

# Water Resource Protection Plan

**APN 522-021-009**

*Submitted to:*

**Emerald Mountain Coast LLC.**

**4235 Excelsior Road**

**Eureka, CA 95503**



*Prepared by:*

**Timberland Resource Consultants**

**165 South Fortuna Blvd**

**Fortuna, CA 95540**

**07-13-2016**

**Purpose**

This Water Resource Protection Plan (WRPP) has been prepared on behalf of the property owner, Emry Jacque, for the Humboldt County property identified as parcel number 522-021-009 by agreement and in response to the California Water Code Section 13260(a), which requires that any person discharging waste or proposing to discharge waste within any region that could affect the quality of the waters of the state, other than into a community sewer system, shall file with the appropriate regional water board a Report of Waste Discharge (ROWD) containing such information and data as may be required by the Regional Water Board. The Regional Water Board may waive the requirements of Water Code section 13260 for specific types of discharges if the waiver is consistent with the Basin Plan and in the public interest. Any waiver is conditional and may be terminated at any time. A waiver should include monitoring requirements to verify the adequacy and effectiveness of the waiver's conditions. Order R1-2015-0023 conditionally waives the requirement to file a ROWD for discharges and associated activities described in finding 4.

**Scope of Report**

Order No. R1-2015-0023 states that "Tier 2 Dischargers and Tier 3 Dischargers who intend to cultivate cannabis before, during, or following site cleanup activities shall develop and implement a water resource protection plan that contains the elements listed and addressed below. Dischargers must keep this plan on site, and produce it upon request by Regional Water Board staff. Management practices shall be properly designed and installed, and assessed periodically for effectiveness. If a management measure is found to be ineffective, the plan must be adapted and implemented to incorporate new or additional management practices to meet standard conditions. Dischargers shall certify annually to the Regional Water Board individually or through an approved third party program that the plan is being implemented and is effectively protecting water quality, and report on progress in implementing site improvements intended to bring the site into compliance with all conditions of this Order."

**Methods**

The methods used to develop this WRPP include both field and office components. The office component consisted of aerial photography review and interpretation, existing USGS quad map review, GIS mapping of field data, review of on-site photography points, streamflow calculations, and general planning. The field component included identifying and accurately mapping all watercourses, wet areas, and wetlands located downstream of the cultivation areas, associated facilities, and all appurtenant roads accessing such areas. An accurate location of the Waters of the State is necessary to make an assessment of whether potential and existing erosion sites/pollution sites have the potential to discharge waste to an area that could affect waters of the State (including groundwater). Next, all cultivation areas, associated facilities, and all appurtenant roads accessing such areas were assessed for discharges and related controllable water quality factors from the activities listed in Order R1-2015-0023, Finding 4a-j. The field assessment also included an evaluation and determination of compliance with the Standard Conditions per Provision I.B of Order No.

**Methods (Cont.)**

R1-2015-0023. The water resource protection plans required under Tier 2 are meant to describe the specific measures a discharger implements to achieve compliance with standard conditions. Therefore, all required components of the water resource protection plan per Provision I.B of Order No. R1-2015-0023 were physically inspected and evaluated. A comprehensive summary of each Standard Condition as it relates to the subject property is appended.

**Property Description**

The property assessed consists of a 168-acre parcel of primarily conifer timberland slopes averaging 14% to 21%. The property is located 6 miles southwest from Hoopa at the northern end of Indian Field Ridge at an elevation of 3,680 feet. At this elevation there are few watercourses on the property, those that do exist consist of two Class III watercourses and one wetland bog which one of the Class III watercourses is fed from. The wetland bog watercourse is a tributary to Pine Creek which feeds the Klamath River. The other Class III watercourse is a tributary to Supply Creek which feeds the Trinity River which flows into the Klamath River. The property is located in Section 18 of Township 7N, Range 4E of the Lord-Ellis Summit 7.5' Quad map. Access to the property is from US HWY 299 to Old 3 Creeks Road.

**Monitoring Plan**

Tier 2 Dischargers shall include a monitoring element in the water resource protection plan that at a minimum provides for periodic inspection of the site, checklist to confirm placement and efficacy of management measures, and document progress on any plan elements subject to a time schedule. Tier 2 Dischargers shall submit an annual report (Appendix C) by March 31 of each year that documents implementation and effectiveness of management measures during the previous year. Tier 2 annual reporting is a function that may be provided through an approved third party program.

Monitoring of the site includes visual inspection and photographic documentation of each feature of interest listed on the site map, with new photographic documentation recorded with any notable changes to the feature of interest. At a minimum, all site features must be monitored annually, to provide the basis for completion of the annual re-certification process. Additionally, sites shall be monitored at the following times to ensure timely identification of changed site conditions and to determine whether implementation of additional management measures is necessary to iteratively prevent, minimize, and mitigate discharges of waste to surface water: 1) just prior to October 15 to evaluate site preparedness for storm events and storm water runoff, 2) following the accumulation of 3" total precipitation or by November 15, whichever is sooner, and 3) following any rainfall event with an intensity of 3" precipitation in 24 hours. Precipitation data can be obtained from the National Weather Service Forecast Office (e.g. by entering the zip code of the parcel location at <http://www.srh.noaa.gov/forecast>).

**Monitoring Plan Reporting Requirements**

Order No. R1-2015-0023, Appendix C must be submitted to the Regional Water Board or approved third party program upon initial enrollment in the Order (NOI) and annually thereafter by March 31. Forms submitted to the Regional Water Board shall be submitted electronically to [northcoast@waterboards.ca.gov](mailto:northcoast@waterboards.ca.gov). If electronic submission is infeasible, hard copies can be submitted to: North Coast Regional Water Quality Control Board, 5550 Skylane Boulevard, Suite A, Santa Rosa, CA 95403.

**Assessment of Standard Conditions**

Assessment of Standard Conditions consisted of field examinations in the summer of 2016. The examination evaluated areas near, and areas with the potential to directly impact, watercourses for sensitive conditions including, but not limited to, existing and proposed roads, skid trails and landings, unstable and erodible watercourse banks, unstable upslope areas, debris, jam potential, inadequate flow capacity, changeable channels, overflow channels, flood prone areas, and riparian zones. Field examinations also evaluated all roads and trails on the property, developed areas, cultivation sites, and any structures and facilities appurtenant to cultivation on the property. Anywhere the Standard



Conditions are not met on the property, descriptions of the assessments and the prescribed treatments are outlined following each associated section below.

### Summary of Standard Conditions Compliance

1. Site maintenance, erosion control, and drainage features Y/N
2. Stream crossing maintenance Y/N
3. Riparian and wetland protection and management Y/N
4. Spoils management Y/N
5. Water storage and use Y/N
6. Irrigation runoff Y/N
7. Fertilizers and soil amendments Y/N
8. Pesticides and herbicides Y/N
9. Petroleum products and other chemicals Y/N
10. Cultivation-related wastes Y/N
11. Refuse and human waste Y/N

### Compliant Standard Conditions Summary

During our assessment, the property and associated facilities were found to be in compliance with many of the Standard Conditions. All cultivation areas are beyond the preferred distance of 200 feet to adjacent watercourses or waterbodies. At no point on the property assessed were any spoils found to be placed or treated outside the guidelines of the Standard Conditions. All soils on the property are re-used resulting in no spoils piles. Soils that were found are appropriately covered by tarps, top and bottom, and will be used this season. At no point on the property assessed were any cultivation related wastes found to be placed or treated outside the guidelines of the Standard Conditions. All trash is collected in a full side utility trailer and taken to the dump regularly, this Standard Condition is currently being met. For the current operations on the property, both domestic and cultivation related use, there is an ample supply of and storage of water from the well on the property. No irrigation runoff was present during inspection, nor was there evidence that it had occurred in the past. Fertilizers and amendments are stored appropriately inside the generator shed at the upper cultivation site and in the living and storage trailers. Fertilizers are used at approximately the dosage guidelines provided by the manufacturer or half of that amount. No pesticides or herbicides are used on the property. These Standard Conditions are currently being met.

