Water Resource Protection Plan

APN 522-034-015

180102111201TRC22

Submitted to:

Bradley Miller is Cultivation #1

& Eric Finegan is Cultivation #2

Prepared by:

Timberland Resource Consultants

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Purpose

This Water Resource Protection Plan (WRPP) has been prepared on behalf of the property owner, Bradley Miller, 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 reviewing soil maps (California Cooperative Soil-Vegetation Survey), CGS Geomorphic Features Map (North Coast Watersheds Mapping, DMG CD 99-002, 1999). 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. 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.

Methods

Identified Sites Requiring Remediation

	Map Point Description	Associated Standard Condition	Temporary BMP	Permanent BMP	Treatment Priority	Time Schedule for completion of Permanent BMP	Completion Date
Road Pt. 1 GPS 435 N 40.93903488' W -123.72329618'	Cultivation #1 Pond #1 Delivery Pipe	A.1.a.	N/A	In order to adhere to Cal fire policy, it is recommended to replace the existing 12"-20' Replace with a minimum of an 18"-30'	2	10/15/17	
Road Pt. 2 GPS 445 N 40.93866751' W -123.7228102'	Cultivation #1 Pond #1 Overflow Pipe to Pond #2	A.1.a.	N/A	In order to adhere to Cal fire policy, it is recommended to replace the culvert with an 18"-40' culvert.	2	10/15/17	
Road Pt 4 GPS 659 N 40.93838185' W -123.72213847'	Cultivation #1 Main Access Road near Stockpile	A.1.a.	N/A	Existing 12"-20' culvert that tends to overtop during winter months. Placement at a minimum of a 18"-20' culvert	2	10/15/17	
Road Pt 5 GPS 660 N 40.93868678' W -123.7224061'	Cultivation #1 Main Access Road	A.1.a	N/A	Existing rocked ford Reshape in order to prevent water from reaching cultivation site. Apply 12" rock as the foundation and build up with varying gradation.	2	10/15/17	

Road Pt 6 GPS 809 N 40.93786125' W -123.93786125'	Cultivation #2 Main Access Road	A.1.a	N/A	Placement of armored rolling dip to convey surface drainage from road prism	2	10/15/17	
Road Pt 7 GPS 808 N 40.93750745' W -123.72145535'	Cultivation #2 Main Access Road	A.1.a	N/A	Placement of armored rolling dip to convey surface drainage from road prism	2	10/15/17	
Road Pt 8 GPS 807 N 40.93750217' W -123.72130011'	Cultivation #2 Main Access Road	A.1.a	N/A	Placement of armored rolling dip to convey surface drainage from road prism	2	10/15/17	
Road Pt 9 GPS 806 N 40.9376973' W -123.72046804'	Cultivation #2 Main Access Road	A.1.a	N/A	Placement of armored rolling dip to convey surface drainage from road prism	2	10/15/17	
Road Pt 11 GPS 805 N 40.93818446' W -123.72017224'	Cultivation #2 Main Access Road	A.1.a	N/A	Existing rocked ford Reshape and armor to allow water to flow efficiently across road prism.	2	10/15/17	
Road Pt 12 GPS 804 N 40.93902952' W -123.72023779'	Cultivation #2 Main Access Road	A.1.a	N/A	Existing rocked ford Reshape and armor to allow water to flow efficiently across road prism.	2	10/15/17	

Road Point #13 GPS 790 N 40.9399377' W -123.72019739'	Cultivation #2 Main Access Road	A.1.a	N/A	Existing 24"-20' CMP pond overflow and road surface drainage Rusted through, smashed on inlet and filled with sediment Removal and replacement with the 24"-20'	2	10/15/17	
Road Point #14 GPS 788 N 40.94022101' W -123.72049084'	Cultivation #2 Main Access Road	A.1.a	N/A	Placement of rocked ford to convey water from pond overflow and road surface drainage into channel that drains Road Point #13	2	10/15/2017	
Road Point #15 GPS 787 N 40.94032042' W -123.7207801'	Cultivation #2 Main Access Road	A.1.a	N/A	Inboard ditch delivers to lower road and scours road that leads to cultivation site. Placement of 18"-30' ditch relief culvert to convey inboard ditch and surface drainage across both roads	2	10/15/2017	
Road Point #16 GPS 786 N 40.94043508' W -123.72098487'	Cultivation #2 Main Access Road	A.1.a	N/A	Placement of armored rolling dip. Redefine and connect with inboard ditch to newly installed ditch relief culvert	2	10/15/2017	
Road Point #17 GPS 785 N 40.94062443' W -123.72128645'	Cultivation #2 Main Access Road	A.1.a	N/A	Placement of armored rolling dip. Redefine and connect with inboard ditch to newly installed ditch relief culvert	2	10/15/2017	
Road Point #18 GPS 784 N 40.94074739' W -123. 7211506'	Cultivation #2 Main Access Road	A.1.a	N/A	Placement of 10' x 10' rocked ford to convey surface runoff	2	10/15/2017	
Road Point #19	Cultivation #2	A.1.a	N/A	Placement of 20' x 20' non-woven geotextile fabric and 12" of angular	2	10/15/2017	

GPS 783 N 40.94114855' W -123.72114237'	Main Access Road			surface rock.			
Road Point #20 GPS 667 N 40.94131594' W -123.72127723'	Cultivation #2 Main Access Road	A.1.a	N/A	Placement of 10' x 10' rocked ford to convey drainage ditch and surface runoff across road and away from cultivation site.	2	10/15/2017	
Road Point #21 GPS 782 N 40.94148265' W -123.72160052'	Cultivation #2 Main Access Road	A.1.a	N/A	Placement of armored rolling dip	2	10/15/2017	
Road Point #22 GPS 781 N 40.94177074' W -123.72166841'	Cultivation #2 Main Access Road	A.1.a	N/A	Placement of armored rolling dip.	2	10/15/2017	
Erosion Control #1 GPS 927 N 40.94046827' W-123.72084724'	Cultivation #2 Pond Location	A.1.a	N/A	Existing 18"-20' pond overflow culvert Erosion at inlet of pipe and gully formation at the outlet Placement of rip rap on both the inlet and outlet to reduce sediment delivery.	2	10/15/2017	
Stockpile #2 GPS 658 N 40.938222922' W-123.7220233'	Cultivation #1	A.1.a	N/A	Stockpile of greenhouse/infrastructure construction material including plastic, metal and wood adjacent to seasonal watercourse. Move atleast 50' from watercourse	2	10/15/2017	
Stockpile #3 GPS 803 N 40.9392726' W -123.72050618'	Cultivation #2	A.1.a	N/A	Stockpile of greenhouse/infrastructure construction material including plastic, metal and wood adjacent to seasonal watercourse. Material to be moved at	2	10/15/2017	

