

Site Management Plan (Revised)
Humboldt County APNs 210-144-012,
210-144-011 & 210-144-017
SWRCB WDID# 1_12CC427340

Submitted to:
State Water Resources Control Board -
North Coast Region
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Vicinity of APNs 210-144-011,
 210-144-012 & 210-144-017; T1S, R5E,
 SEC 2, HB&M; USGS DINSMORE QUAD;
 HUC12: 180101050902

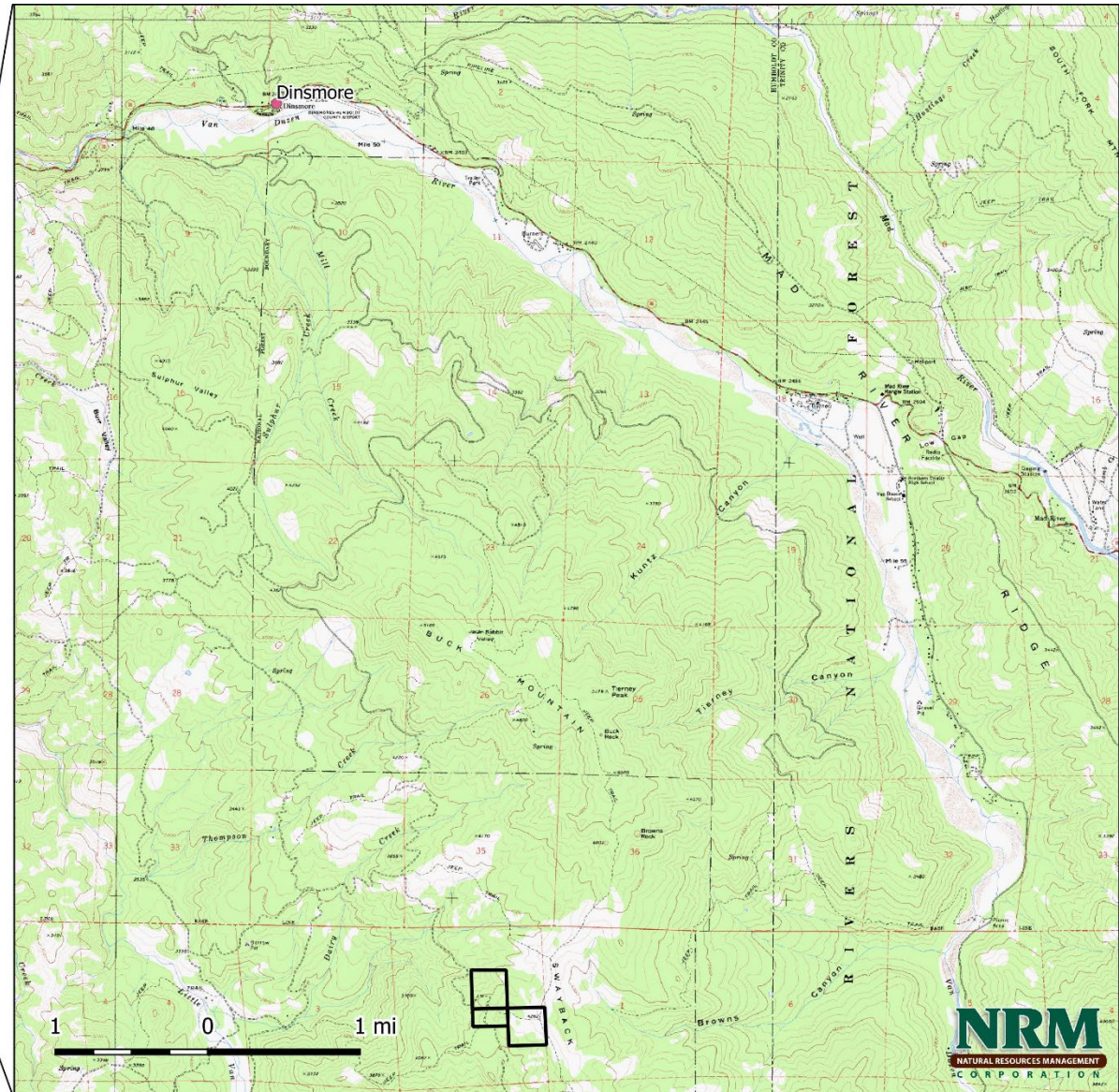
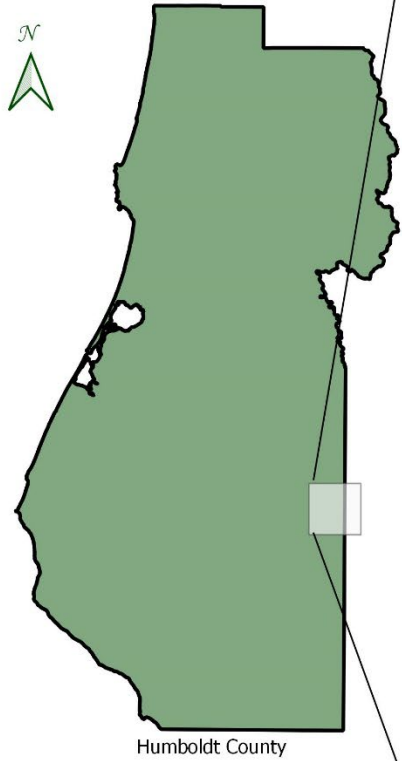


Figure 1. Vicinity Map

Site Management Plan

Introduction

This document serves as a revision to the Site Management Plan for APN 210-144-012, 210-144-011, and 210-144-017 under Order No. WQ 2017-0023-DWQ and as amended by Order No. WQ 2019-001-DWQ and No.2019-0007. On October 17, 2017, the State Water Board adopted the Cannabis Cultivation Policy - Principles and Guidelines for Cannabis Cultivation (*Cannabis Policy*) and General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (*Cannabis General Order*), Order No. WQ 2017-0023-DWQ. One of the requirements of Order No. WQ 2017-0023-DWQ is that all Tier 1 and Tier 2 Dischargers shall submit and implement a Site Management Plan (Plan) that describes how the Discharger is implementing the best practical treatment or control (BPTC) measures listed in Attachment A. Summary. The Site Management Plan was submitted on May 6, 2022. This Site Management Plan is being revised to reflect changes made to the Cultivation Relocation Plan based on input from the County of Humboldt.

Summary

1.1 Enrollment History

This enrollment was originally submitted under the SWRCB Order WQ 2019-0001-DWQ and is associated with Humboldt County APNs 210-144-012-000, 210-144-011-000, and 210-144-017-000 (WDID 1_12CC427340).

1.2 Current SWRCB Enrollment

This enrollment is a Tier 2, High-Risk site that consists of three parcels in southeastern Humboldt County, located 5.5 miles southeast of Larabee Valley on Burr Valley Road. All three parcels have western-facing aspects (the HUC-12 watershed is Little Van Duzen River). The parcels have an average elevation of 4,000 feet (minimum is 3,400 feet; maximum is 4,550 feet). All three properties are zoned Forestry Recreation and have a natural environment of mixed conifer forest, oak woodland, and grassy ridgetop.

Water for irrigation is sourced from four separate points of diversion, all of which are surface water diversions, and a rainwater collection pond that is not associated with any watercourse. One of the diversions is on a Class II watercourse, one is on a Class III watercourse, and two are springs not fed by surface runoff. Domestic water is sourced from the Class II watercourse surface diversion at POD 2. The diversion infrastructure is permitted under LSAA 1600-2020-0288-R1 and the diversions are permitted under SIUR H509346.

There are six watercourse crossings with culverts and eight fords or unarmored fills on this parcel. While seven of these watercourse crossings are located on roads associated with Cannabis cultivation, all ten that require work are already permitted under LSAA 1600-2020-0288-R1 and are covered under the Clean Water Act (CWA) Sections 401 and 404 Water Quality Certifications as well.

There is a total of 40,453 square feet (ft²) of Cannabis flowering area permitted on these parcels and 2,650 ft² of planned nursery and propagation space for a total of 43,103 ft² of cannabis cultivation area. The square footage is currently divided into nine cultivation areas, including three full-term outdoor areas, six light deprivation hoop-houses, and 12 mixed light greenhouses.

APN 210-144-011-000 is currently permitted for 20,391 ft². Outdoor, 6271 ft² Mixed Light = 26,661 ft² total Cannabis cultivation. APN 210-144-012-000 will be reduced and permitted for 3792 ft² Mixed Light = 3,792 ft² total Cannabis cultivation. APN 210-144-017-000 is currently permitted for 3,075 ft² Outdoor, 6925 ft² Mixed Light = 10,000 ft² total Cannabis cultivation.

