



180101050401TRC214 – 5/8/17

**Water Resource Protection Plan  
For  
WDID 1B161488CHUM**

*Submitted to:*

Rebel Grown LLC

*Prepared by:*

Timberland Resource Consultants  
165 South Fortuna Blvd  
Fortuna, CA 95540

5-8-2017

### **Purpose**

This Water Resource Protection Plan (WRPP) has been prepared on behalf of the discharger, 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 available CGS Geomorphic Features Maps, Geology Maps, and historic aerial photos. 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.

**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 ☒

**Identified Sites Requiring Remediation (See Standard Conditions Assessment)**

Unique Map Point(s)	Map Point Description	Associated Standard Condition	Temporary BMP	Permanent BMP	Priority for Action	Time Schedule for completion of Permanent BMP	Completion Date
Parking Areas east of Map Pt 2 and at the Barn / Apartment	Parking areas that have become muddy because of rains, traffic, and lack of rock.	A(1)(a)	N/A	Rock the muddy parking areas.	2	11/15/17	
Seasonal Dirt Roads and ATV Trails.	Waterbreaks along Seasonal Dirt Roads and ATV Trails.	A(1)(a)	N/A	Install or maintain waterbreaks along the Seasonal Dirt Roads and ATV Trails prior to each winter, in order to prevent surface ruts. Waterbreaks shall be in sufficient numbers to disperse drainage prior to it reaching a watercourse.	2	11/15/17	
WB	Specific points in need of waterbreak installation.	A(1)(b)	N/A	Install waterbreaks at these locations to keep surface runoff from draining towards the Class II watercourse Crossing at Map Point 3.	2	11/15/17	
RRD	Specific point in need of rocked rolling dip location.	A(1)(b)	N/A	Install a rocked rolling dip. Re-establish and maintain the inside ditch between Map Point 3 and the RRD location so that the bank seepage remains in the ditch and does not seep onto the road surface.	2	11/15/17	

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**Identified Sites Requiring Remediation (See Standard Conditions Assessment)**

Unique Map Point(s)	Map Point Description	Associated Standard Condition	Temporary BMP	Permanent BMP	Priority for Action	Time Schedule for completion of Permanent BMP	Completion Date
Map Pt 7	Road Runoff connected to the Watercourse.	A(1)(d)	N/A	Install a Rocked Rolling Dip wide enough to drain the surface and both ditches. A lead out ditch extending approximately 15 feet westerly off the road shall be connected to the Rocked Rolling Dip. The lead out ditch will direct drainage onto gently sloping thick grass.	2	11/15/17	
Map Pt 1	Existing 12-in dia culvert	A(2)	Prior to culvert replacement, the Discharger shall install drainage structures (waterbreaks) on each side of the crossing.	Replace with an 18-inch dia. culvert.	3	11/15/18  Temp BMP (waterbreaks) 11/15/17	
Map Pt 2	Existing 12-in dia culvert	A(2)	N/A	Replace with a 24-inch dia. culvert.	3	11/15/18	
Map Pt 3	Existing 42-in dia culvert	A(2)	N/A	Replace with a 54-inch dia. culvert.	3	11/15/18	
Map Pt 5	Existing dirt filled Class III watercourse crossing	A(2)	Dip out a shallow channel across the road surface to keep the watercourse from diverting down the road during winter. This shall be done by 11/15/17 and can be accomplished with hand tools.	Remove and abandon the crossing. Prior to crossing removal at this site, it shall be included in a valid CDFW Streambed Alteration Agreement.	3	11/15/18	
Map Pt 6	Existing 24-in dia culvert	A(2)	N/A	Replace with a culvert large enough to accommodate the calculated 100 year peak streamflow, now a 36-inch dia. culvert. Prior to crossing replacement, it shall be included in a valid CDFW Streambed Alteration Agreement.	4	Prior to expiration of the Order, 2020	
Map Pt 8	Existing 12-in dia culvert	A(2)	N/A	Replace with a culvert large enough to accommodate the calculated 100 year peak streamflow, now a 24-inch dia. culvert. Prior to crossing replacement, it shall be included in a valid CDFW Streambed Alteration Agreement.	4	Prior to expiration of the Order, 2020	

**Identified Sites Requiring Remediation (See Standard Conditions Assessment)**

Unique Map Point(s)	Map Point Description	Associated Standard Condition	Temporary BMP	Permanent BMP	Priority for Action	Time Schedule for completion of Permanent BMP	Completion Date
E DF	Existing dirt ford crossings	A(2)	N/A	Monitor and maintain all dirt ford crossings prior to the winter period and periodically during the winter. Prior to 11/15/18, dirt fords intended for use shall be upgraded to at least rocked fords or permanent culverts. Use of dirt fords not upgraded will be discontinued after 11/15/18.	3	11/15/18	
Map Pt 9	Cultivation Area within 50 feet of a Class III Watercourse.	A(3)a	N/A	May operate this cultivation area, but refrain from expanding on the number of pots within the 50 foot buffer and take care to ensure that soil, plant waste, cultivation waste, or chemicals are not being discharged towards the watercourse.	3	11/15/17	
Map Pt 10	Cultivation Area within 100 feet of a Class II Watercourse.	A(3)a	N/A	Refrain from cultivating at this site after 11/15/17, remove the pots and soil prior to 11/15/18.	3	11/15/18	
Map Symbol for Cultivation Soils Pile	Cultivation Soils Pile	A(4)	N/A	Remove the pile to a location outside of the 50-foot Class III buffer where it cannot enter or be transported into the Class III watercourse.	2	11/15/17	
Map Pt 4	Pond Overflow Culvert Outlet.	A(5)	N/A	Rock armor for approximately 50 to 75 feet from the end of the pond overflow culvert outlet.	3	11/15/18	
Sheds "F"	Fuel Storage sheds	A(9)	N/A	Implement spill prevention, control, and countermeasures (SPCC) and have appropriate cleanup materials available onsite at the location of the fuel storage sheds.	2	11/15/17	

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**Identified Sites Requiring Remediation (See Standard Conditions Assessment)**

Unique Map Point(s)	Map Point Description	Associated Standard Condition	Temporary BMP	Permanent BMP	Priority for Action	Time Schedule for completion of Permanent BMP	Completion Date
Septic systems, outhouses, washrooms	Domestic sewage disposal including grey water.	A(11)	N/A	Ensure sewage disposal including grey water meet applicable County health standards, local agency management plans and ordinances, and/or the Regional Water Board's Onsite Wastewater policy.	4	11	
Map Pt 11	Garbage Pile	A(11)	N/A	Remove this pile to outside of the Class III watercourse buffer zone where it does not have access to a watercourse.	2	11/15/17	

Culvert replacements will follow the Standard Conditions 2. a. through f. above, the specifications at the end of this document, and the terms of the CDFW Streambed Alteration Agreement when it is finalized. Prior to crossing replacement / removal work, the Discharger is also required to submit information required in Appendix D of the Order and get authorization from the Regional Water Quality Control Board.

Treat Priority: Treatment Priority (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 one year, or prior to the winter period (Nov. 15) of the 2<sup>nd</sup> season of operations, and (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).

**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) by December 15 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:**

Ron Pelletier  
Timberland Resource Consultants  
165 South Fortuna Blvd, Fortuna CA 95540  
707-725-1897

**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.

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

### **Prepared by Timberland Resource Consultants**

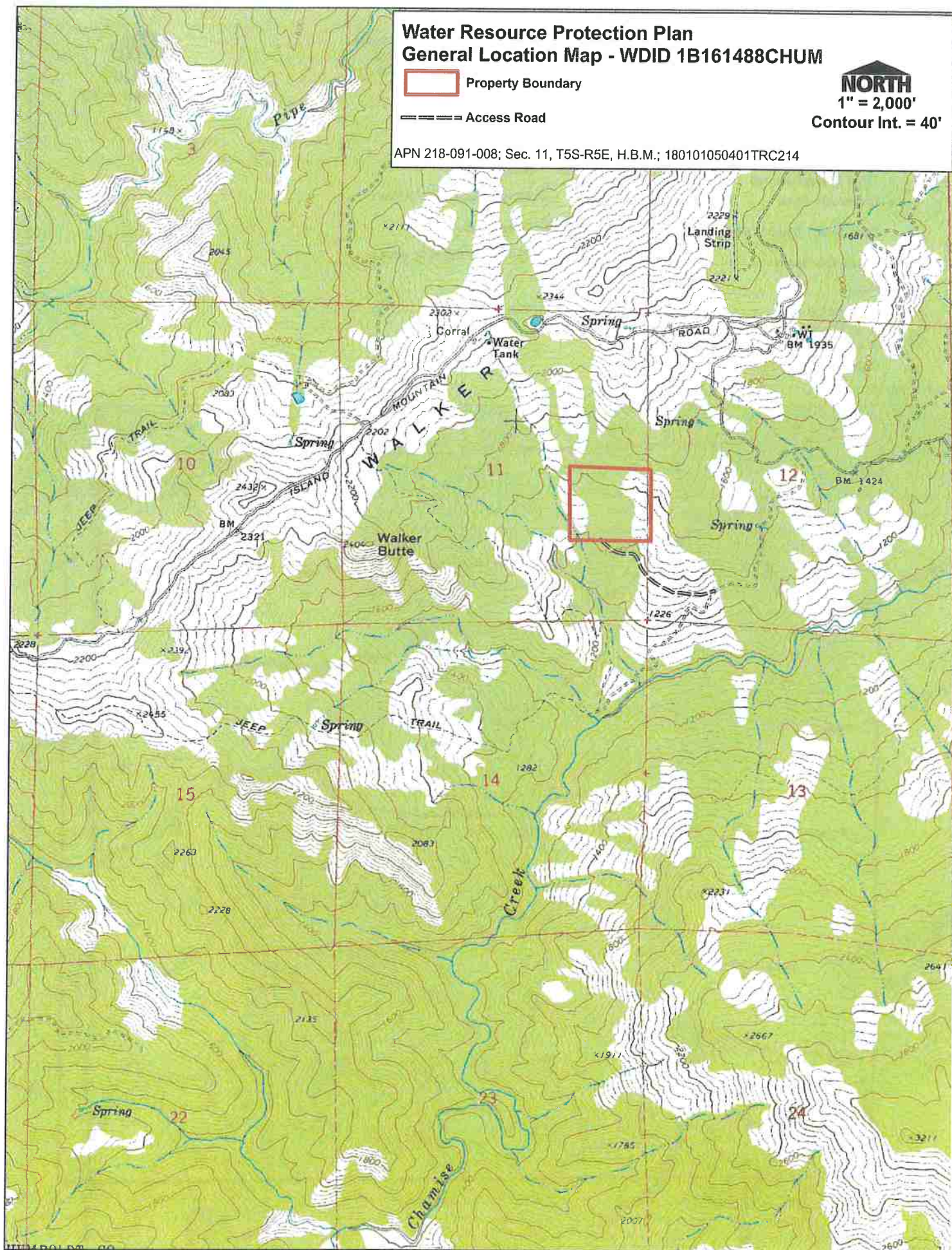
1. This Water Resource Protection Plan has been prepared for the property within (Humboldt County) APN 218-091-008 at the request of the discharger.
2. Timberland Resource Consultants does not assume any liability for the use or misuse of the information in this Water Resource Protection Plan.
3. The information is based upon conditions apparent to Timberland Resource Consultants at the time the inspection was conducted, and as disclosed to Timberland Resource Consultants by the landowner and / or the Discharger. 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.

