



COUNTY OF HUMBOLDT
PLANNING AND BUILDING DEPARTMENT
CURRENT PLANNING DIVISION

3015 H Street, Eureka CA 95501
Phone: (707)445-7541 Fax: (707) 268-3792

Hearing Date: August 18, 2022

To: Humboldt County Planning Commission

From: John H. Ford, Director of Planning and Building

Subject: **Blocksburg Hill Top Organics, LLC Special Permit**
Record Number PLN-2021-17309
Assessor's Parcel Numbers 217-411-013
Blocksburg Area

Table of Contents	Page
Agenda Item Transmittal	2
Recommended Action and Executive Summary	3
Draft Resolution	6
Maps	
Location Map	10
Plot Plans	11
Attachments	
Attachment 1: Recommended Conditions of Approval	13
Attachment 2: CEQA Addendum	19
Attachment 3: Applicant's Evidence in Support of the Required Findings	23
Attachment 4: Referral Agency Comments and Recommendation	122

Please contact Steven A. Santos, Senior Planner, at sasantos@co.humboldt.ca.us, or 707-268-3749 if you have any questions about the scheduled public hearing item.

AGENDA ITEM TRANSMITTAL

Hearing Date August 18, 2022	Subject Special Permit	Contact Steven A. Santos
--	----------------------------------	------------------------------------

Project Description: Special Permit for 43,560 square feet of new outdoor commercial cannabis cultivation supported by 4,090 square feet of ancillary nursery. Annual water usage is estimated at 590,000 gallons from rainwater catchment with 735,000 gallons of total storage from a 575,000-gallon pond and 160,000 gallons in tanks. Onsite processing is proposed, power will be provided by a solar array, and up to eleven employees will be onsite during peak operation. No generators or fans will be used.

Project Location: The project is in Humboldt County, in the Blocksburg area, on the East and West side of Sunset Ridge Road, approximately 300 feet from the intersection of Homestead Road and Sunset Ridge Road, on the property known to be in Section 13 of Township 02 South, Range 04 East Humboldt Base & Meridian.

Present Plan Land Use Designations: Residential Agriculture (RA40). 2017 General Plan. Density: 40 acres per unit, Slope Stability: High Instability (3).

Present Zoning: Forestry Recreation (FR) - Special Building Site (B-5(40))

Record Number: PLN-2021-17309

Assessor's Parcel Numbers: 217-411-013

Applicant

Blocksburg Hill Top Organics, LLC
865 El Cerro Blvd
Danville, CA 94526

Owner

Meadows & Cattle LLC
865 El Cerro Blvd
Danville, CA 94526

Agents

Robert Jensen
Box 4424
Arcata CA 95518

Environmental Review: An Addendum to a previously adopted Final Environmental Impact Report has been prepared for consideration per §15164 of the State CEQA Guidelines.

State Appeal Status: Project is NOT appealable to the California Coastal Commission.

Major Issues: None

Recommended Planning Commission Action

1. Describe the application as part of the Consent Agenda.
2. Survey the audience for any person who would like to discuss the application.
3. If no one requests discussion, make the following motion to approve the application as a part of the consent agenda:

Adopt the Resolution to take the following actions: 1) Find that the Planning Commission has considered the Addendum to the adopted Environmental Impact Report for the Commercial Cannabis Land Use Ordinance (CCLUO) as described by Section 15164 of the State CEQA Guidelines, 2) make all required findings for approval of the Special Permit, and 3) approve the Blocksburg Hill Top Organics, LLC Special Permit as recommended by staff subject to the recommended conditions.

Executive Summary

Special Permit for 43,560 square feet of new outdoor commercial cannabis cultivation supported by 4,090 square feet of ancillary nursery. Annual water usage is estimated at 590,000 gallons from rainwater catchment with 735,000 gallons of total storage from a 575,000-gallon pond and 160,000 gallons in tanks. Onsite processing is proposed, power will be provided by a solar array, and up to eleven employees will be onsite during peak operation. No generators or fans will be used.

Applicant has provided an extensive rainwater collection analysis and provides for more than adequate storage. In the event of extremely low rainfall, applicant proposes to reduce cultivation proportional to water availability. Cultivation is proposed in areas of 15% slope or less and there are no prime soils present. Most areas proposed for cultivation have been previously disturbed by prior activities such as rock extraction. There were historic code violations relating to grading within a streamside management area on a portion of the property not proposed for cultivation, and those violations have been resolved by the current owner through the permitting process. The Biological Resources Report concludes there is no impact on species of concern including Northern Spotted Owl. No fans, generators, or artificial light will be used in the project. The Botanical survey recommends some grassland enhancement to offset any new ground disturbance associated with the cannabis project. An assessment by a Registered Professional Forester recommends some fuel reduction to lower fire risk and to enhance Oak woodlands. Access to the project is from private roads that intersects with Alderpoint Road, which is county maintained. Tribal consultation resulted in the recommendation for monitoring during ground disturbance and the standard inadvertent discovery protocol. The applicant has obtained a setback waiver for the adjacent undeveloped parcel to the west, APN 217-401-005.

Water and Wastewater

Water usage is projected to be 590,000 gallons annually for the entire operation including cultivation, ancillary nursery, and processing. Water is sourced exclusively from rainwater catchment and supported by 735,000 gallons of total storage from a proposed 590,000-gallon pond and 160,000 gallons in hard tanks. Estimated water usage is calculated at approximately 12.4 gallons per square foot per year.

The Operations Plan provides a rainwater catchment analysis using data from a credible online resource. The applicant will utilize 31,922 square feet of surface area for collection from the roofs of the greenhouses and processing building as well as the pond and rainwater catchment tanks. The analysis factors potential evaporation loss from the pond and utilizes 50 years of rainfall data. Instead of using the average total annual rainfall of 62.65 inches, the applicant uses the much more conservative mean precipitation value in severe drought years of 35.35 inches in the collection calculation. Additionally, the amount of storage proposed is approximately 125% of projected annual needs which will provide additional security. As a comprehensive mitigation measure, as described on page four of the operations plan, in the event of a catastrophically low rainfall year, the applicant will reduce cultivation area proportional to the amount of water available. For example, if in a collection year only 80% of needed water is collected then the cultivation area will be reduced by 20% in the growing season

following the rainwater collection. This has been incorporated into the project conditions (**Condition of Approval B2**).

Referral to the Division of Environmental Health resulted in the recommendation that processing activities must be supported by an approved onsite wastewater treatment system. Seasonal/outdoor cultivation sites may be supported by portable toilets. Applicant must obtain a permit for, and install, an approved onsite wastewater treatment system to support the processing location and either install approved septic systems or provide portable toilets to cultivation areas (**Conditions of Approval A3 and A4**).

Natural Resources

A Biological Resources Report dated July 13, 2022, prepared by a Biologist was provided by the applicant. The report concluded that the project would have no effect on any special status species, either because the project is outside of their known range, suitable habitat is lacking, or the proposed project will not result in adverse impacts to the species or their suitable habitat. With specific regard to the Northern Spotted Owl, it is noted that two activities centers, Hum0841 and Hum1095 are 1.3 miles from the cultivation area. Because the cultivation is proposed for open grasslands which are not suitable foraging, roosting, or nesting habitat and because no generators, fans, or artificial lights will be used in the project, the minimum required distance to known activity centers is sufficient. The operational requirement of no fans, generators, or artificial light are incorporated into the conditions of approval. (**Condition of Approval B3**).

The applicant also provided a Botanical Survey dated July 2022 conducted by Kyle Wear, a Botanical Consultant. The survey concluded that no impacts to sensitive communities will occur from the proposed project. The survey also recommends creation of a grassland enhancement plan for 34,000 square feet of area by removing immature Douglas-fir seedlings and coyote brush. This recommendation has been incorporated into the project conditions (**Condition of Approval A6**).

The applicant provided a fire risk assessment dated July 11, 2022, prepared by Timberland Resource Consultants. The project is in a high and very high fire hazard severity area. The report recommends the reduction of fuels particularly regarding removal of Douglas Fir that has encroached into oak woodlands. This recommendation has been incorporated into the project conditions (**Condition of Approval A7**).

Per the Operations Plan, the applicant will conduct seasonal monitoring for invasive plants and will remove them manually or with hand tools (**Condition of Approval C3**).

Energy

Electricity for the processing building will be provided by a solar array. Per the operations plan, no fans or artificial light will be used in the greenhouses. No generator use of any kind is associated with the project (**Condition of Approval C6**).

Noise

The operations plan includes a noise assessment. Noise levels on the property were assessed on November 19, 2020, using a sound meter. Ambient noise levels were measured at 54.7 dB near the east property line; 54.1 dB at the north property line off Homestead Road; 55.3 at the west property line near the proposed upper cultivation garden; and 57.8 dB at the south property line near the neighboring residence. The proposed operations are not anticipated to increase ambient noise levels since the use of generators and outdoor fans are unnecessary. These baselines have been incorporated into the noise standards described in the conditions of approval (**Condition of Approval C1**).

Access

Access to the site is taken directly from Homestead and Sunset Roads, which are privately maintained by the Larabee Creek Road Maintenance Association. Homestead Road intersects with Alderpoint Road, which is county maintained. The project was referred to Public Works which resulted in standard recommendations regarding visibility and encroachment improvements. Specifically, the encroachment shall be paved for a minimum width of 20 feet and a length of 50 feet. These

recommendations have been incorporated into the project conditions (**Condition of Approval A5**). The applicant provided a road evaluation that self-certified the private roads functioned at equivalent to category four. Photographic evidence was included with the road evaluation.

The project parcel is located within a State Responsibility Area. The project was referred to CalFire which responded with no comment. The plot plan depicts a dedicated fire suppression water source and an emergency vehicle turnaround. Review of the county GIS indicates the parcel is not located within an established Fire Protection District but lies within the Alderpoint Volunteer Fire Company response area. The project conditions include the requirement to obtain a will serve letter or recordation of an acknowledgement of no available emergency response and fire suppression services (**Condition of Approval A9**).

There will be 11 employees maximum during peak operations. The plot plan depicts 10 regular parking spaces and 1 ADA parking space.

Cultural Resources

The project is in the Bear River Band of Rohnerville Rancheria aboriginal territory. The project was referred to the tribe and the Northwest Information Center. A June 2018 Cultural Resources Investigation Report prepared by Nick Angeloff was provided by the applicant. The report was reviewed by the Bear River Tribal Historic Preservation Officer who recommended the presence of a cultural resource monitor during ground disturbance as well as the standard inadvertent discovery protocol which are included as conditions of approval. (**Conditions of Approval A8 and C2**).

Resolution 18-43 Consistency

Approval of this project is consistent with Humboldt County Board of Supervisors Resolution No. 18-43, which established a limit on the number of permits and acres which may be approved in each of the County's Planning Watersheds. The project site is in the Middle Main Eel Planning Watershed, which under Resolution 18-43 is limited to 360 permits and 125 acres of cultivation. With the approval of this project the total approved cannabis permits in this Planning Watershed would be 110 and the total approved acres would be 45.3 acres.

Environmental Review and Staff Recommendation

Environmental review for this project was conducted and based on the results of that analysis, staff concludes that all aspects of the project have been considered in a previously adopted Environmental Impact Report adopted for the Commercial Cannabis Land Use Ordinance. An addendum to the Environmental Impact Report has been prepared for consideration by the Planning Commission (Attachment 2).

Staff recommends that the Planning Commission make all the required findings based on the evidence in the record and approve the application subject to the recommend conditions.

Alternatives: The Planning Commission could elect not to approve the project, or to require the applicant to submit further evidence or modify the project. Modifications may cause potentially significant impacts, additional CEQA analysis and findings may be required. These alternatives could be implemented if the Commission is unable to make all the required findings. Planning staff has concluded that the required findings in support of the proposal have been made. Consequently, staff does not recommend further consideration of any alternative.

The Planning Commission could also decide the project may have environmental impacts that would require further environmental review pursuant to CEQA. Staff did not identify any potential impacts. As the lead agency, the Department has determined that the project is consistent with the EIR for the CCLUO as stated above. However, the Commission may reach a different conclusion. In that case, the Commission should continue the item to a future date at least two months later to give staff the time to complete further environmental review.

**RESOLUTION OF THE PLANNING COMMISSION
OF THE COUNTY OF HUMBOLDT**

Resolution Number 22-

Record Number PLN-2021-17309

Assessor's Parcel Numbers: 217-441-013

Resolution by the Planning Commission of the County of Humboldt certifying compliance with the California Environmental Quality Act and conditionally approving the Blocksburg Hill Top Organics, LLC, Special Permit

WHEREAS, Blocksburg Hill Top Organics, LLC, provided an application and evidence in support of approving a Special Permit for commercial cannabis cultivation with an ancillary nursery and onsite processing.

WHEREAS, the County Planning Division, the lead agency, prepared an Addendum to the Final Environmental Impact Report prepared for the Commercial Cannabis Land Use Ordinance (CCLUO) adopted by the Humboldt County Board of Supervisors on May 8, 2018. The proposed project does not present substantial changes that would require major revisions to the Environmental Impact Report. No new information of substantial importance that was not known and could not be known at the time was presented as described by §15162(c) of CEQA Guidelines; and

WHEREAS, the Humboldt County Planning Commission held a duly noticed public hearing on August 18, 2022, and reviewed, considered, and discussed the application for Conditional Use Permits and reviewed and considered all evidence and testimony presented at the hearing.

Now, THEREFORE BE IT RESOLVED, that the Planning Commission makes all the following findings:

- 1. FINDING:** **Project Description:** Special Permit for 43,560 square feet of new outdoor commercial cannabis cultivation supported by 4,090 square feet of ancillary nursery. Annual water usage is estimated at 590,000 gallons from rainwater catchment with 735,000 gallons of total storage from a 575,000-gallon pond and 160,000 gallons in tanks. Onsite processing is proposed, power will be provided by a solar array, and up to eleven employees will be onsite during peak operation.

EVIDENCE: a) Project File: PLN-2021-17309

CEQA

- 2. FINDING:** The requirements of the California Environmental Quality Act have been met. The Humboldt County Planning Commission has considered the Addendum to the Environmental Impact Report (EIR) prepared for the Commercial Cannabis Land Use Ordinance (CCLUO) adopted by the Humboldt County Board of Supervisors on May 8, 2018.

EVIDENCE: a) Addendum Prepared for the proposed project.

b) The proposed project does not present substantial changes that would require major revisions to the previous EIR. No new information of substantial importance that was not known and could not be known at the time was presented as described by §15162(c) of CEQA Guidelines

c) The applicant provided Biological Resources Report, a Botanical Survey, and a fire risk assessment conducted by qualified professionals. The Biological Report concluded the project will have no effect on any special

status species. The Botanical Survey concluded that there will be no effect on sensitive communities and recommended grassland enhancement. The fire assessment recommended fuel reduction and Oak woodland restoration. The recommendations from the survey and reports are included in the project conditions of approval.

- d) A June 2018 Cultural Resources Investigation Report prepared by Nick Angeloff was provided by the applicant. The Report was reviewed by the Bear River Tribal Historic Preservation Officer who recommended cultural monitoring during ground disturbance an inadvertent discovery protocol which are included as conditions of approval.
- e) The project site takes access off private roads that intersect with a county-maintained road. Recommendations from Public Works for encroachment improvements have been incorporated into the project conditions.
- f) The applicant conducted a Noise Assessment as part of the operations plan. The project is conditioned so noise sources associated with the cannabis operation do not exceed three decibels of continuous noise above existing ambient noise levels at the legal parcel boundary. Additionally, the project will not utilize fans or generators.

FINDINGS FOR CONDITIONAL USE PERMITS

3. FINDING The proposed development is in conformance with the County General Plan, Open Space Plan, and the Open Space Action Program.

EVIDENCE a) The legal parcel has a designation of Residential Agriculture (RA), is within a very high fire severity hazard area, and contains streamside management areas and therefore part of the Open Space Action Program. Agricultural products are a use type permitted in the RA land use designation. The proposed cannabis cultivation, an agricultural product, is within land planned and zoned for agricultural purposes, consistent with the use of Open Space land for managed production of resources. Therefore, the project is consistent with and complimentary to the Open Space Plan and its Open Space Action Program.

4. FINDING The proposed development is consistent with the purposes of the existing Forestry Recreation (FR) zone in which the site is located.

EVIDENCE a) All general agricultural uses are principally permitted in the FR zone.
b) The location of all project elements meets the setback requirements for the FR Zone.

5. FINDING The proposed development is consistent with the requirements of the CCLUO Provisions of the Zoning Ordinance.

EVIDENCE a) The CCLUO (HCC 314-55.4.6) allows new cannabis cultivation up to one acre to be permitted in areas zoned Forestry Recreation (FR) with a Special Permit when the parcel is over 10 acres. HCC 314-55.4.7.
b) The parcel was created in compliance with all applicable state and local subdivision regulations because it was created through Parcel Map No. 64, filed in Parcel Map Book 1 Page 95.
c) The project will obtain irrigation water from rainwater catchment, a non-diversionary water source.
d) Access is taken directly from a private road shown to be category four

equivalent through photographic evidence.

- e) The slope of the land proposed for cultivation is less than 15%.
- f) The operation will not result in the net conversion of timberland.
- g) The new cultivation will not impact prime soils.
- h) The location of the operation complies with all setbacks required in Section 314-55.4.7.
- i) The project will not emit light pollution as the cultivation will not use artificial light and onsite processing will take place within an enclosed commercial building.
- j) Power for the processing building will be provided by a solar array.
- k) A setback waiver was obtained for the undeveloped parcel to the west, APN 217-401-005.

6. FINDING

The outdoor cultivation and onsite processing and appurtenant uses and conditions under which it may be operated or maintained will not be detrimental to the public health, safety, or welfare or materially injurious to properties or improvements in the vicinity.

EVIDENCE

- a) The site is located on road that has been evaluated to safely accommodate the amount of traffic generated by the proposed cannabis cultivation.
- b) The site is in a rural part of the County where the typical parcel size varies. The proposed project will not be in a location where there is an established neighborhood or other sensitive receptor such as a school, church, park, or other use which may be sensitive to cannabis cultivation. Approving cultivation with onsite processing on this site and the other sites which have been approved or are in the application process will not change the character of the area due to the large parcel sized in the area.
- c) The location of the proposed cannabis cultivation sites are more than 300 feet from the nearest off-site residence and 600 feet from sensitive receptors.
- d) Irrigation water will come from rain catchment in accordance with necessary permits and standards.
- e) Provisions have been made in the applicant's proposal to protect water quality and thus runoff to adjacent property and infiltration of water to groundwater resources will not be affected.

7. FINDING

The proposed development does not reduce the residential density for any parcel below that utilized by the Department of Housing and Community Development in determining compliance with housing element law.

EVIDENCE

The parcel was not included in the housing inventory of Humboldt County's 2019 Housing Element and does not currently have an existing residence. The approval of cannabis cultivation on this parcel will not conflict with the ability to construct a residence if one is proposed in the future.

8. FINDING

Approval of this project is consistent with Humboldt County Board of Supervisors Resolution No. 18-43 which established a limit on the number of permits and acres which may be approved in each of the County's Planning

Watersheds.

EVIDENCE

The project site is in the Middle Main Eel Planning Watershed which under Resolution 18-43 is limited to 360 permits and 125 acres of cultivation. With the approval of this project the total approved cannabis permits in this Planning Watershed would be 110 and the total approved acres would be 45.3 acres.

DECISION

NOW, THEREFORE, based on the above findings and evidence, the Humboldt County Planning Commission does hereby:

- Adopt the findings set forth in this resolution; and
- Conditionally approves the Blocksburg Hill Top Organics, LLC Special Permit based upon the Findings and Evidence and subject to the conditions of approval attached hereto as Attachment 1 and incorporated herein by reference; and

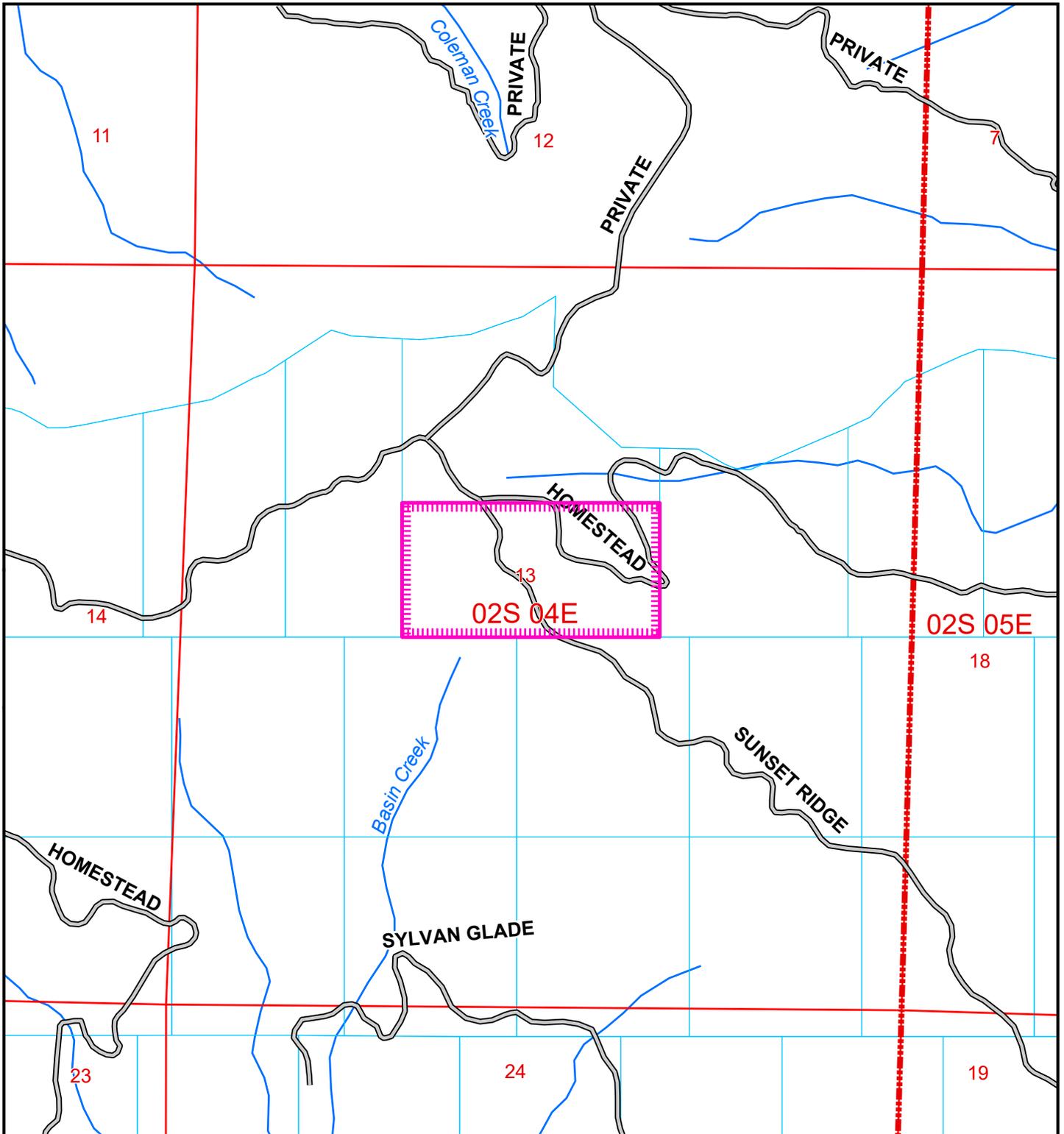
Adopted after review and consideration of all the evidence on **August 18, 2022**.

The motion was made by COMMISSIONER _____ and second by COMMISSIONER _____ and the following ROLL CALL vote:

AYES: COMMISSIONERS:
 NOES: COMMISSIONERS:
 ABSENT: COMMISSIONERS:
 ABSTAIN: COMMISSIONERS:
 DECISION:

I, John Ford, Secretary to the Planning Commission of the County of Humboldt, do hereby certify the foregoing to be a true and correct record of the action taken on the above-entitled matter by said Commission at a meeting held on the date noted above.

 John Ford, Director
 Planning and Building Department



LOCATION MAP

**PROPOSED BLOCKSBURG HILL TOP ORGANICS LLC
 SPECIAL PERMIT
 BLOCKSBURG AREA
 PLN-2021-17309
 APN: 217-411-013
 T02S R04E S13 HB&M (Blocksburg)**

Project Area = 

This map is intended for display purposes and should not be used for precise measurement or navigation. Data has not been completely checked for accuracy.



BLOCKSBURG HILL TOP ORGANICS, LLC SPECIAL PERMIT APN: 217-411-013

PROJECT DESCRIPTION

BLOCKSBURG HILLTOP ORGANICS, LLC PROPOSES TO PERMIT COMMERCIAL CANNABIS CULTIVATION ACTIVITIES IN ACCORDANCE WITH THE COUNTY OF HUMBOLDT'S COMMERCIAL CANNABIS LAND USE ORDINANCE (CCLUO). THE PROJECT REQUIRES A SPECIAL PERMIT FOR 43,560 SQUARE FEET (SF) OF OUTDOOR CULTIVATION. WATER WILL BE PROVIDED BY A 575K GALLON POND AND RAINWATER CATCHMENT. THE PROJECT PROPOSAL ALSO INCLUDES THE PERMITTING OF A 30'X60' BUILDING FOR DRYING, PROCESSING, ON-SITE PROPAGATION NURSERY, AND LIVING QUARTERS.

SITE PLAN NOTES

1. DRAWING SCALE AS NOTED. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
2. THIS IS NOT A BOUNDARY SURVEY NOR HAS THE PROPERTY BOUNDARY BEEN VERIFIED. THE BOUNDARY INFORMATION DEPICTED HAS BEEN OBTAINED FROM HUMBOLDT COUNTY GIS DATA AND CONTAINS MODIFICATIONS.
3. STREAMLINE AND ROAD CENTERLINES ARE APPROXIMATE.
4. ALL LABELED STRUCTURES ARE PROPOSED UNLESS OTHERWISE NOTED PROPOSED (P).
5. THERE ARE NO SCHOOLS, SCHOOL BUS STOPS, PLACES OF WORSHIP, OR PUBLIC PARKS WITHIN 600' OF THE CULTIVATION SITES.
6. THERE ARE NO RESIDENCES WITHIN 300' OF THE CULTIVATION SITES.
7. THERE ARE NO UTILITY LINES PRESENT ON THE SITE.
8. LETTERS AND NUMBERS FOR ROAD SIGNS, ADDRESSES, AND HOUSE NUMBERS SHALL BE A MINIMUM 4 INCH LETTER HEIGHT, 1/2 INCH STROKE, REFLECTORIZED, AND CONTRASTING WITH THE BACKGROUND COLOR OF THE SIGN.
9. ALL NOISE LOCATIONS ARE NOTED. NO SENSITIVE RECEPTORS WERE IDENTIFIED.



PROPERTY INFORMATION
OWNER:
MEADOWS AND CATTLE LLC.
865 EL CERRO BLVD.
DANVILLE, CA 94526

SITE ADDRESS
2592 SUNSET RIDGE RD
BLOCKSBURG, CA 95514

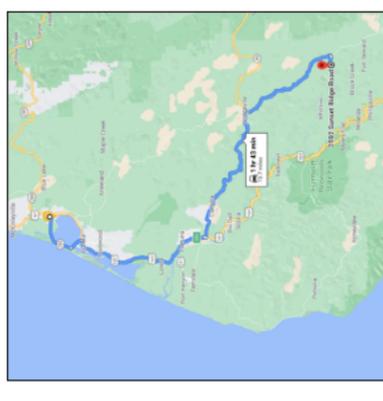
ZONING: FR-B-5 (40)
LAND USE: RA 40

ASSESSED LOT SIZE: 40 ACRES

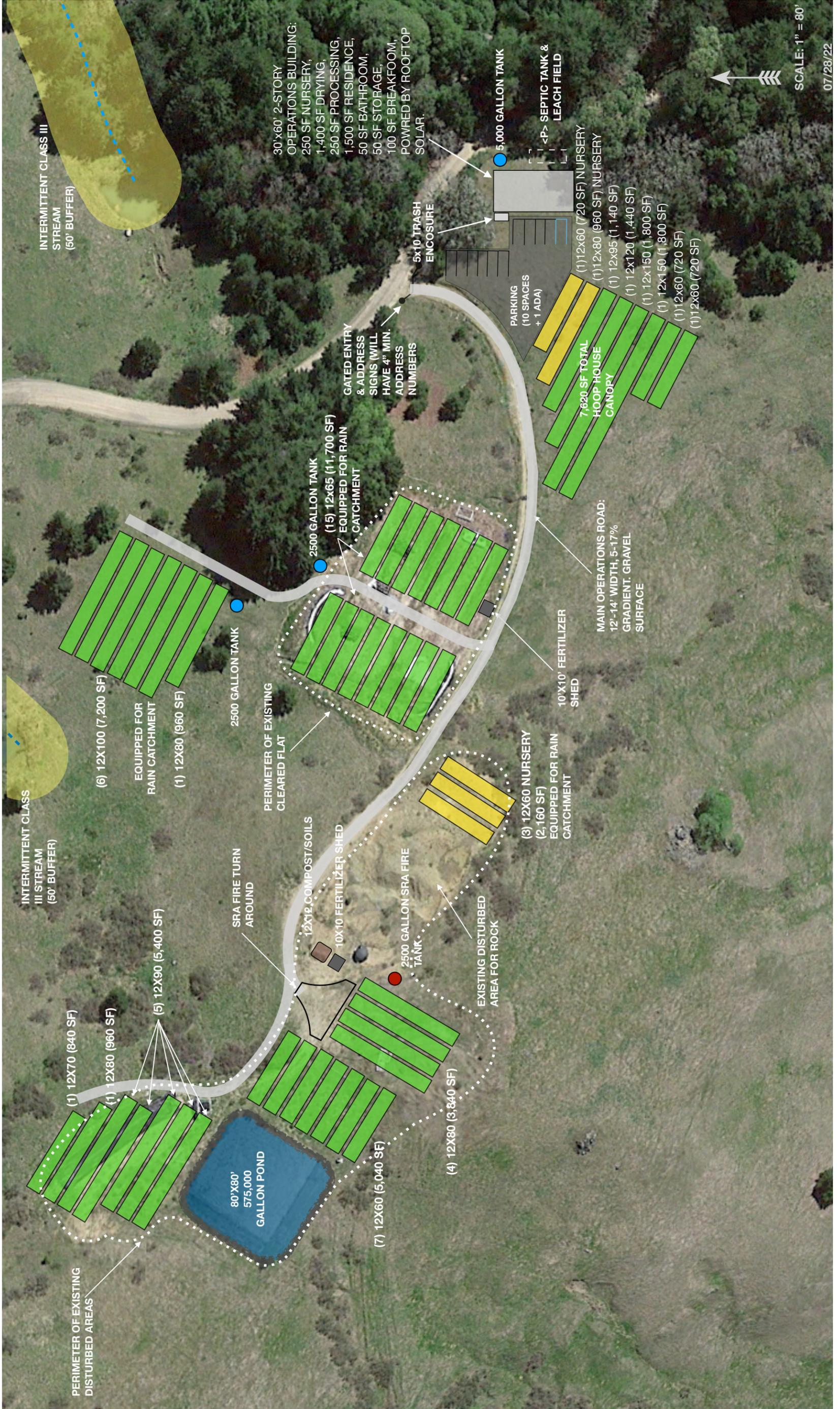
WATER SOURCE: RAINWATER CATCHMENT

DIRECTIONS TO SITE

- FROM EUREKA, CA
- TAKE US-101 SOUTH TO HIGHWAY 36 EAST.
 - TAKE ALDERPOINT RD TO HOMESTEAD ROAD
 - TAKE HOMESTEAD ROAD APPROXIMATELY 2 MILES AND MAKE A LEFT ON SUNSET RIDGE ROAD.
 - GO APPROXIMATELY 650 FEET. ENTRY DRIVEWAY IS ON THE RIGHT.