Some of the previously existing cultivation areas were found to encroach on watercourse buffers or parcel boundary buffers and plans to relocate the cultivation to areas out of the buffers are pending approval from the County of Humboldt. There are three proposed nursery areas one of which will be replacing part of an existing Outdoor hoop-house.

The main access roads to the Cannabis cultivation areas and their associated infrastructure are well-established, rocked roads. In total, the site uses 3,235 feet of roads for Cannabis cultivation-related purposes. These roads were initially evaluated by NRM in 2019 and 2020 and there were 20 locations Identified where ditch relief culverts (DRCs) or other drainage facilities such as rolling dips or waterbars will need to be installed, at least half of which are on legacy roads not associated with cannabis cultivation.

The total disturbance area for the sites is +/- 286,982 square feet (Figure 2). This number includes:

- Roads established and maintained as cannabis-related access - estimated at an approximate average width of 10 feet = 183,680 ft².
- Total Cannabis cultivation area is 43,590 ft²
- Multiple cleared areas that hold the cultivation/propagation areas and surrounding active workspaces is approximately 39,161 square feet
- The footprint of existing storage/processing buildings is approximately 10,895 square feet, including residential structures.
- discontinued former cultivation areas, approximately 20,551 ft²

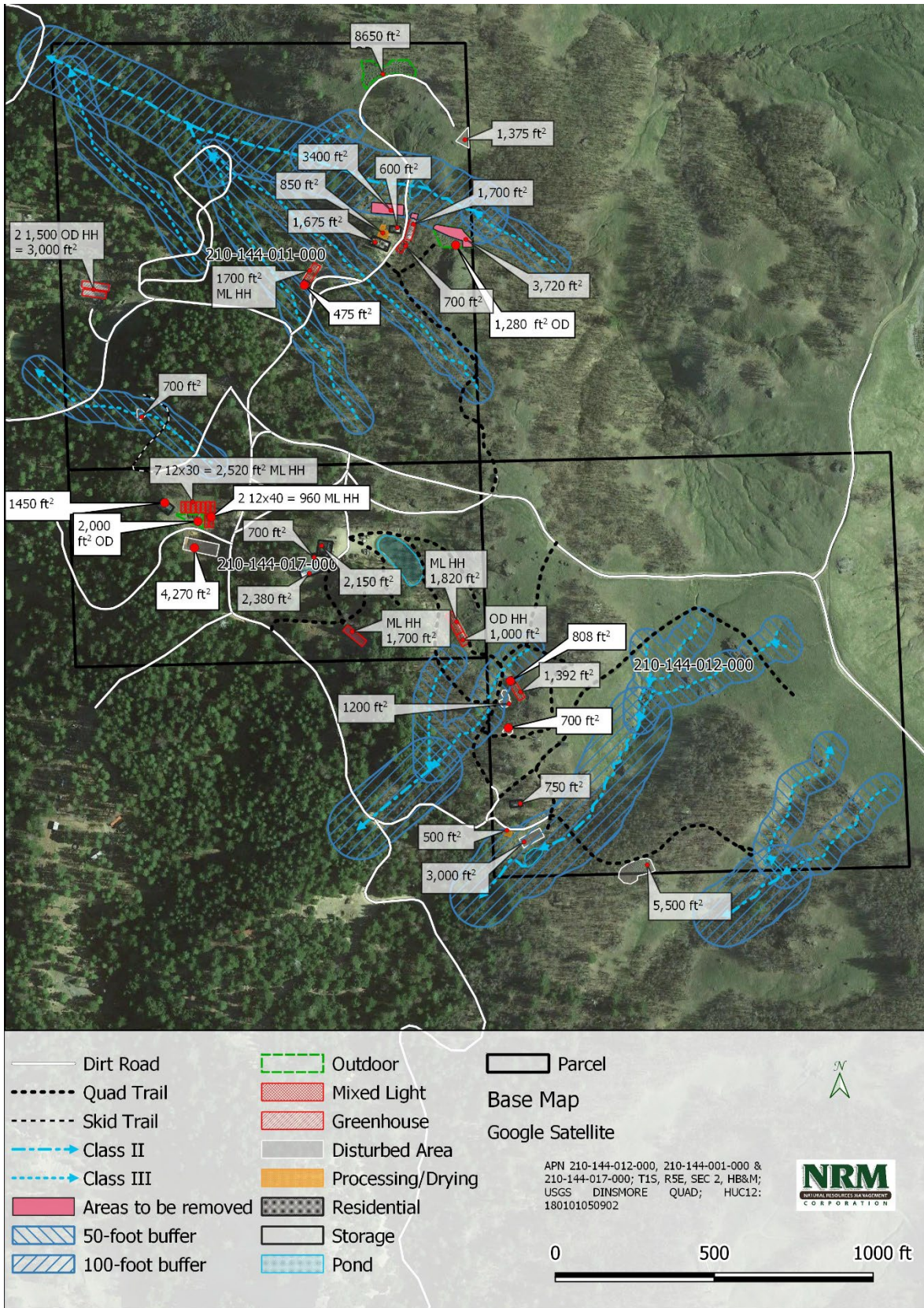


Figure 2. Disturbance associated with cultivation

1. Sediment Discharge BPTC Measures

1.1. Site Characteristics

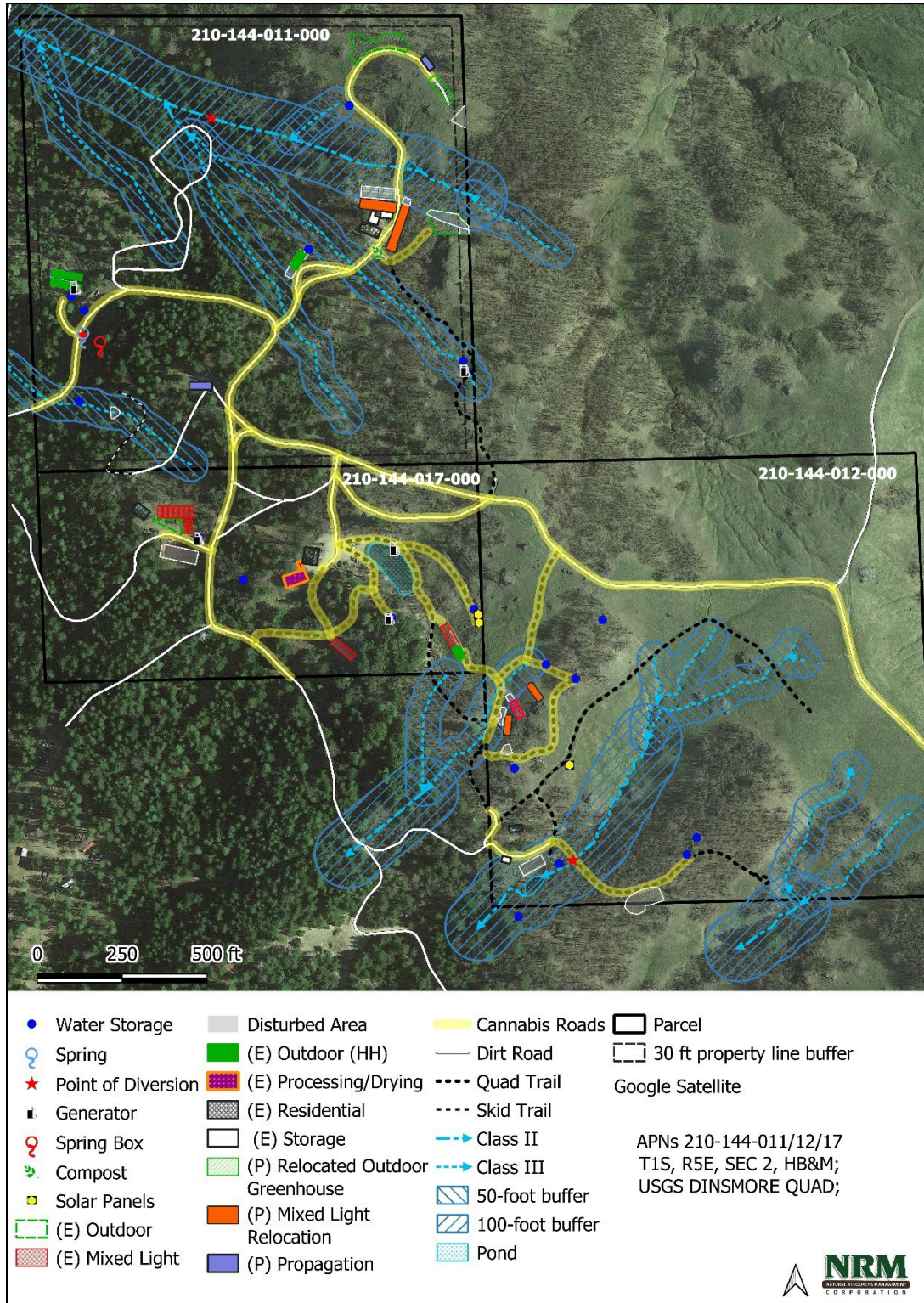


Figure 3. Property map – Includes Proposed Relocation and Restoration (all areas labeled ‘disturbed area’)

Cultivation Areas

There is an average of approximately 6000 plants grown per season. The 2022 cultivation season was approximately from June to October/Nov; while future seasons will likely start a bit earlier as the nurseries will be in use. All plants in hoop houses/greenhouses are watered with drip irrigation systems. Outdoor full-term plants are hand-watered as needed.

