial use that will reduce unnecessary inputs into the landfill system. This project, after the initial start, will contribute waste on a weekly schedule (drop off at Recology) and will not contribute to a potentially cumulatively and significant over taxation of any transfer station.

4.20 WILDFIRE

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			X	

Regulatory Setting

Federal

United States Department of Agriculture, Forest Service (USDA FS)

- Wildfire Hazard Potential (WHP)

The WHP map developed by the USDA FS, is a spatial representation of wildfire risk, based on fire simulation results as well as fuels and vegetation data and historical fire locations. The tool is meant to help clarify where wildfires are likely to occur and how intense they may be.

State

CalFire

- State Responsibility Area (SRA)

These are lands where the state has financial responsibility for wildland fire protection.

- Fire Hazard Severity Zones (FHSZ)

These zones are mapped as a tool for implementing fire safe construction and building codes, triggering real estate disclosures, informing and influencing property development, and implementing regional and state development requirements. The maps are composed by layering known hazards including,

but not limited to vegetation, topography, weather, likelihood, and the potential for crown fires and ember production.

- Fire and Resource Assessment Program (FRAP)

Fire Probability for Carbon Accounting mapping tool - Based on climate data and fire history, FRAP provides a spatial analysis of fire probability.

California Building Code

Ch. 7A

Established in 2008, the Chapter 7A creates fire safe building codes for new construction in the Wildland-Urban Interface (WUI) areas. These codes mandate that new construction have, among other things, fire resistant roofing, siding, decking materials, and specific vent specifications. State Responsibility Areas (SRAs) require adherence to Ch.7A, WUI, building standards.

Local

Humboldt County General Plan, 2017

(Part 4, Chapter 14. Safety Element)

- S-P17. Joint Planning and Implementation. The county shall plan collaboratively with local fire agencies and companies, CAL FIRE, and federal fire organizations on countywide fire prevention and response strategies. Implementation shall be coordinated to maximize efficiency and ensure efforts are complimentary.
- S-P18. Subdivision Design in High and Very High Fire Hazard Zones. Subdivisions within State Responsibility Area (SRA) high and very high fire severity classification areas shall explicitly consider designs and layout to reduce wildfire hazards and improve defensibility; for example, through clustering of lots in defensible areas, irrigated green belts, water storage, perimeter roads, roadway layout and design, slope development constraints, fuel modification plans, and vegetation setbacks.
- S-P19. Conformance with State Responsibility Areas (SRA) Fire Safe Regulations. Development shall conform to Humboldt County SRA Fire Safe Regulations SRA requirements

Existing Conditions

The project area is in a State Responsibility Area (SRA) and has a mapped Fire Hazard Severity (FHS) level of 'High.' SRAs are areas for which the state of California is financially responsible in the event of a wildfire. CalFire is the state agency that responds to fires in the project area. The Bridgeville Fire Protection District boundary lies on the north of the proposed project area with the Alderpoint Volunteer Fire Company Response Area covering the majority of the project area.

Analysis of Potential Impacts

The project proposes to expand an existing cannabis operation (outdoor 16,800 sq. ft garden and propagation greenhouse) to include four (4) new propagation greenhouses, a 7,200 sq. ft. steel Multi-Use Building, a 1 million gallon rainwater catchment tank, an alternative energy system, and plant an additional six (6) acres of inground cannabis (three (3) acres full sun and three (3) acres light deprivation). These proposed components (with the exception of the Multi-Use Building) will be set in open grasslands on low slopes. The Multi-Use Building will be an all steel building accessory building that has one side (east)

within 100-feet of the forest and the other side (W) open to the grasslands. The grasslands constitute a low risk fire “fuel” source and the project areas are themselves, not historically impacted by fires.

SRA regulations require that new buildings meet the most current version of the California Building Code Chapter 7A (CalFire, Humboldt -Del Norte Unit, 2018). Chapter 7A describes fire prevention requirements for siding, roofing, and exterior vents among other things. The structures themselves will be generally flame resistant: the propagation greenhouses will have a polyethylene sheeting with wooden and metal framing. The Multi-Use Building will be steel and will meet all Ch.7a Building Standards for Wildland Urban Interface (WUI) areas. The electrical wiring will be done to code and performed by a licensed electrician.

The project has planned for emergency water storage (2.5k of designate fire water) and has identified an emergency vehicle turnaround area (See Site Plans, Appendix A).

The fire hazard severity level FHS level is developed with an accuracy of around 200 acres (CalFire, 2007) and is therefore specific to larger areas and not specific sites. Another metric for analysis of wildfire is the Federal, USDA Forest Service, measure of wildfire hazards. Created at a resolution of 270 meters and more representative of a specific area’s fire hazard level, the USDA FS reports the immediate project area as a primarily Low Hazard area (Figure 29; USDA FS, 2018). The CalFire, Fire Probability map reflects the generally low incidents of fire with an annual Probability of Fire of <25% (Figure 30). Taken together, these analyses provide a picture of a less than significant fire threat in the immediate project area.