  
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Ron Pelletier

Timberland Resource Consultants
























APN 218-091-008; Sec. 11, T5S-R5E, H.B.M.; 180101050401TRC214





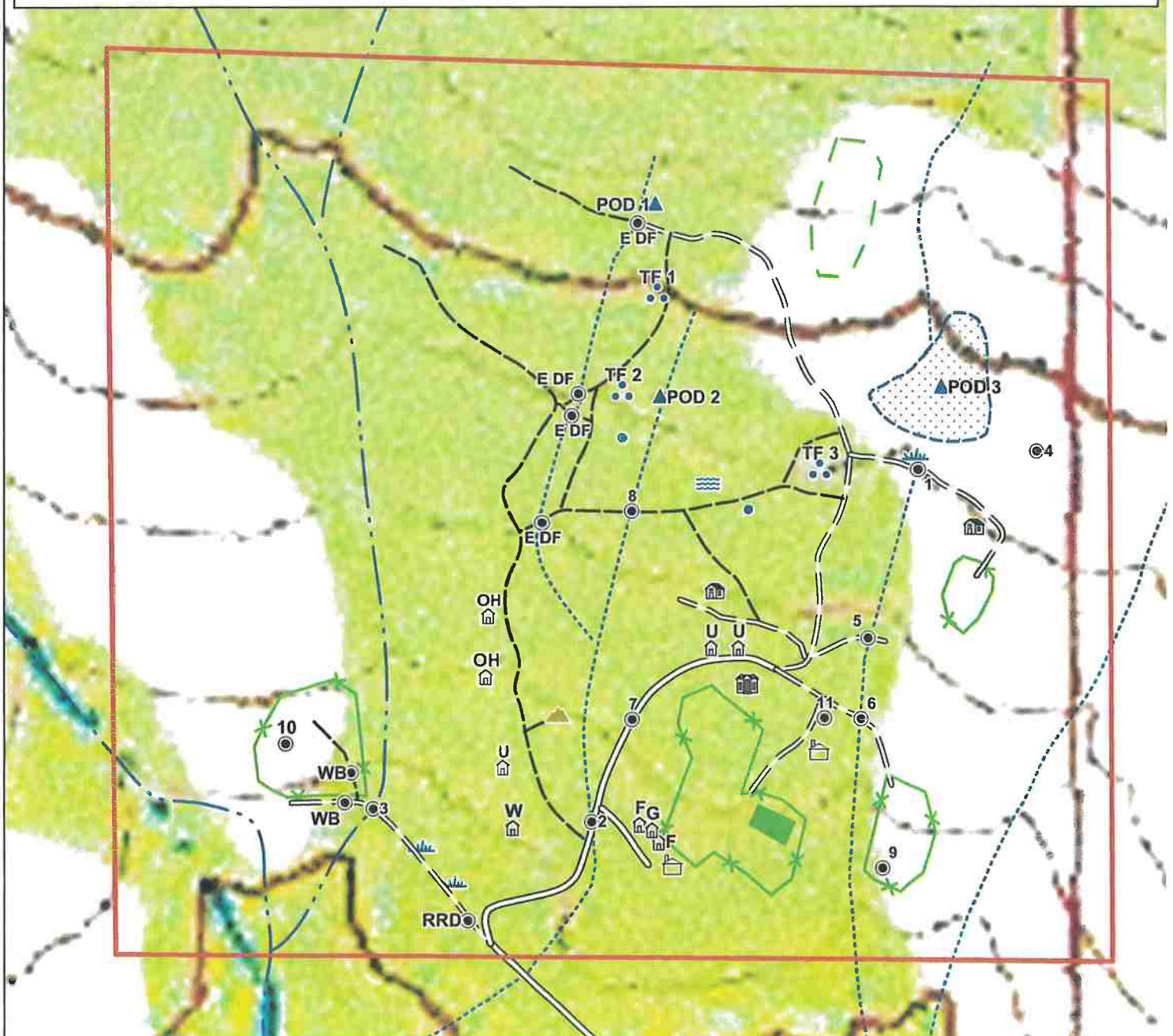
# Water Resource Protection Plan WRPP Map - WDID 1B161488CHUM

-  Property Boundary
-  Permanent Rocked Roads
-  Seasonal Dirt Roads
-  ATV Trail
-  Class II Watercourse
-  Class III Watercourse
-  On-Stream Pond
-  Bank Seep / Class III Wet Area
-  Barn / Apartment
-  House
-  Ag Building
-  Shed (F = Fuel, G = Generator, OH = Outhouse, W = Washroom, U = Utility)
-  Cultivation Soils Pile

-  Map Points (WB = Waterbreak, RRD = Rocked Rolling Dip, E DF = Existing Dirt Ford)
-  Point of Diversion
-  Water Tanks
-  Tank Farm
-  Simming Pool
-  Fenced Cultivation Areas
-  Greenhouse
-  Planned Cultivation Area








**NORTH**  
1" = 200'  
Contour Int. = 40'

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**WRPP Map - WDID 1B161488CHUM**

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-  **ATV Trail**
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**Map Points (WB = Waterbreak,  
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APN 218-091-008; Sec. 11, T5S-R5E, H.B.M.; 180101050401TRC214



**Water Resource Protection Plan**  
**Assessment of Standard Conditions**  
**for**  
**APN 218-091-008 – WDID 1B161488CHUM**

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

1. Site maintenance, erosion control and drainage features: In compliance? Y ☐/N ☒

- 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.

The main access road on the property is a permanent rocked road. The surface was adequate and not rutting. Two parking areas were becoming soft and muddy from a combination of heavy rain and traffic use. One of these areas is the short spur / parking area between Map Point 2 and the sheds and Ag Building. The other area was the parking area near the end of the permanent rocked road near the Utility Sheds and the Barn / Apartment. To prevent these areas from becoming sediment discharge points in the future, the Discharger shall rock these areas prior to 11/15/17. The Discharger stated that he intends to re-rock the surface of the permanent rocked road.

The seasonal dirt roads and the ATV trails on the property are mostly free of ruts and were not delivering sediment to watercourses. To ensure that this remains the case, the Discharger shall install or maintain waterbreaks along the Seasonal Dirt Roads and ATV Trails on the property prior to each winter, in order to prevent surface ruts from developing. Waterbreaks shall be in sufficient numbers to disperse drainage prior to it reaching a watercourse.

- 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.

The roads and ATV Trails on the property that are maintained by the Discharger were mostly outsloped and contained adequate waterbreaks. Specific locations identified where additional waterbreaks shall be installed and maintained are described below.

Two locations where waterbreak installations are necessary to prevent minor surface runoff from draining to the watercourse are shown on the WRPP Map just west of Map Point 3. One is located on the short ATV Trail and the other is on the seasonal dirt road. Together these waterbreaks will keep surface runoff from draining towards the Class II watercourse crossing at Map Point 3.

On the seasonal dirt road, southeast of Map Point 3 on the WRPP Map is a location where a rocked rolling dip shall be installed. This is a location where drainage accumulates on the road surface during rains and is unable to drain off of the road surface. A rocked rolling dip at this location will allow for more efficient drainage. Also, re-establish and maintain the inside ditch between Map Point 3 and the RRD location so that the bank seepage remains in the ditch and does not seep onto the road surface.

- 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.

Physical reconnaissance of the property revealed no unstable areas per 14CCR 895.1. Developed areas, cultivation areas, and roads are located along the more gentle slopes on the property and have been in place for a long time. Steeper slopes on the property are undeveloped and mostly timbered and vegetated. Runoff from roads and developed areas on the property are not being directed towards unstable slopes or earthen fills.

The Class II watercourse in the southwest corner of the property has unstable banks as it makes an abrupt turn towards the east. The turn in its course brings it close to the cultivation area shown as Map Point 10. This cultivation area will eventually be removed as discussed below under Standard Condition 3. A search of available aerial photographs indicates that the watercourse possibly diverted down a road between the years of 1993 and 2005. Currently this segment of the watercourse is deeply incised and has been in its present location for approximately 20 years. It has now become established at its current location. The past diversion location is not accessible by roads on this parcel and occurred many years prior to this ownership. The location of the past diversion is mapped very close to the property line and may actually be located on the parcel to the west. At the very least, access to the past diversion would require use of neighboring roads where there is currently no permission or deeded access. Mitigation at this site is not being proposed at this time. Future monitoring of this site will continue and if necessary due to worsening conditions, options for feasible mitigation at this site will be explored at that time.

- d. Roads, clearings, fill prisms, and terraced areas (cleared/developed areas with the potential for sediment erosion and transport) shall be maintained so that they are hydrologically disconnected<sup>1</sup>, as feasible, from surface waters, including wetlands, ephemeral, intermittent and perennial streams.

<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))

Cultivation areas and most of the roads on the property are hydrologically disconnected from watercourses. The segment of the Permanent Rocked Road that extends north northeast of Map Point 2 is currently connected to the Class III watercourse crossing. The upper half of this road segment is located in a through cut segment, has a gently crowned surface with shallow drainage ditches along each edge. The first available road drainage location is at Map Point 7 on the WRPP Map. At this location, the Discharger shall install a Rocked Rolling Dip wide enough to drain both ditches and the surface. A lead out ditch extending approximately 15 feet

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**in length westerly off the road shall be connected to the Rocked Rolling Dip. The lead out ditch will direct drainage onto gently sloping, thick grass.**

- 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.

**The cultivation areas and the developed areas on the property are being maintained to promote drainage, infiltration, and dispersal of flows and have no apparent sediment transport to a receiving water. With the exception of the proposed waterbreak and rocked rolling dip locations, roads contain adequate waterbreaks. Maintenance of waterbreaks has been discussed above in Standard Condition a. and b. The area outside of the cultivation areas are heavily vegetated with thick grass. There was no 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.

**In compliance at this time. In the future, all construction materials will be stored to prevent their transport to receiving waters.**

2. Stream Crossing Maintenance: **In compliance?** Y ☐/N ☒

- 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>

<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.

**There are five existing culverted watercourse crossings located along roads on this parcel (Map Points 1, 2, 3, 6 and 8). There is a filled crossing in place that needs to be removed (Map Point 5). There are four dirt ford crossings of Class III watercourses located on ATV trails.**

**Map Point 1: This is an existing 12-inch culvert, which drains cutbank seepage from the base of the pond's embankment and road inside ditch, and drains into the head of a Class III watercourse. In an application for a CDFW Streambed Alteration Agreement submitted in the fall for the property, rock armoring of the outlet was proposed. Also, drainage structures on either side of the crossing were proposed to address road surface runoff that was draining off of the road at culvert outlet. In the draft agreement that was received back from CDFW, it called for the replacement of the existing 12-inch culvert at this location with an 18-inch culvert. After**



the CDFW Streambed Alteration Agreement is finalized, the Discharger shall replace this culvert with an 18-inch diameter culvert at this location. Culvert replacement will follow the Standard Conditions 2. a. through f. above, the specifications at the end of this document, and the terms of the CDFW Streambed Alteration Agreement when it is finalized. As a temporary measure prior to the replacement of the culvert, the Discharger shall install drainage structures in the form of waterbreaks on each side of the crossing prior to 11/15/17.

**Map Point 2:** This is a 12-inch diameter culvert that is a crossing of a Class III watercourse. This culvert crossing is not in compliance with the Standard Conditions above. It is undersized and too short. In the application for a CDFW Streambed Alteration Agreement, it was proposed to upgrade this culvert to a minimum 24-inch diameter culvert. In the draft agreement that was received back from CDFW, the upgrade to a 24-inch culvert was accepted. After the CDFW Streambed Alteration Agreement is finalized, the Discharger shall replace this culvert with a 24-inch diameter culvert at this location. Culvert replacement will follow the Standard Conditions 2. a. through f. above, the specifications at the end of this document, and the terms of the CDFW Streambed Alteration Agreement when it is finalized.