Full-term outdoor cultivation in smart pots is done on contour without grading, except for the area in front of the cabin on APN 210-144-017-000 which has been minimally graded. The existing flats with hoop houses have been graded but are located on ridge tops and other areas where the natural terrain is less than 30%. No additional grading will be necessary for the proposed relocation areas.

Cultivation waste is composted on site. There is a compost area located near the house on parcel 210-144-011; it is fenced in.

Cultivation on Parcel 210-144-011-000 consists of 6,270 square feet (ft²) of light deprivation in hoop houses with raised beds and 20,391 ft² of full-term outdoor in smart pots. Other graded areas include discontinued cultivation areas, these are proposed to be relocated due to the presence of watercourse buffers or proximity to parcel boundaries. An application to move the existing cultivation areas to more acceptable locations is currently pending with the County of Humboldt. Two additional Greenhouses for Propagation and nursery stock will be constructed on this parcel, one will be approximately 900 ft² (20X45), and the other will be approximately 1750 ft² (25X70).

Approximately 6,551 ft² of the original cultivation area on APN 210-144-011-000 is located within the SWRCB's watercourse buffers and or within the proscribed setback for the parcel boundary. Relocation areas include already disturbed areas by the residences as well as a new area in the northeastern corner of the property. The preexisting outdoor area in the northeastern corner of the property will also be expanded to accommodate some of the area removed from the riparian areas. Once the relocation is complete there will be 26,661 ft² of cultivation made up of 6,270 ft² of mixed light and 20,391 ft² of outdoor. The riparian areas where cultivation is being removed will be cleaned up and re-vegetated with native species, including oaks, see the Revised Revegetation Plans for APN 210-144-011-000. There is excess used soil adjacent to the central cultivation area that should be stabilized, cleaned up, or reused. At the same site cultivation waste was piled at one point. This has since been removed, but care should be taken to ensure that cultivation waste is properly stored in the future.

Cultivation on Parcel 210-144-017 is currently at 10,000 ft² total, consisting of 3075 ft² of mixed light and 6925 ft² of full-term outdoor in smart pots. Other graded areas include discontinued cultivation areas, these are also being relocated due to the presence of watercourse buffers or proximity to parcel boundaries.

Drying and processing take place in outbuildings adjacent to the residence on APNs 210-144-017-000 as shown on the property map, Figure 3.

Approximately 3,221 ft² of the original cultivation area on APN 210-144-012-000 is located within the SWRCB's watercourse buffers. All other pre-existing cultivation was on the parcel's southern property line. In accordance with the applicant's wishes, only a portion, 2,400 ft², of the impacted area will be relocated. The open, low slope areas adjacent (north and south) to the existing greenhouse on the west side of the property will receive 2, 1200 ft² greenhouses. All areas where pre-existing cultivation is located will be cleaned up and re-vegetated with native species except where a 1,392 ft² section of an existing greenhouse will remain, located outside of the stream buffer on the already disturbed greenhouse

pad on the western side of the parcel. Once the relocation is complete there will be 3,792 ft² of mixed light cultivation made up of 2, 1200 ft² greenhouse and 1, 1392 ft² greenhouse. The riparian areas where cultivation is being removed will be cleaned up and re-vegetated with native species. See the Revised Revegetation Plans for APN 210-144-012-000 for additional details.

Other graded areas include discontinued former cultivation areas, currently approximately 20,551 ft², and additional graded areas not associated with Cannabis cultivation. These areas will be described separately in the next section.

Corrective Actions - BPTCs: # 8, 59, 119, 120

- The cannabis cultivator shall use appropriate erosion control measures to minimize erosion of disturbed areas.
- Store erodible soil, soil amendments, and spoil piles to prevent sediment discharges in storm water.
- Contain and regularly remove all debris and trash associated with cannabis cultivation activities from the cannabis cultivation site.
- Dispose of or reuse spent growth medium (e.g., soil and other organic media) in a manner that prevents the discharge of soil and residual nutrients and chemicals to the riparian setback or waters of the state.

Project Operations - BPTCs: #4, 8, 9, 11, 36, 37, 57, 58, 60, 61, 62, 97, 98, 112, 113, 114

- Actively prevent erosion of previously disturbed and newly disturbed areas (cultivation areas) by seed casting, live planting, or hydroseeding with native vegetation.

Monitoring - BPTCs: #14, 95, 98, 130

- Regularly check for surface water runoff from irrigation. If surface water runoff is observed, the cultivator will reduce the amount of water being used and if there are any indications of soil erosion, take steps to repair the eroded surface.
- Monitor erosion control and sediment capture measures during and after each storm event that produces .5 inches in one day or 1 inch in 7 days.

1.1.2 Roads

There are approximately 18,368 feet of roads on APNs 210-144-012-000, 210-144-011-000, and 210-144-017-000. 11,576 feet of these roads on property are associated with Cannabis cultivation (Figure 2). The total number includes legacy ranch and logging roads, skid roads, and other miscellaneous roads not associated with Cannabis cultivation.

Cannabis-associated roads include roads that access cultivation sites, water tanks, spoils or compost piles, and storage and processing facilities. This includes ATV trails and those accessible by standard passenger vehicles. It is estimated that the roads on these properties that are associated with cultivation have an average width of 10 feet. All these private roadways, except as described in Section 1.1.3, are consistent with the guidelines presented in the Handbook for Forest, Ranch, and Rural Roads (PWA, 2015).

Corrective Actions - BPTCs: #17, 18

- Ensure that all access roads are hydrologically disconnected to receiving waters to the extent possible.
- Steep access roads >12% should be rock-surfaced and equipped with adequate drainage.

Project Operations - BPTCs: 21, 22, 30

- Rock Roads as necessary to prevent erosion

Monitoring: BPTCs: #14, 26, 30, 54

- Cannabis cultivators shall monitor erosion control measures during and after each storm event that produces at least 0.5 in/day or 1.0 inch/7 days of precipitation, and repair or replace, as needed, ineffective erosion control measures immediately
- Cannabis cultivators shall inspect roads to ensure that access roads are not allowed to develop or show evidence of significant surface rutting or gulying. Cannabis cultivators shall use water bars and rolling dips as designed by professionals to minimize access road surface erosion and dissipate runoff.
- Cannabis cultivators shall regularly inspect ditch-relief culverts and clear them of any debris or sediment.
- Cannabis cultivators shall inspect the condition of access roads, drainage features, and watercourse crossings before the onset of fall and winter precipitation and following storm events that produce at least 0.5in/day or 1 inch in 7 days.

1.1.3 Watercourse Crossings

Project 1 is currently a Class III watercourse crossing with a 15-inch diameter CMP at the inlet and a 24-inch diameter CMP at the outlet. The existing culvert is not set at the natural channel grade and a standard culvert nomograph indicates that the culvert should be at least 24 inches in diameter at both ends to accommodate the 100-year recurrence interval peak flow (Q_{100}) calculated using the rational method. The fill at the inboard road edge is only about 20.4 inches deep. The road and inboard ditch on the left approach are hydrologically connected to an extensive road network at the adjacent intersection. Because it is undersized and too shallow for an appropriately sized culvert, Project 1 will involve excavating the existing culvert and installing a vented rock ford with an 18-inch CMP to convey seasonal low flows. The existing drainage structure will be excavated in a broad u-shaped configuration with a width along the bottom of no less than 4 feet. An 18-inch CMP will be installed in alignment with the natural channel and the rest of the dip will be lined with rock having an average diameter of no less than 12 inches ($D_{50}=12''$) that will be keyed in subgrade at the toe of the crossing to decrease the potential for diversion and erosion. Smaller clean angular rock will be used to cover the running surface through the ford at a depth of no less than six inches and extend for a minimum of 50' up the left approach or to the nearest drainage facility or drainage divide, whichever is less. A drainage structure or drainage facility should be installed up the road intersecting this one on the left approach approximately 50-60 feet up from the gate where the topography is favorable.

