

**Water Resource Protection Plan**  
**for APN 221-171-022**  
**WDID# 1B161563CHUM**  
**Humboldt County**

*Submitted to:*

*California Regional Water Quality Control Board -  
North Coast Region  
5550 Skylane Boulevard, Suite A  
Santa Rosa, California 95403*

*Prepared by:*

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*August 21, 2017*



## Site Maps for Parcel

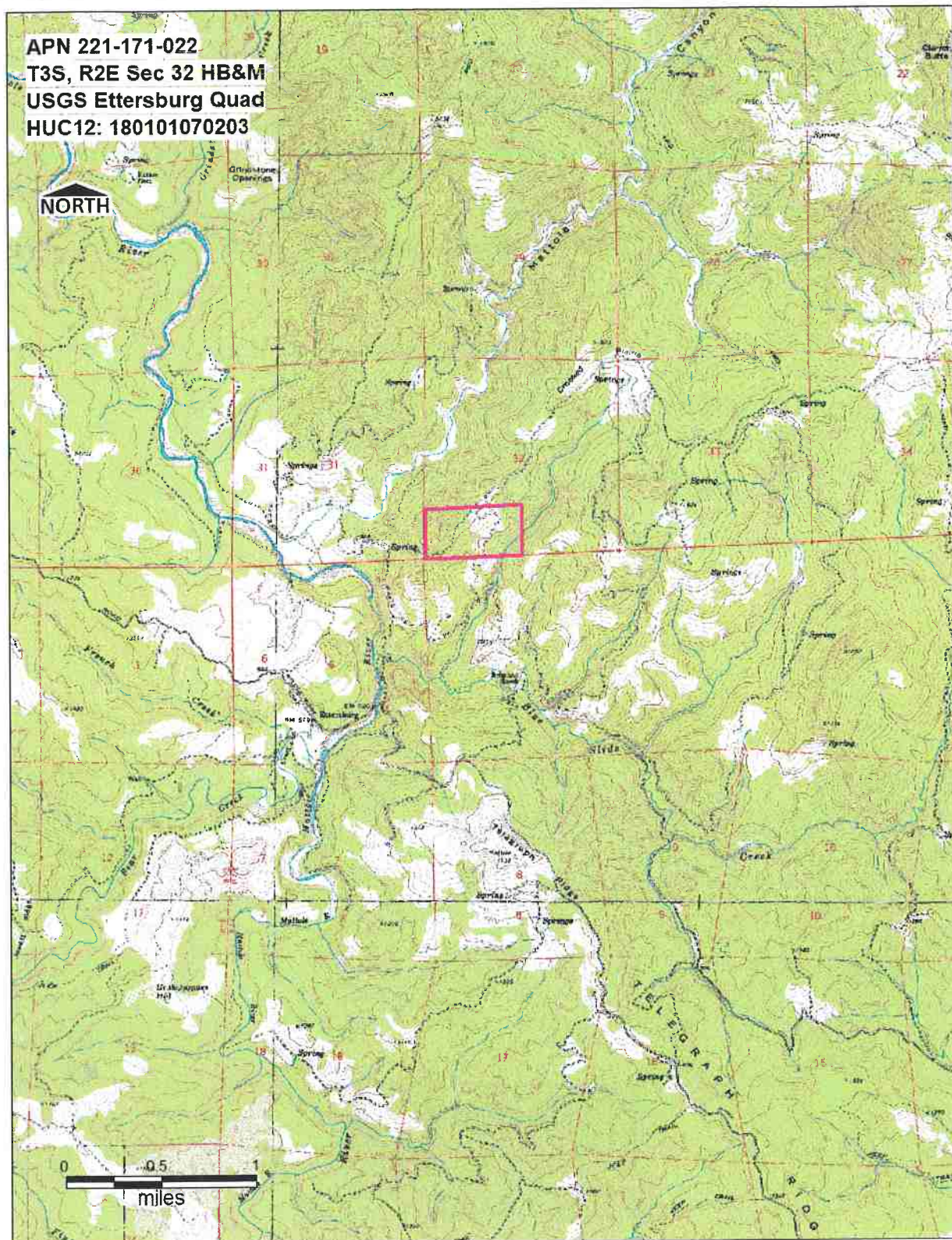


Figure 1. Vicinity map for APN 221-171-022



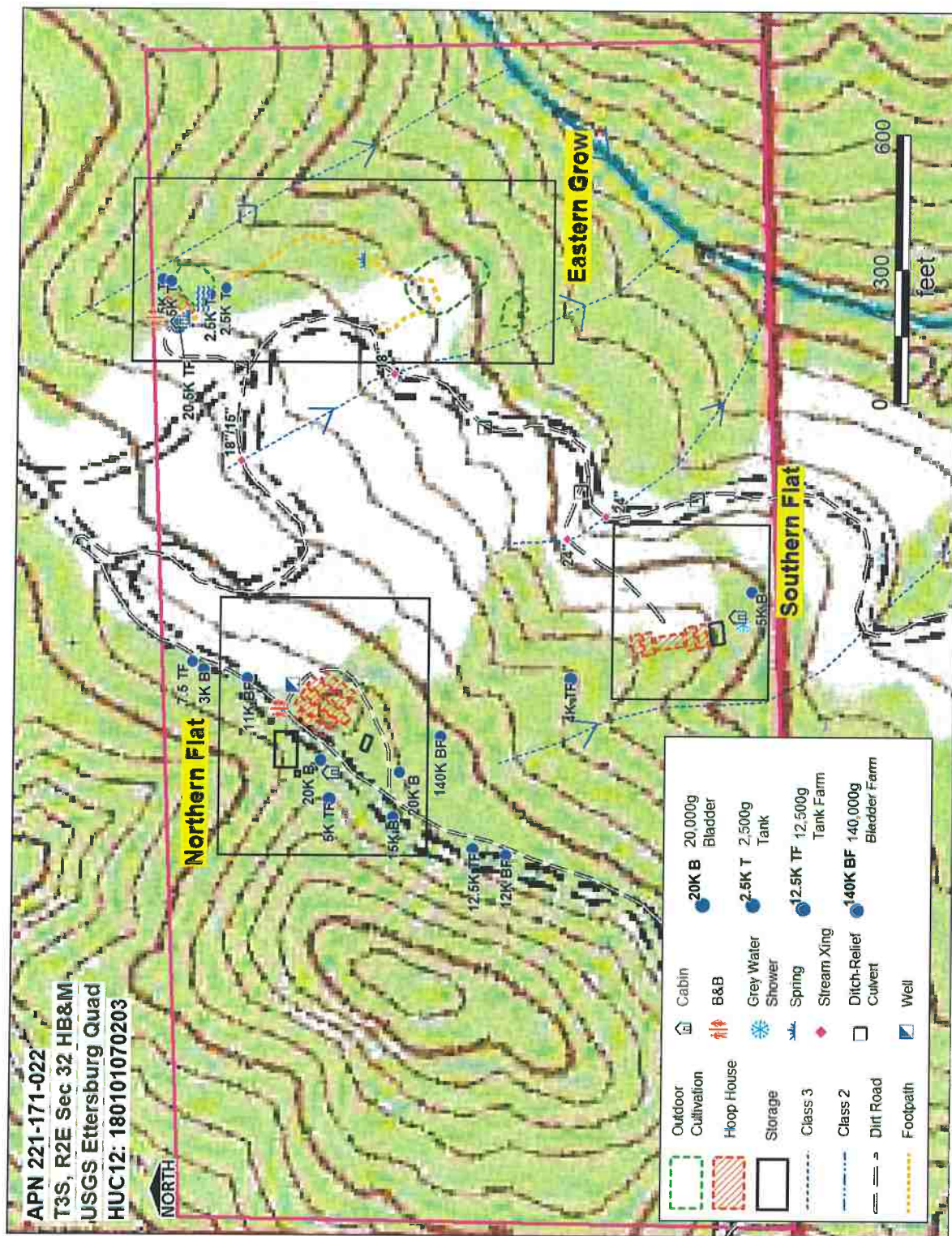


Figure 2. Cultivation areas on parcel 221-171-022



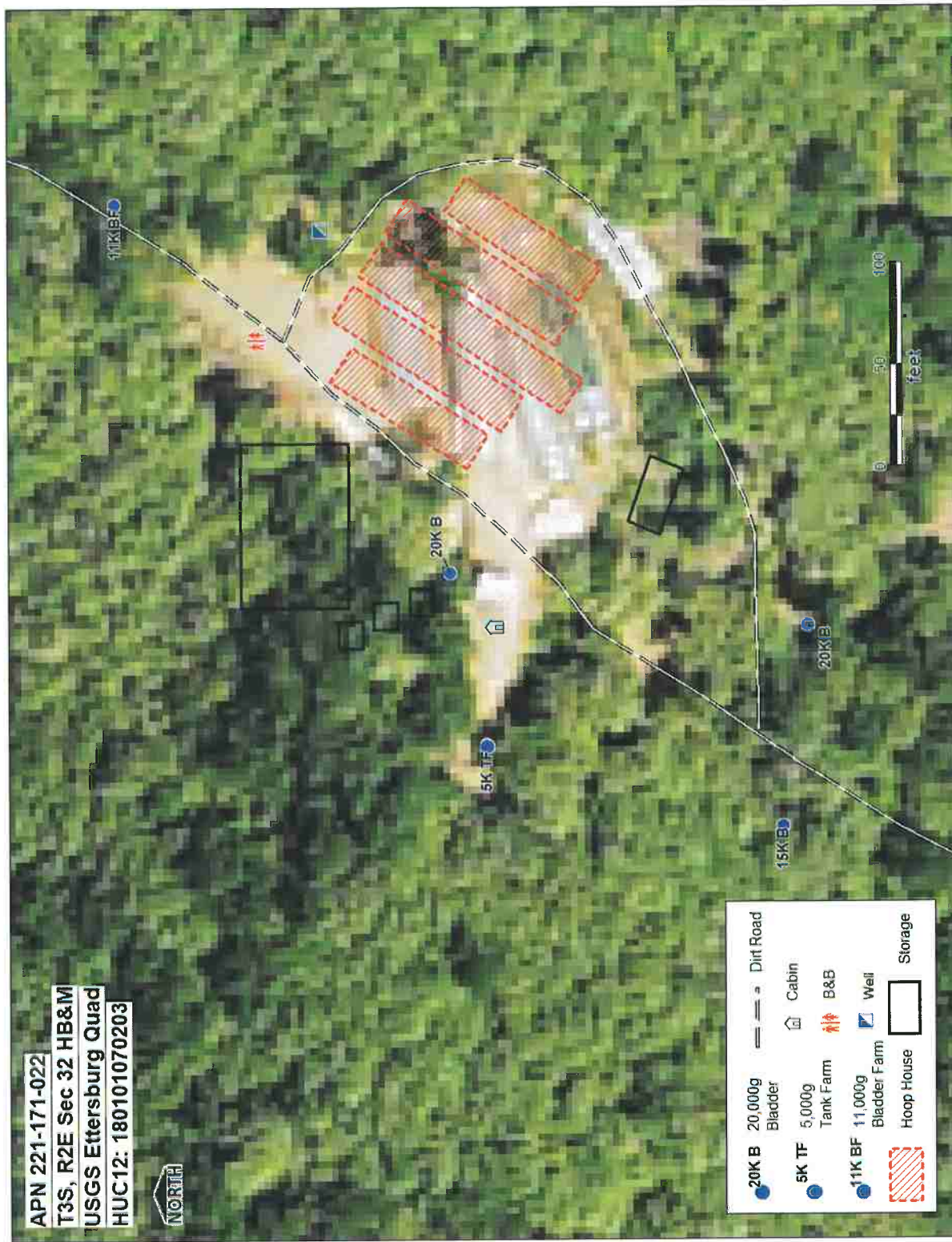


Figure 3. Infrastructure map for the northern flat on parcel 221-171-022





Figure 4. Infrastructure map for the southern flat on parcel 221-171-022



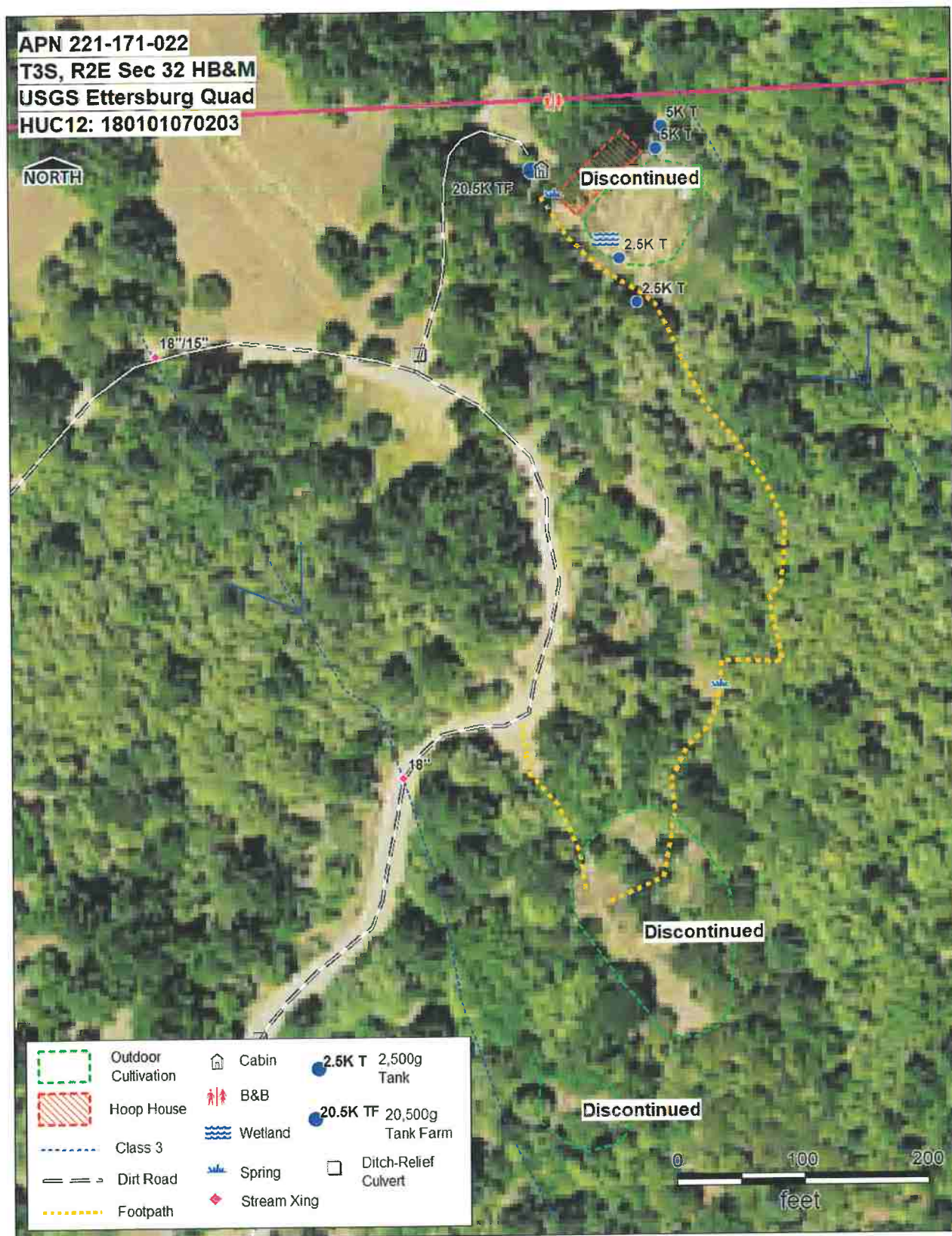


Figure 5. Infrastructure map for the 'eastern grow' on parcel 221-171-022





Figure 6. Road treatments required for parcel 221-171-022

## **Water Resource Protection Plan**

This document serves as the water resource protection plan (WRPP) for site APN 221-171-022 pursuant to Order No. R1-2015-0023. On August 13, 2015, the North Coast Regional Water Quality Control Board (NCRWQCB; Regional Water Board) adopted a General Waiver of Waste Discharge requirements and General Water Quality Certification for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects in the North Coast Region, Order No. R1-2015-0023. One of the requirements of Order No. R1-2015-0023 is to prepare a Water Resource Protection Plan (WRPP) for all sites that are enrolled under Tier 2 of the order.

### **Summary**

This 82.8-acre parcel meets the Tier 2 standard conditions laid out by the NCRWCQB. The average elevation is 1,000 feet and the main drainage is the Mattole River, which is 5,500 feet downstream (SW) of the unnamed class 2 on the property.