BLOCKSBERG HILL TOP ORGANICS, LLC
SITE PLAN DETAIL
APN: 217-411-013



SCALE: 1" = 80'
 07/28/22

ATTACHMENT 1

RECOMMENDED CONDITIONS OF APPROVAL

APPROVAL OF THE SPECIAL PERMIT IS CONDITIONED ON THE FOLLOWING TERMS AND REQUIREMENTS:

A. Conditions which must be satisfied before the cannabis operations may be initiated (unless otherwise indicated).

1. Prior to initiating operation, the permittee must demonstrate that adequate rainwater has been stored to support the operation.
2. Prior to conducting onsite processing operations, the applicant must construct an appropriately permitted commercial structure.
3. Prior to conducting onsite processing operations, applicant must obtain a permit for, and install, an approved onsite wastewater treatment system to support the processing location.
4. Prior to conducting cultivation activities, the applicant must either install approved septic systems or provide portable toilets to cultivation workers.
5. Prior to initiating operations, the permittee will provide documentation that the recommendations of Public Works have been satisfied. Specifically:
 - a. The intersection of Homestead Road and Alderpoint Road will be improved such that the encroachment is paved for a minimum of 20 feet wide by 50 feet long. This includes installing or replacing any culverts with a minimum size of 18 inches.
 - b. The intersection of Homestead Road and Alderpoint Road shall comply with Site Visibility Ordinance, Humboldt County Code Section 341-1.

Documentation from Public Works indicating that this work has been completed or is not needed will satisfy this condition.

6. Prior to initiating operations, the applicant will provide the Planning and Building Department a grassland enhancement plan as described in the July 2022 Botanical Survey. The enhancement plan will identify the enhancement areas and be for at least 34,000 square feet. The enhancement plan will include monitoring and success criteria as well as a schedule for providing implementation and final monitoring reports. Within one year after initiating operations, the applicant shall implement the enhancement plan.
7. Upon constructing structures consistent with the plot plan and in conjunction with required permits, the applicant will follow the recommendations of the July 11, 2022, fire risk assessment prepared by Timberland Resource Consultants. Specifically,
 - a. Maintain defensible space around structures
 - b. Prioritize the reduction of fuels that enhance Oak woodlands between cultivation sites and Sunset Ridge Road.
 - c. Follow appropriate safety and risk reduction guidelines regarding the use of machinery and equipment.
8. The applicant will coordinate with the Bear River Tribal Historic Preservation Office to provide for a cultural resource monitor during any ground disturbing activities.
9. Prior to commencing operations, the applicant shall obtain a will serve letter from the Alderpoint Volunteer Fire Company OR cause to be recorded an "ACKNOWLEDGMENT OF NO AVAILABLE EMERGENCY RESPONSE AND FIRE SUPPRESSION SERVICES" for the parcel(s) on a form provided by the

Humboldt County Planning Division. Document review fees as set forth in the schedule of fees and charges as adopted by ordinance of the Humboldt County Board of Supervisors will be required.

10. Prior to commencing operations, the applicant shall execute and file with the Planning Division the statement titled, "Notice and Acknowledgment regarding Agricultural Activities in Humboldt County," ("Right to Farm" ordinance) as required by the HCC and available at the Planning and Building Department.
11. Prior to commencing operations, the applicant shall provide the Planning and Building Department a copy of the Lake and Streambed Alteration Agreement (LSAA) issued to the Larabee Creek Road Maintenance Association (RAM) for the culverts shown on the plot plan. Alternatively, if the culverts in the project area are not covered by the RMA's LSAA, the applicant must obtain an LSAA. The culverts must be maintained in accordance with the terms and conditions of the LSAA.

B. General Conditions

1. If completion of any condition of approval result in changes to the plot plan, the permittee will provide a plot plan update to the department for review and approval within 30 days of the change or according to a schedule mutually agreed upon by the permittee and the Planning and Building Department.
2. As described in the operations plan, in the event of a catastrophically low rainfall year, the applicant will reduce cultivation area proportional to the amount of water available. For example, if an a given rainfall collection period only 80% of needed irrigation water is collected, then the cultivation area will be reduced by 20% in the growing season following the rainwater collection.
3. Per the operations plan, no fans, artificial light, or generators will be used in the operation to ensure no impact to species of concern.
4. Applicant is responsible for obtaining all necessary County and State permits and licenses and for meeting all requirements set forth by other regulatory agencies.
5. The applicant is responsible for costs for post-approval review for determining project conformance with conditions. A deposit is collected to cover this staff review. Permit conformance with conditions must be demonstrated prior to release of building permit or initiation of use and at time of annual inspection. A conformance review deposit as set forth in the schedule of fees and charges as adopted by ordinance of the Humboldt County Board of Supervisors shall be paid within sixty (60) days of the effective date of the permit or upon filing of the Compliance Agreement (where applicable), whichever occurs first. Payment shall be made to the Humboldt County Planning Division, 3015 "H" Street, Eureka.
6. A Notice of Determination will be prepared and filed with the County Clerk for this project in accordance with the State CEQA Guidelines. Within three days of the effective date of permit approval, the Department will file the Notice of Determination and will charge this cost to the project.
7. The applicant shall install monitoring device(s) on the water source(s) as needed to track usage. Applicant shall maintain water usage logs from each source for the life of the project and make logs available for inspection upon request.
8. The applicant shall be compliant with the County of Humboldt's Certified Unified Program Agency (CUPA) requirements regarding hazardous materials. Ongoing proof of compliance with this condition shall be required at each annual inspection to keep the permit valid.

C. Ongoing Requirements/Development Restrictions Which Must be Satisfied for the Life of the Project:

1. The combination of background or other operational equipment created noise must not exceed more than three decibels above ambient noise as measured in the noise assessment within the operations plan. Specifically, noise may not exceed 57 dB for the northern legal parcel property line, 58.3 dB for the western, 57.7 dB for the eastern, and 60.8 dB for the southern legal parcel property line.
2. If cultural resources are encountered during construction activities, the contractor on site shall cease all work in the immediate area and within a 50-foot buffer of the discovery location. A qualified archaeologist and the appropriate Tribal Historic Preservation Officer(s) are to be contacted to evaluate the discovery and, in consultation with the applicant and the lead agency, develop a treatment plan in any instance where significant impacts cannot be avoided.

Prehistoric materials may include obsidian or chert flakes, tools, locally darkened midden soils, groundstone artifacts, shellfish or faunal remains, and human burials. If human remains are found, California Health and Safety Code 7050.5 requires that the County Coroner be contacted immediately at 707-445-7242. If the Coroner determines the remains to be Native American, the Native American Heritage Commission will then be contacted by the Coroner to determine appropriate treatment of the remains pursuant to Public Resources Code (PRC) Section 5097.98. Violators shall be prosecuted in accordance with PRC Section 5097.99.

3. The applicant shall adhere to the Invasive Species Plan for the life of the project as described in the operations plan which includes at least annual monitoring and removal of invasive species using hand tools.
4. All artificial lighting shall be fully contained within structures such that no light escapes (i.e., through the use of blackout curtains). Structures shall be enclosed between 30 minutes prior to sunset and 30 minutes after sunrise to prevent disruption to crepuscular wildlife. Security lighting shall comply with the International Dark-Sky Association standards and Fixture Seal of Approval Program (refer to <https://www.darksky.org/our-work/lighting/lighting-for-citizens/lighting-basics/>). Standards include but are not limited to: Light shall 1) be shielded and downward facing, 2) consist of Low Pressure Sodium (LPS) light or low spectrum Light Emitting Diodes (LED) with a color temperature of 3000 kelvins or less, and 3) only placed where needed.
5. Should the Humboldt County Planning Division receive complaints that the lighting or noise is not complying with the standards listed above within ten (10) working days of receiving written notification that a complaint has been filed, the applicant shall submit written verification that the lights' shielding and alignment, and noise levels have been repaired, inspected, and corrected as necessary.
6. No generator will be used in association with this project for any reason.
7. The use of monofilament netting for all uses, including but not limited for erosion control, shall be prohibited. Geotextiles, fiber rolls, and other erosion control measure materials shall be made of loose-weave mesh, such as jute, hemp, coconut (coir) fiber, or other products without welded weaves to minimize the risk of ensnaring and strangling wildlife.
8. All refuse shall be contained in wildlife proof storage containers, at all times, and disposed of at an authorized waste management facility.
9. Should any wildlife be encountered during work activities, the wildlife shall not be disturbed and be allowed to leave the work site unharmed.
10. The use of anticoagulant rodenticide is prohibited. Per the recommendation in the biological assessment, only manual traps may be used.

11. The operator shall provide information to all employees about the potential health impacts of cannabis use on children. Information shall be provided by posting the brochures from the Department of Health and Human Services titled "Cannabis Palm Card" and "Cannabis Rack Card." This information shall also be provided to all employees as part of the employee orientation.
12. All components of project shall be developed, operated, and maintained in conformance with the Project Description, the approved Site Plan, the Plan of Operations, and these conditions of approval. Changes shall require modification of this permit except where consistent with Humboldt County Code Section 312-11.1, Minor Deviations to Approved Plot Plan. If offsite processing is chosen to be the preferred method of processing, this permit shall be modified to identify the offsite licensed facility.
13. Cannabis cultivation and other commercial cannabis activity shall be conducted in compliance with all laws and regulations as set forth in the CCLUO as applicable to the permit type.
14. If operating pursuant to a written approved compliance agreement, permittee shall abate or cure violations at the earliest feasible date, but in no event no more than two (2) years from the date of issuance of a provisional clearance or permit. Permittee shall provide plans for curing such violations to the Planning and Building Department within one (1) year of issuance of the provisional clearance or permit. If good faith effort toward compliance can be shown within the two years following the issuance of the provisional clearance or permit, the Department may, at the discretion of the Director, provide for extensions of the provisional permit to allow additional time to meet the outstanding requirements.
15. Compliance with all statutes, regulations, and requirements of the California State Water Resources Control Board and the Division of Water Rights, at a minimum to include a statement of diversion of surface water from a stream, river, underground stream, or other watercourse required by Water Code Section 5101, or other applicable permit, license, or registration, as applicable.
16. Confinement of the area of cannabis cultivation, processing, manufacture, or distribution to the locations depicted on the approved site plan. The commercial cannabis activity shall be set back at least 30 feet from any property line, and 600 feet from any school, school bus stop, church or other place of religious worship, or tribal cultural resources, except where a reduction to this setback has been approved pursuant to Section 55.4.11 (d).
17. Maintain enrollment in Tier 1 or 2 certification with State Water Resources Control Board Order WQ 2019-0001-DWQ, if applicable, or any substantially equivalent rule that may be subsequently adopted by the County of Humboldt or other responsible agency.
18. Comply with the terms of any applicable Lake and Stream Alteration (1600 or 1602) Permit obtained from the California Department of Fish and Wildlife (CDFW).
19. Comply with the terms of a less-than-3-acre conversion exemption or timberland conversion permit, approved by the California Department of Forestry and Fire Protection (Cal Fire), if applicable.
20. Consent to an annual on-site compliance inspection, with at least 24 hours prior notice, to be conducted by appropriate County officials during regular business hours (Monday through Friday, 9:00 a.m. to 5:00 p.m., excluding holidays).
21. Refrain from the improper storage or use of any fuels, fertilizer, pesticide, fungicide, rodenticide, or herbicide.
22. Pay all applicable application, review for conformance with conditions and annual inspection fees.
23. The master logbooks maintained by the applicant to track production and sales shall be maintained for inspection by the County.

24. Pay all applicable taxes as required by the Humboldt County Commercial Marijuana Cultivation Tax Ordinance (Humboldt County Code Section 719-1 et seq.).

Performance Standards for Cultivation and Processing Operations

25. Pursuant to Business and Professions Code section 26051.5(a)(8), an applicant seeking a cultivation license shall "provide a statement declaring the applicant is an 'agricultural employer,' as defined in the Alatorre-Zenovich-Dunlap-Berman Agricultural Labor Relations Act of 1975 (Part 3.5 commencing with Section 1140) of Division 2 of the Labor Code), to the extent not prohibited by law."
26. Operators shall comply with all applicable federal, state, and local laws and regulations governing California Agricultural Employers, which may include federal and state wage and hour laws, Cal/OSHA, OSHA, the California Agricultural Labor Relations Act, and the Humboldt County Code (including the Building Code).
27. While engaged in processing, operators shall comply with the following Processing Practices:
- a. Processing operations must be maintained in a clean and sanitary condition including all work surfaces and equipment.
 - b. Processing operations must implement protocols which prevent processing contamination and mold and mildew growth on cannabis.
 - c. Employees handling cannabis in processing operations must have access to facemasks and gloves in good operable condition as applicable to their job function.
 - d. Employees must wash hands sufficiently when handling cannabis or use gloves.
28. All persons hiring employees to engage in commercial cannabis cultivation and processing shall comply with the following Employee Safety Practices:
- a. Cultivation operations and processing operations must implement safety protocols and provide all employees with adequate safety training relevant to their specific job functions, which may include:
 - (1) Emergency action response planning as necessary;
 - (2) Employee accident reporting and investigation policies;
 - (3) Fire prevention;
 - (4) Hazard communication policies, including maintenance of material safety data sheets (MSDS);
 - (5) Materials handling policies;
 - (6) Job hazard analyses; and
 - (7) Personal protective equipment policies, including respiratory protection.
 - b. Cultivation operations and processing operations must visibly post and maintain an emergency contact list which includes at a minimum:
 - (1) Operation manager contacts;
 - (2) Emergency responder contacts; and
 - (3) Poison control contacts.
 - c. At all times, employees shall have access to safe drinking water and toilets and handwashing facilities that comply with applicable federal, state, and local laws and regulations. Plumbing facilities and water source must be capable of handling increased usage without adverse consequences to neighboring properties or the environment.
 - d. On site-housing provided to employees shall comply with all applicable federal, state, and local laws and regulations.
29. All operators shall comply with the approved processing plan as to the following:
- a. Processing practices
 - b. Location where processing will occur
 - c. Number of employees, if any
 - d. Employee Safety Practices

- e. Toilet and handwashing facilities
 - f. Plumbing and/or septic system and whether or not the system is capable of handling increased usage
 - g. Drinking water for employees
 - h. Plan to minimize impact from increased road use resulting from processing
 - i. On-site housing, if any
30. Term of Commercial Cannabis Activity Permit. Any Commercial Cannabis Cultivation permit issued pursuant to the CMMLUO or CCLUO shall expire one (1) year after date of issuance, and on the anniversary date of such issuance each year thereafter, unless an annual compliance inspection has been conducted and the permittees and the permitted site have been found to comply with all conditions of approval.
31. Inspections. If the inspector or other County official determines that the permittees or site do not comply with the conditions of approval, the inspector shall serve the permit holder with a written statement identifying the items not in compliance, and the action that the permit holder may take to cure the noncompliance or file an appeal within ten (10) days of the date that the written statement is delivered to the permit holder. Personal delivery or mailing the written statement to the mailing address listed on the application by regular mail, plus three (3) days after date of mailing, shall constitute delivery. The permit holder may request a reinspection to determine whether or not the permit holder has cured all issues of noncompliance. Failure to request reinspection or to cure any items of noncompliance shall terminate the Permit, immediately upon the expiration of any appeal period, or final determination of the appeal if an appeal has been timely filed.
32. Permit Renewals to Comply with Updated Laws and Regulations. Permit renewal is subject to the laws and regulations effective at the time of renewal, which may be substantially different than the regulations currently in place and may require the submittal of additional information to ensure that new standards are met.
33. Acknowledgements to Remain in Full Force and Effect. Permittee acknowledges that the County reserves the right to reduce the size of the area allowed for cultivation under any clearance or permit issued in accordance with this section in the event that environmental conditions, such as a sustained drought or low flows in the watershed in which the cultivation area is located, will not support diversions for irrigation.
34. Transfers. Transfer of any leases or permits approved by this project is subject to the review and approval of the Planning Director for conformance with CMMLUO eligibility requirements and agreement to permit terms and acknowledgments. The fee for required permit transfer review shall accompany the request. The request shall include the following information:
- a. Identifying information for the new owner(s) and management as required in an initial permit application;
 - b. A written acknowledgment by the new owner in accordance as required for the initial permit application;
 - c. The specific date on which the transfer is to occur;
 - d. Acknowledgement of full responsibility for complying with the existing permit; and
 - e. Execution of an Affidavit of Non-diversion of Medical Cannabis.
35. Inspections. The permit holder and subject property owner are to permit the County or representative(s) or designee(s) to make inspections at any reasonable time deemed necessary to assure that the activities being performed under the authority of this permit are in accordance with the terms and conditions prescribed herein.

ATTACHMENT 2

**CEQA ADDENDUM TO THE
FINAL ENVIRONMENTAL IMPACT REPORT FOR THE COMMERCIAL CANNABIS LAND USE ORDINANCE**

**Commercial Cannabis Land Use Ordinance Final Environmental Impact Report (EIR)
(State Clearinghouse # 2017042022), January 2018**

APNs 217-411-013; Blocksburg area, County of Humboldt

**Prepared By
Humboldt County Planning and Building Department
3015 H Street, Eureka, CA 95501**

August 2022

Background

Modified Project Description and Project History – The Commercial Cannabis Land Use Ordinance (CCLUO) updated the County’s existing Commercial Medical Marijuana Land Use Ordinance (Section 313-55.4 and 314-55.4 of Chapter 3 of Division 1 of Title III of the County Code) as well as repeal of the Medical Cannabis Testing and Research Laboratories provisions and on-site consumption prohibition found in Sections 313-55.3.15, 314-55.3.15, 313-55.3.11.7, and 314-55.3.11.7 of Division 1 of Title III of the County Code, respectively. These regulations establish land use regulations for the commercial cultivation, processing, manufacturing, distribution, testing, and sale of cannabis within Humboldt County. These regulations were developed in concert with the Final Environmental Impact Report (EIR) that was adopted for the ordinance in order to implement the mitigation measures of the EIR. The EIR addressed the broad environmental impacts that could be expected to occur from the adoption and implementation of the ordinance. The EIR specified that the regulations established in the CCLUO would mitigate the impacts of existing and new cannabis operations by establishing regulations for an unregulated land use to help prevent and reduce environmental impacts that are known to result from cultivation operations. The EIR prepared for the CCLUO also established local land use regulations to allow for commercial cannabis operations in the unincorporated area of the County that ensure the health and safety of residents, employees, County visitors, neighboring property owners and end users of cannabis. The proposed project is consistent with all regulations within the CCLUO and all mitigation measures of the EIR. The current project was contemplated by the EIR and compliance with the provisions of the CCLUO will fully mitigate all environmental impacts of the project to a less than significant level.

The modified project includes a Special Permit for 43,560 square feet of new outdoor commercial cannabis cultivation supported by 4,090 square feet of ancillary nursery. Annual water usage is estimated at 590,000 gallons from rainwater catchment with 735,000 gallons of total storage from a 575,000-gallon pond and 160,000 gallons in tanks. Onsite processing is proposed, power will be provided by a solar array, and up to eleven employees will be onsite during peak operation.

Applicant has provided an extensive rainwater collection analysis and provides for more than adequate storage. In the event of extremely low rainfall, applicant proposes to reduce cultivation proportional to water availability. Cultivation is proposed in areas of 15% slope or less and there are no prime soils present. Most areas proposed for cultivation have been previously disturbed by prior activities such as rock extraction. There were historic code violations relating to grading within a streamside management area on a portion of the property not proposed for cultivation, and those violations have been resolved by the current owner through the permitting process. The Biological Resources Report concludes there is no impact on species of concern including Northern Spotted Owl. No fans, generators, or artificial light will be used in the project. The Botanical survey recommends some grassland enhancement to offset any new ground disturbance associated with the cannabis project. An assessment by a Registered Professional Forester recommends some fuel reduction to lower fire risk and to enhance Oak woodlands. Access to the project is from private roads that intersects with Alderpoint Road, which is county maintained. Tribal consultation resulted in the recommendation for monitoring during ground disturbance and the standard inadvertent discovery protocol.

The modified project will comply with provision of the CCLUO intended to eliminate impacts to sensitive species from noise and from light. Compliance with these and other measures of the CCLUO ensure consistency with the EIR.

Purpose - Section 15164 of the California Environmental Quality Act (CEQA) provides that the lead agency shall prepare an addendum to a previously certified Final Environmental Impact Report (EIR) if some changes or additions are necessary but none of the conditions described in Section 15162 calling for a subsequent EIR or Negative Declaration have occurred. Section 15162 states that when an EIR has been certified for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

1. Substantial changes are proposed in the project which require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the Final EIR was certified as complete, shows any of the following: A) the project will have one or more significant effects not discussed in the previous Final EIR; B) significant effects previously examined will be substantially more severe than shown in the Final EIR; C) mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or D) mitigation measures or alternatives which are considerably different from those analyzed in the Final EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Summary of Significant Project Effects and Mitigation Recommended

No changes are proposed for the Final EIR recommended mitigations. The proposal to authorize the proposed project is fully consistent with the impacts identified and adequately mitigated in the Final EIR. The project as conditioned to implement responsible agency recommendations, results in no significantly adverse environmental effects beyond those identified in the Final EIR.

In reviewing the application for consistency with the adopted EIR the County considered the following information and studies, among other documents:

- Operations Plan and Plot Plan for Blocksburg Hill Top Organics, LLC
- County GIS
- A June 2018 Cultural Resources Investigation
- A July 13, 2022, Biological Resources Report
- A July 2022 Botanical Survey
- A July 11, 2022, Fire Risk Assessment
- A road evaluation
- Noise assessment

Other CEQA Considerations

Staff suggests no changes for the revised project.

EXPLANATION OF DECISION NOT TO PREPARE A SUPPLEMENTAL MITIGATED NEGATIVE DECLARATION OR ENVIRONMENTAL IMPACT REPORT

See **Purpose** statement above.

In every impact category analyzed in this review, the projected consequences of the current project proposal are either the same or less than significantly increased than the initial project for which the EIR was adopted. Based upon this review, the following findings are supported:

FINDINGS

1. The proposed project will permit a new cannabis operation and bring the operation into compliance with county and state requirements intended to adequately mitigate environmental impacts.
2. The circumstances under which the project was approved have not changed substantially. There are no new significant environmental effects and no substantial increases in the severity of previously identified effects.
3. For the current proposed project, there has been no new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was adopted as complete.

CONCLUSION

Based on these findings it is concluded that an Addendum to the previous Final EIR is appropriate to address the requirements under CEQA for the current project proposal. All of the findings, mitigation requirements, and mitigation and monitoring program of the EIR, remain in full force and effect on the original project.

There are no new significant environmental effects and no substantial increases in the severity of previously identified effects. For the current proposed project, there has been no new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was adopted as complete.

ATTACHMENT 3

Applicant's Evidence in Support of the Required Findings

Attachment 3 includes a listing of all written evidence which has been submitted by the applicant in support of making the required findings. The following materials are on file with the Planning Division:

1. The name, contact address, and phone number(s) of the applicant. (On File – Application Form)
2. If the applicant is not the record title owner of parcel, written consent of the owner for the application with original signature and notary acknowledgement. (On File)
3. Plot plan showing the entire parcel, including easements, streams, springs, ponds and other surface water features, and the location and area for cultivation on the parcel with dimensions of the area for cultivation and setbacks from property lines. The site plan shall also include all areas of ground disturbance or surface water disturbance associated with cultivation activities, including access roads, water diversions, culverts, ponds, dams, graded flats, and other related features. If the area for cultivation is within one-quarter mile (1,320 feet) of a school, school bus stop, church or other place of religious worship, public park, or tribal cultural resource, the plot plan shall include dimensions showing that the distance from the location of such features to the nearest point of the cultivation area is at least 600 feet. (**Attached** with project Maps)
4. A cultivation and operations plan that meets or exceeds minimum legal standards for water storage, conservation and use; drainage, runoff and erosion control; watershed and habitat protection; proper storage of fertilizers, pesticides, and other regulated products to be used on the parcel; and a description of cultivation activities (outdoor, indoor, mixed light), the approximate date(s) cannabis cultivation activities have been conducted on the parcel prior to the effective date of this ordinance, if applicable, and schedule of activities during each month of the growing and harvesting season. (**Attached**)
5. Copy of the statement of water diversion, or other permit, license or registration filed with the State Water Resources Control Board, Division of Water Rights, if applicable. (Not Applicable)
6. Description of water source, storage, irrigation plan, and projected water usage. (**Attached** in Cultivation Operations Plan)
7. Copy of Notice of Applicability and Site Management Plan and other documents filed with the State Water Resources Control Board demonstrating enrollment in Tier 1 or 2 in accordance with State Water Resources Control Board Order WQ 2019-0001-DWQ, or any substantially equivalent rule that may be subsequently adopted by the County of Humboldt or other responsible agency. (New Operation - Condition of Approval)
8. If any on-site or off-site component of the cultivation facility, including access roads, water supply, grading or terracing, impacts the bed or bank of any stream or other watercourse, a copy of the Streambed Alteration Permit obtained from the California Department of Fish and Wildlife. (**Attached** and Condition of Approval)
9. If the source of water is a well, a copy of the County well permit, if available. (Not Applicable)
10. If the parcel is zoned FR, U or TPZ, or involves the conversion of timberland as defined under Section 4526 of the Public Resources Code, a copy of a less-than-3-acre conversion exemption or timberland conversion permit, approved by the California Department of Forestry and Fire Protection (Cal Fire). Alternately, for existing operations occupying sites created through prior unauthorized conversion of timberland, evidence may be provided showing that the landowner has completed a civil or criminal process and/or entered into a negotiated settlement with Cal Fire. (Not Applicable)

11. Consent for on-site inspection of the parcel by County officials at prearranged date and time in consultation with the applicant prior to issuance of any clearance or permit, and once annually thereafter. (On File)
12. Acknowledge that the County reserves the right to reduce the size of the area allowed for cultivation under any clearance or permit issued in accordance with this Section in the event that environmental conditions, such as a sustained drought or low flows in the watershed, will not support diversions for irrigation. (On File)
13. Acknowledge that the County reserves the right to engage with local tribes before consenting to the issuance of any clearance or permit, if cultivation operations occur within an Area of Traditional Tribal Cultural Affiliation, as defined herein. This process will follow current departmental referral protocol, including engagement with the tribe(s) through coordination with their Tribal Historic Preservation Officer (THPO) or other tribal representatives. This procedure shall be conducted similar to the protocols outlined under SB 18 (Burton) and AB 52 (Gatto), which describe "government to government" consultation, through tribal and local government officials and their designees. During this process, the tribe may request that operations associated with the clearance or permit be designed to avoid, minimize, or mitigate impacts to tribal cultural resources, as defined herein. Examples include, but are not limited to, conducting a site visit with the THPO or their designee to the existing or proposed cultivation site, requiring that a professional cultural resources survey be performed, or requiring that a tribal cultural monitor be retained during project-related ground disturbance within areas of sensitivity or concern. The County shall request that a records search be performed through the California Historical Resources Information System (CHRIS). (On File)
14. A June 2018 Cultural Resources Investigation Report prepared by Nick Angeloff. (On File and Confidential)
15. A July 13, 2022, Biological Resources Report. **(Attached)**
16. A July 2022 Botanical Survey. **(Attached)**
17. A July 11, 2022 Fire Risk Assessment. **(Attached)**
18. A road evaluation prepared by the applicant. **(Attached)**
19. Noise Study prepared by the project agent. **(Attached in Cultivation Operations Plan)**
20. A setback waiver from undeveloped parcel 217-401-005. **(Attached)**

**Cultivation and Operations Plan
for
Blocksburg Hill Top Organics, LLC**

APN 217-411-013

Commercial Cannabis Cultivation Facility

Lead Agency:

Humboldt County Planning Department
3015 H Street
Eureka, CA 95501



June 2021 (updated July 2022)

Project Summary

Blocksburg Hill Top Organics LLC. (or “Applicant”) is proposing to permit new commercial cannabis cultivation activities in accordance with the County of Humboldt’s (County) *Commercial Cannabis Land Use Ordinance (CCLUO)*. The Project requires a Special Permit for 43,560 square feet (sf) of outdoor cultivation, and includes a proposed 30’x60’ two-story operations building complete with living quarters and designated rooms for drying, processing, nursery, ADA restroom, break room and storage. Cultivation operations are anticipated to require six (6) full-time staff and five (5) temporary staff during harvest and processing periods.

Electricity for the project will be provided by a solar array installed on the roof of the operations building. Plants will be cultivated in narrow PVC hoop houses to minimize ground disturbance and eliminate the need for fans.

Water for irrigation and the operations building will be supplied entirely by a rainwater catchment system utilizing a combination of catchment from rooftops, greenhouses, HDPE tanks, and a 575,000 gallon rainwater catchment pond. The estimated annual water use for irrigation is 520,000 gallons and the proposed operations building is 70,000 gallons per year.