**Map Point 3:** This is a 42-inch diameter culvert that is a crossing of a Class II watercourse. This culvert crossing is not in compliance with the Standard Conditions above. It is undersized, the outlet is shot-gunned, and it is rusted. In the application for a CDFW Streambed Alteration Agreement, it was proposed to upgrade this culvert to a minimum 54-inch diameter culvert. In the draft agreement that was received back from CDFW, the upgrade to a 54-inch culvert was accepted. After the CDFW Streambed Alteration Agreement is finalized, the Discharger shall replace this culvert with a 54-inch diameter culvert at this location. Culvert replacement will follow the Standard Conditions 2. a. through f. above, the specifications at the end of this document, and the terms of the CDFW Streambed Alteration Agreement when it is finalized.

**Map Point 5:** This is an old dirt filled Class III watercourse crossing. It is on an old "legacy" type road that is not currently in use. The road surface through the crossing is vegetated and not causing significant erosion currently. The Class III watercourse is very small. The Discharger shall remove and abandon this crossing as stated in the "Crossing Decommissioning Specifications" attached below. Removal of this crossing was not included in the CDFW Streambed Alteration Agreement application that was submitted in the fall of 2016. Prior to crossing removal at this site, it shall be included in a valid CDFW Streambed Alteration Agreement. As a temporary measure prior to the decommissioning of this crossing, the Discharger shall dip out a shallow channel across the road surface to keep the watercourse from potentially diverting down the road during winter. This shall be done by 11/15/17 and can be accomplished with hand tools.

**Map Point 6:** This is an existing 24-inch culvert crossing of a small Class III watercourse. It is not in compliance with Standard Conditions above because it is slightly undersized when compared with the calculated 100 year peak streamflow. It is generally in good condition, not showing signs of wear, and is in compliance with Standard Conditions c. through f. The calculated 100 year peak streamflow at the culvert location is 14.8 cfs. A replacement of this culvert to accommodate the 100 year peak streamflow and be in compliance with the Standard Conditions will require an upgrade in diameter to a 36-inch diameter culvert using accepted culvert sizing methods.

The existing 24-inch diameter culvert currently in place was evaluated using the Manning Formula and it was determined to be a "Low" priority site. Using the Manning Formula a 24-inch diameter culvert set at a grade of 2% can pass 14.9 cfs while filled to only 67% of its capacity. The actual grade of this 24-inch diameter culvert is approximately 15% - 17% which can pass in excess of 40 cfs while only at 67% of its capacity. Although not to be used for the sizing of a culvert replacement at this site, it demonstrates that the 24-inch diameter culvert currently in place is physically capable of passing the calculated 100 year peak streamflow of 14.8 cfs. Prior to the expiration of the Order (2020), the Discharger shall replace this culvert with a culvert large enough to accommodate the calculated 100 year peak streamflow, now a 36-inch diameter. Replacement of this crossing was not included in the CDFW Streambed Alteration Agreement application that was submitted in the fall of 2016. Prior to crossing replacement at this site, it shall be included in a valid CDFW Streambed Alteration Agreement.

Map Point 8: This is an existing 12-inch culvert crossing of a small Class III watercourse. It is not in compliance with Standard Conditions above because it is slightly undersized when compared with the calculated 100 year peak streamflow. It is generally in good condition, not showing signs of wear, and is in compliance with Standard Conditions c. through f. The calculated 100 year peak streamflow at the culvert location is 5 cfs. A replacement of this culvert to accommodate the 100 year peak streamflow and be in compliance with the Standard Conditions will require an upgrade in diameter to a 24-inch diameter culvert using accepted culvert sizing methods.

The existing 12-inch diameter culvert currently in place was evaluated using the Manning Formula and it was determined to be a "Low" priority site. Using the Manning Formula a 12-inch diameter culvert set at a grade of 10% can pass 5.2 cfs while filled to only 67% of its capacity. The actual grade of this 12-inch diameter culvert is approximately 40% which can pass in excess of 10 cfs while only at 67% of its capacity. Although not to be used for the sizing of a culvert replacement at this site, it demonstrates that the 12-inch diameter culvert currently in place is physically capable of passing the calculated 100 year peak streamflow of 5 cfs. Prior to the expiration of the Order (2020), the Discharger shall replace this culvert with a culvert large enough to accommodate the calculated 100 year peak streamflow, now a 24-inch diameter. Replacement of this crossing was not included in the CDFW Streambed Alteration Agreement application that was submitted in the fall of 2016. Prior to crossing replacement at this site, it shall be included in a valid CDFW Streambed Alteration Agreement.

Existing Dirt Ford Crossings: There are four dirt ford crossings of small Class III watercourses located along some of the mapped ATV Trails on the property. These are shown as "E DF" on the WRPP Map. These are seldom used, especially during winter. The existing dirt ford crossings are currently in compliance with the Standard Conditions a. through f. above. The Discharger shall provide for monitoring and maintenance of all dirt ford crossings on the property prior to the winter period and periodically during the winter. Prior to 11/15/18, dirt fords intended for use shall be upgraded to at least rocked fords or permanent culverts. Use of dirt fords not upgraded will be discontinued after 11/15/18. Upgrading of dirt ford crossings was not included in the CDFW Streambed Alteration Agreement application that was submitted in the fall of 2016. Prior to upgrading of dirt ford crossings, they shall be included in a valid CDFW Streambed Alteration Agreement.



3. Riparian and Wetland Protection and Management: **In compliance?** Y ☐/N ☒

- 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, cultivation areas and associated facilities shall not be located or occur within 100 feet of any Class I or II watercourse or within 50 feet of any Class III watercourse or wetlands. The Regional Water Board or its Executive Officer may apply additional or alternative<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.
- d. Riparian and wetland areas shall be protected in a manner that maintains their essential functions, including temperature and microclimate control, filtration of sediment and other pollutants, nutrient cycling, woody debris recruitment, groundwater recharge, streambank stabilization, and flood peak attenuation and flood water storage.

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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.

There are two cultivation areas on the property that are located within watercourse buffers. The small fenced cultivation area in the southeast corner of the property is located just within the 50-foot wide buffer of a Class III watercourse. It is shown as Map Point 9 on the WRPP Map. This cultivation area is a fenced in fruit tree orchard with sparsely spaced outdoor pots located within it. Slopes within the fenced cultivation area are nearly level and vegetated with thick naturally occurring prairie grasses. At its closest point the fencing surrounding this cultivation area is 28 feet from the Class III watercourse with the nearest pot being approximately 35 feet from the watercourse. From this point the cultivation area gradually extends away from the watercourse. There was no erosion occurring on the side slopes leading to the Class III watercourse. Because of the gentle slopes and drainage direction, thick prairie grasses, and the sparsity of the pots within the cultivation area there was no threat of erosion or pollution occurring from the operation of this cultivation as it exists. At this area the Discharger may continue to operate this cultivation area, but refrain from expanding on the number of pots within the 50 foot buffer and take care to ensure that soil or plant waste is not being discharged towards the watercourse.

The other is the cultivation area shown as Map Point 10. It is also a fenced area on gentle slopes in which outdoor pots are located. It is not a drastically terraced area. This area is located in between two Class II watercourses. Approximately as much as two thirds of this cultivation area is located within the 100 foot wide buffer of one of the adjacent Class II watercourses. The watercourse east of this cultivation area is separated from the cultivation area by a narrow, rocky ridge that acts as a hydrologic divide. The watercourse southwest of the cultivation makes an abrupt turn in its course that brings it within close proximity. This cultivation area does not appear to be a significant risk to the watercourses, however it should be removed due to its proximity. The Discharger shall refrain from cultivating at this site after 11/15/17, and shall remove the pots and soil prior to 11/15/18.

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Other than these two locations, buffers are natural slopes, undeveloped, and heavily vegetated with natural prairie grasses, hardwoods and vegetation. Buffers along watercourses appear to be adequate to filter any discharges from production lands. In order to remain in compliance with the Standard Conditions, in the future, riparian buffers will be excluded from operations and protected in a manner that maintains their essential functions. To see that this is achieved, the Discharger shall ensure that any future development is greater than 50 feet from mapped Class III watercourses and greater than 100 feet from mapped Class II watercourses.

4. Spoils Management: In compliance? Y ☐/N ☒

- 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.

<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.

One cultivation soils pile was located within the 50-foot buffer zone of a Class III watercourse. This is not in compliance with Standard Conditions a. and b. above. The pile location is shown on the WRPP Map. It is not located within a greenhouse or one of the fenced cultivation areas. The Discharger shall remove the pile to a location outside of the 50-foot Class III buffer where it cannot enter or be transported into the Class III watercourse.

Other than this one location, the remainder of the property is in compliance. Soils are amended and reused. They are contained within outdoor pots or planter bags, or under cover of greenhouses and are reused each year. Walk ways and areas in between outdoor planter bags and pots were covered with native grasses. The areas outside of the cultivation fencing is covered with thick native prairie grasses. There was no sign of cultivation soils being transported outside of the fenced in cultivation areas. There are no road or site development related spoils being stored or placed on the property, or perched where they have access to a watercourse.

5. Water Storage and Use: In compliance? Y ☒/N ☐

- 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.

<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.

**Water Storage and Use:** There are three water sources on the property that are in the process of becoming permitted with the Ca. Dept. of Fish and Wildlife via a Streambed Alteration Agreement (Agreement No. 1600-2016-0456-R1). These Points of Diversion (POD's) are shown on the WRPP Map as POD 1, POD 2, and POD 3. POD 1 is a shallow well that intercepts shallow ground water. It is situated next to a small Class III. The diversion is a perforated 2-inch pipe placed in a wooden spring box. This is the owner's source of domestic water use.

POD 2 is a cylindrical spring box placed in the channel of a Class III watercourse. A screened 1-inch pipe diverts water to a 65,000 gallon swimming pool where it is kept untreated. Tail water from the pool is returned back to the same Class III watercourse. This POD only has water seasonally and typically goes dry in late spring to early summer. The unsigned, draft Streambed Alteration Agreement allows for up to 150 gallons per day to be diverted from both POD 1 and POD 2 during the forbearance period of May 15 through October 15.

POD 3 is a pond of approximately 0.44 acres in size and 20+ feet deep with an approximate capacity of 1,500,000 gallons. It is a man-made pond constructed approximately 20 years ago. It is fed by a Class III watercourse. The landowner is applying for a county permit for cultivation consisting of approximately 16,000 ft<sup>2</sup> of light-deprivation greenhouses and 25,000 ft<sup>2</sup> of full terms. For the purposes of estimating the square footage of the surface soil being watered: The light-dep greenhouses will likely be 80% of their structural dimensions or 13,000 ft<sup>2</sup>. The full term garden is expected to be 10,000 ft<sup>2</sup> (plant count ranges from two hundred 200-gallon pots to 2,000 45-gallon pots). Assuming an average of 1 gallon of water per day per 10 ft<sup>2</sup> of cultivation area for the light-deps, and 1.8 gallons of water per day per 10 ft<sup>2</sup> of cultivation area for the full terms; the amount of water required on the average is 3,100 gallons per day or 93,000 gallons per month. Baseline conditions for diversion from POD #3 is filling up the 40,000 + gallons of storage tanks in the early spring and refilling/topping off throughout the summer and fall as needed. The Discharger plans on adding to the amount of storage tank capacity on the property. Water is pumped via a 5 horse power gas pump and 1-inch line to the tank farms. The approximate amount of water used during the growing season is 558,000 gallons, and the pond has an approximate capacity of 1,500,000 gallons. The Streambed Alteration Agreement notification submitted to CDFW included this information. The unsigned, draft Streambed Alteration Agreement allows for irrigation from POD 3.

**Standard Conditions 5, a. – f.:** (a) The Discharger uses three separate PODs for domestic and irrigation on the property. The Discharger intends on finalizing and following the conditions of his approved CDFW Streambed Alteration Agreement. Storage tanks and the Pond (POD 3) area filled during the wet season for use during the low flow season.