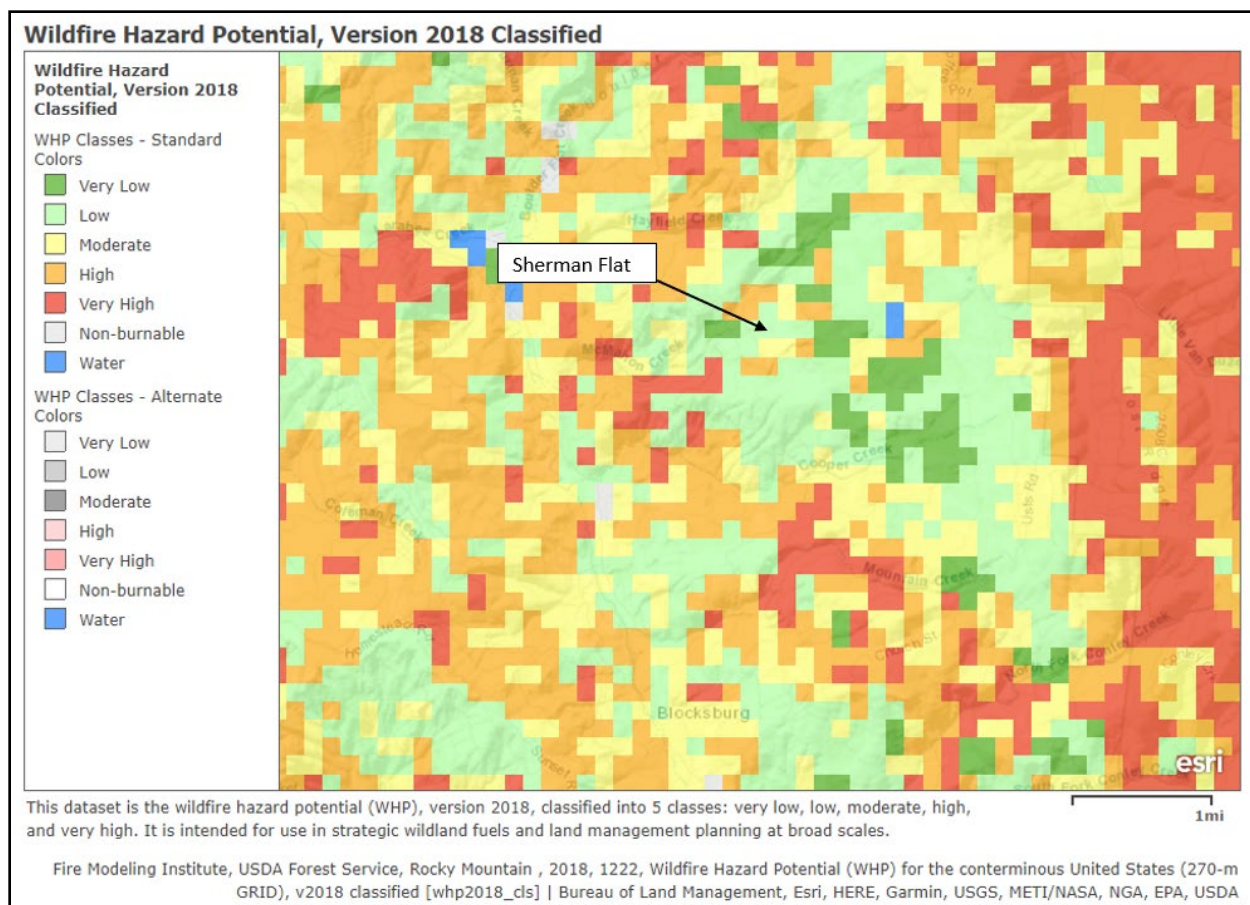


Figure 29. USDA FS wildfire hazard potential; Sherman Flat is the areas on which the proposed project improvements will occur.