There are no schools, school bus stops, places of worship, or state parks within 600 feet of the cultivation site and there are no residences within 300’ of the cultivation site. The adjacent property to the west is located approximately 75’ from the proposed operations and does not have a residence; therefore, a waiver from setback requirements has been acquired from the adjacent property owner. There are no tribal lands or areas of traditional tribal cultural affiliation within 1,000 feet of the cultivation site. The Applicant has completed a cultural resources report with a licensed archaeologist.

Property Description

The Project is located at APN 217-411-013 near the community of Blocksburg. The parcel is approximately 40 acres in size (per the County of Humboldt’s WebGIS). The property is characterized with a mixed hardwood and conifer forest on the eastern half of the parcel, and grasslands on the west half. A ridge line runs north-west through the approximate center of the property dividing it between two watersheds. The property currently has no structures or residence developed on site.

The parcel has a General Plan designation of Residential Agriculture (RA40) and is zoned Forestry Recreation (FR-B-5(40)). The neighboring properties surrounding the parcel have similar zoning and land use classifications.

Outdoor Cultivation Plan

Outdoor cultivation will occur along the ridge top where natural benches in the topography exist. The plants will be grown in 10 to 15 gallon pots located within narrow PVC hoop houses. The hoop houses will measure 12’ wide by various lengths and will be separated by 2’ wide aisle ways. This configuration allows the hoop houses to be erected on the existing topography without the need for significant grading. The cultivation will be concentrated into four (4) garden areas mostly within the footprint of former cultivation areas. The west-most cultivation area one (1) will have approximately 16,080 sf; cultivation area two (2), near the center, will have 11,700 sf; cultivation area three (3), north-center, has 8,160 sf; and the south-most cultivation area four (4) will have 7,620 sf of cultivation. The hoop houses will

utilize light deprivation covers to produce up to two (2) flowering cycles per year. Cultivation operations are anticipated to require six (6) full-time staff. The attached monthly Cultivation Operations Schedule details the cultivation activities for a typical two cycle year.

Nursery Propagation Operations

Juvenile plants will be produced in the 250 sf mother room/nursery located in the proposed operations building. Juvenile plants will be propagated from 'mother plants' that demonstrate the desired genetics for the specific cannabis strain. Cuttings will be sampled from the mother plants and then rooted into a growing medium to produce 'clones,' and once fully rooted they will be transplanted directly into plastic containers. Mother plants in the will remain in the vegetative stage solely for propagation. When ready, the juvenile plants will be moved into outdoor nursery hoop houses where they continue the 'vegetative' cycle. There will be two (2) nursery hoop houses located adjacent to the operations building (1,680 sf total), and three (3) nursery hoop houses located adjacent to cultivation garden 2 (2,160 sf total). The juvenile plants will be irrigated using hand watering methods.

Harvest Operations

Plants that are ready for harvest have their flowering branches removed by hand and will be transported to the 1,400 sf drying room located in the proposed operations building. Drying will take approximately two weeks before the flowers can be trimmed. Up to five (5) temporary staff may be added during harvest and processing operations.

Processing Operations

Dried plants will be bucked into manageable sized buds and moved from the drying room to the 250 sf processing room. There they will receive a hand finished trim to top-shelf market standards. Finished flower will be sent to a third party distributor in accord with CDFA licensing. Employees tasked with processing will be trained on each aspect of the procedure and will receive proper hand, eye, and respiratory Personal Protective Equipment (PPE). Access to the drying and processing areas will be limited to authorized and trained staff.

All applicable Federal, State, and local laws and regulations governing California Agricultural Employers will be followed, which may include: Federal and State wage and hour laws, CAL/OSHA, OSHA, California Agricultural Labor Relations Act, and the Humboldt County Code (including the Building Code.) Cultivation operations and processing operations will implement safety protocols and provide all employees with adequate safety training relevant to their specific job functions which may include: employee accident reporting and investigation policies; fire prevention; hazard communication policies, including maintenance of material safety data sheets (MSDS); and materials handling policies.

At all times, employees will have access to safe drinking water, restrooms, and hand washing facilities that comply with applicable Federal, State, and local laws and regulations. The septic system will be designed and installed to accommodate processing activities such as hand washing. Clean drinking water will be provided to all staff. The proposed on site-housing will comply with all applicable federal, state, and local laws and regulations should it be provided to employees.

Water Source and Water Storage

Water for cannabis irrigation and the operations building/residence will be supplied entirely by a rainwater catchment system. The system will utilize a combination of catchment from rooftops and greenhouses, HDPE rainwater catchment tanks, and a rainwater catchment pond. Rainwater will be captured from the 1,800 ft² roof of the operations building and from the greenhouses (22,020 ft²) in the center of the operations area. The greenhouses will be outfitted with a gutter system to collect and convey rainwater from the covers. Water from these locations will be used supplement the HDPE water tanks (160,000 gallons) and pond (575,000 gallons) to reach full capacity (735,000 gallons total). The combination of rainwater sources will provide over 700,000 gallons of water even in low precipitation years, plenty to meet the 590,000 gallon projected irrigation need, including consideration for evaporation. See the addendum on Rainwater Irrigation and Storage for calculations.

In the event of an extreme drought year and a shortage in irrigation water, the total square footage of cultivation in the second cycle will be reduced proportionate to the volume of water secured by June 1st. For example, if only 80% of needed irrigation water is secured, then the cultivation area will be reduced by 20%.

The proposed 80'x80' (6,400 sf) lined pond will be situated on a solid ridge top bench where it will be hydrologically isolated from surface waters. The site was formerly a cultivation area and previously disturbed. The pond will be designed to meet engineered specifications with consideration for wildlife guidance by CDFW.

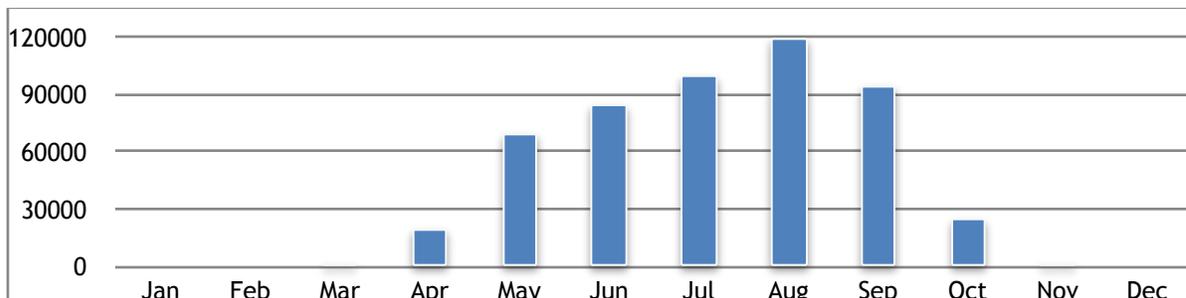
Irrigation Plan and Water Conservation

Irrigation and fertigation of plants will occur using a combination of drip emitters and top-feed hand watering methods, depending on the growth stage of the plants. Irrigation and fertigation will be efficiently managed at agronomic rates to conserve water and eliminate runoff. The daily inspection of each plant by the cultivator will allow for tailored irrigation and nutrient application depending on the needs of each individual plant. Water meters will be installed to monitor water use.

The estimated annual water need for irrigation is 520,000 gallons and the proposed operations building would use 70,000 gallons per year. The tables below outline the estimated irrigation water usage for cultivation and operations building during a typical year. Variables such as weather patterns may have a slight effect on water use.

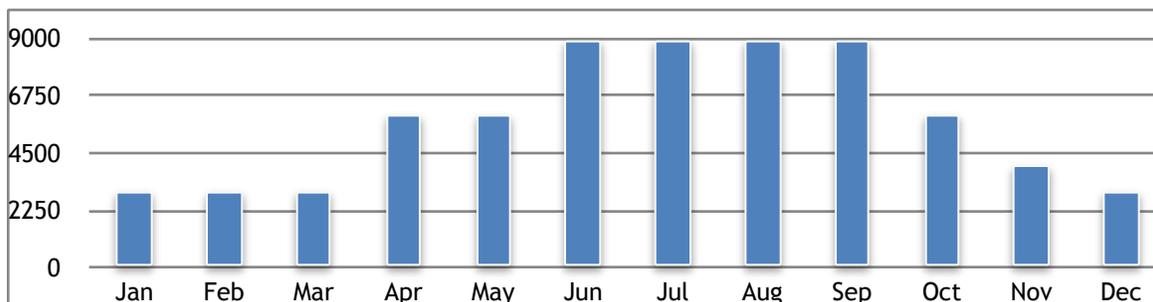
Irrigation Use:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	500	2,000	20,000	70,000	85,000	100,000	120,000	95,000	25,000	2,000	500



Operations Building Use:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3,000	3,000	3,000	6,000	6,000	9,000	9,000	9,000	9,000	6,000	4,000	3,000



Summary of Specific Measures for Compliance with SWRCB Order

Upon approval of the Special Permit, the property will be enrolled with the State Water Resources Control Board (SWRCB) Cannabis General Order for coverage as a *Tier 2 low risk* site. A Site Management Plan will be developed prior to operations commencing and will include erosion and sediment control BMPs designed to prevent, contain, and reduce sources of sediment as well as best practices for controlled product storage and use. A preliminary survey of the site was conducted to evaluate existing road conditions, erosion issues, and discharge threats to watercourses. The survey found no evidence of discharge threats. Details on road conditions and erosion concerns are outlined below, including specific measures assessed for compliance with the SWRCB General Order.

Roads: The existing road network has a rocked surface and is well maintained by the Larabee Creek Road Maintenance Association (RMA). The proposed cultivation operations area is located immediately off Sunset Ridge Road. There will be a 60’ access driveway that is regularly used to access the parking area. Beyond the parking area, a short section of road approximately 500’ long accesses the upper cultivation areas 1 and 2. The upper road will be resurfaced with gravel and have rolling dips installed to reduce sheet flow. The road gradients are generally 2-12% slope, with a short section up to 16% gradient. The higher gradient sections of road will be outslopped in alternative to installing rolling dips.

Exposed surfaces: Exposed soil surfaces from historic cultivation activities exist along the ridge. The exposed surfaces do not pose an active sediment delivery concern, but are recommended to be covered with seed and straw to prevent sediment transport. Development of the site will require minimal surface disturbance since most development is proposed within the footprint of existing disturbed areas. Minor grading will be required to construct the foundation for the proposed operations building.

Riparian setbacks: Watershed and habitat protections: Adherence to the Site Management Plan will ensure that the watershed and surrounding habitat are protected. The cultivation activities will be greater than 290 feet from the nearest class III watercourse, providing a suitable buffer between the cultivation operation and habitat. Additionally, site development and maintenance activities will utilize BMPs in accordance with the SWRCB's recommendations.

Stream Crossings and Riparian Features: There are four (4) small class III stream crossings on the property which cross under Homestead Road, all of which are maintained by the Larabee Creek Road Association. The stream crossings are installed to specifications in the "Handbook for Forest Ranch, and Rural Roads." The property owner also has a Lake and Streambed Alteration Agreement (LSAA) with CDFW. See the attached notification for specific details.

Fertilizers and Pesticide Storage: Regulated products such as fertilizers and pesticides will be stored in storage sheds located near the cultivation gardens. Products will be located within secondary containment to prevent contamination with runoff. All fertilizers, pesticides, herbicides and rodenticides will be mixed or prepared in locations where they cannot enter a waterbody (surface or groundwater). Fertilizers, pesticides, herbicides and rodenticides will be applied at agronomic rates specified on the product label and the enrollee will keep a log of use for annual reporting. All labels will be kept, and directions followed when amendments and fertilizers are applied. Disposal of unused products will be consistent with labels on containers. Empty containers will be disposed of at an authorized recycling center. A spill clean-up kit will be stored in the sheds. No restricted materials or pesticides will be used or stored on site. A list of all fertilizers, pesticides, herbicides and rodenticides will be provided once operations commence.

Stormwater Management Plan

Site Drainage: The topography on the property is fairly gradual on the east side of the ridge, with several natural benched areas. The property is well drained, with surface flow in the wet season generally draining east and west of the dividing ridge line. Two small class III watercourses develop east of the ridge, flowing through culverts under Homestead Road. The proposed developed areas are well outside of riparian zones, the closest being the operations building at 290' from the nearest class III watercourse.

Runoff Assessment: An investigation of the property revealed little surface runoff potential associated with the existing roads or proposed cultivation development. The areas proposed for development are well established and are generally flat. The proposed cultivation hoop houses and operations building will add just over an acre of impervious surface; however, removal of the hoop house covers in the winter will considerably reduce impervious surfaces and runoff. Mulching and seeding the garden pots with cover crop will prevent sediment transport. Moreover, the proposed cultivation areas are located 290' or greater from the nearest water course, providing a sufficient buffer to prevent sediment and nutrient delivery. To further prevent runoff to riparian areas, water conservation and containment measures will be implemented including the use of hand irrigation to prevent excessive water use, and the maintenance of a stable, vegetated buffer between the cultivation area and riparian zone. There will be no net increase in the volume of stormwater runoff from the property as a result of the development.

Monitoring and Maintenance: Regular monitoring will be conducted to ensure site development does not affect drainage patterns, to confirm the effectiveness of measures listed in the Site Management Plan, and to determine if the site meets all standard conditions of the General Order. Inspections will include photographic documentation of any areas of erosion or sediment transport to be monitored and prescribed recommendations for corrective action. Visual inspection will occur on roads and developed areas where surface flow may concentrate causing sediment transport, as well as areas where pollutants or wastes, if uncontained, could be transported into receiving waters. The inspection will also document the progress of any plan element subject to a time schedule, or in the process of being implemented.

Onsite monitoring shall occur:

- Before and after any significant alteration or upgrade to a given stream crossing, road segment, or other controllable sediment discharge site. Inspection should include photographic documentation, with photo records to be kept on site.
- Prior to October 15 and December 15 to evaluate site preparedness for storm events and stormwater runoff.
- Following any rainfall event with an intensity of 3 inches precipitation in 24 hours.

Maintenance of roads, stream crossings, soils piles, garden beds, and all exposed surfaces will occur at intervals listed in the cultivation operations schedule. Generally, work in riparian areas such as stream crossing repairs will occur over the summer dry season. Prior to the onset of the rainy season, all roads will be graded and rocked where necessary to reduce sheet flow and surface runoff. Any inboard ditches will be maintained, culverts cleared of debris, and soils piles contained to prevent sediment transport. After periods of peak rain events, culverts and roads will be maintained with hand tools as necessary.

Biological Assessment

A full biological assessment was completed for the parcel by two qualified biologists, one who focused on a Wildlife Resource Report and one who focused on a Botanical Resource Assessment. The Wildlife Resource Report came to the conclusion that the proposed action of cannabis cultivation will have no effect on any special status species due to either the project location being outside of their known range, a lack of suitable habitat, or because the proposed activities would not have an adverse impact to a species or their habitat. Project activities are not expected to produce adverse cumulative effects to sensitive wildlife species due to the compact footprint and low impact methodologies of cultivation. The project will not require significant grading, will not use generators, fans or artificial lighting for cultivation, and aims to become fully irrigated from rainwater catchment. The Botanical Resource Assessment found that while the parcel may have several special status plant species habitats, the project proposes no additional disturbance to natural vegetation, and should not have adverse impacts to special status plants assuming they are present on the property. The project is not expected to have indirect impacts such as significant shading or alteration of hydrology.

Invasive Species Control Plan

The property was briefly scoped for invasive plant species on a summer 2020 site visit. There were some signs of star thistle and scotch broom observed as well as a mass of

pampas grass. Where feasible, invasive plants will be removed by hand to reduce their abundance on the property, especially in the spring and summer. A combination of prevention, early detection, rapid-response, and long-term monitoring will be utilized in preventing the spread of invasive species.

Materials Management Plan

Solid Waste Management: Trash and recycling containers will be located in an enclosed, covered area adjacent to the operations building to prevent storm water contamination. Solid waste and recycling is hauled off-site in trailers to the Recology Redway transfer station at least once biweekly. Cultivation equipment such as hoop house covers and irrigation equipment will be reused each season and stored away as necessary over the winter to reduce damage to the equipment. Any equipment that is in disrepair and no longer viable to use will be removed from the site and will either be recycled or disposed of at the landfill.

Organic Cultivation Waste and Spent Soil: Cultivation vegetative matter such as root balls, branches, and leaves will be composted at the designated area located near the cultivation gardens. Potting soil will generally be left in the garden pots post cultivation season and will be covered with straw and seeded with nitrogen fixing cover crop. Any unusable soil will be stockpiled in a designated location and will be contained with straw wattles until the soil is either hauled off-site, or amended with organic matter and inoculated with mycorrhiza and beneficial bacteria so it can be reused. Prior to the rainy season, all spoils piles will be secured with wattles to prevent sediment mobilization.

Fertilizers, Pesticides, and Regulated Products: Best Management Practices (BMPs) will be employed when storing, handling, mixing, applying and disposing of all fertilizers, pesticides and fungicides. All nutrients, pesticides and fungicides will be located in the storage sheds located adjacent to the cultivation gardens. All regulated products are contained within the manufacturer's sealed containers within secondary containment. Application rates will be tracked and reported with the end of the year monitoring report required in the Site Management Plan. Employees responsible for application are trained to handle, mix, apply or dispose of pesticides/fungicides with proper hand, eye body and respiratory protection in accordance with the manufacturer's recommendations.

Sewage Disposal Plan

An appropriately sized septic system will be designed by Pacific Watershed Associates and installed adjacent to the operations building to service the facility and residence. The building will have an ADA accessible restroom for employees.

Soil Management Plan

The cultivation pots will be placed on top of the native soil. Once the last plants have been harvested in the fall, the cultivation soil will remain in place in the pots. The pots will be covered with straw and seeded with nitrogen fixing cover crop. Any unusable soil will be stockpiled at the compost locations. The spent soil will be contained with straw wattles until the soil is either hauled off-site or amended with organic matter and inoculated with mycorrhiza and beneficial bacteria so it can be reused. Prior to the rainy season, all spoils piles will be secured with wattles to prevent sediment mobilization. In the spring, the soil

will be tested and amended with organic nutrients and compost as needed. No more than a few yards of new soil will be needed each spring to top off the garden pots.

Parking Plan

In order to meet parking requirements in the zoning code, a total of eleven (11) parking spaces (1 ADA space) will be provided at the parking area adjacent to the operations building. The parking spaces will be provided for the living quarters as well as up to six (6) workers during the normal grow season and an additional five (5) workers in the harvest/trim season. The site will not be open to the public. Workers will carpool to the site as feasible to reduce the number of vehicles traveling to the site. No more than one trip per vehicle each day is anticipated.

Energy Plan

As an outdoor cultivation farm, the anticipated energy use will be minimal for cultivation operations. No artificial lighting is necessary for cultivation and the no fans are needed in the hoop houses due to their size. The operations building will be completely powered by a solar array mounted on the rooftop.

Security Plan

The cultivation area will have a locked access gate at the entry on Sunset Ridge Road. The gate will remain locked at all times and access to the cultivation area will be limited exclusively to employees. Restricted access signs will be posted conspicuously at the entry gate. The operations building will have low intensity exterior lighting to illuminate the entrances and will include a small number of motion activated security lights. All lighting will be designed and located so that direct rays are confined to the property. Security cameras will be installed at the main access gates and at entrances to the facilities.

Activities associated with cultivation (watering, transplanting, and harvesting) generally occur during daylight hours. The operations facility and farm will be in operation 7 days a week, spring through fall.

Noise Source Assessment and Mitigation Plan

Noise levels on the property were assessed on November 19, 2020 using a sound meter. Ambient noise levels were measured at 54.7 dB near the east property line; 54.1 dB at the north property line off Homestead Road; 55.3 at the west property line near the proposed upper cultivation garden; and 57.8 dB at the south property line near the neighboring residence. The proposed operations are not anticipated to increase ambient noise levels since the use of generators and outdoor fans are unnecessary.

Light Pollution Plan

The nursery and drying rooms will be completely contained within the proposed operations building and have no openings (besides doors) that allow light to escape between sunset and sunrise. No lights will be utilized within the cultivation greenhouses. The residence will have normal lighting associated with domestic use. The low intensity exterior lighting will be designed and located so that direct rays are confined to the property.

Road system assessment

Dead end length: The nearest paved category 4 road is Alderpoint Road located less than a quarter mile from the operations site.

Functional Capacity: The road system has been assessed for travel width, turnouts, and pinch points, and was determined to functionally meet Category 4 road standards. The Larabee Creek Road Maintenance Association manages and maintains Homestead Road and Sunset Ridge road, and may provide further details on the road's maintenance, design and performance by request.

Existing Ground Disturbance and Proposed Footprint

Based on historic imagery, the location of the proposed cultivation has a history of ground disturbance dating back twenty years (possibly for rock extraction). Prior to 2015 the disturbed area was approximately .75 an acre in size. In successive years it was expanded to roughly double the size for cultivation purposes. Upon inspection of the site, much of the clearing appears to be surface blading with the exception of a "rock extraction" area. There are no fill-slopes or steepened cut-banks associated with the disturbance.

The proposed cultivation will utilize the previously disturbed areas in an effort to reduce new disturbance. Approximately 70% of the proposed cultivation (including the proposed pond) will utilize the previously disturbed areas. With exception for constructing the pond, very little earth movement will be required since much of the area is flat. New disturbance will be within grass covered areas with slopes of 10% or less. Since the hoop houses are only 12 feet in width, they will be installed with minimal terracing necessary. The project is designed to be light on the land with no significant cut/fill grading proposed. The operations building and parking lot footprint are also located within a flat grassy area. To offset the impacts from new ground disturbance, the surrounding oak woodlands will be thinned of encroaching Douglas fir trees to allow the grasslands to reestablish, per the foresters recommendations.

Rainwater Irrigation and Storage Calculations

Overview:

Water for cannabis irrigation and the operations building/residence will be supplied entirely by a rainwater catchment system. The system will utilize a combination of catchment from rooftops and greenhouses, HDPE rainwater catchment tanks, and a rainwater catchment pond. Rainwater will be captured from the 1,800 ft² roof of the operations building and from the greenhouses in the center of the operations area (22,020 ft²). The greenhouses will be outfitted with a gutter system to collect and convey rainwater from the covers. Water from these locations will be used supplement the HDPE water tanks and pond to reach full capacity (735,000 gallons total). The combination of rainwater sources will provide over 700,000 gallons of water, plenty to meet the 590,000 gallon projected irrigation need, including consideration for evaporation from the pond. The breakdown of water catchment, water use, and water storage numbers are provided below.

Note: although the 50yr average for annual rainfall is 62.65", the rainfall volumes below are calculated using the mean precipitation value in severe drought years (35.35"). See the scatter plot graph for details.

Calculations:

Rainwater capture volumes by source:

Pond: 6,400 ft² = 141,033 gallons

Operations building: 1,800 ft² = 39,665 gallons

Rainwater tanks: 56.75 ft² x 30 tanks = 1,702 ft² = 37,506 gallons

Greenhouses: 22,020 ft² = 485,241 gallons

Total rainwater volume: **703,445** gallons

Annual water need: (590,000 use) + (79,000 evap-loss -see below) = **669,000** gallons

Storage: (575,000 pond) + (160,000 tanks) = **735,000** gallons

Sources: <https://www.omnicalculator.com/other/rainfall-volume>

https://www.fao.org/fishery/docs/CDrom/FAO_Training/FAO_Training/General/x6705e/x6705e02.htm

<https://concalculator.com/pond-volume-calculator/>

Evaporation Loss:

CALIFORNIA														
MONTHLY AVERAGE PAN EVAPORATION (INCHES)														
	PERIOD	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
	OF RECORD													
WILLOW CREEK 1 NW	1968-2005	0.58	1.35	1.81	2.74	4.73	6.50	7.53	6.05	3.79	1.94	0.75	0.92	38.69

*multiply by 0.75 correction factor to offset heat exchange

Source: https://wrcc.dri.edu/Climate/comp_table_show.php?sttype=pan_evap_avg

Pond surface area (median): **4,352 ft²**

Class A Pan seasonal evaporation rate- 37 yr. average: **38.69"**

Annual pond surface evaporation loss:

$$\text{Corrected Pan evaporation: } 38.69 \times .75 = 29.0175"/12 = 2.418\text{ft}$$

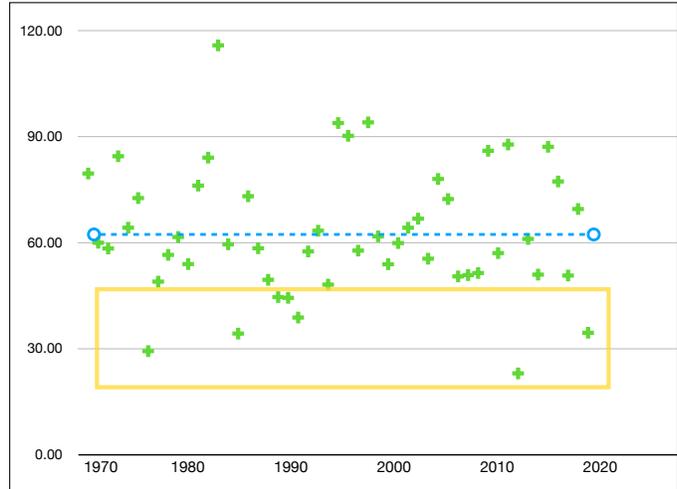
median surface area x corrected total evaporation

$$(4,352 \text{ ft}^2) \times (2.418') = \mathbf{10,523.136 \text{ ft}^3}$$

(x 7.48052 gallon conversion)

$$= \mathbf{78,718 \text{ gallons}}$$

PRISM Time Series Data	
Location: Lat: 40.2923 Lon: -123.6761 Elev: 1775ft	
Climate variable: ppt	
Spatial resolution: 4km	
Period: 1970 - 2020	
Dataset: AN81m	
PRISM day definition: 24 hours ending at 1200 UTC on the day shown	
Time series generated: 2022-Jul-28	
Details: http://www.prism.oregonstate.edu/documents/PRISM_datasets.pdf	
Date	ppt (inches)
1970	79.43
1971	59.81
1972	58.18
1973	84.32
1974	64.08
1975	72.47
1976	29.10
1977	48.79
1978	56.37
1979	61.44
1980	53.77
1981	76.01
1982	83.93
1983	115.74
1984	59.37
1985	34.07
1986	72.99
1987	58.25
1988	49.31
1989	44.41
1990	44.20
1991	38.62
1992	57.35
1993	63.22
1994	47.95
1995	93.73
1996	90.12
1997	57.59
1998	93.92
1999	61.61
2000	53.72
2001	59.72
2002	64.06
2003	66.64
2004	55.29
2005	77.89
2006	72.19
2007	50.27
2008	50.64
2009	51.23
2010	85.87
2011	56.88
2012	87.65
2013	22.79
2014	60.89
2015	50.78
2016	87.00
2017	77.17
2018	50.51
2019	69.37
2020	34.30
Annual Average	62.65



Annual precipitation w/ severe drought outliers highlighted

Average annual rainfall 50yr: 62.65"

Low: 22.79" High: 115.74"

Mean for drought outlier years: 35.35"

Cultivation Operations Schedule

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Juvenile Plant Propagation												
Add Clones to Nurseries												
Plant Outdoor Hoop Houses												
Light Deprivation Cycle												
Full-term Outdoor Cycle												
Harvest Operations												
Drying Activities												
Processing Activities												
Winterization of Garden Beds												
Winterization of Roads												
Road/Culvert Maintenance												
BPTC maintenance												

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
REGION 1 – NORTHERN REGION
619 Second Street
Eureka, CA 95501



STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. 1600-2018-0631-R1
Unnamed Tributary to Larabee Creek, Tributary to the Van Duzen
River, Tributary to the Eel River and the Pacific Ocean

Ivan Borissov
Borissov Water Diversion and Channel Restoration Project
2 Encroachments



This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and Ivan Borissov (Permittee).

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, the Permittee initially notified CDFW on October 17, 2018, that the Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, CDFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, the Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, the Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The project to be completed is located within the Larabee Creek watershed, approximately 3 miles northwest of the town of Blocksburg, County of Humboldt, State of California. The project is located in Section 13, T2S, R4E, Humboldt Base and Meridian; in the Blocksburg U.S. Geological Survey 7.5-minute quadrangle; Assessor's Parcel Number 217-411-013; latitude 40.2925 N and longitude 123.6777 W.

PROJECT DESCRIPTION

The project is limited to two encroachments. Both encroachments will remediate sites impacted by unpermitted grading. The first encroachment involves removal of an onstream pond, and will include stream restoration, erosion control, and revegetation.

The second encroachment involves the re-contouring of an existing fill slope of a graded flat on a Class II stream. Work for these encroachments will include grading, compaction of fill, and rock armoring as necessary to minimize erosion.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include Pacific Giant Salamander (*Dicamptodon tenebrosus*), Foothill Yellow-legged Frog (*Rana boylei*), Coastal Tailed Frog (*Ascaphus truei*), Western Pond Turtle (*Actinemys marmorata marmorata*) amphibians, reptiles, aquatic invertebrates, mammals, birds, and other aquatic and riparian species.

The adverse effects the project could have on the fish or wildlife resources identified above include:

Impacts to water quality:

temporary increase in fine sediment transport;

Impacts to bed, channel, or bank and direct effects on fish, wildlife, and their habitat:

loss or decline of riparian habitat;
direct impacts on benthic organisms;

Impacts to natural flow and effects on habitat structure and process:

diversion of flow from activity site;
direct and/or incidental take;
indirect impacts;
impediment of up- or down-stream migration;
water quality degradation; and
damage to aquatic habitat and function.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

The Permittee shall meet each administrative requirement described below.

1.1 Documentation at Project Site. The Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to CDFW personnel, or personnel from another state, federal, or local agency upon request.

