

Water Resource Protection Plan (WRPP)

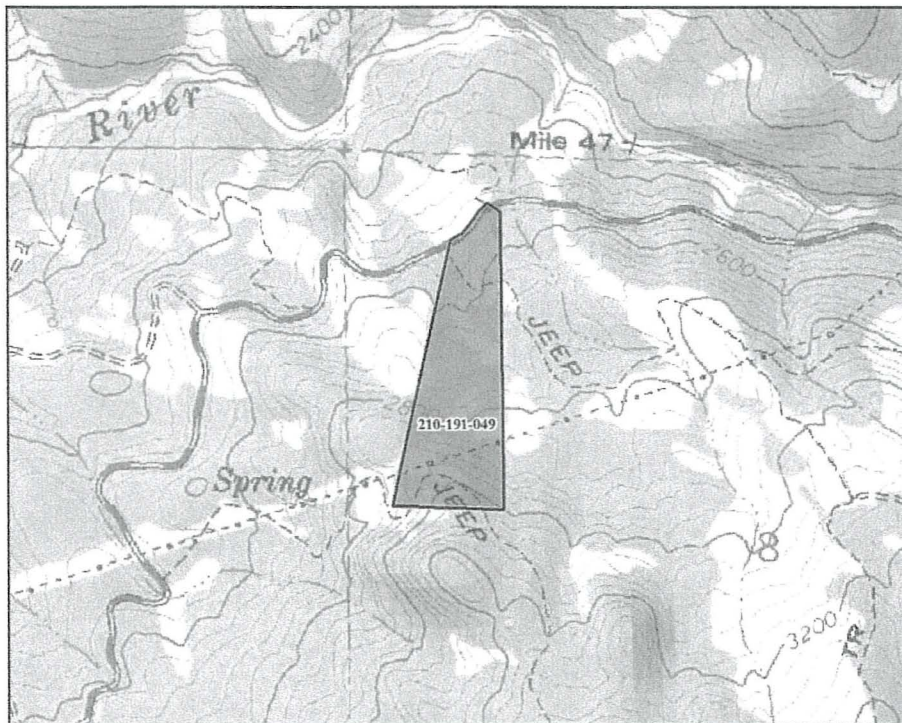
for

APN 210-191-049

Located at

**41600 State Highway 36
Bridgeville, California**

May, 2017



Prepared for:

WD ID #1B16626CHUM

PWA ID #18010105070352370

41600 State Highway 36

Bridgeville, California

Prepared by:

Jack Skeahan, Staff Geologist, jacks@pacificwatershed.com

Courtney Sundberg, Staff Geologist, courtneys@pacificwatershed.com

Pacific Watershed Associates Inc.

P.O. Box 4433, Arcata, CA 95518

(707) 839-5130

TABLE OF CONTENTS

1.0	PROJECT SUMMARY	3
2.0	CERTIFICATIONS, LIMITATIONS AND CONDITIONS.....	3
3.0	INTRODUCTION	7
4.0	STANDARD CONDITIONS CHECKLIST FOR APN 210-191-049 AS OF 4/21/2016.....	7
4.1	STANDARD CONDITION #1. SITE MAINTENANCE, EROSION CONTROL AND DRAINAGE FEATURES.....	8
4.2	STANDARD CONDITION #2. STREAM CROSSING MAINTENANCE.....	10
4.3	STANDARD CONDITION #3. RIPARIAN AND WETLAND PROTECTION AND MANAGEMENT	12
4.4	STANDARD CONDITION #4. SPOILS MANAGEMENT	14
4.5	STANDARD CONDITION #5. WATER STORAGE AND USE.....	15
4.6	STANDARD CONDITION #6. IRRIGATION RUNOFF	19
4.7	STANDARD CONDITION #7. FERTILIZERS AND SOIL AMENDMENTS	20
4.8	STANDARD CONDITION #8. PESTICIDES/HERBICIDES	21
4.9	STANDARD CONDITION #9. PETROLEUM PRODUCTS AND OTHER CHEMICALS.....	22
4.10	STANDARD CONDITION #10. CULTIVATION-RELATED WASTES	24
4.11	STANDARD CONDITION #11. REFUSE AND HUMAN WASTE	25
4.12	STANDARD CONDITION #12. REMEDIATION/CLEANUP/RESTORATION	26
5.0	PRIORITIZED CORRECTIVE ACTIONS AND SCHEDULE TO REACH FULL COMPLIANCE.....	27
6.0	MONITORING AND INSPECTION PLAN	34
7.0	WATER USE PLAN	35
8.0	LIST OF CHEMICALS	36
9.0	LANDOWNER/LESSEE CERTIFICATION/SIGNATURES.....	38

LIST OF FIGURES

Figure 1. General Location Map

Figure 2. Site Map

LIST OF TABLES

Table 1. Features Needing Improvement or Action Items (Prioritized implementation schedule for corrective actions)

LIST OF APPENDICES

Appendix A. Best Management Practices (BMPs) – NCRWQCB

Appendix B. Monitoring Plan and Photo Logs

Appendix C. Photo Documentation of Monitoring Points

Appendix D1, D2, D3. Water Use Plan and Log Forms

Appendix E. Fertilizer and Amendment Use Plan and Log Forms

Appendix F. Pesticide, Herbicide, and Fungicide Use Plan and Log Forms

Appendix G. Hazardous Materials Storage Guidelines

Appendix H. Typical Drawings

Water Resource Protection Plan (WRPP)
APN 210-191-049
41600 State Highway 36
Bridgeville, California

1.0 PROJECT SUMMARY

This report documents Pacific Watershed Associate's (PWA)¹ Water Resource Protection Plan (WRPP) for APN 210-191-049 located at 41600 State Highway 36, Bridgeville, California as shown on Figure 1. This property was originally listed under APN 210-191-016 prior to a lot line adjustment made by Humboldt County. This property is located approximately 8.1 miles east of Bridgeville, Humboldt County, CA, and hereinafter is referred to as the "Project Site." Based on either site conditions and/or total cultivation area, this Project Site falls within Tier 2 of the North Coast Regional Water Quality Control Board's (NCRWQCB) Order No. 2015-0023, Waiver of Waste Discharge and General Water Quality Certification for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects ("Order"). Properties that fall into Tier 2 of the Order are required to develop a WRPP. Therefore, as required, this WRPP has been developed for you based on site inspections made by PWA on your property. PWA's recommendations for any remediation or corrective actions are a result of water quality requirements under the Order, including Best Management Practices (BMPs) designed to meet those requirements (Appendix A). This WRPP documents the findings of a site visit conducted on April 21, 2016 by PWA Geologists Courtney Sundberg and Jack Skeahan.

2.0 CERTIFICATIONS, LIMITATIONS AND CONDITIONS

This WRPP has been prepared by, and under the responsible charge of a California licensed geologist or certified licensed professional in erosion and sediment control at PWA and all information herein, including treatment recommendations, are based on observations, data and information collected by PWA staff.

This WRPP has been prepared to: 1) describe the general conditions of the property at the time of our inspection; 2) summarize the site conditions and how they relate to the NCRWQCB twelve (12) Standard Conditions of the Order; 3) provide recommendations for remediation and/or correction of existing or potential water quality threats or impacts; and 4) recommend work to be conducted on this property to meet the 12 Standard Conditions of the Order. The analysis and recommendations submitted in this WRPP are based on PWA's evaluation of the Project Site and your activities which fall under the Order.

In this WRPP we have described the current conditions of the property and any water resource and water quality risk factors we observed at the time of our site inspection. PWA is not responsible for problems or issues we did not observe on our site inspection, or for changes that have naturally occurred or been made to the property after our site review. The interpretations and conclusions presented in this WRPP are based on a reconnaissance level site investigation of inherently limited scope. Observations are qualitative, or semi-quantitative, and confined to surface expressions of

¹ PWA is an approved Third Party Program for the North Coast Regional Water Quality Control Board's (NCRWQCB) Order No. 2015-0023, Waiver of Waste Discharge and General Water Quality Certification for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects ("Order").

limited extent and artificial exposures of subsurface materials. Interpretations of problematic geologic, geomorphic or hydrologic features such as unstable hillslopes, erosional processes and water quality threats are based on the information available at the time of our inspection and on the nature and distribution of existing features we observed on the property.

We have also included recommendations for remediation and/or correction that are based on these observations. The recommendations included in this WRPP are professional opinions derived in accordance with current standards of professional practice, and are valid as of the date of field inspection. No other warranty, expressed or implied, is made. Furthermore, to ensure proper applicability to existing conditions, the information and recommendations contained in this report shall be regularly reevaluated and it is the responsibility of the landowner and/or lessee operating under the Order to ensure that no recommendations are inappropriately applied to conditions on the property that have changed since the recommendations were developed.

If site conditions have changed for any reason, the site should be reevaluated and the WRPP revised and updated as required. These conditions include any changes in land management activities or property conditions that have occurred since our site visit (regardless of what they are, how they occurred or who performed them). Similarly, if the landowner/lessee uses portions of this property not identified or covered under the current WRPP, this WRPP will need to be updated with the new information, including possible additions or changes to the recommended remedial or corrective actions and BMPs (Appendix A).

If the property owner has enrolled their property under the Order, they are responsible for complying with all the requirements thereunder, regardless of who is operating or cultivating on that property. If the property is being formally or informally leased to an operator, and the lessee has enrolled under the Order, then the lessee is responsible for complying with the Order's requirements, including the WRPP and related recommendations and requirements. If the lease expires or the lessee is not otherwise available or does not respond to information requests by the NCRWQCB or PWA, then the landowner automatically assumes responsibility under the Order for the requirements therein and for all related penalties or actions brought by the NCRWQCB.

If at any time in the future the property is to transfer ownership, it is the responsibility of the current owner, or their representatives, to ensure that the information and recommendations contained herein are called to the attention of any future owner or agent for the property. Unless this WRPP is modified by the NCRWQCB, or another approved Third Party Program representative, the findings and recommendations contained in this WRPP shall be utilized as a tool while implementing the recommendations made within this WRPP. Necessary steps shall be taken to see that contractor(s) and subcontractor(s) carry out such recommendations in the field in accordance with the most current WRPP and BMP standards.

As a Third Party Program, PWA will be responsible for the data, interpretations and recommendations developed by PWA, but will not be responsible for the interpretation by others of that information, for implementation of corrective actions by others, or for additional or modified work arising out of those plans, interpretations and recommendations. PWA assumes no liability for the performance of other workers or suppliers while following PWA's recommendations in the WRPP, unless PWA is under contract to perform or oversee those activities. Additionally, PWA is not responsible for changes in applicable or appropriate standards

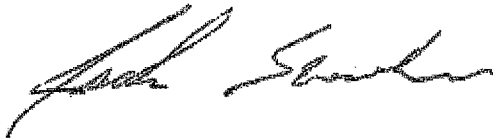
beyond our control, such as those arising from changes in legislation or regulations, or the broadening of knowledge which may invalidate or alter any of our findings or recommended actions.