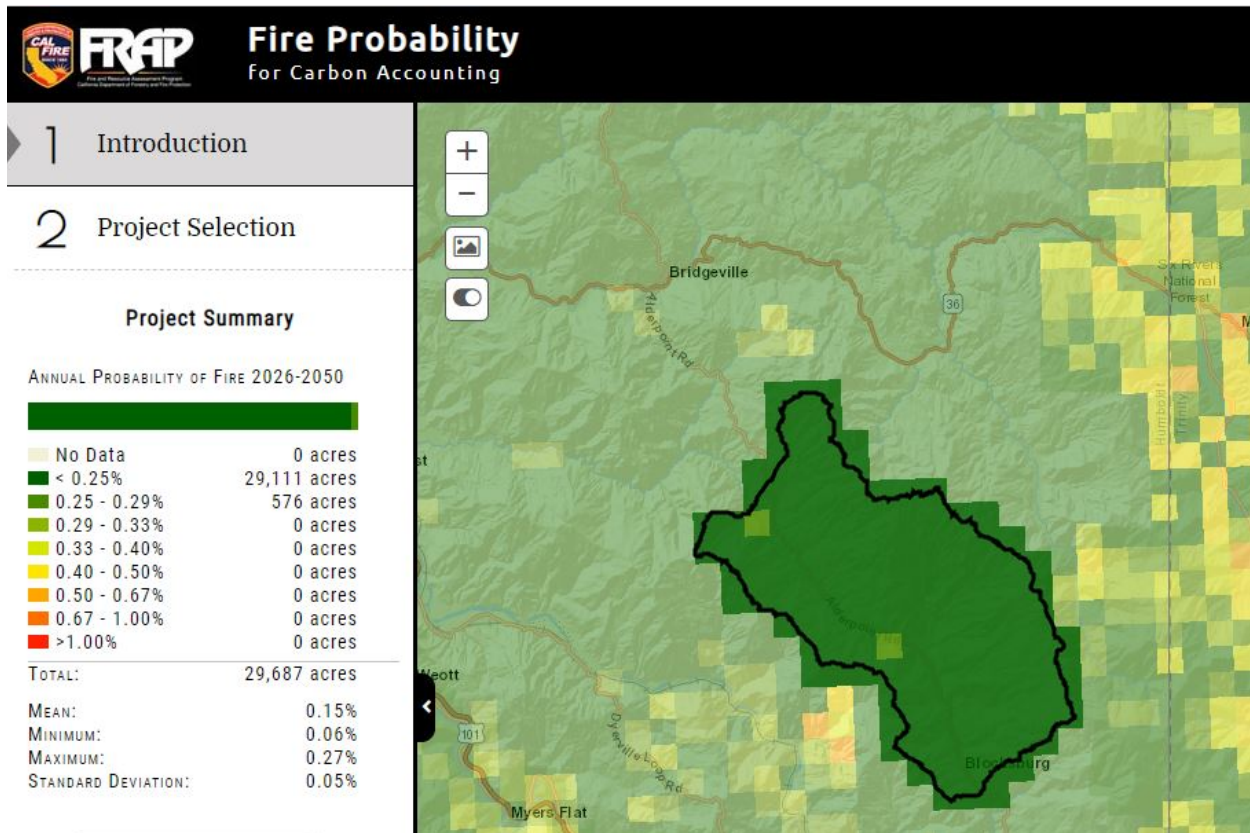


Figure 30. CalFire Fire Probability Map

Discussion of Significance

a) No Impact. Humboldt County has a county wide Emergency Operations Plan (2015) as well as a Humboldt County Community Wildfire Protection Plan (CCWPP) (2019) and a “mini CCWPP” specifically for the Mad-Van Duzen Planning Unit in which the project area is located. For all emergencies, these plans encourage people working and living in the area to sign up for the county’s mass notification system, Humboldt Alerts. It also encourages people to have a plan and evacuate early. The project will sign up for the Humboldt Alerts system. When large numbers of employees are on site, employee evacuation would be efficiently managed with the vanpool van. For residents and employees in the project area, Alderpoint Road is the primary evacuation route in case of an emergency. The project facilities are located approximately 3.2 miles off of Alderpoint Rd. on an unnamed private road. During construction and throughout project operations, Alderpoint Road will remain an open and unimpeded route for daily traffic and in case of emergency evacuations. The project will not impair implementation of an adopted emergency response plan or emergency evacuation plan.

b) Less than Significant Impact. The project area is not in a Very High Fire Hazard Severity area. The addition of six (6) acres of outdoor, inground cultivation of an irrigated crop, four (4) seasonal use propagation greenhouses, two (2) fire resistant structures (build to CA building code ch.7A standards) and a professionally installed alternative energy system on a low slope topographic bench in an open grassland, will not significantly exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. change the hazard rating of the area.

c) Less than Significant Impact. The project will not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. The access roads and the parking areas are existing project features that provide improved emergency vehicle access to the site. The project will be adding gravel (spark reduction strategy) to the project access roads and parking areas. This will be a hazard reduction as the road is currently used by vehicles to access ranging cattle and as the primary access road for the existing cultivation on the project. The Multi-Use Building is a rebuild (planned fire resistant construction) of a burned down barn and not a new development. All development will meet California Building Code regulations that describe fire safety (Ch 7a). The construction will be short term and will not constitute a significant fire risk as equipment will onsite for a short duration and travel over rocky roads. Construction equipment will be kept in fire safe condition (no dragging of equipment or towing chains, and will have adequate tire pressure (CalFire, 2019). The project features are located in open grassland and no clearing or fire breaks are necessary.

d) Less Than Significant. The project will not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Because the project is located on relatively level land and observes all state and local setbacks to water features, the post-fire impact on people or structures surrounding the parcel is less than significant as the residual physical materials and environment post-fire would remain localized.

Cumulative Impacts

This project will not exacerbate fire risk for the environment or the current or future occupants of the area. The area is not in a Very High Fire Hazard Severity area. CAL FIRE describes the basic fire hazard elements: vegetation, topography, weather, crown fire potential, ember production, and likelihood. The area has minimal vegetation to act as “fuel.” The proposed project area and the existing project garden is on a low slope bench and is low risk topography. As mostly open space, there is limited crown fire potential. Also, the likelihood, based on the FRAP fire prioritization tool (CalFire) and available fire history (Hum Web GIS) is low (<25%). The risk to employees in the area is not significant; nor is the risk of the project development a significant risk to the environment. Because the project will have an employee present at all times that the generators run and because the roads will be graveled, the presence of more vehicles and activity in the area will not pose a cumulatively significant threat of fire to the area.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

Discussion of Significance

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?		X		
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.)			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

a) Environmental Impacts – plant/animal species

Potential impacts identified by this project are identified in the Biological Resources, Cultural Resources, and Transportation sections of this document. In all other sections: Aesthetics, Agricultural and Forestry, Air Quality, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities, And Wildfire, the project was determined to have no potential to significantly 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, 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.

In the Biological Resources, Cultural Resources, and Transportation sections, several potentially significant impacts are identified. These impacts are reduced to **Less Than Significant with Mitigation Incorporated**. The potentially significant impacts and mitigations are discussed in the text below.

Biological Resources

The analysis contained in the Biological Resources section of this document concludes that the project does have the potential to degrade the quality of the environment, substantially reduce the habitat of a wildlife species, to threaten to eliminate a plant or reduce the number or restrict the range of a rare or endangered plant or animal.