1.2 Providing Agreement to Persons at Project Site. The Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement

- 1.2 **Providing Agreement to Persons at Project Site.** The Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of the Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 **Adherence to Existing Authorizations.** All water diversion facilities that the Permittee owns, operates, or controls shall be operated and maintained in accordance with current law and applicable water rights.
- 1.4 **Change of Conditions and Need to Cease Operations.** If conditions arise, or change, in such a manner as to be considered deleterious by CDFW to the stream or wildlife, operations shall cease until corrective measures approved by CDFW are taken.
- 1.5 **Notification of Conflicting Provisions.** The Permittee shall notify CDFW if the Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, CDFW shall contact the Permittee to resolve any conflict.
- 1.6 **Project Site Entry.** The Permittee agrees to allow CDFW employees access to any property it owns and/or manages for the purpose of inspecting and/or monitoring the activities covered by this Agreement, provided CDFW: a) provides 24 hours advance notice; and b) allows the Permittee or representatives to participate in the inspection and/or monitoring. This condition does not apply to CDFW enforcement personnel.
- 1.7 **CDFW Notification of Work Initiation and Completion.** The Permittee shall contact CDFW within the seven-day period preceding the beginning of work permitted by this Agreement. Information to be disclosed shall include Agreement number, and the anticipated start date. Subsequently, the Permittee shall notify CDFW no later than seven (7) days after the project is fully completed.

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, the Permittee shall implement each measure listed below.

- 2.1 **Permitted Project Activities.** Except where otherwise stipulated in this Agreement, all work shall be in accordance with the Permittee Notification received on October 17, 2018, together with all maps, BMP's, photographs, drawings, and other supporting documents submitted with the Notification.
- 2.2 **Incidental Take.** This Agreement does not allow for the take, or incidental take of any state or federal listed threatened or endangered listed species.

Project Timing

- 2.3 **Work Period.** All work, not including diversion of water, shall be confined to the period **June 15 through October 1** of each year. Work within the active channel of a stream shall be restricted to periods of **dry weather**. Precipitation forecasts and potential increases in stream flow shall be considered when planning construction activities. Construction activities shall cease and all necessary erosion control measures shall be implemented prior to the onset of precipitation.
- 2.4 **Work Completion.** The proposed work shall be completed by no later than **October 1, 2020**. A notice of completed work, including photographs of each site, shall be submitted to CDFW within seven (7) days of project completion.
- 2.5 **Extension of the Work Period.** If weather conditions permit, and the Permittee wishes to extend the work period after October 1, a written request shall be made to CDFW at least 5-working days before the proposed work period variance. Written approval (letter or e-mail) for the proposed time extension must be received from CDFW prior to activities continuing past October 1.
- 2.6 **Avoidance of Nesting Birds.** Vegetation maintenance/removal as necessary within the scope of the project shall be confined to the period commencing August 16 and ending February 28, of any year in which this Agreement is valid, provided the work area is outside of the actively flowing stream. Work may continue during precipitation events provided stream flows have not risen into work areas and sediment delivery will not result.
- 2.7 **Minimum Vegetation Removal.** No native riparian vegetation shall be removed from the bank of the stream, except where authorized by CDFW. Permittee shall limit the disturbance or removal of native vegetation to the minimum necessary to achieve design guidelines and standards for the Authorized Activity. Permittee shall take precautions to avoid damage to vegetation outside the work area.
- 2.8 **Vegetation Management.** Permittee shall limit vegetation management (e.g., trimming, pruning, or limbing) and removal for the purpose of stream crossing or diversion infrastructure placement/maintenance to the use of hand tools. Vegetation management shall not include treatment with herbicides.

Stream Restoration

- 2.9 **Stream Restoration Plan.** The Permittee shall submit a Stream Restoration Plan for both project sites to CDFW prior to conducting remediation activities. The Stream Restoration Plan (SRP) shall detail the dimensions and slopes of the stream channel to be remediated. The SRP shall describe any material utilized to

restore the channel to a natural condition. The SRP shall include a revegetation plan for remediation of the impacted channel reach.

2.10 Revegetation Plan. The Permittee shall submit a revegetation plan with the SRP to CDFW for review and approval prior to implementation of riparian habitat restoration activities. The Revegetation Plan shall, at a minimum, include the following:

- 2.10.1** The identification of the area and vegetation types that will be restored.
- 2.10.2** A planting design and palette appropriate to the vegetation type, cover, stratum, and level of biodiversity (i.e., species richness and composition). Use of a reference site is recommended.
- 2.10.3** Use regionally appropriate native plants for a riparian vegetation type. The derivation of plant material such as containers, plugs, cuttings, divisions, or seeds from coastal areas of Humboldt, Del Norte and Mendocino Counties within 30 miles of the coast. All native seed material shall be from the North Coast ecoregion (Humboldt, Mendocino, Sonoma or Del Norte Counties), if practical. If quantities are not able to be satisfied from these collection sites, propagules may be obtained from other counties in Northern California with pending approval from a restoration ecologist or botanist.
- 2.10.4** Cuttings of willows, cottonwoods conducted when dormant. Collection of cuttings within an area dispersed to maintain genetic and sexual diversity, and to avoid adversely impact existing riparian vegetation. Cuttings hydrated between harvesting and planting (e.g., soak cuttings in water several days to a week to stimulate rooting prior to planting). Cuttings planted to depth of 75 percent of their length with buds pointing up and bottom of cutting in moist soil or water.
- 2.10.5** Planting conducted after the first seasonal rains have saturated soils beyond the first several inches (November/December) and before April.
- 2.10.6** No application of fertilizer on plants or chemical controls on weeds.
- 2.10.7** Measurable success criteria based on plant survival, density, or cover.
- 2.10.8** Monitoring conducted for a minimum of five years to determine whether the revegetation goals and objectives have been met. Remedial measures if revegetation goals and objectives are not met.
- 2.10.9** Annual status reports on the revegetation efforts shall be submitted to CDFW in the by **October 31 of each year** following initial planting for the

length of the monitoring period.

- 2.11 **Project Inspection.** The Project shall be inspected by Green Road Consulting or a licensed engineer to ensure that the stream crossings were installed as designed. A copy of the inspection report, including photographs of each site, shall be submitted to CDFW within 90 days of completion of this project.

Erosion Control and Pollution

- 2.12 **Erosion Control.** Permittee shall use erosion control measures throughout all work phases where sediment runoff threatens to enter a stream, lake, or other Waters of the State.
- 2.13 **Erosion Control.** Permittee shall use erosion control measures throughout all work phases where sediment runoff threatens to enter a stream, lake, or other Waters of the State.
- 2.14 **Seed and Mulch.** Upon completion of construction operations and/or the onset of wet weather, Permittee shall stabilize exposed soil areas within the work area by applying mulch and seed. Permittee shall restore all exposed or disturbed areas and access points within the stream and riparian zone by applying local native and weed free erosion control grass seeds. Locally native wildflower and/or shrub seeds may also be included in the seed mix. Permittee shall mulch restored areas using at least two to four inches of weed-free clean straw or similar biodegradable mulch over the seeded area. Alternately, Permittee may cover seeding with jute netting, coconut fiber blanket, or similar non-synthetic monofilament netting erosion control blanket.
- 2.15 **Erosion and Sediment Barriers.** Permittee shall monitor and maintain all erosion and sediment barriers in good operating condition throughout the work period and the following rainy season, defined herein to mean October 15 through June 15. Maintenance includes, but is not limited to, removal of accumulated sediment and/or replacement of damaged sediment fencing, coir logs, coir rolls, and/or straw bale dikes. If the sediment barrier fails to retain sediment, Permittee shall employ corrective measures, and notify the department immediately.
- 2.16 **Prohibition on Use of Monofilament Netting.** To minimize the risk of ensnaring and strangling wildlife, Permittee shall not use any erosion control materials that contain synthetic (e.g., plastic or nylon) monofilament netting, including photo- or biodegradable plastic netting. Geotextiles, fiber rolls, and other erosion control measures shall be made of loose-weave mesh, such as jute, hemp, coconut (coir) fiber, or other products without welded weaves.
- 2.17 **Site Maintenance.** Permittee shall be responsible for site maintenance including, but not limited to, re-establishing erosion control to minimize surface erosion and

ensuring drainage structures and altered streambeds and banks remain sufficiently armored and/or stable.

- 2.18 **Cover Spoil Piles.** Permittee shall have readily available erosion control materials such as wattles, natural fiber mats, or plastic sheeting, to cover and contain exposed spoil piles and exposed areas in order to prevent sediment from moving into a stream or lake. Permittee shall apply and secure these materials prior to rain events to prevent loose soils from entering a stream, lake, or other Waters of the State.
- 2.19 **No Dumping.** Permittee shall not deposit, permit to pass into, or place where it can pass into a stream, lake, or other Waters of the State any material deleterious to fish and wildlife, or abandon, dispose of, or throw away within 150 feet of a stream, lake, or other Waters of the State any cans, bottles, garbage, motor vehicle or parts thereof, rubbish, litter, refuse, waste, debris, or the viscera or carcass of any dead mammal, or the carcass of any dead bird.

3. Reporting Measures

- 3.1 **Work Completion.** The proposed work shall be completed by no later than **October 1, 2020**. A notice of completed work (condition 2.4), with supplemental photos, shall be submitted to CDFW **within seven (7) days** of project completion.
- 3.2 **Project Inspection.** The Permittee shall submit the **Project Inspection Report** (condition 2.11) to CDFW, LSA Program at 619 Second Street, Eureka, CA 95501.

CONTACT INFORMATION

Written communication that the Permittee or CDFW submits to the other shall be delivered to the address below unless the Permittee or CDFW specifies otherwise.

To Permittee:

Ivan Borissov
865 El Cerro Blvd
Danville, California 94526
707-497-9681
Borissov13@live.com

To CDFW:

Department of Fish and Wildlife
Northern Region
619 Second Street
Eureka, California 95501
Attn: Lake and Streambed Alteration Program

Notification #1600-2018-0631-R1

LIABILITY

The Permittee shall be solely liable for any violation of the Agreement, whether committed by the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of, or require the Permittee to proceed with the project. The decision to proceed with the project is the Permittee's alone.

SUSPENSION AND REVOCATION

CDFW may suspend or revoke in its entirety this Agreement if it determines that the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before CDFW suspends or revokes the Agreement, it shall provide the Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide the Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the Agreement, and include instructions to the Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against the Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 *et seq.* (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

The Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and the Permittee. To request an amendment, the Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by the Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, the Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

EXTENSIONS

In accordance with FGC section 1605(b), the Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, the Permittee shall submit to CDFW a completed CDFW "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in CDFW's current fee schedule

(see Cal. Code Regs., tit. 14, § 699.5). CDFW shall process the extension request in accordance with FGC 1605(b) through (e).

If the Permittee fails to submit a request to extend the Agreement prior to its expiration, the Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (FGC section 1605(f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of CDFW's signature, which shall be: 1) after the Permittee signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at http://www.wildlife.ca.gov/habcon/ceqa/ceqa_changes.html.

TERM

This Agreement shall **expire five years** from date of execution, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. The Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of the Permittee, the signatory hereby acknowledges that he or she is doing so on the Permittee's behalf and represents and warrants that he or she has the authority to legally bind the Permittee to the provisions herein.

AUTHORIZATION

This Agreement authorizes only the project described herein. If the Permittee begins or completes a project different from the project the Agreement authorizes, the Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with FGC section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein.

FOR Ivan Borissov



Ivan Borissov

5-1-19

Date

FOR DEPARTMENT OF FISH AND WILDLIFE



Scott Bauer
Senior Environmental Scientist Supervisor

5/10/19

Date

Prepared by: David Manthorne, Senior Environmental Scientist Specialist, April 19, 2019



Botanical Survey Results

Blocksburg Hilltop Organics (APN: 217-411-013)

Prepared by:

Kyle Wear
Botanical Consultant
wearkyle@gmail.com
(707) 601-1725

Prepared for:

Meadows and Cattle, LCC
865 El Cerro Blvd.
Danville, CA 94526

Date:

July 2022

TABLE OF CONTENTS

	<u>Page</u>
1. INTRODUCTION	1
2. DEFINITIONS	1
2.1. Special Status Plants.....	1
2.2. Special Status Plant Communities.....	1
2.3. Invasive Plants.....	1
3. ENVIRONMENTAL SETTING	1
3.1. Project Location.....	1
3.2. Soil, Topography, & Hydrology.....	1
3.3. Vegetation.....	3
4. METHODS	3
4.1. Scoping.....	3
4.2. Survey	3
5. RESULTS	10
5.1. Special Status Plants.....	10
5.2. Special Status Natural Communities.....	10
5.3. Invasive Plants.....	14
6. POTENTIAL FOR FALSE NEGATIVE SURVEYS	14
7. IMPACT ASSEMENT AND RECOMMENDATIONS	14
8. REFERENCES	15

List of Figures

Figure 1. Location Map.....	2
Figure 2. Survey Coverage Map.....	10

List of Tables

Table 1. Special Status Plant Scoping List.....	4
Table 2. Plant List.....	11
Table 3. Grassland Impact and Potential Restoration Map.....	15

APPENDICES

- A. Site Plan
- B. NRCS Soil Map
- C. Special Status Natural Community Scoping List
- D. Grassland Encroachment 2005-2020

1. INTRODUCTION

This botanical survey was conducted to address potential impacts to sensitive botanical resources from commercial cannabis cultivation on APN: 217-411-013 near Blocksburg.

The project includes 43,650 square feet of outdoor cultivation, a 475,000-gallon rain catchment pond, water storage tanks, a 30x60 foot building, and a parking lot (Appendix A).

2. DEFINITIONS

2.1. Special Status Plants

Special status plants include those listed as rare, threatened, or endangered under the federal Endangered Species Act and/or the California Endangered Species Act. Additionally, impacts to taxa with California Rare Plant Ranks (CRPR) of 1A, 1B, 2A, and 2B must be analyzed in environmental documents related to the California Environmental Quality Act (CEQA), or those considered functionally equivalent to CEQA. Impacts to plants with CRPRs of 3 and 4 should also be addressed. Protection measures for populations of these taxa may be warranted if they are determined to have local or biological significance.

2.2. Special Status Plant Communities

Special status plant communities are communities with limited distribution that may be vulnerable to environmental impacts. Updated information on California natural communities, including rarity rankings, is provided in *A Manual of California Vegetation Online Edition* (CNPS 2021). Natural communities with G or S ranks of 3 or lower are considered sensitive.

2.3. Invasive Plants

Invasive species are non-native plants and animals whose introduction causes or is likely to cause environmental or economic damage or harm to human health. Invasive species can cause a decline of endangered species and native diversity through direct competition and by alteration of ecological processes. The California Invasive Plant Council (Cal-IPC) maintains a list of plants considered invasive in California (Cal-IPC 2022). For the purposes of this report only plants with Cal-IPC ratings of “High” were considered.

3. ENVIRONMENTAL SETTING

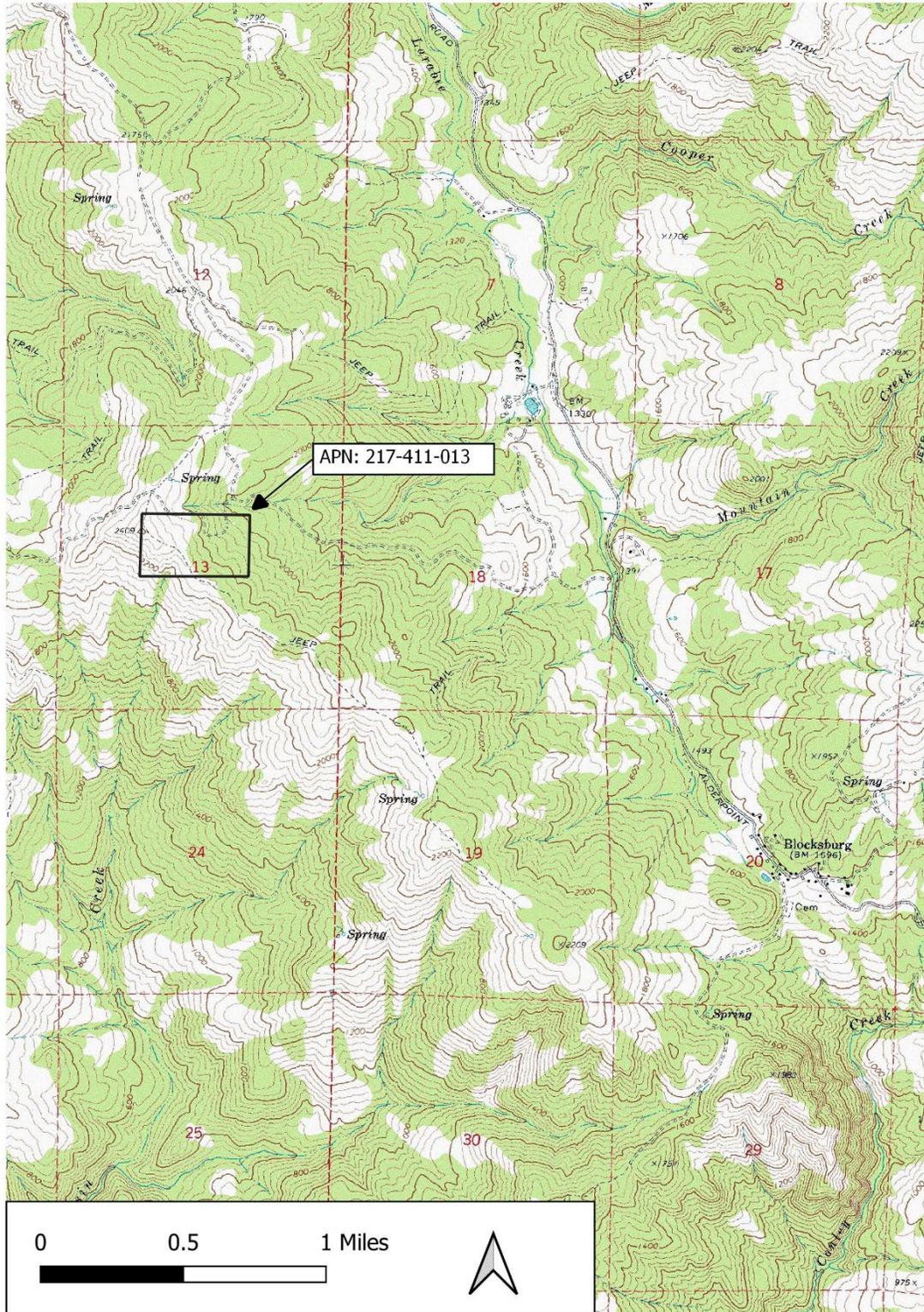
3.1. Project Location

The parcel is located off Sunset Ridge Road approximately 2.5 miles northwest of Blocksburg on the Blocksburg USGS quadrangle in Humboldt County (Figure 1).

3.2. Soil, Topography, Hydrology

There are no serpentine, volcanic, or other unique soil types on the parcel. The grassland soil on the parcel is mapped as Dryfield-Yorknorth-Witherell complex; the forested areas are mapped as Burgsblock-Coolyork-Tannin complex (United States Department of Agriculture, Natural

Figure 1. Location Map.



Resource Conservation Service 2022) (Appendix B). The soils are derived from sandstone, schist, and sedimentary rock.

The proposed cultivation sites are on existing graded flats along a ridge or in ungraded relatively flat or gently sloped areas above steeper 20-35% southwest and northeast facing slopes. The southwestern corner of the parcel drains into Basin Creek. Most of the parcel drains into Larabee Creek. Both creeks are tributaries of the Eel River

3.3. Vegetation

The graded flats include mostly non-native grasses and other herbaceous plants including wild oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), and English plantain (*Plantago lanceolata*). The adjacent habitat is grassland, most of which is dominated by native grasses including California oatgrass (*Danthonia californica*) and blue wildrye (*Elymus glaucus* ssp. *glaucus*). There are also stands of coyote brush (*Baccharis pilularis*) and young Douglas-fir trees (*Pseudotsuga menziesii*). The forested portion of the property includes a canopy of Douglas-fir and tanoak (*Notholithocarpus densiflorus* var. *densiflorus*). There is a disturbed mulched remediation site with perennial ryegrass (*Festuca perennis*).

4. METHODS

4.1. Scoping

A list of special status plants that could potentially occur in the project area was generated by consulting the *California Natural Diversity Database* (CDFW 2022) and the *CNPS Inventory of Rare and Endangered Plants* (CNPS 2022a). The scoping list includes special status plants with documented occurrences on the Blocksburg USGS quadrangle or adjacent quadrangles (Table 1).

Special status natural communities that have potential to occur on the parcel include, but are not limited to, oak woodlands and special status native grassland communities. A full list of special status natural communities that occur in northwestern California queried from *A Manual of California Vegetation Online Edition* (CNPS 2022b) is provided in Appendix C.

4.2. Survey

The survey was conducted by Kyle Wear, M.A. on May 8, and June 16, 2022. Mr. Wear has over 25 years of experience conducting floristic surveys and other botanical work in northern California.

The survey was floristic and followed methods outlined in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018). A survey coverage map is provided in Figure 2. All plants were identified to the taxonomic level necessary to determine whether they are special status. Plant taxonomy generally follows *The Jepson Manual Vascular Plants of California, Second Edition* (Baldwin et.

Table 1. Special Status Plant Scoping List.

Scientific Name Common Name	Listing Status	Blooming Period	Habitat	Elevation (Feet)	Potential to Occur in Project Area
<i>Allium hoffmanii</i> Beegum onion	4.3	Jun-Jul	Lower montane coniferous forest (serpentinite)	3610- 5905	Unlikely-not associated with grasslands
<i>Anisocarpus scabridus</i> scabrid alpine tarplant	1B.3	Jul-Aug(Sep)	Upper montane coniferous forest (metamorphic, rocky)	5415- 7545	None-occurs in higher elevation habitat
<i>Arctostaphylos hispidula</i> Howell's manzanita	4.2	Mar-Apr	Chaparral (serpentinite or sandstone)	395-4100	Unlikely-not associated with grasslands
<i>Arctostaphylos manzanita ssp. elegans</i> Konocti manzanita	1B.3	(Jan)Mar- May(Jul)	Chaparral, Cismontane woodland, Lower montane coniferous forest- Volcanic	1295- 5300	None-occurs on volcanic soil
<i>Arnica spathulata</i> Klamath arnica	4.3	May-Aug	Lower montane coniferous forest (serpentinite)	2100- 5905	None-occur on serpentine
<i>Astragalus agnicidus</i> Humboldt County milk- vetch	1B.1, CE	Apr-Sep	Broadleafed upland forest, North Coast coniferous forest- Disturbed areas, Openings, Roadsides (sometimes)	395-2625	High-along roads
<i>Astragalus rattanii var. rattanii</i> Rattan's milk-vetch	4.3	Apr-Jul	Chaparral, Cismontane woodland, Lower montane coniferous forest-gravelly streambanks	100-2705	Unlikely-not associated with grasslands
<i>Carex praticola</i> northern meadow sedge	2B.2	May-Jul	Meadows and seeps (mesic)	0-10500	Unlikely-occurs in wetlands
<i>Carex scabriuscula</i> Siskiyou sedge	4.3	May-Jul	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest-Mesic, Seeps (sometimes), Serpentinite (sometimes)	2330- 7695	Unlikely-occurs in higher elevation wetlands
<i>Claytonia serpenticola</i> serpentine spring beauty	4.3	Apr-Jun(Jul)	Subalpine coniferous forest, Upper montane coniferous forest- Openings (usually), Rocky, Serpentinite (usually)	3280- 8040	None-occurs in higher elevation habitat
<i>Collomia tracyi</i> Tracy's collomia	4.3	Jun-Jul	Broadleafed upland forest, Lower montane coniferous forest-Rocky, Serpentinite (sometimes)	985-6890	Unlikely-not associated with grasslands

Scientific Name Common Name	Listing Status	Blooming Period	Habitat	Elevation (Feet)	Potential to Occur in Project Area
<i>Coptis laciniata</i> Oregon goldthread	4.2	(Feb)Mar-May(Sep-Nov)	Meadows and seeps, North Coast coniferous forest (streambanks)-Mesic	0-3280	Moderate-at stream crossings
<i>Cypripedium fasciculatum</i> clustered lady's-slipper	4.2	Mar-Aug	Lower montane coniferous forest, North Coast coniferous forest-usually serpentinite seeps and streambanks	330-7990	Moderate-at stream crossings
<i>Cypripedium montanum</i> mountain lady's-slipper	4.2	Mar-Aug	Broadleafed upland forest, Cismontane woodland, Lower montane coniferous forest, North Coast coniferous forest	605-7300	Moderate-at stream crossings
<i>Epilobium septentrionale</i> Humboldt County fuchsia	4.3	Jul-Sep	Broadleafed upland forest, North Coast coniferous forest-sand or rocky	150-5905	Unlikely-occurs in rockier habitat
<i>Erigeron biolettii</i> streamside daisy	3	Jun-Oct	Broadleafed upland forest, Cismontane woodland, North Coast coniferous forest-rocky, mesic	100-3610	Unlikely-no gravel streambanks
<i>Erigeron maniopotamicus</i> Mad River fleabane daisy	1B.2	May-Aug	Lower montane coniferous forest, Meadows and seeps (open, dry)-open, disturbed areas (road cuts); rocky	4185-4920	Unlikely-occurs in higher elevation habitat
<i>Erigeron robustior</i> robust daisy	4.3	Jun-Jul	Lower montane coniferous forest, Meadows and seeps-sometimes serpentinite	655-2000	Unlikely-maybe some potential at stream crossings
<i>Erythronium oregonum</i> giant fawn lily	2B.2	Mar-Jun(Jul)	Cismontane woodland, Meadows and seeps-sometimes serpentinite, rocky, openings	330-3775	Moderate-at stream crossings
<i>Erythronium revolutum</i> coast fawn lily	2B.2	Mar-Jul(Aug)	Bogs and fens, Broadleafed upland forest, North Coast coniferous forest-Mesic, streambanks	0-5250	Moderate-at stream crossings
<i>Fritillaria glauca</i> Siskiyou fritillaria	4.2	(Apr-May)Jun-Jul	Alpine boulder and rock field, Subalpine coniferous forest, Upper montane coniferous forest-serpentinite, talus slopes	5695-8005	None-occurs in higher elevation habitat

Scientific Name Common Name	Listing Status	Blooming Period	Habitat	Elevation (Feet)	Potential to Occur in Project Area
<i>Fritillaria purdyi</i> Purdy's fritillary	4.3	Mar-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest-usually serpentinite	575-7400	Unlikely-usually higher elevation
<i>Gilia capitata ssp. pacifica</i> Pacific gilia	1B.2	Apr-Aug	Chaparral, Coastal bluff scrub, Coastal prairie, Valley and foothill grassland	15-5465	High-in grasslands
<i>Hemizonia congesta ssp. tracyi</i> Tracy's tarplant	4.3	(Mar)May-Oct	Coastal prairie, Lower montane coniferous forest, North Coast coniferous forest-openings, sometimes serpentinite	395-3935	High-in grasslands
<i>Hosackia yollaboliensis</i> Yolla Bolly Mtns. bird's-foot trefoil	1B.2	Jun-Aug	Meadows and seeps, Upper montane coniferous forest (openings)-dry barren exposed slopes, often gravelly	5395-7005	None-occurs in higher elevation habitat
<i>Howellia aquatilis</i> water howellia	2B.2	Jun	Marshes and swamps (freshwater)	3560-4230	Unlikely-no marshes or swamps
<i>Kopsiopsis hookeri</i> small groundcone	2B.3	Apr-Aug	North Coast coniferous forest	295-2905	Unlikely-does not occur in grasslands, more potential in adjacent forest
<i>Lathyrus biflorus</i> two-flowered pea	1B.1	Jun-Aug	Lower montane coniferous forest (serpentinite)	4495-4545	None-occurs on serpentinite
<i>Lathyrus glandulosus</i> sticky pea	4.3	Apr-Jun	Cismontane woodland	985-2625	Moderate-along roads
<i>Leptosiphon acicularis</i> bristly leptosiphon	4.2	Apr-Jul	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland	180-4920	High-in grasslands, along roads
<i>Leptosiphon latisectus</i> broad-lobed leptosiphon	4.3	Apr-Jun	Broadleafed upland forest, Cismontane woodland	560-4920	High-in grasslands, along roads
<i>Lilium rubescens</i> redwood lily	4.2	Apr-Aug(Sep)	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest	100-6265	High-along roads, edges

Scientific Name Common Name	Listing Status	Blooming Period	Habitat	Elevation (Feet)	Potential to Occur in Project Area
<i>Lilium washingtonianum</i> <i>ssp. purpurascens</i> purple-flowered Washington lily	4.3	Jun-Aug	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest- often serpentinite	230-9025	Unlikely-not associated with habitat on parcel
<i>Listera cordata</i> heart-leaved twayblade	4.2	Feb-Jul	Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest	15-4495	Unlikely, does not occur in grassland, more potential in adjacent forest understory
<i>Lupinus constancei</i> Lassics lupine	1B.1, CE	Jul	Lower montane coniferous forest (serpentinite)	4920- 6560	None-occurs on serpentine
<i>Lycopodium clavatum</i> running-pine	4.1	Jun- Aug(Sep)	Lower montane coniferous forest (mesic), Marshes and swamps, North Coast coniferous forest (mesic)-often edges, openings, and roadsides	150-4020	None-occurs in more mesic redwood forest
<i>Lycopus uniflorus</i> northern bugleweed	4.3	Jul-Sep	Bogs and fens, Marshes and swamps	15-6560	Unlikely-occurs in wetlands
<i>Meesia triquetra</i> three-ranked hump moss	4.2	Jul	Bogs and fens, Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest (mesic)-soil	4265- 9690	None-occurs in higher elevation habitat
<i>Mitellastrum caulescens</i> leafy-stemmed mitrewort	4.2	(Mar)Apr- Oct	Broadleaved upland forest, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest-mesic, sometimes roadsides	15-5580	Moderate-at stream crossings
<i>Montia howellii</i> Howell's montia	2B.2	(Feb)Mar- May	Meadows and seeps, North Coast coniferous forest, Vernal pools	02740	Moderate-along roads, disturbed areas, site is mostly too dry
<i>Navarretia leucocephala</i> <i>ssp. bakeri</i> Baker's navarretia	1B.1	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools- Mesic	15-5710	Unlikely-occurs in more mesic grassland/wetland
<i>Packera bolanderi</i> var. <i>bolanderi</i> seacoast ragwort	2B.2	(Jan- Apr)May- Jul(Aug)	Coastal scrub, North Coast coniferous forest- Sometimes roadsides	100-2135	Unlikely-does not occur in grasslands, maybe

Scientific Name Common Name	Listing Status	Blooming Period	Habitat	Elevation (Feet)	Potential to Occur in Project Area
					some potential along roads
<i>Piperia candida</i> white-flowered rein orchid	1B.2	(Mar)May- Sep	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest- sometimes serpentinite	100-4300	Unlikely-does not occur in grasslands, more potential in adjacent forests, edges, roadcuts
<i>Pityopus californicus</i> California pinefoot	4.2	(Mar- Apr)May- Aug	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest	50-7300	None-does not occur in grasslands, more potential in adjacent forest
<i>Pleuropogon refractus</i> nodding semaphore grass	4.2	(Mar)Apr- Aug	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest, Riparian forest	0-5250	Unlikely-occurs in riparian habitat
<i>Ptilidium californicum</i> Pacific fuzzwort	4.3	May-Aug	Lower montane coniferous forest, Upper montane coniferous forest Usually epiphytic on trees, fallen and decaying logs, and stumps; rarely on humus over boulders	3740- 5905	Unlikely-occurs in higher elevation habitat
<i>Sabulina decumbens</i> Lassics sandwort	1B.2	Jul	Lower montane coniferous forest, Upper montane coniferous forest-serpentinite	4920- 5495	None-occurs on serpentine
<i>Sanicula tracyi</i> Tracy's sanicle	4.2	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest-openings	330-5200	Moderate-forest edges
<i>Sedum laxum ssp.</i> <i>heckneri</i> Heckner's stonecrop	4.3	Jun-Jul	Lower montane coniferous forest, Upper montane coniferous forest- serpentinite or gabbroic	330-6890	None-occurs on serpentine or gabbroic soils
<i>Sidalcea malachroides</i> maple-leaved checkerbloom	4.2	(Mar)Apr- Aug	Broadleafed upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland-Often in disturbed areas	0-2395	Moderate-in grasslands, stream crossings, disturbed areas
<i>Sidalcea malviflora ssp.</i> <i>patula</i>	1B.2	(Mar)May- Aug	Coastal bluff scrub, Coastal prairie, North	50-4035	High-in grasslands

<i>Scientific Name</i> Common Name	Listing Status	Blooming Period	Habitat	Elevation (Feet)	Potential to Occur in Project Area
Siskiyou checkerbloom			Coast coniferous forest-often roadcuts		
<i>Tracyina rostrata</i> beaked tracyina	1B.2	May-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland	295-4165	High-in grasslands
<i>Usnea longissima</i> Methuselah's beard lichen	4.2		Broadleafed upland forest, North Coast coniferous forest	165-4790	High-on tree branches
<i>Veratrum insolitum</i> Siskiyou false-hellebore	4.3	Jun-Aug	Chaparral, Lower montane coniferous forest-Clay	150-5365	Unlikely-not associated with grasslands
<i>Wyethia longicaulis</i> Humboldt County wyethia	4.3	May-Jul	Broadleafed upland forest, Coastal prairie, Lower montane coniferous forest-sometimes roadsides	2460-5005	High-in grasslands and roadsides

SPECIAL STATUS PLANT LISTING STATUS

Endangered Species Act (ESA)

FE: Federally Endangered

FT: Federally Threatened

FR: Federally Rare

California Endangered Species Act (CESA)

CE: California Endangered

CT: California Threatened

CR: California Rare

California Rare Plant Ranks

1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere

1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

2A: Plants Presumed Extirpated in California, But Common Elsewhere

2B: California Rare Plant Rank 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3. Review List: Plants about which more information is needed.