Project 1 will excavate an estimated 24yd³, it will disturb approximately 20.6 feet of channel length and 387 ft² of channel / riparian area. There will be an estimated 241 ft² of areal vegetation disturbance mostly limited to grasses and forbs.

Project 2 is currently a Class III watercourse crossing with a 15-inch diameter CMP at the inlet and a 24-inch diameter plastic culvert at the outlet. The existing culvert is not set at the natural channel grade and a standard culvert nomograph indicates that the culvert should be at least 18 inches in diameter at both ends to accommodate the Q_{100} calculated using the rational method. The road is hydrologically connected to both approaches. Because the culvert is undersized and not set at the natural channel grade, Project 2 will excavate the existing culvert and fill and install an 18-inch diameter culvert on grade with a critical dip on the left hinge-line and rock armor at the inlet and outlet. The rock used for this project will have a median diameter of 9.6 inches ($D_{50}=9.6$). The right road approach will be surfaced with small diameter road rock for 50 feet or to the nearest drainage facility or drainage divide, whichever is less.

Project 2 will excavate approximately 49 yd³, it will disturb an estimated 40.7 feet of channel length and 426 ft² of channel / riparian area. It will cause about 276 ft² of areal vegetation disturbance mostly grasses and forbs, but one Douglas fir approximately 10 inches DBH may also need to be removed.

Project 3 is currently a watercourse crossing with a High-Density Polyethylene (HDPE) 30-inch diameter culvert installed in such a manner as to cause a pond to form on the inboard side. The culvert is undersized for the calculated Q₁₀₀ event, and the fill is actively failing on both the inboard and outboard sides. The culvert is set high in the fill and the shotgunned outlet has undermined the base of the fill. See the attached Pond Stability Report for further details.

Because of the imminent risk to the integrity of the berm, Project 3 will be to excavate the existing culvert and down to the natural channel grade where a 36-inch culvert will be installed at the natural channel grade to prevent future ponding. A small quantity of additional sediment may have to be removed above the inlet, but it will be difficult to tell until it is dewatered. The road should be reconstructed approximately 1 foot lower on rebuild and insloped at least one degree. The culvert inlet and outlet will be armored with rock with a median diameter of no less than 15 inches (D₅₀=15"). It is unlikely that water will be present at the time of implementation. If water is present, coffer dams will be constructed, and water diverted around the site. If necessary, a flexible pipe, wide enough to convey current flows (minimum 6") will be used. Rolling dips or other drainage breaks will be installed on both road approaches. The road approaches will be rocked for 50 feet or to the nearest drainage facility or drainage divide, whichever is less. A critical dip will not be necessary because there is no diversion potential. Following earthmoving, willow stakes will be planted in the former footprint of the pond outside of the new active channel on 10-foot centers, and the areas in between will be seeded with native grass and mulched with 2 inches of straw.

Project 3 will excavate an estimated 193 yd³; it will disturb approximately 43.6 feet of channel length and 796 ft² of channel / riparian area. It will cause an estimated 471 ft² of areal vegetation disturbance consisting of grasses and forbs and a willow less than one-inch DBH.

Project 4 is currently a fill crossing on an ephemeral Class III watercourse near the top of the watercourse. The road is a legacy timber road, and the road cut is below the natural stream grade. There has been diversion in the past to points down the road 13, 20, and 52 feet to the right where the water eventually made its way back down to the channel. The outboard fill has been actively eroding and the road is now only passable to quad and foot traffic. This stretch of road is redundant; there is another road 80-90 feet upslope. Because of its potential for diversion and erosion, Project 4 will decommission this crossing. The fill will be excavated and a channel no less than 2 feet wide with 2:1 side-slopes will be constructed from the inboard road edge to the base of the fill. Any exposed soils will be seeded with grass and covered by a minimum of 2" of weed-free straw mulch before the onset of rain. The small drop from the cutbank may be armored with 8.4-inch average diameter rock (D₅₀=8.4) covering up to 18 ft², if necessary. All excavated fill spoils will be stored in a stable location outside of riparian buffers. All excavated and relocated fill material will be tractor contoured (to drain water) and tractor compacted to effectively incorporate and stabilize loose material and stabilized with erosion control measures as necessary to prevent the delivery of sediment to any watercourses. A tank trap style waterbar will be installed on the left approach and the road to the right will be blocked to prevent vehicles from entering. It will excavate approximately 4yd³, and disturb an estimated 32.6 feet of channel length, and 285 ft² of channel / riparian area. It will disturb 160 ft² of areal vegetation disturbance, all grasses, and forbs

Project 5 is currently a fill crossing on a Class III watercourse. The road is a legacy timber road. The fill has been actively eroding and the road is now only passable to quad and foot traffic. This stretch of road is redundant; there is another road approximately 140 feet downslope.

Because of its potential for erosion, Project 5 will decommission this crossing. The fill will be excavated and a channel no less than 5 feet wide with 2:1 side-slopes will be constructed from the inboard road edge to the base of the fill. Any exposed soils will be seeded with grass and covered by a minimum of 2" of weed-free straw mulch before the onset of rain. All excavated fill spoils will be stored in a stable location outside of riparian buffers. All excavated and relocated fill material will be tractor contoured (to drain water) and tractor compacted to effectively incorporate and stabilize loose material and stabilized with erosion control measures as necessary to prevent the delivery of sediment to any watercourses. A tank-trap-style waterbar will be installed on the left approach.

Project 5 will excavate an estimated 16 yd³ of fill, and disturb approximately 33 feet of channel length, and 457 ft² of channel / riparian area. It will cause approximately 212 ft² of areal vegetation disturbance including grasses, forbs, six maples, two approximately 4-inches DBH and four approximately 2 inches DBH, and one Douglas Fir approximately 1-inch DBH.

Project 6 is currently a fill crossing on a Class III watercourse. The road is a legacy timber road. The watercourse has been diverted out of its natural channel by this structure and formed a gully down to the crossing on the road below this one. This stretch of road is redundant; there is another road approximately 140 feet downslope.

Because of its potential for ongoing erosion, Project 6 will decommission this crossing. The fill will be excavated and a channel no less than three feet wide with 2:1 side-slopes will be constructed from the inboard road edge to the base of the fill in the natural channel, cutting off the erosional gully from diverted streamflow. Any exposed soils will be seeded with grass and covered by a minimum of 2" of weed-free straw mulch before the onset of rain. All excavated fill spoils will be stored in a stable location outside of riparian buffers. All excavated and relocated fill material will be tractor contoured (to drain water) and tractor compacted to effectively incorporate and stabilize loose material and stabilized with erosion control measures as necessary to prevent the delivery of sediment to any watercourses. A tank-trap-style waterbar will be installed on the left approach.

It will excavate an estimated 51 yd³, and disturb approximately 36.3 feet of channel length, and 797 ft² of channel / riparian area. I will cause an estimated 369 ft² of areal vegetation disturbance, including grasses, forbs, and two Douglas Firs one less than 4 inches in diameter, the other is 4.1 inches DBH.

Project 7 is currently a fill crossing on a Class II watercourse. The road is a legacy timber road. The watercourse has overtopped the road and caused some erosion of the fill. This stretch of road is necessary to access a point of diversion and its associated infrastructure. The diversion gully from Project 6 also crosses the road here, intersecting with this channel near the outboard edge of the fill. The base of the fill is located at the transition to another larger watercourse, self-armored by large boulders.

Because of the ongoing erosion, Project 7 will excavate the existing crossing down to the natural channel grade and install a rock armored fill. The remaining existing fill will be excavated in a broad u-shaped configuration with a width along the bottom of no less than 5 feet. The dip will be lined with 15.6-inch average diameter (D₅₀=15.6) rocks that will be keyed in subgrade at the toe of the crossing to decrease the potential for diversion and erosion. Smaller clean angular rock will be used to cover the running surface through the fill at a depth of no less than six inches and extend for a minimum of 50' up both approaches or to the nearest drainage facility or drainage structure, whichever is less. A rolling dip or another type of drainage facility will be installed on the left road approach to hydrologically disconnect the road runoff from the watercourse. Project 7 will excavate approximately 23 yd³ of fill material and disturb an

estimated 25.7 feet of channel length, limited to the existing road prism. The footprint of Project 7 will be about 511 ft² of channel / riparian area. The project is expected to disturb approximately 320 ft² of vegetation including grasses and forbs growing on the existing fill prism.