This parcel was purchased by the current landowner in 2013. PG&E powerlines were installed in early 2014; solar panels are also installed throughout the northwest cultivation area.

There is a total of ~26,000 square feet of cultivation for the 2017 season. This cultivation is split between two sites: the northern flat and the southern flat. On our initial site visit, in October 2016, there was a third cultivation site near the northeast property corner (picture 10), which was 23,800 square feet. This site was decommissioned for the 2017 cultivation season because of its proximity to a wetland and a portion of the outdoor plants being located on a hillside with a slope greater than 30%.

All water used (irrigation & domestic) is from the well located on the northern flat. A second well was drilled in 2017 to supply additional water. Plants are grown in 10-gallon bags and watered by a drip irrigation system. A combination of hard sided tanks and bladders make up the 290,500 gallons of water storage.

The only permanent structures are three cabins (picture 7); one on each of the cultivation sites, and a metal storage/drying warehouse on the southern flat. There are no spoils piles that present a hazard to water quality on the property; all loose soil is contained in the largest storage area on the northern flat (picture 6).

### **Current Conditions**

#### **Watercourses**

There are four Class 3 waterways and one Class 2 waterway on this property. All of the Class 3s are tributaries to the Class 2, which runs across the southeast property corner. Once the Class 2 crosses the southern property line, it continues for ~1 mile until it drains into the Mattole River.