				least 50' from watercourse			
Stockpile #4 GPS 788 N 40.94022101' W -123.72049084'	Cultivation #2	A.1.a	N/A	Stockpile of greenhouse/infrastructure construction material including plastic, metal and wood adjacent to seasonal watercourse. Material to be moved at least 50' from watercourse	2	10/15/2017	
Watercourse Buffer #1 GPS 790 N 40.9399377' W -123.72019739'	Cultivation #2	A.3.a	N/A	Full term plants within 20' of Class III watercourse. Herbaceous vegetation buffer between burlap pots and watercourse Relocate an addition 30' away to avoid any runoff discharge impacts	3	10/15/2018	
Watercourse Buffer #2 GPS 914 N 40.94004809 W -123.72002346	Cultivation #2	A.3.a	N/A	Greenhouse plants within 30' of Class III watercourse. Herbaceous vegetation buffer between greenhouse and watercourse Relocate an addition 20' away to avoid any runoff discharge impacts	3	10/15/2018	
Spoils Location #2 GPS 918 N 40.94026275' W -123.72019898"	Cultivation #2	A.4.a	N/A	Spoils in a location where sediment delivery is possible due to proximity to nearby man made drainage ditch that drains into Class III watercourse. Placement of barrier wall (Concrete) to ensure spoils do not enter channel.	2	10/15/2017	
Water Storage and Use GPS 468 N 40.93859048' W -123.72287105'	Cultivation #1 and #2	A.5.a	N/A	Placement of water meters on all storage tanks <u>Cultivation #1</u> 4100 gallon storage tank	2	10/15/2017	

GPS 468 N 40.93960536' W -123.72263233' GPS 669-672 N 40.94182338' W -123.72182624' GPS 926-929 N 40.94046827' W -123.72084724'				Two (2) 2800 gallon tanks <u>Cultivation #2</u> Four (4) gallon tanks Raincatchment Pond			
Petroleum N 40.93862526' W -123.72305034'	Cultivation #1	A.9.a	N/A	Provide spill trays for all generators	2	11/15/17	
Petroleum N 40.93963696' W -123.72021264	Cultivation #2	A.9.a	N/A	Gas tanks are in need of secondary containment in the form of spill trays or containers Generators are in need of secondary containment in the form of spill trays.	2	11/15/17	
Bathroom Facility GPS 439-443,462 GPS 791-794 N 40.93875325 W -123.72148083 N 40.93946697' W -123.72019043'	Cultivation #1 and 2	A.11.a	N/A	In order to meet standards, waste disposal system will either need to permitted or an engineer will need to document that it can be permitted.	4	10/15/2020	

Coordinates associated with sites UTM 10 NAD 83

<u>Treat Priority:</u> The time frame for treatment of each specific site.

(1) Indicates a very high priority with treatment being planned to occur immediately.

(2) Indicates a high priority site with treatment to occur prior to the start of the winter period (Nov. 15).

(3) Indicates a moderate priority with treatment being planned to occur within a year 1, or prior to the winter period (Nov. 15) of the 2nd season of operations.

(4) Indicates a low priority with treatment being planned to occur in the shortest time possible, but no later than the expiration of this Order (five years).

Identified Sites Not Requiring Mitigation

Site	Description	Planned Monitoring

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).

Inspection Personnel Contact Information:

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707-601-7014

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. 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.

Water Resource Protection Plan

Assessment of Standard Conditions

APN 522-034-015

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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☒

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.

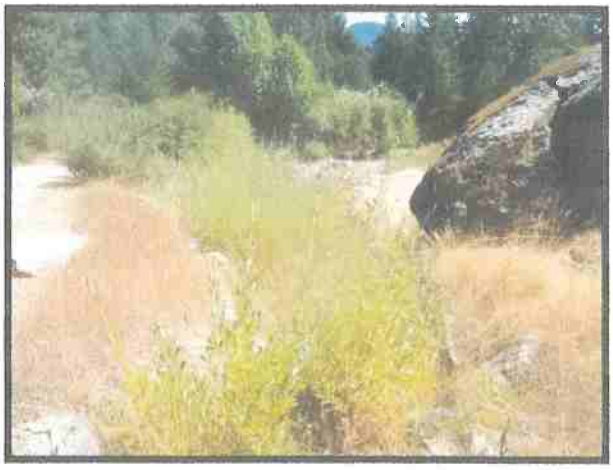
D) Roads, clearings, fill prisms, and terraced areas (cleared/developed areas with the potential for sediment erosion and transport) shall be maintained so that they are not hydro logically connected[1], as feasible, from surface waters, including wetlands, ephemeral, intermittent and perennial streams.

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.

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)

Cultivation Operation #1

Road Point #1: GPS 435



- Existing 12"-20' metal culvert delivering into an armored channel to a storage pond location.
- Armored channel is well vegetated with willow species

- According to California Board of Forestry and Fire Protection 2013 Road Rules and Technical Addendum No. 5- Guidance on Hydrological Disconnection, road drainage, minimization of diversion potential and high risk crossings policy 14CCR923.5(a)-(i)[943.5(a)-(i),963.5(a)-(i)- In general, if ditch drain (relief) culverts are used, it is recommended to be at least 18" in diameter to lower the potential of plugging from soil and small woody debris.

- In order to adhere to Cal fire policy, it is recommended to replace the existing ditch relief culvert with an 18"-20' culvert.

Road Point #2: GPS 445

- Storage pond overflow into a 12"-40' CMP culvert that delivers into a secondary pond

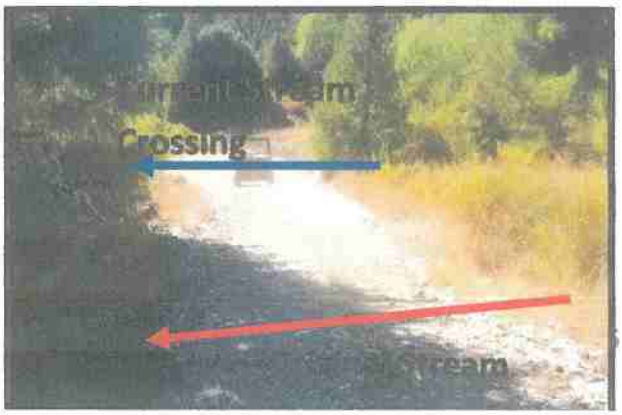
- According to California Board of Forestry and Fire Protection 2013 Road Rules and Technical Addendum No. 5- Guidance on Hydrological Disconnection, road drainage, minimization of diversion potential and high risk crossings policy 14CCR923.5(a)-(i)[943.5(a)-(i),963.5(a)-(i)- In general, if ditch drain (relief) culverts are used, it is recommended to be at least 18" in diameter to lower the potential of plugging from soil and small woody debris.

- In order to adhere to Cal fire policy, it is recommended to replace the existing ditch relief culvert with an 18"-40' culvert.

- Pond overflows into blue line perennial watercourse

Road Point #3: GPS 657

- Existing 18"-20' metal pipe within Perennial Blue Line stream channel.
- Original channel is diverted at a right angle into an armored inboard ditch that delivers to the 18"-20' pipe. The diversion is approximately 40' to culvert.
- Culvert may have been placed to pick up the overflow from pond delivery.



- Original channel is evident on the outlet side of road crossing.