Any WRPP plan review or construction management services that may be needed or identified in the recommendations sections of this report are separate tasks from the preparation of this WRPP, and are not a part of the contract under which this WRPP was prepared. If requested, additional PWA field inspections, surveys, WRPP revisions/updates, project layout, design, permitting, construction oversight/management, or other related services arising from tasks described and recommended in the WRPP may be performed under separate agreements requiring advance notice and contracting.

PWA's services consist of professional opinions and recommendations made in accordance with generally accepted principles and practices. No warranty, expressed or implied, or merchantability or fitness, is made or intended in connection with our work, by the proposal for consulting or other services, or by the furnishing of oral or written reports or findings. If the client desires assurances against project failures, they shall obtain appropriate insurance through their own insurance broker or guarantor.

This WRPP is considered a living document and shall be updated at least annually, or sooner if conditions have changed or land management actions have been undertaken after our site inspection. As an official part of the Waiver Program, this WRPP (including all its text, appendices, maps and photos) shall remain onsite and available for NCRWQCB staff to inspect and review upon request.

Prepared by:



Jack Skeahan
Staff Geologist
Pacific Watershed Associates, Inc.
P.O. Box 4433, Arcata, California 95518

Insert Figure 1 here.....

3.0 INTRODUCTION

This Water Resource Protection Plan (WRPP) summarizes the results of Pacific Watershed Associates' (PWA) site visit and subsequent analysis and documentation of site conditions on APN 210-191-049 located at 41600 State Highway 36, Bridgeville, California, as shown on Figure 1 and hereinafter referred to as the "Project Site." The WRPP describes and addresses the required elements and compliance with the 12 Standard Conditions established by the North Coast Regional Water Quality Control Board's (NCRWQCB) Order No. 2015-0023 to protect water quality from cannabis cultivation and related activities (Order). PWA has identified certain areas where the Project Site does not fully meet all 12 of the Standard Conditions of the Order. Section 4, below, identifies and discusses each of the 12 Standard Conditions as related to your property with regard to compliance with the NCRWQCB's Order.

The WRPP contains the following required sections:

1. Legible map (Figure 2) depicting the required site elements and features associated with the 12 Standard Conditions of the Order;
2. Description of current site conditions, compliance with the 12 Standard Conditions, and prioritized remediation or corrective actions needed to bring the site into compliance with the requirements of the Order;
3. A monitoring and inspection plan to ensure BMPs used to protect and prevent impacts to water quality are being implemented as recommended by PWA (implementation monitoring), and that they are effective (effectiveness monitoring);
4. A water use plan, including water sources, water use and storage rights documentation, monthly water use documentation (quantity), and water conservation measures that are employed to prevent adverse impacts to water quality and water quantity in the watershed;
5. List of fertilizers and chemicals stored and used onsite, including a log of the frequency and quantity of these materials used.

4.0 STANDARD CONDITIONS CHECKLIST FOR APN 210-191-049 as of 4/21/2016

The NCRWQCB has developed a set of 12 Standard Conditions that shall be followed and implemented to protect and improve water quality as required under the NCRWQCB's Order. For a property to become compliant with the Order, all 12 Standard Conditions must be fully satisfied.

The following section details the specific requirements listed and described in the Order for each of the 12 Standard Conditions. Each Standard Condition has from 1 to 6 sub-requirements (*listed in italic type*), each of which must be satisfied to protect water quality and comply with the Order. The checklist developed by PWA for your property indicates: 1) whether the Standard Condition or Standard Condition sub-requirement was adequately met as of the date of PWA's field inspection, 2) PWA's observations and comments related to the Standard Condition or Standard Condition sub-requirement, 3) whether a relevant photo has been taken and included in the WRPP, and 4) recommended corrective or remedial actions that need additional work to meet the requirements of the Order.

In Section 5 of this WRPP, PWA has provided a summary prioritized list (Table 1) of the recommended treatments and actions to be implemented by you to meet the requirements of the Order. PWA will consult with you to review the WRPP document and findings, and to set a

preliminary schedule for implementation of the recommended measures for achieving compliance with the Order. Please note that some of the PWA recommended actions are based on regulatory requirements and deadlines, while others can be scheduled to fit the needs of both you and your property.

4.1 Standard Condition #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.*

Meets condition? No

Observations/Comments: Roads on the Project Site exhibited surface erosion and sediment delivery to surface waters as observed in multiple locations. On the Main Road, the left road approach to Stream Crossing #1 (SC #1) concentrates road runoff and delivers sediment to the stream crossing at Road Surface Discharge Point #1 (RSDP #1). The lower portion of Access Road #3 upslope of Cultivation Area #3 (CA #3) concentrates road runoff and springy cutbank flow and delivers road runoff and fine sediment to the instream pond at RSDP #2. The lower portion of the Main Road concentrates road runoff and delivers sediment to SC #3 at RSDP #3.

Photos: MP #1: Photo 1a, 1b and 1c. MP #2: Photo 2. MP #3: Photo 3a, 3b and 3c.

Corrective or remedial actions needed: See Figure 2 for specific locations where rolling dips ("RD" on Figure 2) or other road surface drainage structures should be installed. Install waterbars with adequate spacing intervals (approximately every 50 feet) on the designated section of Access Road #3 (see Figure 2). Water bars are recommended here to disconnect spring and surface runoff rather than a rolling dip due to the short and steep road segment. Vehicle use of the lower portion of Access Road #3 should be restricted to the dry season. Elsewhere, rolling dips should be installed at any location along the road system where concentrated road runoff has caused road ruts, rills or gulying. In some locations, the outside berm along sections of the property's roads prevent road runoff from leaving the road; these berms should be removed or breached during normal road maintenance or grading operations. Typical drawings included in Appendix H provide guidance for the construction of functional, effective road drainage structures.

- 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.*

Meets condition? Yes

Observations: See Standard Condition 4.1a observations and comments, above.

Photos: See Standard Condition 4.1a Monitoring Points and photos, above.

Corrective or remedial actions needed: See Standard Condition 4.1a corrective actions, above.

- 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.

Meets condition? Yes

Observations/Comments: No surface runoff was observed to drain to unstable fillslopes or earthen fills on the Project Site. A large landslide and debris flow was observed on a neighboring parcel east of the cabin at the north end of the parcel. A second slope instability was mapped upstream of the pond on the Project Site. This landslide feature had previously failed and now has trees growing on its surface. The potential for future failure exists at this location which may continue to deliver sediment to the pond and Class III watercourse downslope. This feature is not related to road drainage but should be monitored to ensure negative effects to water quality do not occur.

Photos: MP #14: Photo 14.

Corrective or remedial actions needed: Although the Project Site landslide feature is not a road-related issue, the possibility of sediment delivery to a Class III watercourse exists if future failure occurs. PWA recommends that the landslide be monitored or observed periodically to determine if mitigation measures are necessary to protect water quality. Follow the monitoring schedule from the NCRWQCB in Appendix B. If additional, new slope movement is observed to have occurred, you should consult with a professional geologist to determine if any corrective actions are appropriate or needed to prevent sediment delivery to the stream downslope.

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

Meets condition? No

Observations: Roads, clearings, fill prisms, and terraced areas were observed to be hydrologically connected to surface waters and sediment delivery was observed on the Project Site. Also, see Standard Condition 4.1a observations and comments, above.

Photos: See Standard Condition 4.1a Monitoring Points and photos, above.

Corrective or remedial actions needed: See Standard Condition 4.1a corrective actions, above.

- 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.*

Meets condition? No

Observations/Comments: Road pads were not properly maintained and erosion and sediment transport to receiving waters was observed on the Project Site.

Photos: See Standard Condition 4.1a Monitoring Points and photos, above.

Corrective or remedial actions needed: See Standard Condition 4.1a corrective actions, above.

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

Meets condition? Yes

Observations/Comments: No stockpiled construction materials were observed on the Project Site with delivery potential to receiving waters.

Photos: No

Corrective or remedial actions needed: None

Standard Condition #1. - General comments and recommendations: Approximately 0.44 miles of road was inspected on the Project Site, comprised of a mid-slope main road and two short mid-slope access roads. All roads occupy a mid-watershed location and two of the three access roads exhibit surface erosion issues with local sediment delivery to surface waters.

4.2 Standard Condition #2. Stream Crossing Maintenance

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

Meets condition? No

Observations/Comments: There are four stream crossings on the Project Site and one off-property stream crossing that is used solely by the landowner to access the Project Site (Figure 2). Stream Crossing #1 (SC #1) and SC #2 (pond spillway crossing) are small unculverted fill crossings with no formal drainage structure. Stream Crossing #3 on the Main Access Road has a 30-inch diameter culvert and SC #4 on Access Road #5 has an 18-inch diameter culvert. The off-property stream crossing (SC #5) has a 24-inch diameter culvert. Based on drainage area calculations all three of the culverted stream crossings are undersized. The recommended culvert size for SC #3 is a 48-inch diameter culvert and a 42-inch diameter culvert is recommended for both SC #4 and SC #5. Methods for determining culvert sizes to address the 100-year peak streamflow include the Rational Method, USGS Magnitude and Frequency Method and Flow Transference Method. All of the stream crossing upgrades will be constructed according to standards provided in the "Handbook for Forest, Ranch and Rural Roads," (Weaver, Weppner, and Hagans, 2015), and the California Salmonid Stream Habitat Restoration Manual, Part X (Weaver et al., 2006).

Photos: MP #1: Photo 1c and 1d. MP #3: Photo 3d and 3e. MP #4: Photo 4a. MP #5: Photo 5. MP #6: Photo 6a and 6b. MP #7: Photo 7a and 7b.

Corrective or remedial actions needed: PWA recommends upgrading the three culverted stream crossings (SC#3, #4, and #5) with properly sized culverts that are designed to pass the expected 100-year peak stream flow, upgrading SC#1 and decommissioning #2 as described below:

- 1) The recommended culvert size for SC #3 is a 48-inch diameter culvert and a 42-inch diameter culvert is recommended for both SC #4 and SC #5. Culverts should be installed according to construction standards required by the Order (e.g., minimized hydrologic connectivity, correct vertical and horizontal alignment, no diversion potential, etc.).
- 2) Due to the minimal amount of road fill at SC #4 other alternatives to a round culvert, such as an arched or oval culvert, may be needed to avoid importing of fill to rebuild the crossing or significantly increasing elevation of the road bed at the crossing site.

- 3) An appropriately sized armored fill crossing should be installed at SC #1 where a small headcut has developed in the outboard fillslope.
- 4) A large headcut has developed downstream of SC #1 and, although it is not related to a stream crossing, PWA recommends laying back the headcut and installing rock armor to prevent the headcut from migrating upstream and potentially undermining SC #1.
- 5) The fill crossing at SC #2 acts as the spillway for the instream pond. This pond is not used as a source of water for either domestic or agricultural purposes and should be properly decommissioned.

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

Meets condition? No

Observations/Comments: The stream crossings on the Project Site are undersized to pass debris associated with the expected 100-year peak streamflow.

Photos: See Standard Condition 4.2a Monitoring Points and photos, above.