## 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 not hydrologically connected<sup>1</sup>, as feasible, from surface waters, including wetlands, ephemeral, intermittent and perennial streams.
  - 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.

**Road Point 1 – Poor road drainage resulting in pooling of water on the road way. The area will be rocked and a drainage trench will be installed to collect and drain waters into the forest and duff area. The forest and duff will provide adequate filtering and absorption of sediments.**

**Road Point 2 – Surface erosion is occurring immediately before an existing rolling dip. Owner will place a water bar above the rilling and maintain the rolling dip at the bottom so that water is adequately diverted.**

**Road Point 3 – A water bar is installed at this location to direct road runoff off of the road. No apparent surface erosion is occurring. Owner will monitor and maintain the water bar so that road runoff is adequately diverted.**

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<sup>1</sup> 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) )

**Road Point 4 – A water bar is installed at this location to direct road runoff off of the road. No apparent surface erosion is occurring. Owner will monitor and maintain the rolling dip so that road runoff is adequately diverted.**

**Road Point 5 – Rilling is occurring down a road slope to where it levels out and drains to the side of the road, following it until it eventually dissipates. Owner will place a water bar above the rilling to reduce erosion down the road slope and place a rolling dip at the bottom so that water is adequately diverted.**

**See Figures 34 and 40 for further information on water bar and rolling dip construction.**

## 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.<sup>2</sup>
- 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.<sup>3</sup>

**There are no stream crossings on this property. This standard condition is being met at this time.**

## 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 a minimum,

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<sup>2</sup> 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.

<sup>3</sup> If infeasible to install a critical dip, an alternative solution may be chosen.

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 or its Executive Officer may apply additional or alternative<sup>4</sup> conditions on enrollment, including site-specific riparian buffers and other BMPs beyond those identified in water resource protection plans to ensure water quality protection.

- 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. 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.

**The nearest waterbody to any cultivation site is a wetland bog located approximately over 200 feet from the western cultivation site. To drain the road at Road Point 1, surface waters will be drained with approximately 120 feet of forest and duff to sufficiently filter wastes from runoff discharging from production lands and associated facilities to all wetlands, streams, drainage ditches, or other conveyances. This standard condition is not being met at this time.**

#### 4. Spoils Management

- a. Spoils<sup>5</sup> shall not be stored or placed in or where they can enter any surface water.
- 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.

**At no point on the property assessed were any spoils found to be placed or treated outside the guidelines of the Standard Conditions. All soils on the property are re-used resulting in no spoils piles. Soils that were found are appropriately covered by tarps, top and bottom, and will be used this season. This standard condition is being met at this time.**

#### 5. Water Storage and Use

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<sup>4</sup> 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.

<sup>5</sup> 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.



- 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<sup>6</sup> 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.<sup>7</sup>
- 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.

**The landowner presently has approximately 10,045 ft<sup>2</sup> of cultivation area. All water used on the property is sourced from a 130-foot depth permitted well that was installed by Fische Drilling. All water used on the property is sourced from the well and provides ample domestic and agricultural water that is stored in varying tanks around the property. There are no surface water diversions. Water storage consists of one 4,000-gallon tank located at the well, one 660-gallon tank located at the upper cultivation site, one 3,000-gallon tank, one 2500-gallon tank, and one 1660-gallon tank at the mapped locations on the site map. Total water storage is 11820 gallons. The 660-gallon tank and 1660-gallon tanks are used as fertilizer mixing tanks. The well water does not require any treatment and produces adequate volumes throughout the year. Currently (07/13/16), the landowner is using approximately 20,000-gallons per month on average during peak months and a quarter to eighth that number during the beginning months of the cultivation cycle. The landowner will be installing a water meter this year to better document his usage. There is no need to alter the water usage at this time.**

## 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

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<sup>6</sup> See definition and link to maps at: <http://water.usgs.gov/GIS/huc.html>

<sup>7</sup> "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.



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 off-stream 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.

**There are currently no signs of irrigation runoff on the property. Water resources are being used at standard agronomic rates. This standard condition is being met at this time.**

## 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.
- c. Cultivation areas shall be maintained so as to prevent nutrients from leaving the site during the growing season and post-harvest.

**The landowner uses multiple fertilizers and amendments. Fertilizers and amendments are stored appropriately inside the generator shed at the upper cultivation site and in the living or storage trailers. Fertilizers used are Age Old Bloom (5-10-5), Age Old Grow (12-6-6), Maxsea Grow (16-16-16). Amendments used are Greensand (0-0-3), Oyster shells, and Bone meal (1-13-0). Fertilizers and amendments are used at manufacturers recommended rates or half that amount. The soil medium used is Royal Gold Mendo Mix. Fertilizers and soil amendments are 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. This standard condition is being met at this time.**

## 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 labeling 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.

**The landowner states that he does not use pesticides or herbicides. Pesticides and herbicides are placed, used, and stored in a manner that ensures that they will not enter or be released into surface or ground waters. This standard condition is being met at this time.**

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.

Fuel is stored in drums and canisters which are then stored in the generator shed along with hydraulic fluid. Fuel is used in two 25 kilo watt generators, small portable generators, and water pumps. The hydraulic fluid is used in a bulldozer located on the property. **This is the extent of all fuels and chemicals on the property. This standard condition is not being met at this time.**

**Map Point 1 – Fuel is being stored in a shed built for generators with a shallow secondary containment of too small of a volume for the amount of fuel stored. Owner will either store drums of fuel in an acceptable secondary containment equal to the volume of the drums or obtain a steel fuel tank with secondary containment.**

## 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<sup>8</sup> 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 ground waters.

**At no point on the property assessed were any cultivation related wastes found to be placed or treated outside the guidelines of the Standard Conditions. Cultivation-related wastes are stored on site in a location that will not enter, migrate, leach or be blown into surface waters. This standard condition is being met at this time.**

## 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.

**Refuse is being contained and stored for future disposal and is a location that will not enter, migrate, leach or be blown into surface waters. All trash is collected in a full side utility trailer and taken to the dump regularly. Workers on site use a pit toilet structure which is not located near any water body and does not appear to threaten surface or groundwater and did not appear to be creating a nuisance on the property. To meet this standard condition, we recommend that the un-permitted pit toilet be inspected and approved by a professional to ensure that any septic system installed in the County meets all current County and State standards relative to minimum setbacks associated with the protection of all residents' and the environment's health. For compliance we do not require the septic system to be permitted just that it be inspected and approved that it is in a permissible state. See Appendix B. Item 142 of the Order.**