Road Point #4:GPS 659

- Existing 12"-20' culvert that tends to overtop during winter months.
- Placement at a minimum of a 18"-20' culvert

Road Point #5:GPS 660

- Existing rocked ford
- Reshape in order to prevent water from reaching cultivation site.
- Apply 12" rock as the foundation and build up with varying gradation.
- Ensure sufficient outlet to encourage water away from the road surface

Cultivation Operation #2

Road Point #6:GPS 809

- Placement of armored rolling dip to convey surface drainage from road prism

Road Point #7:GPS 808

- Reshape and armor previously constructed rolling dip. Connect with inboard ditch to reduce energy and disconnect from perennial watercourse.

Road Point #8:GPS 807

- Placement of armored rolling dip. Redefine and connect with inboard ditch to reduce energy and disconnect from perennial watercourse.

Road Point #9:GPS 806

- Placement of armored rolling dip. Redefine and connect with inboard ditch to reduce energy and disconnect from perennial watercourse.

Road Point #10:GPS 806

- Existing 18"-30' CMP ditch relief culvert
- In good condition and adequately sized for 100 year storm event.

Road Point #11:GPS 805

- Existing rocked ford, outlet erosion
- Reshape and armor to allow water to flow efficiently across road prism.
- Armor outlet to ensure stability
- Utilize 6-12" rock within and at the outlet of rocked ford

Road Point #12: GPS 804

- Existing rocked ford
- Reshape and armor to allow water to flow efficiently across road prism.
- Armor outlet to ensure stability
- Utilize 6-12" rock within and at the outlet of rocked ford

Road Point #13:GPS 790

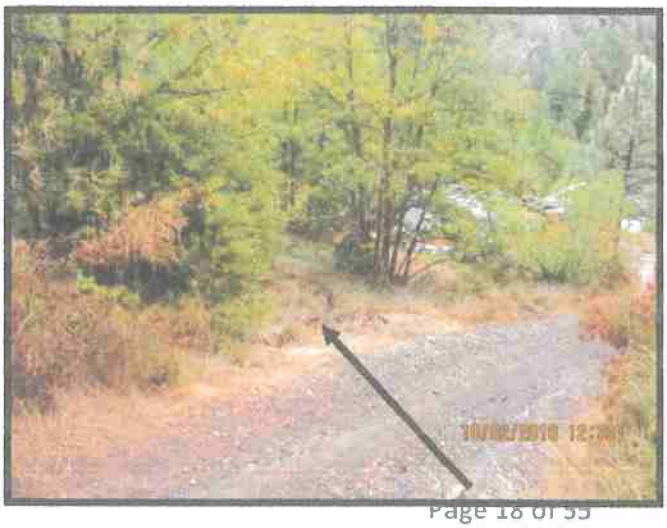
- Existing 24"-20' CMP pond overflow and road surface drainage
- Rusted through, smashed on inlet and filled with sediment
- Removal and replacement with the 24"-20'
- Clean out sediment wedge at inlet
- Application of 50' of surface rock over culvert installation

Road Point #14: GPS 788

- Placement of rocked ford to convey water from pond overflow and road surface drainage into channel that drains Road Point #13
- Reshape and armor to allow water to flow efficiently across road prism.
- Armor outlet to ensure stability
- Utilize 6-12" rock within and at the outlet of rocked ford

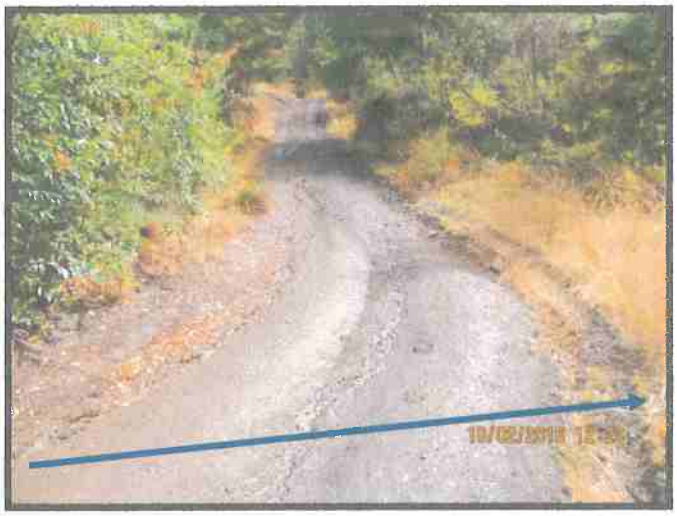
Road Point #15: GPS 787

- Currently, inboard ditch delivers to lower road and scours road that leads to cultivation site. Sediment buildup at inlet at Road Site #13
- Placement of 18"-30' ditch relief culvert to convey inboard ditch and surface drainage across both roads



Road Point #16: GPS 786

- Placement of armored rolling dip. Redefine and connect with inboard ditch to newly installed ditch relief culvert
- Utilize 6-12" rock within dip and the outlet for dip stability and longevity



Road Point #17: GPS 785

- Placement of armored rolling dip. Redefine and connect with inboard ditch to newly installed ditch relief culvert
- Utilize 6-12" rock within dip and the outlet for dip stability and longevity

Road Point #18: GPS 784

- Placement of 10' x 10' rocked ford to convey surface runoff
- Reshape and armor to allow water to flow efficiently across road prism.
- Armor outlet to ensure stability
- Utilize 6-12" rock within and at the outlet of rocked ford

Road Point #19: GPS 783

- Placement of 20' x 20' non-woven geotextile fabric and 12" angular surface rock.
- Fabric and rock application will improve access, reduce muddy conditions and capture sediment before it leaves cultivation site

Road Point #20: GPS 667

- Placement of 10' x 10' rocked ford to convey drainage ditch and surface runoff across road and away from cultivation site.
- Reshape and armor to allow water to flow efficiently across road prism.
- Armor outlet to ensure stability
- Utilize 6-12" rock within and at the outlet of rocked ford

Road Point #21: GPS 782

- Placement of armored rolling dip.
- Utilize 6-12" rock within dip and the outlet for dip stability and longevity

Road Point #22: GPS 781

- Placement of armored rolling dip.
- Utilize 6-12" rock within dip and the outlet for dip stability and longevity

Erosion Point #1: GPS 927

- Existing 18"-20' overflow culvert
- Erosion on inlet of pipe and gully formation at the outlet
- Placement of rip rap on both the inlet and outlet to reduce sediment delivery.

**** All erosion related sites shall be monitored prior to and following prescribed treatments***

**** Refer to Figure 28/36-Rolling Dip Types -The Handbook for Forest, Ranch and Rural Road***

**** Refer to Figure 79-Rip Rap Application -The Handbook for Forest, Ranch and Rural Road***

Refer to Figure 120-Rocked Ford -The Handbook for Forest, Ranch and Rural Road

F) Stockpiled construction materials are stored in a location and manner so as to prevent their transport to receiving waters.

