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707-725-1897 • fax 707-725-0972
trc@timberlandresource.com

June 30, 2020

Attention: Cannabis Services Division
Humboldt County Planning and Building Department
3015 H Street
Eureka, CA 95501

**RE: APN 208-201-020
Application #11219**

At the request of the landowner, I have evaluated several areas of proposed tree removal within APN 208-201-020. The areas addressed in this report are located adjacent to or within close vicinity to existing cannabis cultivation sites under review through the Humboldt County Commercial Medical Marijuana Land Use Ordinance.

This report has been prepared by a Registered Professional Forester to determine the nature of the proposed tree removal, the need for any permitting, and to provide recommendations as necessary to mitigate potential impacts. A site visit was conducted on June 16, 2020.

Stand Description

Timber stands within the project area are composed of Douglas-fir encroachment growing amongst oak woodland. The Douglas-fir trees range in size from 14 to 20 inches diameter at breast height. There is a relatively low density of overstory Douglas-fir with higher densities of smaller conifer trees. This reverse J-shaped or negative exponential curve, where the number of small trees per acre is greater than the number of large trees is typical of conifer encroachment into oak woodland.

Proposed Tree Removal

The tree removal project consists of the Sanitation-Salvage silvicultural prescription per 14CCR 913.3(b) of the Forest Practice Rules as defined below:

Sanitation is the removal of insect attacked or diseased trees in order to maintain or improve the health of the stand. Salvage is the removal of only those trees which are dead, dying, or deteriorating, because of damage from fire, wind, insects, disease, flood, or other injurious agent. Salvage provides for the economic recovery of trees prior to a total loss of their wood product value.

To improve stand health, restore oak woodlands, and prevent the spread of disease and/or insects to other nearby trees; the landowner is encouraged to removed dead, dying, and diseased (DDD) Douglas-fir trees throughout the entire property located outside of the Stream Management Area and Water Board Riparian Setback. This will include harvesting of DDD trees near (within striking distance) Greenhouse #1, Cultivation Area #1, Cultivation Area #2, Cultivation Area #3, and the Rain Catchment Site. All of these features are depicted on Green Road's Parcel Overview (Site Plan) dated August 22, 2018. All of the trees proposed for harvest are dead or dying per 14CCR 895.1 of the Forest Practice Rules. As seen in the attached photographs the pockets of mortality occur within former oak woodland occupied by Oregon white oak and California black oak. These hardwood species appear to be in good health and not suffering from the pathogens effecting the Douglas-fir trees.

Proposed Tree Removal (Cont.)

The cause of the mortality in the Douglas-fir trees appears to be a combination of agents. Conk rot [*Porodaedalea pini*], also known as shelf fungus, was observed in many of the dead trees. This pathogen is endemic to the Pacific Northwest and is considered to be the most common trunk decay fungus of conifers in North America. This fungus is also considered to be one of the top causes of timber volume loss in the Pacific Northwest. This pathogen causes decay of heartwood, creating decay columns that commonly extent 10 meters or more, rendering entire trees useless for lumber. While even extensive infections of this pathogen do not always lead to tree mortality, the trees become stressed and ultimately more susceptible to various other harming agents, particularly the Douglas-fir beetle [*Dendroctonus pseudotsugae*] and/or Douglas-fir engraver [*Scolytus unispinosus*]. Many of the downed trees inspected by the RPF showed signs of bark beetle galleries or tunnels.

Conk rot produces spores that are disseminated by wind. Spores that land on a suitable small wound or twig stub in adjacent trees may infect and grow into the inner wood. Once the decay is sufficient to provide enough resources to the pathogen, a new spore producing conk may be produced. Time from infection to conk production may be 10-20 years or more. It is typical to see pockets of tree mortality where a group of trees infected with conk rot occur. Once a colony of insects is established within an individual tree, the insects can multiply rapidly and spread to neighboring trees. Under certain conditions this can cause significant damage to timberlands. It is also relatively common to observe conk outbreaks within encroached oak woodlands in Humboldt County. As Douglas-fir trees grow in and around the predominant oak trees, they often rub against the large and phototropic spreading branches of the oak trees creating the small wounds that are susceptible to pathogen infection.

Cal Fire Timber Harvesting Regulations

The California Department of Forestry and Fire Protection (CAL FIRE) enforces the laws that regulate logging on privately-owned lands in California. Compliance with the Forest Practice Act and Board rules apply to all commercial harvesting operations, and to timberland conversion.

The proposed timber harvesting within the subject parcel does not require a permit from Cal Fire. This is based upon the fact that no conversion of timberland will occur, and the cutting of the trees is not for commercial purposes. All of the trees being harvested are clearly dead with absolutely no commercial value. A permit from Cal Fire is only required when "timber operations" occur as defined below.

4527. Timber operations; commercial purposes; criteria.

(a) (1) "Timber operations" means the cutting or removal, or both, of timber or other solid wood forest products, including Christmas trees, from timberlands for commercial purposes, together with all the incidental work, including, but not limited to, construction and maintenance of roads, fuel breaks, firebreaks, stream crossings, landings, skid trails, and beds for the falling of trees, fire hazard abatement, and site preparation that involves disturbance of soil or burning of vegetation following timber harvesting activities, but excluding preparatory work such as tree marking, surveying, or road flagging.

(2) "Commercial purposes" includes (A) the cutting or removal of trees that are processed into logs, lumber, or other wood products and offered for sale, barter, exchange, or trade, or (B) the cutting or removal of trees or other forest products during the conversion of timberlands to land uses other than the growing of timber that are subject to the provisions of Section 4621, including, but not limited to, residential or commercial developments, production of other agricultural crops, recreational developments, ski developments, water development projects, and transportation projects.

Biological Resources

A query of the California Natural Diversity Database (CNDDDB) on June 30, 2020 revealed one observation of sensitive, rare, threatened, or endangered species or species of special concern within a 1.3-mile radius biological assessment area (BAA) surrounding the property. Oregon goldthread was detected approximately 5,500 feet east of the project area. This plant species' habitat (meadows, seeps, and streambanks) are primarily associated with areas located within the Stream Management Area and Water Board Riparian Setback.

Biological Resources (Cont.)

The query of the CNDDDB NSO Database revealed no known Northern Spotted Owl (NSO) Activity Centers within 1.3-miles of the project area. The removal of dead, dying, and diseased trees will not affect "NSO habitat" in the form of foraging, roosting, or nesting habitat.

Biological Habitat Features and Conditions within the BAA

Snags are an important wildlife habitat component for cavity nesting species and are a distinctive characteristic of old-growth forests. Studies done in the Blue Mountains of Oregon & Washington show that snags are the primary location for cavities that are used by 63 species of vertebrates, 39 birds, and 24 mammals. Uses include sites for nesting and overwintering, locations for courtship rituals & food sources (Franklin et al Ecological Characteristics of Old-Growth Douglas-Fir Forests, USFS, PNW Range & Experiment Station, General Technical Report PNW-118, 1981). Past management practices have included the routine felling of snags for worker safety and fire prevention. The subsequent reduction in the number of large snags available for wildlife use has become a concern to some. However, the density of snags within the property and the biological assessment area is very high given the relatively young age of the conifers. This is associated with disease and infestation rather than senescence of mature or old growth trees. The harvesting of dead, dying, and diseased trees located outside of the Stream Management Area and Water Board Riparian Setback is not going to result in a significant loss of young-growth Douglas-fir snags within the Biological Assessment Area. This project does not involve harvesting of old growth snags and/or decadent or deformed trees of value to wildlife per 14CCR 895.1.