Project 8 is the site of a legacy log landing. A Class III watercourse that initiates just above the cutbank has been partially diverted by the landing with some water flowing down a network of legacy skid rods before making its way back to the channel below. There is some surface rilling on the cutbank upstream of the graded flat and in the outboard fill below the road, but no serious gullying has occurred.

Because of the partial diversion down the road, Project 8 will be to restore the natural flow path of the watercourse to mimic the pre-disturbance hydrologic pattern of the channel. A modified armored fill will be constructed to accomplish this with a minimum footprint. A broad shallow excavation will extend from the base of fill up to the transition point where the diversion starts on the upstream end and will follow a straight-line profile in line with the channel downslope. The excavated channel will be approximately 2 feet deep and 2 feet wide and the side slopes pulled back to a stable angle of approximately 50% (2:1) or better. The whole channel from the base of the fill to the transition point at the top will be lined with 10.8-inch average diameter ($D_{50}=10.8''$) rocks keyed into the base of the fill. Smaller rocks may be used to fill in the gaps around the larger stones to make the whole structure more stable and less erosion-prone. A tank-trap style waterbar will be installed to hydrologically disconnect the right road approach from the newly excavated channel and to prevent the passage of standard 4x4 pickup trucks through the site.

Any exposed soils will be seeded with non-invasive grass and covered by a minimum of 2" of weed-free straw mulch before the onset of rain. Other erosion control measures will be implemented as needed. All excavated fill spoils will be spread along and compacted into a section of native surfaced road or stored in a stable location outside of riparian buffers. All excavated and relocated fill material will be tractor contoured (to drain water) and tractor compacted to effectively incorporate and stabilize loose material and stabilized with erosion control measures as necessary to prevent the delivery of sediment to any watercourses. Project 8 will excavate approximately 24.2 yd³ of fill material; disturb an estimated 109 feet of channel length and have a footprint of about 1090 ft² of channel / riparian area limited to the existing fill prism. The project will cause an estimated 1035 ft² of areal vegetation disturbance, mostly grasses, and forbs, except for one Pine with a DBH of approximately six inches, an additional pine less than 4 inches in diameter, two willows, and one Douglas Fir tree all less than one-inch DBH that will be removed as part of this excavation.

Project 9 is not a watercourse crossing. It will be described under the Legacy Discharges section.

Project 10 is currently an ephemeral Class III watercourse crossed by a quad trail with a six-inch HDPE culvert for drainage. The culvert inlet is upturned rendering it ineffective and water flows over the road during and immediately following seasonal rain events. Calculations based on the rational method indicate an 18-inch diameter culvert would be appropriate to accommodate the calculated Q_{100} at this location, but the fill is too shallow to accommodate one. The road is only used seasonally, and the crossing is hydrologically connected on the right.

Because the current drainage structure is inadequate, Project 10 will excavate the existing drainage structure and replace it with a rock armored ford. The approximately 65 yd³ of existing fill will be excavated in a broad u-shaped configuration and the ford lined with rock having an average diameter of 10.8 inches ($D_{50}=10.8''$), which will be keyed in subgrade to decrease the potential for diversion and

erosion. Smaller clean angular rock will be used to cover the running surface through the ford and extend for a minimum of 50' up the left approach. A rolling dip or another drainage facility will be installed approximately 20 feet up the right approach to hydrologically disconnect the road runoff from the watercourse. Project 10 will excavate an estimated 65 yd³ and disturb approximately 88.8 feet of channel length and 1331 ft² of channel / riparian area. It is expected to disturb less than 120 ft² of grasses and forbs.

Project 11 is currently a 10-inch HDPE culvert installed Spittler-style with small logs laid along either side to protect against crushing the pipe on a quad trail. The culvert is undersized for the calculated Q₁₀₀ event, and the road is hydrologically connected from both directions. The fill in the existing crossing is very shallow.

Because the current drainage structure is inadequate, Project 11 will excavate the existing drainage structure and replace it with a rock armored ford. The approximately 21 yd³ of existing fill will be excavated in a broad u-shaped configuration and the ford lined with rock having an average diameter of 13.2 inches (D₅₀=13.2"), or greater, will be keyed in subgrade to decrease the potential for diversion and erosion. Smaller clean angular rock will be used to cover the running surface through the ford and extend for a minimum of 25' up each approach. A rolling dip or another drainage facility will be installed approximately 50 feet up each approach to hydrologically disconnect the road runoff from the watercourse.

Project 11 will excavate approximately 21 yd³ and disturb an estimated 20.2 feet of channel length and 475 ft² of channel / riparian area. This project is expected to cause approximately 275 ft² of areal vegetation disturbance consisting mostly of grasses and forbs. An effort will be made to spare the small white oak growing adjacent to the outlet, if feasible.

Additional watercourse crossings that do not require permitting

Additional Point 1 is not a watercourse crossing and will be described in the Legacy Discharges section.

Additional Point 2 is a Legacy Skid Road Crossing on a Class III watercourse located approximately mid-way between Project 14 and Additional Point 1. This is a fill crossing on a skid road that has seen no use for quite some time. The road is cut subgrade and out sloped. There is no diversion potential at this site and the access path is well vegetated. The disturbance required to treat this site would likely outweigh the benefit of treating it. This point is included for disclosure purposes only.

Additional Point 3 is a Class III Watercourse with 36-inch CMP: A Class III watercourse adjacent to the property boundary and downstream of Additional Points 1 and 2 has a 36-inch diameter CMP and a 24-inch diameter overflow culvert instead of a critical dip. The drainage structure is adequately sized to meet the 100-year peak discharge requirements and is in good condition but does not appear to be installed in line with the natural channel, although the potential for future erosion appears low. The culvert was recently installed by the adjacent landowner under a separate LSAA which may still be active. Historically, there has been some confusion as to which side of the property line the culverts are on.

Additional Point 4 is not a watercourse crossing, it is a revegetation site.

Additional Point 5 is not a watercourse crossing and will be described in the Water Use and Storage section.

Additional Point 6 is a Class III watercourse ford on a quad trail, off the property. A quad trail fords an ephemeral Class III watercourse at an angle. The crossing site is located downslope of Project 9 approximately 35 feet over the property line on the neighbor's parcel (APN 210-144-018). There is no fill placed in the channel and the quad trail is only used seasonally when it is dry, however, the right road approach from parcel 210-144-017 is steep and rutted and currently delivers directly to the watercourse where the quad trail crosses it. Treatment will consist of installing a large tank-trap style waterbar at the approximate property line to hydrologically disconnect the watercourse from the quad trail. Additional drainage features may be installed to improve the overall drainage of the quad road above as necessary. The use of this quad road on the adjacent parcel will be discontinued. No modifications to the bed or bank of any watercourse will be performed at this location. The road surface will be seeded with grass and covered by a minimum of 2" of weed-free straw mulch for a minimum of 50' from the channel margins or to the nearest drainage facility or hydrologic divide, whichever is less on both approaches. This point is being included for disclosure purposes only.

Additional Point 7 is another Class III watercourse ford on a quad trail, off the property. A quad trail fords an ephemeral Class III watercourse approximately 6 feet on the other side of the property line on the neighbor's parcel (APN 210-144-018). There is an intersection with another quad trail approximately 10 feet to the left, which is hydrologically connected. There is no fill placed in the channel and the quad trail is only used seasonally when it is dry, however, the left road approach from parcel 210-144-012 currently delivers directly to the watercourse where the quad trail crosses it. There is no potential for diversion of the watercourse.

Treatment will consist of installing a large tank-trap style waterbar at the approximate property line to hydrologically disconnect the watercourse from the quad trail. Additional drainage features may be installed to improve overall drainage on the quad road leading to this point, as necessary. The use of this quad road on the adjacent parcel will be discontinued. No modifications to the bed or bank of any watercourse will be performed at this location. The road surface will be seeded with grass and covered by a minimum of 2" of weed-free straw mulch for a minimum of 50' from the channel margins or to the nearest drainage facility or hydrologic divide, whichever is less on both approaches. The road surface will be seeded with grass and covered by a minimum of 2" of weed-free straw mulch for a minimum of 50' from the channel margins or to the nearest drainage facility or hydrologic divide, whichever is less on both approaches. This point is being included for disclosure purposes only.