Cultivation Operation #1

Stockpile #1: GPS 461-462

- Stockpile of greenhouse/infrastructure construction material including plastic, metal and wood.
- Material not within any nearby watercourses.
- No impact to water quality

Stockpile #2: GPS 658

- Stockpile of greenhouse/infrastructure construction material including plastic, metal and wood adjacent to seasonal watercourse.
- Material could eventually transport to nearby water course.
- Material to be moved atleast 50' from watercourse, recycled or discarded at Eureka Recology.

Cultivation Operation #2

Stockpile #3: GPS 803

- Stockpile of greenhouse/infrastructure construction material (GPS) including plastic, metal and wood adjacent to seasonal watercourse.
- Material could eventually transport to nearby water course.
- Material to be moved at least 50' from watercourse, recycled or discarded at Eureka Recology.

Stockpile #4: GPS 788 Stockpile of greenhouse/infrastructure construction material (GPS) including plastic, metal and wood adjacent to seasonal watercourse.

- Material could eventually transport to nearby water course.
- Material to be moved at least 50' from watercourse, recycled or discarded at Eureka Recology.

2. Stream Crossing Maintenance

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

Culverts and stream crossings shall be designed and maintained to address debris associated with the expected 100-year peak streamflow.

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.

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.

Culverts shall align with the stream grade and natural stream channel at the inlet and outlet where feasible.[2]

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.[3]

- Refer to Site maintenance, erosion control and drainage features

**** All stream crossings are sized for the 100 year storm event using the rationale method.***

3. Riparian and Wetland Protection and Management

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, 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 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

[2] 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.

[3] If infeasible to install a critical dip, an alternative solution may be chosen.

Class III watercourse or wetlands. The Regional Water Board or its or its Executive Officer may apply additional or alternative[4] conditions on enrollment, including site-specific riparian buffers and other BMPs beyond those identified in water resource protection plans to ensure water quality protection.

Buffers shall be maintained at natural slope with native vegetation.

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.

Cultivation Operation #2

Watercourse Buffer #1 -GPS 790

- Full term plants within 20' of Class III watercourse.
- Herbaceous vegetation buffer between burlap pots and watercourse
- Relocate an addition 30' away to avoid any runoff discharge impacts

Watercourse Buffer #2 -GPS 914

- Greenhouse plants within 30' of Class III watercourse.
- Herbaceous vegetation buffer between greenhouse and watercourse
- Relocate an addition 20' away to avoid any runoff discharge impacts

[4] 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.

4. Spoils Management

Spoils[5] shall not be stored or placed in or where they can enter any surface water.

Spoils shall be adequately contained or stabilized to prevent sediment delivery to surface waters.

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.

Cultivation Operation #1

Spoils Location #1 -GPS 404

- Spoils in a location where sediment delivery cannot enter surface water.

Cultivation Operation #2

Spoils Location #2 -GPS 918

- Spoils in a location where sediment delivery is possible due to proximity to nearby man made drainage ditch that drains into Class III watercourse.
- Placement of barrier wall (Concrete) to ensure spoils do not enter channel.

[5] 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.

5. Water Storage and Use

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[6] watershed or at a smaller hydrologic watershed as determined necessary by the Regional Water Board Executive Officer.

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.

For Tier 2 Dischargers, if possible, develop off-stream storage facilities to minimize surface water diversion during low flow periods.
Water is applied using no more than agronomic rates.[7]

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.
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.

Both cultivation locations obtain water from a permitted diversion.

Cultivation Operation #1

Two (2) water sources exist for cultivation/domestic use activities.

1) Seasonal Drainage/Raincatchment pond- Utilized for cultivation purposes

- 1st Pond (GPS 434-438)
- 180,000 gallon pond

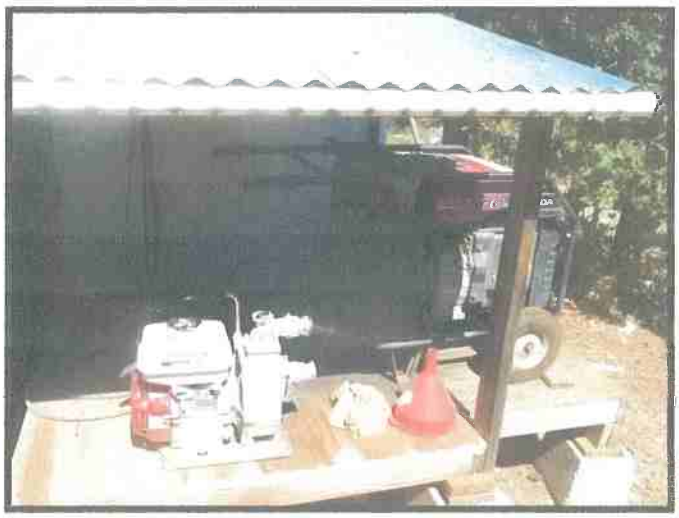
[6] See definition and link to maps at: http://water.usgs.gov/GIS/huc.html

[7] "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.

- Delivers to second pond from pond overflow pipe

- 2nd pond (GPS 445 & 447)
- Used for emergency purposes
- Approximately 3000 gallons

- 1st pond delivers to a 4100 gallon storage tank with an additional 2500 emergency storage tank (GPS 446)
- Storage tank is in need of water meter



- Water is delivered from pond to storage tanks by gas powered Honda WH15 1.5" High Pressure Water Pump
- Water delivered approximately 150' by 2" PVC (GPS 447) and transitions to a 1" PVC pipe (GPS 449)

- Delivered to a Honda WX15 Lightweight General Purpose Centrifugal Pump (GPS 452)

- Delivered by a drip irrigation system to full term and greenhouse

2) Permitted diversion - Utilized for Cultivation/domestic purposes

- Diversion occurs between October 15th-May 15th
- Diversion from upper portion of property running approximately 2900' of 2" PVC, pipe splits at four locations
  - ❖ 1st split occurs at Cultivation Operation #2 (Detailed below)
  - ❖ 2nd split occurs above residence associated with Cultivation Operation #1 and used for domestic source
  - ❖ 3rd Split occurs a junction between 10,000 gallon bladder and two (2) 2800 gallon storage tanks

- Future plans involve removal of bladder and replacement with a 50,000 metal storage tank

- ❖ 4th Split occurs at storage tanks and is delivered to rain catchment pond

- Tanks have float valve control installed
- The storage tank is in need of water meter
- Irrigation is on timer
- Straw mulch covers cultivation area for water conservation and soil protection purposes.

Cultivation Use

Full Term

- Full term plants provided 5 gallons every two days
- Approximately 70 plants

5 gallons x 15 days= 75 gallons per month/per plant

70 plants x 75 gallons/month= 5250 gallons per month

5250 gallons x 6 months= 31,500 gallons per season

Greenhouses

1st Greenhouse: 30' x 25' = 750 sqft
2nd Greenhouses: 100' x 20'= 2000 sqft
3rd Greenhouse: 100' x 20'= 2000 sqft
4th Greenhouse: 100' x 20'= 2000 sqft
5th Greenhouse: 80' x 35'= 2800 sqft
6th Greenhouse: 24' x 60'= 1440 sqft

Approximately 11,000 square feet

- Plants are watered 20-30 minutes every 2 days equaling approximately 250-300 gallons per watering.