(b) The Discharger practices water conservation. Irrigation is on a drip system and on timers set for nighttime or early morning watering. The Discharger closely monitors irrigation to ensure that over watering does not take place and to ensure that any possible malfunction would be corrected quickly.

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(c) For irrigation, water storage on the property is 40,000 + gallons of tanks and a man-made pond with an estimated capacity of 1,500,000 gallons. The Discharger fills water storage tanks in the spring and periodically refills / tops off the tanks from the pond. The Discharger plans on adding to the amount of storage tank capacity on the property. The pond is filled seasonally with rain and by an ephemeral Class III watercourse. It is in the process of being permitted by CDFW as part of the pending Streambed Alteration Permit. In the draft, forbearance from diverting from the man-made pond is not required.

(d) The Discharger irrigates at agronomic rates and does not over water.

(e) An Initial Statement of Water Diversion and Use has been filed for POD's 1 and 3. No ISWDU is included for POD 2 as this is a non-consumptive use.

(f) The water storage tanks are situated on stable locations on gentle slopes. The man-made pond was constructed approximately 20 years ago and there are no apparent stability issues. The pond was closely inspected and appears very stable with no signs of cracking, over-steepened fill slopes, or other conditions which would require further investigation. Its outlet is an 18-inch diameter culvert that discharges to a low-lying flat/semi-wetland area. It is shown as Map Point 4 on the WRPP Map. There is a short section, approximately 50-75 feet, located between the culvert outlet and the toe of the embankment fill, that requires rock armoring per the attached specifications. The erosion is minor. At Map Point 4, the Discharger shall rock armor for approximately 50 to 75 feet from the end of the pond overflow culvert outlet.

6. Irrigation Runoff: In compliance? Y☑/N□

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.

**In compliance at this time. The Discharger irrigates at an agronomic rate that does not result in over watering or runoff. This combined with the gentle slopes and thick grass surrounding the cultivation areas, ensures there is little to no chance for any irrigation runoff to reach surface waters.**

7. Fertilizers and Soil Amendments: In compliance? Y☑/N□

- 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.

In compliance at this time. In order to remain in compliance with Standard Condition 7, the Discharger shall store all fertilizers, potting soils, composts, and soil amendments in sheds, covered areas, or tarped in a manner in which they cannot be transported to surface waters or such that nutrients or other pollutants cannot be leached into groundwater. The Discharger has storage sheds on site that are secure and protected from the elements. Spent growth spoils remain on or near the immediate cultivation areas in pots and planter boxes and are amended with organic ingredients for reuse at the beginning of the growing season. Soils in pots and boxes were left to grow grass and weeds as cover during the off season. Fertilizers and soil amendments are applied per packaging instructions and at agronomic rates. Fertilizing at agronomic rates will help to prevent nutrients from leaving the site during, and after the growing season. When cultivation areas are active, soils are contained in pots or planter boxes. No cultivation soils are leaving the site in runoff.

8. Pesticides/Herbicides: In compliance? Y ☒/N ☐

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 Discharger does not use any chemical pesticides and herbicides. If needed in the future, pesticide or herbicide use on the property will be organic in nature. Any pesticide products used on this property in the future shall follow product labelling. Storage of these types of products will be in enclosed sheds for protection against the elements to ensure that they will not enter or be released into the surface or ground waters.

9. Petroleum products and other chemicals: In compliance? Y ☒/N ☐

- 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.

Electricity on the property is provided by portable gas generators and a large diesel generator. Fuel storage tanks are stored within sheds that are shown on the WRPP Map labeled "F". One of the

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sheds houses a 1,000 gallon diesel tank and the other houses a 300 gasoline tank. Both of these tanks are located in permanent, covered sheds with cement floors. Each of the metal tanks is equipped with secondary containment tanks protected from the weather. Small portable generators, fuel tanks, and oil containers are stored in covered sheds when not in use. The 300 gallon gasoline storage shed is located 50 feet from the Class III watercourse. The outer wall of the 1,000 gallon diesel storage shed is located 45 feet from the Class III watercourse at the nearest. In order to be in compliance with Standard Condition A. 9 above, the fuel tanks shall be equipped with secondary containment, and a cover and side-wind protection throughout the rainy season to prevent it from becoming filled with water. This could include tarping or enclosing within a temporary or permanent shed during precipitation. Also, the Discharger shall implement spill prevention, control, and countermeasures (SPCC) and have appropriate cleanup materials available onsite at the location of the fuel storage sheds.

10. Cultivation-related wastes: In compliance? Y☒/N☐

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 groundwaters.

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

The property is in compliance with this Standard Condition. Storing of cultivation wastes was not taking place on the property during the assessment. Cultivation wastes are periodically taken to the nearest waste disposal location. Dead and harvested plant waste is composted or sometimes burned near the cultivation areas in areas that do not have access to watercourses. In order to remain in compliance with Standard Condition 10 above, all cultivation-related waste in the form of empty bags, containers, pots, and dead or harvested plant waste and spent growth medium shall be stored where they will not enter or be blown into surface waters, or removed from the site and disposed of properly. Cultivation-related wastes that contain residues or pollutants shall be stored under cover of sheds or tarps to ensure that those materials do not leach into surface water or groundwaters. This can be achieved by following Items 137 and 139 in Appendix B of the Order.

11. Refuse and human waste: In compliance? Y☐/N☒

- 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.

Sewage disposal on the property are functioning septic systems connected to two houses and the Barn/Apartment on the WRPP Map. The Discharger stated that they were all functioning and there was no apparent nuisance or obvious threat to water quality identified. There are also two outhouses and a washroom (sink, shower, laundry) shown on the WRPP Map. One of the utility sheds is a kitchen with a sink. All of these facilities are situated such that they do not flow towards watercourses. Grey water produced from these facilities drains to outlets buried below the ground

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**In holes filled with drain rock. In order to be in full compliance with Standard Condition 11.a., domestic sewage disposal on the property 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. See Appendix B. Item 142 of the Order.**

**Non-leachable garbage such as metal, wood, and plastic is currently piled near the mapped Ag Building shown as Map Point 11. It is garbage that has been gathered from throughout the property left from the previous owners. It is located within 50 feet of the Class III watercourse. This garbage is in the process of being hauled to the dump by the Discharger. Prior to 11/15/17, the Discharger shall at least remove this pile to outside of the Class III watercourse buffer zone where it does not have access to a watercourse.**

**Other than the pile discussed, the property was very clean. The Discharger stores garbage in sealed bags or covered garbage cans with lids and it is taken to the dump on a regular basis. In order to be in compliance with Standard Condition 11. b. and c. above, 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. This can be accomplished by storing garbage in covered containers, under coverage of a roof, or under tarps during rain. Garbage and refuse shall be disposed of at an appropriate waste disposal location. See Appendix B. Item 141 of the Order.**

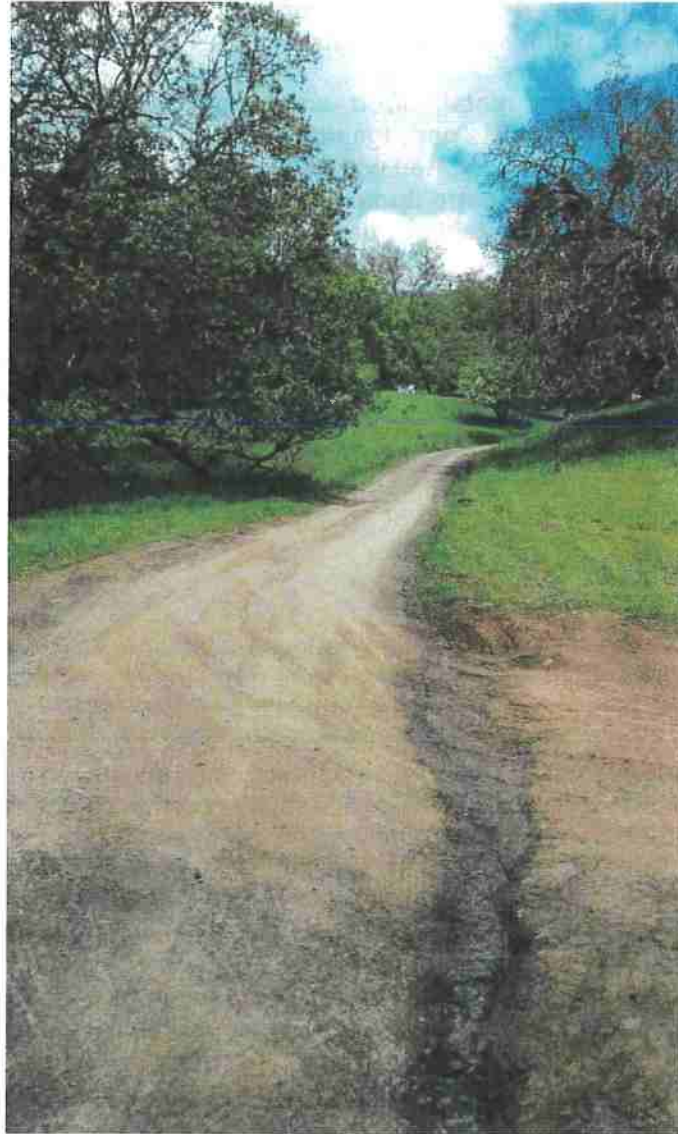
12. Remediation/Cleanup/Restoration Remediation/cleanup/restoration activities may include, but are not limited to, removal of fill from watercourses, stream restoration, riparian vegetation planting and maintenance, soil stabilization, erosion control, upgrading stream crossings, road outcropping and rolling dip installation where safe and suitable, installing ditch relief culverts and overside drains, removing berms, stabilizing unstable areas, reshaping cutbanks, and rockering 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 this document.**



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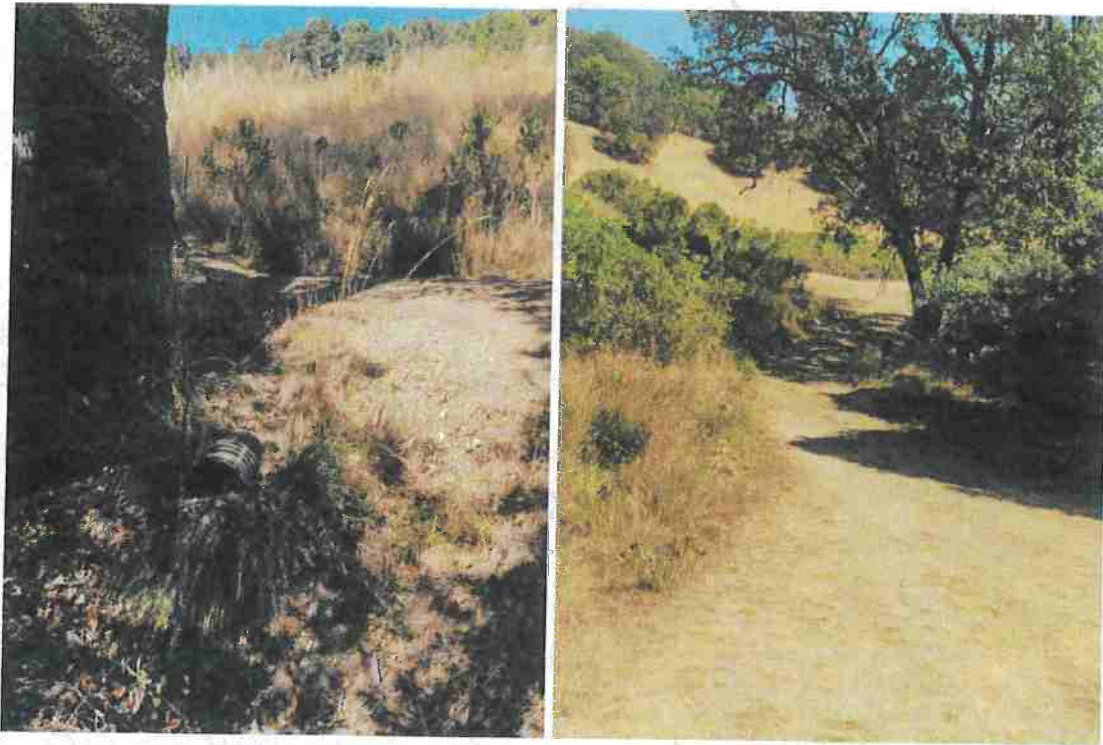
## Pictures