Oak Woodlands

Oak woodlands have ecological, economic and cultural significance. They provide food and cover for a wide range of wildlife species, and provide important ecosystem services including air purification, water conservation, and soil retention functions. They also play an important role in maintaining livestock grazing habitat, and hold important cultural values among many tribes of the North Coast. Their significance is further emphasized by the growing spread of sudden oak death (SOD) in California and Oregon forests. In these regions, tanoak acorns are the primary food source for many forms of wildlife, however, as the spread of SOD effects tanoak stands the greatest, acorns from true oak species (Oregon white oak and California black oak) become increasingly more important as a substitute food source for sustaining wildlife populations (Green & Magnuson, 2011).

As described above, the subject property is located in eastern Humboldt County, which features broad grassy hillsides interspersed between true oak woodlands, surrounded by large blocks of conifer forests. Historically these vegetation types would have been maintained by the regular occurrence of fire, however since the adoption of an aggressive fire suppression policy, Douglas-fir has become a major competitor of many oak woodlands. A variety of aerial imagery indicates this successional change as oak woodlands transition into conifer stands here and in many parts of northern California. Encroachment is widely accepted to be the greatest threat to oak woodlands.

The tree removal project, albeit very minor in scope, will benefit adjacent and nearby black and white oak trees. Past removal of dead, dying, and diseased (DDD) Douglas-fir trees surrounding the landowner's structures (cabins, mother-in-law unit, multi-use building, etc.) have clearly benefitted oak woodland. Please see attached photographs of areas treated and un-treated. No California black oak or Oregon white oak shall be removed or damaged as part of this project.

Recommendations

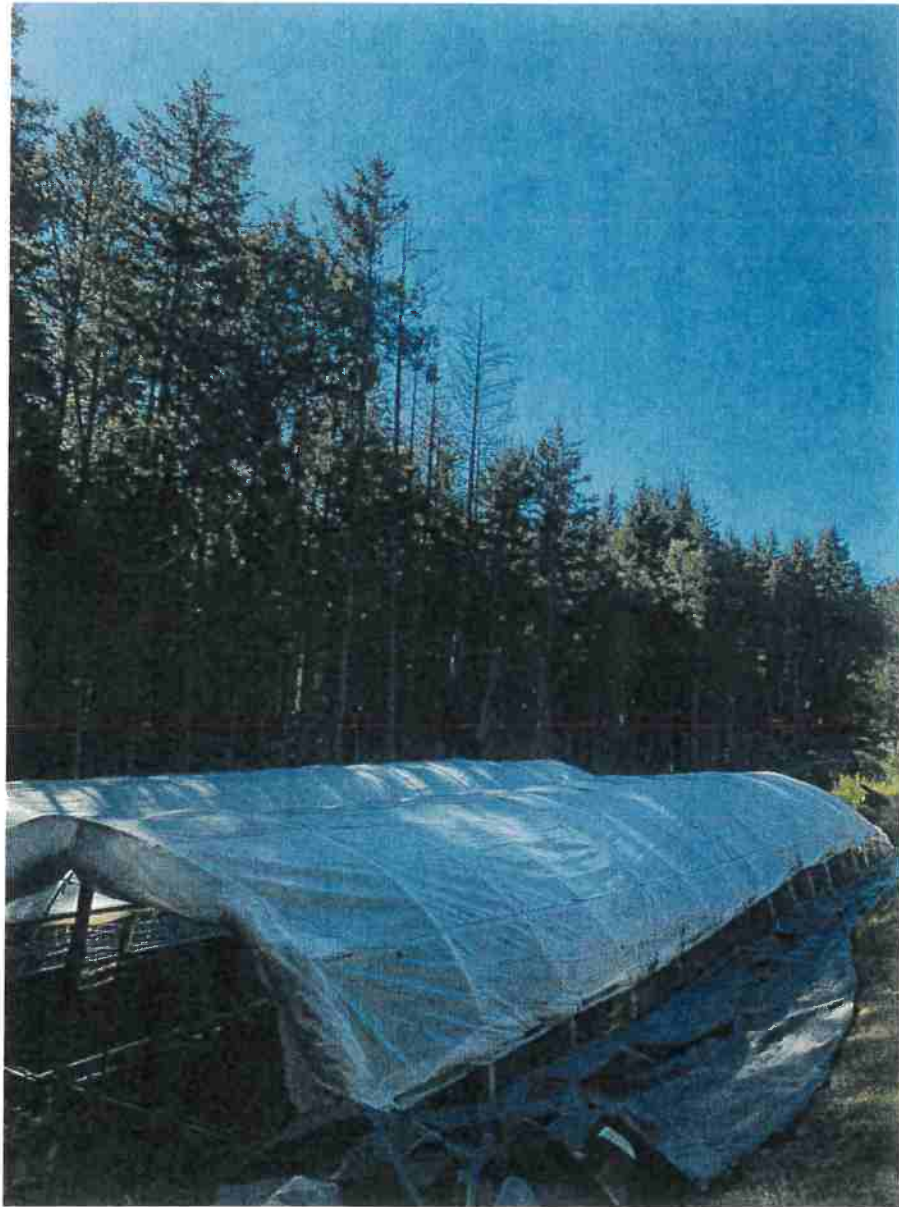
1. Dead, dying, and diseased trees may be removed within striking distance (~100 feet) of Greenhouse #1, Cultivation Area #1, Cultivation Area #2, Cultivation Area #3, and the Rain Catchment Site. The stumps of the trees shall not be removed, nor shall there be any disturbance or grading that could result in timberland conversion.
2. The RPF observed scattered dead, dying, and diseased trees located throughout the property, which are greater than 100 feet from the cultivation site. These trees are individually scattered or in small clumps, and do not pose a threat or hazard to cultivation related infrastructure. However, to improve forest health and timberland productivity; the RPF recommends that all dead, dying, and diseased be removed and treated as feasible for hazard reduction.
3. No dead, dying, and diseased trees shall be harvested within a Stream Management Area and Water Board Riparian Setback. These trees shall be left standing for the beneficial uses of wildlife.
4. To eliminate fire hazard, all slash and woody debris created by the removal of dead, dying, and diseased trees shall be treated per 14CCR 914.5(b). See specifications attached.
5. No California black oak or Oregon white oak shall be removed or damaged.
6. The tree removal project shall comply with State Water Resources Control Board Order WQ 2019-0001-DWQ. In particular, the project shall ensure compliance with the following: (1) Cannabis cultivators shall avoid damage to oak woodlands and (2) Cannabis cultivators shall apply erosion repair and control measures to the bare ground to prevent discharge of sediment to waters of the state.