Corrective or remedial actions needed: PWA recommends upgrading the culverted stream crossings on the Project Site with properly sized culverts that are designed to address debris associated with the expected 100-year peak stream flow (see Corrective Action 4.2a, above). An appropriately sized armored fill crossing should be installed at SC #1 to address debris associated with the expected 100-year peak streamflow. Properly decommission the pond spillway crossing (SC #2). Due to the amount of woody debris and riparian vegetation observed upslope of the culverted crossings, trash racks should be installed upstream of the culvert inlets to minimize plug potential. Typical drawings included in Appendix H will provide guidance for proper trash rack installation.

- 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.*

Meets condition? No

Observations/Comments: The only stream crossing installed on an intermittent stream is SC #3. The culvert at this crossing has been installed high in the fillslope with a significant plunge at the outlet that does not allow passage of aquatic organisms.

Photos: MP #3: Photo 3e.

Corrective or remedial actions needed: Upgrade the crossing at SC #3 with an appropriately sized culvert installed at the natural channel grade with the outlet at the base of the fillslope so as to allow passage of aquatic organisms.

- 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.*

Meets condition? No

Observations/Comments: Erosion was observed at all four stream crossings on the Project Site (SC #1 – SC #4) and at the off-property stream crossing (SC #5) and it appears adequate maintenance or erosion control was not being performed.

Photos: MP #1: Photo 1c and 1d. MP #3: Photo 3e. MP #4: Photo 4a. MP #5: No photo. MP #6: Photo 6b.

Corrective or remedial actions needed: Monitor and perform adequate maintenance on all stream crossings mentioned above before and after upgrading or decommissioning activities to prevent or minimize erosion following appropriate BMPs listed in Appendix A. Regularly inspect and clean culvert inlets of woody debris after storm events to prevent culvert plugging.

- e) *Culverts shall align with the stream grade and natural stream channel at the inlet and outlet where feasible.*

Meets condition? No

Observations/Comments: The culverts at all three culverted stream crossings on the Project Site appeared to be horizontally aligned with the natural channel but were not installed at the natural channel grade.

Photos: MP #3: Photo 3e. MP #5: No photo. MP #6: Photo 6b.

Corrective or remedial actions needed: Upgrade the culverted stream crossings with appropriately sized culverts installed at the natural channel grade and horizontally aligned with the natural stream channel.

- 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.*

Meets condition? No

Observations/Comments: Stream Crossing #3 is the only stream crossing with diversion potential.

Photos: MP #3: Photo 3a.

Corrective or remedial actions needed: Install a critical dip on the left hinge line of SC #3 to eliminate diversion potential at the site. However, due to the close proximity of a road intersection on the left side of this stream crossing (see Figure 2), there may not be enough space for installation of a critical dip. Alternatives to a critical dip may include increasing the culvert size to handle much more than the expected 100-year peak streamflow or dipping the crossing to eliminate diversion potential. These alternatives may be limited by the fairly shallow road fill in the stream crossing, the larger culvert that has been recommended for installation, and the physical dimensions and limitations imposed by the relatively small fill.

Standard Condition #2. - General comments and recommendations: Obtain all necessary agreements and permits prior to commencing work in any watercourse or at any stream crossing. These may include, but not be limited to: California Department of Fish and Wildlife (CDFW) Lake and Streambed Alteration Agreement (LSAA) 1602, NCRWQCB Section 401 water quality certification, and the Army Corps of Engineers (ACOE) 404 Permit.

4.3 Standard Condition #3. Riparian and Wetland Protection and Management

- a) *For Tier 1 Dischargers, cultivation areas or associated facilities shall not be located within 200 feet of surface waters. While 200 foot buffers are preferred for Tier 2 sites, at a minimum, cultivation areas and associated facilities shall not be located or occur within*

100 feet of any Class 1 or 2 watercourse or within 50 feet of any Class 3 water course or wetlands.

Meets condition? No

Observations/Comments: A portion of CA #1 is within the 50-foot riparian buffer zone of a Class III watercourse. Based on field observations at the time of the Project Site inspection, the watercourse that flows near CA #1 and CA #2 transitions from a Class III watercourse to a Class II watercourse somewhere between the headcut (MP #7) and the Point of Diversion (POD). The majority of CA #3 is within the 50-foot riparian buffer zone of both a Class III watercourse and a springy area that is a potential wetland. There are also two 1,000 gallon water tanks within the 100-foot riparian buffer zone of a Class II watercourse immediately downslope of the POD for the Project Site.

Photos: MP #8: Photo 8. MP #9: Photo 9a and 9b. MP #10: Photo 10a and 10b.

Corrective or remedial actions needed:

- 1) Under the Order you are required to relocate the areas within CA #1 that are within the 50-foot riparian buffer zone of the Class III watercourse.
- 2) Due to the majority of the cultivation area at CA #3 being within the 50-foot riparian/wetland buffer zone, PWA recommends relocating the entire cultivation area to a more suitable location where the threat to water resources does not exist. A small portion of this cultivation area is located outside of the 50-foot riparian buffer zone and could be left in place if necessary.
- 3) PWA also recommends removing the fill material used to construct the graded pad at CA #3 and re-contouring the disturbed area to match the native slope. All removed fill material should be stored in a location far from surface waters and properly contained to eliminate the potential to threaten water quality.
- 4) Relocate the two 1,000 gallon water tanks downslope of the POD to stable locations outside of the 50-foot riparian buffer zone.
- 5) Implement appropriate BMPs to the areas at CA #1, CA #3, and the two 1,000 gallon water tanks to minimize surface erosion and sediment transport, to revegetate and restore the disturbed riparian areas, and to mitigate any potential impacts to the riparian area.
- 6) At the locations mentioned above, where relocation has been recommended, all cultivation structures (hoop houses, raised beds, water tanks, etc.), spent potting soils, and soil amendments shall be removed to outside the 50-foot riparian buffer. The disturbed areas shall then be seeded with grass, mulched with straw and planted with native riparian species (e.g., willow, cottonwood, etc.).

b) Buffers shall be maintained at natural slope with native vegetation.

Meets condition? No

Observations/Comments: The placement of cultivation infrastructure has impacted the native vegetation and the two hoop houses at CA #3 have been placed on a graded pad. Also see Standard Condition 4.3a observations and comments, above.

Photos: See Standard Condition 4.3a Monitoring Points and photos, above.

Corrective or remedial actions needed: After relocation of the cultivation areas and associated infrastructure mentioned in 4.3a, above, PWA recommends removing fill material used to build the graded pad at CA #3, re-contouring the disturbed area at CA

#3 to match the native slope and revegetating any disturbed areas with native plants.
Also see Standard Condition 4.3a corrective actions, above.

- 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.*

Meets condition? No

Observations/Comments: See Standard Condition 4.3a observations and comments, above.

Photos: See Standard Condition 4.3a Monitoring Points and photos, above.

Corrective or remedial actions needed: See Standard Condition 4.3a corrective actions, above.

- 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.*

Meets condition? No

Observations/Comments: See Standard Condition 4.3a observations and comments, above.

Photos: See Standard Condition 4.3a Monitoring Points and photos, above.

Corrective or remedial actions needed: See Standard Condition 4.3a corrective actions, above.

4.4 Standard Condition #4. Spoils Management

- a) *Spoils shall not be stored or placed in or where they can enter any surface water.*

Meets condition? Yes

Observations/Comments: Spoil materials from construction activities are not in locations where they will impact water quality. Although stored potting soil exists at multiple locations on the Project Site, it is amended, reused and not considered waste material. Potting soil on the Project Site was not observed to have the potential for transport to surface waters. Stored potting soil will be addressed in Standard Condition 4.7, below. Cultivation-related wastes are addressed in Standard Condition 4.10, below.

Photos: No

Corrective or remedial actions needed: None

- b) *Spoils shall be adequately contained or stabilized to prevent sediment delivery to surface waters.*

Meets condition? Yes

Observations/Comments: See Standard Condition 4.4a comment, above.

Photos: No

Corrective or remedial actions needed: None

- 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.*

Meets condition? Yes

Observations/Comments: No spoils generated through development or maintenance of roads with the potential for delivery to surface waters were observed on the Project Site.

Photos: No

Corrective or remedial actions needed: None

4.5 Standard Condition #5. Water Storage and Use

- a) *Size and scope of an operation shall be such that the amount of water used shall not adversely impact water quality and/or beneficial uses, including and in consideration with other water use operations, instream flow requirements and/or needs in the watershed, defined at the scale of a HUC 12 watershed or at a smaller hydrologic watershed as determined necessary by the Regional Water Board Executive Officer.*

Meets condition? No

Observations/Comments: The client diverts surface water for irrigation from a stream diversion (POD, Figure 2). Based on the 9,513 ft² cultivation area and the amount of water storage currently available (46,325 gallons) in water tanks and a water bladder, it appears that available storage is insufficient for the landowner to forbear during the summer dry season, and that operations may therefore have the potential to adversely impact water quality and/or beneficial uses. However due to a lack of water use data it is not definitively known if the operation impacts water quality. Based on the existing cultivation area of 9,513 ft² and water use estimates provided by the client, we estimate approximately 86,935 gallons of additional water storage will be needed to observe the 150 day forbearance period (see Section 4.5 – General Observations and Recommendations). A final Water Budget needs to be developed and refined by actual water monitoring to determine if additional storage is needed.

Photos: No

Corrective or remedial actions needed: A Water Budget should be developed to determine water use for irrigation and if sufficient water storage volumes are currently available on the Project Site to permit forbearance during the dry season from May 15 through October 31. A Water Monitoring Plan will also need to be implemented (see comments below). Under the Order, you are required to measure, document and report the water you divert (and pump), store and use throughout the year. PWA has created a simple log sheet to help you monitor this water data for your Project Site (Appendix D). This water monitoring data is required to be reported to the Water Board by or before March 31 for the preceding calendar year. PWA highly recommends, and state agencies may require, that you install flow meters on your water tanks to accurately document your water diversion and use volumes over time.

- 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.*

Meets condition? No

Observations/Comments: One of the 1,000 gallon water tanks located downstream of the POD was observed to be overflowing at the time of the site inspection (Photo 10a). Although most of the overflowing water re-entered the original stream channel a portion of the water flowed away from the original channel and caused minor surface erosion. Controlled hand watering, drip irrigation and water retaining soil amendments are reportedly used on the Project Site for water conservation.

Photos: MP #10: Photo 10a.

Corrective or remedial actions needed: PWA recommends properly sealing the overflowing 1,000 gallon water tank downstream of the POD and installing water shut off float valves on this and any other tank or water vessel with the potential for overflow. Additional water conservation measures should continue to be investigated and employed to minimize surface water diversion and use. These include timed or volume-limited drip irrigation systems, irrigation scheduling (watering in the early morning and/or early evening), incorporating native soil during the initial soil preparation at the start of the season, surface mulching or planting in beds to minimize evaporation, and planting plants in the ground instead of in above-ground pots. Rainwater harvesting during the wet season should be evaluated and employed to limit or completely eliminate surface water diversion during the dry season.

- c) *For Tier 2 Dischargers, if possible, develop off-stream storage facilities to minimize surface water diversion during low flow periods.*

Meets condition? Yes

Observations/Comments: Water used for irrigation is diverted from a Class II watercourse and there is 46,325 gallons of water storage currently on the Project Site. The need for additional water storage will be determined after the Water Budget has been developed and refined. Based on the existing cultivation area of 9,513 ft² and water use estimates provided by the client, we estimate 89,935 gallons of stored irrigation water would be needed to observe the 150 day forbearance period. Using these estimates, the current amount of water storage (46,325 gallons) is not adequate for the current size of the operation.