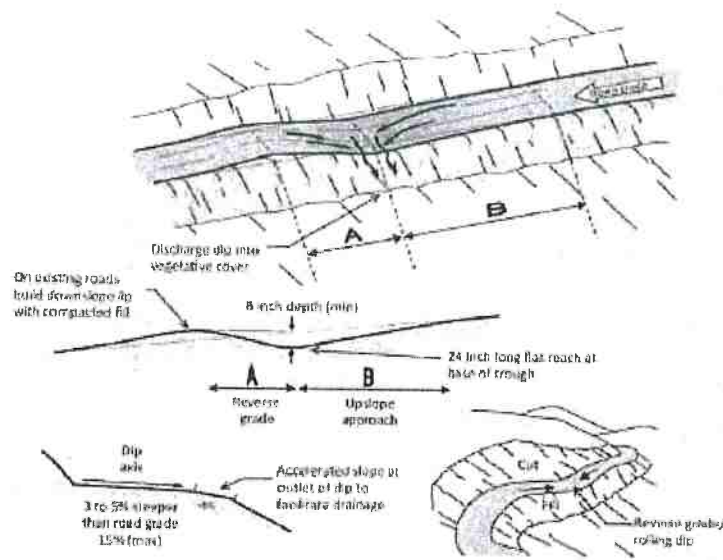
12. Remediation/Cleanup/Restoration Remediation/cleanup/restoration activities may include, but are not limited to, removal of fill from watercourses, stream restoration, riparian vegetation planting and

<sup>8</sup> Plant waste may also be composted, subject to the same restrictions cited above for cultivation-related waste storage.



maintenance, soil stabilization, erosion control, upgrading stream crossings, road outcropping 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. Appendix B accompanying this Order includes environmental protection and mitigation measures that apply to cleanup activities such as: temporal limitations on construction; limitations on earthmoving and construction equipment; guidelines for removal of plants and revegetation; conditions for erosion control, limitations on work in streams, riparian and wetland areas; and other measures.

**Mitigation measures are listed in the Water Resource Protection Plan and also noted above in the document. This standard condition is being met at this time.**

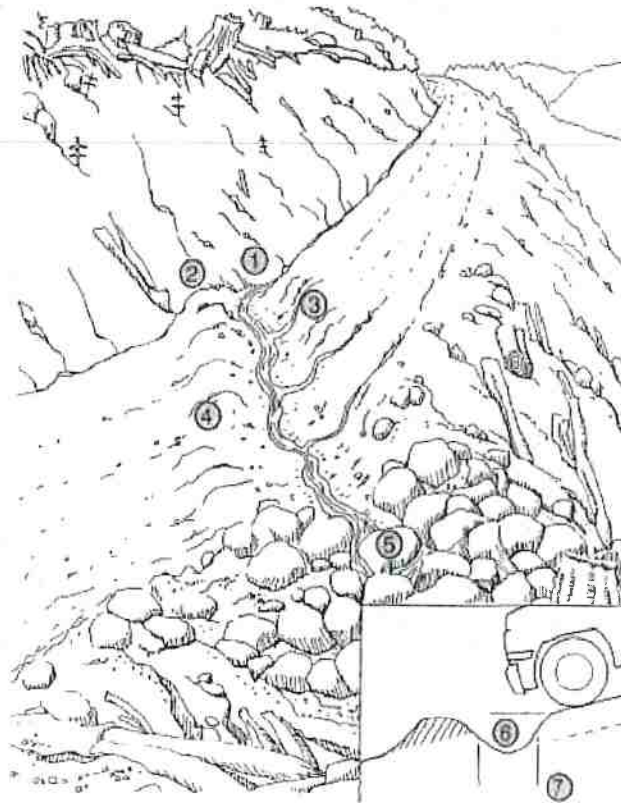


**FIGURE 34.** A classic Type I rolling dip, where the excavated up-road approach (B) to the rolling dip is several percent steeper than the approaching road and extends for 60 to 80 feet to the dip axis. The lower side of the structure reverses grade (A) over approximately 15 feet or more, and then falls down to rejoin the original road grade. The dip must be deep enough that it is not obliterated by normal grading, but not so deep that it is difficult to negotiate or a hazard to normal traffic. The outward cross-slope of the dip axis should be 3% to 5% greater than the up-road grade (B) so it will drain properly. The dip axis should be out-sloped sufficiently to be self-cleaning, without triggering excessive downcutting or sediment deposition in the dip axis (Modified from: Best, 2013).

HANDBOOK FOR FOREST, RANCH AND RURAL ROADS

**FIGURE 40.** Waterbars are constructed on unsurfaced forest and ranch roads that will have little or no traffic during the wet season. The waterbar should be extended to the cutbank to intercept all ditch flow (1) and extend beyond the shoulder of the road. A berm (2) must block and prevent ditch flow from continuing down the road during flood flows. The excavated waterbar (3) should be constructed to be self-cleaning, typically with a 30° skew to the road alignment with the excavated material bermed on the downhill grade of the road (4). Water should always be discharged onto the downhill side on a stable slope protected by vegetation. Rock (shown in the figure) should not be necessary if waterbars are spaced close enough to prevent serious erosion. (5) The cross ditch depth (6) and width (7) must allow vehicle cross-over without destroying the function of the drain. Several alternate types of waterbars are possible, including one that drains only the road surface (not the ditch), and one that drains the road surface into the inside ditch (BCMF, 1991).

HANDBOOK FOR FOREST, RANCH AND RURAL ROADS



**Attached Photo's**



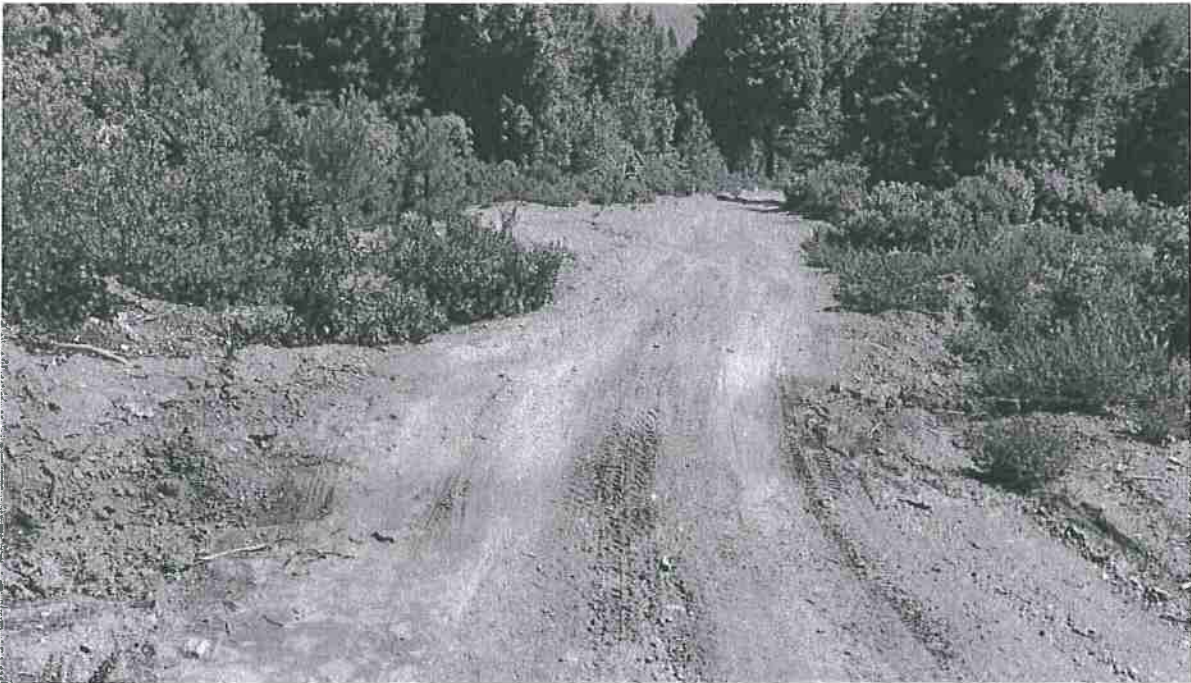
**Road Point 1: Poor road drainage resulting in pooling of water on the road way. The area will be rocked and a drainage trench will be installed to collect and drain waters into the forest and duff. Photo date 7/12/2016**