Sincerely,



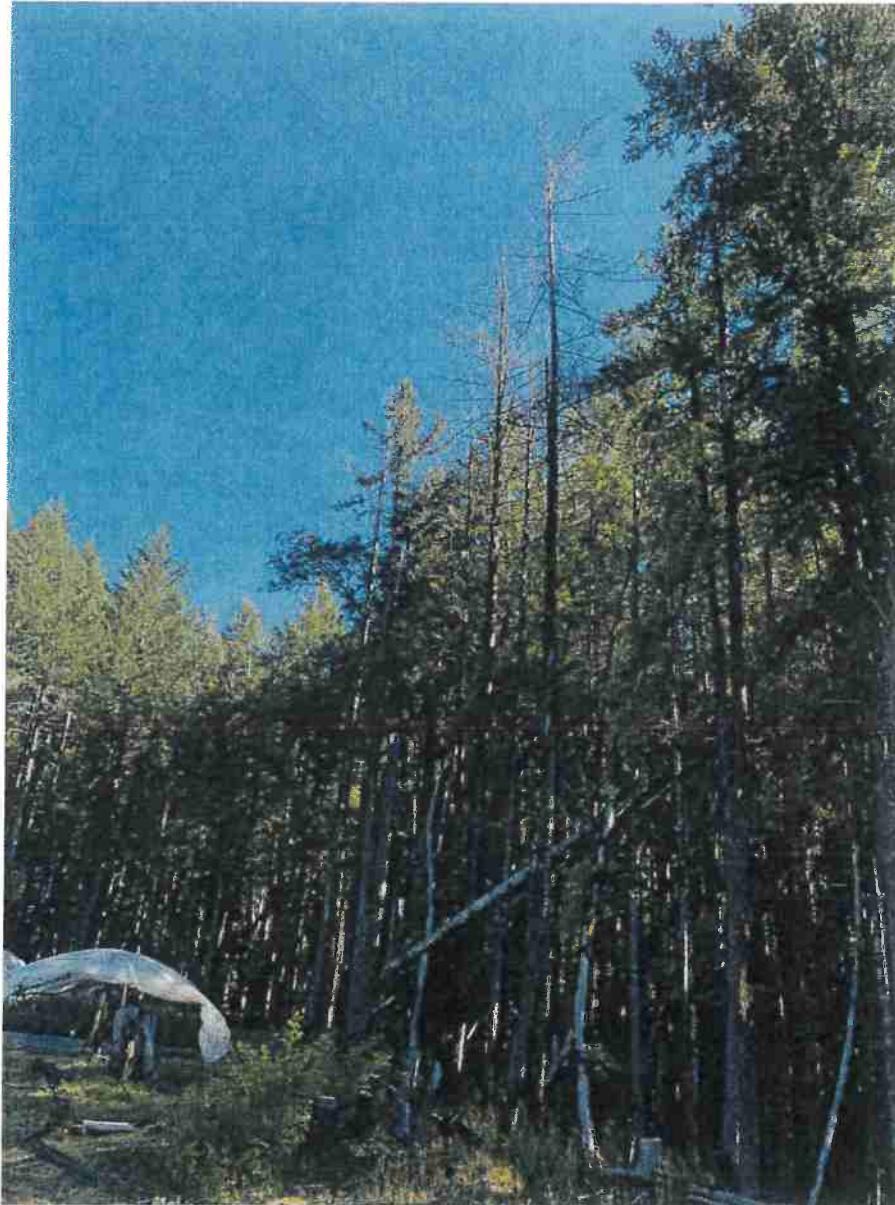
Chris Carroll, RPF #2628
Timberland Resource Consultants

Pictures



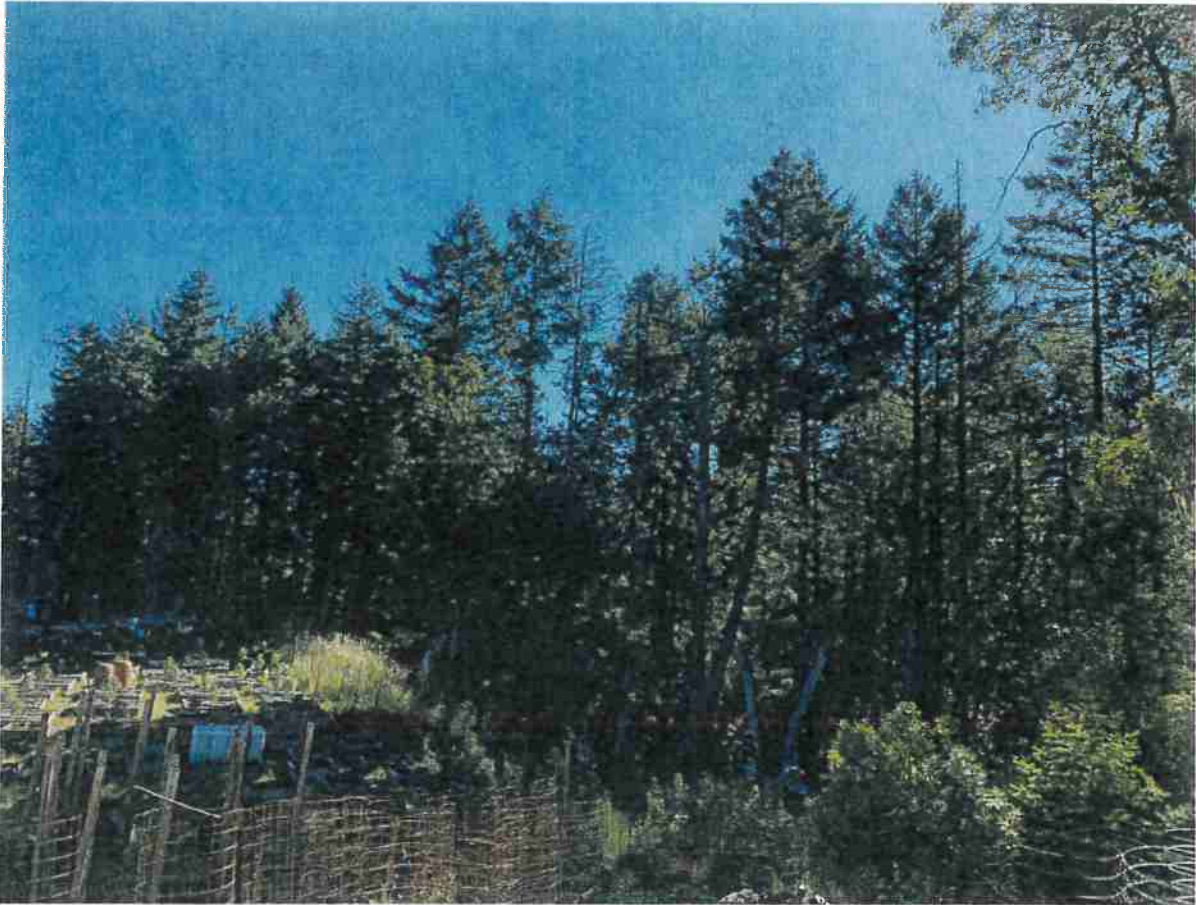
Picture 1: Dead, dying, and diseased Douglas-fir located east of Greenhouse #1. Photo date 6-17-2020.

Pictures



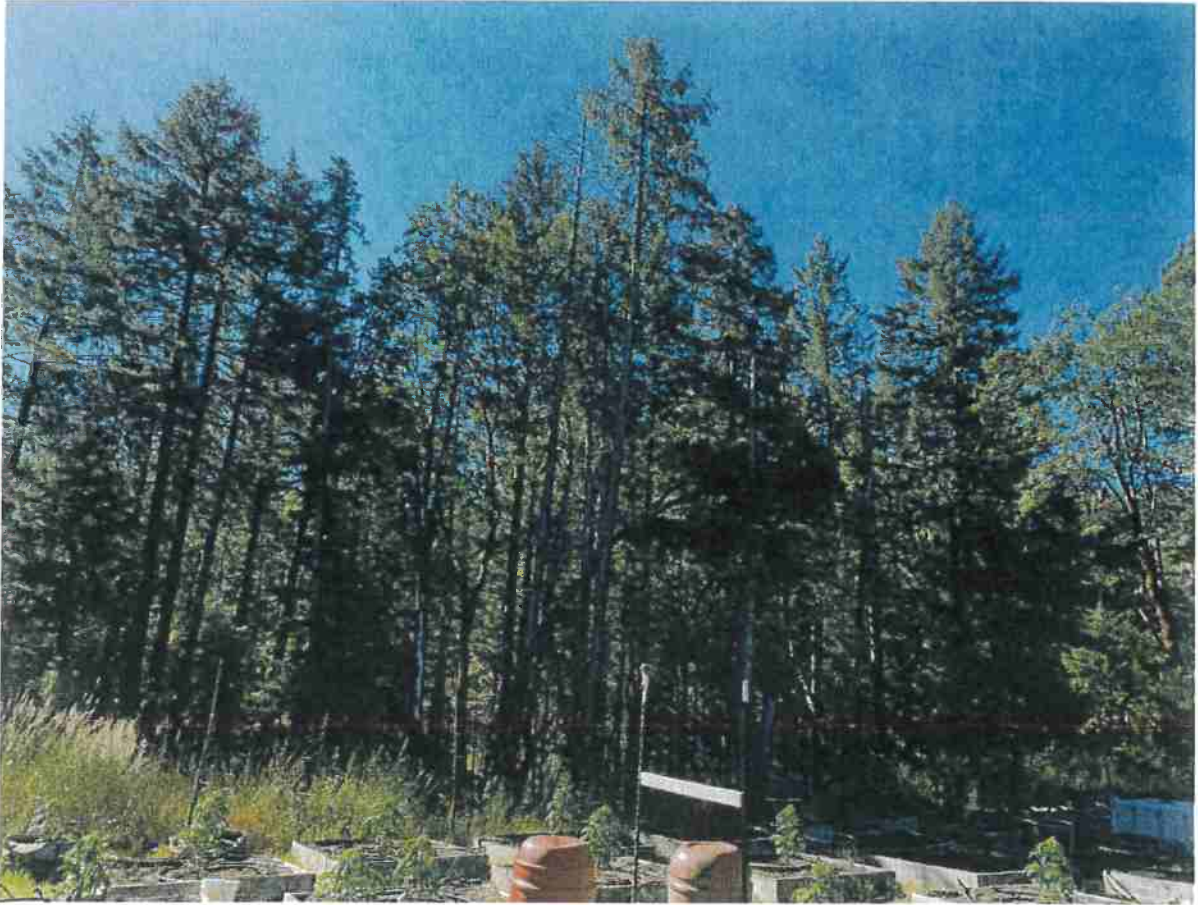
Picture 2: Dead, dying, and diseased Douglas-fir located east of Greenhouse #1. Photo date 6-17-2020.