Additional Point 8 is currently a swale crossing on a quad road located immediately upstream from the head of a Class III watercourse. There is a quad road to the right that captures surface water and delivers it to this site. Because of the presence of the channel below, a rolling dip or other drainage feature will be installed on the road upslope on the right to reduce the potential for sediment delivery. There will be no excavation or channel disturbance. The only vegetation disturbed will be grasses and forbs growing on the road surface.

Additional Point 9 is currently a fill crossing on a topographic swale. Sheet flow from the hillslope above combines with water captured by the poorly drained road to form a channel below the road. There is rilling through the outboard road fill that delivers to the Class III watercourse.

Because of the concentration of road run-off, Additional Point 9 will install three drainage facilities along the road to disperse runoff. One drainage facility will be installed approximately 75 feet to the left, and two to the right, one at approximately 60 feet, the other at approximately 250 feet. There will be no work

performed within the bed or banks of the watercourse. The disturbance will be limited to grasses and forbs growing within the existing road prism.

Additional Point 10 is currently a swale crossing on a legacy ranch road. There is no defined channel above the road, but a Class III watercourse channel initiates less than 40' below the road. The road intercepts sheet flow and diverts it down the road to the right.

Because of the concentration of road run-off, Additional Point 10 will install a drainage facility on the left approach and another on the road to the right, each at approximately 60 feet from the axis of the swale. There will be no work performed within the bed or banks of the watercourse. The disturbance will be limited to grasses and forbs growing within the existing road prism.

Additional Point 11 is a grass-covered legacy ranch road that fords an ephemeral Class III watercourse near the top of a ridge. There is no fill placed in the channel and the road is not used by the current landowners. There is no potential for diversion of the watercourse and no indications of erosion. There is no significant hydrologic connection present.

No treatment is proposed for this site. No modifications to the bed or bank of any watercourse will be performed at this location. This point is being included for disclosure purposes only.

Additional point 12 will install a rocked dip at a swale crossing upslope of Project 4. During the project review site visit by CDFW on 10/28/2020 it was recommended that a rocked dip be installed at the swale upslope of project 4 to reduce the potential for diversion of surface runoff and to maintain the natural hydrologic pattern at this location near the initiation of the ephemeral Class III watercourse channel.

Because of the swale's position relative to the initiation of the Class III watercourse crossing, Additional point 12 will install an armored fill swale crossing at this location. Additional rock may be used to armor the cut bank because the inboard edge is cut sub-grade. Rock used for armor should have an average diameter (D_{50}) of at least six (6) inches, smaller rock can be used to line the road surface.

Additional Point 12 will excavate approximately 6 yd³ of fill material and will not disturb any channel length, all work will be confined to the existing road prism. The footprint of Additional Point 12 will be about 100 ft² of riparian area. Additional Point 12 is expected to disturb 40 ft² of vegetation including grasses and forbs growing on the existing fill prism.

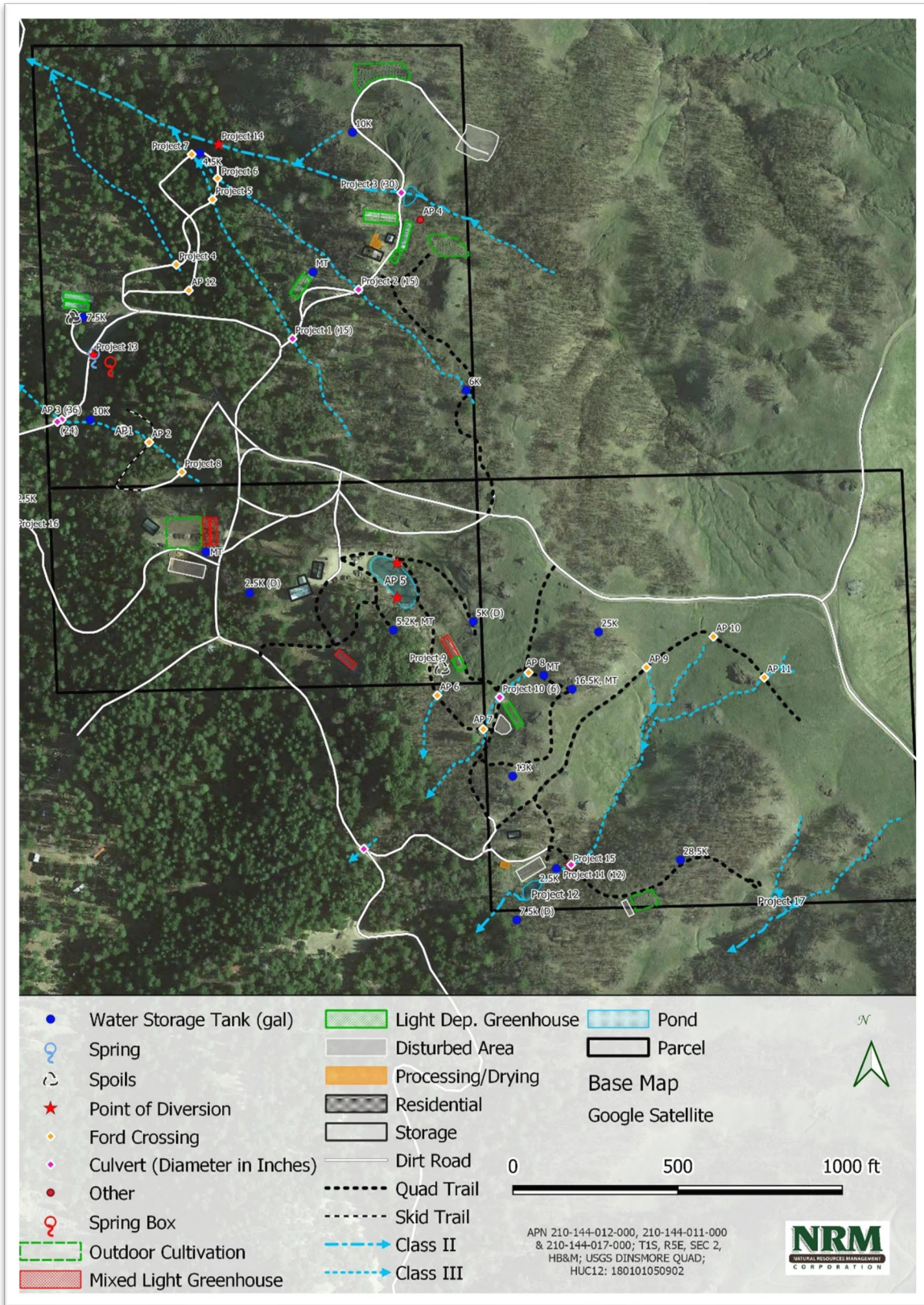


Figure 4. Section 401 WQC map showing project locations.

Corrective Actions - BPTCs: # 17, 18, 19, 22, 26, 55, 56, 57, 76,

- Decommission or relocate existing roads away from riparian setbacks whenever possible.
- Ensure that access road surfacing, especially within a segment leading to a waterbody, is sufficient to minimize sediment delivery to the wetland or waterbody and maximize access road integrity.
- Ensure that access roads are not allowed to develop or show evidence of significant surface rutting or gullyng. Use water bars and rolling dips to minimize access road surface erosion and dissipate runoff.
- Stabilize access road crossing approaches with rock or other appropriate surface protection to minimize surface erosion. Equip culvert crossings with critical dips to prevent diversion.
- Ensure culverts used at watercourse crossings are: 1) installed parallel to the watercourse alignment to the extent possible, 2) of sufficient length to extend beyond stabilized fill or side-cast material, and 3) embedded or installed at the same level and gradient of the streambed
- Store soil, construction, and waste materials outside the riparian setback except as needed for immediate construction needs.
- Existing dams will be removed, as permitted.

Project Operations - BPTCs: #15, 24, 32, 33, 40, 41, 42-47, 52, 60, 61, 62

Monitoring - BPTCs: # 17, 30, 35, 51, 54

- Perform inspection and maintenance as needed to optimize the access road performance.
- Regularly inspect ditch-relief culverts and clear them of any debris or sediment.
- Conduct regular inspections and maintenance of stream crossings to ensure crossings are not blocked by debris.
- Regularly inspect and maintain the condition of access roads, access road drainage features, and watercourse crossings. At a minimum, perform inspections before the onset of fall and winter precipitation and following storm events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation.