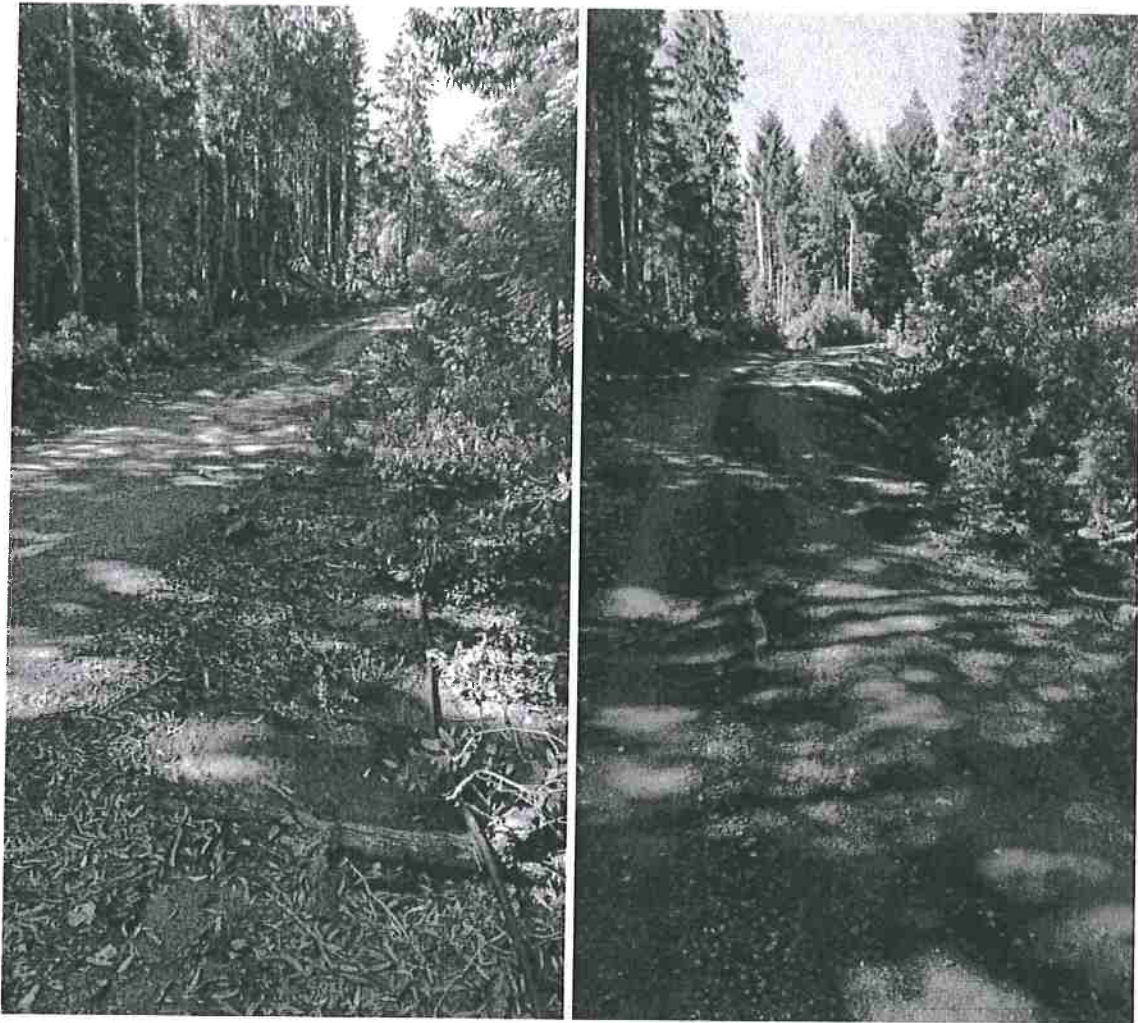


**Road Point 2: Rilling is occurring on the road in the upper right hand corner. Owner will place a water bar above and maintain the rolling dip at the bottom so that water is adequately diverted. 7/12/2016**