Photos: No

Corrective or remedial actions needed: Develop and refine the Project Site's Water Budget to determine if additional off-stream storage is needed on the Project Site to eliminate surface water diversion during the dry season. If necessary to forbear during the summer, you should add more rainwater-fed water storage, including an off-stream pond and/or rainwater-fed water tanks. PWA recommends phasing out the use of water bladders, as they are vulnerable to failure. If large water bladders are to be used, PWA recommends they be surrounded by engineered containment berms capable of containing the stored water in the event of a bladder failure.

- d) *Water is applied using no more than agronomic rates.*

Meets condition? Unknown

Observations/Comments: According to the cultivator, water is applied sparingly due to water scarcity, though application was not observed due to the early inspection date.

Photos: No

Corrective or remedial actions needed: To verify conformance with this Standard Condition, start measuring and recording your water usage using flow meters on a per plant basis, based on type and size of plant pot, full term versus short season (light deprivation) plant, and type of irrigation. Observe and monitor soil moisture so watering, fertilizer and chemical applications are made only when necessary and overwatering and excess infiltration is avoided. This data will help you refine a Water Budget for your operation and determine agronomic rates of watering.

- 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.*

Meets condition? No

Observations/Comments: The water used for irrigation on the Project Site is diverted from a Class II watercourse (POD, Figure 2). An Initial Statement of Diversion and Use (ISDU) application is required to be submitted to the State Water Board for this surface water diversion.

Photos: No

Corrective or remedial actions needed: Water diversion and water storage requires valid water rights documentation. As opposed to employing one or more surface water diversions and securing various water rights, consider obtaining irrigation water for your agricultural needs by developing rainwater capture systems to fill rigid water tanks and/or one or more off-stream, rainwater-fed ponds, or drilling a well.

If you plan to continue flow diversions for your agricultural water needs, you will need to file, obtain, and maintain water rights for your parcel, or provide other documentation of your legal water rights. File an Initial Statement of Diversion and Use (see below) for the stream diversion to cover your irrigation use requirements.

Appropriate water rights applications to be filed with the State Water Resources Control Board (SWRCB) include:

- Initial Statement of Diversion and Use (ISDU)

http://www.waterboards.ca.gov/waterrights/water_issues/programs/diversion_use/docs/intl_stmtnt_form.pdf

The SWRCB, is developing a Small Irrigation Use (SIU) water right for this region in the near future (supposedly this summer) but until they do, a full appropriation appears to be the only option for diverting water for commercial agricultural production.

- 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.*

Meets condition? No

Observations/Comments: The 25,000 gallon water bladder located near CA #1, while located on a flat and stable surface, was not equipped with an adequate secondary containment berm to prevent discharge into waters of the state in the event of rupture or failure. The water storage tanks located on this Project Site are sited on stable slopes

far from any streams, making it unlikely that failure of the water storage tanks could result in delivery of runoff and eroded sediment to the stream network.

Photos: MP #11: Photo 11.

Corrective or remedial actions needed: If the water bladder continues to be used, you should construct an engineered containment berm around its perimeter to prevent discharge into waters-of-the-state in the event of a bladder leaks, rupture or complete failure. PWA recommends having the secondary containment berm designed by a certified engineer to ensure stability. If engineered berm construction is to occur, obtain all necessary permits prior to commencement of construction activities. PWA recommends transitioning away from the use of water bladders and into more stable and secure water storage features, such as additional rigid plastic tanks and/or off-stream ponds.

Standard Condition #5 - General comments and recommendations: Currently, the only source of water for irrigation use is diverted from a Class II watercourse (POD, Figure 2). There is 46,325 gallons of water storage capacity in hard plastic tanks and a large water bladder. At this time it appears that the water storage capacity contained within this Project Site may not fully satisfy the demand that would be expected from the cultivation area (~9,513 ft²) to fully eliminate surface water diversion during the dry season (May 15th through October 31st). A Water Budget will be developed and refined by water monitoring to verify whether existing water storage is adequate for the operation.

Based on cannabis irrigation and water use estimates from the Humboldt County Planning and Building Department, adequate storage does not currently exist on the Project Site to forbear during the summer dry period. These estimates suggest that 27 gallons of water is needed for every square foot of cultivation area over the duration of the growing season. Based on the existing cultivation area of 9,513 ft², 256,851 gallons of storage would be needed to observe the 150 day forbearance period. Using water use estimates provided by the client, an estimated 89,935 gallons of stored irrigation water would be needed to observe the 150 day forbearance period. Using these estimates, the current amount of water storage (46,325 gallons) is not adequate for the current size of the operation. If water storage is not sufficient for current operations and needs, then additional storage will need to be added so the landowner can eliminate surface water diversion during the dry season. In this way, as per the Order, it can then be assumed that water use will not impact downstream water quality or beneficial uses.

Fish and Wildlife impacts: If you are directly diverting water from a jurisdictional spring or stream, pumping water from a well, or capturing surface water in a pond, you will need to obtain a consultation with California Department of Fish and Wildlife (CDFW) staff to determine if you are required to file a CDFW Lake and Streambed Alteration Agreement (LSAA). The agreement will be needed to cover your stream diversion, as well as the pond decommissioning and all the stream crossing upgrade treatments.

• Lake and Streambed Alteration Agreement (LSAA).
<https://www.wildlife.ca.gov/Conservation/LSA>

PWA highly recommends, and state agencies may require, that you install flow meters on your surface water diversion infrastructure, water tanks and bladder, and/or on your distribution lines, to accurately document the timing and volume of your surface water diversion and use. You will need to document the amount of water that is diverted from the Class II watercourse, stored in tanks and the water bladder, and used for irrigation through time. PWA has created a simple log sheet to help you monitor your water usage (see Appendix D).

4.6 Standard Condition #6. Irrigation Runoff

- a) *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.*

Meets condition? Yes

Observations/Comments: No evidence of irrigation runoff exhibiting active delivery to nearby watercourses was observed on the Project Site. Due to the early inspection date, irrigation for the cultivation season had not begun. Because irrigation is limited to precise hand watering and a drip irrigation system, there is a high degree of control. According to the landowner, irrigation is done at agronomic rates and although CA #1 and CA #3 are within the riparian buffer of Class III watercourses, runoff from irrigation does not appear to have occurred on the Project Site.

Photos: No

Corrective or remedial actions needed: None

Standard Condition #6 - General comments and recommendations: According to the Order, irrigation and fertilization shall occur at agronomic rates and chemicals shall be applied according to the label instructions and specifications. Agronomic rates are those rates of application of water, fertilizers and other amendments that are sufficient for utilization by the crop being grown, but not at a rate that would result in surface runoff or infiltration below the root zone of the crop being grown.

In the event that irrigation runoff occurs or could occur, you shall ensure that contaminated runoff does not enter nearby watercourses. This can be accomplished by constructing or designing containment measures, including sediment basins, berms, infiltration ditches and/or other Best Management Practices (BMPs), as needed, to contain and control surface runoff (see Appendix A).

4.7 Standard Condition #7. Fertilizers and Soil Amendments

- a) *Fertilizers, potting soils, compost, and other soils and soil amendments shall be stored in locations and in a manner in which they cannot enter or be transported into surface waters and such that nutrients or other pollutants cannot be leached into groundwater.*

Meets condition? No

Observations/Comments: Potting soil is stored at all three cultivation areas on the Project Site with the potential for leaching into groundwater if left uncovered over the wet season. The potential for transport to surface waters exists at CA #3, although active delivery was not observed. The majority of fertilizers and amendments are stored inside storage sheds or tarped during the wet season.

Photos: MP #9: Photo 9a and 9b. MP #12: Photo 12.

Corrective or remedial actions needed: Bulk or bagged potting soils, soil amendments and fertilizers shall be stored within a water tight building or covered area not exposed to the elements or, if stored outdoors, fully tarped and off the ground in a stable location with no chance of runoff to surface waters or nutrient leaching or delivery to groundwater. Liquid fertilizers, amendments and other chemicals should be stored under cover, off the ground and with adequate secondary containment where applicable.

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

Meets condition? Unknown

Observations/Comments: Based on verbal communication with the cultivator, the recommended application rates are reportedly being followed.

Photos: No

Corrective or remedial actions needed: To confirm compliance with this Standard Condition, you should keep detailed records of the type, timing and volume of fertilizers and/or other soil amendments you use in your operations. They can be recorded on log sheets such as those provided in Appendix E or by using another accurate record keeping method. Observe and monitor soil moisture so watering, fertilizer and chemical applications are made only when necessary and overwatering and excess infiltration is avoided.

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

Meets condition? No

Observations/Comments: See Standard Condition 4.7a observations and comments, above.

Photos: See Standard Condition 4.7a Monitoring Points and photos, above.

Corrective or remedial actions needed: Cultivation areas within stream buffers should be moved out of the buffer area and the disturbed area restored. This includes spent soils in pots and grow holes, piles of new or spent soils and amendments, and other cultivation materials and debris. All disturbed buffer areas should be restored by seeding and mulching for erosion control and planting with native riparian species.

To prevent nutrient mobilization in active cultivation areas, you should: 1) move or keep new and spent potting soils and amendments inside or under a roof or 2) fully tarp any soils or amendments that are kept outside over the wet season to prevent mobilization or leaching of nutrients. You should also remove, tarp or plant cover crops in spent pots and potting soil piles to enrich soil and lock up nutrients over the wet season (see Section 4.10, below). If dense cover crops cannot be kept alive, all planted areas, pots and holes containing spent soils should be tarped to protect them from rainfall, snowmelt and subsequent infiltration and leaching of nutrients. Also see Standard Condition 4.7a corrective actions, above, and Standard Condition 4.10, below.

Standard Condition #7 - General comments and recommendations: Potting soil at all three cultivation areas was observed to have potential for leaching of nutrients if not covered over the wet season. Most of the fertilizers and soil amendments on the Project Site were observed to be either stored indoors or covered when stored outdoors. Fertilizers and amendments were reportedly applied according to packaging instructions, and usage is diminished or eliminated toward the end of the growing season.

Under the Order, you are required to keep track of the timing and volume of fertilizers and other soil amendments that are applied. This can be done using a simple log form we have provided in Appendix E.

Plant cover crops in spent pots and holes to enrich soil and lock up nutrients. If you plan to burn the plant stalks, you'll first need to obtain burn permits from CAL FIRE and the North Coast Unified Air Quality Management District (or relevant jurisdiction for your area). You can then incorporate the ash into the pots or planting holes prior to planting the cover crop to add minerals and recycle the ash.

Do not store fertilizers and/or soil amendments with petroleum products. See guidelines for hazardous material storage in Appendix G.

4.8 Standard Condition #8. Pesticides/Herbicides

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

Meets condition? Unknown

Observations/Comments: Pesticides and/or herbicides were not observed on the Project Site at the time of our inspection.