1.1.3.1 Legacy Discharge Issues

Project 9 is currently excavation spoils that have been placed within the buffer of an ephemeral Class III watercourse. Approximately 15 yd³ of spoils from an unknown origin have been placed above the head of a Class III watercourse, within its buffer. The spoils have been tractor compacted and straw placed on the area as an erosion control measure. Due to the lack of vegetation, it appears that the spoils were placed here within the last 5 years.

Because of the proximity to a watercourse, Project 9 will be to remove the spoils and treat the exposed area with native grass seed and straw. The spoils will be removed to a location outside of the buffer around any watercourses and tractor compacted and tractor contoured to minimize the potential for erosion.

Project 9 will excavate approximately 15 yd³, have a footprint of approximately 150 ft², and disturb no channel length or riparian area. No vegetation will be disturbed, the surrounding area is mostly covered in grasses.

Project 17 is currently an onstream pond with an earthen dam and an unarmored spillway. This pond was constructed at the approximate location where two ephemeral Class III watercourses converge and transition to a Class II watercourse. The pond appears to straddle the southernmost property boundary and much of the berm appears to be located on the neighboring parcel, including the spillway. The pond has recently been used as a water source but will no longer be used for anything. There is evidence of past erosion at the spillway, but it does not appear to pose an imminent risk of failure.

Because of the threat it poses to water quality, Project 17 will remove the pond. A channel no less than four feet wide will be excavated through the berm to the natural alignment and gradient of the watercourse and the side-slopes will be laid back to a stable 2:1 configuration or mimic the natural topography, where a 2:1 side slope is not practicable. All excavated fill spoils will be stored in a stable location outside of riparian buffers. All excavated and relocated fill material will be tractor contoured (to drain water) and tractor compacted to effectively incorporate and stabilize loose material and stabilized with erosion control measures as necessary to prevent the delivery of sediment to any watercourses. Any exposed soils will be seeded with grass and covered by a minimum of 2" of weed-free straw mulch before the onset of rain.

Project 17 will excavate approximately 41 yd³ of fill material and disturb an estimated 26.1 feet of channel length, limited to the existing fill prism. The footprint of Project 7 will be about 426 ft² of channel / riparian area. The project is expected to disturb 375 ft² of vegetation including grasses and forbs. Efforts will be made to preserve the oaks growing on the existing fill prism near the rock outcrop to the right. The trees in the footprint of the pond itself are dead snags and may be removed for safety if necessary.

Additional Point 1 is a former On-stream Pond location. This location contains the remains of a former on-stream pond which either failed catastrophically or was decommissioned some time ago, estimated to be at least 10 years ago, judging by the revegetation that has occurred. The pond was constructed on an ephemeral Class III watercourse. There is very little potential for sediment delivery because the pond berm has been breached wider than the channel above or below and the watercourse once again flows at the approximate natural channel grade, and the side slopes through the berm breach are well vegetated and at a stable angle of repose. This point is being included for disclosure purposes only.

Additional Point 4 will replant oak trees that were removed over the last 5 years. An estimated seventy-five (75) Oregon white oak trees (*Quercus garryana*) were cut down to provide light for cultivation that is partially or wholly within the buffer of a Class II watercourse. Following the State Waterboard General Order for Cannabis Cultivation, these trees should be replaced at a 3:1 ratio. However, Oregon white oaks are vigorous stump-sprouters but grow extremely slowly from seed. Additionally, Oregon white oak is NOT a native tree species that can be obtained commercially as a container-grown plant within Humboldt or Trinity Counties. Caging the stump sprouts is a reliable, viable way to facilitate the regeneration of these trees, and is a superior strategy to planting for this species. However, to achieve a 3:1 ratio, planting will also be necessary. On-site acorn (seed) collection and propagation is the best way to protect the genetic resources of California's oak woodlands. Direct seeding of these acorns is the best way to promote healthy root formation in young oak trees and prevent the transmission of soil-borne pathogens via the importation of nursery stock.

Caging will account for approximately 1/3 of the regrowth, the rest of the regeneration will occur through acorn planting. Oak caging and planting will take place starting in the riparian buffer around the Class II watercourse following the completion of Project 3 in that area, expanding outside of the buffer once the open area in the riparian buffer has been filled in at the desired density.

See the Section 401 WQC Projects map for site-specific locations.

Corrective Actions - BPTCs: # 34, 36, 57, 76

- Plant three oak trees for every one oak tree damaged or removed.

- Revegetate soil exposed by cannabis cultivation activities with native vegetation by live planting, seed casting, or hydroseeding within seven days of exposure.
- Store soil, construction, and waste materials outside the riparian setback except as needed for immediate construction needs.
- Do not obstruct, alter, dam, or divert any portion of a natural watercourse without applicable permits and approvals. Existing dams will be removed, as permitted.

Project Operations - BPTCs: #32, 33, 34, 37, 60, 61

Monitoring - BPTCs: # 35

- Monitor revegetation for five years, as stated in the revegetation plan

1.2. Sediment Erosion Prevention and Sediment Capture

The following list identifies possible sediment discharge features on-site. Each feature will be described in terms of erosion prevention and control, sediment capture and control, and maintenance of erosion and sediment control measures.

Table 1. Possible sediment discharge features and BPTC schedule

Item #	Possible Sediment Discharge Feature	BPTC Schedule
1	Cultivation Areas Within Watercourse Buffers	3 weeks of work before the onset of Winter, 2023
2	Watercourse Crossings on Roads in Use	2 weeks of work before the onset of Winter, 2022
3	Watercourse Crossings on Roads Not in Use	1 week of work before the onset of Winter, 2022
4	Onstream Ponds	2 weeks of work before the onset of Winter, 2022
5	Spoils Stored in Watercourse Buffer	2 days of work before the onset of Winter, 20122
6	Hydrologically Connected Roads	1 week of work before the onset of Winter, 2022

1. Cultivation Areas Within Watercourse Buffers

The potential for sediment discharge resulting from the relocation of the cultivation areas has little to do with the sites where cultivation is being relocated, the risk comes from the areas it is being relocated from. Once all cultivation-related materials, including soil, are completely removed from the old cultivation areas there is a potential for the uncovered areas with no vegetation to erode within the watercourse buffers.

Prevention of erosion and sediment transport:

- All the former cultivation sites will be recontoured if necessary to allow for free drainage without excessive concentration of sheet flows.
- Existing native vegetation will be retained to the extent feasible.
- Non-invasive grass seeds, such as the following native grass mixes from Pacific Coast Seeds will be applied to areas of bare ground at the recommended rate be used, e.g., Habitat Mix (40 pounds per acre) or Native Erosion Control Mix (45 pounds per acre).
- The full-term outdoor site and the Greenhouse areas adjacent to it that are being relocated on parcel 210-144-011-000 will then be planted with oaks, as specified in the revegetation plan.

- 2-4 inches of straw mulch will be spread following revegetation to protect against erosion. Sites exposed to high winds should be treated with a tackifier to reduce the potential for mobilization of the mulch.

Capture and control of sediment:

- Sediment will be controlled in situ.
- Straw wattles will be staked in place along the lower margin of the former cultivation areas in the watercourse buffers upslope of the watercourse to capture sediment.
- If sediment builds up behind the wattles, it will be removed by hand to an upland area outside the watercourse buffer for disposal.

Maintenance of erosion control and sediment capture measures:

- Erosion control measures will be inspected before the onset of fall and winter precipitation and following storm events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation.
- Wattles will be repaired or replaced as needed based on inspections.
- The straw will be replaced as necessary from October 15 through May 15 if it blows away or washes out.

2. Watercourse Crossings on Roads in Use

Seven watercourse crossings are being upgraded in association with this enrollment. Most of these crossings are undersized and have a risk of diversion or overtopping in-situ along with other factors that could cause sediment discharge. In the event of a rain event large enough, all of these would probably contribute sediment directly to the watercourses on the property. The crossings at Projects 7 and 10 are already actively eroding during high discharge rain events, but fortunately, both are located high in the watershed near the initiation points of ephemeral Class III watercourses, so the erosion that has occurred to date is minimal.