Pictures



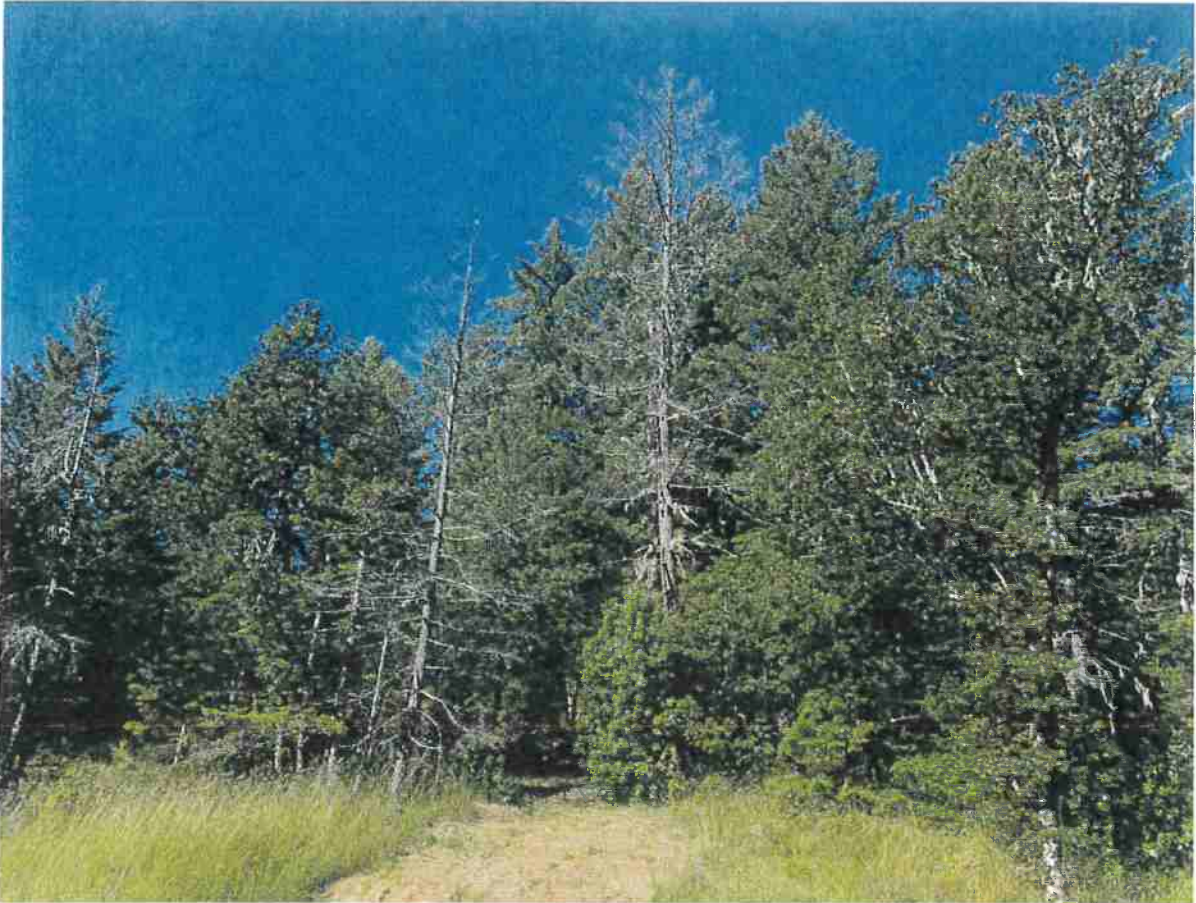
Picture 3: Several dead, dying, and diseased trees located east of Cultivation Area #1. Photo date 6-17-2020.

Pictures



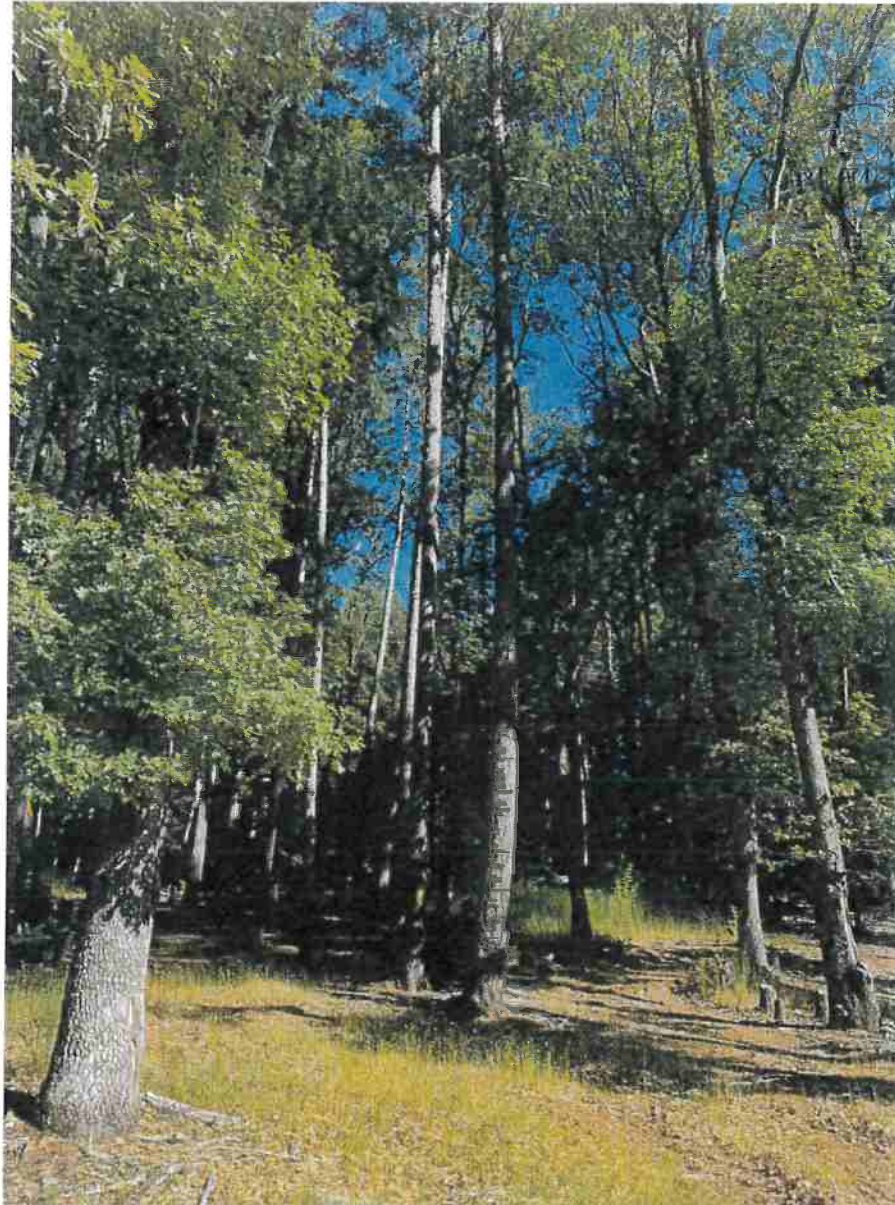
Picture 4: Several dead, dying, and diseased trees located east of Cultivation Area #1. Photo date 6-17-2020.