  Every two (2) days---15 days of watering/month x 300 gallons per watering= 4500 gallons per month

  4500 gallons/month x 6 months= 27,000 gallons per season

Total Gallons Utilized Between April-October = 58,500 gallons

Cultivation Operation #2

Two (2) water sources exist for cultivation/domestic use activities

1) Permitted diversion - Utilized for Cultivation/domestic purposes

- Four (4) 4000 gallon storage tanks= 16,000 gallons (GPS 669-672)
- Water meter placed prior to diversion into 16,000 gallon storage tanks

- Storage tanks deliver to two (2) 660 gallons

2) Raincatchment Pond (GPS 920-921)

- Approximately 80,000 gallon pond
- 65' x 60' x 20'

- Portable gas powered pump transports water from pond to lower 660 gallon storage tank

Cultivation Use

Full Term

- Full term plants provided 5 gallons every two days
- Approximately 40 plants

5 gallons x 15 days= 75 gallons per month/per plant

40 plants x 75 gallons/month= 3000 gallons per month

3000 gallons x 6 months= 18,000 gallons per season

Greenhouses

1st Greenhouse: 80' x 30' = 2400 sqft
2nd Greenhouses: 48' x 20' = 960 sqft
3rd Greenhouse: 48' x 16'= 768 sqft
4th Greenhouse: 48' x 16'= 768 sqft
5th Greenhouse: 60' x 16'= 960 sqft
6th Greenhouse: 60' x 16'= 960 sqft
7th Greenhouse: 48' x 30'= 1440' sqft
8th Greenhouse: 52' x 30'= 1560 sqft

Approximately 9816 square feet

- Plants are watered every four (4) days at 350 gallons=1400 gallons

  Every four (4) days---16 days of watering/month x 350 gallons per watering= 5600 gallons per month

  5600 gallons/month x 6 months= 33,600 gallons per season

Total Gallons Utilized Between April-October = 51,600 gallons

Standard condition is being met at this time, irrigation schedule will be documented and reported in 2017

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 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.

- The irrigation system for both the full term and greenhouse's are on drip irrigation systems.
- Due to the distance between the greenhouses and watercourses there should be no hydrological connectivity between irrigation and watercourse.
- Standard condition is being met at this time, irrigation schedule will be documented and reported in 2017.

7. Fertilizers and Soil Amendments

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.

Fertilizers and soil amendments shall be applied and used per packaging instructions and/or at proper agronomic rates.

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

Cultivation Operation #1

Permanent structure stores all organic fertilizers and soil amendments.

Soil mix consists of:

1) ***79% Recycled Soil from on-site cultivation***

2) 10% Worm Castings

3) 1% Green Bicycle- Ocean Bounty Flower Mix (All in one amendment)

- N 3.00% – P 9.00% – K 1.00%
- A variety blend of natural ingredients designed to provide a complete nutrient source for the entire growth cycle.

4) 10% Down to Earth Compost

- Proprietary Mixture
- Composted Forest Products, Composted Bark, Composted Dairy Manure, Kelp Meal and Oyster Shell (for pH adjustment).
- Down To Earth Natural Compost is comprised of fully composted animal manures and forest by-products

- Compost Tea is applied to all cultivation sites. 200 gallons are sprayed once a week.

5) Happy Endings Compost Tea Mix

- N 1.00% – P 5.00% – K 2.00%
- Designed to cleanse and inoculate root tissue, build strong cell walls, and to provide a complete spectrum of nutrients and minerals.

- In addition, each green house contains a 3 quarter of a gallon siphon that applies a liquid fertilizer at the soil level.
- Applied at every watering.

6) Age Old Bloom Fertilizer

- N 5.00% – P 10.00% – K 5.00%

- Supplies plants with a fast-acting, natural source of nutrients high in phosphorus.
- The high phosphate levels encourage early flowering and better fruit set for most fruiting plants and vegetables.
- All label instructions are followed.
- Dispose in accordance with local, state and federal regulations.

Standard condition is being met at this time, fertilizer application schedule will be documented and reported in 2017.

Cultivation Operation #2

Soil mix consists of:

1) ***80% Recycled Soil from on-site cultivation***

2) **20% Royal Gold**
   - Delivered in bulk soil
   - A heavily amended, planting style mix

Top Dressing Amendments
- Permanent shed structure stores all organic fertilizers.
- Amended during spring and mid summer

Sparetime

- Fossilized Sea Bird Guano
  - N 0.00% – P 6.00% – K 0.00%
- Trace Mineral Additive
  - N 0.02% – P 0.05% – K 2.75%
- Archipelogo Bat Guano
  - N 0.00% – P 7.00% – K 0.00%
- Mocha Bat Guano
  - N 4.00% – P 6.00% – K 1.00%
- Soy Nitrogen 12
  - N 12.00% – P 0.00% – K 0.00%
  - Derived from soy protein hydrolysate.
  - Use in commercial production to provide nitrogen to help plants grow quickly, increase seed and fruit production, and improve plant quality and appearance.

Mixing Tank Application

GreenPlanet Liquid W-8

- N 0.00% – P 0.0005% – K 0.069%
- Carbohydrate supplement that provides an added energy source for plants demonstrating impressive flowers and fruits.

OG Bioware Root Pack

- Powder Form
- Microbial inoculant

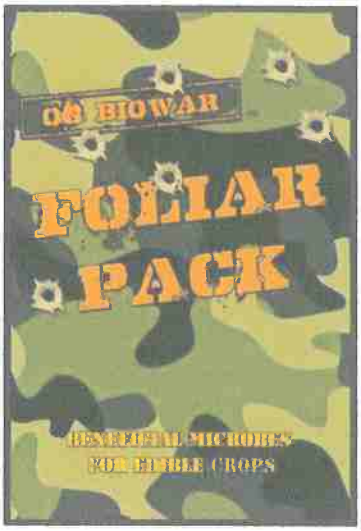
- Proprietary blend of highly concentrated beneficial fungi and bacteria that perform many important functions in the rhizosphere (the root zone).

Biodiversity Krazy Kelp

- Powder Form
- N 1.80% – P 0.01% – K 24.38%
- Vital food source for beneficial organisms in the soil and Diatomic Humus.
- Krazy Kelp is a preferred food to certain microorganisms.
- 70 PLUS TRACE MINERALS IN SEA WATER

Compost Tea

- Consists of OG Bioware Foliar Pack
- Brews a 4 hour tea and applies once a week



- All label instructions are followed.
- Dispose in accordance with local, state and federal regulations.
- Standard condition is being met at this time, fertilizer application schedule will be documented and reported in 2017.

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.

Cultivation Operation #1

- Greencure/Greenclean are applied once a week up to the day of harvest.