#### **Roads**

There is a total of 3,000 feet of road on APN 221-171-022. The main road that goes through this parcel is 2,320 feet of Crooked Prairie Rd. Crooked Prairie Rd also provides access to multiple properties in the area. Consequently, there is a community road association that handles road maintenance and repairs for Crooked Prairie Rd. The road is in good shape, overall. Aside from 3 stream crossings that need attention, the problems on Crooked Prairie Rd are associated with reducing the collection and concentration of water on the road surface and



in the road ditch. There are also two Spur Roads on the Parcel: Spur Rd 1 (440 feet) and Spur Rd 2 (240 feet). Spur Rd 1 leads from Crooked Prairie Rd to the Southern Flat. There is one stream crossing on Spur Rd 1 and it is functioning and requires no attention. The only issue with Spur Rd. 1 is there needs to be a drainage break at the terrace / road interface to disconnect any run-off from the flat getting to the road. Spur Rd 2 leads from Crooked Prairie Rd. to the Eastern Grow and has no problems.

Road treatments will consist of the installation of Rolling Dips and Ditch Relief Culverts (See Figure 6). Crooked Prairie Rd. will require treatment to 3 stream crossings on APN 221-171-022 (see Watercourse Crossings).

Recommended road treatments for Crooked Prairie Rd, shown in figure 6, are as follows:

- Install DRC between Spur Road and existing DRC at GPS 1780
- Replace DRC at GPS 1780
- Install DRC between DRC at GPS 1780 and Stream Crossing at GPS 1781
- Install DRC between Stream Crossing at GPS 1781 and Thru-Cut road reach downroad of Spur Rd 2

Spur Rd 1 will require a rolling dip installation at the terrace / road transition and improvement to the non-functioning waterbar located uproad of the stream crossing GPS 1776.

### **Watercourse Crossings**

There are four watercourse crossings on this parcel. See Figure 2 & 7.