Photos: No

Corrective or remedial actions needed: All pesticides, herbicides and related materials (e.g., fungicides) must be used and applied consistent with product labeling. When present, these chemicals should be stored within enclosed buildings in such a way they cannot enter or be released into surface or ground waters. To verify conformance with this Standard Condition, you are required to keep track of the type, timing and volume of pesticides, herbicides and related chemicals that are applied your operations. This can be done using a simple log form, such as the one included in Appendix F.

Additionally, for any pesticide use you must comply with any Pesticide Registration Requirements. See Appendix E2 included in the NCRWQCB Order, or on their web site at:

http://www.waterboards.ca.gov/northcoast/board_decisions/adopted_orders/pdf/2015/150728_Appendix_E2_DPR_MJ%20Pesticide%20Handout.pdf

Standard Condition #8 - General comments and recommendations: For the health of the environment and your workers, you are encouraged to utilize organic or biologic controls, rather than highly toxic petro-chemicals, to prevent pest and mildew problems. Several safe alternatives are available.

All pesticides, herbicides and related materials (e.g., fungicides) must be used and applied consistent with product labeling. When present, these chemicals should be stored within enclosed buildings in such a way they cannot enter or be released into surface or ground waters.

Do not store pesticides/herbicides with petroleum products. See guidelines for hazardous material storage in Appendix G.

4.9 Standard Condition #9. Petroleum Products and other Chemicals

- a) *Petroleum products and other liquid chemicals, including but not limited to diesel, biodiesel, gasoline, and oils shall be stored so as to prevent their spillage, discharge, or seepage into receiving waters. Storage tanks and containers must be of suitable material and construction to be compatible with the substance(s) stored and conditions of storage such as pressure and temperature.*

Meets condition? Yes

Observations/Comments: Note that when petroleum products are onsite (small fuel cans, generators, diesel tanks, gasoline powered garden equipment and any other items containing petroleum products) they will need to be stored under cover, off the ground and in a secondary containment basin (tote, tub, impermeable basin/floor, etc.) capable of containing the entire stored volume.

Photos: No

Corrective or remedial actions needed: Continue to store small fuel cans, water pumps and generators in adequate secondary containment basins and in a safe and secure location out of the elements where possible.

- 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.*

Meets condition? Yes

Observations/Comments: See Standard Condition 4.9a, above.

Photos: No

Corrective or remedial actions needed: None

- c) *Dischargers shall ensure that diked areas are sufficiently impervious to contain discharged chemicals.*

Meets condition? Not applicable

Observations/Comments: No diked areas were observed on the Project Site.

Photos: No

Corrective or remedial actions needed: None

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

Meets condition? No

Observations/Comments: No spill prevention cleanup kits are kept onsite to help clean up small spills.

Photos: No

Corrective or remedial actions needed: Obtain one or more spill prevention cleanup kits and keep readily available to clean up small spills. Spill kits should be located where fuel is stored and refueling occurs.

- 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.*

Meets condition? Not applicable

Observations/Comments: No underground storage tanks were observed on the Project Site.

Photos: No

Corrective or remedial actions needed: None

Standard Condition #9 - General comments and recommendations: Continue to store all fuel cans, water pumps and generators in adequate secondary containment basins. Note that when any other petroleum products are onsite they will need to be stored under cover, off the ground and in a secondary containment basin (tote, tub, etc.).

The State of California requires an owner or operator of a facility to complete and submit a Hazardous Material Business Plan (HMBP) if the facility handles a hazardous material or mixture containing a hazardous material that has a quantity at any one time during the reporting year equal to or greater than: 55 gallons (liquids), 500 pounds (solids), or 200

cubic feet for compressed gas (propane) used for the cultivation operations. If at any time during the year your operations exceed any one of these quantities, you need to prepare and file a HMBP for your operation. Information regarding HMBPs can be found at <http://ca-humboldtcounty.civicplus.com/DocumentCenter/Home/View/3224>.

Additionally, while it is not explicitly stated in the Order, please note that the Humboldt County Division of Environmental Health (HCDEH) also requires that anyone that has over 55 gallons or more of any petroleum liquid at any time of the year, including fuels and waste oil, develop a HMBP.

Do not store petroleum products and/or chemicals with fertilizers, soil amendments and/or pesticides/herbicides. See guidelines for hazardous material storage in Appendix G.

4.10 Standard Condition #10. Cultivation-Related Wastes

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

Meets condition? No

Observations/Comments: A pile of cultivation-related waste was observed to be improperly stored near Storage Shed #2. Plant waste from cultivation activities is composted or burned on the Project Site.

Photos: MP #13: Photo 13.

Corrective or remedial actions needed: Spent soils and amendments in CA #1, #2 and #3, and at any other locations on the Project Site, should be 1) removed and stored indoors or under cover, 2) tarped or 3) have dense cover crops planted to prevent nutrient mobilization over the wet season. Install straw wattles or implement other appropriate BMPs where necessary and when close to stream buffers to contain any mobilized nutrients at the locations listed above.

Collect and properly dispose of the pile of cultivation-related waste near Storage Shed #2. Cover the cultivation-related waste pile to prevent potential mobilization or leaching until it can be removed. Properly store all future cultivation-related waste material located on the Project Site and recycle or dispose of appropriately by either burning, shredding, composting or taking material to an appropriate waste disposal facility.

Standard Condition #10 - General comments and recommendations: We encourage you to chip or shred your plant stalks and compost them after harvest. If you burn the stalks, you must first obtain burn permits from CAL FIRE and the North Coast Unified Air Quality Management District (or other relevant jurisdiction for your area). You can then recycle the ash and add minerals to the soil by mixing the ash into your spent pots and plant holes prior to planting a cover crop at the end of the season. Any additional

cultivation-related waste can be easily contained by keeping soils and garbage greater than 200 feet from drainage areas and on gentle slopes, tarping or otherwise covering soil piles, and/or by placing straw wattles or other containment structures around the perimeter of spoil piles. Organic cultivation-related waste should be recycled if possible, and inorganic wastes and garbage should be removed from the property on a regular basis and disposed of at an appropriate facility.

4.11 Standard Condition #11. Refuse and Human Waste

- a) *Disposal of domestic sewage shall meet applicable County health standards, local agency management plans and ordinances, and/or the Regional Water Board's Onsite Wastewater Treatment System (OWTS) policy, and shall not represent a threat to surface water or groundwater.*

Meets condition? Yes

Observations/Comments: There is a permitted Onsite Wastewater Treatment System (OWTS) on the Project Site (Figure 2). The 1-person cabin at the north end of the Project Site is not in use and does not require an OWTS at this time. If this cabin is reoccupied as a residence in the future, the cabin should be equipped with a serviced portable toilet or a new OWTS should be permitted and installed.

Photos: No

Corrective or remedial actions needed: PWA recommends obtaining documentation for the permitted OWTS and keeping that documentation with this WRPP for possible inspection.

- 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.*

Meets condition? Yes

Observations/Comments: Garbage and refuse was observed to be stored properly and securely at the time of the Project Site inspection.

Photos: No

Corrective or remedial actions needed: Continue to store all garbage and refuse in lidded cans at a safe and secure location where the threat to waters of the state is eliminated.

- c) *Garbage and refuse shall be disposed of at an appropriate waste disposal location.*

Meets condition? Yes

Observations/Comments: According to the client the garbage and refuse generated onsite is disposed of at an appropriate waste disposal location.

Photos: No

Corrective or remedial actions needed: PWA recommends that the client continue to dispose of existing garbage and refuse in a timely manner and at an approved waste disposal facility.

4.12 Standard Condition #12. Remediation/Cleanup/Restoration

- a) *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 A accompanying the NCRWQCB Order, (and Appendix A in your WRPP), 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.

These protection and mitigation measures have been developed to prevent or reduce the environmental impacts and represent minimum, enforceable standards by which cleanup activities shall be conducted under this Order.

Meets condition? Yes

Observations/Comments: See general comments below.

Photos: No

Corrective or remedial actions needed: None

Standard Condition #12 - General comments and recommendations: It is PWA's opinion that the Project Site is currently compliant with this condition. All needed corrective actions are addressed in Standard Conditions 1 through 11.

5.0 PRIORITIZED CORRECTIVE ACTIONS AND SCHEDULE TO REACH FULL COMPLIANCE

The following check list should be followed to become fully compliant with the Order. Please see the detailed comments and recommendations above for a more complete description of the problems and the needed corrective actions and monitoring requirements.

Table 1. Features Needing Improvement or Action Items (Prioritized implementation schedule for corrective actions)						
Standard Condition Requiring Action	Treatment Priority	Schedule	Summary of Corrective Actions/Recommendations (see more detailed listing of corrective actions in Section 4, above)	Monitoring Point and Photo #	Estimated Cost	Date Completed
1 – Site Maintenance, Erosion Control and Drainage Features	1a, b, d, e	Moderate-High	October 15, 2019	<ul style="list-style-type: none"> - Rolling dips should be installed on Project Site roads at locations shown on Figure 2. - Waterbars should be installed at approximately 50 foot spacing on the lower portion of Access Road #3 (see Figure 2). - Vehicle use of the lower portion of Access Road #3 should be restricted to the dry season. - Elsewhere, rolling dips should be installed at any location along the road system where concentrated road runoff has caused road ruts, rills or gullying. - Remove or breach outside road berms where they prevent drainage off the road surface. - Typical drawings included in Appendix H will provide guidance for proper road drainage feature construction. 	MP #1, Photo 1a, 1b, 1c MP #2, Photo 2 MP #3, Photo 3a, 3b, 3c	
	1c	Moderate-High	Monthly Oct 15 – March 15 2017 and continuing	<ul style="list-style-type: none"> - PWA recommends that the landslide north of the cabin be inspected and monitored periodically to determine if slope movement is occurring. If movement occurs, contact a qualified geologist to determine if mitigation measures are necessary to protect water quality. Follow the monitoring schedule from the NCRWQCB in Appendix B. 	MP #14, Photo 14	
2 – Stream Crossing Maintenance	2a, b, c, e	High	October 15, 2019	<ul style="list-style-type: none"> - Upgrade SC#3 with a 48" culvert. - Upgrade SC#4 and #5 with 42" culverts. Employ stream crossing construction standards required by the Order. - Due to the minimal amount and depth of road fill at SC #4 other alternatives to a round culvert, such as an arched or oval culvert, may be needed. - An appropriately sized armored fill crossing should be installed at SC #1 where a small headcut has developed in the outboard fillslope. - A large headcut has developed downstream of SC #1. PWA recommends laying back the headcut and installing rock armor to 	MP #1, Photo 1c, 1d MP #3, Photo 3d, 3e MP #4, Photo 4a MP #5, Photo 5 MP #6, Photo 6a, 6b MP #7, Photo 7a, 7b	