1) GreenCure fungicide

- Not a toxic chemical. Its active ingredient, potassium bicarbonate, is commonly used in food products.
- Kills powdery mildew and other diseases on contact and provides
  up to 2 weeks of residual protection
- GreenCure fungicide for organic gardening. Fulfills USDA's National Organic Program (NOP) requirements, and is OMRI listed and may be used in certified organic production according to the NOP Rule.

2) Greenclean Spider Mite Killer and Powdery Mildew Fungicide

- Triple-action spider mite killer spray coats, suffocates, burns and dehydrates mites and eggs
- Dehydrates powdery mildew and coats spores to limit reproduction

- Safe and non-toxic for plants consumed by people; for use on fruits and flowers through harvest
- All natural and rated as "minimum risk pesticide" and exempt from EPA regulation
- Kills spider mites, broad mites, russet mites, powdery mildew and other soft-bodied pests and fungus
- Standard condition is being met at this time.

Cultivation Operation #2

- Applied 3-4 times during growing season

1) Dr. Bronners 18 in 1 Hemp Peppermint Pure Castile Soap mixed with Baking Powder

- Concentrated, biodegradable, versatile and effective.
- Made with organic and certified fair trade ingredients
- Water, Organic Coconut Oil, Potassium Hydroxide, Organic Palm Kernel Oil, Organic Olive Oil, Mentha Arvensis, Organic Hemp Oil, Organic Jojoba Oil, Mentha Piperita, Citric Acid, Tocopherol

Alternates with:

2) The Amazing Doctor Zymes Enzymatic Plant Wash

- All natural and organic enzyme that's 100% environmentally friendly.
- Multi-purpose root drench and foliar spray eliminates an extremely wide range of insects as well as molds/mildew.
- Eliminates and kills: mites, thrips, aphids, whiteflies, larvae, eggs, fungus gnats, root aphids, and other media born insects.
- Eliminates and kills molds, fungus, and powdery mildew.
- Standard condition is being met at this time.

9. Petroleum products and other chemicals

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.

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.

Dischargers shall ensure that diked areas are sufficiently impervious to contain discharged chemicals.

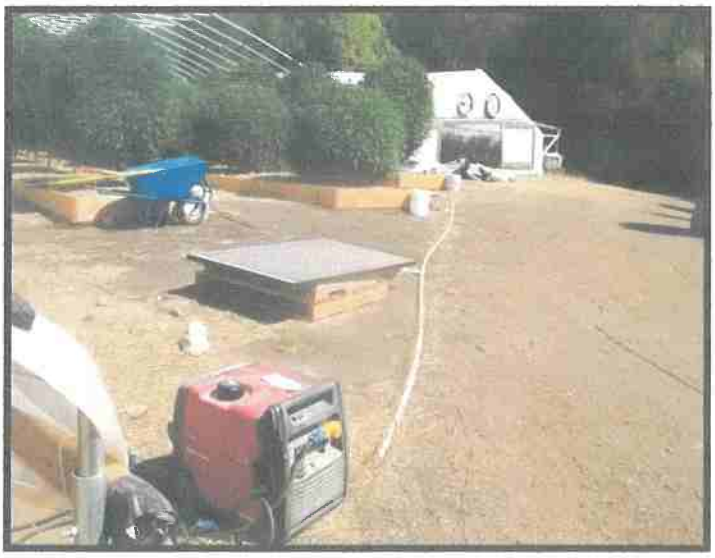
Discharger(s) shall implement spill prevention, control, and countermeasures (SPCC) and have appropriate cleanup materials available onsite.

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.

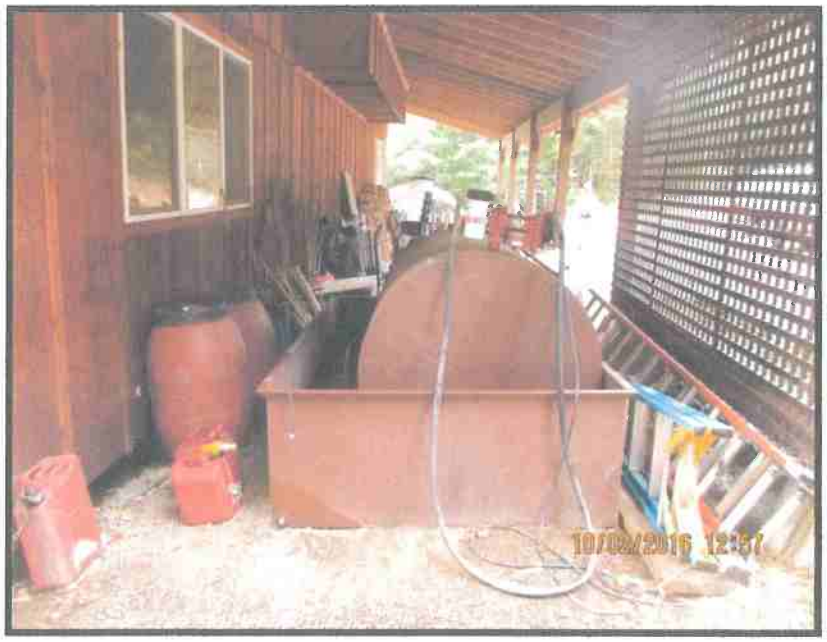
Cultivation Operation #1

- Gas cans are currently stored within secondary containment

- Provide spill trays for all generators



Cultivation Operation #2



- Secondary containment established for main fuel storage

- Gas tanks are in need of secondary containment in the form of spill trays or containers

- Generators are in need of secondary containment in the form of spill trays.

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[8] 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 groundwater.

- See Spoils documentation. This standard condition is being met at this time.

11. Refuse and human waste

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.

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.

Garbage and refuse shall be disposed of at an appropriate waste disposal location.

Cultivation Operation #1

- Consists of two (2) restroom facilities

1) Main Residence Facility
   - Consists of indoor septic that delivers to leach field (GPS 439-443)

[8] Plant waste may also be composted, subject to the same restrictions cited above for cultivation-related waste storage.

2) Secondary Residence Facility

- Consists of outdoor bathroom (GPS 462).
- Excavated hole in the ground
- Wood chips and lime added
- Not in close proximity to water course

Cultivation Operation #2

1) Main Residence Facility

- Consists of indoor septic that delivers to leach field (GPS 439-443)

- Garbage and refuse is regularly hauled to Eureka Recology

- In order to meet standards, waste disposal system will either need to permitted or an engineer will need to document that it can be permitted.

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 outsloping 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 Remediation table.