4. Watch List: Plants of limited distribution

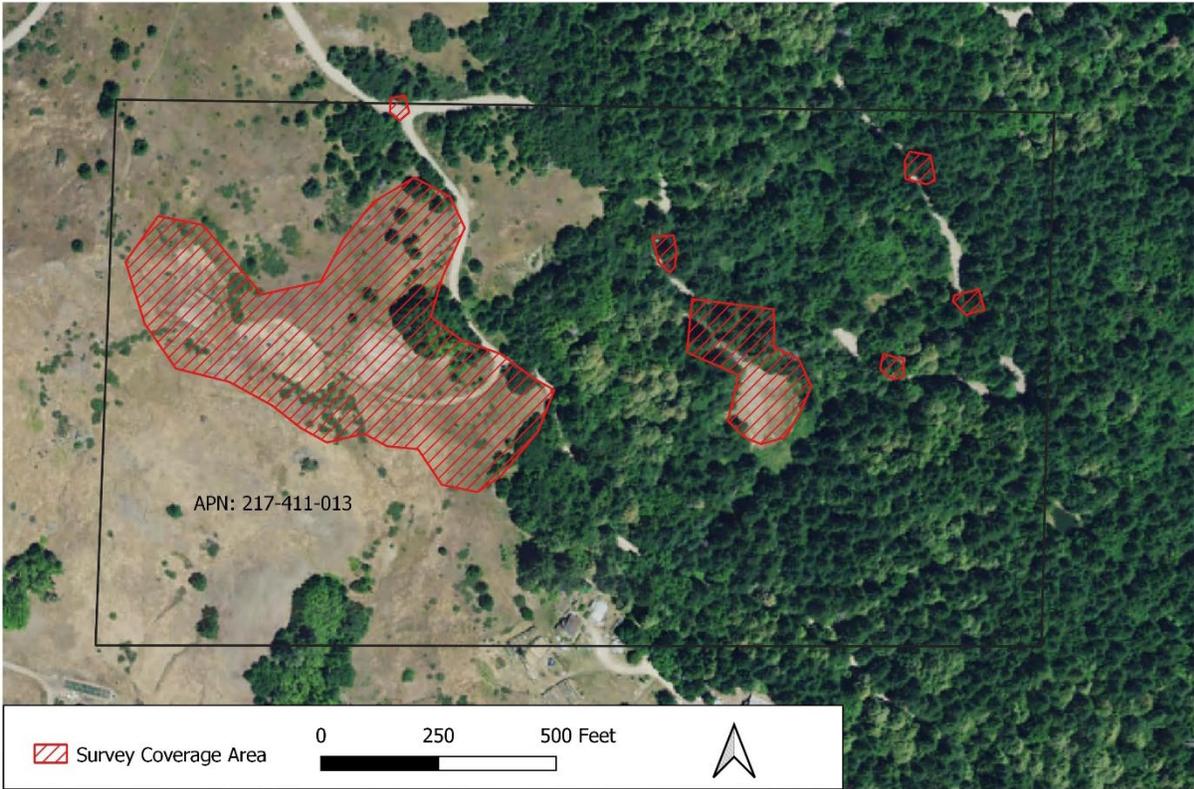
Threat Ranks

0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2-Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Figure 2. Survey Coverage Map.



al. 2012), however the plant list may include more recent name changes. Plant communities were classified according to *A Manual of California Vegetation Online Edition* (CNPS 2022b).

The surveys were conducted at the time of year when plants on the scoping list with potential to occur on the parcel would be recognizable and identifiable (generally, but not necessarily during the blooming period) and when other common plants would be identifiable so that a comprehensive plant list of the project area could be compiled.

5. RESULTS

5.1. Special Status Plants

No special status plants were encountered in the project area. A list of all plants recorded on the surveys is provided in Table 2.

5.2. Special Status Natural Communities

Most of the grassland on the parcel meets the membership rules for Idaho fescue - California oatgrass grassland (*Festuca idahoensis* - *Danthonia californica* Herbaceous Alliance) or California brome - blue wildrye prairie (*Bromus carinatus* - *Elymus glaucus* Herbaceous Alliance) Both natural communities have rarity rankings of S3.

Table 2. Plant List.

Scientific Name	Common Name
<i>Acer macrophyllum</i>	bigleaf maple
<i>Acmispon americanus var. americanus</i>	lotus
<i>Acmispon parviflorus</i>	lotus
<i>Adenocaulon bicolor</i>	trail plant
<i>Aesculus californica</i>	California buckeye
<i>Aira caryophyllea</i>	European hairgrass
<i>Anisocarpus madioides</i>	woodland madia
<i>Anthoxanthum odoratum</i>	sweet vernal grass
<i>Arbutus menziesii</i>	Pacific madrone
<i>Arctostaphylos manzanita ssp. manzanita</i>	common manzanita
<i>Arnica discoidea</i>	ray-less arnica
<i>Athyrium filix-femina</i>	lady fern
<i>Avena barbata</i>	slender wild oat
<i>Baccharis pilularis</i>	coyote brush
<i>Bellis perennis</i>	English daisy
<i>Brassica nigra</i>	black mustard
<i>Briza minor</i>	small rattlesnake grass
<i>Brodiaea elegans</i>	harvest brodiaea
<i>Bromus diandrus</i>	ripgut grass
<i>Bromus hordeaceus</i>	soft chess
<i>Calochortus tolmiei</i>	pussy ears
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Carex leptopoda</i>	short-scaled sedge
<i>Carex tumulicola</i>	foothill sedge
<i>Castilleja attenuata</i>	valley tassel
<i>Ceanothus integerrimus</i>	deer brush
<i>Cerastium glomeratum</i>	mouse ear chickweed
<i>Chloroglaum pomeridianum</i>	soaproot
<i>Circaea alpina ssp. pacifica</i>	enchanter's nightshade
<i>Claytonia perfoliata</i>	miner's lettuce
<i>Cynoglossum grande</i>	hound's-tongue
<i>Cynosurus echinatus</i>	dogtail grass
<i>Cyperus eragrostis</i>	nut-grass
<i>Cytisus scoparius</i>	Scotch broom
<i>Dactylis glomerata</i>	orchard grass
<i>Danthonia californica</i>	California oatgrass
<i>Danthonia intermedia ssp. intermedia</i>	intermediate oatgrass
<i>Dichelostemma ida-maia</i>	firecracker flower

Scientific Name	Common Name
<i>Dipterostemon capitatus</i>	blue dicks
<i>Elymus glaucus</i> ssp. <i>glaucus</i>	blue wildrye
<i>Epilobium brachycarpum</i>	parched fireweed
<i>Erodium botrys</i>	long-beaked storksbill
<i>Festuca californica</i>	California fescue
<i>Festuca myuros</i>	rattail sixweeks grass
<i>Festuca perennis</i>	rye grass
<i>Fragaria vesca</i>	wood strawberry
<i>Galium aparine</i>	goose grass
<i>Galium</i> sp.	bedstraw
<i>Hieracium albiflorum</i>	white hawkweed
<i>Holcus lanatus</i>	common velvet grass
<i>Hordeum marinum</i>	Mediterranean barley
<i>Hypochaeris radicata</i>	hairy cat's-ear
<i>Iris purdyi</i>	Purdy's iris
<i>Juncus bufonius</i>	common toad rush
<i>Juncus patens</i>	spreading rush
<i>Juncus tenuis</i>	slender rush
<i>Lactuca</i> sp.	wild lettuce
<i>Lathyrus vestitus</i>	wood pea
<i>Leontodon saxatilis</i>	hawkbit
<i>Linum bienne</i>	western blue flax
<i>Logfia gallica</i>	narrow-leaved filago
<i>Lupinus bicolor</i>	miniature lupine
<i>Luzula parviflora</i>	small-flowered wood rush
<i>Lysimachia latifolia</i>	Pacific star flower
<i>Maianthemum stellata</i>	starry false lily of the valley
<i>Melica</i> sp.	oniongrass
<i>Notholithocarpus densiflorus</i> var. <i>densiflorus</i>	tanoak
<i>Oemleria cerasiformis</i>	oso berry
<i>Osmorhiza berteroi</i>	sweet cicely
<i>Oxalis oregana</i>	redwood sorrel
<i>Parentucellia viscosa</i>	yellow parentucellia
<i>Petasites frigidis</i> var. <i>palmatus</i>	western coltsfoot
<i>Phoradendron leucarpum</i>	mistletoe
<i>Plantago lanceolata</i>	English plantain
<i>Polystichum munitum</i>	sword fern
<i>Prunella vulgaris</i>	self-heal
<i>Pseudotsuga menziesii</i>	Douglas-fir

Scientific Name	Common Name
<i>Pteridium aquilinum</i> var. <i>pubescens</i>	bracken fern
<i>Quercus chrysolepis</i>	canyon live oak
<i>Quercus garryana</i>	Oregon white oak
<i>Quercus kelloggii</i>	California black oak
<i>Ranunculus</i> sp.	buttercup
<i>Rubus armeniacus</i>	Himalayan blackberry
<i>Rubus leucodermis</i>	white-stemmed raspberry
<i>Rubus parviflorus</i>	thimbleberry
<i>Rubus ursinus</i>	California blackberry
<i>Rumex crispus</i>	curly dock
<i>Sanicula crassicaulis</i>	Pacific snakeroot
<i>Scoliopus bigelovii</i>	slink-pod
<i>Sherardia arvensis</i>	field madder
<i>Symphoricarpos mollis</i>	creeping snowberry
<i>Torilis arvensis</i>	rattlesnake weed
<i>Toxicodendron diversilobum</i>	poison-oak
<i>Trifolium incarnatum</i>	crimson clover
<i>Trifolium dubium</i>	little hop clover
<i>Trifolium glomeratum</i>	clustered clover
<i>Trifolium microcephalum</i>	maiden clover
<i>Trifolium pratense</i>	red clover
<i>Trifolium subterraneum</i>	subterranean clover
<i>Trifolium variegatum</i>	variagated clover
<i>Triteleia hyacinthina</i>	white hyacinth
<i>Umbellularia californica</i>	California-bay
<i>Vaccinium ovatum</i>	evergreen huckleberry
<i>Vancouveria</i> sp.	inside-out flower
<i>Vicia sativa</i>	vetch
<i>Viola ocellata</i>	two-eyed violet
<i>Viola sempervirens</i>	evergreen violet
<i>Whipplea modesta</i>	modesty
<i>Woodwardia fimbriata</i>	giant chain fern

5.3. Invasive Plants

A relatively small amount of Himalayan blackberry (*Rubus armeniacus*) and scotch broom (*Cytisus scoparius*) were observed on the property, both species have Cal-IPC ratings of High.

6. POTENTIAL FOR FALSE NEGATIVE SURVEYS

Potential factors that could result in lack of detection of special status plants include plants that have a seed bank on the site but currently no above ground individuals, grazing, disease, disturbance, and adverse climatic conditions.

Seeds of some species can persist for years or decades in the soil until suitable conditions occur for germination. Legumes such as Humboldt County milk-vetch (*Astragalus agnicidus*) can persist for years or decades in seed bank and emerge after logging or other environmental changes. Plants that grow from underground structures such as bulbs and tubers, including white-flowered rein orchid (*Piperia candida*) and lilies (*Lilium* spp.), can remain dormant or suppressed under unfavorable conditions.

Plants can also be consumed by livestock, deer, or invertebrates or succumb to disease. These factors could damage identifying characters such as flowers and leaves or remove entire above ground portions of the plants resulting in negative detections.

There was below normal 2021/22 rainfall accumulation in the months prior to the 2022 surveys. However, rainfall in April and May were relatively normal for the time of year. Temperature, which is the primary factor controlling plant phenology, was relatively normal.

7. IMPACT ASSEMENT AND RECOMMENDATIONS

The additional proposed development off the existing graded flats will impact at least 34,000 square feet (0.781 acres) of grassland with significant cover of California oatgrass and blue wildrye (Figure 3).

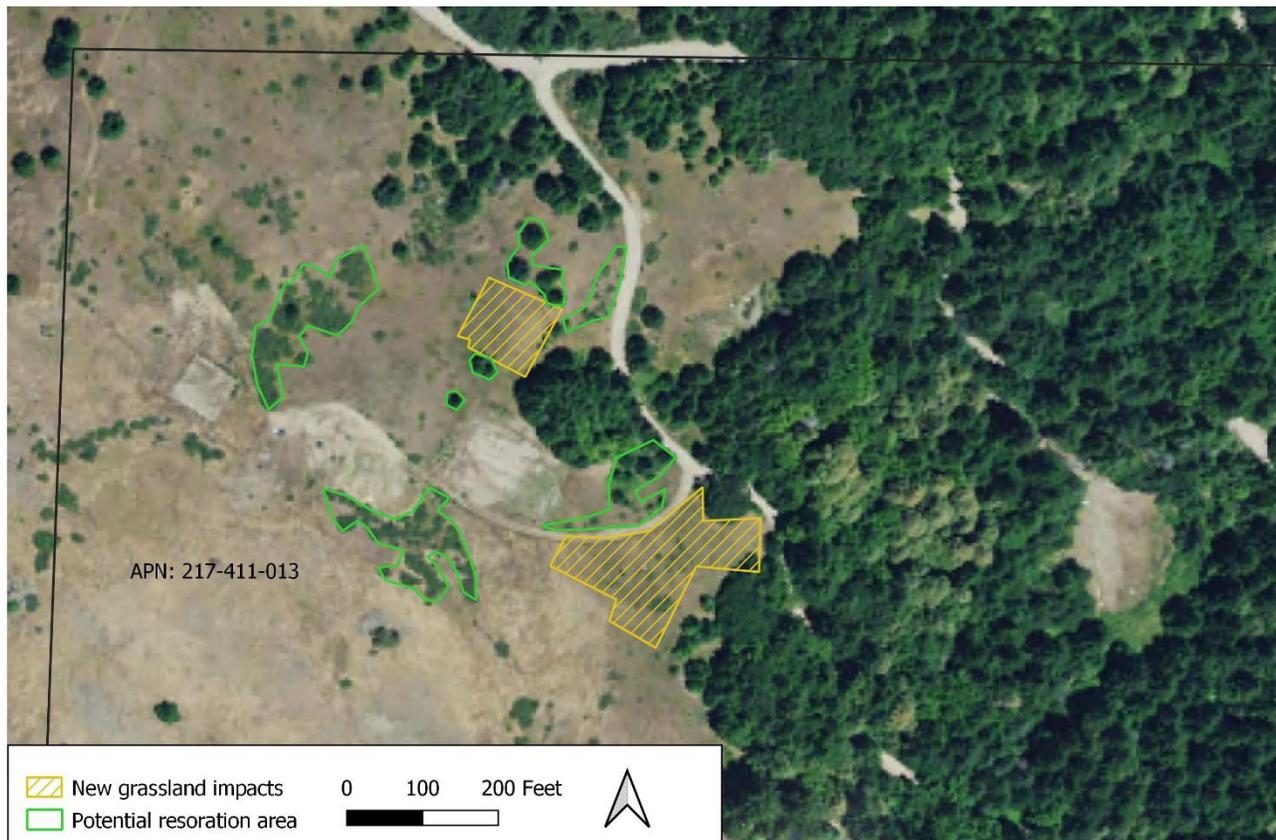
Given most of the grassland already has a native component, planting new grassland is likely not feasible at the site. However, the property has potential for grassland restoration. Douglas-fir and coyote brush are rapidly encroaching in the grassland. This is evident on the ground by the presence of young stands in the meadows and is also apparent when comparing current and past aerial images (Appendix D). Although these are native plants, encroachment by trees and shrubs in the absence of fire is a primary cause of the loss of grassland in Humboldt County. Although prescribed burning is often used to control Douglas-fir and shrubs in grasslands, manual removal is also used. Some local examples of grassland restoration projects can be found at:

<https://www.mattole.org/programs/restoration/grassland/>

<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.837.511&rep=rep1&type=pdf>

<https://onlinelibrary.wiley.com/doi/abs/10.1111/rec.13366>

Figure 3. Grassland Impact and Potential Restoration Map.



It is recommended a restoration plan be developed to remove young Douglas-fir trees (< 12 inches DBH) and stands of coyote brush from the grasslands as mitigation for grassland loss from from new cannabis development. Grassland impacts should be mitigated at a 1:1 ratio. The total area of woody vegetation removed should be the same as the total area of new grassland impacts. The potential restoration areas shown in Figure 3 are more than enough to mitigate for the proposed new impacts.

Information on Himalayan blackberry and Scotch broom and potential control measures can be found at:

https://wric.ucdavis.edu/information/natural%20areas/wr_R/Rubus.pdf

https://wric.ucdavis.edu/information/natural%20areas/wr_C/Cytisus.pdf

8. REFERENCES

Baldwin, B. C., D. H. Goldman, D. J. Keil, R. Patterson, and T.J. Roasatti. Eds. 2012. *The Jepson Manual, Vascular Plants of California, Second Edition*. University of California Press. Berkeley, CA.

California Department of Fish and Wildlife (CDFW) 2022. *California Natural Diversity Database (CNDDDB) Commercial* [d85]. CDFW Biogeographic Information and Observation System (BIOS) <https://apps.wildlife.ca.gov/bios>

CDFW. 2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*.
<https://www.wildlife.ca.gov/Conservation/Survey-Protocols#377281280-plants>

California Invasive Plant Council. 2022. *The Cal-IPC Inventory*.
<https://www.cal-ipc.org/plants/inventory>

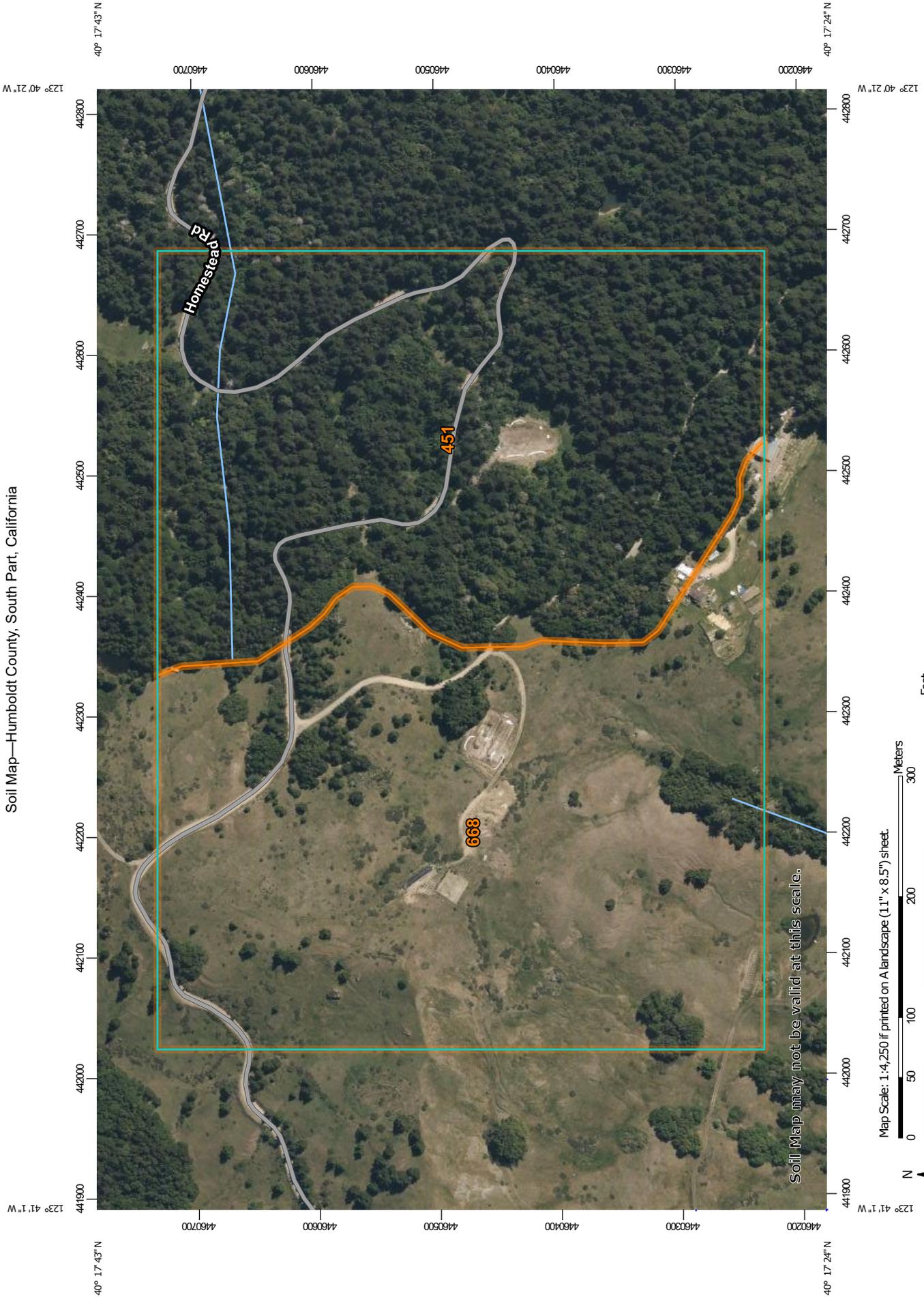
California Native Plant Society (CNPS). 2022a. *Inventory of Rare and Endangered Plants*.
<http://www.rareplants.cnps.org>

CNPS. 2022b. *A Manual of California Vegetation Online Edition*.
<https://vegetation.cnps.org/>

United States Department of Agriculture, Natural Resource Conservation Service (USDA, NRCS). 2022. *Web Soil Survey*. <https://websoilsurvey.sc.egov.usda.gov>

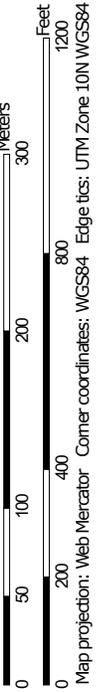
APPENDIX B

NRCA Soil Map



Soil Map may not be valid at this scale.

Map Scale: 1:4,250 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

- Area of Interest (AOI)
- Area of Interest (AOI)
- Soils**
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points
- Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features
- Water Features**
- Streams and Canals
- Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads
- Background**
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Humboldt County, South Part, California
 Survey Area Data: Version 10, Sep 6, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 8, 2019—Jun 21, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
451	Burgsblock-Coolyork-Tannin complex, 15 to 30 percent slopes	38.2	46.4%
668	Dryfield-Yorknorth-Witherell complex, 30 to 50 percent slopes	44.2	53.6%
Totals for Area of Interest		82.5	100.0%

APPENDIX C

Special Status Natural Community Scoping List

Scientific Name	Common Name	Global rarity	State rarity
<i>Abies grandis</i>	Grand fir forest	G4	S2.1
<i>Abronia latifolia</i> - <i>Ambrosia chamissonis</i>	Dune mat	G3	S3
<i>Acer macrophyllum</i>	Bigleaf maple forest and woodland	G4	S3
<i>Acer negundo</i>	Box-elder forest and woodland	G5	S2.2
<i>Aesculus californica</i>	California buckeye groves	G3	S3
<i>Alnus incana</i>	Mountain alder thicket	G4	S3
<i>Alnus viridis</i>	Sitka alder thickets	G5	S3?
<i>Alopecurus geniculatus</i>	Water foxtail meadows	G3?	S3?
<i>Arbutus menziesii</i>	Madrone forest	G4	S3.2
<i>Arctostaphylos bakeri</i>	Stands of Baker manzanita	G1	S1.2
<i>Arctostaphylos</i> (<i>canescens</i> , <i>manzanita</i> , <i>stanfordiana</i>)	Hoary, common, and Stanford manzanita chaparral	G3	S3
<i>Arctostaphylos montana</i>	Mount Tamalpais manzanita chaparral	G2	S2
<i>Arctostaphylos</i> (<i>nummularia</i> , <i>sensitiva</i>)	Glossy leaf manzanita chaparral	G2	S2
<i>Arctostaphylos patula</i> - <i>Arctostaphylos nevadensis</i>	Green leaf manzanita - Pinemat manzanita chaparral	G5	S3
<i>Argentina egedii</i>	Pacific silverweed marshes	G4	S2
<i>Bolboschoenus maritimus</i>	Salt marsh bulrush marshes	G4	S3
<i>Bromus carinatus</i> - <i>Elymus glaucus</i>	California brome - blue wildrye prairie	G3	S3
<i>Calamagrostis nutkaensis</i>	Pacific reed grass meadows	G4	S2
<i>Calocedrus decurrens</i>	Incense cedar forest and woodland	G4	S3.2
<i>Carex</i> (<i>aquatilis</i> , <i>lenticularis</i>)	Water sedge and lakeshore sedge meadows	G5	S3
<i>Carex barbarae</i>	White-root beds	G2?	S2?
<i>Carex densa</i>	Dense sedge marshes	G2?	S2?
<i>Carex echinata</i>	Star sedge fens	G4?	S3?
<i>Carex integra</i>	Small-fruited sedge meadows	G4?	S2?
<i>Carex luzulina</i>	Woodland sedge fens	G3	S2?
<i>Carex nudata</i>	Torrent sedge patches	G3	S3
<i>Carex obnupta</i>	Slough sedge swards	G4	S3
<i>Carex</i> (<i>pansa</i> , <i>praegracilis</i>)	Sand dune sedge swaths	G4?	S3?
<i>Carex serratodens</i>	Twotooth sedge seeps	G3	S3?
<i>Ceanothus</i> (<i>oliganthus</i> , <i>tomentosus</i>)	Hairy leaf - woolly leaf ceanothus chaparral	G3	S3
<i>Cephalanthus occidentalis</i>	Button willow thickets	G5	S2
<i>Chamaecyparis lawsoniana</i>	Port Orford cedar forest and woodland	G3	S3.1
<i>Chrysolepis chrysophylla</i>	Golden chinquapin thickets	G2	S2
<i>Chrysolepis sempervirens</i>	Bush chinquapin chaparral	G4	S3.3