The Biological Resources analysis demonstrates that several sensitive species, while not directly impacted by the project itself, are present in the vicinity of the project. In order to reduce the potentially significant impact to the species and/or sensitive habitats in the vicinity, the project will incorporate mitigations. To protect the western pond turtle, **Mitigation Measure-Bio 1, 2, 3, and 4** are incorporated. These mitigations encompass standard preconstruction surveys (Bio 1 and 2) as well as expanded protections for potential road mortality (Bio 4) and human disturbance (Bio 3).

As described in the Biological Resources section of this document, there are many other species that may be present in the project area at specific times of year. To protect these species, this project has included standardized preconstruction surveys. The project will perform standard preconstruction surveys for all migratory birds and the western bumble bee. The surveys for individual species are described in **Mitigation Measure Bio- 5, 6**. Inclusion of these standardized preconstruction surveys with a clear mandate for follow up by CDFW in case of a positive animal, nest, or den find reduces the potentially significant risk of the project construction on sensitive species in the area.

A special status plant, *Navarretia leucocephala ssp. bakeri*, and sensitive plant community, *Lasthenia glaberrima* Herbaceous Alliance, is located in the southern depressional wetland adjacent to the project area. To protect these species, the project incorporates an additional 50-feet of setback to the statutory setback of 100-feet. **Mitigation Measure – Bio 7** provides a total setback area of 150-feet. This setback, to be verified by Humboldt County Planning and Building Department, Cannabis Services Division, will ensure that special status plant, *Navarretia leucocephala ssp. bakeri*, and sensitive plant community, *Lasthenia glaberrima* Herbaceous Alliance, are adequately protected from potential project impacts.

See all Biological Mitigations (#1-7) below.

Mitigation Measure- Biological 1: If construction takes place during the nesting season for **western pond turtles** preconstruction surveys by a qualified biologist will be conducted. If turtles are found in the construction area, they will be left in place (not handled) and construction activities will stop in the vicinity of the turtle until it leaves the area. If nests are found, a 200-foot no-work buffer will be established. Often CDFW considers specific local factors when making buffer size decisions and will be consulted if nests are found. Nest buffers will remain in place until turtles have hatched and left the nest. If work takes place outside of the nesting season, no surveys are necessary..

Mitigation Measure- Biological 2: As an additional protection for **western pond turtles**, if the construction takes place during nesting season, the qualified biologist onsite will provide a short onsite training to construction employees that will be working in the area and may encounter turtles after the preconstruction survey. The training will be successful if after the training, the employees will be able to (1) identify by sight, a Western Pond Turtle, (2) know the appropriate activity buffer to provide the turtle, and (3) know when to resume construction work in the area where the turtle was found.

Mitigation Measure- Biological 3: The project will install permanent, all-season signs that describe wetland and pond setback areas as an **Environmentally Sensitive Area (ESA)**. Signs will have a clear mandate for ‘no entry.’ Because the proposed six (6) acres of cultivation area will be fenced, the west side of the wetlands and pond will not be directly exposed to intrusion by humans. The east side of the pond and wetlands faces the proposed Multi-Use Building, a future construction site and hub of project activity; the eastern side of the wetland/pond is therefore more likely to see increased human and vehicle intrusion. On this eastern side, the project will install a minimum of six (6) signs that demarcate the riparian area setbacks. The signs will be installed prior to construction at which point they will be flagged to ensure that they are seen by construction crews. Signs will be placed along road borders and/or wetland setback boundaries in such a way that the most potential for wetland damage is prevented. Sign locations will be identified by a qualified biologist prior to project construction.

Mitigation Measure- Biological 4: To ensure that **western pond turtles** are not adversely impacted by vehicle traffic, the project will enforce a 10mph speed limit on the unnamed project access road. Before construction begins, the project will post at least two (2) 10mph speed limit signs: once to inform eastbound drivers entering the access road from Alderpoint Rd. and once to inform westbound drivers leaving the Multi-Use Building and returning to the Alderpoint Rd. intersection. The speed limit signs will be posted at a height of five (5) feet above the ground and clearly visible to oncoming traffic. The project speed limit will be enforced by the project proponents as dust reduction is critical for cannabis plant health. Humboldt County Planning and Building, Cannabis Services Division will ensure that the speed limits have been posted as described.

Mitigation Measure – Biological 5: There is currently no adopted or established protocol (CDFW) for determining presence or absence of the **western bumble bee** for project level analysis. Based on known presence/absence protocols and professional recommendations (See Appendix Q, Bombus Limited Literature & Working Protocol Review) the following ‘Working Protocol*’ is proposed:

The project will first determine presence/absence. This can be achieved with three (3) nest seeking queen surveys **or** three (3) flight season surveys

- Nest-seeking queen surveys will target suspected preferred nesting areas (linear features with emphasis on forest transition zones). These surveys will be evenly spaced (approx. every two weeks) over the span of two months (Feb/March or March/April) depending on the expected emergence of the bee at the project area (weather dependent – queens are active after top layer of soil is consistently warm). The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Surveyors will spend approximately one person hour per every three (3) acres surveyed. Searches will be conducted by a qualified biologist and use photography as means of positive identification of Bombus species unless a permit for handling bees is secured.
- Flight season surveys will target the optimal habitat in the project area and consist of a minimum of one (1) person hour per three (3) acres of optimal habitat. Habitat that does not offer floral resources will not be surveyed. These three (3) surveys will be ‘free searches.’ They will be evenly spaced (one week apart) in the month of July (June/Aug depending on site conditions/season). The surveys will take place during warm sunny days over 70°F (21°C)

without fog/rain or wind over 15mph. Searches will be conducted by a qualified biologist and use photography as means of positive identification of *Bombus* species unless a permit for handling bees is secured.