**Picture 1: The picture is taken looking up the connected road segment from Map Point 2. In the distance the road is located in a low spot or through cut. Just beyond the pictured oak tree on the left side of the road, is Map Point 7. Map Point 7 is the first opportunity to direct runoff off of the road and its ditches. At this location, the Discharger shall install a Rocked Rolling Dip wide enough to drain both ditches and the surface. A lead out ditch extending approximately 15 feet in length westerly off the road shall be connected to the Rocked Rolling Dip. The lead out ditch will direct drainage onto gently sloping thick grass. Photo date 4/19/17.**



## Pictures



**Pictures 2 and 3: These are pictures taken at Map Point 1, the existing 12-inch culvert proposed to be upgraded to an 18-inch diameter culvert. As a temporary measure prior to the replacement of the culvert, the Discharger shall install drainage structures in the form of waterbreaks on each side of the crossing prior to 11/15/17. Photo date Sept. 2016.**

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## Pictures



**Pictures 4 and 5:** These are pictures taken at Map Point 2, the existing 12-inch culvert proposed to be upgraded to a 24-inch diameter culvert. The picture on the left shows the inlet and the picture on the right shows the outlet. Photo date Sept. 2016.

## Pictures

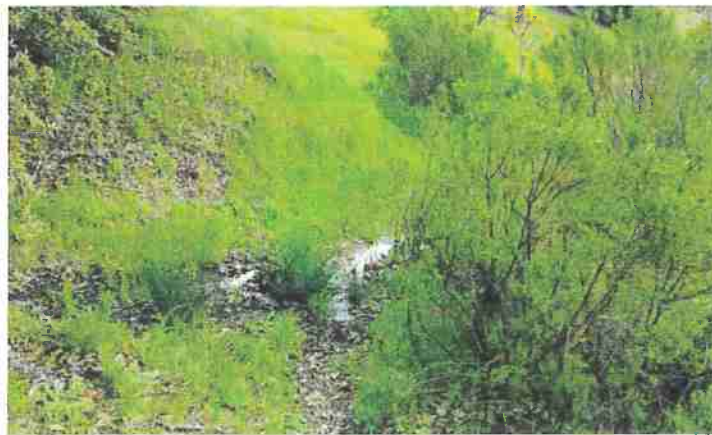


**Pictures 6 and 7: These are pictures taken at Map Point 3, the existing 42-inch culvert proposed to be upgraded to a 54-inch diameter culvert. The picture on the left shows the outlet and the picture on the right shows the inlet. Photo date Sept. 2016.**



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## Pictures



**Pictures 8, 9, and 10: These are pictures taken at Map Point 5, the existing filled Class III watercourse crossing. This crossing shall be removed and abandoned. Photo date 4/19/17.**

## Pictures



**Pictures 11 and 12: These are pictures taken at Map Point 6, the existing 24-inch culvert proposed to be upgraded to a 36-inch diameter culvert. The picture on the left shows the inlet and the picture on the right shows the outlet. This is a "Low" priority site. Photo date 4/19/17.**

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## Pictures



**Pictures 13 and 14:** These are pictures taken at Map Point 8, the existing 12-inch culvert proposed to be upgraded to a 36-inch diameter culvert. The picture on the left shows the inlet and the picture on the right shows the outlet. This is a “Low” priority site. Photo date 4/19/17.



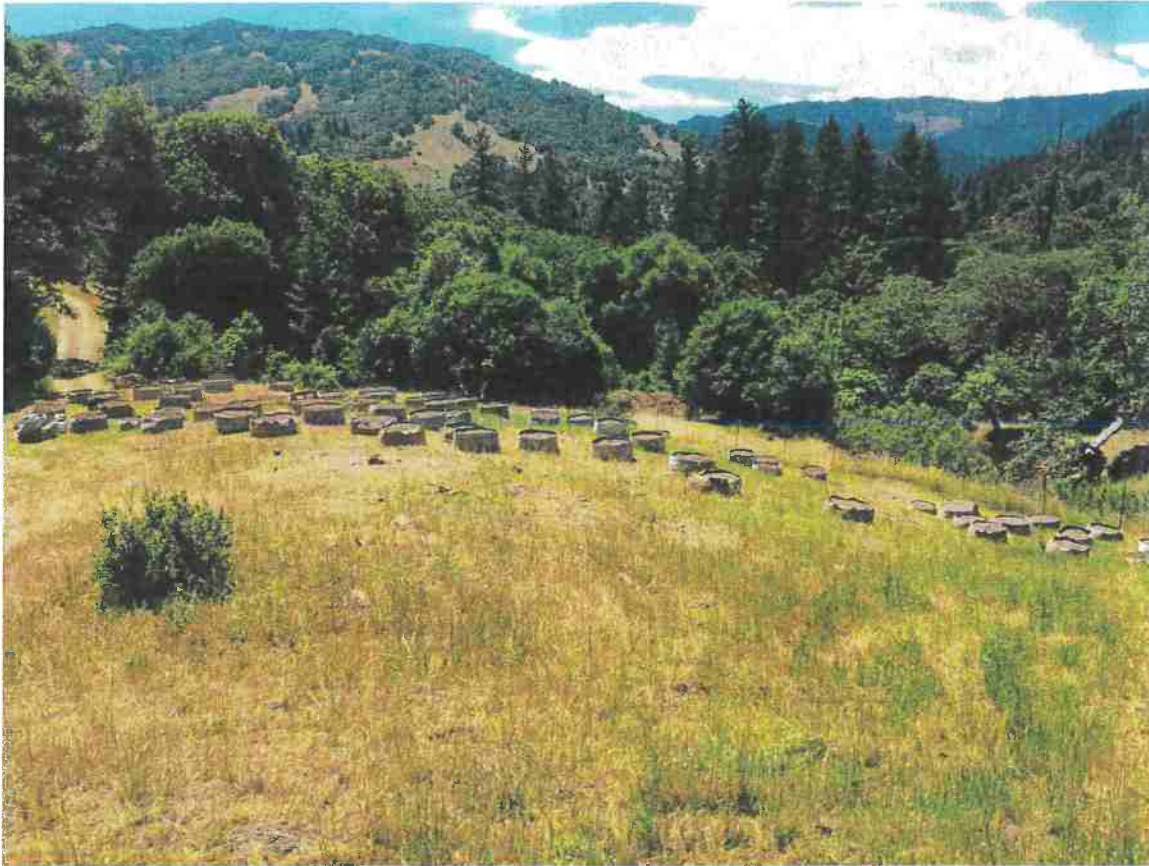
## Pictures



**Pictures 15 and 16: These are pictures taken at the northern most existing dirt ford crossing shown on the WRPP Map. It is the dirt ford crossing located near POD 1. The Discharger shall provide for continued monitoring and maintenance as necessary on all dirt ford crossings on the property prior to the winter period and periodically during the winter. Photo date 4/19/17.**

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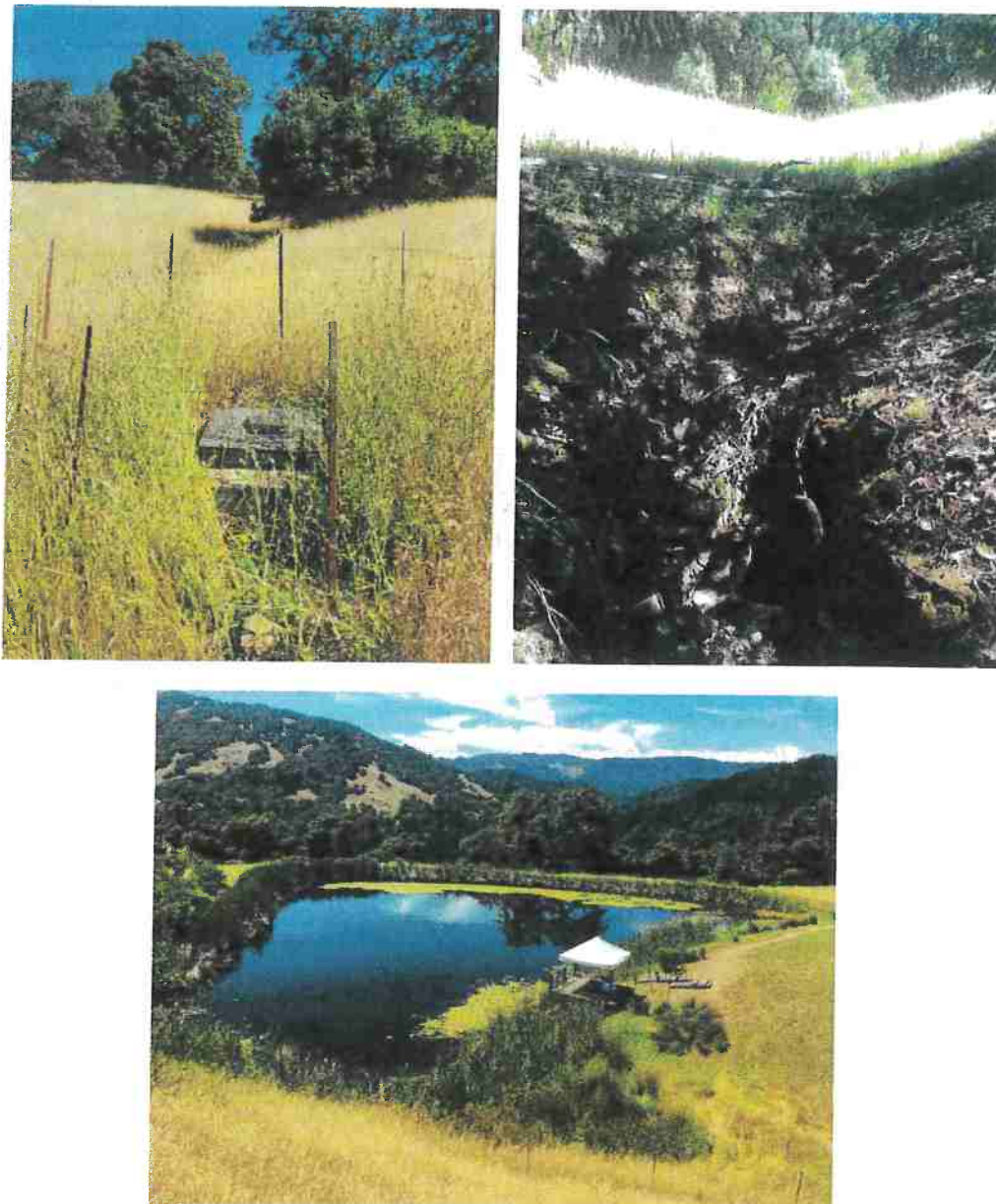
## Pictures



**Picture 17: This is the cultivation area located at Map Point 10. This cultivation area is located within the 100 foot wide buffer of two separate Class II watercourses. This cultivation area does not appear to be a significant risk to the watercourses, however it should be removed due to its proximity. The Discharger shall refrain from cultivating at this site after 11/15/17 and shall remove the pots and soil prior to 11/15/18. Photo date Sept. 2016.**