Scientific Name	Common Name	Global rarity	State rarity
<i>Corylus cornuta</i> var. <i>californica</i>	Hazelnut scrub	G3	S2?
<i>Darlingtonia californica</i>	California pitcher plant fens	G4?	S3
<i>Deschampsia cespitosa</i> - <i>Hordeum brachyantherum</i> - <i>Danthonia californica</i>	Coastal tufted hair grass - Meadow barley - California oatgrass wet meadow	GNR	S3
<i>Equisetum</i> (<i>arvense</i> , <i>variegatum</i> , <i>hyemale</i>)	Field horsetail - scouringrush horsetail - variegated scouringrush wet meadow	GNR	S3
<i>Eriophyllum staechadifolium</i> - <i>Erigeron glaucus</i> - <i>Eriogonum latifolium</i>	Seaside woolly-sunflower - seaside daisy - buckwheat patches	G3	S3
<i>Festuca idahoensis</i> - <i>Danthonia californica</i>	Idaho fescue - California oatgrass grassland	GNR	S3
<i>Frangula californica</i> - <i>Rhododendron occidentale</i> - <i>Salix breweri</i>	California coffee berry - western azalea scrub - Brewer's willow	G3	S3
<i>Frankenia salina</i>	Alkali heath marsh	G4	S3
<i>Fraxinus latifolia</i>	Oregon ash groves	G4	S3.2
<i>Garrya elliptica</i>	Coastal silk tassel scrub	G3?	S3?
<i>Glyceria</i> <i>occidentalis</i>	Northwest manna grass marshes	G3?	S3?
<i>Grindelia</i> (<i>camporum</i> , <i>stricta</i>)	Gum plant patches	G2	S2
<i>Hesperocyparis macnabiana</i>	McNab cypress woodland and forest	G3	S3.2
<i>Hesperocyparis pigmaea</i>	Mendocino pygmy cypress woodland	G1	S1
<i>Hesperocyparis sargentii</i>	Sargent cypress woodland	G3	S3.2
<i>Heterotheca</i> (<i>oregona</i> , <i>sessiliflora</i>)	Goldenaster patches	G3	S3
<i>Hydrocotyle</i> (<i>ranunculoides</i> , <i>umbellata</i>)	Mats of floating pennywort	G4	S3?
<i>Isoetes</i> (<i>bolanderi</i> , <i>echinospora</i> , <i>howellii</i> , <i>nuttallii</i> , <i>occidentalis</i>)	Quillwort beds	G3	S3?
<i>Juglans hindsii</i> and Hybrids	Hinds's™ walnut and related stands	G1	S1.1
<i>Juncus lescurii</i>	Salt rush swales	G3	S2?
<i>Juncus</i> (<i>oxymeris</i> , <i>xiphioides</i>)	Iris-leaf rush seeps	G2?	S2?
<i>Leymus cinereus</i> - <i>Leymus triticoides</i>	Ashy ryegrass - creeping ryegrass turfs	G3	S3
<i>Leymus mollis</i>	Sea lyme grass patches	G4	S2
<i>Lupinus chamissonis</i> - <i>Ericameria ericoides</i>	Silver dune lupine - mock heather scrub	G3	S3
<i>Morella californica</i>	Wax myrtle scrub	G3	S3
<i>Nassella</i> spp. - <i>Melica</i> spp.	Needle grass - Melic grass grassland	G3	S3
<i>Notholithocarpus densiflorus</i>	Tanoak forest	G4	S3.2
<i>Nuphar lutea</i>	Yellow pond-lily mats	G5	S3?
<i>Oenanthe sarmentosa</i>	Water-parsley marsh	G4	S2?
<i>Picea sitchensis</i>	Sitka spruce forest and woodland	G5	S2
<i>Pinus balfouriana</i>	Foxtail pine woodland	G3	S3

Scientific Name	Common Name	Global rarity	State rarity
<i>Pinus contorta</i> ssp. <i>contorta</i>	Beach pine forest and woodland	G5	S3
<i>Pinus muricata</i> - <i>Pinus radiata</i>	Bishop pine - Monterey pine forest and woodland	G3	S3.2
<i>Populus fremontii</i> - <i>Fraxinus velutina</i> - <i>Salix gooddingii</i>	Fremont cottonwood forest and woodland	G4	S3.2
<i>Populus trichocarpa</i>	Black cottonwood forest and woodland	G5	S3
<i>Pseudotsuga menziesii</i> - <i>Calocedrus decurrens</i>	Douglas fir - incense cedar forest and woodland	G3	S3
<i>Pseudotsuga menziesii</i> - <i>Notholithocarpus densiflorus</i>	Douglas fir - tanoak forest and woodland	G3	S3
<i>Quercus garryana</i> (tree)	Oregon white oak woodland and forest	G4	S3
<i>Quercus lobata</i>	Valley oak woodland and forest	G3	S3
<i>Quercus parvula</i> var. <i>shrevei</i>	Shreve oak forests	G2	S2
<i>Quercus wislizeni</i> - <i>Quercus chrysolepis</i> (shrub)	Canyon live oak - Interior live oak chaparral	G4	S3
<i>Rhododendron columbianum</i>	Western Labrador-tea thickets	G4	S2?
<i>Rubus</i> (<i>parviflorus</i> , <i>spectabilis</i> , <i>ursinus</i>)	Coastal brambles	G4	S3
<i>Ruppia</i> (<i>cirrhusa</i> , <i>maritima</i>)	Ditch-grass or widgeon-grass mats	G4?	S2
<i>Salix gooddingii</i> - <i>Salix laevigata</i>	Goodding's willow - red willow riparian woodland and forest	G4	S3
<i>Salix hookeriana</i>	Coastal dune willow thickets	G4	S3
<i>Salix lucida</i> ssp. <i>lasiandra</i>	Shining willow groves	G4	S3.2
<i>Salix sitchensis</i>	Sitka willow thickets	G4	S3?
<i>Sarcocornia pacifica</i> (<i>Salicornia depressa</i>)	Pickleweed mats	G4	S3
<i>Schoenoplectus</i> (<i>acutus</i> , <i>californicus</i>)	Hardstem and California bulrush marshes	GNR	S3
<i>Schoenoplectus americanus</i>	American bulrush marsh	G5	S3.2
<i>Scirpus microcarpus</i>	Small-fruited bulrush marsh	G4	S2
<i>Selaginella</i> (<i>bigelovii</i> , <i>wallacei</i>)	Bushy spikemoss mats	G4	S3
<i>Sequoia sempervirens</i>	Redwood forest and woodland	G3	S3.2
<i>Sparganium</i> (<i>angustifolium</i>)	Mats of bur-reed leaves	G4	S3?
<i>Spartina foliosa</i>	California cordgrass marsh	G3	S3.2
<i>Stuckenia</i> (<i>pectinata</i>) - <i>Potamogeton</i> spp.	Pondweed mats	G3	S3?
<i>Torreyochloa pallida</i>	Floating mats of weak manna grass	G3	S3?
<i>Trifolium variegatum</i>	White-tip clover swales	G3?	S3?
<i>Tsuga heterophylla</i>	Western hemlock forest	G5	S2
<i>Umbellularia californica</i>	California bay forest and woodland	G4	S3
<i>Vaccinium uliginosum</i>	Bog blueberry wet meadows	G4	S3

Scientific Name	Common Name	Global rarity	State rarity
Vitis arizonica - Vitis girdiana	Wild grape shrubland	G3	S3
Zostera (marina, pacifica) Pacific Aquatic	Eelgrass beds	GNR	S3

Global (G) Rankings

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 (S) Rankings

S1 = Less than 6 EOs OR less than 1,000 individuals OR less than 2,000 acres

S1.1 = very threatened

S1.2 = threatened

S1.3 = no current threats known

S2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres

S2.1 = very threatened

S2.2 = threatened

S2.3 = no current threats known

S3 = 21-80 EOs or 3,000-10,000 individuals OR 10,000-50,000 acres

S3.1 = very threatened

S3.2 = threatened

S3.3 = no current threats known

S4 = Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat.

S5 = Demonstrably secure to ineradicable in California.

APPENDIX D

Grassland Encroachment 2005-2020



2005 NAIP Image



2020 NAIP Image



165 South Fortuna Boulevard, Fortuna, CA 95540

707-725-1897 • fax 707-725-0972

trc@timberlandresource.com

July 11, 2022

Blocksburg Hill Top Organics LLC
Daniela Borissova
865 El Cerro Blvd
Danville, CA 94526

Re: APN 217-411-013
PLN-2021-17309

The subject property is located in a high and very high fire hazard severity zone. The high severity areas are the natural grasslands and the very high severity areas are the forested portions. The attached report addresses fire risk associated with the proposed project, and measures to reduce fire risk and severity.

Fire Risk Background

Wildfires are natural processes that have influenced the California landscape for millennia. Their frequency, intensity, and seasonality determine not only floristic compositions and the rate of forest succession, but are major factors affecting land use as well. Over time, the combination of spatial and temporal patterns of wildfire creates a regionalized fire regime, and this regular rate of disturbance is an integral component of the natural ecology.

Anthropogenic activity for the last several hundred years has affected the natural disturbance regimes. Land use including forest management has altered fuel conditions, and regulated the rate disturbances occur. Timber harvest entries often exceed natural fire return intervals, so the accumulation of fuels on the landscape has been able to exceed its historical capacity. Resulting damages from wildfires led to an aggressive fire suppression campaign that would continue to alter fuel loads for nearly a century.

In addition to changing forest conditions, increasing development in the Wildland-Urban Interface (WUI) continues to put more people, homes, and infrastructure in harm's way from wildland fire. The most recent assessment of California's WUI shows that as of 2010, there were about 3 million housing units in Fire Hazard Severity Zones (FHSZ) that are potentially at risk from wildland fire. A large proportion of the houses within FHSZs are in the southern portion of the state. The top five counties for FHSZ housing units, all in southern California, contain about half of all statewide housing units in FHSZ. However, this is a statewide problem, with 37 counties having at least 10,000 housing units in FHSZ.

A Report from Governor Newsom's Strike Force (April 12, 2019) reveals that climate change has created a new wildfire reality for California. The state's fire season is now almost year-round. It's not a question of "if" wildfire will strike, but "when." More than 25 million acres of California wildlands are classified under very high or extreme fire threat. Wildfires are not only more frequent but far more devastating. Recognizing the need for urgent action, Governor Gavin Newsom issued Executive Order N-05-19 on January 9, 2019. The Executive Order directs the California Department of Forestry and Fire Protection (CAL FIRE), in consultation with other state agencies and departments, to recommend immediate, medium and long-term actions to help prevent destructive wildfires. The Governor's Strike Force Report and CAL FIRE'S Community Wildfire Prevention & Mitigation Report (February 22, 2019) both recommend improving vegetation management and forest health as a preventative and minimization measure for preventing ignition and spread of wildfire, while simultaneously improving fire resiliency of the landscape.

Humboldt County Wildfire Protection Plan

In 2002, the Humboldt County Board of Supervisors formed the Humboldt County Fire Safe Council (HCFSC) to oversee the preparation of a countywide plan to support the development and implementation of community fire-safe programs and activities. This has become known as the Humboldt County Community Wildfire Protection Plan [CWPP]. This plan was updated most recently in 2019. The stated purpose of the CWPP is to inspire and guide actions that will help mitigate the potential for wildfire loss in all vulnerable communities within the boundaries of Humboldt County.

Thus far it is fortunate that Humboldt County communities and wildlands have avoided the significant losses experienced by neighboring counties during the last few years. However, the CWPP's risk assessment concludes that weather and fire patterns, together with Humboldt County's rugged topography and dense fuel loads, combine to create a generally high fire risk during dry parts of the year. There are indications that the level of risk could continue to grow in the face of climate change. Increasing fuel loads, the spread of forest diseases such as Sudden Oak Death, and continued residential and commercial development in the wildland-urban interface all contribute to the growing risk.

It is also becoming increasingly common that during times of high fire danger in Humboldt County a large portion of local and state firefighting resources are committed to other incidents throughout the state. A wildfire ignition during one of these periods, when resources are stretched thin, could potentially spread quickly, threatening citizens' lives, as well as homes, schools, and businesses. In this scenario, a single fire ignition could have potentially devastating consequences in any Humboldt County community, including coastal areas. Every year, these homes and natural assets are increasingly vulnerable to damage or loss from wildfire.

Cannabis

The legal marijuana industry is a major part of Humboldt County. Since its legalization, hundreds of existing farms have enrolled in the permitting process, however it is uncertain how many still exist illegally (CalCannabis, 2020). Historically, production and extraction both have had a high potential for fire ignitions. The influx of seasonal workers during the peak fire season increases human activity in the WUI, and could contribute to increased wildfire ignition risk. Additionally, the use of spark-generating equipment such as vehicles and generators, infrastructure with faulty wiring, and extraction labs, some using explosive butane, also increases the risks of fire ignitions resulting from cannabis operations. These ignition sources are not only a wildfire risk but can create dangerous conditions for responding firefighters as well. Reducing ignitions in this sector is targeted in the CWPP's County Wide Action Plan, and regulations provide the opportunity to curtail fire risks and hazards associated with the industry. The two key metrics, defensible space and fuel reduction, are the primary actions to reduce potential ignitions and increase community fire safety.

The Commercial Medical Marijuana Land Use Ordinance was adopted by the Board of Supervisors and became effective February 26, 2016. Under the CMMLUO framework, numerous structures are permitted by the County as part of commercial operations. These buildings can include greenhouses, processing facilities, fuel storage and generator housings, and other structures. All of these commercial structures are required by California law to have defensible space. The treatment of fuels in conjunction with defensible space is consistent with the recommendations not only within the Humboldt County Community Wildfire Protection Plan, but also the Strategic Fire Plan for California, and Executive Order N-05-19.

Ecological Setting and Fire History

The following is taken from the Humboldt County Community Wildfire Protection Plan, 2019 Chapter 4.11: Mad–Van Duzen Planning Unit Action Plan.

The subject property is located in the Mad–Van Duzen Planning Unit, which encompasses 300,661 acres situated in the southeastern region of Humboldt County. Highway 36 is the primary transportation route through the Unit; it is paralleled by the Van Duzen River, which is one of the last remaining free-flowing rivers in California. The river and highway travel across the center of the Unit in a westward direction. Kneeland and Alderpoint Roads provide access to the north and south, respectively. The Unit contains portions of both the Van Duzen River watershed and the Mad River watershed. The topography includes steep canyons formed by the rivers and their tributaries, which include Indian Creek, Larabee Creek, the Little Van Duzen River, Butte Creek, East Creek and Pilot Creek, to name a few.

Private land is the dominant ownership pattern in this unit. The composition of land uses includes farms and rural residences in the lower floodplain and near the river; large- and medium-sized swaths of ranchland; residential parcels concentrated along the main roads; and a few parcels of timberland managed primarily by Humboldt Redwood Company. The majority of residential properties lie along Highway 36, and around and in between Bridgeville and Dinsmore. The majority of assets at risk in this planning unit are residential homes and communities, along with a variety of commercial and service industries, community centers, medical and dental clinics, schools, fire stations, churches, as well as infrastructure components, such as cell phone towers and access roads. The ranching, agricultural, and timber industries within the Unit are also considered assets at risk.

Fire has been a major contributing factor to the ecology in this region. The dominant forest and vegetation types share species compositions characteristic to those developed in fire-prone areas, and the regional climate commonly includes lightning storms that provide sources of ignition during the dry and hot parts of the summer and fall. While lightning strikes certainly provided ignition sources for many fires in this area, there is also a long history of anthropogenic burning from indigenous tribes. Tribes of this region would intentionally utilize fire to maintain grasslands, improve forage and hunting grounds, control forest diseases, and prevent the accumulation of fuels. Early Euro-American settlers used fire in similar ways to manage grazing lands for livestock.

Mean fire return interval (FRI) data for this area shows historically these ecosystems would have been subject to frequent low-severity fires occurring every 15 years with mixed-severity fires occurring every 33 years (Fryer & Luensmann 2012). These fire severities have been recorded as often as every 5 years, and 15 years, respectively. Stand replacing events, or high-severity wildfires, were recorded with a mean FRI of 150 years. In these scenarios, low-severity fires are those that causes less than 25% average top-kill within a typical fire perimeter for a given vegetation type; mixed-severity is defined as between 25 and 75 percent average top-kill; high-severity is defined as greater than 75 percent average top-kill for a given vegetation type (LANDFIRE 2014).

Fire itself is a destructive force. However, fire suppression activities also have environmental impacts that can significantly affect the landscape. The removal, or control, of low- and mixed-severity fire regimes has led to an overcrowding of forests, increased fuel load accumulations, and altered frequency and disturbance types. These changes to the disturbance regime affect vegetation compositions and forests' ecological structure, changing their resiliency to natural disturbances such as wind, fire, pests, and pathogens.

The extent that the landscape has been altered as a result of fire suppression is reflected in the degree of departure from the historical (pre-settlement) fire return interval. The metric used to describe this extent for a unit area is the "condition class." Where the condition class indicates fire has been absent an unnaturally long time, the potential hazard to natural resources and human assets increases. Approximately 52% of the Mad–Van Duzen Planning Unit is condition Class 3, meaning the fire regime is significantly altered from the historical range; and approximately 20% of the area is condition Class 2, or moderately altered from the historical range.

PRC 4290 & 4291 – Defensible Space

State law requires a person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material, shall at all times maintain defensible space of 100 feet from each side and from the front and rear of the structure. The legislature did not enact this law intending that landowners apply for a permit from Cal Fire for non-commercial tree harvesting operations, which results in defensible space.

The vegetation surrounding the commercial structures on the subject property are fuel for a fire. Even the structures themselves are considered fuel. Research and experience have shown that fuel reduction around a building or structure increases the probability of it surviving a wildfire. Good defensible space allows firefighters to protect and save buildings or structures safely without facing unacceptable risk to their lives. Fuel reduction through vegetation management is the key to creating good defensible space.

Defensible space requirements (PRC 4290) will apply to the subject property, upon final county approval, given the presence of commercial structures.

State Minimum Fire Safe Regulations, 2021

Pursuant to Public Resources Code 4290, the Board is required to "...adopt regulations implementing minimum fire safety standards related to defensible space" applicable to "the perimeters and access to all residential, commercial, and industrial building construction. In 2018, the Legislature passed and the Governor signed SB 901 (Dodd), which expanded the applicability of the regulations promulgated under PRC 4290 to land in the Local Responsibility Area Very High Fire Hazard Severity Zone (VHFHSZ). SB 901 also revised PRC 4290 to require the Board to more frequently update regulations relating to fuel breaks and greenbelts near communities, and to preserve undeveloped ridgelines to reduce fire risk and improve fire protection.

The Board of Forestry is currently adopting proposed regulations titled "State Minimum Fire Safe Regulations," This rule simply promotes compliance with the revisions to PRC 4290 within SB 901 (Chapter 626, 2018), and to improve the clarity of certain administrative processes within Article 1 of the existing regulations. The narrowed purpose of the proposed action is to:

- Establish standards for fuel breaks and greenbelts near communities;
- Establish measures for the preservation of undeveloped ridgelines;
- Improve clarity regarding the inspection and enforcement agencies;
- Promote local jurisdiction compliance with the Fire Safe Regulations and to clarify the process by which that occurs;
- Increase the flexibility offered to local jurisdictions in implementing the minimum standards provided in these regulations.

Forest Stand Conditions

The property consists of prairies (40%) and a combination of Douglas-fir encroached oak woodland and second growth timber stands dominated by Douglas-fir. Review of aerial imagery (<https://www.historicaerials.com/>) reveals that the timbered portions of the subject property and surrounding privately-owned parcels were harvested in the mid 1950's/early 1960's. Review of 1968 imagery reveals signs of a past clearcut, with bands of residual oak woodland surrounding the prairies.

The proposed cultivation sites are located in the prairies and are closely surrounded by Douglas-fir encroached oak woodland. The existing fuel conditions within the property contains both vertical and horizontal continuity of live and dead fuels. The Douglas-fir encroached oak woodlands are comprised of densely spaced conifer poles and saplings.

Conclusions

Nearly 85 percent of wildland fires in the United States are caused by humans, and humans cause 96% of wildfires that threaten homes in the U.S. To be clear, any human activity in the wildlands may potentially increase fire risk. With regards to this project, activities that may increase fire risk consist of but are not limited to: equipment use, vehicles dragging chains, hot mufflers or catalytic converters on vehicles parked/driven over grasses, illegal wiring, unsafe use of generators, and improper storage and use of fuels. Fire risk and severity associated with the proposed project can be minimized or avoided provided that the following recommendations are followed.

Recommendations

1. The landowner shall maintain defensible space around structures and cannabis cultivation sites as described in CAL FIRE's General Guidelines for Creating Defensible Space (attached).
2. The RPF recommends fuel reduction treatment to the forest stands located within the subject property as described in CAL FIRE's Fuel Reduction Guide (attached). The landowner should prioritize treatment of the forest stands located between the proposed cultivation sites and Sunset Ridge Road. Several CAL FIRE exemptions are currently available for the commercial harvesting of timber that would result in fuel reduction and a much healthier timber stand. CAL FIRE Oak Woodland Management Exemptions per 14 CCR § 1038(e) authorize the cutting or removal of trees to restore and conserve California black oak or Oregon white oak woodlands and associated grasslands. The removal of Douglas-fir encroachment and restoration of the oak woodlands could significantly reduce forest fire intensity. CAL FIRE Forest Fire Protection Exemptions per 14 CCR § 1038.3 authorize the cutting and removing of trees to eliminate the vertical continuity of vegetative fuels and the horizontal continuity of tree crowns for the purpose of reducing flammable materials to reduce fire spread, duration, and intensity, fuel ignitability, or ignition of tree crowns.
3. Equipment and Machinery Use: Lawn mowers, weed whackers, chainsaws, portable generators/pumps, and other machinery are useful tools for managing vegetation on the property; particularly surrounding the cultivation sites. However, it is critical to always be mindful of fire hazard conditions when operating equipment and machinery outside. Weather conditions that are hot, dry, and windy cause low moisture levels in vegetation, making them highly receptive to a single spark from your equipment and igniting a fire. Early morning, when the air is cooler and moister and the wind is calmer, is the best time to use equipment during fire season.

Sincerely,



Chris Carroll, RPF #2628
Timberland Resource Consultants

PHOTOGRAPHS



Picture 1: *Dense and over-crowded Douglas-fir prairie encroachment located between the proposed cultivation site and Sunset Ridge Road. Creation of defensible space requires the thinning of the Douglas-fir to reduce the vertical and horizontal continuity of fuels in the understory and overstory. Douglas-fir seedlings and saplings in the foreground should be removed to maintain the ecological value of the native prairies presently under encroachment. Photo date 5-13-2022.*



Picture 2: Douglas-fir encroached oak woodland located between the proposed cultivation site and Sunset Ridge Road. The Oregon white oak and California black oak resist fire with thick, furrowed bark and tough, leathery leaves that are slow to burn. The removal of all Douglas-fir encroachment will not only restore this valuable forest type, but also significantly lower forest fire intensity should it occur. Photo date 5-13-2022.



Picture 3: *Douglas-fir encroached oak woodland located between the proposed cultivation site and Sunset Ridge Road. Photo date 5-13-2022.*



Picture 4: Douglas-fir encroached oak woodland located between the proposed cultivation site and Sunset Ridge Road. Photo date 5-13-2022.



Picture 5: *Douglas-fir encroached oak woodland located between the proposed cultivation site and Sunset Ridge Road. Photo date 5-13-2022.*

CAL FIRE's General Guidelines for Creating Defensible Space

General Guidelines for Creating Defensible Space

State Board of Forestry and Fire Protection (BOF)
California Department of Forestry and Fire Protection

Adopted by BOF on February 8, 2006
Pending Filing with Office of Administrative Law



Contents

A. Purpose of Guidelines	2
B. Definitions	3
C. Fuel Treatment Guidelines	4
1. Firebreak within 30 feet of building	4
2. Dead and dying woody fuels removal	4
3. Down logs or stumps.....	4
4a. Fuel Separation	4
4b. Defensible Space With Continuous Tree Canopy	8

A. Purpose of Guidelines

Recent changes to Public Resources Code (PRC) 4291 expand the defensible space clearance requirement maintained around buildings and structures from 30 feet to a distance of 100 feet. These guidelines are intended to provide property owners with examples of fuel modification measures that can be used to create an area around buildings or structures to create defensible space. A defensible space perimeter around buildings and structures provide firefighters a working environment that allows them to protect buildings and structures from encroaching wildfires as well as minimizing the chance that a structure fire will escape to the surrounding wildland. These guidelines apply to any person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material, and located within a State Responsibility Area.



Effective defensible space

The vegetation surrounding a building or structure is fuel for a fire. Even the building or structure itself is considered fuel. Research and experience have shown that fuel reduction around a building or structure increases the probability of it surviving a wildfire. Good defensible space allows firefighters to protect and save buildings or structures safely without facing unacceptable risk to their lives. Fuel reduction through vegetation management is the key to creating good defensible space.

Terrain, climate conditions and vegetation interact to affect fire behavior and fuel reduction standards. The diversity of California's geography also influences fire behavior and fuel reduction standards as well. While fuel reduction standards will vary throughout the State, there are some common practices that guide fuel modification treatments to ensure creation of adequate defensible space:

- Properties with greater fire hazards will require more clearing. Clearing requirements will be greater for those lands with steeper terrain, larger and denser fuels, fuels that are highly volatile, and in locations subject to frequent fires.
- Creation of defensible space through vegetation management usually means reducing the amount of fuel around the building or structure, providing separation between fuels, and or reshaping retained fuels by trimming. Defensible space can be created removing dead vegetation, separating fuels, and pruning lower limbs.
- In all cases, fuel reduction means arranging the tree, shrubs and other fuels sources in a way that makes it difficult for fire to transfer from one fuel source to another. It does not mean cutting down all trees and shrubs, or creating a bare ring of earth across the property.
- A homeowner's clearing responsibility is limited to 100 feet away from his or her building or structure or to the property line, which ever is less, and limited to their land. While individual property owners are not required to clear beyond 100 feet, groups of property owners are encouraged to extend clearances beyond the 100 foot requirement in order to create community-wide defensible spaces.
- Homeowners who do fuel reduction activities that remove or dispose of vegetation are required to comply with all federal, state or local environmental protection laws and obtain permits when necessary. Environmental protection laws include, but are not limited to, threatened and endangered species, water quality, air quality, and cultural/archeological resources. For example, trees removed for fuel reduction that are used for commercial purposes require permits from the

California Department of Forestry and Fire Protection. Also, many counties and towns require tree removal permits when cutting trees over a specified size. Contact your local resource or planning agency officials to ensure compliance.

The methods used to manage fuel can be important in the safe creation of defensible space. Care should be taken with the use of equipment when creating your defensible space zone. Internal combustion engines must have an approved spark arresters and metal cutting blades (lawn mowers or weed trimmers) should be used with caution to prevent starting fires during periods of high fire danger. A metal blade striking a rock can create a spark and start a fire, a common cause of fires during summertime.

Vegetation removal can also cause soil disturbance, soil erosion, regrowth of new vegetation, and introduce non-native invasive plants. Always keep soil disturbance to a minimum, especially on steep slopes. Erosion control techniques such as minimizing use of heavy equipment, avoiding stream or gully crossings, using mobile equipment during dry conditions, and covering exposed disturbed soil areas will help reduce soil erosion and plant regrowth.

Areas near water (riparian areas), such as streams or ponds, are a particular concern for protection of water quality. To help protect water quality in riparian areas, avoid removing vegetation associated with water, avoid using heavy equipment, and do not clear vegetation to bare mineral soil.

B. Definitions

Defensible space: The area within the perimeter of a parcel where basic wildfire protection practices are implemented, providing the key point of defense from an approaching wildfire or escaping structure fire. The area is characterized by the establishment and maintenance of emergency vehicle access, emergency water reserves, street names and building identification, and fuel modification measures.

Aerial fuels: All live and dead vegetation in the forest canopy or above surface fuels, including tree branches, twigs and cones, snags, moss, and high brush. Examples include trees and large bushes.

Building or structure: Any structure used for support or shelter of any use or occupancy.

Flammable and combustible vegetation: Fuel as defined in these guidelines.

Fuel Vegetative material, live or dead, which is combustible during normal summer weather. For the purposes of these guidelines, it does not include fences, decks, woodpiles, trash, etc.

Homeowner: Any person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material, and located within a State Responsibility Area.

Ladder Fuels: Fuels that can carry a fire vertically between or within a fuel type.

Reduced Fuel Zone: The area that extends out from 30 to 100 feet away from the building or structure (or to the property line, whichever is nearer to the building or structure).

Surface fuels: Loose surface litter on the soil surface, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches that have not yet decayed enough to lose their identity; also grasses, forbs, low and medium shrubs, tree seedlings, heavier branches and downed logs.

C. Fuel Treatment Guidelines

The following fuel treatment guidelines comply with the requirements of 14 CCR 1299 and PRC 4291. **All persons using these guidelines to comply with CCR 1299 and PRC 4291 shall implement General Guidelines 1., 2., 3., and either 4a or 4b., as described below.**

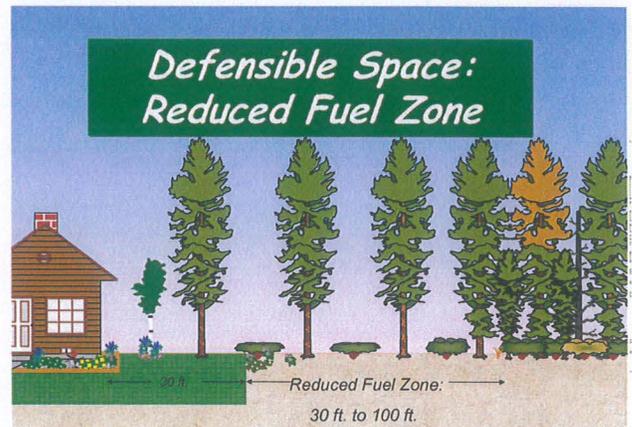
General Guidelines:

1. Maintain a firebreak by removing and clearing away all flammable vegetation and other combustible growth within 30 feet of each building or structure, with certain exceptions pursuant to PRC §4291(a). Single specimens of trees or other vegetation may be retained provided they are well-spaced, well-pruned, and create a condition that avoids spread of fire to other vegetation or to a building or structure.
2. Dead and dying woody surface fuels and aerial fuels within the Reduced Fuel Zone shall be removed. Loose surface litter, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches, shall be permitted to a depth of 3 inches. This guideline is primarily intended to eliminate trees, bushes, shrubs and surface debris that are completely dead or with substantial amounts of dead branches or leaves/needles that would readily burn.
3. Down logs or stumps anywhere within 100 feet from the building or structure, when embedded in the soil, may be retained when isolated from other vegetation. Occasional (approximately one per acre) standing dead trees (snags) that are well-space from other vegetation and which will not fall on buildings or structures or on roadways/driveways may be retained.
4. Within the Reduced Fuel Zone, one of the following fuel treatments (4a. or 4b.) shall be implemented. Properties with greater fire hazards will require greater clearing treatments. Combinations of the methods may be acceptable under §1299(c) as long as the intent of these guidelines is met.

4a. Reduced Fuel Zone: Fuel Separation

In conjunction with General Guidelines 1., 2., and 3., above, minimum clearance between fuels surrounding each building or structure will range from 4 feet to 40 feet in all directions, both horizontally and vertically.