- If present presence is determined during the nest seeking queen surveys or three flight season surveys, the project will conduct nest searches in the impacted (earth disturbance) area.
 - These will be conducted during the flight season using a modified version of the transect methodology presented by Osborne, J. et al. (2008). Qualified surveyors will utilize compass and pacing to walk a grid of the impact area (the impact area is the project footprint plus a 100 ft buffer). In general, surveyors will spend 5 minutes nest searching (watching for bees entering or exiting nest) for every 6m x 6m area. The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Any nests that are found will be flagged and mapped and surveyor will consult with CDFW to determine appropriate action/nest buffer areas.

*Alternatively, at the discretion of CDFW, the frequency (number of surveys) and intensity (length of time) can be reduced.

Mitigation Measure- Biological 6: To mitigate for potential impacts to **migratory birds**, 3 consecutive preconstruction surveys for these species should take place no more than one week prior to the planting (and associated mowing and other disturbances) and construction planned for Phase I of the project. The survey area will include the six (6) acres where cultivation is proposed on Sherman Flat and the footprint of the propagation greenhouses, proposed rainwater catchment tank location and burned down barn (Multi-Use Building). The footprint of the disturbance areas and a 300-foot buffer will be surveyed. Should any nests be found, a 100-foot no-work buffer around the nest will be established and CDFW will be consulted for additional going forward, such as buffer modifications or the delaying of work until nestlings have fledged. Alternatively, if ground disturbance begins in August (or later in the season), these species will have completed breeding for the season and no surveys are necessary.

Mitigation Measure- Biological 7: To ensure that the sensitive species found in the seasonal depressional wetland in the southeast portion of the Study Area, *Lasthenia glaberrima* Herbaceous Alliance, and *Navarretia leucocephala ssp. bakeri*, are adequately protected, an additional 50-foot of riparian setback is to be added to the standard 100-foot setback (SWRCB, 2019) around the seasonal depressional wetland in the southeast portion of the Study Area (Figure 17). This buffer increase is recommended as a site specific mitigation to better protect the documented sensitive natural community and special status plant species from potential project impacts.

Cultural Resources

As described in the Cultural Resources section of this document (section 4.5), a cultural resource area was identified during project planning stages (Appendix F). The boundary of the Environmentally Sensitive Area (ESA) was identified, and the area protected with a no-development buffer. The conditions of the archeologist's ESA Action Plan are expressed in **Mitigation Measure- Cultural Resources 1**. The no-development buffer, incorporated into the project design, and the additional prohibitions in the ESA Action Plan will adequately protect the ESA. The site, hosting one already identified cultural resource, requires additional safeguards in case of accidental discoveries. **Mitigation Measure – Cultural Resources 2**

establishes guidelines that will be presented to all employees (construction and project) that will be involved in breaking ground.

See details of the Cultural Resources Mitigations (1-2) below.

Mitigation Measure - Cultural Resources 1: To ensure that the identified cultural resources are not adversely affected by the proposed project, the Archeology Report provides the following mitigation:

Avoidance of Cultural Resources

This Environmentally Sensitive Area (ESA) Action Plan provides guidance to ensure that Site 40-1 is not inadvertently affected by construction or cultivation activities. The ESA calls for no ground disturbing activities to occur within the limits of Site 40-1. No staging, equipment parking, or laydown of materials shall occur within the ESA. Within the ESA all vehicle traffic will be confined to within existing roadways.

The ESA shall consist of colored stakes placed every 30 feet along the perimeter of the recorded site limits to ensure that no ground disturbing activities associated with the project are allowed into this area without appropriate archaeological and Native American monitors. The ESA boundaries will allow traffic and equipment to move through the ESAs and will provide personnel with clearly defined limits where ground disturbance can take place. Ground disturbing construction activities, however, will be allowed to take place within an ESA only in the presence of archaeological and Native American monitors. The ESA stakes will be erected as a first order of work and prior to any construction/cultivation activities under the direction of a qualified professional archaeologist.

Mitigation Measure - Cultural Resources 2: To ensure that accidentally discovered cultural resources or human remains are not adversely affected by the proposed project, all project employees that will be breaking ground (project construction, tilling, etc) will be appraised of the accidental discovery protocols, described below. The project proponent will deliver the protocols as an oral presentation or in writing. All employees will acknowledge that they have heard/read the protocols by signing their names. The project proponent will deliver the signed document to the Humboldt County Planning and Building Department.

Unanticipated Discovery of Cultural Resources

If previously unidentified cultural resources are encountered during project implementation, avoid altering the materials and their stratigraphic context. A qualified professional archaeologist should be contacted to evaluate the situation. Project personnel should not collect cultural resources. Prehistoric resources include, but are not limited to, chert or obsidian flakes, projectile points, mortars, pestles, and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources include stone or abode foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.

Inadvertent Discovery of Human Remains

If human remains are discovered during project construction, work will stop at the discovery location, within 20 meters (66 feet), and any nearby area reasonably suspected to overlie adjacent to human remains (Public Resources Code, Section 7050.5). The Humboldt County coroner will be contacted to determine if the cause of death must be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws relating to the disposition of Native American burials,

which fall within the jurisdiction of the NAHC (Public Resources Code, Section 5097). The coroner will contact the NAHC. The descendants or most likely descendants of the deceased will be contacted, and work will not resume until they have made a recommendation to the landowner or the person responsible for the excavation work for means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, Section 5097.98.