## Pictures



**Pictures 18, 19, and 20: These are pictures of POD 1 (top left), POD 2 (top right), and POD 3 (bottom). POD 3 is the main source of water storage for the irrigation. Photo date Sept. 2016**

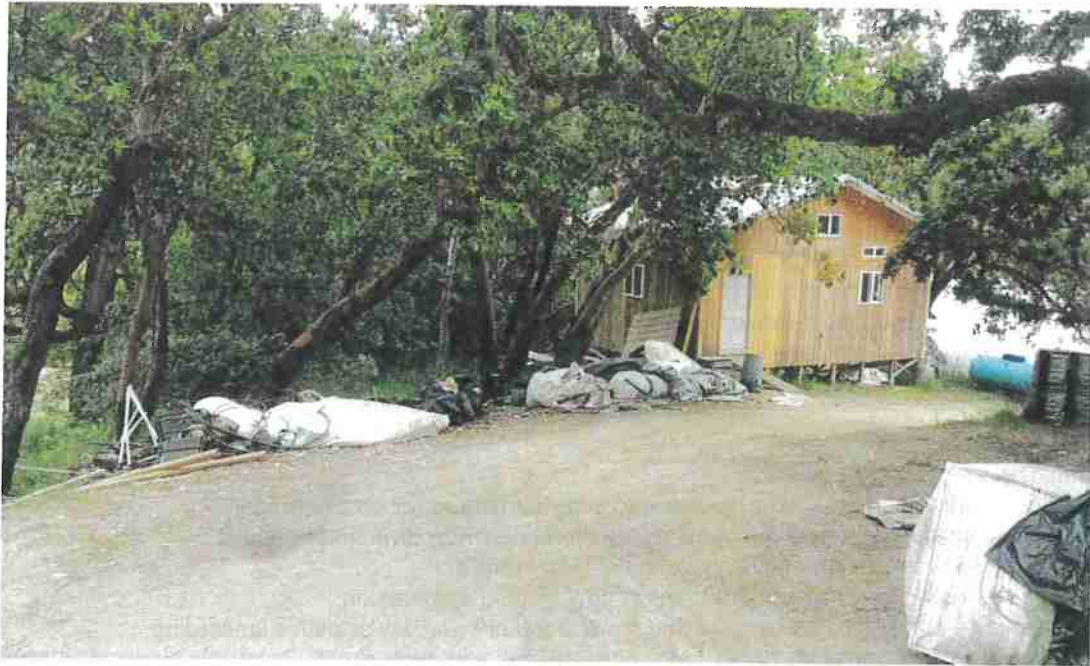
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## Pictures



**Pictures 21 and 22: These are pictures of the fuel storage sheds. They are equipped with secondary containment and housed in the plywood sheds. The Picture on the left is the diesel storage shed. The wall facing the right is located 45 feet from the Class III watercourse out of frame to the right. The gasoline storage shed is located behind the diesel storage shed and is shown in the picture on the right. Photo date 4/19/17.**

## Pictures



**Pictures 23:** This picture shows non-leachable garbage such as metal, wood, and plastic that has been gathered from throughout the property, left from the previous owner (Map Point 11). It is in the process of being removed from the property and being hauled to the dump. It is located within 50 feet of the Class III watercourse. Prior to 11/15/17, the Discharger shall at least remove this pile to outside of the Class III watercourse buffer zone where it does not have access to a watercourse. Photo date 4/19/17.

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**BMP: Rocked Rolling Dip**

- Rocked rolling dips are drainage structures designed to carry surface water across roads.
- The truck road shall dip into and out of the rocked rolling dip to minimize diversion potential.
- The rocked rolling dip shall be constructed with clean native rock that is large enough to remain in place during peak flows. Rock size shall vary relative to the size of the watercourse; however an average 6" sized rock shall be used.
- The rocked rolling dips inlet and outlet shall be armored to resist downcutting and erosion.
- The entire width of the rocked rolling dip shall be rock armored to a minimum of 5-feet from the centerline of the dip.
- If a keyway is necessary, the rocked rolling dip keyway at the base of the dip shall be of sufficient size, depth and length to support materials used in the rocked rolling dip construction back up to the road crossing interface.
- Do not discharge rolling dips into swales that show signs of instability or active landsliding.
- If the rolling dip is designed to divert both road surface and ditch runoff, block the down-road ditch with compacted fill.
- The rolling dip must be drivable and not significantly inhibit traffic and road use.

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- The truck road shall dip into and out of the rolling dip to minimize diversion potential.
- The rolling dip shall be constructed with clean native materials.
- The rolling dips outlet may be armored to resist downcutting and erosion.
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## **Addendum 12A – Erosion Control Measures for Culvert Installation**

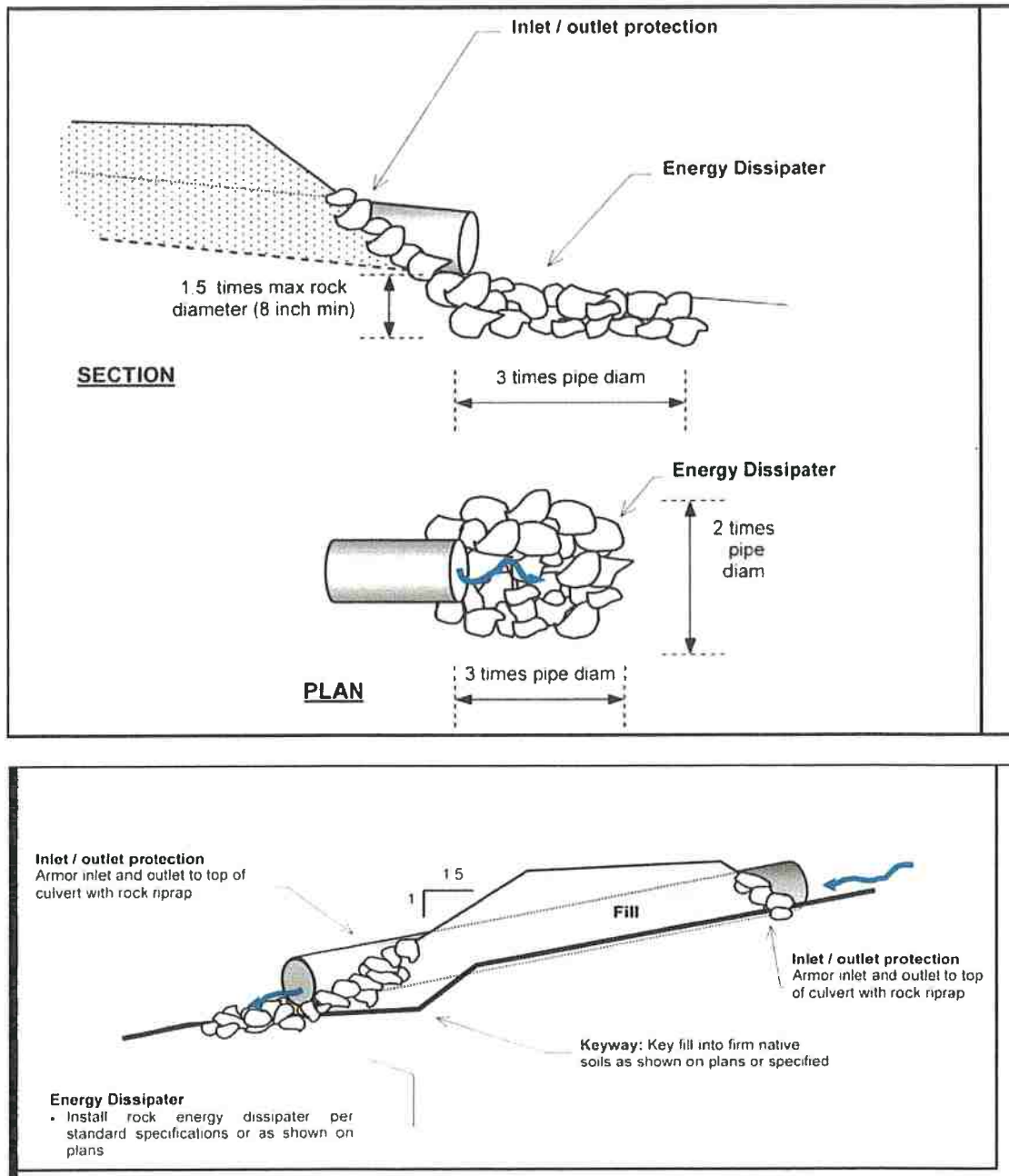
Use a combination of mechanical and vegetative measures to minimize accelerated erosion from culvert installation. Erosion control measures may include the following:

1. Timing for soil stabilization measures within 100 feet of a watercourse or lake: For areas disturbed from May 1 through October 15, treatment shall be completed prior to the start of any rain that causes overland flow across or along the disturbed surface. For areas disturbed from October 16 through April 30, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days, whichever is earlier.
2. Within 100 feet of a watercourse or lake, the traveled surface of roads shall be treated to prevent waterborne transport of sediment and concentration of runoff that results from operations. Treatment may consist of, but not limited to, rocking, outsloping, rolling dips, cross drains, waterbars, slope stabilization measures, or other practices appropriate to site-specific conditions.
3. The treatment for other disturbed areas within 100 feet of a watercourse or lake, including: (A) areas exceeding 100 contiguous square feet where operations have exposed bare soil, (B) road cut banks and fills, and (C) any other area of disturbed soil that threatens to discharge sediment into waters in amounts deleterious to the quality and beneficial uses of water, shall be grass seeded and mulched with straw. Grass seed shall be applied at a rate exceeding 100 pounds per acre. Straw mulch shall be applied in amounts sufficient to provide at least 2- 4 inch depth of straw with minimum 90% coverage. Slash may be substituted for straw mulch provided the depth, texture, and ground contact are equivalent to at least 2 – 4 inches of straw mulch. Any treated area that has been subject to reuse or has less than 90% surface cover shall be treated again prior to the end of operations.
4. Within 100 feet of a watercourse or lake, where the undisturbed natural ground cover cannot effectively protect beneficial uses of water from sediment introduction, the ground shall be treated with slope stabilization measures described in #3 above per timing described in #1 above.
5. Sidecast or fill material extending more than 20 feet in slope distance from the outside edge of a roadbed, which has access to a watercourse or lake, shall be treated with slope stabilization measures described in #3 above. Timing shall occur per #1 above unless outside 100 feet of a watercourse or lake, in which completion date is October 15.
6. All roads shall have drainage and/or drainage collection and storage facilities installed as soon as practical following operations and prior to either (1) the start of any rain which causes overland flow across or along the disturbed surface within 100 feet of a watercourse or lake protection, or (2) any day with a National Weather Service forecast of a chance of rain of 30 percent or more, a flash flood warning, or a flash flood watch.