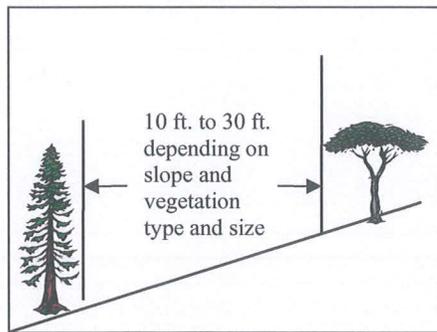
Clearance distances between vegetation will depend on the slope, vegetation size, vegetation type (brush, grass, trees), and other fuel characteristics (fuel compaction, chemical content etc.). Properties with greater fire hazards will require greater separation between fuels. For example, properties on steep slopes having large sized vegetation will require greater spacing between individual trees and bushes (see Plant Spacing Guidelines and Case Examples below). Groups of vegetation (numerous plants growing together less than 10 feet in total foliage width) may be treated as a single plant. For example, three individual manzanita plants growing together with a total foliage width of eight feet can be "grouped" and considered as one plant and spaced according to the Plant Spacing Guidelines in this document.



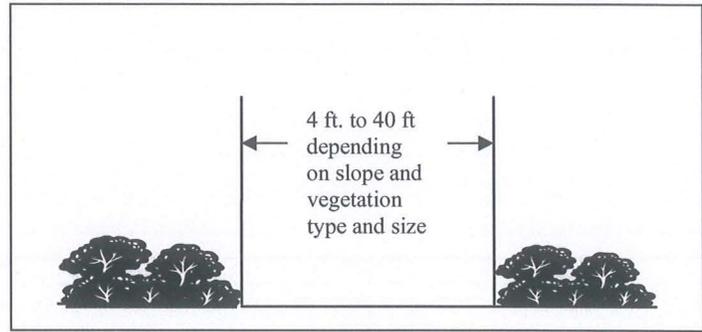
Grass generally should not exceed 4 inches in height. However, homeowners may keep grass and other forbs less than 18 inches in height above the ground when these grasses are isolated from other fuels or where necessary to stabilize the soil and prevent erosion.

Clearance requirements include:

- Horizontal clearance between aerial fuels, such as the outside edge of the tree crowns or high brush. Horizontal clearance helps stop the spread of fire from one fuel to the next.



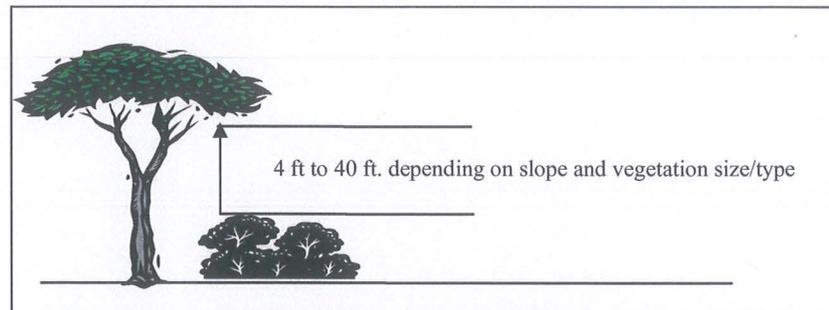
Trees



Shrubs

Horizontal clearance between aerial fuels

- Vertical clearance between lower limbs of aerial fuels and the nearest surface fuels and grass/weeds. Vertical clearance removes *ladder fuels* and helps prevent a fire from moving from the shorter fuels to the taller fuels.



Vertical clearance between aerial fuels



*Effective vertical and horizontal fuel separation
Photo Courtesy
Plumas Fire Safe Council.*

Plant Spacing Guidelines	
Guidelines are designed to break the continuity of fuels and be used as a "rule of thumb" for achieving compliance with Regulation 14 CCR 1299.	
Trees	Minimum horizontal space from edge of one tree canopy to the edge of the next
	Slope
	0% to 20 %
	20% to 40%
Shrubs	Minimum horizontal space between edges of shrub
	Slope
	0% to 20 %
	20% to 40%
Vertical Space	Minimum vertical space between top of shrub and bottom of lower tree branches:
	3 times the height of the shrub

Adapted from: Gilmer, M. 1994. California Wildfire Landscaping

Case Example of Fuel Separation: Sierra Nevada conifer forests

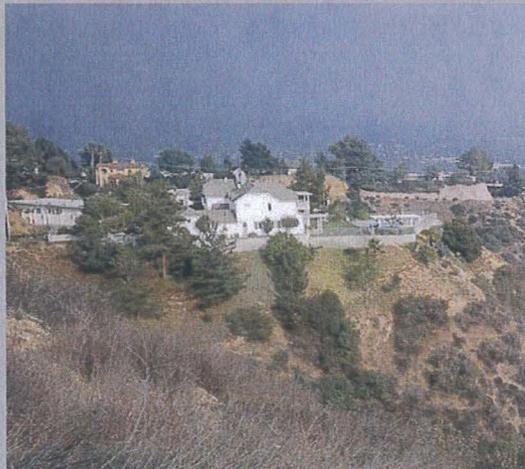
Conifer forests intermixed with rural housing present a hazardous fire situation. Dense vegetation, long fire seasons, and ample ignition sources related to human access and lightning, makes this home vulnerable to wildfires. This home is located on gentle slopes (less than 20%), and is surrounded by large mature tree overstory and intermixed small to medium size brush (three to four feet in height).



Application of the guideline under 4a. would result in horizontal spacing between large tree branches of 10 feet; removal of many of the smaller trees to create vertical space between large trees and smaller trees and horizontal spacing between brush of six to eight feet (calculated by using 2 times the height of brush).

Case Example of Fuel Separation: Southern California chaparral

Mature, dense and continuous chaparral brush fields on steep slopes found in Southern California represents one of the most hazardous fuel situations in the United States. Chaparral grows in an unbroken sea of dense vegetation creating a fuel-rich path which spreads fire rapidly. Chaparral shrubs burn hot and produce tall flames. From the flames come burning embers which can ignite homes and plants. (Gilmer, 1994). All these factors results in a setting where aggressive defensible space clearing requirements are necessary.



Steep slopes (greater than 40%) and tall, old brush (greater than 7 feet tall), need significant modification. These settings require aggressive clearing to create defensible space, and would require maximum spacing. Application of the guidelines would result in 42 feet horizontal spacing (calculated as 6 times the height of the brush) between retained groups of chaparral.

Case Example of Fuel Separation: Oak Woodlands

Oak woodlands, the combination of oak trees and other hardwood tree species with a continuous grass ground cover, are found on more than 10 million acres in California. Wildfire in this setting is very common, with fire behavior dominated by rapid spread through burning grass.

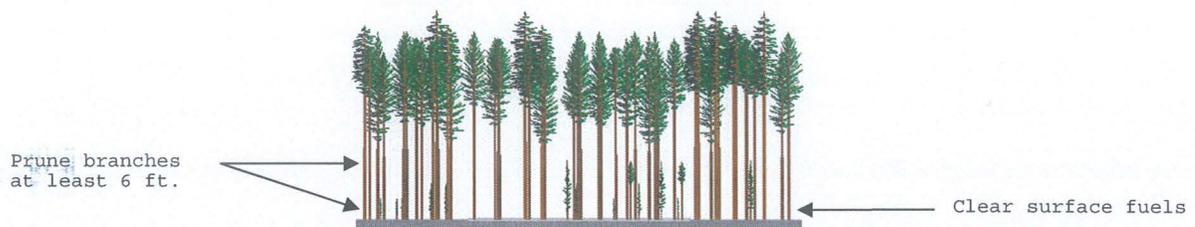


Given a setting of moderate slopes (between 20% and 40%), wide spacing between trees, and continuous dense grass, treatment of the grass is the primary fuel reduction concern. Property owners using these guidelines would cut grass to a maximum 4 inches in height, remove the clippings, and consider creating 20 feet spacing between trees.

4b. Reduced Fuel Zone: Defensible Space with Continuous Tree Canopy

To achieve defensible space while retaining a stand of larger trees with a continuous tree canopy apply the following treatments:

- Generally, remove all surface fuels greater than 4 inches in height. Single specimens of trees or other vegetation may be retained provided they are well-spaced, well-pruned, and create a condition that avoids spread of fire to other vegetation or to a building or structure.
- Remove lower limbs of trees (“prune”) to at least 6 feet up to 15 feet (or the lower 1/3 branches for small trees). Properties with greater fire hazards, such as steeper slopes or more severe fire danger, will require pruning heights in the upper end of this range.



Defensible Space retaining continuous trees

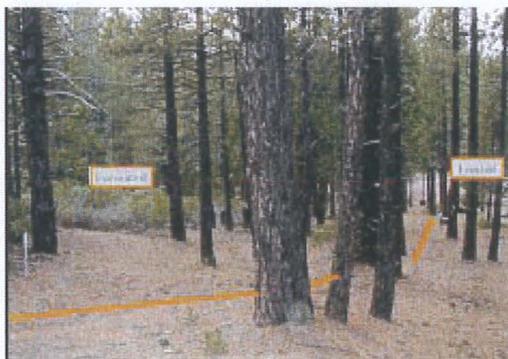


Photo Courtesy Plumas Fire Safe Council.



Defensible space with continuous tree canopy by clearing understory and pruning

Authority cited: Section 4102, 4291, 4125-4128.5, Public Resource Code. Reference: 4291, Public Resource Code; 14 CCR 1299 (d).

CAL FIRE's Fuel Reduction Guide



FUELS REDUCTION GUIDE

WWW.READYFORWILDFIRE.ORG
WWW.FIRE.CA.GOV



Table of Contents

CAL FIRE: Dedicated to California's Forests & Wildlands



Introduction	3
Fuels Reduction Overview	4
What We Are Doing	4
Personnel	5
Hand Thinning	6
Mechanical Thinning	7
Fuels Reduction Projects And Equipment	8
Chipping	8
Masticating	9
Crushing & Chaining	10
Landscape Level Fuels Reduction	11
<i>The Craggy Project</i>	12
Prescribed Fire	13
Burn Plans & Risk Mitigation	14
Broadcast & Pile Burns	15
Fuel Breaks	16
Shaded Fuel Breaks	17
<i>Creek Fire</i>	17
Sawmill	18
Air Curtain Burner	19
Community Engagement	20
CAL FIRE Cost Share Incentive Programs	20
Landowner Assistance	20
Grant Programs	21
Resource Conservation Districts	21
What Can I Do?	22
Get to Know CAL FIRE	23
Terminology	24
Before And After Fuels Reduction	26

**Learn
More**

For additional information, click the
"Learn More" links throughout the document.

Mission

The women and men of the California Department of Forestry and Fire Protection (CAL FIRE) are dedicated to the fire protection and stewardship of over 31 million acres of California's privately-owned wildlands. CAL FIRE's mission emphasizes the management and protection of California's natural resources; a goal that is accomplished through ongoing assessment and research. Department personnel including foresters, environmental scientists, archaeologists, biologists, and fire personnel work closely to implement fuels management projects to reduce the threat of uncontrolled wildfires and improve forest health.

History

Forest and land management has been at the core of the Department since its inception in 1885. Then known as the State Board of Forestry, the Department was primarily tasked with enforcing the few laws the state had concerning wildfire and forest lands. At the turn of the 20th century, the first state forester was assigned (E.T. Allen) and the earliest stages of a state fire patrol began to form. As the century progressed, so too did the responsibilities of the Department. Today, CAL FIRE is a full-service resource protection and emergency management department responding to wildfires and all risk emergencies.

Fire Prevention

Preventing wildfires in the State Responsibility Area (SRA) is a vital part of CAL FIRE's mission. While these efforts have occurred since the early days of the Department, CAL FIRE has adapted to the evolving threat from wildfires and has succeeded in significantly increasing its efforts in fire prevention. Common fire prevention projects include fuels reduction, prescribed fire, Defensible Space inspections, emergency evacuation planning, fire prevention education, fire hazard severity mapping, home hardening and fire-related law enforcement activities. Wildland fire prevention engineering processes reduce or eliminate fire hazards and risks by reducing fuel loads and creating a break in horizontal and vertical fuel continuity.

Environmental Protection

CAL FIRE uses the totality of its resource professionals to ensure that California environmental laws are obeyed for any project undertaken by the Department. Registered Professional Foresters, Environmental Scientists, Archeologists, Hydrologists, Soil Scientists, Fire Scientists, and various other experts in natural resource protection contribute to this work every day. On December 30, 2019, the Board of Forestry and Fire Protection approved a Statewide Programmatic Environmental Impact Report titled "California Statewide Vegetation Treatment Program," known as the CalVTP. The program provides California Environmental Quality Act (CEQA) compliance for CAL FIRE and other public entities' vegetation management projects.

**Learn
More**

What We Are Doing



A healthy forest is more resilient to potentially devastating disturbances, such as fire, pests, disease and drought, and plays an important role in California's water supply and air quality.

Fire is an essential ecological process in fire-dependent ecosystems, such as California wildlands. However, over a century of fire suppression has led to wildlands, woodlands and rangelands that are unable to withstand normal droughts, insect outbreaks or wildfires. The purpose of any fuels reduction project is to change the size and composition

of the fuels in the forest, creating a break in fuel continuity. Doing so removes ladder fuels which can carry fire from the forest floor to the tree crowns where it can become a devastating fire that quickly spreads. The goal of fuels reduction is to create conditions that mimic the role of low intensity fire or other disturbances that once naturally thinned the forest.

Learn More

In response to Governor Newsom's Executive Order N-05-19, CAL FIRE systematically identified 35 high priority fuels reduction projects and other measures to protect over 200 of California's most wildfire-vulnerable communities. For further information and detailed project reports, click [here](#).

Learn More

California's Forest and Wildfire Resilience Action Plan outlines actions to reduce wildfire risk and improve the health of forests and wildlands. Learn what CAL FIRE will do by clicking [here](#).

Personnel



People working together through public and private partnerships are CAL FIRE's biggest asset on fuels reduction projects.

CAL FIRE engages in fuels reduction work and fire prevention activities year-round. Fuels reduction work is done by dedicated CAL FIRE Fuels Reduction Crews, California National Guard, California Conservation Corps, California Department of Corrections and Rehabilitation, and CAL FIRE fire suppression resources including

firefighter hand crews and engine crews when they are not responding to other emergencies. Defensible Space inspectors ensure homeowners do their part to be ready for wildfire, and fire prevention specialists engage daily with their communities to promote fire prevention education.



Learn More

CAL FIRE provides employees with a variety of career choices and diverse opportunities.

Hand Thinning



Hand crews conduct work in areas where prescribed fire and mechanical thinning aren't practical, like neighborhoods, or where the terrain is too steep for heavy equipment.

Fuels reduction projects are either done using hand tools, known as hand thinning or by using heavy equipment, known as mechanical thinning or a combination of both. In the case of hand thinning, crews use cutting, grubbing and scraping tools like chainsaws, Pulaskis and Mcleods, to cut through vegetation, trees and understory brush. Mechanical thinning

is accomplished using equipment that can remove fuel from the project site. Once cut, crews or equipment drag the vegetation to the roadside or to a central location to be chipped or burned. The chips will either be left on site, removed to a biomass facility or burned in an Air Curtain Burner (see page 19).



Chainsaw—
Used for felling, limbing and cutting trees and brush.



Pulaski—
features an axe on one side for chopping saplings and brush, and a grubbing blade to remove roots and small stumps.



Mcleod—
used for fireline construction to scrape and rake away vegetation, leaving only bare mineral soil.

Mechanical Thinning



Using the skid steer with attachments, an operator can cut and masticate small and medium sized trees, remove and pile brush, and move piles of cut material to a central location for pile burning or removal.

Personnel are essential for hand thinning work in rough terrain, but heavy equipment allows personnel to treat large acre projects efficiently. The tracked compact skid steer loader is a common and essential piece of equipment used by CAL FIRE personnel.

Compact skid steer loaders are fitted with one of three attachments: the masticating head, a grapple head or a brush rake, depending on the project. These tools serve to decrease hand labor and increase the efficiency of fuels reduction projects.



The **brush rake** has a scoop and forks that can be used to clear brush and form piles. It can also clear the ground to bare mineral soil around brush piles, preparing them for burning.

The **grapple attachment** can pick up cut tree stems larger than what can be done by hand and move them for pile burning or chipping.



The **masticating attachment** produces a similar result to chipping, except the masticating head does all the work—it can both cut and chip trees up to about four inches in diameter.

Chipping



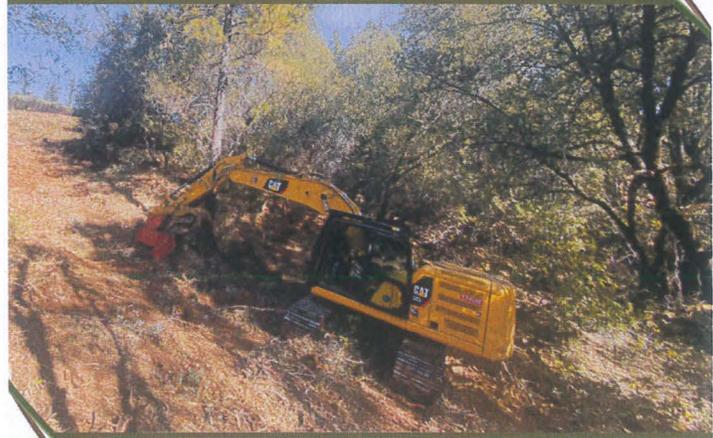
Chippers are an important part of CAL FIRE's fuels reduction work. Both tracked and tow chippers are used where hand thinning projects are being completed.

Chippers are used to change the size, shape and distribution of fuels in the forest, thereby reducing the risk of catastrophic wildfire. CAL FIRE uses both tracked chippers and tow chippers for fuels reduction projects. Tow chippers are typically used for roadside clearing and in neighborhoods. The cleared material is staged at the edge of the road where the chipping crew feed branches into the hopper. The chips are blown back into the area where the fuels came from. Tracked chippers are used for projects beyond the roadway and in steep difficult terrain. Working off-road, tracked chippers are moved by remote control, often across rough terrain, close to the project location, helping to limit the time crews spend dragging materials to the chipper.

As with the tow chipper, the chips are blown and dispersed back onto the forest floor.



Masticating



An excavator with a masticator/mulcher attachment can chop or grind vegetation into 1 - 2 inch pieces creating a break in horizontal and vertical fuel continuity. Excavators are an effective tool when creating a shaded fuel break.

Excavators are versatile machines that can maneuver in steep terrain and heavier fuels where skid steer masticators are unable to accomplish the project objectives. Fitted with a masticator/mulcher attachment, large brush and trees of up to 25 feet in height and large diameters can be turned into small chunks and left on site. Just like chipping, this creates a break in horizontal and vertical fuel continuity to reduce the risk of catastrophic wildfire.



Excavators run multiple heads such as flat disk and drum.

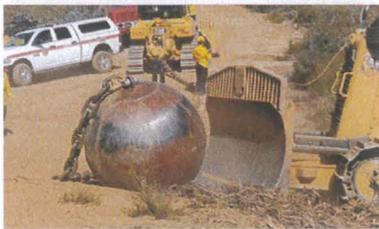


Crushing & Chaining



Dozers are used to crush brush by pulling a chain or a ball and chain over the brush. When fitted with a brush rake, dozers are quick and effective at removing and piling brush, preparing it for burning.

A dozer is a versatile piece of equipment that is used to clear fuels for fire breaks, move large logs and brush, improve access and repair existing roads that are often used for emergency access for the public and first responders. When used for fuels reduction, the dozer blade is lifted and a chain is pulled behind the machine to crush brush and help prepare an area for a future controlled burn.



A ball and chain pulled behind a dozer crushes brush, changing fuel composition.

10

Landscape Level Fuels Reduction



Learn More

CAL FIRE partners and cooperators, including land managers like United States Forest Service and community-based organizations like Resource Conservation Districts and Fire Safe Councils are essential to completing fuels reduction work at a landscape scale.

The Federal Government owns and manages 57% of the State's forested lands. In addition to grant agreements, California uses Good Neighbor Authority agreements to implement fuels reduction on federal lands. A Good Neighbor Authority agreement was signed between the California Natural Resources Agency and the United States Forest Service, allowing the Forest Service to enter project agreements using state funds and resources to perform forest, rangeland and watershed restoration services on Forest Service lands.

The Craggy Vegetation Management Project ("Craggy Project") is a Good Neighbor Authority project developed by the Klamath National Forest, CAL FIRE Siskiyou Unit and the Yreka Fire Safe Council to better protect local communities from wildfire and improve forest health, wildlife and plant habitats, and watershed conditions within the project area.

11



The Craggy Project played a key role in slowing fire spread and keeping fire out of the community of Hawkinsville and the greater Yreka area. It was beneficial to firefighters suppressing the Badger Fire and contributed to the successful protection of communities and infrastructure in this area of high fire risk.

Account provided by National Fish and Wildlife Foundation.

On July 18, 2020 two fires, the Humbug and Badger, were burning in State Responsibility Area just north of Yreka. Eventually merging into one, the Badger fire was contained at approximately 600 acres 10 days later. At the time of the fire, approximately 600 acres of mastication and 1,400 acres of hand thinning and piling had been completed on the Craggy Project.

The western part of the Badger Fire reached areas within the Craggy Project footprint that had been treated using mastication. Fire spread dramatically slowed

in those masticated areas as the fire transitioned from crown fire to surface fire. This reduction in the speed of spread allowed bulldozers time to safely build indirect fireline across the bottom of the fire during the evening and tie it in by daybreak. The lack of brush also eliminated the need for crews to be on hand conducting fireline improvements, freeing them up to work on other areas of the fire.

Continued implementation of this project will enhance these benefits during future fire events.

Prescribed Fire



Preparing for a prescribed fire is like other fuels reduction projects, with one key difference—prescribed burning requires a burn plan and a smoke management plan.

Prescribed fire is the planned and controlled application of fire to the land, under specified, low-risk weather conditions. As a land management tool, prescribed fire is an efficient and cost effective way to reduce fuels where physical and social conditions are conducive to its use. Before implementing a prescribed burn, the

site is prepared by reducing and removing the amount of vegetation to a safe burning density. Methods include using bulldozers, hand tools, herbicide treatment, pile and burn or a combination of these methods. A key element in site preparation is the construction of a well-established fireline to limit fire spread.



A **drip torch** ignites vegetation by dripping flaming fuel onto the ground.



A **helitorch** is a firing device effective for igniting prescribed fire over a large area.



A **terra torch** throws a stream of flaming liquid that rapidly ignites surrounding fuels.

Photo credit: Al Golub

Burn Plans & Risk Mitigation



Before a prescribed fire is ever lit, a detailed burn plan and smoke management plan must be completed.

A burn plan, or prescription, includes comprehensive information about weather, terrain, fuel moisture and values at risk. Values are natural resources, humans and their developments, and public and political features, including cultural, that have inherent significance.

For a burn to be 'in prescription', conditions on the ground must meet the

specifications contained in the burn plan. Burning when conditions are 'out of prescription' will not meet desired objectives and can produce undesirable conditions that may threaten the identified values and create undue risk.

Prescribed burning is done for different purposes, and will vary depending on the project location and landowner goals. Common objectives are:

Ecological Restoration— California's wildlands are adapted to fire, with the exception of some chaparral ecosystems that currently experience more frequent fire than historically. Putting fire back on the land helps protect and improve habitat for wildlife and optimizes soil and water productivity, and can also help control or eliminate noxious, invasive plants.

Fuels Reduction— burning is an efficient solution for removing excess fuels across large landscapes.

Community Protection— fire strategically used around communities to reduce fuels.

Broadcast & Pile Burns



Pile burning is a form of prescribed fire and is an effective way to remove excess fuels when chipping or masticating and leaving material on site isn't feasible.

A broadcast burn is when fire is put to the ground with low intensity to consume understory brush and dead, fallen vegetation. Broadcast burns require significant site preparation before burning; thinning vegetation,

piling and burning excess fuels prior to a broadcast burn being lit. These actions mitigate the risk of an unintended high intensity fire, while removing fuels and providing ecological benefit.



A broadcast burn is the controlled application of fire to wildland fuels in their natural or modified state over a predefined area, often conducted to reduce wildland fire fuel loads, restore ecological health of an area, or to clear vegetation.

Fuel Breaks



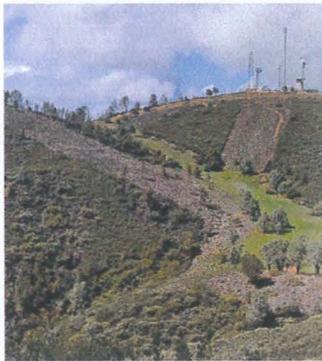
Fuel breaks are strategically placed along ridgetops.

Shaded Fuel Breaks



In a shaded fuel break, trees are typically spaced so their crowns no longer touch, lower branches are pruned, and brush and dead and down material are removed or replaced with masticated material. Shaded fuel breaks are most often placed strategically on ridgetops, roads, and around structures.

A fuel break is strip of land on which the vegetation and fuels have been reduced or modified to decrease the risk of a fire crossing the strip of land. Fuel breaks are not designed to stop fire spread, especially during periods of strong winds when fire can be blown across these linear features. However, fuel breaks do provide opportunities for firefighting success by creating areas of lower fire intensity, improved access for ground based firefighters, and increased fireline construction rates. The lighter fuels, often associated with fuel breaks, also provide opportunities for indirect fireline construction through backfire or burn-out operations to consume fuel ahead of the spread of the main fire.



Fuel breaks create Defensible Space around critical communication, water and power infrastructure.

Shaded fuel breaks are strips of land in which vegetation has been modified to act as strategic "defensible landscape." The purpose is to reduce the amount of combustible material so that when a fire hits the shaded fuel break it will

decrease in intensity, cool down, and drop from the canopy to the ground. Along roadways, shaded fuel breaks create safer ingress and egress routes for fire personnel and citizens.

During the 2020 Creek Fire, thousands of residents and visitors were safely evacuated along the Highway 168 corridor, where Highway 168 Fire Safe Council had received grant funding to construct a roadside fuel break and clear dead trees from the massive beetle kill caused by drought. The role these fuel breaks and tree removal played in keeping this fire

from being much more destructive cannot be understated. They played a key role in buying time, allowing for preparation around communities and managing fire activity. Dozers were able to quickly open up and expand fuel breaks, turning them into constructed line that aided fire fighters in saving homes and resources.

Creek Fire

Sawmill



Portable sawmills can be moved and used in the field or at a central location where suitable logs have been staged.

On some fuels reduction projects, there will be a few trees of good quality timber, but not enough to be economically feasible to transport to a sawmill. Portable sawmills can be used to process saw logs on-site where they can be set up next to the trees being cut. The sawn logs are used to make

picnic benches, desks, siding, window frames, shelves and more. Produced at a sufficiently small scale not to compete with private industry, these products are donated to State agencies, local governments, charities or used at CAL FIRE facilities.



Specialty timber products not readily available through lumber yards can be milled on a portable sawmill. They are useful in urban settings too, where moving logs would be impractical.

Air Curtain Burner



An Air Curtain Burner works by pushing high velocity air over the top of the burn chamber, creating a curtain of air which the rising smoke cannot penetrate. The unburned particulates are pushed back down into the chamber where they reburn until they are light enough to rise through the air curtain.

Air Curtain Burners or Air Curtain Incinerators are used to dispose of forest waste generated from fuels reduction projects in areas where the debris cannot be left on-site, and broadcast or pile burning is not an option. Air Curtain Burners produce a much cleaner, nearly smokeless burn with emissions consisting mostly of water vapor and biogenic carbon dioxide.

The air curtain reduces particulate matter (PM), or smoke, which results from burning clean wood waste, to an acceptable limit per United States Environmental Protection Agency

guidelines. Because Air Curtain Burners consume fuel so efficiently, they can be operated on days when weather conditions aren't suitable for broadcast or pile burning. Air Curtain Burners are capable of burning five to seven tons of material per hour.



Landowner Assistance



Individuals and communities play a role in fuels reduction and community fire safety. There are several programs and organizations to support these efforts.

Unit fire plans and Community Wildfire Protection Plans outline fire and fuel hazard situations at the local level for each of CAL FIRE's 21 Units statewide. Each identifies prevention measures to reduce risks, to educate and engage the local communities, and provide a framework to diminish the potential loss due to wildfire. Planning includes other state, federal and local government agencies, as well as Fire Safe Councils and community

based organizations. Building strong partnerships and community trust are core values for CAL FIRE; these are essential for planning and implementing fuels reduction projects in and around communities and the wildland.



CAL FIRE Unit Fire Plans.

CAL FIRE Cost Share Incentive Programs



The Vegetation Management Program (VMP) is a cost-sharing program that focuses on the use of prescribed fire, and mechanical means for addressing wildland fuel hazards and other resource management issues on State Responsibility Area (SRA) lands.



The California Forest Improvement Program (CFIP) provides technical assistance and funding to improve the management of private forest lands.

Resource Conservation Districts



Resource Conservation Districts combine the accountability and transparency of a public agency with the flexibility and non-regulatory approach of a non-profit organization. This nimbleness allows them to adapt to the ever-changing needs of communities, build trusted relationships, and act as the crucial bridge that connects individuals with state and federal partners and programs. (Excerpted from <https://carcd.org/>)

Resource Conservation Districts (RCD's) were first founded after the Dust Bowl in the 1930s to bring federal and state funding and technical assistance to farmers and ranchers so that they could voluntarily conserve water, soil, and wildlife habitat on their land with

the help of a local and neutral partner. RCD's are an important partner for forest health and fire prevention project planning and implementation with landowners in communities across the state.

Grant Programs



Fire Prevention
The Fire Prevention Grant Program, aims to reduce the risk of wildland fires to habitable structures and communities, while maximizing carbon sequestration in healthy wildland habitat and minimizing the uncontrolled release of emissions emitted by wildfires.



Forest Health
The Forest Health Program funds active restoration and reforestation activities aimed at providing for more resilient and sustained wildlands while also mitigating climate change, protecting communities from fire risk, strengthening rural economies and improving California's water & air.

What Can I Do?



FIND OR CREATE A LOCAL FIRE SAFE COUNCIL OR FIREWISE COMMUNITY

Fire Safe Councils are grassroots, community-led organizations that mobilize residents to protect their homes, communities, and environments from catastrophic wildfire. Fire Safe Councils throughout California educate homeowners about community wildfire preparedness activities while working with local fire officials to design and implement projects that increase the wildfire survivability of their communities. Many Fire Safe Councils have successfully implemented such projects as hazardous-fuel-reduction, Community Wildfire Protection Planning, and homeowner training.