Transportation

The Phase II/III increase from one (1) new acre of cultivation to a maximum of six (6) new acres of cultivation brings an increase in farm labor (from 6 to 20/25 employees) that would conflict with Humboldt County Proposed Resolution: *Vehicle Miles Traveled (VMT) Screening Criteria and Thresholds of Significance* (2020; PLN-2020-16529). This proposed resolution, addressing California Senate Bill 743 (SB743, 2013), would adopt the new metric for CEQA as Vehicle Miles Traveled (VMT) and establish screening criteria and thresholds for significance as applied to Humboldt County. The Transportation section (4.17) discusses existing metrics by which the project vehicle trips would not be significant (CA office of Planning and Research), but concedes that Humboldt County's draft resolution is the most relevant metric for analyzing new transportation impacts. The project, therefore, proposes to reduce potential transportation impacts by implementing a vanpool (**Mitigation Measure – Transportation 1**). The vanpool will be effective when the total number of project employees reaches or exceeds eight (8); this number is described by the PLN-2020-16529 as meeting the screening requirements beyond which a cannabis project's transportation impacts would be considered significant.

See details of the Transportation Mitigation below.

Mitigation Measure - Transportation 1: Beginning in the second season of cultivation (Phase II), when the project intends to hire a number above eight (8) employees, the project will provide one or more passenger vans such that the daily number of employee -generated round trips is less than eight (8). The project proponent will provide to, the Humboldt County Planning and Building Department (HCPBD), Cannabis Services Division, by Dec 31st of the year, with evidence of van use (lease/purchase agreement, contract, or equivalent) beginning the second season of cultivation after permitting (Phase II) and annually until directed otherwise by the HCPBD.

b) Cumulatively Considerable Impacts

The project's individual impacts would not add appreciably to existing or foreseeable future significant cumulative impacts. In each section of this document, Aesthetics, Agricultural and Forest Resources, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities, and Wildfire, cumulative impacts are evaluated. Due to the large size of the parcel and the localized impacts of the project, the project is determined to have **Less Than Significant** cumulatively considerable impacts.

c) Substantial Adverse Effects on Humans

The project's proposed changes to the environment and effects on humans are analyzed throughout this document in the following sections: Aesthetics, Agricultural and Forest Resources, Air Quality, Biological

Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities, And Wildfire. In each section, the analysis concludes that project changes will not result in substantial adverse effect on humans. Therefore, potential project impacts to humans would be **Less Than Significant**.

5. Mitigation Monitoring and Reporting Program

The Initial Study / Mitigated Negative Declaration (IS/MND) for Blocksburg Family Farms, LLC has evaluated the potential environmental impacts associated with the expansion of cannabis cultivation and activities on Humboldt County APN 217-471-001. As a result of this evaluation, 10 mitigation measures were identified that, if carried out as planned, will reduce potential environmental impacts from potentially significant to less than significant levels.

State Assembly Bill AB 3180 was enacted by the California State Legislature in 1988 to provide a mechanism to ensure that mitigation measures adopted through the CEQA process are implemented in a timely manner and in accordance with the terms of project approval.)s are required to adopt a monitoring or reporting program designed to ensure compliance during project implementation.

To ensure that these mitigation measures are implemented as approved and in a timely manner, a Mitigation Monitoring and Reporting Program (MMRP) has been developed. Compliance with the MMRP was legislated with California Assembly Bill 3180 in 1988 and is represented in CEQA section 21081.6. The MMRP is meant to provide a concise and organized method for the lead agency, other public agencies, and the community to determine compliance. The MMRP also, importantly, serves as a valuable tool for the project proponent as they work to fulfill their obligations to the community and the environment.

In the MMRP below, the following components are identified:

Mitigation Measure	This column provides the text of the mitigation measure
Timing	This column identifies the time frame in which the mitigation will be implemented
Responsible for Implementation	This column identifies the person or person's that will carry out the mitigation.
Responsible for Verification	This column identifies the entity that assumes the overall responsibility for confirming compliance with each specific mitigation.
Form of Verification	This column identifies the method in which compliance with the mitigation will be communicated to the responsible party.
Verification	This column is to be dated and signed by the person/s identified at 'Responsible for Verification' to indicate that the requirements of the mitigation measure have been met.

Mitigation Monitoring and Reporting Program (MMRP) for Blocksburg Family Farms, LLC