Table 1. Culvert Size Recommendations Based on Culvert Q

<i>Existing Culvert Information and Culvert Size Recommendation</i>								<i>Number of Records Imported = 4</i>	
<b>ID#</b>	<b>Existing Culvert (D) Diameter (in)</b>	<b>Headwall (HW) Height (in)</b>	<b>HW/D (ratio)</b>	<b>Selected Discharge Method</b>	<b>Q100 (cfs)</b>	<b>Culvert Capacity (cfs)</b>	<b>Is Culvert Undersized</b>	<b>Recommended Culvert Diam. (in)</b>	<b>Rec. Based On</b>
1783	15	15	1.0	Rational	1	0	TRUE	18	Q100
1781	18	18	1.0	Rational	3	6		18	Q100
1776	24	24	1.0	Rational	3	12		24	Q100
1778	24	24	1.0	Rational	4	12		12	Q100

**Stream crossing 1783** (pictures 1-5) is currently a Class 3 stream crossing with a culvert that is two different pipes: an 18" CMP at the inlet and an (approximately) 15" steel casing at the outlet. The inlet is crushed, rusted and partially plugged. Moreover, CulvertQ analysis recommends an 18" culvert to accommodate the predicted discharge associated with a 100-year flood event (Table 1).

Due to the poor condition and inadequate capacity of the culvert, the crossing will be upgraded with a new 18-inch diameter corrugated culvert. The existing pipe will be removed and disposed of and the new pipe will be installed at a slightly steeper grade. This excavation will require disturbance to 30 ft. of channel length and 4.5 feet of channel / riparian width, resulting in 135 ft<sup>2</sup> of areal disturbance. The excavation material is road fill. This project can be completed in 1 working day.





Figure 7. Existing Stream Crossing Fill Prism

**Stream crossing 1781** is currently a Class 3 stream crossing with an 18" culvert. According to CulvertQ analysis, this pipe is properly sized to accommodate the predicted discharge associated with a 100-year flood event (Table 1). The culvert inlet, however, was crushed by a grader in late Spring of 2017. Also, the outlet was fitted with a sheet metal downspout that is currently failing and allowing the road to be eroded at the outboard edge. Finally, the stream has been able to divert into the ditch (road-right) in the past.

Due to the condition of the inlet and the position of the outlet (high in the Fill), the existing culvert will be replaced with a new, longer, 18" culvert, installed at a steeper grade. If a seamless transition at the culvert-channel interface cannot be achieved at the outlet, then dissipation rock will be applied below the outlet. The completed replacement will improve the crossing at the inlet to eliminate the potential for flow to enter the ditch at the right bank. This excavation will require disturbance to 32 ft. of channel length and 4.5 feet of channel / riparian width, resulting in 144 ft<sup>2</sup> of areal disturbance. The excavation material is road fill. This project can be completed in 1 working day.

**Stream crossing 1778** is currently a Class 3 stream crossing with a 24" culvert. According to CulvertQ analysis, this pipe is properly sized to accommodate the predicted discharge associated with a 100-year flood event (Table 1). The culvert inlet, however, has a diversion potential into the ditch at the right bank. There is also excessive brush at the inlet increasing the potential for culvert plugging and stream diversion. The outlet is currently a shotgun with a 4-5-foot vertical drop, actively eroding the road fill below the outlet and the left bank downstream. Due to the diversion potential, the brush will be cleared for 10 feet of channel length upstream and around the inlet. Additionally, rock armor will be applied at the inlet to protect the Inboard Edge of Road. Because the CMP is properly sized, the treatment at the outlet will be to attach a 6-foot downspout and apply rock armor at the terminus of the downspout and at the left bank downstream. This excavation will require disturbance to 25 ft. of channel length and 4 feet of channel / riparian width, resulting in 100 ft<sup>2</sup> of areal disturbance. There will be no excavation required for this encroachment. Brush will be cleared with hand tools; rock will be applied with a backhoe. This project can be completed in 1 working day.

**Stream crossing 1776** is currently a 24" culvert. According to the CulvertQ analysis this pipe is properly sized. This crossing requires no treatment.



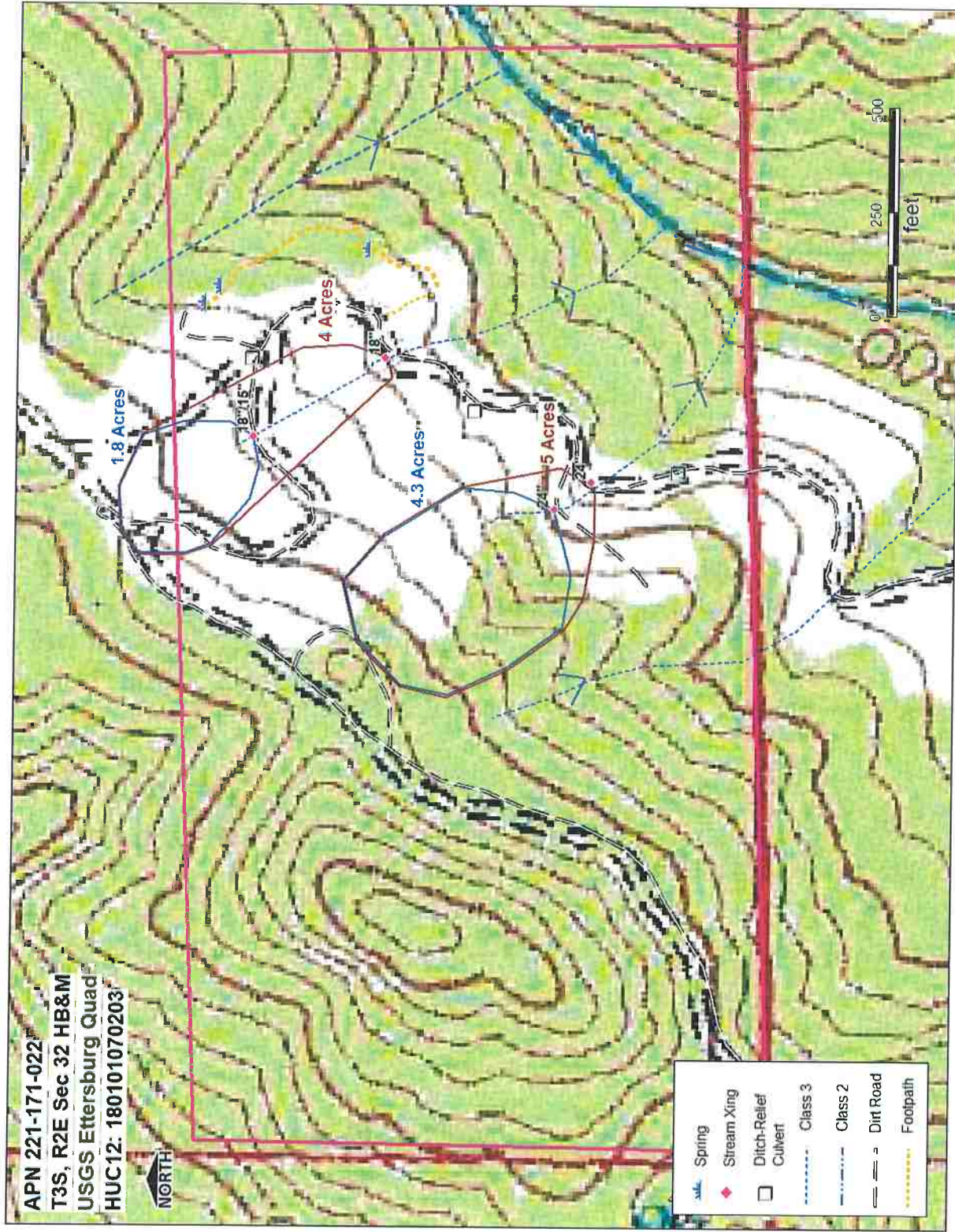


Figure 7. Associated watershed area for stream crossings on parcel 221-171-02



### **Cultivation Areas**

There are two cultivation flats on this property: the northern flat and the southern flat. The northern flat is made up of five hoop houses: two 20'x80', two 20'x100', and one 20'x120'. There are also five hoop houses on the southern flat: four 20'x50' and one 30'x65'.