Table 1. Features Needing Improvement or Action Items (Prioritized implementation schedule for corrective actions)						
Standard Condition Requiring Action	Treatment Priority	Schedule	Summary of Corrective Actions/Recommendations (see more detailed listing of corrective actions in Section 4, above)	Monitoring Point and Photo #	Estimated Cost	Date Completed
			prevent the headcut from migrating upstream and potentially undermining SC #1. - The fill crossing at SC #2 acts as the spillway for the instream pond. This pond is not used and should be decommissioned.			
	2b	High	October 15, 2019	- Due to the amount of woody debris and riparian vegetation observed upslope of the culverted crossings, trash racks should be installed upstream of the culvert inlets to minimize plug potential. - Typical drawings included in Appendix H provide guidance for proper trash rack installation.	MP #1, Photo 1c, 1d MP #3, Photo 3d, 3e MP #4, Photo 4a MP #5, Photo 5 MP #6, Photo 6a, 6b MP #7, Photo 7a, 7b	
	2c	Moderate-High	October 15, 2019	Upgrade the crossing at SC #3 with an appropriately sized culvert installed at the natural channel grade with the outlet at the base of the fillslope to provide for aquatic organism passage.	MP #3, Photo 3e	
	2d	High	October 15, 2017 and continuing	Monitor and perform adequate maintenance on all stream crossings before and after upgrading or decommissioning activities to prevent or minimize erosion following appropriate BMPs listed in Appendix A. Regularly inspect and clean culvert inlets of woody debris after storm events to prevent culvert plugging.	MP #1, Photo 1c, 1d MP #3, Photo 3e MP #4, Photo 4a MP #5, No photo MP #6, Photo 6b	
	2e	Moderate-High	October 15, 2019	Upgrade the culverted stream crossings with appropriately sized culverts installed at the natural channel grade and horizontally aligned with the natural stream channel.	MP #3, Photo 3e MP #5, No photo MP #6, Photo 6b	
	2f	High	October 15, 2019	- Install a critical dip on the left hinge line of SC #3 to prevent diversion potential. - Due to the close proximity of a road intersection on the left side of this stream crossing, there may not be enough space for installation of a critical dip. Alternatives to a critical dip may include increasing the culvert size or dipping the entire crossing (if feasible).	MP #3, Photo 3a	
	2	High	Prior to any stream crossing work	Obtain all necessary agreements and permits prior to commencing work in any watercourse or at any stream crossing. These may include, but not be limited to: California Department of Fish and Wildlife (CDFW) Lake and Streambed Alteration Agreement (LSAA) 1602, NCRWQCB Section 401 water quality certification, and Army Corps of Engineers (ACOE) 404 Permit.	--	

Table 1. Features Needing Improvement or Action Items (Prioritized implementation schedule for corrective actions)							
Standard Condition Requiring Action		Treatment Priority	Schedule	Summary of Corrective Actions/Recommendations (see more detailed listing of corrective actions in Section 4, above)	Monitoring Point and Photo #	Estimated Cost	Date Completed
3 – Riparian and Wetland Protection and Management	3a, b, c, d	High	October 31, 2018	<ul style="list-style-type: none">- Under the Order you are required to relocate the areas within CA #1 that are within the 50-foot riparian buffer zone of the Class III watercourse.- Due to the majority of the cultivation area at CA #3 being within the 50-foot riparian/wetland buffer zone, PWA recommends relocating the entire cultivation area to a more suitable location where the threat to water resources does not exist. A small portion of this cultivation area is located outside of the 50-foot riparian buffer zone and could be left in place if necessary.- PWA also recommends removing the fill material used to construct the graded pad at CA #3 and re-contouring the disturbed area to match the native slope. All removed fill material should be stored in a location far from surface waters and properly contained to eliminate the potential to threaten water quality.- Relocate the two 1,000 gallon water tanks downslope of the POD to stable locations outside of the 50-foot riparian buffer zone.- Implement appropriate BMPs to the areas at CA #1, CA #3, and the two 1,000 gallon water tanks to minimize surface erosion and sediment transport, to revegetate and restore the disturbed riparian areas, and to mitigate any potential impacts to the riparian area.- At the locations mentioned above, where relocation has been recommended, all cultivation structures (hoop houses, raised beds, water tanks, etc.), spent potting soils, and soil amendments shall be removed to outside the 50-foot riparian buffer. The disturbed areas shall then be seeded with grass, mulched with straw and planted with native riparian species (e.g., willow, cottonwood, etc.).	MP #8, Photo 8 MP #9, Photo 9a, 9b MP #10, Photo 10a, 10b		
5 – Water Use	5a	Moderate	June 1, 2017	<ul style="list-style-type: none">- A Water Budget should be developed and refined to determine water use for irrigation and if sufficient water storage volumes are currently available on the Project Site during the dry season.	--		
	5a	Moderate	June 1, 2017 (or prior to irrigation activities) and continuing	<ul style="list-style-type: none">- A Water Monitoring Plan will also need to be implemented. Under the Order, you are required to measure, document and report the water you divert (and pump), store and use throughout the year. PWA has created a simple log sheet to help you monitor this water data for your Project Site (Appendix D).- Report this this water monitoring data to the NCRWQCB by or before March 31 for the preceding calendar year.	--	~300 each	

Table 1. Features Needing Improvement or Action Items (Prioritized implementation schedule for corrective actions)						
Standard Condition Requiring Action	Treatment Priority	Schedule	Summary of Corrective Actions/Recommendations (see more detailed listing of corrective actions in Section 4, above)	Monitoring Point and Photo #	Estimated Cost	Date Completed
			- Install water monitoring meters on your surface water diversion and water storage vessels to document water diversion, storage and use.			
	5b	Moderate	July 1, 2017	PWA recommends properly sealing the overflowing 1,000 gallon water tank downstream of the POD and installing water shut off float valves on this and any other tank or water storage vessel with the potential for overflow.	MP #10, Photo 10a	
	5b	Moderate	June 1, 2017 and then annually	Additional water conservation measures should continue to be investigated and employed to minimize surface water diversion and use. These include timed or volume-limited drip irrigation systems, irrigation scheduling (watering in the early morning and/or early evening), incorporating native soil during the initial soil preparation at the start of the season, surface mulching or planting in beds to minimize evaporation, and planting plants in the ground instead of in above-ground pots. Rainwater harvesting during the wet season should be evaluated and employed to limit or completely eliminate surface water diversion during the dry season.	--	
	5c	Moderate	October 15, 2018	If necessary to meet forbearance requirements during the summer, you should add more rainwater-fed water storage, including an off-stream pond and/or rainwater-fed water tanks.	--	
	5d	High-Moderate	June 1, 2017 (or prior to irrigation activities) and continuing	- To verify conformance with this Standard Condition, start measuring and recording your water usage using flow meters on a per plant basis, based on type and size of plant pot, full term versus short season (light deprivation) plant, and type of irrigation. - Observe and monitor soil moisture so watering, fertilizer and chemical applications are made only when necessary and overwatering and excess infiltration is avoided.	--	
	5e	Moderate-High	File ISDU by June 30, 2017 File SIU when available	- As opposed to employing one or more surface water diversions and securing various water rights, consider obtaining irrigation water for your agricultural needs by developing rainwater capture systems to fill rigid water tanks and/or one or more off-stream, rainwater-fed ponds, or drilling a well. - If you plan to continue flow diversions for your irrigation needs, you should file an Initial Statement of Diversion and Use (ISDU) with the State Water Resources Control Board, Division of Water Rights (SWRCB-DWR). - When it becomes available later in 2017, file for a Small Irrigation Use (SIU) water right with SWRCB-DWR.	--	

Table 1. Features Needing Improvement or Action Items (Prioritized implementation schedule for corrective actions)							
Standard Condition Requiring Action		Treatment Priority	Schedule	Summary of Corrective Actions/Recommendations (see more detailed listing of corrective actions in Section 4, above)	Monitoring Point and Photo #	Estimated Cost	Date Completed
	5f	High	October 15, 2017	<ul style="list-style-type: none"> - PWA recommends phasing out the use of water bladders, as they are vulnerable to failure and erosional impacts, and instead employing more stable and secure water storage features, such as additional rigid plastic tanks and/or off-stream ponds. - If large water bladders are to be used, you should construct engineered containment berms around the perimeter of the water bladder to prevent discharge into waters of the state in the event of a containment failure. PWA recommends having the secondary containment berm designed by a certified engineer to ensure stability. - If engineered berm construction is to occur, obtain any needed permits prior to commencement of construction activities. 	MP #11, Photo 11		
	5	High	October 15, 2017 or sooner	Notify CDFW and submit a Lake and Streambed Alteration Agreement (LSAA) for the surface water diversion, the pond decommissioning and the stream crossing upgrade treatments.	--		
7 - Fertilizer and Amendment Use	7a	Moderate-High	June 1, 2017 and continuing	<ul style="list-style-type: none"> - Bulk or bagged potting soils, soil amendments and fertilizers should be stored within a water tight building or covered area not exposed to the elements or, if stored outdoors, fully tarped and off the ground in a stable location with no chance of runoff to surface waters or nutrient leaching or delivery to groundwater. - Liquid fertilizers, amendments and other chemicals should be stored under cover, off the ground and with adequate secondary containment where applicable. 	MP #9, Photo 9a, 9b MP #12, Photo 12		
	7b	High	June 1, 2017 and continuing	<ul style="list-style-type: none"> - To confirm compliance with this Standard Condition, you should keep detailed records of the type, timing and volume of fertilizers and/or other soil amendments you use in your operations on log sheets such as those provided in Appendix E. - Observe and monitor soil moisture so watering, fertilizer and chemical applications are made only when necessary and overwatering and excess infiltration is avoided. 	--		

Table 1. Features Needing Improvement or Action Items (Prioritized implementation schedule for corrective actions)							
Standard Condition Requiring Action		Treatment Priority	Schedule	Summary of Corrective Actions/Recommendations (see more detailed listing of corrective actions in Section 4, above)	Monitoring Point and Photo #	Estimated Cost	Date Completed
	7c	Moderate-High	October 15, 2017 and then annually	<ul style="list-style-type: none"> - Cultivation areas within stream buffers should be moved out of the buffer area and the disturbed area restored. This includes spent soils in pots and grow holes, piles of new or spent soils and amendments, and other cultivation materials and debris. - All disturbed buffer areas should be restored by seeding and mulching for erosion control and planting with native riparian species. - To prevent nutrient mobilization in active cultivation areas, you should: 1) move or keep new and spent potting soils and amendments inside or under a roof <u>or</u> 2) fully tarp any soils or amendments that are kept outside over the wet season to prevent mobilization or leaching of nutrients. - You should also remove, tarp or plant cover crops in spent pots and potting soil piles to enrich soil and lock up nutrients over the wet season. - If dense cover crops cannot be kept alive, all planted areas, pots and holes containing spent soils should be tarped to protect them from rainfall, snowmelt and subsequent infiltration and leaching of nutrients. 	MP #9, Photo 9a, 9b MP #12, Photo 12		
8 – Pesticides and Herbicides	8	Moderate	June 1, 2017 and continuing	<ul style="list-style-type: none"> - All pesticides, herbicides and related materials (e.g., fungicides) must be used and applied consistent with product labeling. - When present, these chemicals should be stored within enclosed buildings in such a way they cannot enter or be released into surface or ground waters. - To verify conformance with this Standard Condition, you are required to keep track of the type, timing and volume of pesticides, herbicides and related chemicals that are applied your operations. This can be done using a simple log form, such as the one included in Appendix F. 	—		
9 – Petroleum Products and Other Chemicals	9	High	July 1, 2017	<ul style="list-style-type: none"> - Obtain one or more spill prevention cleanup kits and keep readily available to clean up small spills. Spill kits should be located where fuel is stored and refueling occurs. - If feasible, do not store petroleum products and/or chemicals with fertilizers, soil amendments and/or pesticides/herbicides. See guidelines for hazardous material storage in Appendix G. 	—	~\$75 each	

Annual Reporting – An Annual Report is to be submitted directly to the NCRWQCB or to PWA (through our 3rd Party Program). The information in the annual reporting form must be submitted by March 31st of each year. The reported information is to be reflective of current site conditions, and includes monitoring data and tasks accomplished to protect water quality. Among other things, the report includes such items as the reporting of monthly monitoring data collected during the year (e.g., chemical use, water diversions, water storage, water use, etc.), management measures (BMPs) applied during the year and their effectiveness, and tasks accomplished during the year towards meeting each of the 12 Standard Conditions identified as deficient in this WRPP.