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified
Biological Resources – Western Pond Turtle					
Biological 1: If construction takes place during the nesting season for <i>Western Pond Turtles</i> preconstruction surveys by a qualified biologist will be conducted. If turtles are found in the construction area, they will be left in place (not handled) and construction activities will stop in the vicinity of the turtle until it leaves the area. If nests are found, a 200-foot no-work buffer will be established. Often CDFW considers specific local factors when making buffer size decisions and will be consulted if nests are found. Nest buffers will remain in place until turtles have hatched and left the nest. If work takes place outside of the nesting season, no surveys are necessary.	Before Construction 1 time -if during nesting season (typically March to August) 0 times – if outside of nesting season	Qualified Biologist	Humboldt County Planning and Building Department In consultation with CDFW	Qualified Biologist will prepare Preconstruction Survey Report	
Biological 2: As an additional protection for western pond turtles, if the construction takes place during nesting season, the qualified biologist onsite will provide a short onsite training to construction employees that will be working in the area and may encounter turtles after the preconstruction survey. The training will be successful if after the training, the employees will be able to (1) identify by sight, a Western Pond Turtle, (2) know the appropriate activity buffer to provide the turtle, and (3) know when to resume construction work in the area where the turtle was found.	Before Construction 1 time -if during nesting season (typically March to August) 0 times – if outside of nesting season	Qualified Biologist	Humboldt County Planning and Building Department In consultation with CDFW	Qualified Biologist will prepare Preconstruction Survey Report	
Biological 3: The project will install permanent, all-season signs that describe wetland and pond setback areas as an Environmentally Sensitive Area (ESA). Signs will have a clear mandate for 'no entry.' Because the proposed six (6) acres of cultivation area will be fenced, the west side of the wetlands and pond will not be directly exposed to intrusion by humans. The east side of the pond and wetlands faces the proposed Multi-Use Building, a future construction site and hub of project activity; the eastern side of the wetland/pond is therefore more likely to see increased human and vehicle intrusion. On this eastern side, the project will install a minimum of six (6) signs that demarcate the riparian area setbacks. The signs will be installed prior to construction at which point they will be flagged to ensure that they are seen by construction crews. Signs will be placed along road borders and/or wetland setback boundaries in such a way that the most potential for wetland damage is prevented. Sign locations will be identified by a qualified biologist prior to project construction.	Before Construction	Qualified Biologist Project Proponent/ Project Proponent's Manger or Designee with direction from qualified biologist	Humboldt County Planning and Building Department	Qualified Biologist will prepare Preconstruction Survey Report	
Biological 4: To ensure that western pond turtles are not adversely impacted by vehicle traffic, the project will enforce a 10mph speed limit on the unnamed project access road. Before construction begins, the project will post at least two (2) 10mph speed limit signs: once to inform eastbound drivers entering the access road from Alderpoint Rd. and once to inform westbound drivers leaving the Multi-Use Building and returning to the Alderpoint Rd. intersection. The speed limit signs will be posted at a height of five (5) feet above the ground and clearly visible to oncoming traffic. The project speed limit will be enforced by the project proponents as dust reduction is critical for cannabis plant health. Humboldt County Planning and Building, Cannabis Services Division will ensure that the speed limits have been posted as described.	Before Construction & ongoing	Project Proponent/ Project Proponent's Manger or Designee	Humboldt County Planning and Building Department	Evidence of sign installation (photos) will be presented to the Humboldt County Planning and Building Department. County will observe vehicle speeds during site visits.	
Biological Resources - Western Bumble Bee					
Biological 5: There is currently no adopted or established protocol (CDFW) for determining presence or absence of the western bumble bee for project level analysis. Based on known presence/absence protocols and professional recommendations, the following 'Working Protocol*' is proposed: The project will first determine presence/absence. This can be achieved with three (3) nest seeking queen surveys or three (3) flight season surveys.	Before Construction March/April OR July/August in the year that construction is expected	Qualified Biologist	Humboldt County Planning and Building Department In consultation with CDFW	Qualified Biologist will prepare Preconstruction Survey Report	

Mitigation Monitoring and Reporting Program (MMRP) for Blocksburg Family Farms, LLC

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified
Biological Resources – Western Bumble Bee Continued					
<p>▪ Nest-seeking queen surveys will target suspected preferred nesting areas (linear features with emphasis on forest transition zones). These surveys will be evenly spaced (approx. every two weeks) over the span of two months (Feb/March or March/April) depending on the expected emergence of the bee at the project area (weather dependent – queens are active after top layer of soil is consistently warm). The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Surveyors will spend approximately one person hour per every three (3) acres surveyed. Searches will be conducted by a qualified biologist and use photography as means of positive identification of Bombus species unless a permit for handling bees is secured.</p> <p>▪ Flight season surveys will target the optimal habitat in the project area and consist of a minimum of one (1) person hour per three (3) acres of optimal habitat. Habitat that does not offer floral resources will not be surveyed. These three (3) surveys will be ‘free searches.’ They will be evenly spaced (one week apart) in the month of July (June/Aug depending on site conditions/season). The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Searches will be conducted by a qualified biologist and use photography as means of positive identification of Bombus species unless a permit for handling bees is secured.</p> <p>➤ <u>If present presence is determined during the nest seeking queen surveys or three flight season surveys, the project will conduct nest searches in the impacted (earth disturbance) area.</u></p> <p>▪ These will be conducted during the flight season using a modified version of the transect methodology presented by Osborne, J. et al. (2008). Qualified surveyors will utilize compass and pacing to walk a grid of the impact area (the impact area is the project footprint plus a 100 ft buffer). In general, surveyors will spend 5 minutes nest searching (watching for bees entering or exiting nest) for every 6m x 6m area. The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Any nests that are found will be flagged and mapped and surveyor will consult with CDFW to determine appropriate action/nest buffer areas.</p> <p><small>*Alternatively, at the discretion of CDFW, the frequency (number of surveys) and intensity (length of time) can be reduced.</small></p>					
Biological Resources – Migratory Birds					
<p>Biological 6: To mitigate for potential impacts to migratory birds, 3 consecutive preconstruction surveys for these species should take place no more the one week prior the planting (and associated mowing and other disturbances) and construction planned for Phase I of the project. The survey area will include the six (6) acres where cultivation is proposed on Sherman Flat and the footprint of the propagation greenhouses, proposed rainwater catchment tank location and burned down barn (Multi-Use Building). The footprint of the disturbance areas and a 300-foot buffer will be surveyed. Should any nests be found, a 100-foot no-work buffer around the nest will be established and CDFW will be consulted for additional going forward, such as buffer modifications or the delaying of work until nestlings have fledged. Alternatively, if ground disturbance begins in August (or later in the season), these species will have</p>	Before Construction	Qualified Biologist	Humboldt County Planning and Building Department in consultation with CDFW	Qualified Biologist will prepare Preconstruction Survey Report	