Pictures



Picture 5: Dead, dying, and diseased trees located west of Pond #2. Photo date 6-17-2020.

Pictures



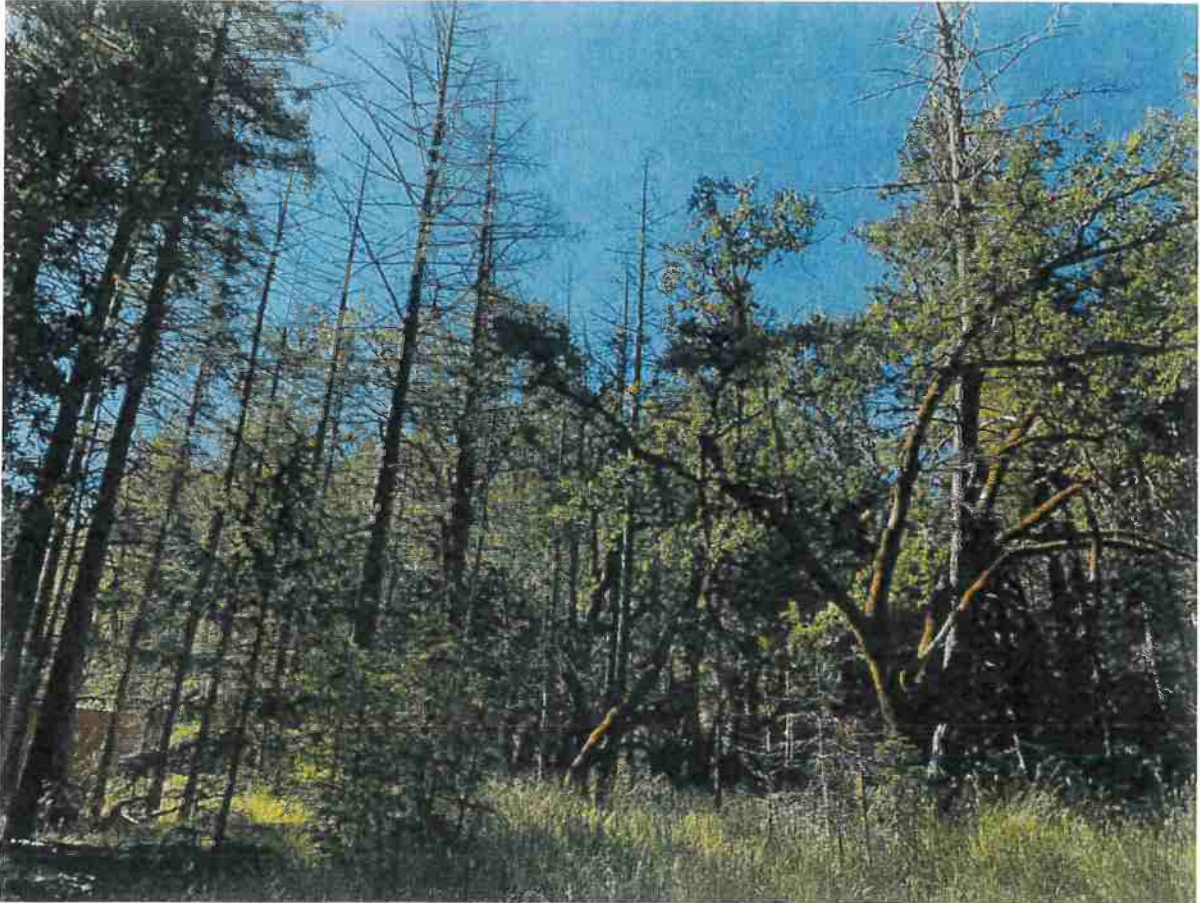
Picture 6: Grove of Douglas-fir encroachment within oak woodland located between Cabin #1 and Pond #1 that has been previously treated with sanitation-salvage harvesting of dead, dying, and diseased Douglas-fir trees. Note the release of black and white oak trees as evidenced by green hardwood foliage. Photo date 6-17-2020.

Pictures



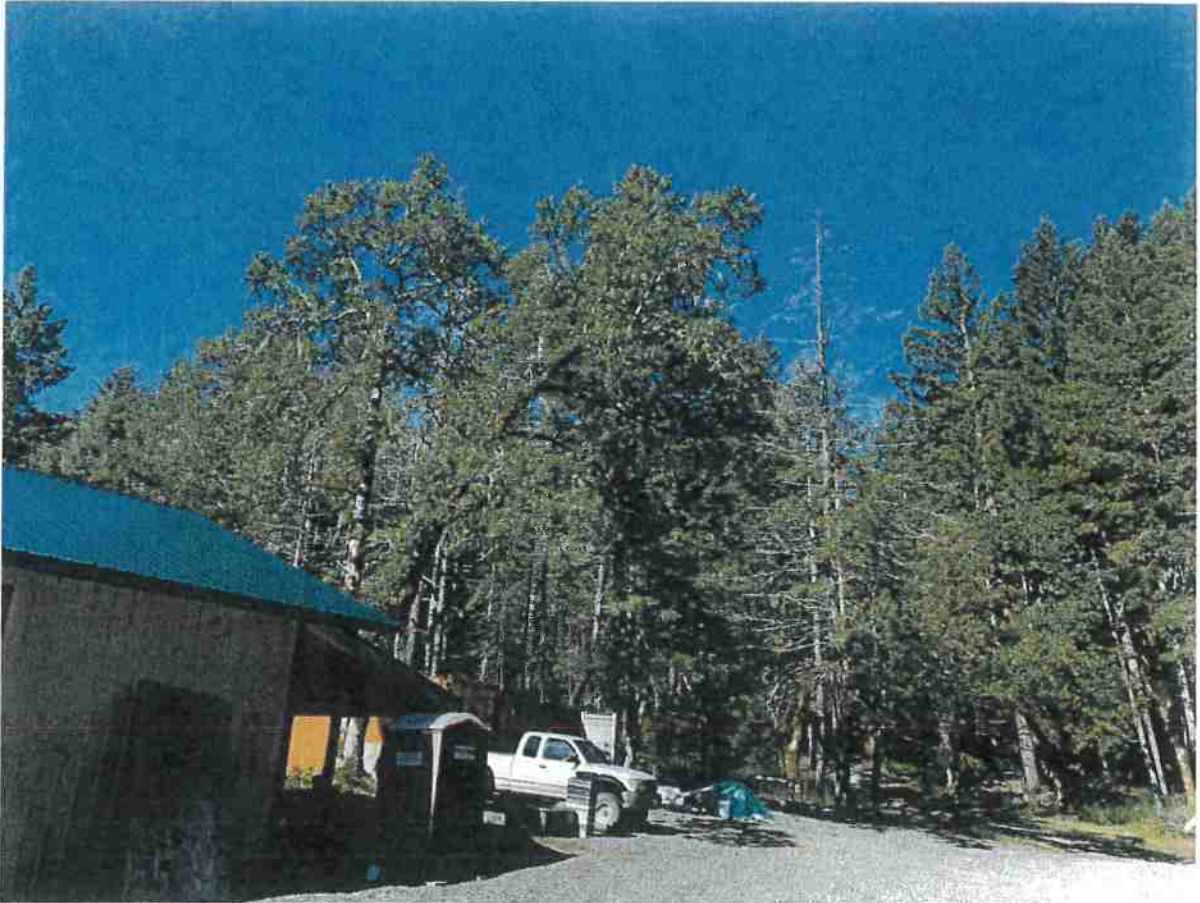
Picture 7: In contrast to Picture 6, this is a stand of Douglas-fir encroachment within oak woodland located north of Cabin #1. In the absence of management, the high stand density of Douglas-fir will undoubtedly out-compete the oak trees and result in their demise. Photo date 6-17-2020.