7.0 WATER USE PLAN

Requirements - According to the Order, a Water Use Plan (WUP) shall record water source, relevant water right documentation, and amount used monthly. All water sources shall be recorded, including alternative sources such as rain catchment and groundwater, and/or hauled water. Other elements of the WUP will include:

- Developing a Water Budget for determining the timing and volume of actual water use on the site. Water related data will be summarized monthly for the preceding month.
- Designing and implementing water conservation measures to reduce water diversion and water use.
- Calculating water storage requirements needed to support cultivation activities during the dry season, and implementing those required storage measures.

The Water Use Plan must also describe water conservation measures and document your approach to ensure that the quantity and timing of water use is not impacting water quality objectives and beneficial uses (including cumulative impacts based on other operations using water in the same watershed). Water use will only be presumed to not adversely impact water quality under one of the following scenarios:

- No surface water diversions occur from May 15th to October 31st.
- Water diversions are made pursuant to a local plan that is protective of instream beneficial uses.
- Other options that may affect water quality: (e.g., percent of flow present in stream; minimum allowable riffle depth; streamflow gage at bottom of Class I watercourse; AB2121 equations; CDFW instream flow recommendations; promulgated flow objective in Basin Plan; etc.).

Site Water Use Plan -The record of activities, accomplishments and water monitoring results for the Water Use Plan for this site will be logged and recorded in data tables and site records (data forms) included in Appendix D of this WRPP. These will be tracked and kept up-to-date by the landowner or cultivator of the site.

Water Storage and Forbearance – The ultimate goal of the applicant is to accumulate enough water storage capacity to forebear (not divert surface waters) the entire period from May 15th to October 31st. This will ensure the timing of water use is not impacting water quality objectives and beneficial uses. As of the date of PWA's site inspection, there was 46,325 gallons of water storage, in rigid tanks and a water bladder, currently on the Project Site. This is roughly 40,610

gallons short of the volume needed for forbearance during the dry season. Based on the size of the cultivation area (9,513 ft²) and rough water use estimates provided by the client, it appears that adequate storage does not exist to avoid surface water diversion during the dry season from May 15th through October 31st. Water use estimates for cultivation provided from the Humboldt County Planning and Building Department also suggests that adequate storage does not currently exist on the Project Site. These estimates suggest that 27 gallons of water is needed for every square foot of cultivation and, based on the existing cultivation area of 9,513 ft², 256,851 gallons of storage would be needed to observe the 150 day forbearance period. A formal Water Budget will need to be developed and further refined by your continued water monitoring to verify the additional storage volume that will be needed for your operations to minimize or eliminate surface water diversion during this period.

Water Conservation - Water conservation measures currently practiced include the use of controlled hand watering, a drip irrigation system and water retaining soil amendments. We suggest growing many of the plants in-ground (as compared to above ground pots) and watering late in the afternoon or evening (irrigation scheduling) to minimize water loss through evaporation and maximize water up-take by the plants. Starting this year, new water conserving techniques and equipment will be utilized and tested to evaluate their effectiveness and efficiency. Test and deploy timed or volume limited drip emitters and incorporating native soil during the initial soil preparation at the start of the season. Water conservation can be dramatically improved by increasing rainwater harvesting to fill water storage facilities.

Water sources and use - The water used for irrigation activities comes from one surface water diversion (POD) identified in Figure 2. Rainwater harvesting should be evaluated and employed where possible to limit or eliminate surface water diversion during the dry season. Additional rainwater-fed rigid water tanks, and/or one or more rainwater-fed, off-stream pond(s), should be evaluated and considered as a possible source for summer irrigation water. This will ensure your operations will have minimal or no impact on downstream water quality and aquatic habitat, especially during the dry summer months.

It will be important for you to keep accurate records of your surface water diversion, storage and use so that it can be used to quantify water budget and improve water conservation on the Project Site. Use the log forms supplied to you by PWA (see Appendix D). The more frequently and accurately water use is recorded, the better you will understand the water uses and needs of your farm, the value of water conservation, and the volume of water storage that is needed for you to minimize or eliminate surface water diversion during the dry summer growing season. As more accurate data is gathered, refined targets can be made to ensure adequate storage exists to protect downstream water quality and beneficial uses during the driest time of the year.

Finally, water rights applications will be prepared and submitted to SWRCB-DWR for both domestic uses and agricultural operations. CDFW will be notified of the water diversion as well as the proposed pond decommissioning and stream crossing upgrades.

8.0 LIST OF CHEMICALS

The WRPP must contain a list of chemicals being stored onsite, in addition to quantities used and frequency of application. These include fertilizers/soil amendments, pesticides, herbicides,

fungicides, petroleum products and other chemicals used in, or associated with, your cultivation activities and related operations.

Because this is the first year of enrollment, information regarding chemical use and storage is deficient or anecdotal. Appendixes E and F contain monitoring forms that should be used to list the chemical inventory record over time, as supplies are added to the site and used during the growing season. The landowner or operator will use these forms to track the types, storage volumes, timing of application, and volume of use of these products throughout the year. The initial chemicals and amendment list that may be used and stored onsite include:

Fertilizers and amendments:

Age Old Grow
Age Old Bloom
Sea Pal
CalMag Botanical
Sparetime Soluble Seaweed
Sea Blast Bloom
Pure Bloom Pellets
Chicken Manure
Molasses Hi Brit

Pesticides, Herbicides, and Fungicides:

Neem
Trifecta
Microized Sulfur

Petroleum and Other Chemicals:

Gasoline
Propane

9.0 LANDOWNER/LESSEE CERTIFICATION/SIGNATURES

This Water Resource Protection Plan (WRPP) has been prepared by Pacific Watershed Associates, an approved Third Party Program acting on behalf of the North Coast Regional Water Quality Control Board (NCRWQCB).

“I have read and understand this WRPP, including Section 2.0 – Certifications, Conditions and Limitations. I agree to comply with the requirements of the California Regional Water Quality Control Board North Coast Region Order No. 2015-0023 (Waiver of Waste Discharge Requirements and General Water Quality Certification for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects in the North Coast Region), including the recommendations and actions listed in this WRPP.”

Name of Legally Responsible Person (LRP): _____

Title (owner, lessee, operator, etc.): Owner

Signature: _____ Date: _____

WRPP prepared by (if different from LRP): **Pacific Watershed Associates, Inc.**

WRPP prepared and finalized on (date): _____

Signature: _____ Date: _____

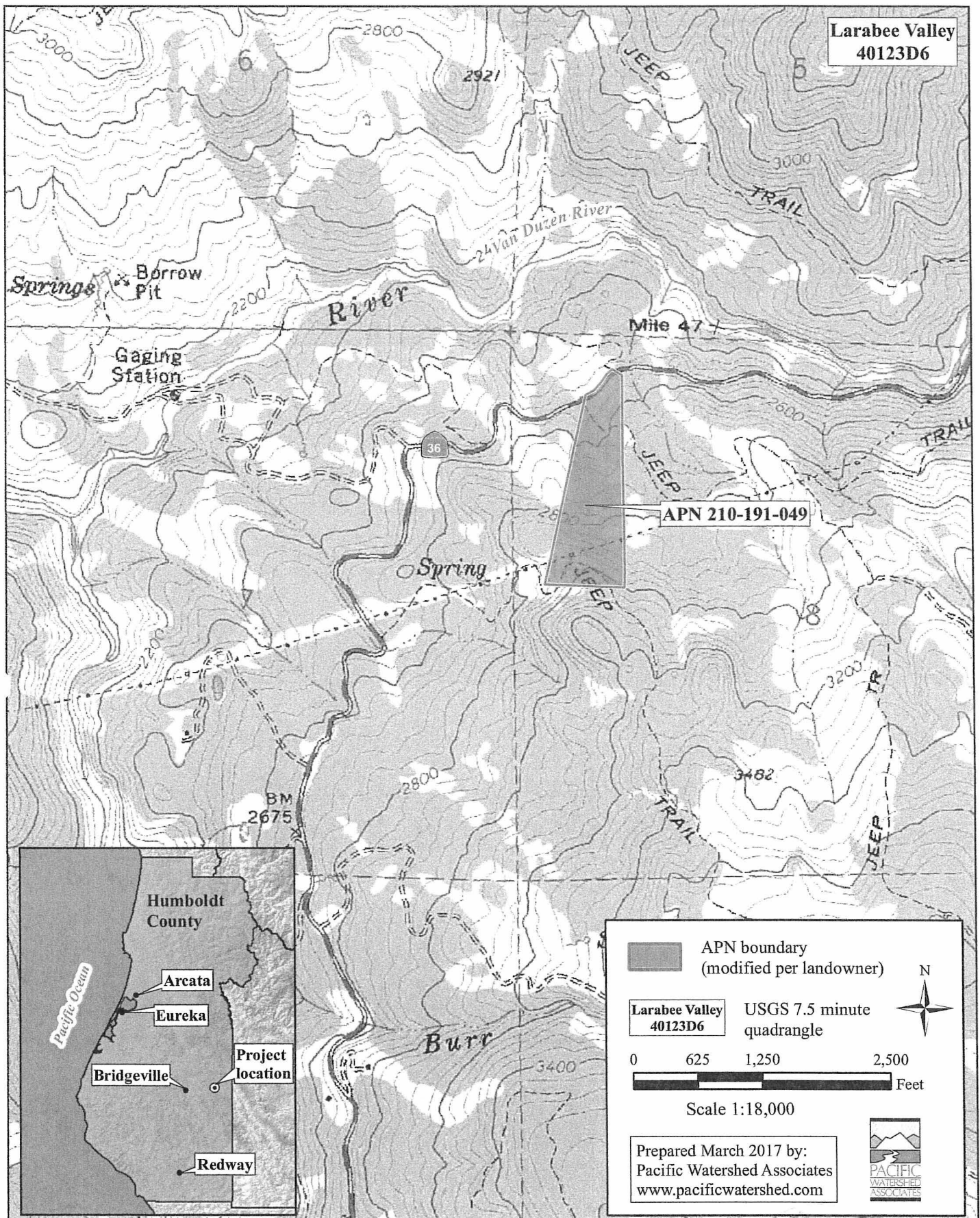
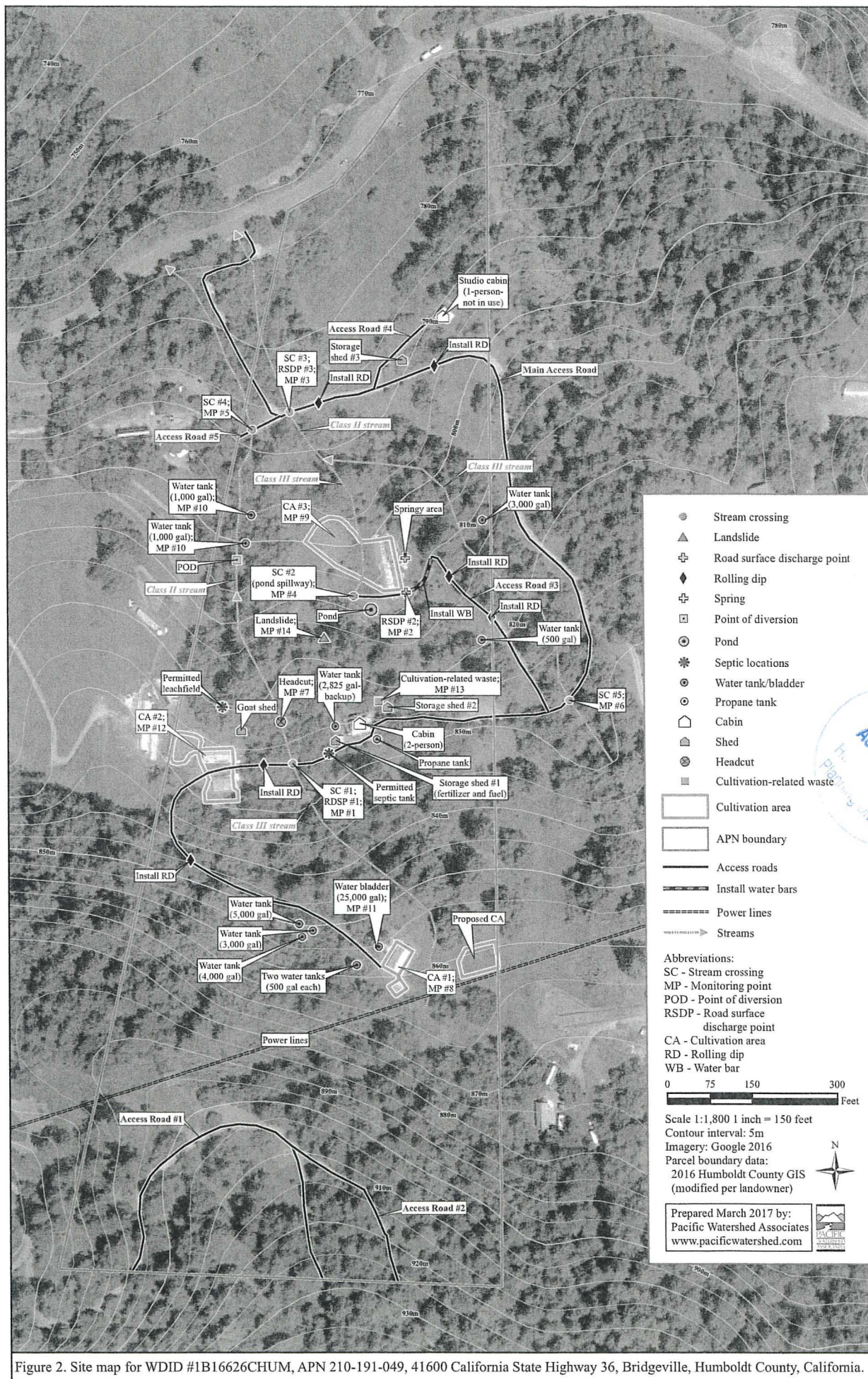