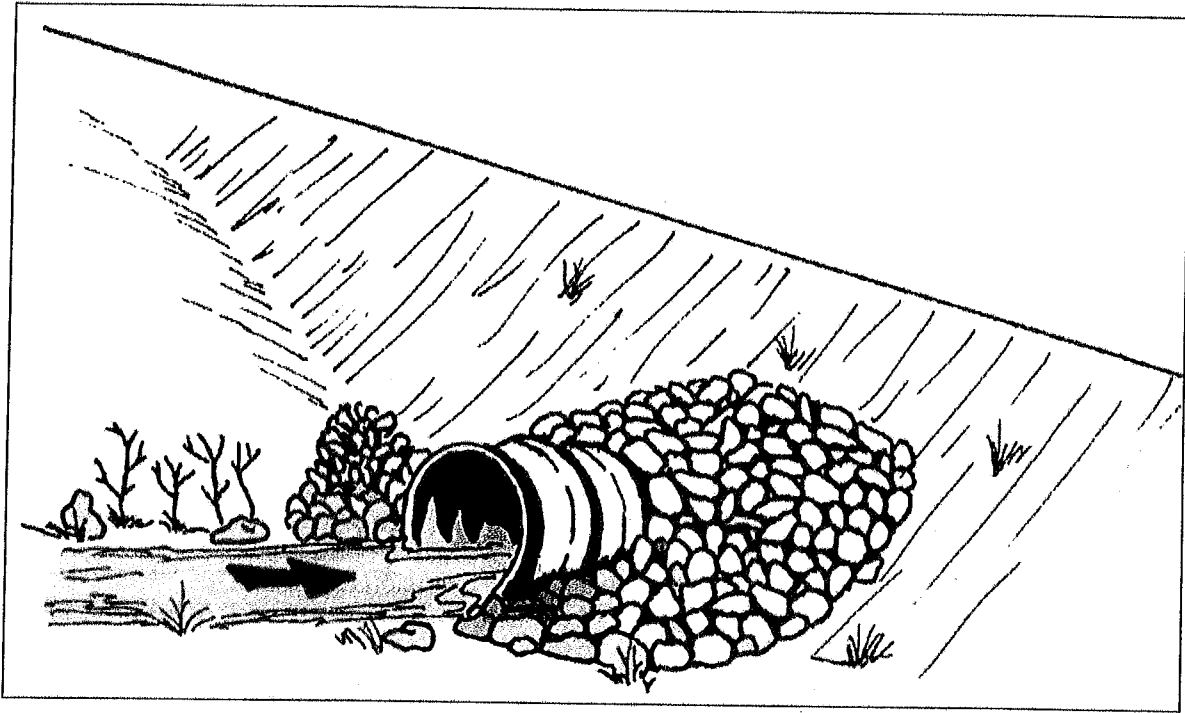
180101050401TRC214 – 5/8/17

## Culvert Installation Specifications



Riprap installed to protect the inlet and outlet of a stream crossing culvert from erosion or for energy dissipation should be keyed into the natural channel bed and banks to an approximate depth of about 1.5x the maximum rock thickness. Riprap should be placed at least up to the top of the culvert at both the inlet and outlet to protect them from splash erosion and to trap any sediment eroded from the newly constructed fill slope above.

### Culvert Installation Specifications



Rock armor used for inlet and outlet protection (i.e., not as energy dissipation) does not have to be sized to protect against high velocity scour. If the culvert is properly sized and its length is adequate, it should be able to transmit flood flows without scouring the inlet or eroding the outlet around the culvert. Armor shown here is designed to protect the culvert outlet and basal fill from splash erosion and from occasional submergence and currents within standing water (at the inlet) when the culvert plugs. Importantly, inlet and outlet armor also serves to trap sediment that has been eroded or slides down the new constructed fill face in its first several years, until the slope becomes well vegetated.

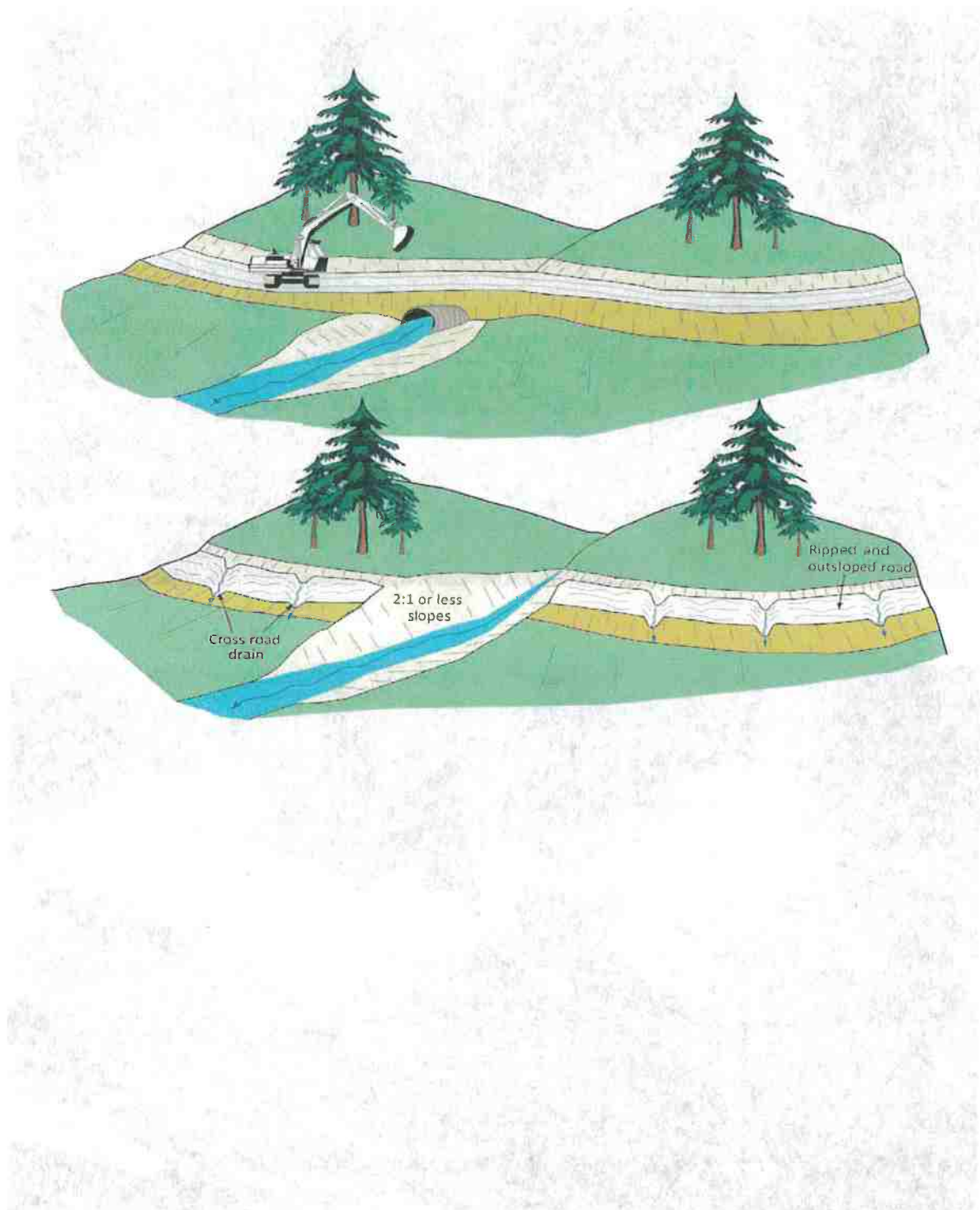
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## Culvert Installation Specifications

- New culvert installations shall be sized to accommodate a 100-year storm.
- New culverts shall be placed at stream gradient, or have downspouts, or have energy dissipaters at outfall.
  - Align culverts with the natural stream channel orientation to ensure proper function, prevent bank erosion and minimize debris plugging.
  - Place culverts at the base of the fill and at the grade of the original streambed or install a downspout past the base of the fill. Downspouts should only be installed if there are no other options.
  - Culverts should be set slightly below the original stream grade so that the water drops several inches as it enters the pipe.
  - Culvert beds should be composed of rock-free soil or gravel, evenly distributed under the length of the pipe.
  - Compact the base and sidewall material before placing the pipe in its bed.
  - Lay the pipe on a well-compacted base. Poor basal compaction will cause settling or deflection in the pipe and can result in separation at a coupling or rupture in the pipe wall.
  - Backfill material should be free of rocks, limbs or other debris that could dent or puncture the pipe or allow water to seep around the pipe.
  - Cover one end of the culvert pipe, then the other end. Once the ends are secure, cover the center.
  - Tamp and compact backfill material throughout the entire process, using water as necessary for compaction.
  - Backfill compacting will be done in 0.5 – 1.0 foot lifts until 1/3 of the diameter of the culvert has been covered.
  - Push layers of fill over the crossing to achieve the final design road grade, at a minimum of one-third to one-half the culvert diameter.
- Critical dips shall be installed on culvert crossings to eliminate diversion potential.
- Road approaches to crossings shall be treated out to the first drainage structure (i.e. waterbar) or hydrologic divide to prevent transport of sediment.
- Road surfaces and ditches shall be disconnected from streams and stream crossings to the greatest extent feasible. Ditches and road surfaces that cannot be feasible disconnected from streams or stream crossings shall be treated to reduce sediment transport to streams.
- If downspouts are used they shall be secured to the culvert outlet and shall be secure on fill slopes.
- Culverts shall be long enough so that road fill does not extend or slough past the culvert ends.
- Inlet of culverts and associate fill shall be protected with appropriate measures that extend at least as high as the top of the culvert.
- Outlet of culverts shall be armored with rock if road fill sloughing into channel can occur.
- Armor inlets and outlets with rock, or mulch and seed with grass as needed (not all stream crossings need to be armored).
- Where debris loads could endanger the crossing a debris catchment structure shall be constructed upstream of the culvert inlet.
- Bank and channel armoring may occur when appropriate to provide channel and bank stabilization. Stabilize the site pursuant to Addendum 12A.



## Permanent Crossing Decommissioning Specifications



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### Permanent Crossing Decommissioning Specifications (Cont.)





### Permanent Crossing Decommissioning Specifications (Cont.)

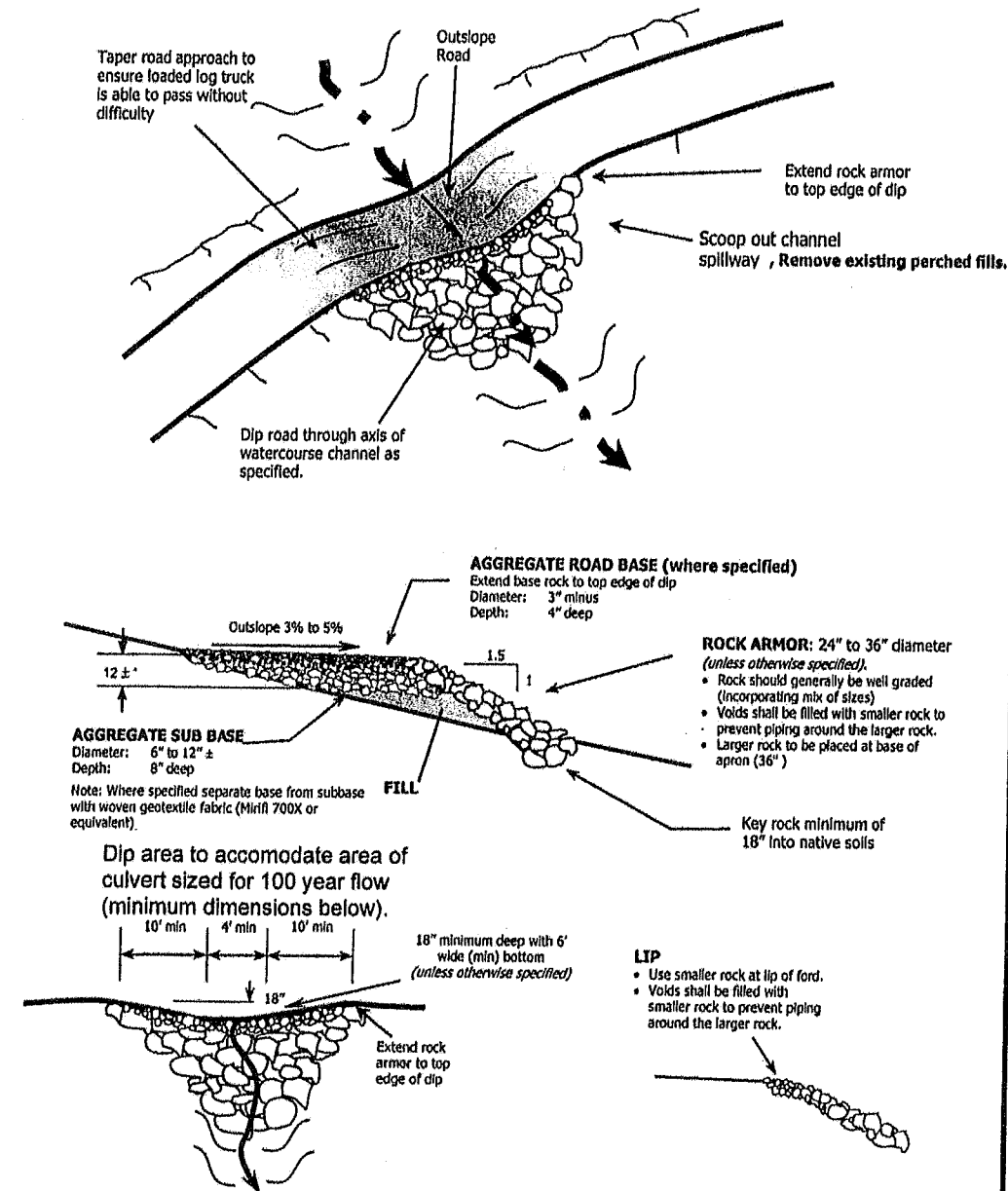


*On roads that are to be closed (decommissioned), all stream crossing culverts and fills should be removed. Stream crossing excavations are best performed using an excavator. The original channel should be excavated and exhumed down to the former streambed, with a channel width equal or greater than the natural channel above and below the crossing. Sideslopes should be laid back to a stable angle, typically a 2:1 (50%) gradient, or less. Spoils can be endhauled off-site or stored on the road bench adjacent the crossing, provided it is placed and stabilized where it will not erode or fail and deliver to a watercourse.*