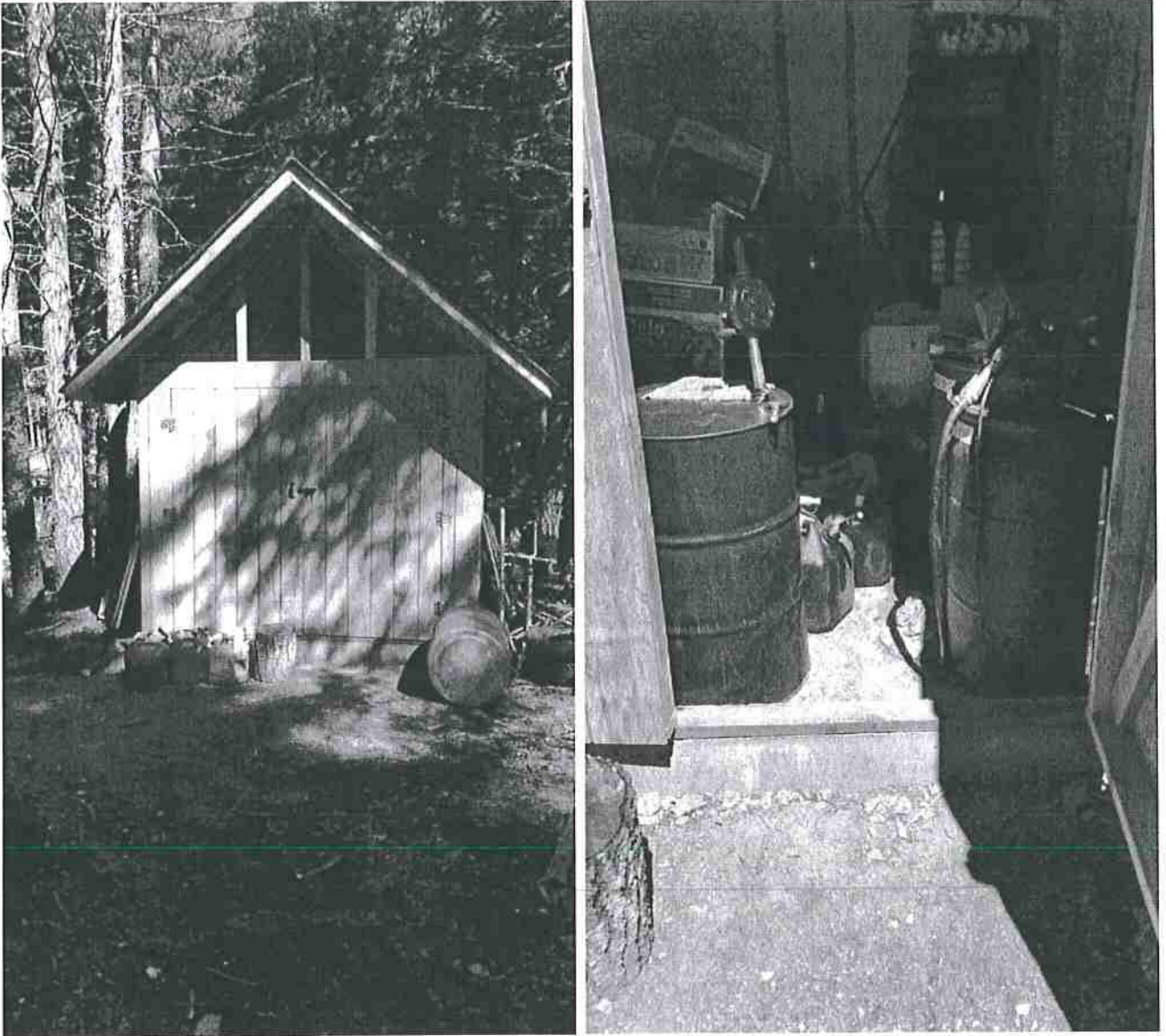


**Road Point 3(top) & Road Point 4(bottom): A water bar has been installed in these two locations to direct road runoff. Owner will monitor and maintain the water bars so that road runoff is adequately diverted. 7/12/2016**



**Road Point 5: Surface erosion is occurring down a road slope and the side of the road, following it until it eventually dissipates. Owner will place a water bar above the rilling to reduce erosion down the road slope and place a rolling dip at the bottom so that water is adequately diverted. 7/12/2016**



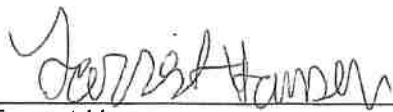


**Map Point 1: Fuel is being stored in a shed built for generators with a shallow secondary containment of too small of a volume for the amount of fuel stored. Owner will either store drums of fuel in an acceptable secondary containment equal to the volume of the drums or obtain a fuel tank with secondary containment. 7/12/2016**

**STATEMENT OF CONTINGENT AND LIMITING CONDITIONS  
CONCERNING THE PREPARATION AND USE OF WATER RESOURCE  
PROTECTION PLAN**

**Prepared by Timberland Resource Consultants**

1. This Water Resource Protection Plan has been prepared for the property within APN 522-021-009 in Humboldt County, at the request of the Client.
2. Timberland Resource Consultants does not assume any liability for the use or misuse of the information in this Water Resource Protection Plan.
3. The information is based upon conditions apparent to Timberland Resource Consultants at the time the inspection was conducted. Changes due to land use activities or environmental factors occurring after this inspection, have not been considered in this Water Resource Protection Plan.
4. Maps, photos, and any other graphical information presented in this report are for illustrative purposes. Their scales are approximate, and they are not to be used for locating and establishing boundary lines.
5. The conditions presented in this Water Resource Protection Plan may differ from those made by others or from changes on the property occurring after the inspection was conducted. Timberland Resource Consultants does not guarantee this work against such differences.
6. Timberland Resource Consultants did not conduct an investigation on a legal survey of the property.
7. Persons using this Water Resource Protection Plan are advised to contact Timberland Resource Consultants prior to such use.
8. Timberland Resource Consultants will not discuss this report or reproduce it for anyone other than the Client named in this report without authorization from the Client.



Forrest Hansen  
Timberland Resource Consultants



# WRPP - Mitigation Report

180102111205TRC121

Unique Point	UTM 10 NAD 83	Road Type	Mitigation Planned	Monitor	1600	Standard Conditions	Treatment Priority	Date Completed
RP 1	435512 4538431	Seasonal	X	X		A.1.a.	Prior to 11/15/17 pending approval of applicable permits	
Current Condition: Poor road drainage resulting in pooling of water on the road way.						Prescribed BMP: The area will be rocked and a drainage trench will be installed to collect and drain waters into the forest and duff area. The forest and duff will provide adequate filtering and absorption of sediments.		
Unique Point	UTM 10 NAD 83	Road Type	Mitigation Planned	Monitor	1600	Standard Conditions	Treatment Priority	Date Completed
RP 2	435875 4538643	Seasonal	X	X		A.1.a.; A.1.b	Prior to 11/15/17 pending approval of applicable permits	
Current Condition: Surface erosion is occurring immediately before an existing rolling dip.						Prescribed BMP: Owner will place a water bar above the rilling and maintain the rolling dip at the bottom so that water is adequately diverted.		
Unique Point	UTM 10 NAD 83	Road Type	Mitigation Planned	Monitor	1600	Standard Conditions	Treatment Priority	Date Completed
RP 3	435793 4538594	Seasonal		X		A.1.a.; A.1.b	Prior to 11/15/17 pending approval of applicable permits	
Current Condition: A water bar is installed at this location to direct road runoff off of the road.						Prescribed BMP: Owner will monitor and maintain the water bar so that road runoff is adequately diverted.		
Unique Point	UTM 10 NAD 83	Road Type	Mitigation Planned	Monitor	1600	Standard Conditions	Treatment Priority	Date Completed
RP 4	435673 4538450	Seasonal		X		A.1.a.; A.1.b	Prior to 11/15/17 pending approval of applicable permits	
Current Condition: A water bar is installed at this location to direct road runoff off of the road.						Prescribed BMP: Owner will monitor and maintain the water bar so that road runoff is adequately diverted.		
Unique Point	UTM 10 NAD 83	Road Type	Mitigation Planned	Monitor	1600	Standard Conditions	Treatment Priority	Date Completed
RP 5	435673 4538450	Seasonal	X	X		A.1.a.; A.1.b	Prior to 11/15/17 pending approval of applicable permits	
Current Condition: Rilling is occurring down a road slope to where it levels out and drains to the side of the road, following it until it eventually dissipates.						Prescribed BMP: Owner will place a water bar above the rilling to reduce erosion down the road slope and place a rolling dip at the bottom so that water is adequately diverted.		
Unique Point	UTM 10 NAD 83	Road Type	Mitigation Planned	Monitor	1600	Standard Conditions	Treatment Priority	Date Completed
MP 1	435548 4538420	Seasonal	X	X		A.9.a; A.9.b	Prior to 11/15/16 pending approval of applicable permits	
Current Condition: Fuel is being stored in a shed built for generators with a shallow secondary containment of too small of a volume for the amount of fuel stored.						Prescribed BMP: Owner will either store drums of fuel in an acceptable secondary containment equal to the volume of the drums or obtain a fuel tank with secondary containment.		