On our initial site visit, in October 2016, there was a third cultivation site near the northeast property corner (picture 10), which was 23,800 square feet. This site was decommissioned for the 2017 cultivation season because of its proximity to a wetland and a portion of the outdoor plants being located on a hillside with a slope greater than 30%. These 23,800 square feet of cultivation will be relocated on to the existing flats.

### **General Property Conditions**

On the initial site visit in October 2016, this property had trash piles, spoils, cultivation waste, and uncontained fuel that needed to be addressed. There were also some damages from the harsh winter; a shed was crushed by a falling tree (picture 9). Two outhouses were being used for human waste.

Currently, this property is kept in decent shape; spoils are contained properly (picture 6), all generators and pumps are equipped with secondary containment, and all active cultivation areas comply with stream buffers. The eastern cultivation site is in the process of having all infrastructure removed. The landowner is in the process of getting the necessary permits to build a house with a septic system; until then all outhouses will be serviced regularly and prepared for the winter months when not in use.

### **List of Chemicals Stored Onsite & Information about Use**

75% of the amendments used are in the initial soil mix the plants are grown in. Dolomite, guano, sea kelp, bone, and bloodmeal are also added into the soil when the plants are repotted. During the rest of the season Cutting Edge and Botanicare products are used. It is estimated that ~60 gallons are used per month (applied when watering 2x/week). A neem extract is used as a foliar spray on a regular basis and spot applications of Azatrol (citric acid) is used for any mold/mites.

For future compliance, all nutrient, pesticide, herbicide, and fungicides used will be recorded. Specifically the name of the product, the amount used and the method of application will be recorded each time a product is used. A copy of these records will be kept onsite. Annual quantities used will be reported to the NCRWQCB by March 31<sup>st</sup> of the following year with the MRP (Appendix C, Monitoring and Reporting Program).

### **Water Use**

A combination of hard sided tanks and bladders make up the 290,500 gallons of water storage on property.

As of our initial site visit in 2016, the peak heat water use estimate was 2,500g/day = 75,000/month and 1,500g/day during non-peak heat = 45,000/month. Water use May-October for 2 cycles of light dep is estimated at 280,000 gallons.

Table 2. Estimated amount of water used for irrigation monthly in gallons

Source	January	February	March	April	May	June	July	August	September	October	November	December
well	0	0	0	0	15K	45K	75K	45K	75K	25K	0	0

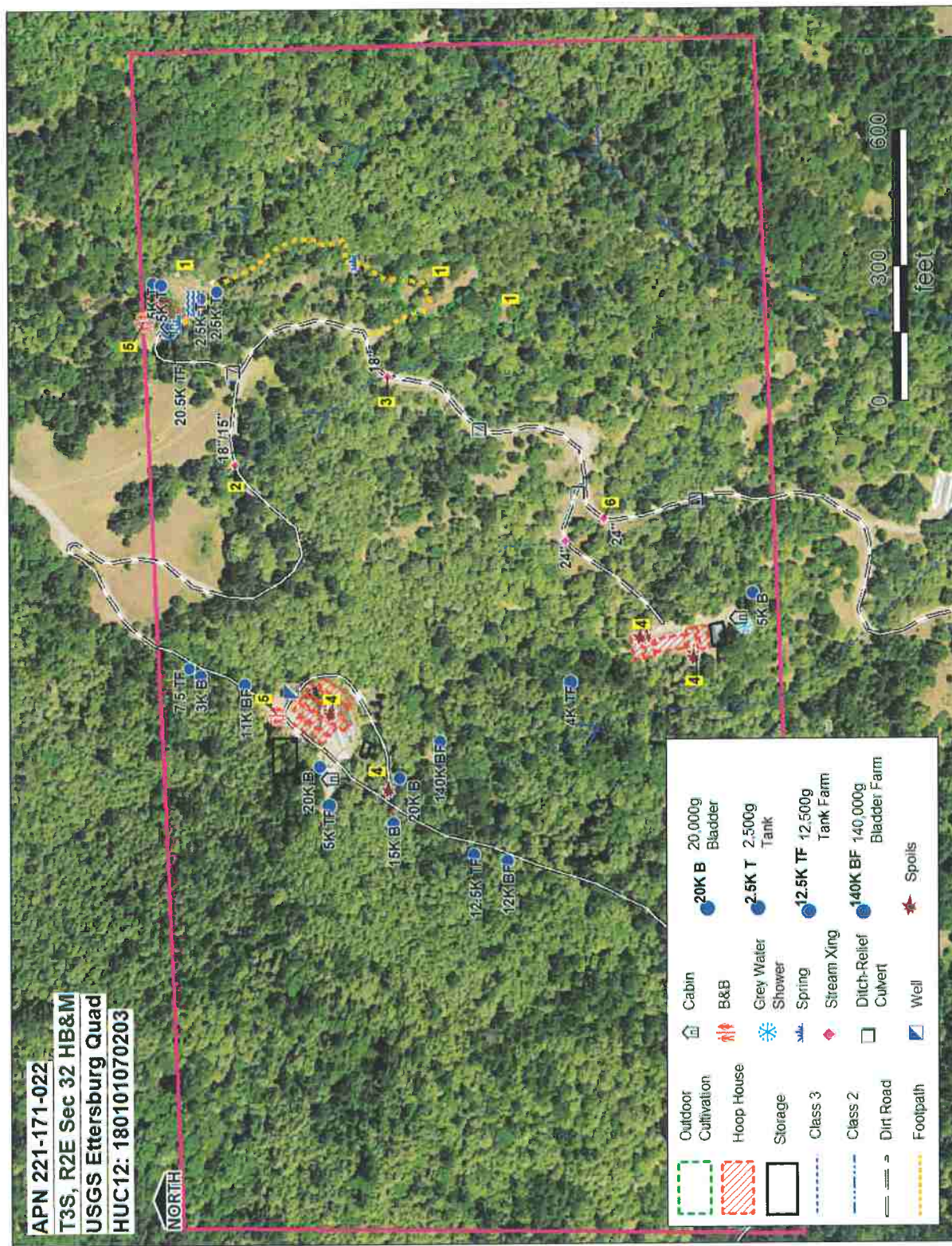


The water use estimates in table 2 were for 39,500 square feet of cultivation. For the **2017 season** there is only ~15,700 square feet of cultivation, so water use numbers should be approximately half of last year's use: **140,000 gallons total**. 150 gallons are used each day for domestic.