The national Firewise USA® recognition program provides a collaborative framework to help neighbors in a geographic area get organized, find direction, and take action to increase the ignition resistance of their homes and community and to reduce wildfire risks at the local level. Any community that meets a set of voluntary criteria on an annual basis and retains an "In Good Standing Status" may identify itself as being a Firewise® Site.



Many communities have a Fire Safe Council. Click here to see the one closest to you, or learn how to start one.



Find out how to be recognized as a Firewise community by clicking here.

Get to Know CAL FIRE



Get to know CAL FIRE by following us on Social Media. Information about fuels reduction work, emergency incidents, fire prevention and fire safety education is posted regularly to keep the public up to date on CAL FIRE's work.



Do you want to learn more about CAL FIRE? Visit our website where you will find resources and information about our programs, the equipment we use, how to protect your home and family, careers and more.



Terminology

Broadcast burn: A broadcast burn is the controlled application of fire to wildland fuels in their natural or modified state over a predefined area, often conducted to reduce wildland fire fuel loads, restore ecological health of an area, or to clear vegetation. Broadcast burns accomplish planned resource management objectives under specified conditions of fuels, weather, and other variables.

Burn Plan: The burn plan will provide a description of the burn area, target weather conditions, hazards that may be encountered, personnel needs, safety, and contacts to make prior to burning. Prescribed fire projects must have an approved, written burn plan before a prescribed fire can be implemented.

Chipping: Chippers are used to change the size, shape and distribution of fuels, thereby reducing the risk of catastrophic wildfire. Brush chipping is an excellent option for fuels reduction, as it can be more economical than hauling and safer than burning. The chips are blown and dispersed back onto the land returning nutrients and providing erosion control.

Community Wildfire Protection Plan (CWPP): A collaborative effort involving government entities and affected non-governmental interests, especially local community residents. A CWPP identifies and prioritizes areas for hazardous fuel reduction and recommends measures to reduce the ignitability of structures.

Crown fuels: The tops of trees and shrubs usually ignited by a surface fire.

Defensible Space: Defensible Space is an area around a house or other structure that has been modified to reduce wildfire threat. This is usually done by clearing and separating highly flammable material so there are no paths for fire to travel to the home. California law requires 100' of Defensible Space around homes and structures. When residents have done their Defensible Space, firefighters can defend property with confidence and safety, knowing fire behavior will be disrupted when it meets the area with broken up fuels.

Fuel Break: A natural or manmade change in fuel characteristics that changes fuel arrangement and continuity to reduce fire spread to structures and/or natural resources, and to provide a safer location to fight fire. Fuel breaks are strategically placed along a ridge, valley bottom, access road, or around a subdivision.

Fuel continuity: A qualitative description of the distribution of horizontal and vertical fuels. Discontinuous fuels disrupt fire behavior and slow fire spread. Continuous fuels readily support fire spread. The larger the fuel discontinuity, the greater the fire intensity required for fire spread.

Fuel Type: An identifiable association of fuel elements of distinctive species, form, size, arrangement, or other characteristics that will cause a predictable rate of spread or resistance to control under specified weather conditions.

Ground fuels: Fuels that lie beneath surface fuels, such as organic soils, duff, ground fuels, decomposing litter, buried logs, roots, and the below-surface portion of stumps.

Hand tools: Grubbing, scraping and cutting tools used for removing fuels without heavy equipment.

Ladder fuels: Fuels which provide vertical continuity, thereby allowing a fire to spread from the ground to the canopy. Branches, shrubs or an understory layer of trees are considered ladder fuels.

Mastication: A mechanical process that changes the shape, size and distribution of fuels. Whole trees and large brush are broken down into small chunks and left on the forest floor or removed for burning or biomass. Mastication is effective for clearing trees along roadsides, ravines and places that could be difficult to reach with other equipment or on foot.

Pile burn: Piling materials resulting from management activities and subsequently burning the individual piles.

Shaded Fuel Break: Fuel breaks built in areas where the trees on the break are thinned and pruned to reduce the fire potential yet retain enough crown canopy to make a less favorable microclimate for surface fires.

Smoke Management Plan: A smoke management plan identifies smoke sensitive receptors, including population centers, recreation areas, hospitals, airports, transportation corridors, schools, and other values that may be impacted. Smoke mitigation strategies and techniques to reduce the impacts of smoke production must be included, and must comply with local air district requirements.

Surface fuels: Fuels lying on or near the surface of the ground, consisting of leaf and needle litter, dead branch material, downed logs, bark, tree cones, and low stature living plants.

Thinning: Cutting of trees to reduce the density of the remaining trees.

BEFORE



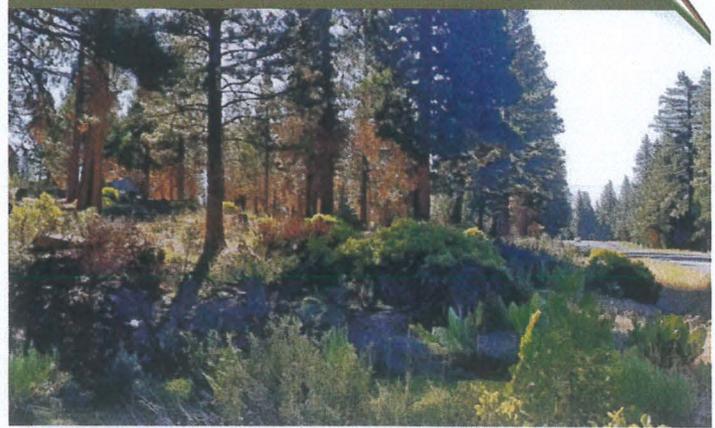
Removing brush strategically across the landscape interrupts fuel continuity which helps slow an advancing wildfire, allowing firefighters a safe place to defend nearby communities and protect natural resources.

AFTER



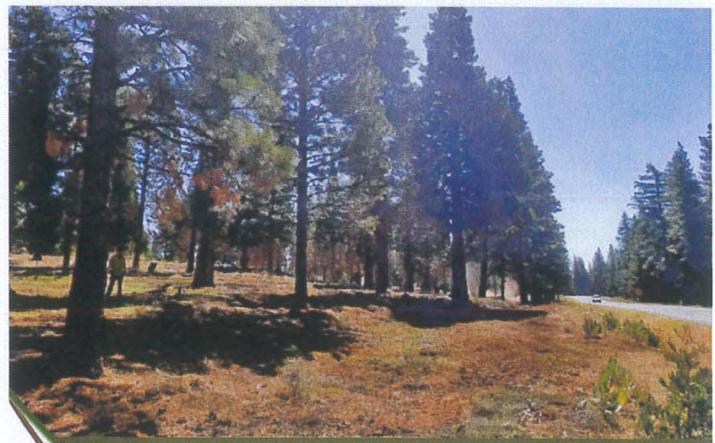
26

BEFORE



Shaded fuel breaks along roadways remove heavy fuels and are designed to prevent roadside sparks from becoming a devastating wildfire. They also create safer ingress and egress routes for emergency personnel and residents.

AFTER



27



FUELS REDUCTION GUIDE

WWW.READYFORWILDFIRE.ORG
WWW.FIRE.CA.GOV



When a high-intensity wildfire burns into an area that has been treated with thinning, mastication, or prescribed fire, fire behavior moderates, often shifting from a crown fire to a surface fire with low intensity fire behavior. Low intensity fires have ecological benefits, remove brush and ladder fuels and help

HUMBOLDT COUNTY DEPARTMENT OF PUBLIC WORKS
ROAD EVALUATION REPORT

PART A: *Part A may be completed by the applicant*

Applicant Name: Blocksburg Hill Top Organics LLC APN: 217-411-013

Planning & Building Department Case/File No.: PLN-2020-16829

Road Name: Sunset Ridge Rd and Homestead Road (complete a separate form for each road)

From Road (Cross street): Alderpoint Rd.

To Road (Cross street): Sunset Ridge Rd and Homestead Road

Length of road segment: 10,900' miles Date Inspected: 2/2/21

Road is maintained by: County Other Road Maintenance Association
(State, Forest Service, National Park, State Park, BLM, Private, Tribal, etc)

Check one of the following:

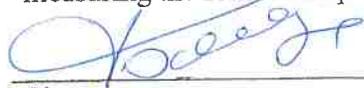
Box 1 The entire road segment is developed to Category 4 road standards (20 feet wide) or better. If checked, then the road is adequate for the proposed use without further review by the applicant.

Box 2 The entire road segment is developed to the equivalent of a road category 4 standard. If checked, then the road is adequate for the proposed use without further review by the applicant.

An equivalent road category 4 standard is defined as a roadway that is generally 20 feet in width, but has pinch points which narrow the road. Pinch points include, but are not limited to, one-lane bridges, trees, large rock outcroppings, culverts, etc. Pinch points must provide visibility where a driver can see oncoming vehicles through the pinch point which allows the oncoming vehicle to stop and wait in a 20 foot wide section of the road for the other vehicle to pass.

Box 3 The entire road segment is not developed to the equivalent of road category 4 or better. The road may or may not be able to accommodate the proposed use and further evaluation is necessary. Part B is to be completed by a Civil Engineer licensed by the State of California.

The statements in PART A are true and correct and have been made by me after personally inspecting and measuring the road. A map showing the location and limits of the road being evaluated in PART A is attached.


Signature

06/14/2021
Date

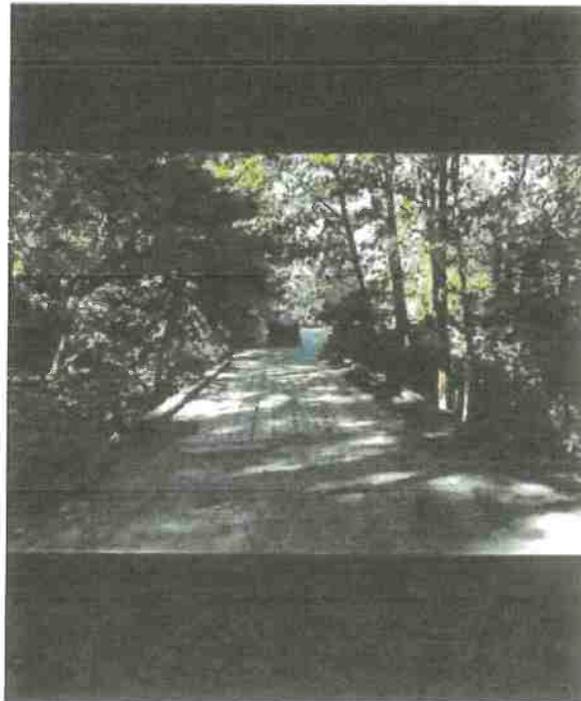
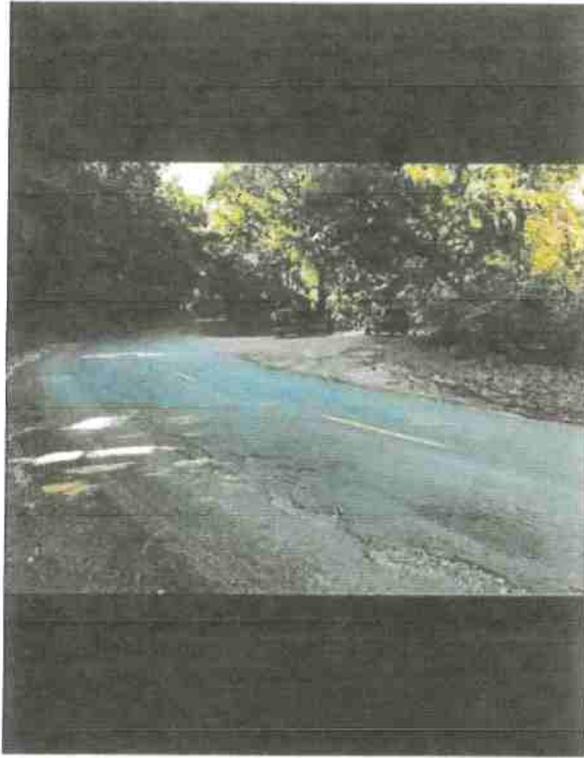
BORIS BORISOV
Name Printed



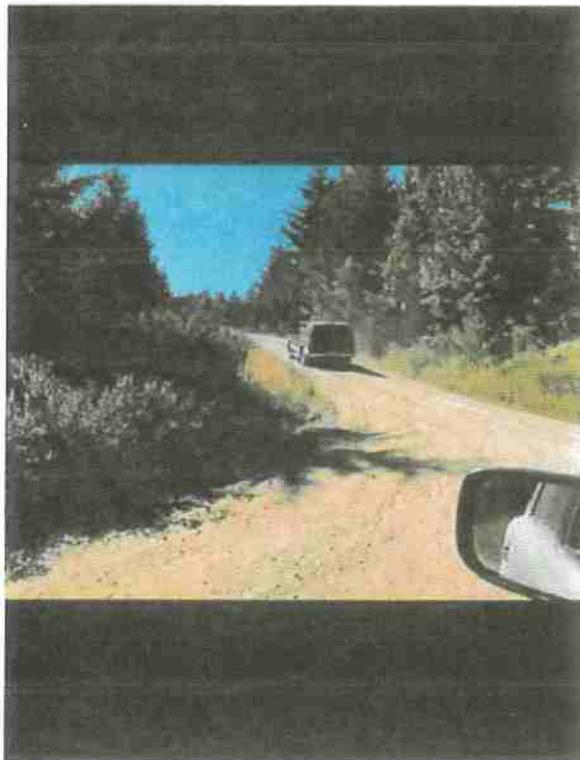
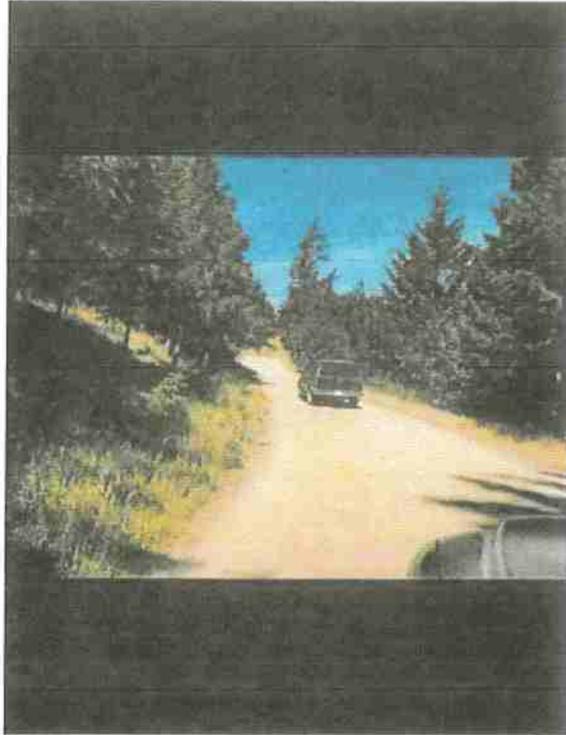
Important: Read the instructions before using this form. If you have questions, please call the Dept. of Public Works Land Use Division at 707.445.7205.

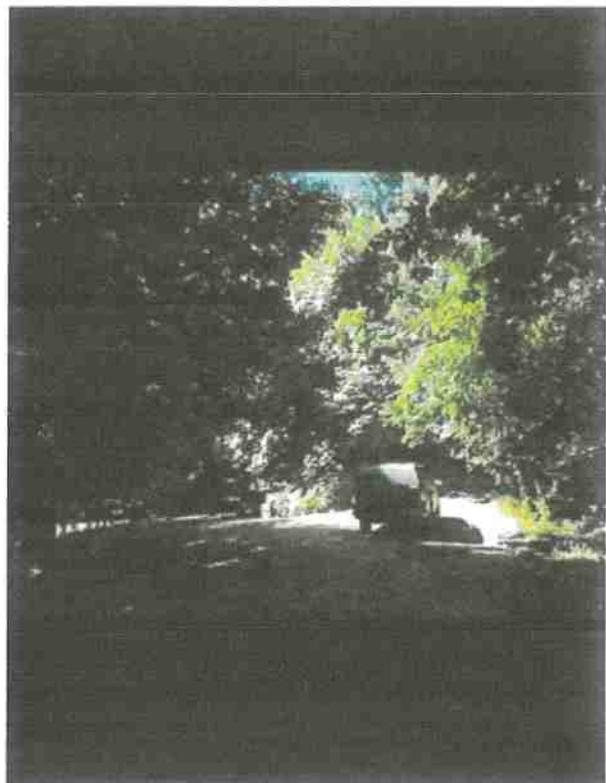
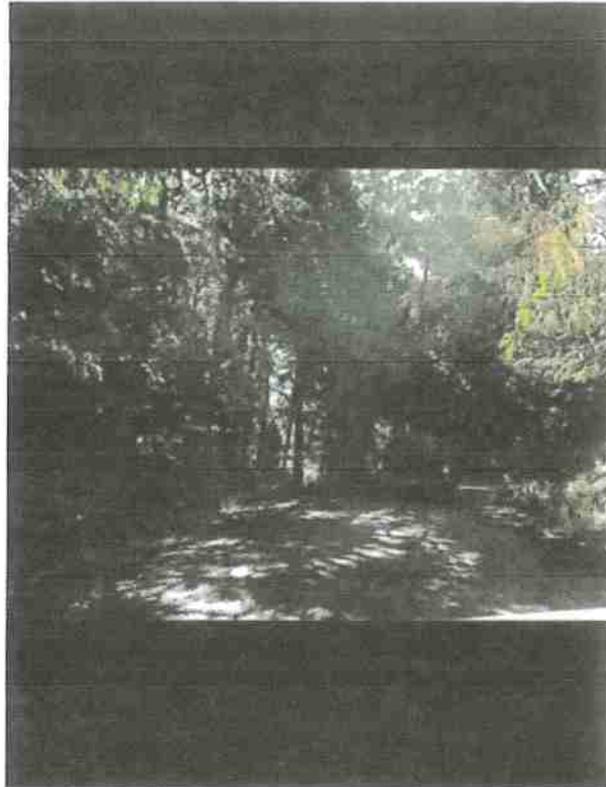
BLOCKSBURG HILL TOP ORGANICS, LLC
Road Evaluation Limits
APN: 217-411-013





1





**Commercial Cannabis Setback Waiver
(From Neighboring Landowner)**

To Humboldt County Planning Department:

I hereby consent to waive the required setback distance of 270 feet from my property for commercial cannabis production on the neighboring property identified as Parcel Number **217-411-013**, currently owned by **Meadows and Cattle, LLC** (Signature) _____

My property is identified by parcel number: **217-401-005**.

I understand that the commercial cannabis operation is closer to my property than the required setback for undeveloped parcels provided under the CCLUO. The operation has my consent to be not closer than 30 feet (standard property line setback) from my adjoining property line to the east.

Jessica Wilson
Land owner(s) name (print) _____

Jessica Wilson
Land owner(s) signatures _____

6/5/2021
Date _____ Date _____

707 834 6864
Phone Number _____ Phone Number _____

PO Box 214
Address _____ Address _____
Blocksburg CA 95514



ATTACHMENT 4

REFERRAL AGENCY COMMENTS AND RECOMMENDATIONS

The project was referred to the following referral agencies for review and comment. Those agencies that provided written comments are checked off.

Referral Agency	Response	Recommendation	Location
Ag Commissioner		No Response	
Building Inspection Division	✓	Approved	Attached
Code Enforcement	✓	No Comment	On File
County Counsel		No Response	
District Attorney		No Response	
Humboldt County District Attorney		No Response	
Division Environmental Health	✓	Conditional Approval	Attached
Humboldt County Sheriff	✓	Approved	On File
Public Works	✓	Conditional Approval	Attached
Regional Water Quality Control Board		No Response	
NCUAQMD		No Response	
Division of Water Resources		No Response	
CalFire	✓	No Comment	
School District		No Response	
California Department of Fish & Wildlife		No Response	
Bear River Band	✓	Conditional Approval	On File (Confidential)
Northwest Information Center	✓	Comment	On File (Confidential)

Ross



COUNTY OF HUMBOLDT
PLANNING AND BUILDING DEPARTMENT
CURRENT PLANNING
3015 H STREET, EUREKA, CA 95501 ~ PHONE (707) 445-7245



6/25/2021

Project Referred To The Following Agencies:

AG Commissioner, Code Enforcement, County Counsel, District Attorney, Environmental Health, Sheriff, PW Land Use, Building Inspections, RWQCB, NCUAQMD, School District: Southern Humboldt Joint, Cal Fish & Wildlife, Division of Water Resources, CalFire, Bear River Band, NWIC

Applicant Name Blocksburg Hill Top Organics, LLC **Key Parcel Number** 217-411-013-000

Application (APPS#) PLN-2021-17309 **Assigned Planner** Steven Santos 707-268-3749

Please review the above project and provide comments with any recommended conditions of approval. To help us log your response accurately, please include a copy of this form with your correspondence.

Questions concerning this project may be directed to the assigned planner for this project between 8:30am and 5:30pm Monday through Friday.

County Zoning Ordinance allows up to 15 calendar days for a response. If no response or extension request is received by the response date, processing will proceed as proposed.

If this box is checked, please return large format maps with your response.

Return Response No Later Than: 7/10/2021

Planning Clerk
County of Humboldt Planning and Building Department
3015 H Street
Eureka, CA 95501
Email: PlanningClerk@co.humboldt.ca.us **Fax:** (707) 268 - 3792

We have reviewed the above application and recommend the following (please check one):

- Recommend Approval. The department has no comment at this time.
- Recommend Conditional Approval. Suggested conditions attached.
- Applicant needs to submit additional information. List of items attached.
- Recommend Denial. Attach reasons for recommended denial.

Other Comments:

site map appears accurate at this time
Inspection done using GIS.

DATE: 9/21/21 PRINT NAME: Dean Beck

Division of Environmental Health Referral Response 17309

PLN-2021-17309 
STATUS
LOCATION
CONTACT
WORKFLOW

Blocksburg Hill Top ... > Referrals
> None Provided
> Blocksburg Hill T...
> 18 total Task

Special Permit for 4... 06/25/2021 by Li...

● 7 completed ...

- Summary
- Project Description
- Workflow
- 1 Referral Assignments
- 2 Planning Information
- 3 GP / Zoning Information
- 4 CEQA
- 5 Cannabis
- Annual Compliance
- Project Tracking
- 6 Referral Task Log (2)



A notice was added to this record on 2021-06-22.
 Condition: Parcel Status : 217-411-013 LP 1:1 Severity: Notice
 Total conditions: 2 (Notice: 2)

[View notice](#)

Task	Due Date	Assigned Date
Environmental Health	07/09/2021	06/28/2021
Assigned to Department	Assigned to	Status
Environmental Health	Joey Whittlesey	Approved with Conditions
Action by Department	Action By	Status Date
Environmental Health	Joey Whittlesey	06/29/2021
Start Time	End Time	Hours Spent
		0.0
Billable	Overtime	Comments
No	No	Processing activities must be supported by an approved onsite wastewater treatment system. Seasonal/outdoor cultivation sites may be supported by portable toilets. Applicant must obtain a permit for, and install, an approved onsite wastewater treatment system to support the processing location and either install approved septic systems or provide portable toilets to cultivation areas. Industrial wastewater tailings from indoor cultivation/propagation activities cannot be discharged to OWTS. Contact North Coast Regional Water Quality Control Board regarding industrial wastewater disposal requirements.



DEPARTMENT OF PUBLIC WORKS
C O U N T Y O F H U M B O L D T

MAILING ADDRESS: 1106 SECOND STREET, EUREKA, CA 95501-0579
AREA CODE 707

PUBLIC WORKS BUILDING
SECOND & L ST., EUREKA
FAX 445-7409

CLARK COMPLEX
HARRIS & H ST., EUREKA
FAX 445-7388

ON-LINE
WEB: CO.HUMBOLDT.CA.US

ADMINISTRATION	445-7491	NATURAL RESOURCES	445-7741
BUSINESS	445-7652	NATURAL RESOURCES PLANNING	267-9540
ENGINEERING	445-7377	PARKS	445-7651
FACILITY MANAGEMENT	445-7493	ROADS	445-7421

LAND USE 445-7205

LAND USE DIVISION INTEROFFICE MEMORANDUM

TO: Steven Santos, Planner, Planning & Building Department

FROM: Kenneth M. Freed, Assistant Engineer 

DATE: 06/30/2021

RE:

Applicant Name	BLOCKSBURG HILL TOP ORGANICS LLC
APN	217-411-013
APPS#	PLN-2021-17309-SP

The Department has reviewed the above project and has the following comments:

- The Department's recommended conditions of approval are attached as **Exhibit "A"**.
- Additional information identified on **Exhibit "B"** is required before the Department can review the project. **Please re-refer the project to the Department when all of the requested information has been provided.**
- Additional review is required by Planning & Building staff for the items on **Exhibit "C"**. **No re-refer is required.**
- Road Evaluation Reports(s)* are required; See **Exhibit "D"**

Note: Prior to requesting an applicant to submit a road evaluation report, verify if the project is exempt from meeting road system performance standards under CCLUO v2.0 sections 313-55.4.6.5.1 and 314-55.4.6.5.1, even if this box is checked.

No re-refer is required.

*Note: Exhibits are attached as necessary.

Additional comments/notes:

Applicant has submitted a road evaluation report, dated 06/14/21, with Part A –Box 2 checked, certifying that the road is equivalent to a road Category 4 standard. It appears that the road evaluation report has combined two roads into one road evaluation form.

Whether specifically addressed or not within the road evaluation report, per County Code Section 3112-5, “No roadway grade in excess of 16 percent shall be permitted unless it has been demonstrated to be in conformance with the County Roadway Design Manual.” Where portions of the road have grades that exceed 16%, those portions must be paved and must have an exception request approved. [reference: County Code sections 3111-9 and 3112-5]

// END //

Public Works Recommended Conditions of Approval

(All checked boxes apply)

COUNTY ROADS- PROXIMITY OF FARMS:

Applicant is advised that County maintained roads may generate dust and other impacts to farm(s). Applicant shall locate their farm(s) in areas not subject to these impacts. Applicant shall be responsible for protecting their farm(s) against these impacts. Applicant shall hold the County harmless from these impacts. Applicant is advised that a paved road may not always remain paved and Applicant shall locate their farms appropriately. Applicant is advised that the amount of traffic on a road will vary over time which may increase or decrease the impacts.

COUNTY ROADS- FENCES & ENCROACHMENTS:

All fences and gates shall be relocated out of the County right of way. All gates shall be setback sufficiently from the County road so that vehicles will not block traffic when staging to open/close the gate. In addition, no materials shall be stored or placed in the County right of way.

This condition shall be completed to the satisfaction of the Department of Public Works prior to commencing operations, final sign-off for a building permit, or Public Works approval for a business license.

COUNTY ROADS- DRIVEWAY (PART 1):

The submitted site plan is unclear and/or shows improvements that are inconsistent with County Code and/or Department of Public Works policies. The applicant is advised that these discrepancies will be addressed at the time that the applicant applies to the Department of Public Works for an Encroachment Permit. If the applicant wishes to resolve these issues prior to approval of the Planning & Building permit for this project, the applicant should contact the Department to discuss how to modify the site plan for conformance with County Code and or Department of Public Works policies. Notes:

COUNTY ROADS- DRIVEWAY (PART 2):

Any existing or proposed driveways that will serve as access for the proposed project that connect to a county maintained road shall be improved to current standards for a commercial driveway. Applicant must apply for and obtain an encroachment permit from the Department of Public Works prior to commencement of any work in the County maintained right of way. This also includes installing or replacing driveway culverts; minimum size is typically 18 inches.

- If the County road has a paved surface at the location of the driveway, the driveway apron shall be paved for a minimum width of 18 feet and a length of 50 feet (or to break in slope) where it intersects the County road.
If the County road has a gravel surface at the location of the driveway, the driveway apron shall be rocked for a minimum width of 18 feet and a length of 50 feet where it intersects the County road.
If the County road is an urban road, frontage improvements (curb, gutter, and sidewalk) shall also be constructed to the satisfaction of the Department. Any existing curb, gutter or sidewalk that is damaged shall be replaced.

The exact location and quantity of driveways shall be approved by the Department at the time the applicant applies to the Department of Public Works for an Encroachment Permit.

This condition shall be completed to the satisfaction of the Department of Public Works prior to commencing operations, final sign-off for a building permit, or Public Works approval for a business license.

COUNTY ROADS- DRIVEWAY (PART 3):

The existing driveway will require substantial modification in order to comply with County Code. The applicant may wish to consider relocating the driveway apron if a more suitable location is available.

COUNTY ROADS-PARKING LOT- STORM WATER RUNOFF:

Surfaced parking lots shall have an oil-water filtration system prior to discharge into any County maintained facility.

This condition shall be completed to the satisfaction of the Department of Public Works prior to commencing operations, final sign-off for a building permit, or Public Works approval for a business license.

COUNTY ROADS- DRIVEWAY & PRIVATE ROAD INTERSECTION VISIBILITY:

All driveways and private road intersections onto the County Road shall be maintained in accordance with County Code Section 341-1 (Sight Visibility Ordinance).

This condition shall be completed to the satisfaction of the Department of Public Works prior to commencing operations, final sign-off for a building permit, or Public Works approval for a business license.

COUNTY ROADS- PRIVATE ROAD INTERSECTION: (AT COUNTY MAINTAINED RD)

Any existing or proposed non-county maintained access roads that will serve as access for the proposed project that connect to a county maintained road shall be improved to current standards for a commercial driveway. Applicant must apply for and obtain an encroachment permit from the Department of Public Works prior to commencement of any work in the County maintained right of way. This also includes installing or replacing intersection culverts; minimum size is typically 18 inches.

- If the County road has a paved surface at the location of the access road, the access road shall be paved for a minimum width of 20 feet and a length of 50 feet (or break in slope) where it intersects the County road.
If the County road has a gravel surface at the location of the access road, the access road shall be rocked for a minimum width of 20 feet and a length of 50 feet where it intersects the County road.

This condition shall be completed to the satisfaction of the Department of Public Works prior to commencing operations, final sign-off for a building permit, or Public Works approval for a business license.

COUNTY ROADS- ROAD EVALUATION REPORT(S):

All recommendations in the Road Evaluation Report(s) for County maintained road(s) shall be constructed/implemented to the satisfaction of the Public Works Department prior to commencing operations, final sign-off for a building permit, or approval for a business license. An encroachment permit shall be issued by the Department of Public Works prior to commencement of any work in the County maintained right of way.

// END //