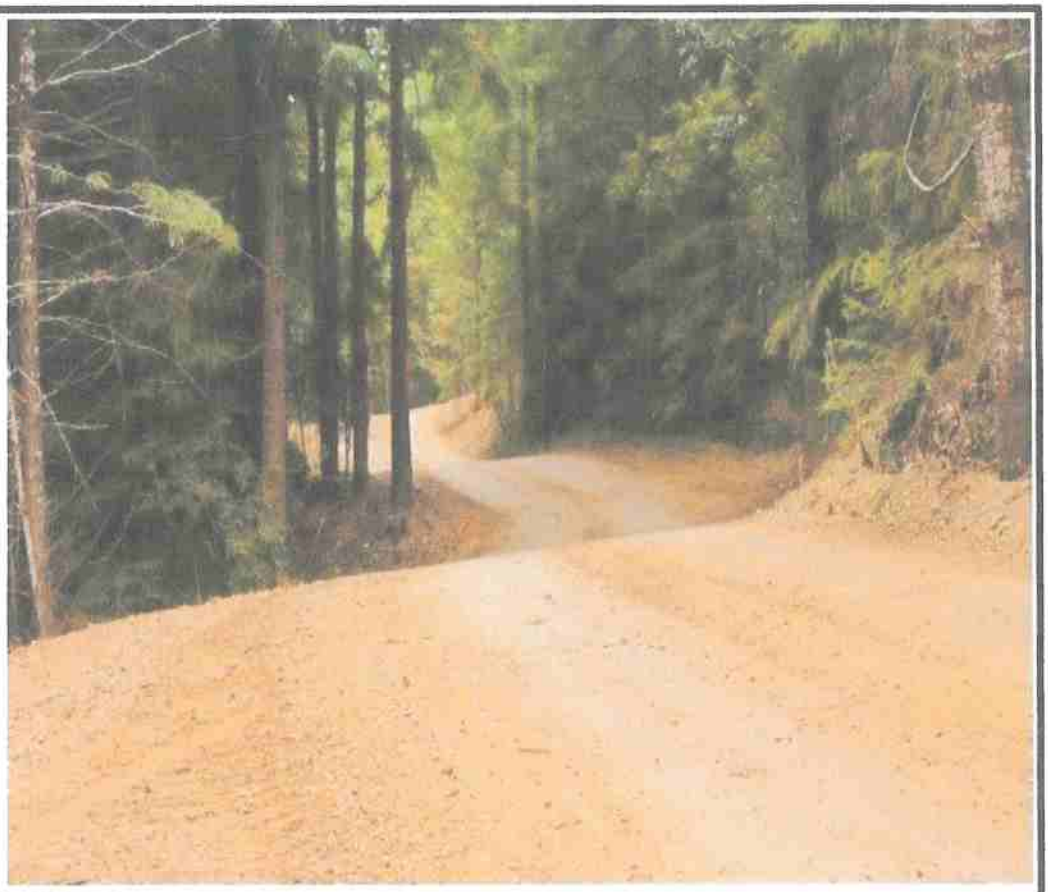


FIGURE 28. *Well built, outsloped road displaying minimum cut, smooth free draining surface, and no outside berm. The road contours the topography and its rolling grade and rolling dips disperse surface runoff.*

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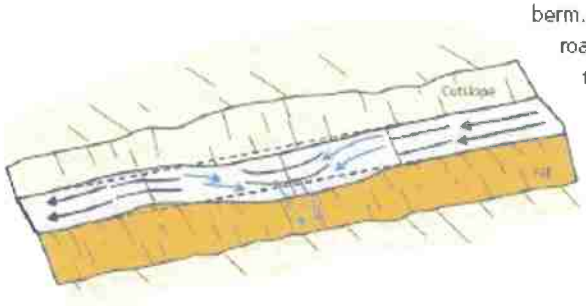
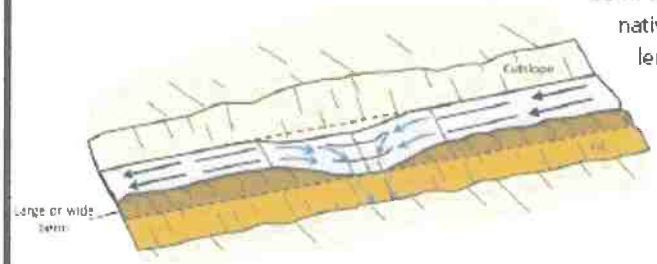
Type 1 Rolling Dip
(Standard)



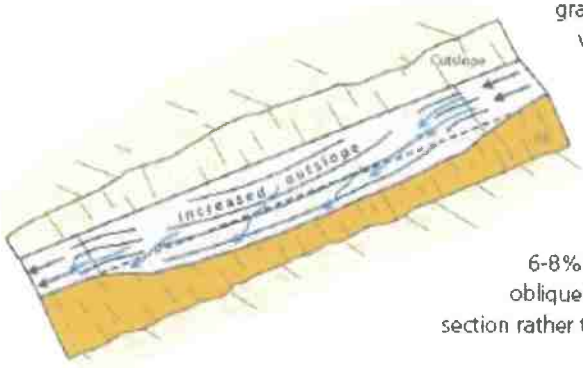
Type 1 rolling dips are used where road grades are less than about 12-14% and road runoff is not confined by a large through cut or berm. The axis of the dip should be perpendicular to the road alignment and sloped at 3-4% across the road tread. Steep roads will have longer and more abrupt dip dimensions to develop reverse grade through the dip axis. The road tread and/or the dip outlet can be rocked to protect against erosion, if needed.

Type 2 Rolling Dip
(Through-cut or thick berm road reaches)



Type 2 rolling dips are constructed on roads up to 12-14% grade where there is a through cut up to 3 feet tall, or a wide or tall berm that otherwise blocks road drainage. The berm or native through cut material should be removed for the length of the dip, or at least through the axis of the dip, to the extent needed to provide for uninterrupted drainage onto the adjacent slope. The berm and slope material can be excavated and endhauled, or the material can be sidecast onto native slopes up to 45%, provided it will not enter a stream.

Type 3 Rolling Dip
(Steep road grade)



Type 3 rolling dips are utilized where road grades are steeper than about 12% and it is not feasible to develop a reverse grade that will also allow passage of the design vehicle (steep road grades require more abrupt grade reversals that some vehicles may not be able to traverse without bottoming out).

Instead of relying on the dip's grade reversal to turn runoff off the roadbed, the road is built with an exaggerated outslope of 6-8% across the dip axis. Road runoff is deflected obliquely across the dip axis and is shed off the outsloped section rather than continuing down the steep road grade.

FIGURE 36. *Rolling dip types*

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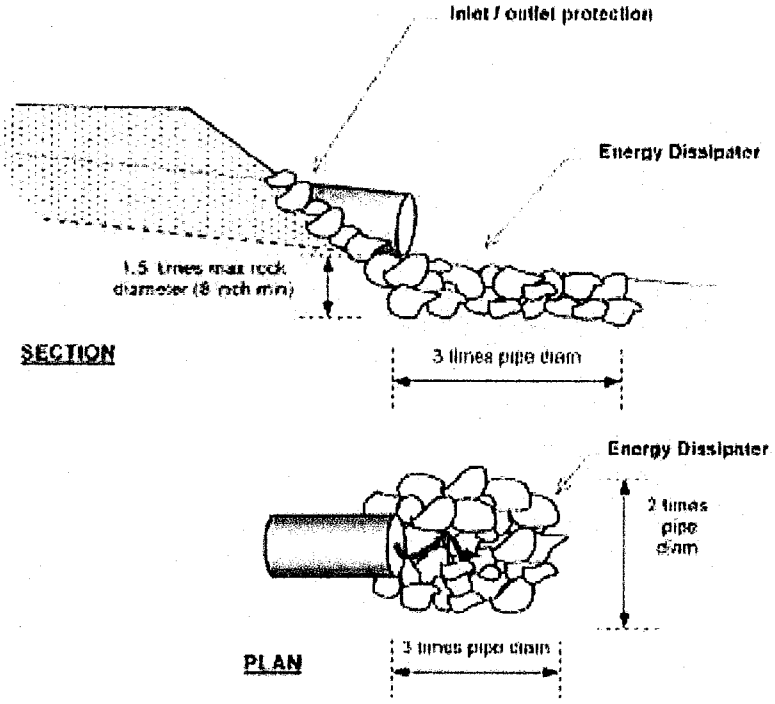