Figure 1. Location map for WDID #1B16626CHUM, APN 210-191-049, 41600 California State Highway 36, Bridgeville, Humboldt County, California.



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

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

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

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

I. Monitoring

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

A. Site Map:

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

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

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

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

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

B. Monitoring Inspections:

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

1. Before and after any significant alteration or upgrade to a given stream crossing, road segment, or other controllable sediment discharge site. Inspection should include photographic documentation, with photo records to be kept on site.
2. Prior to October 15 to evaluate site preparedness for storm events and stormwater runoff.
3. By December 15.
4. Following any rainfall event with an intensity of 3 inches precipitation in 24 hours
Precipitation data can be obtained from the National Weather Service by entering the site zip code at <http://www.srh.noaa.gov/forecast>.

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

II. Annual Reporting

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

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

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

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

The Regional Water Board is developing a method for submittal of reporting information directly to the CIWQS Program Web site at <http://www.waterboards.ca.gov/ciwqs/index.html>.

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

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

✂ _____ ✂ _____ ✂ _____

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

**Order No. R1-2015-0023
REPORTING FORM****A. Site WDID:** 1B16626CHUM**B. Subwatershed (HUC-12)²:** 180101050703**C. Enrollment date:** 4/25/2016**D. Reporting date:** 3/29/2017**E. Please check the box corresponding to the enrolled site's current tier (Tier 3 sites with cultivation must also check Tier 2).**☐ Tier 1 ☒ Tier 2 ☐ Tier 3**Has the site's tier status changed since the last reporting period?** Y ☐ / N ☒

If YES, briefly explain: _____

F. Check all fields that apply to the enrolled site:**i. Tier 1 sites:**

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

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

ii. Tier 2 sites:**a. A Water Resource Protection Plan has been developed and is being implemented?**Y ☐ / N ☒

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

WRPP is under reviewIf YES, have there been changes to the implementation schedule since the prior year of reporting? Y ☐ / N ☐

² 12-digit HUC-12 subwatershed codes are available online at
http://iaspub.epa.gov/apex/grts/f?p=110:95::NO::APP_SHOW_HIDE:

REPORTING FORM

Page 2/5

ii. Tier 2 sites continued:

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

Standard Condition MetIf NO, expected date of compliance

1. Site maintenance, erosion control, and drainage features Y <input type="checkbox"/> / N <input checked="" type="checkbox"/>	10/31/2020
2. Stream crossing maintenance Y <input type="checkbox"/> / N <input checked="" type="checkbox"/>	10/31/2020
3. Riparian and wetland protection and management Y <input type="checkbox"/> / N <input checked="" type="checkbox"/>	10/31/2017
4. Spoils management Y <input checked="" type="checkbox"/> / N <input type="checkbox"/>	
5. Water storage and use Y <input type="checkbox"/> / N <input checked="" type="checkbox"/>	6/30/2017
6. Irrigation runoff Y <input checked="" type="checkbox"/> / N <input type="checkbox"/>	
7. Fertilizers and soil amendments Y <input type="checkbox"/> / N <input checked="" type="checkbox"/>	10/31/2017
8. Pesticides and herbicides Y <input checked="" type="checkbox"/> / N <input type="checkbox"/>	
9. Petroleum products and other chemicals Y <input checked="" type="checkbox"/> / N <input type="checkbox"/>	
10. Cultivation-related wastes Y <input type="checkbox"/> / N <input checked="" type="checkbox"/>	10/31/2017
11. Refuse and human waste Y <input checked="" type="checkbox"/> / N <input type="checkbox"/>	

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

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

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

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

The Water Resource Protection Plan is currently under editorial review. Monitoring will be conducted and reported in the annual MRP.

REPORTING FORM

Page 3/5

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

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

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

- ☐ Instream work anticipated to occur between the following dates: _____

iii. Tier 2* sites:

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

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

All Standard Conditions met? Y ☐ / N ☐

Site was inspected and verified as Tier 2* by Regional Water Board staff

(NAME) _____ or approved third party program (NAME):
_____ on (DATE) _____.

iv. Tier 3 Sites:

- ☐ A Cleanup and Restoration Plan has been submitted to the Regional Water Board for approval.
- ☐ The Cleanup and Restoration Plan has been approved by the Regional Water Board.
- ☐ The timeline for the approved Cleanup and Restoration plan is being followed.
- Will restoration work require disturbance to a stream or wetland in the coming year?
Y ☐ / N ☐
- Instream work anticipated to occur between the following dates: _____
- ☐ Cannabis cultivation is occurring or will occur on the site over the coming year. (If this box is checked, ensure that Tier 2 portions of the reporting form are completed as well).

REPORTING FORM

Page 4/5

v. For All Sites:

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

0	1	0	1	1	6	TO	1	2	3	1	1	6
Month/Day/Year							Month/Day/Year					

(See Order at page 6 for details regarding cultivation area and slope measurements, and watercourse definitions).

Total cultivation area (square feet)	9513																										
Distance to surface waters (feet) from nearest edge of each cultivation area or associated facility. Provide distance measurement for each cultivated area separately, as appropriate.	CA1- 25 ft CA2- 85 ft CA3- 5 ft																										
Average slope (percent slope) of each cultivated area List each cultivated area separately, as appropriate.	CA1- 28%; CA2- 24%; CA3- 27%																										
Total number of road crossings of surface waters Surface waters include wetlands and Class I, II, or III watercourses.	5																										
Annual soil amendment and chemical use (pounds or gallons). Total mass and/or volume of soil amendment and/or chemical usage by type, product name, and nutrient content such as N-P-K ratio, if applicable.*	See Attached																										
Total water storage capacity (gallons or acre feet)	46,325																										
Total surface water diversion by month (gallons or acre feet)*																											
	<table border="1"> <tr> <th>Jan</th><th>Feb</th><th>Mar</th><th>April</th><th>May</th><th>June</th><th>July</th><th>Aug</th><th>Sept</th><th>Oct</th><th>Nov</th><th>Dec</th> </tr> <tr> <td>See</td><td>Attached</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	See	Attached												
Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec																
See	Attached																										
Water input to storage by source and month (gallons or acre-feet) Report water volume input to storage, listing each source separately. This may include inputs from rainfall catchment, surface water diversions, groundwater pumping, or water delivery. If water is delivered, list delivery date, delivery volume, and name and address of water purveyor.*																											
	<table border="1"> <tr> <th>Source</th><th>Jan</th><th>Feb</th><th>Mar</th><th>April</th><th>May</th><th>June</th><th>July</th><th>Aug</th><th>Sept</th><th>Oct</th><th>Nov</th><th>Dec</th> </tr> <tr> <td>See</td><td>Attached</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>	Source	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	See	Attached											
Source	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec															
See	Attached																										
Water use by source and month (gallons or acre feet) Report water volume used, listing each source separately. This may include use of stored water, immediate use of pumped groundwater, diverted surface water, or delivered water. If water is delivered, list delivery date, delivery volume, and name and address of water purveyor.*																											
	<table border="1"> <tr> <th>Source</th><th>Jan</th><th>Feb</th><th>Mar</th><th>April</th><th>May</th><th>June</th><th>July</th><th>Aug</th><th>Sept</th><th>Oct</th><th>Nov</th><th>Dec</th> </tr> <tr> <td>See</td><td>Attached</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>	Source	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	See	Attached											
Source	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec															
See	Attached																										
* Upon initial enrollment only, a best estimate is acceptable for reporting annual soil amendment and chemical use, monthly water stored, and monthly water use. Attach additional sheets if more space is needed for your responses.																											