Addendum 10 – Pictures



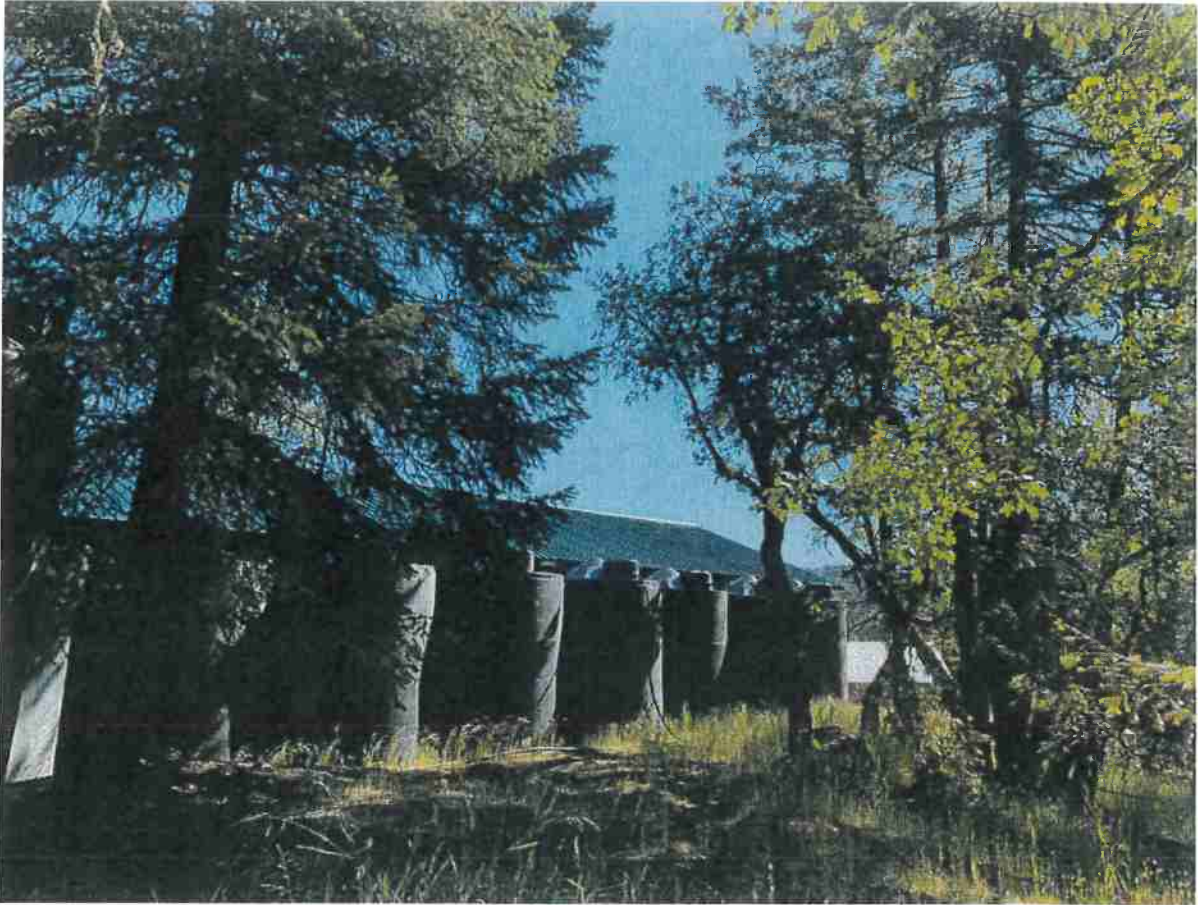
Picture 9: Dead, dying, and diseased Douglas-fir located south and southwest of the Rain Catchment Site. These trees are within striking distance of the tank farm (21 plastic storage tanks), Cabin #2, and the Multi Use Building. Photo date 6-17-2020.

Addendum 10 – Pictures



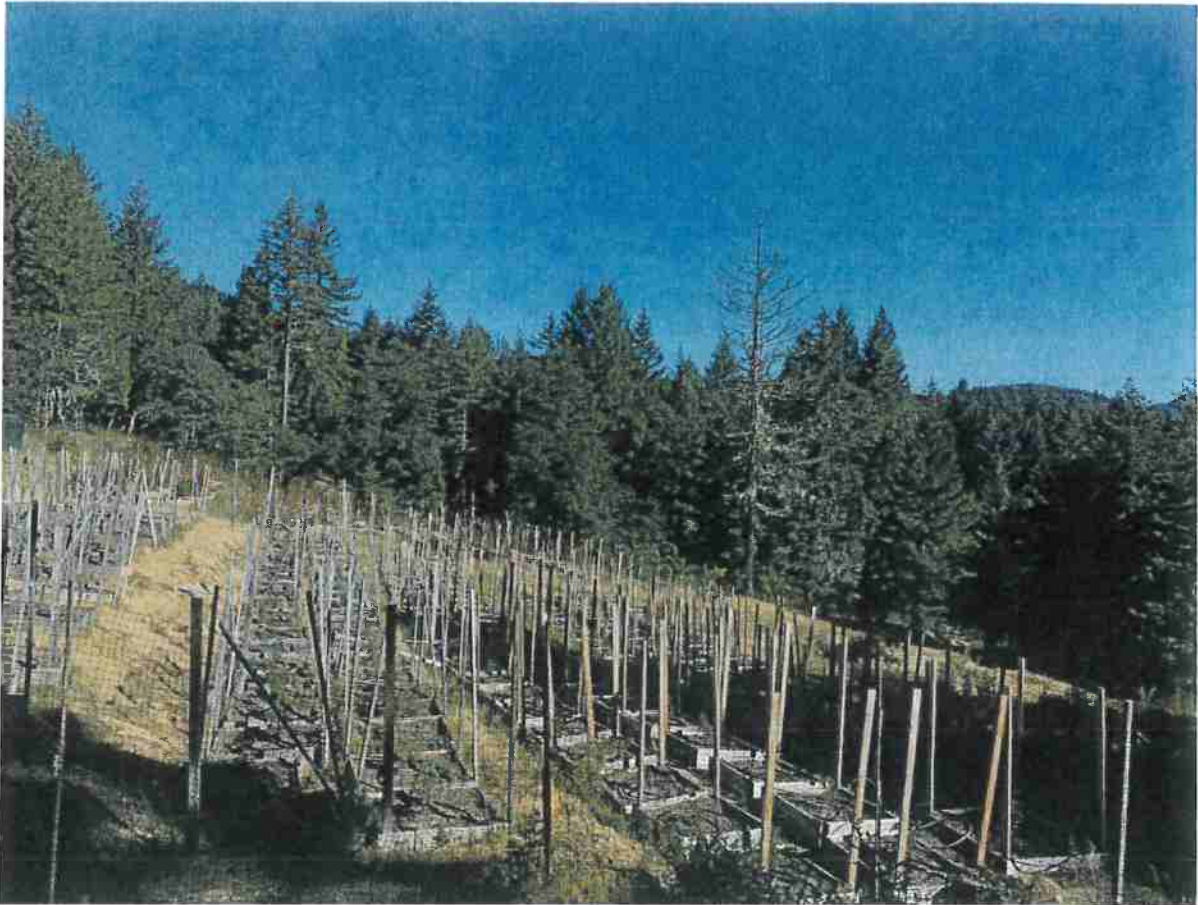
Picture 10: Dead, dying, and diseased Douglas-fir located south and southwest of the Rain Catchment Site. Note Multi Use Building with green roof. Photo date 6-17-2020.