FIGURE 78. *Riprap as outlet energy dissipation (Best, 2013).*

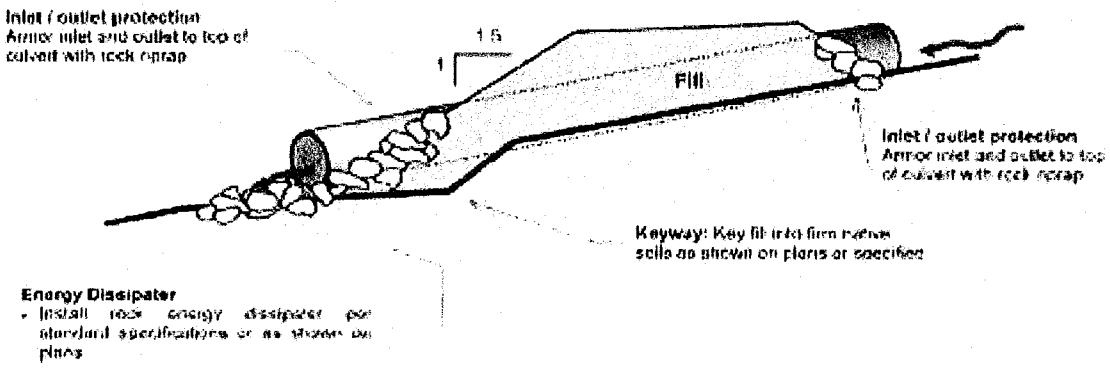
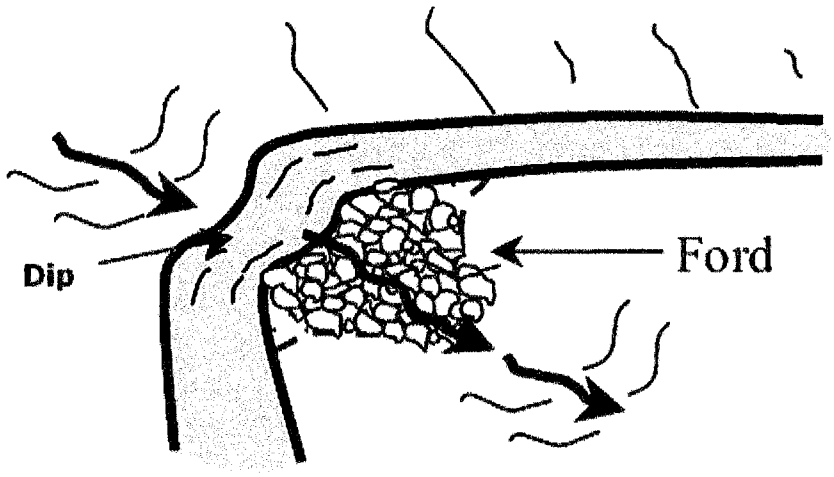


FIGURE 79. *Riprap as inlet protection and outlet energy dissipation (Modified from: Best, 2013).*

FORD: A large dip is graded into the road at the axis of the stream channel. The outside fill face is dished out to form a spillway with large rock. On large watercourses, rock is keyed several feet into firm native soils. The road surface is rocked with 6" of minus rock .



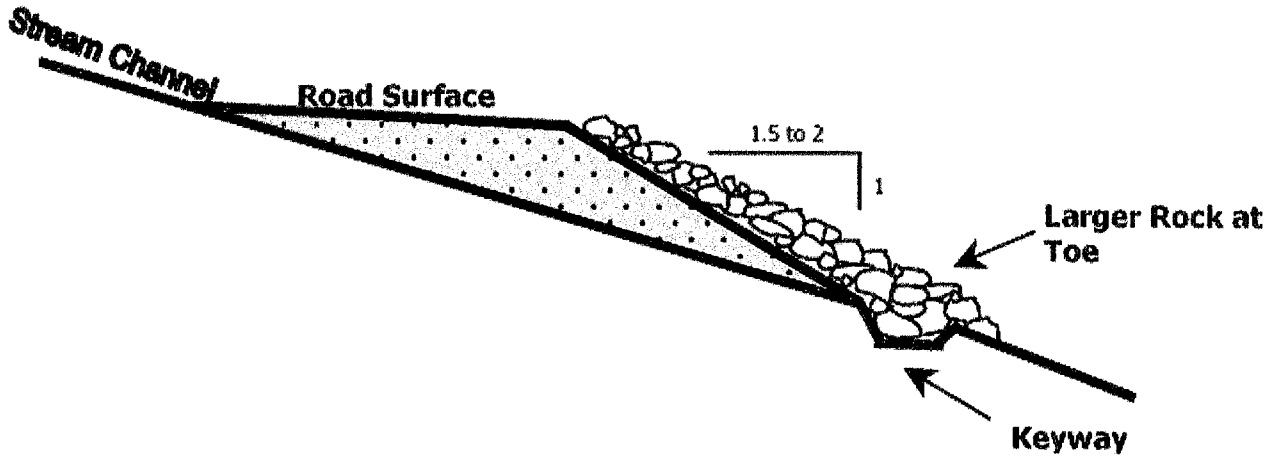


FIGURE 121D. *Well graded rock armor is then backfilled into the structure and spread across the breadth of the U-shaped stream crossing, and about one-third the way up the roadbed, so that streamflow will only flow over or come in contact with resistant armor material. The armor must be spread and compacted across the design width of the expected flood flow channel width so peak flows will not flank the armored structure.*

FIGURE 121E. *Two weeks after this armored fill was constructed, a storm flow event occurred and the structure maintained its function and integrity. The road approaches had not yet been compacted or surfaced with road rock.*

FIGURE 121F. *The same armored fill as it appeared after the first winter flood flows. No maintenance was required to reopen the road. It is also clear that no stream diversion is possible at this stream crossing site, and the volume of fill within the crossing has been reduced to the minimum amount needed to maintain a relatively smooth driving surface on this low volume road.*

FIGURE 120. *This armored fill crossing of a steep, ephemeral stream was constructed to provide a low maintenance crossing. The crossing has been deeply dipped to reduce the volume of road fill and to eliminate the potential for stream diversion. The fill slope has been heavily armored through the axis of the crossing to contain flood flows and prevent down-cutting. Armored fills cannot be used on fish bearing streams.*

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