All water is supplied by the wells on the property. CDFW looked over the well log for the well in the northern portion of the property in November of 2016. CDFW determined no SLA (1600) agreement was necessary for the well. A second well was drilled in 2017. The landowner will be supplying this well log to NRM.

For future compliance, **water meters will be used** to quantify water use to storage and for irrigation. A photo of the meter reading will be taken monthly to document water use.







## **Corrective Actions** Please refer to Figure 9

Table 3. Features that need improvement. See Appendix B for Associated Standard Conditions (A.S.C.)

Unique Map Points	Map Point Descriptions	A.S.C	Temporary BMP	Permanent BMP (Best Management Practices)	Priority for Action	Time Schedule for completion of Permanent BMP	Completion Date
<b>1</b>	Discontinuation of cultivation area	1, 3, 6	Stop all cultivation	Remove all cultivation infrastructure and restore area	3	April 30 <sup>th</sup> , 2018	
<b>2</b>	Culvert Upgrade	2	Monitor inlet/outlet	Upgrade pipe to 18" culvert	4	Sept 1 <sup>st</sup> , 2018	
<b>3</b>	Culvert Replacement	2	Monitor inlet/outlet	Replace pipe with 18" culvert	4	Sept 1 <sup>st</sup> , 2018	
<b>4</b>	Spoils/Trash	4	N/A	Apply secondary containment or dispose of properly	2	Sept 1 <sup>st</sup> , 2017	May 2017
<b>5</b>	Outhouse	11	Service regularly	Remove/clean up outhouses, replace with permitted septic system on property	4	Sept 1 <sup>st</sup> , 2018	
<b>6</b>	s	2	Monitor inlet/outlet	Remove brush, install downspout, rock amour	4	Sept 1 <sup>st</sup> , 2018	

Priority time frames: 1 is high priority with treatment being planned to occur immediately; 2 is a high priority for treatment to occur prior to the start of the non-diversion period; 3 is a moderate priority for treatment to occur within a year, or prior to the winter of the second season of operations; 4 is a lower priority with treatment being planned within the shortest time possible, but no later than the expiration of this Order (five years).

- 1) On our initial site visit, in October 2016, there was a third cultivation site near the northeast property corner (picture 10), which was 23,800 square feet. This site was decommissioned for the 2017 cultivation season because of its proximity to a wetland and a portion of the outdoor plants being located on a hillside with a slope greater than 30%. These 23,800 square feet of cultivation will be relocated once a suitable location is secured on the property. By the end of 2018, all cultivation infrastructure will have been removed. We believe the area will revegetate on its own once infrastructure is removed. The area will be checked in the spring of 2018 by a qualified botanist. If additional replanting is deemed necessary it will be prescribed by a qualified botanist and implemented during the winter of 2018.
- 2) This stream crossing (pictures 1-5) is currently a Class 3 stream crossing with a culvert that is two different pipes: an 18" CMP at the inlet and an (approximately) 15" steel casing at the outlet. The inlet is crushed, rusted and partially plugged. Moreover, CulvertQ analysis recommends an 18" culvert to accommodate the predicted discharge associated with a 100-year flood event (Table 1).
- 3) This stream crossing is currently a Class 3 stream crossing with an 18" culvert. According to CulvertQ analysis, this pipe is properly sized to accommodate the predicted discharge associated with a 100-year flood event (Table 1). The culvert inlet, however, was crushed by a grader in late Spring of 2017. Also, the outlet was fitted with a sheet metal downspout that is currently failing and allowing the road to be eroded at the outboard edge. Finally, the stream has been able to divert into the ditch (road-right) in the past.



- 4) On the initial site visit in October 2016, this property had trash piles, spoils, cultivation waste, and uncontained fuel that needed to be addressed. There were also some damages from the harsh winter; a shed was crushed by a falling tree (picture 9). As of May 2017, all of these issues have been addressed and secondary containment has been implemented all over the property.
- 5) The landowner is in the process of getting the necessary permits to build a house with a septic system; until then all outhouses will be serviced regularly and prepared for the winter months when not in use.
- 6) This stream crossing is currently a Class 3 stream crossing with a 24" culvert. According to CulvertQ analysis, this pipe is properly sized to accommodate the predicted discharge associated with a 100-year flood event (Table 1). The culvert inlet, however, has a diversion potential into the ditch at the right bank. There is also excessive brush at the inlet increasing the potential for culvert plugging and stream diversion. The outlet is currently a shotgun with a 4-5-foot vertical drop, actively eroding the road fill below the outlet and the left bank downstream. Due to the diversion potential, the brush will be cleared for 10 feet of channel length upstream and around the inlet. Additionally, rock armor will be applied at the inlet to protect the Inboard Edge of Road. Because the CMP is properly sized, the treatment at the outlet will be to attach a 6-foot downspout and apply rock armor at the terminus of the downspout and at the left bank downstream.

## **Winter Site Preparation**

Prior to winter rains at the end of the growing season the following steps will be taken to prepare the site for winter.

- Soil used in cultivation will be reused each year and stored in containment during the winter
- Any bare soil on the fill slopes on the landing will be covered with straw 2 to 3 inches thick and secured with a tackifier
- Cannabis stems and root balls will be burned
- All nutrients, fuels, and other chemicals will be placed in a secure storage shed
- All cultivation trash and debris will be properly disposed of. Receipts for disposal will be kept.
- Any vegetation or debris obstructing the inlet or outlet of the culvert will be removed and disposed of where they cannot enter any streams and at least 200 feet from any streams.
- Roads will be checked to make sure all stream crossings and DRCs have clear pipes, and that all waterbars and rolling dips are functioning properly

## **Monitoring**

### **Corrective Action Monitoring**

All corrective actions that have not yet been completed will be monitored by the landowner until completion. A site visit will be conducted by NRM by Sept 2<sup>nd</sup>, 2018 to follow up on the status of items 1-3, and 5. Item 1 will be checked on by NRM again in the spring of 2018. If corrective actions are completed before this site visit, the landowner will provide pictures to document completion.

## **Annual Monitoring**

### ***Fall / Winter Monitoring***

Monitoring for this site will follow the revised Appendix C from the Order No. 2015-0023. Annual monitoring will be done each year. At a minimum, it will be done on three occasions: prior to October 15<sup>th</sup>; by December 15<sup>th</sup>; and, immediately following a precipitation event with 3 inches of accumulation in a 24hr period.