completed breeding for the season and no surveys are necessary					
Mitigation Monitoring and Reporting Program (MMRP) for Blocksburg Family Farms, LLC					
Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified
Biological Resources – Sensitive Botanical Species					
Biological 7: To ensure that the sensitive species found in the seasonal depressional wetland in the southeast portion of the Study Area, <i>Lasthenia glaberrima</i> Herbaceous Alliance, and <i>Navarretia leucocephala ssp. bakeri</i> , are adequately protected, an additional 50-feet of riparian setback is to be added to the standard 100-foot setback (SWRCB, 2019) around the seasonal depressional wetland in the southeast portion of the Study Area (Figure 17). This buffer increase is recommended as a site specific mitigation to better protect the documented sensitive natural community and special status plant species from potential project impacts.	Before Construction	Qualified Biologist or a person under the direction of a qualified biologist.	Humboldt County Planning and Building Department	Qualified Biologist will provide a Compliance Report.	
Cultural Resources					
<p>Cultural Resources 1: To ensure that the identified cultural resources are not adversely affected by the proposed project, the Archeology Report provides the following mitigation:</p> <p><i>Avoidance of Cultural Resources</i> This Environmentally Sensitive Area (ESA) Action Plan provides guidance to ensure that Site 40-1 is not inadvertently affected by construction or cultivation activities. The ESA calls for no ground disturbing activities to occur within the limits of Site 40-1. No staging, equipment parking, or laydown of materials shall occur within the ESA. Within the ESA all vehicle traffic will be confined to within existing roadways.</p> <p>The ESA shall consist of colored stakes placed every 30 feet along the perimeter of the recorded site limits to ensure that no ground disturbing activities associated with the project are allowed into this area without appropriate archaeological and Native American monitors. The ESA boundaries will allow traffic and equipment to move through the ESAs and will provide personnel with clearly defined limits where ground disturbance can take place. Ground disturbing construction activities, however, will be allowed to take place within an ESA only in the presence of archaeological and Native American monitors. The ESA stakes will be erected as a first order of work and prior to any construction/cultivation activities under the direction of a qualified professional archaeologist.</p>	Before Construction	A qualified professional archaeologist or a person under the direction of a qualified professional archaeologist.	Humboldt County Planning and Building Department	The Qualified Archeologist will prepare a Compliance Report.	
<p>Cultural Resources 2: To ensure that accidentally discovered cultural resources or human remains are not adversely affected by the proposed project, all project employees that will be breaking ground (project construction, tilling, etc) will be appraised of the accidental discovery protocols, described below. The project proponent will deliver the protocols as an oral presentation or in writing. All employees will acknowledge that they have heard/read the protocols by signing their names. The project proponent will deliver the signed document to the Humboldt County Planning and Building Department.</p> <p><i>Unanticipated Discovery of Cultural Resources</i> If previously unidentified cultural resources are encountered during project implementation, avoid altering the materials and their stratigraphic context. A qualified professional archaeologist should be contacted to evaluate the situation. Project personnel should not collect cultural resources. Prehistoric resources include,</p>	Before Construction	Project Proponent	Humboldt County Planning and Building Department	The project proponent/ project proponent's designee will deliver the signed inadvertent discovery protocols document to the Humboldt County Planning and Building Department	

but are not limited to, chert or obsidian flakes, projectile points, mortars, pestles, and dark friable soil containing shell and bone dietary debris, heat-affected					
Mitigation Monitoring and Reporting Program (MMRP) for Blocksburg Family Farms, LLC					
Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified
Cultural Resources – Continued					
<p>rock, or human burials. Historic resources include stone or abode foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.</p> <p><i>Inadvertent Discovery of Human Remains</i></p> <p>If human remains are discovered during project construction, work will stop at the discovery location, within 20 meters (66 feet), and any nearby area reasonably suspected to overlie adjacent to human remains (Public Resources Code, Section 7050.5). The Humboldt County coroner will be contacted to determine if the cause of death must be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the NAHC (Public Resources Code, Section 5097). The coroner will contact the NAHC. The descendants or most likely descendants of the deceased will be contacted, and work will not resume until they have made a recommendation to the landowner or the person responsible for the excavation work for means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, Section 5097.98.</p>					
Transportation					
<p><u>Transportation 1:</u> Beginning in the second season of cultivation (Phase II), when the project intends to hire a number above eight (8) employees, the project will provide one or more passenger vans such that the daily number of employee -generated round trips is less than eight (8). The project proponent will provide to, the Humboldt County Planning and Building Department (HCPBD), Cannabis Services Division, by Dec 31st of the year, with evidence of van use (lease/purchase agreement, contract, or equivalent) beginning the second season of cultivation after permitting (Phase II) and annually until directed otherwise by the HCPBD.</p>	At such time as the project employs eight (8) or more site based employees	Project proponent	Humboldt County Planning and Building Department	<p>The project proponent will provide the Humboldt County Planning and Building Department with evidence of van use (lease/ purchase agreement or equivalent).</p> <p>Annual verification until directed otherwise</p>	

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8. Appendixes