Addendum 10 – Pictures



Picture 11: Tank farm and the Multi Use Building pictured, which are within striking distance of dead, dying, and diseased Douglas-fir. Photo date 6-17-2020.

Addendum 10 – Pictures



Picture 12: Dead, dying, and diseased Douglas-fir tree located directly adjacent (northwest) of Cultivation Area #2. Photo date 6-17-2020.

Slash, Woody Debris, and Refuse Treatment

14CCR 1104.1(a)(2)(D) – Treatment of Slash and Woody Debris

- 1) *Unless otherwise required, slash greater than one inch in diameter and greater than two feet long, and woody debris, except pine, shall receive full treatment no later than April 1 of the year following its creation, or within one year from the date of acceptance of the conversion exemption by the Director, whichever comes first.*
- 2) *All pine slash three inches and greater in diameter and longer than four feet must receive initial treatment if it is still on the parcel, within 7 days of its creation.*
- 3) *All pine woody debris longer than four feet must receive an initial treatment prior to full treatment.*
- 4) *Initial treatment shall include limbing woody debris and cutting slash and woody debris into lengths of less than four feet, and leaving the pieces exposed to solar radiation to aid in rapid drying.*
- 5) *Full treatment of all pine slash and woody debris must be completed by March 1 of the year following its creation, or within one year from the date of acceptance of the conversion exemption by the Director, whichever comes first.*
- 6) *Full slash and woody debris treatment may include any of the following:*
 - a) *Burying;*
 - b) *Chipping and spreading;*
 - c) *Piling and burning; or*
 - d) *Removing slash and woody debris from the site for treatment in compliance with (a)-(b). Slash and woody debris may not be burned by open outdoor fires except under permit from the appropriate fire protection agency, if required, the local air pollution control district or air quality management district. The burning must occur on the property where the slash and woody debris originated.*
- 7) *Slash and woody debris, except for pine, which is cut up for firewood shall be cut to lengths 24 inches or less and set aside for drying by April 1 of the year following its creation. Pine slash and woody debris which is cut up for firewood shall be cut to lengths 24 inches or less and set aside for drying within seven days of its creation.*
- 8) *Any treatment which involves burning of slash or woody debris shall comply with all state and local fire and air quality rules.*

APN 208-201-020

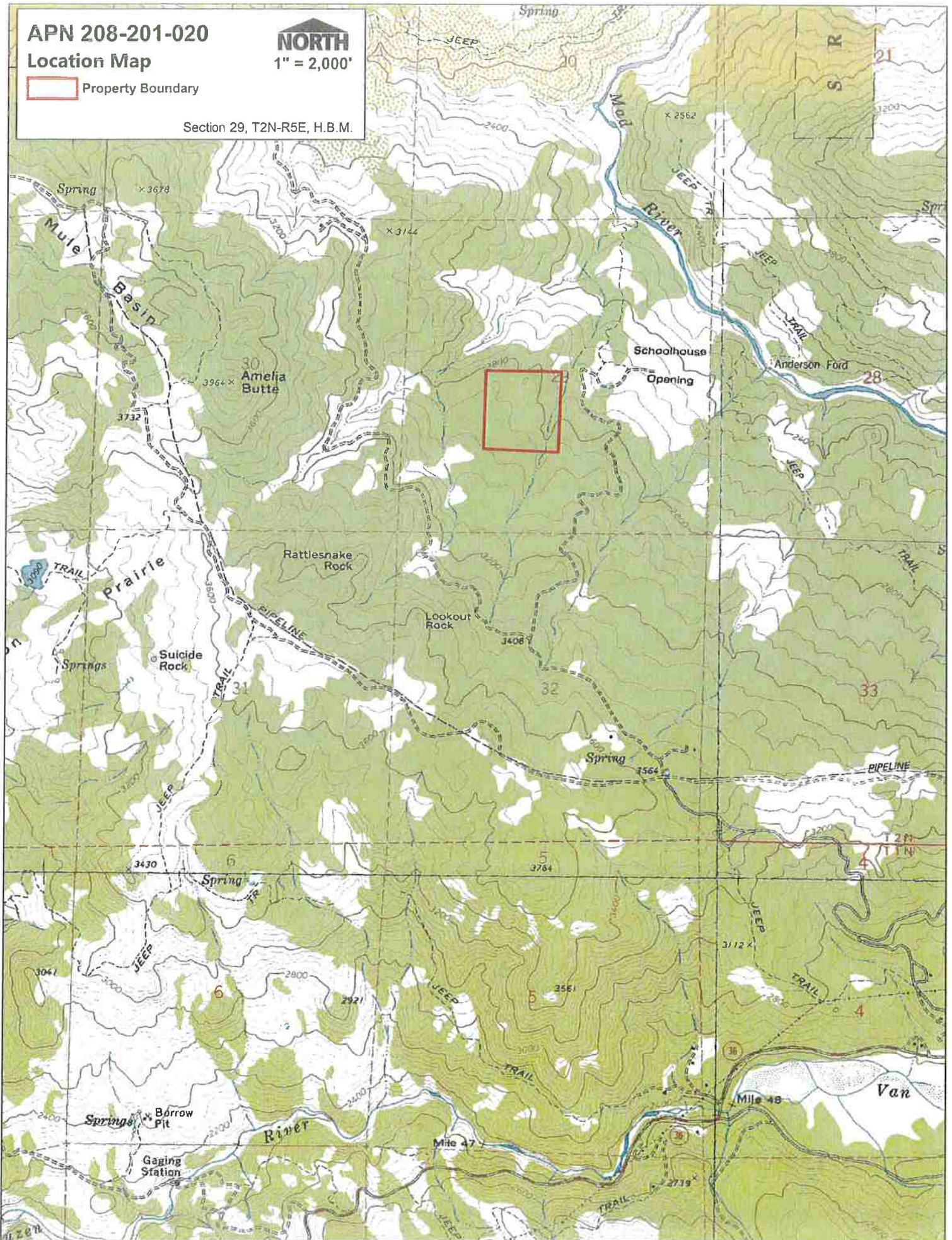
Location Map

 Property Boundary



1" = 2,000'

Section 29, T2N-R5E, H.B.M.