During each monitoring session, the following items will be inspected:

1. Pumps, nutrients, fertilizers, and any petroleum products are stored in a dry, enclosed location.
2. Soil and any spoils are properly contained and covered to prevent nutrient leaching.
3. Culvert inlets and outlets
4. Waterbars

This monitoring may be done by the landowner/registrant. Photos will be taken at each monitoring point. These photos along with the notes taken during the monitoring will be kept on-site. The monitoring forms and photos will be submitted by the landowner/registrant to NRM or the NCRWQCB.

### ***Growing Season Monitoring***

During the growing season, the landowner will monitor the following items at least monthly:

- Tanks, bladders, and water lines to ensure there are no leaks
- Cultivation area during or immediately after watering to ensure irrigation water is soaking into the surface (not running off)
- Cultivation area to ensure that all fertilizers are properly contained in the storage shed, that all trash and debris is properly contained and secured.

The landowner/registrant will keep a record of the dates this monitoring was completed, if any corrective action was necessary, and what actions were taken. A copy will also be kept on file at NRM.

During the growing season, all fertilizer use and irrigation water use will be tracked. The type and amount of fertilizers used and the monthly total of water used for irrigation will be reported to NRM by December 31<sup>st</sup> of each year.

An annual monitoring report will be submitted to the by March 31st of each year. The report will include the Appendix C reporting form the NCRWQCB Order No. R1-2015-0023.



**Water Resource Protection Plan**

Name of Legally Responsible Person (LRP) \_\_\_\_\_

Title for LRP (owner, lease, operator, etc.) \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

WRPP prepared by: **Natural Resources Management Corp. (NRM)**

Date: \_\_\_\_\_

NRM Signature: \_\_\_\_\_

**Appendix A. Photo Documentation -** (pictures of roads/stream crossings taken 6/14/2017)



Picture 1. Center line profile of 18"/15" stream crossing



Picture 2. 18"/15" outlet, looking upstream



Picture 3. 18"/15" inlet, looking upstream





Picture 4. 18"/15" outlet, looking downstream



Picture 5. 18"/15" inlet, crushed, looking downstream



Picture 6. Containment area for all soils (6/14/17)





Picture 7. Cabin on northern flat (10/25/16)



Picture 8. Tank farm near eastern grow (10/25/16)





Picture 9. Shed damaged by storm (10/25/16)



Picture 10. 'Eastern grow' that was discontinued (10/25/16)





Picture 11. 18" outlet, looking upstream



Picture 12. 18" inlet, looking upstream



Picture 13. 18" outlet, looking downstream



Picture 14. 18" inlet, looking downstream



## **Appendix B. Associated Standard Conditions**

**I.** As described in the Order, dischargers will fall within one of three tiers.

Discharger shall be in the tier that covers the most impactful part of the operations (i.e., different sections of a property cannot be divided among the tiers). **All dischargers**, regardless of Tier are subject to the standard conditions in section **I.A.**, MRP section **I.D.**, and General Terms, Provisions and Prohibitions. **Tier 2 Dischargers** are also subject to section **I.B. (a Water Resources Protection Plan)**, and Tier 3 Dischargers are subject to sections **I.A.**, **I.B.** (if cultivating cannabis), and **I.C.**

### **A. Standard Conditions, Applicable to All Dischargers**

#### **1. Site maintenance, erosion control and drainage features**

- a. Roads shall be maintained as appropriate (with adequate surfacing and drainage features) to avoid developing surface ruts, gullies, or surface erosion that results in sediment delivery to surface waters.
- b. Roads, driveways, trails, and other defined corridors for foot or vehicle traffic of any kind shall have adequate ditch relief drains or rolling dips and/or other measures to prevent or minimize erosion along the flow paths and at their respective outlets.
- c. Roads and other features shall be maintained so that surface runoff drains away from potentially unstable slopes or earthen fills. Where road runoff cannot be drained away from an unstable feature, an engineered structure or system shall be installed to ensure that surface flows will not cause slope failure.
- d. Roads, clearings, fill prisms, and terraced areas (cleared/developed areas with the potential for sediment erosion and transport) shall be maintained so that they are hydrologically disconnected, as feasible, from surface waters, including wetlands, ephemeral, intermittent and perennial streams. Connected roads are road segments that deliver road surface runoff, via the ditch or road surface, to a stream crossing or to a connected drain that occurs within the high delivery potential portion of the active road network. A connected drain is defined as any cross-drain culvert, water bar, rolling dip, or ditch-out that appears to deliver runoff to a defined channel. A drain is considered connected if there is evidence of surface flow connection from the road to a defined channel or if the outlet has eroded a channel that extends from the road to a defined channel ([http://www.forestsandfish.com/documents/Road\\_Mgmt\\_Survey.pdf](http://www.forestsandfish.com/documents/Road_Mgmt_Survey.pdf)).
- e. Ditch relief drains, rolling dip outlets, and road pad or terrace surfaces shall be maintained to promote infiltration/dispersal of outflows and have no apparent erosion or evidence of soil transport to receiving waters.
- f. Stockpiled construction materials are stored in a location and manner so as to prevent their transport to receiving waters.

#### **2. Stream Crossing Maintenance**

- a. Culverts and stream crossings shall be sized to pass the expected 100- year peak streamflow.

- b. Culverts and stream crossings shall be designed and maintained to address debris associated with the expected 100-year peak streamflow.
- c. Culverts and stream crossings shall allow passage of all life stages of fish on fish-bearing or restorable streams, and allow passage of aquatic organisms on perennial or intermittent streams.
- d. Stream crossings shall be maintained so as to prevent or minimize erosion from exposed surfaces adjacent to, and in the channel and on the banks.
- e. Culverts shall align with the stream grade and natural stream channel at the inlet and outlet where feasible. At a minimum, the culvert shall be aligned at the inlet. If infeasible to align the culvert outlet with the stream grade or channel, outlet armoring or equivalently effective means may be applied.
- f. Stream crossings shall be maintained so as to prevent stream diversion in the event that the culvert/crossing is plugged, and critical dips shall be employed with all crossing installations where feasible. If infeasible to install a critical dip, an alternative solution may be chosen.

### **3. Riparian and Wetland Protection and Management**

- a. For Tier 1 Dischargers, cultivation areas or associated facilities shall not be located within 200 feet of surface waters. While 200 foot buffers are preferred for Tier 2 sites, at minimum, cultivation areas and associated facilities shall not be located or occur within 100 feet of any Class I or II watercourse or within 50 feet of any Class III watercourse or wetlands. The Regional Water Board or its Executive Officer may apply additional or alternative conditions on enrollment, including site-specific riparian buffers and other BMPs beyond those identified in water resource protection plans to ensure water quality protection. Alternative site-specific riparian buffers that are equally protective of water quality may be necessary to accommodate existing permanent structures or other types of structures that cannot be relocated.
- b. Buffers shall be maintained at natural slope with native vegetation.
- c. Buffers shall be of sufficient width to filter wastes from runoff discharging from production lands and associated facilities to all wetlands, streams, drainage ditches, or other conveyances.
- d. Riparian and wetland areas shall be protected in a manner that maintains their essential functions, including temperature and microclimate control, filtration of sediment and other pollutants, nutrient cycling, woody debris recruitment, groundwater recharge, streambank stabilization, and flood peak attenuation and flood water storage.