### **Permanent Crossing Decommissioning Specifications (Cont.)**

- Excavating and removing all fill materials placed in the stream channel when the crossing was originally built.
- Fill material should be excavated to recreate the original channel grade (slope) and orientation.
- The excavated channel bed should be as wide, or slightly wider than, the original watercourse channel.
  - This can be better determined by observing the channel width of the watercourse up slope of crossing to be removed at a point in which the crossing or any other disturbance has not affected the natural channel slope and width.
- If the channel sideslopes were disturbed, they should be graded (excavated) back to a stable angle (generally less than 50% (2:1)) to prevent slumping and soil movement.
- The bare soils should then be mulched, seeded, and planted to minimize erosion until vegetation can protect the surface.
- The approaching, hydrologically connected road segments should be cross-road drained to prevent road runoff from discharging across the freshly excavated channel sideslopes.

## ROCK FORD



### NOTE

- Details are typical and intended for use as a guideline. Adjustments to the actual design may need to occur in field during time of construction due to local site conditions.
- Refer to site details for specific design criteria where applicable.


TYPICAL ROCK FORD DESIGN

Figure:

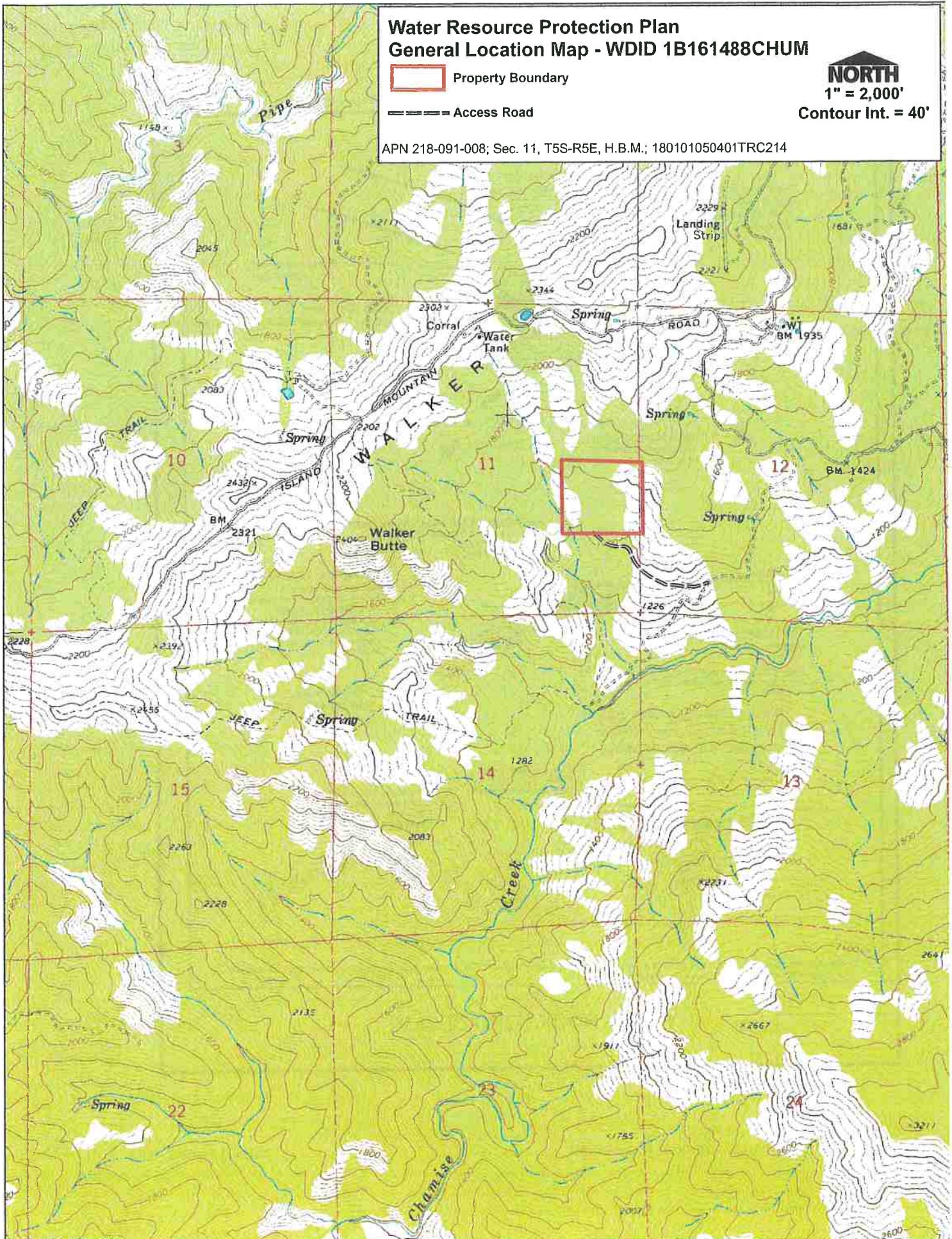


**Water Resource Protection Plan  
General Location Map - WDID 1B161488CHUM**

 Property Boundary  
 Access Road














  
**NORTH**  
1" = 2,000'  
Contour Int. = 40'









APN 218-091-008; Sec. 11, T5S-R5E, H.B.M.; 180101050401TRC214





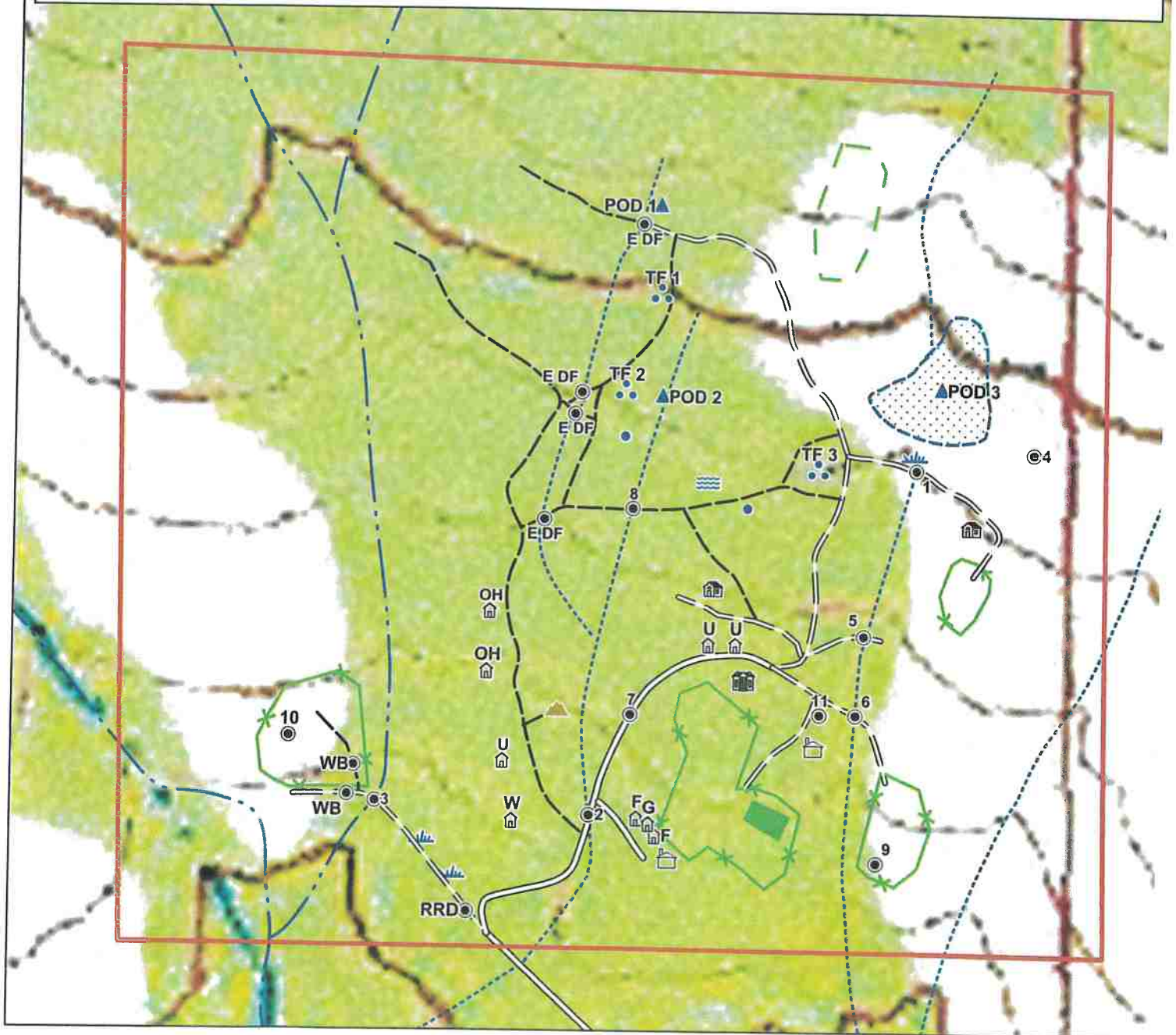
# Water Resource Protection Plan WRPP Map - WDID 1B161488CHUM

-  Property Boundary
-  Permanent Rocked Roads
-  Seasonal Dirt Roads
-  ATV Trail
-  Class II Watercourse
-  Class III Watercourse
-  On-Stream Pond
-  Bank Seep / Class III Wet Area
-  Barn / Apartment
-  House
-  Ag Building
-  Shed (F = Fuel, G = Generator, OH = Outhouse, W = Washroom, U = Utility)
-  Cultivation Soils Pile

-  Map Points (WB = Waterbreak, RRD = Rocked Rolling Dip, E DF = Existing Dirt Ford)
-  Point of Diversion
-  Water Tanks
-  Tank Farm
-  Swimming Pool
-  Fenced Cultivation Areas
-  Greenhouse
-  Planned Cultivation Area

**NORTH**  
1" = 200'  
Contour Int. = 40'









APN 218-091-008; Sec. 11, T5S-R5E, H.B.M.; 180101050401TRC214





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