FULL MOON FARMS

APN: 208-201-020

VICINITY MAP

NOT TO SCALE



AERIAL MAP



PROJECT DIRECTIONS

FROM: FORTUNA, CA
HEAD EAST ON CA-36 (42 MI)
TURN LEFT ONTO DINSMORE ROAD (0.3 MI)
TURN RIGHT TO STAY ON DINSMORE ROAD(0.3 MI)
CONTINUE ONTO BEAR CREEK ROAD (2.0 MI)
PROPERTY ENTRANCE WILL BE ON RIGHT

TRAVEL TIME

APPROXIMATELY: 48 MILES (1 HOUR 20 MINUTES)

SHEET INDEX

CP-COVER PAGE
PO-PARCEL OVERVIEW

PROJECT INFORMATION

LAT/LONG: 40.5217,-123.6385
APN: 208-201-020
APPLICANT: FULL MOON FARMS
PARCEL SIZE: 340
ZONING: FR
APPLICATION TYPE: TYPE 3 OUTDOOR

COASTAL ZONE: N
100 YEAR FLOOD: N

AGENT:

KAYLIE SAXON
GREEN ROAD CONSULTING INC
1650 CENTRAL AVE. SUITE C
MCKINLEYVILLE, CA 95519
707-630-5041

PROJECT PARCEL

PROPERTY LINES AND BUILDING LOCATIONS
ARE APPROXIMATE AND BASED ON AERIAL
MAPS AND GPS DATA TAKEN IN THE FIELD.

GREEN ROAD CONSULTING



PROJECT INFORMATION

PROPERTY OWNER
NIKOLAI ERICKSON
ADDRESS
APN: 208-201-020
COVER PAGE
SHEET INFO

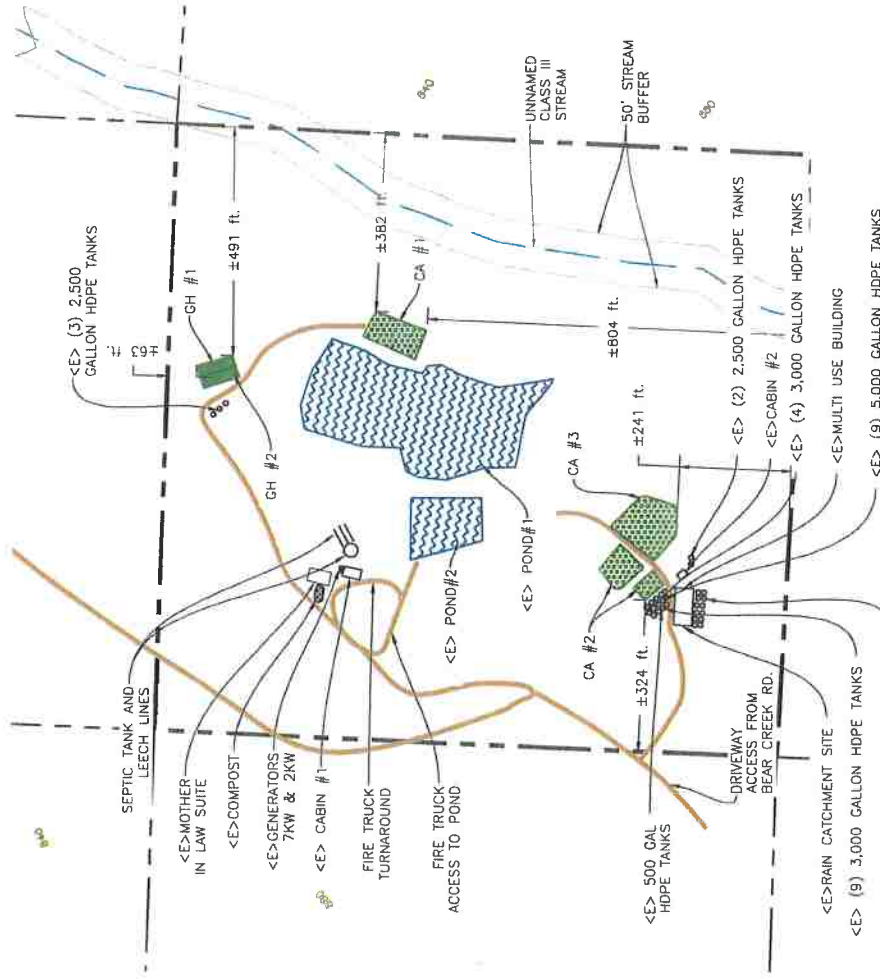
REVISIONS
NO. NOTES DATE

NO.	NOTES	DATE

DATE: 1/25/21
DRAFTER: [blank]
SCALE: [blank]
SHEET: CP

PARCEL OVERVIEW

APN: 208-201-020



SURROUNDING BUILDINGS

THERE ARE NO SCHOOLS, BUS STOPS, PLACES OF WORSHIP, PUBLIC PARKS OR TRIBAL CULTURAL RESOURCES WITHIN 600 FEET OF THE CULTIVATION SITE

THERE ARE NO OFF-SITE RESIDENCES WITHIN 300 FEET OF THE CULTIVATION SITE

PESTICIDES ARE STORED IN CARGO CONTAINERS ON APN: 208-271-004



CULTIVATION INFORMATION

18 TMP-022518 MIXED LIGHT CULTIVATION AREA

GH	LENGTH	WIDTH	SO.FT.
1	*	X	1,886
2	*	X	1,886

TOTAL MIXED LIGHT CULTIVATION AREA = 3,772 SQ FT

18 TMP-022533 SMALL OUTDOOR CULTIVATION AREA #1

CA	SO.FT.
1	4370
2	5000

TOTAL OUTDOOR CULTIVATION AREA = 9,370 SQ.FT

18 TMP-00036315 SMALL OUTDOOR CULTIVATION AREA #2

CA	SO.FT.
3	9,430

TOTAL OUTDOOR CULTIVATION AREA = 9,430 SQ.FT

CULTIVATION BUILDINGS AND USE

BUILDING	USE	SIZE	YEAR
MULTI USE BUILDING	DRIVING / PACKAGING & LABELING / TRASH STORAGE	36' x 86'	2016

DOMESTIC BUILDING AND USE

BUILDING	USE	SIZE	YEAR
STORAGE SHED	TOOL STORAGE	14' x 20'	2012
CABIN #1	TEMPORARY HOUSING		EARLY 1980S
CABIN #2	TEMPORARY HOUSING		UNFINISHED
MOTHER IN LAW SUITE	TEMPORARY HOUSING		

WATER STORAGE AND USE

TYPE	LAT/LONG	QUANTITY	GALLONS	TOTAL GALLONS
HDPE TANK	40.5302, -123.6397	12	5,000	60,000
HDPE TANK	40.5300, -123.6394	2	2,500	5,000
HDPE TANK	40.5199, -123.6397	4	3,000	12,000
HDPE TANK	40.5199, -123.6397	8	5,000	40,000
HDPE TANK	40.5199, -123.6397	1	500	500
HDPE TANK	40.5228, -123.6383	3	2,500	7,500
RAIN CATCHMENT POND #1	40.5125, -123.6383	1	2,611,313	2,611,313
RAIN CATCHMENT POND #2	40.5125, -123.6391	1	879,454	879,454
TOTAL AMOUNT OF WATER STORAGE*				3,611,747 GALLONS

WATER SOURCE

TYPE	LAT/LONG
RAIN CATCHMENT POND #1	40.5125, -123.6383
RAIN CATCHMENT POND #2	40.5125, -123.6391
RAIN CATCHMENT OFF MULTI USE BUILDING	40.5300, -123.6397

UNNAMED CLASS III STREAM WITH REQUIRED 50 FT BUFFER.

POWER SOURCE

- 7 KW GENERATOR
- 3 KW HONDA BACKUP GENERATOR



PROJECT INFORMATION

PROPERTY OWNER: NIKOLAI ERICKSON
 ADDRESS: APN: 208-201-020
 PARCEL OVERVIEW

NO.	NOTES	DATE

DATE: 9/22/18
 DRAFTER: 3
 SCALE: AS SHOWN
 SHEET: PO

APN 208-201-020

CNDDB Map

-  Property Boundary
-  1.3-Mile Biological Assessment Area
-  NSO Activity Center
-  CNDDB Sensitive Species

Map Scale 1" = 2,000'
Section 29, T2N-R5E, H.B.M.