# Water Resource Protection Plan

## 180102111205TRC121

Seasonal Road  
Property Boundary

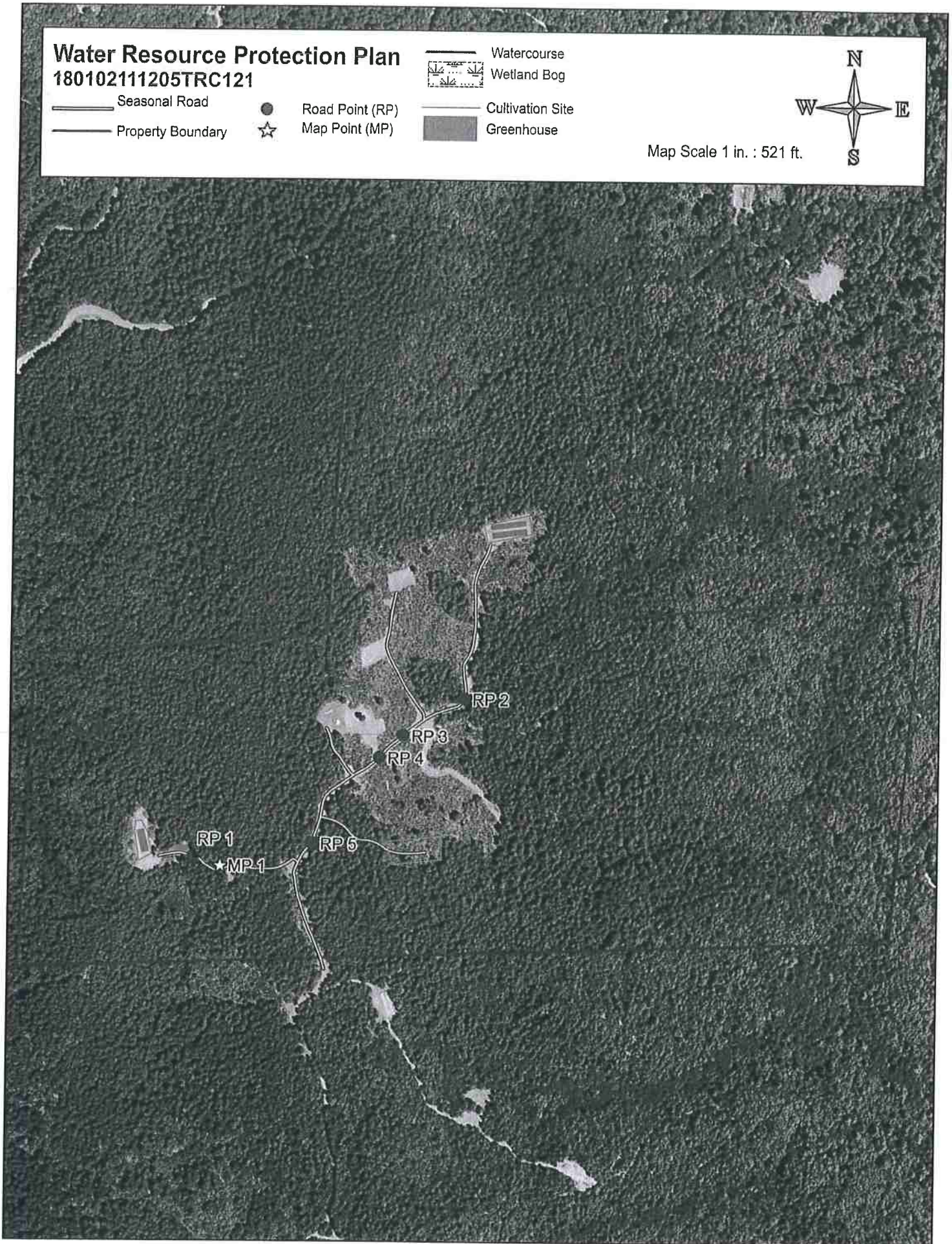
Road Point (RP)  
Map Point (MP)

Watercourse  
Wetland Bog

Cultivation Site  
Greenhouse



Map Scale 1 in. : 521 ft.

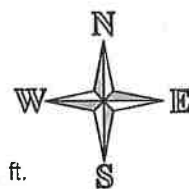




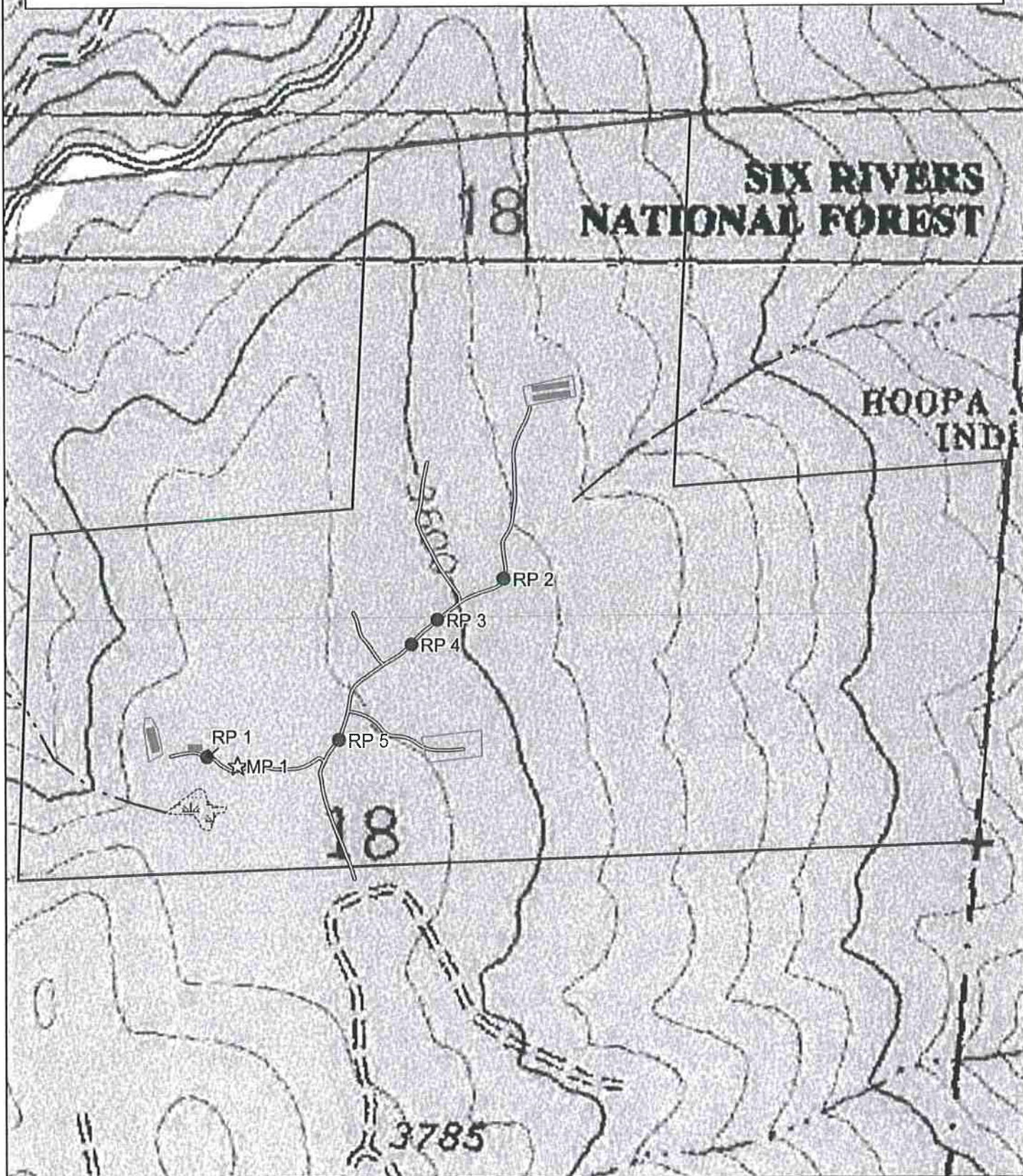
# Water Resource Protection Plan 180102111205TRC121

- Seasonal Road
- Property Boundary
- Road Point (RP)
- Map Point (MP)

- Watercourse
- Wetland Bog
- Cultivation Site
- Greenhouse



Map Scale 1 in. : 521 ft.