### **4. Spoils Management**

- a. Spoils shall not be stored or placed in or where they can enter any surface water. Spoils are waste earthen or organic materials generated through grading or excavation, or waste plant growth media or soil amendments. Spoils include but are not limited to soils, slash, bark, sawdust, potting soils, rock, and fertilizers.
- b. Spoils shall be adequately contained or stabilized to prevent sediment delivery to surface waters.



- c. Spoils generated through development or maintenance of roads, driveways, earthen fill pads, or other cleared or filled areas shall not be sidecast in any location where they can enter or be transported to surface waters.

## **5. Water Storage and Use**

- a. Size and scope of an operation shall be such that the amount of water used shall not adversely impact water quality and/or beneficial uses, including and in consideration with other water use by operations, instream flow requirements and/or needs in the watershed, defined at the scale of a HUC-12 watershed or at a smaller hydrologic watershed as determined necessary by the Regional Water Board Executive Officer.
- b. Water conservation measures shall be implemented. Examples include use of rainwater catchment systems or watering plants with a drip irrigation system rather than with a hose or sprinkler system.
- c. For Tier 2 Dischargers, if possible, develop off-stream storage facilities to minimize surface water diversion during low flow periods.
- d. Water is applied using no more than agronomic rates. "Agronomic rates" is defined as the rates of fertilizer and irrigation water that a plant needs to enhance soil productivity and provide the crop or forage growth with needed nutrients for optimum health and growth, without having any excess water or nutrient percolate beyond the root zone.
- e. Diversion and/or storage of water from a stream should be conducted pursuant to a valid water right and in compliance with reporting requirements under Water Code section 5101.
- f. Water storage features, such as ponds, tanks, and other vessels shall be selected, sited, designed, and maintained so as to insure integrity and to prevent release into waters of the state in the event of a containment failure.

## **6. Irrigation Runoff**

Implementing water conservation measures, irrigating at agronomic rates, applying fertilizers at agronomic rates and applying chemicals according to the label specifications, and maintaining stable soil and growth media should serve to minimize the amount of runoff and the concentration of chemicals in that water.

In the event that irrigation runoff occurs, measures shall be in place to treat/control/contain the runoff to minimize the pollutant loads in the discharge. Irrigation runoff shall be managed so that any entrained constituents, such as fertilizers, fine sediment and suspended organic particles, and other oxygen consuming materials are not discharged to nearby watercourses. Management practices include, but are not limited to, modifications to irrigation systems that reuse tailwater by constructing offstream retention basins, and active (pumping) and or passive (gravity) tailwater recapture/redistribution systems. Care shall be taken to ensure that irrigation tailwater is not discharged towards or impounded over unstable features or landslides.

## **7. Fertilizers and Soil Amendments**

- a. Fertilizers, potting soils, compost, and other soils and soil amendments shall be stored in locations and in a manner in which they cannot enter or be transported into surface waters and such that nutrients or other pollutants cannot be leached into groundwater.
- b. Fertilizers and soil amendments shall be applied and used per packaging instructions and/or at proper agronomic rates (see footnote on previous page).
- c. Cultivation areas shall be maintained so as to prevent nutrients from leaving the site during the growing season and post-harvest.

## **8. Pesticides/Herbicides**

At the present time, there are no pesticides or herbicides registered specifically for use directly on cannabis and the use of pesticides on cannabis plants has not been reviewed for safety, human health effects, or environmental impacts. Under California law, the only pesticide products not illegal to use on cannabis are those that contain an active ingredient that is exempt from residue tolerance requirements and either registered and labeled for a broad enough use to include use on cannabis or exempt from registration requirements as a minimum risk pesticide under FIFRA section 25(b) and California Code of Regulations, title 3, section 6147. For the purpose of compliance with conditions of this Order, any uses of pesticide products shall be consistent with product labelling and any products on the site shall be placed, used, and stored in a manner that ensures that they will not enter or be released into surface or ground waters.

## **9. Petroleum products and other chemicals**

- a. Petroleum products and other liquid chemicals, including but not limited to diesel, biodiesel, gasoline, and oils shall be stored so as to prevent their spillage, discharge, or seepage into receiving waters. Storage tanks and containers must be of suitable material and construction to be compatible with the substance(s) stored and conditions of storage such as pressure and temperature.
- b. Above ground storage tanks and containers shall be provided with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation.
- c. Dischargers shall ensure that diked areas are sufficiently impervious to contain discharged chemicals.
- d. Discharger(s) shall implement spill prevention, control, and countermeasures (SPCC) and have appropriate cleanup materials available onsite.
- e. Underground storage tanks 110 gallons and larger shall be registered with the appropriate County Health Department and comply with State and local requirements for leak detection, spill overflow, corrosion protection, and insurance coverage.



## **10. Cultivation-related wastes**

Cultivation-related wastes including, but not limited to, empty soil/soil amendment/fertilizer/pesticide bags and containers, empty plant pots or containers, dead or harvested plant waste, and spent growth medium shall, for as long as they remain on the site, be stored at locations where they will not enter or be blown into surface waters, and in a manner that ensures that residues and pollutants within those materials do not migrate or leach into surface water or groundwaters. Plant waste may also be composted, subject to the same restrictions cited for cultivation-related waste storage.

## **11. Refuse and human waste**

- a. Disposal of domestic sewage shall meet applicable County health standards, local agency management plans and ordinances, and/or the Regional Water Board's Onsite Wastewater Treatment System (OWTS) policy, and shall not represent a threat to surface water or groundwater.
- b. Refuse and garbage shall be stored in a location and manner that prevents its discharge to receiving waters and prevents any leachate or contact water from entering or percolating to receiving waters.
- c. Garbage and refuse shall be disposed of at an appropriate waste disposal location.

## **12. Remediation/Cleanup/Restoration**

Remediation/cleanup/restoration activities may include, but are not limited to, removal of fill from watercourses, stream restoration, riparian vegetation planting and maintenance, soil stabilization, erosion control, upgrading stream crossings, road outslowing and rolling dip installation where safe and suitable, installing ditch relief culverts and overside drains, removing berms, stabilizing unstable areas, reshaping cutbanks, and rocking native-surfaced roads. Restoration and cleanup conditions and provisions generally apply to Tier 3 sites, however owners/operators of Tier 1 or 2 sites may identify or propose water resource improvement or enhancement projects such as stream restoration or riparian planting with native vegetation and, for such projects, these conditions apply similarly.