**MONITORING AND REPORTING PROGRAM  
FOR  
WAIVER OF WASTE DISCHARGE REQUIREMENTS  
ORDER NUMBER R1-2015-0023**

The Monitoring and Reporting Program has two components (Monitoring and Reporting), reflected in the two sections below. The information collected through site monitoring and inspections, per Section I and reporting forms completed per Section II must be retained on site and made available upon request by Regional Water Board staff. As part of the initial enrollment, a filled copy of the Annual Reporting form in Section II must be submitted, in addition to the Notice of Intent and filing fee. Following enrollment, the Annual Reporting form shall be submitted annually by March 31.

Monitoring, including periodic site inspections and reviews of operational practices, helps to ensure that standard conditions are being met, that management measures and controls are effectively protecting water resources, and that any newly developing problems representing a water quality concern are identified and corrected quickly. Whether submitted directly to the Regional Water Board or through an approved third party program, the required reporting elements allow the Regional Water Board to assess general program implementation and compliance by tier category and by subwatershed. For example, reporting form information can allow staff to determine how many Tier 2 Dischargers are in the process of developing water resource protection plans, how many have developed and are implementing plans, how many are in compliance with standard conditions, how effectively BMPs are performing, and what changes or improvements are needed to improve program effectiveness or compliance rate.

On a sub-watershed-wide scale, this information enables the Regional Water Board staff to comprehensively track activity from Tier 3 cleanup and restoration sites and individual instream work proposed under Tier 2 water resource protection plans to help correlate cleanups and activities or restoration or remediation work in streams or wetlands that are proposed and underway in individual watersheds and subwatersheds. It may be necessary to limit the number of individual potential construction-related impacts occurring at any given time in any given subwatershed.

**I. Monitoring**

This information below is applicable to all sites and may also be part of or incorporated into the water resource protection plan for Tier 2 sites.

**A. Site Map:**

Please create a legible map identifying the features listed below where applicable. You may need to use a full-page satellite map (e.g. Bing, Google, or similar) and one or more additional maps at appropriate scales. The map(s) may be preliminary upon enrollment and refined upon completion of a thorough site inventory:

1. Property topography
2. Perimeter of land owned or leased
3. Watercourses and stream crossings
4. Roads, clearings, and developed areas
5. Perimeters of cultivation areas
6. Water source types and locations (surface water diversion, well, rainwater catchment) and water storage types and locations (storage tanks, ponds, bladders)<sup>1</sup>
7. Nutrient and chemical storage locations (i.e. fertilizers, pesticides, petroleum)
8. Buildings
9. Garbage/refuse storage facilities/locations
10. Human waste facilities (e.g. septic tanks and leach fields, privy, composting toilet)
11. Unstable earthen features
12. Soil or spoils storage/stockpile/disposal areas
13. Controllable sediment discharge sources identified for upgrade, cleanup, remediation, or restoration (as part of Tier 2 Water Resource Protection Plan or Tier 3 Cleanup and Restoration Plan)
14. Mark or highlight those locations where wastes or pollutants, whether spilled, placed, or stored could be transported into surface water or leached into groundwater
15. Management measures to control wastes and other water quality factors
16. Map legend

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<sup>1</sup> A basis of water right and relevant documentation shall be kept on site with the site map and monitoring records. Relevant documentation may include:

- A letter, or email from the State Water Board acknowledging that a statement has been filed with the State Water Board in support of a pre-1914 or riparian water right claim.
- A copy of an appropriate water permit, license, registration, or filed statement.
- A true and correct copy of an application, or other documentation verifying that an application has been submitted to the State Water Board to obtain such a right, permit, registration, or license.
- Explanation of why such documentation cannot be provided.

Note: Copies of documents may be downloaded from the State Water Board's Electronic Water Rights Information Management System (eWRIMS).

**B. Monitoring Inspections:**

Sites shall be inspected periodically to ensure conformance with standard conditions. Site inspections should include visual inspection of the site, including any management measures, to ensure they are being implemented and are functioning as expected. Inspections include photographic documentation of any controllable sediment discharge sites, as identified on the site map, and a visual inspection of those locations on the site where pollutants or wastes, if uncontained, could be transported into receiving waters, and those locations where runoff from roads or developed areas drains into or towards surface water. At a minimum, sites shall be inspected at the following times to ensure timely identification of changed site conditions and to determine whether implementation of additional management measures is necessary to prevent or minimize discharges of waste to surface water:

1. 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.
2. Prior to October 15 to evaluate site preparedness for storm events and stormwater runoff.
3. By December 15.
4. Following any rainfall event with an intensity of 3 inches precipitation in 24 hours  
Precipitation data can be obtained from the National Weather Service by entering the site zip code at <http://www.srh.noaa.gov/forecast>

Note that Tier 2 Dischargers must include a monitoring element in their water resource protection plan that at a minimum provides for periodic inspection of the site, checklist to confirm placement and efficacy of management measures, and document progress on any plan elements subject to a time schedule. Tier 3 Dischargers must incorporate monitoring and reporting elements into their cleanup and restoration plans for approval by the Executive Officer.



**II. Annual Reporting**

The information in the following form must be submitted upon initial enrollment, and annually thereafter by March 31. The reported information shall be reflective of site conditions.

Enrollees shall submit this information either directly to the Regional Water Board or through an approved third party program.

The preferred method of submittal is electronically via e-mail to [NorthCoast@waterboards.ca.gov](mailto:NorthCoast@waterboards.ca.gov) or on disk (CD or DVD) in Portable Document Format (PDF) file in lieu of paper-sourced documents. The guidelines for electronic submittal of documents can be found on the Regional Water Board website at <http://www.waterboards.ca.gov/northcoast>

If electronic submission is infeasible, hard copies may be submitted to: North Coast Regional Water Quality Control Board, 5550 Skyline Blvd. Suite A, Santa Rosa, CA 95403.

The Regional Water Board is developing a method for submittal of reporting information directly to the CIWQS Program Web site at

<http://www.waterboards.ca.gov/ciwqs/index.html>

Information about this alternative submittal process will be made available on the North Coast Regional Water Board website at:

[http://www.waterboards.ca.gov/northcoast/water\\_issues/programs/cannabis/](http://www.waterboards.ca.gov/northcoast/water_issues/programs/cannabis/). Once this method is established, direct submittal to CIWQS will be available for enrollees and approved third party programs, and will become the preferred reporting mechanism.

**REPORTING FORM BEGINS ON NEXT PAGE. PLEASE COMPLETE AND SUBMIT THE REPORTING FORM UPON ENROLLMENT AND ANNUALLY THEREAFTER**

**Order No. R1-2015-0023  
REPORTING FORM**

**A. Site WDID:** \_

**B. Subwatershed (HUC-12):** 180102111205

**C. Enrollment date:** 7/21/2016

**D. Reporting date:** 1/21/2017

**E. Please check the box corresponding to the enrolled site's current tier (Tier 3 sites with cultivation must also check Tier 2).**

Tier 1  Tier 2  Tier 3

**Has the site's tier status changed since the last reporting period?** Y  / N

If YES, briefly explain:

**F. Check all fields that apply to the enrolled site:**

**i. Tier 1 sites:**

(see Order at page 6 for details on Tier 1 characteristics)

- Average slope of each individual cultivation area is no more than 35% slope.
- Total cultivation area is no more than 5,000 square feet.
- No cultivation areas or associated facilities are located within 200 feet of a surface water. (Surface waters include wetlands and Class I, II, and III watercourses.)
- No surface water diversion from May 15 through October 31.
- The site is in compliance with all Standard Conditions under Order R1-2015-0023, section I.A.

**ii. Tier 2 sites:**

**a. A Water Resource Protection Plan has been developed and is being implemented?**

Y  / N

If NO, expected date when plan will be ready and implementation will begin:

1/21/2017

If YES, have there been changes to the implementation schedule since the prior year of reporting? Y  / N

**REPORTING FORM**

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**ii. Tier 2 sites continued**

**b.** Check below as to whether or not the site meets Standard Conditions under Order R1-2015-0023, section I.A. If a standard condition is not yet met, please indicate the expected date of compliance as identified in the Water Resource Protection Plan. Upon initial enrollment, provide an estimated expected date of compliance.

<u>Standard Conditions Met</u>	<u>If NO, expected date of compliance</u>
Site maintenance, erosion control, and drainage features Y <input type="checkbox"/> /N <input checked="" type="checkbox"/>	11/15/17
Stream crossing maintenance Y <input checked="" type="checkbox"/> /N <input type="checkbox"/>	
Riparian and wetland protection and management Y <input checked="" type="checkbox"/> /N <input type="checkbox"/>	
Spoils management Y <input checked="" type="checkbox"/> /N <input type="checkbox"/>	
Water storage and use Y <input checked="" type="checkbox"/> /N <input type="checkbox"/>	
Irrigation runoff Y <input checked="" type="checkbox"/> /N <input type="checkbox"/>	
Fertilizers and soil amendments Y <input checked="" type="checkbox"/> /N <input type="checkbox"/>	
Pesticides and herbicides? Y <input checked="" type="checkbox"/> /N <input type="checkbox"/>	
Petroleum products and other chemicals Y <input type="checkbox"/> /N <input checked="" type="checkbox"/>	11/15/16
Cultivation-related wastes Y <input checked="" type="checkbox"/> /N <input type="checkbox"/>	
Refuse and human waste Y <input checked="" type="checkbox"/> /N <input type="checkbox"/>	

**c.** All management measures are being implemented as part of the Water Resource Protection Plan? Y/N

If YES, do management measures appear to be effective in preventing and minimizing discharges of waste to surface water? Y/N

If management measures do not appear to be effective, are additional measures being implemented iteratively to prevent and minimize discharges of waste to surface water? Y/N

If NO, describe management measures or practices that have not been effective in preventing and minimizing discharges of waste to surface water, if applicable. Describe plans for new or additional management measures to prevent and minimize discharges of waste, if applicable. Attach additional sheets as necessary.



**REPORTING FORM****PAGE 3/5**

- d. Will work to bring site into compliance with Standard Conditions require disturbance to a stream or wetland over the coming year? Y  /N

If YES, indicate status of work authorization by Regional Water Board. Specifically, check one or more of the following and provide the date if/as applicable.

- I plan to submit my project plans to the Regional Water Board by the following date:
- I submitted my project plans to the Regional Water Board on the following date:
- The Regional Water Board Executive Officer authorized my project plans on the following date:
- I have elected to receive authorization for instream work under a different Regional Water Board permitting mechanism as follows:
- Instream work anticipated to occur between the following dates:

**iii. Tier 2\* sites:**

Total cultivation area is less than 10,000 square feet? Y  /N

Water resource protection plan developed and fully implemented? Y  /N

All Standard Conditions met? Y  /N

Site was inspected and verified as Tier 2\* by Regional Water Board staff (NAME) or approved third party program (NAME): \_\_ on (DATE)

**iv. Tier 3 Sites:**

A Cleanup and Restoration Plan has been submitted to the Regional Water Board for approval.

The Cleanup and Restoration Plan has been approved by the Regional Water Board.

The timeline for the approved Cleanup and Restoration plan is being followed. Will restoration work require disturbance to a stream or wetland in the coming year? Y  /N

Instream work anticipated to occur between the following dates: \_

Cannabis cultivation is occurring or will occur on the site over the coming year. (If this box is checked, ensure that Tier 2 portions of the reporting form are completed as well).

**REPORTING FORM**

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**v. For All Sites:**

**Annual Reporting Period (Calendar Year), or CHECK HERE  if this is the report accompanying initial enrollment.**

From \_\_\_\_\_ To \_\_\_\_\_  
 Month/Day/Year Month/Day/Year

<b>Total cultivation area (square feet)</b>	<b>10,045 ft<sup>2</sup></b>
<b>Distance to surface waters (feet) from nearest edge of each cultivation area or associated facility.</b> Provide distance measurements for each cultivated area separately, as appropriate.	<b>Class III: 200' 320'</b>
<b>Average slope (percent slope) of each cultivated area</b> List each cultivated area separately, as appropriate.	<b>14 - 21%</b>
<b>Total number of road crossings of surface waters</b> Surface waters include wetlands and Class I, II, and III watercourses.	<b>0</b>
<b>Annual soil amendment and chemical use (pounds or gallons).</b> Total mass and/or volume of soil amendment and/or chemical usage by type, product name, and nutrient content such as N-P-K ratio, if applicable.*	<b>Soil:</b> <b>Royal Gold Mendo Mix</b>  <b>Fertilizer:</b> <b>Age Old Grow 12-6-6</b> <b>Age Old Bloom 5-10-5</b> <b>Maxsea Grow 16-16-16</b> <b>Greensand 0-0-3</b> <b>Bone meal 1-13-0</b> <b>Oyster shells</b>

**Total water storage capacity (gallons)** **11,820 gallons**

**Total surface water diversion by month (gallons)\***

Jan.	Feb.	Mar	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.

**Water input to storage by source and month (gallons)** Report water volume input to storage, listing each source separately. This may include inputs from rainfall catchment, surface water diversions, groundwater pumping, or water delivery. If water is delivered, list delivery date, delivery volume, and name and address of water purveyor.\*

Source	Jan.	Feb.	Mar	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Permitted Well	Will	Monitor	In	2016								

**Water use by source and month (gallons)** Report water volume used, listing each source separately. This may include use of stored water, immediate use of pumped groundwater, diverted surface water, or delivered water. If water is delivered, list delivery date, delivery volume, and name and address of water purveyor.\*

Source	Jan.	Feb.	Mar	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Permitted Well	Will	Be	Monitored	In	2016							

\*Upon initial enrollment only, a best estimate is acceptable for reporting annual soil amendment and chemical use, monthly water stored, and monthly water use. Attach additional sheets if more space is needed for your responses.

**REPORTING FORM**

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I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. The information contained in this document and all attachments is, to the best of my knowledge and belief, true, accurate, and complete.

Print name: Forrest Hansen  
Signature: Forrest Hansen Date: 8/10/2018

**Preparer: Complete if MRP was prepared by someone other than the discharger, including an approved third-party**

**Organization Name (if applicable):**

Timber Land Resource Consultants

**Prepared by:**

First Name, Middle Initial

Forrest

Last Name

Hansen

**Preparer Address:**

Street

165 S. Fortuna Blvd

City

Fortuna

State ZIP

CA 95540

Phone Number

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Email Address

trc@timberlandresource.com