Prevention of erosion and sediment transport:

- Existing native vegetation will be retained to the extent feasible.
- Crossings are designed to accommodate the calculated discharge of a 100-year recurrence rain event with additional headspace to accommodate associated bedload and organic debris.
- Rock armor will be employed to protect the fill slopes and provide energy dissipation as necessary.
- All excavated fill spoils will be stored in a stable location outside of riparian buffers. All excavated and relocated fill material will be tractor contoured to drain water and tractor compacted to effectively incorporate and stabilize loose material and stabilized with erosion control measures as necessary to prevent the delivery of sediment to any watercourses.
- Non-invasive grass seeds, such as the following native grass mixes from Pacific Coast Seeds will be applied to areas of bare ground at the recommended rate be used, e.g., Habitat Mix (40 pounds per acre) or Native Erosion Control Mix (45 pounds per acre).
- 2-4 inches of straw mulch will be spread following revegetation to protect against erosion. Sites exposed to high winds should be treated with a tackifier to reduce the potential for mobilization of the mulch.
- Linear sediment controls will be applied at the intervals specified in BPTC 129 or as needed.

- Any trees greater than 4 inches in diameter that are removed during operations will be replaced at a 3:1 ratio.

Capture and control of sediment:

- If sediment builds up behind the linear sediment controls, it will be removed by hand to an upland area outside the watercourse buffer for disposal.

Maintenance of erosion control and sediment capture measures:

- Erosion control measures will be inspected before the onset of fall and winter precipitation and following storm events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation.
- Linear sediment controls will be repaired or replaced as needed based on inspections.
- The straw will be replaced as necessary from October 15 through May 15 if it blows away or washes out.

3. Watercourse Crossings on Roads Not in Use

Three existing legacy watercourse crossings within this enrollment are no longer needed and will be decommissioned. These legacy watercourse crossing structures are active sources of erosion that deliver directly to the waters of the state.

Prevention of erosion and sediment transport:

- Existing native vegetation will be retained to the extent feasible.
- Crossings excavations are designed so that the resulting restored channels will accommodate the calculated discharge of a 100-year recurrence rain event and associated bedload and organic debris.
- If necessary, rock armor will be employed to protect the fill slopes.
- All excavated fill spoils will be stored in a stable location outside of riparian buffers. All excavated and relocated fill material will be tractor contoured to drain water and tractor compacted to effectively incorporate and stabilize loose material and stabilized with erosion control measures as necessary to prevent the delivery of sediment to any watercourses.
- Non-invasive grass seeds, such as the following native grass mixes from Pacific Coast Seeds will be applied to areas of bare ground at the recommended rate be used, e.g., Habitat Mix (40 pounds per acre) or Native Erosion Control Mix (45 pounds per acre).
- 2-4 inches of straw mulch will be spread following revegetation to protect against erosion. Sites exposed to the high wind should be treated with a tackifier to reduce the potential for mobilization of the mulch.
- Linear sediment controls will be applied at the intervals specified in BPTC 129 or as needed.
- Any trees greater than 4 inches in diameter that are removed during operations will be replaced at a 3:1 ratio.

Capture and control of sediment:

- If sediment builds up behind the linear sediment controls, it will be removed by hand to an upland area outside the watercourse buffer for disposal.

Maintenance of erosion control and sediment capture measures:

- Erosion control measures will be inspected before the onset of fall and winter precipitation and following storm events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation.
- Linear sediment controls will be repaired or replaced as needed based on inspections.
- The straw will be replaced as necessary from October 15 through May 15 if it blows away or washes out.

4. Onstream Ponds

Three existing onstream ponds are being decommissioned. Two of the ponds were constructed with unarmored spillways and the third has an undersized culvert that shotguns water directly onto the eroding fill below. These active erosion sites will be removed. The berms of two ponds on APN 210-144-012-000, Projects 12 and 17, are being removed from the watercourse entirely, and Project 3, the pond on APN 210-144-011-000 will be removed by reconfiguring the fill prism to allow water to pass through a new culvert set at the natural channel grade, thus eliminating the impoundment of water above the road.

Prevention of erosion and sediment transport:

- All excavated fill spoils will be stored in a stable location outside of riparian buffers. All excavated and relocated fill material will be tractor contoured to drain water and tractor compacted to effectively incorporate and stabilize loose material and stabilized with erosion control measures as necessary to prevent the delivery of sediment to any watercourses.
- Non-invasive grass seeds, such as the following native grass mixes from Pacific Coast Seeds will be applied to areas of bare ground at the recommended rate be used, e.g., Habitat Mix (40 pounds per acre) or Native Erosion Control Mix (45 pounds per acre).
- 2-4 inches of straw mulch will be spread following revegetation to protect against erosion. Sites exposed to high winds should be treated with a tackifier to reduce the potential for mobilization of the mulch.
- Linear sediment controls will be applied at the intervals specified in BPTC 129 or as needed.
- Jute netting will be employed on steep areas within the excavation footprint as needed to hold the straw in place.

Capture and control of sediment:

- If sediment builds up behind the linear sediment controls, it will be removed by hand to an upland area outside the watercourse buffer for disposal.

Maintenance of erosion control and sediment capture measures:

- If sediment builds up behind the linear sediment controls, it will be removed by hand to an upland area outside the watercourse buffer for disposal.
- The straw will be replaced as necessary from October 15 through May 15 if it blows away or washes out.

5. Spoils Stored in Watercourse Buffer

This feature is Project 9 in the LSAA and Section 401 WQC. Spoils from grading or excavation at another site were placed in a location that impinges on the buffer of an ephemeral Class III watercourse near the point of channel initiation. No fill was placed within the channel itself and only a portion of the spoils lies within the watercourse buffer. Nonetheless, there is potential for sediment delivery, so all spoils within the buffer will be removed and the bare ground stabilized.

Prevention of erosion and sediment transport:

- All excavated fill spoils will be stored in a stable location outside of riparian buffers. All excavated and relocated fill material will be tractor contoured to drain water and tractor compacted to effectively incorporate and stabilize loose material and stabilized with erosion control measures as necessary to prevent the delivery of sediment to any watercourses.

- Non-invasive grass seeds, such as the following native grass mixes from Pacific Coast Seeds will be applied to areas of bare ground at the recommended rate be used, e.g., Habitat Mix (40 pounds per acre) or Native Erosion Control Mix (45 pounds per acre).
- 2-4 inches of straw mulch will be spread following revegetation to protect against erosion. Sites exposed to high winds should be treated with a tackifier to reduce the potential for mobilization of the mulch.

Capture and control of sediment:

- No sediment is expected to be generated by this activity.

Maintenance of erosion control and sediment capture measures:

- Erosion control measures will be inspected before the onset of fall and winter precipitation and following storm events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation.
- The straw will be replaced as necessary from October 15 through May 15 if it blows away or washes out.

6. Hydrologically Connected Roads

19 locations within this enrollment have been identified where the road is hydrologically connected to watercourses. Drainage features such as waterbars, rolling dips, or ditch relief culverts will be installed to hydrologically disconnect the watercourses from the road.

Prevention of erosion and sediment transport:

- The drainage features themselves are designed specifically to reduce erosion and the potential for sediment transport.
- Compaction of the fill material will reduce the potential for generating sediment at these locations.
- The hydrologically connected road reaches on roads that are actively used will be surfaced with gravel.
- The hydrologically connected road reaches on roads that are being decommissioned or are not actively used may be surfaced with gravel, slash-packed, or treated with grass seed and straw mulch.
- Non-invasive grass seeds, such as the following native grass mixes from Pacific Coast Seeds will be applied to areas of bare ground at the recommended rate be used, e.g., Habitat Mix (40 pounds per acre) or Native Erosion Control Mix (45 pounds per acre).
- 2-4 inches of straw mulch will be spread following revegetation to protect against erosion. Sites exposed to the high wind should be treated with a tackifier to reduce the potential for mobilization of the mulch.

Capture and control of sediment:

- The drainage features themselves are designed specifically to reduce sediment generation and prevent the delivery of sediment to watercourses.
- No sediment is expected to be generated by this activity.

Maintenance of erosion control and sediment capture measures:

- Erosion control measures will be inspected before the onset of fall and winter precipitation and following storm events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation.
- The straw will be replaced as necessary from October 15 through May 15 if it blows away or washes out.

Any future grading or road work will follow the requirements listed in Section II of Attachment A of the General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (Order WQ 2017-0023-DWQ), constructed by the State Water Resources Control Board.

2. Fertilizer, Pesticide, Herbicide, and Rodenticide BPTC Measures

Table 2. 2021 Fertilizer use

Product Name	Nitrogen Ratio	Phosphorus Ratio	Total Pounds Used	Total N	Total P
Maxsea	20	20	150	30	30
grow more	16	16	200	32	32
Maxsea	5	5	150	7.5	7.5
chicken manure	6	1	8000	480	80
cha-ching	5	50	50	2.5	25
guano	8	1	100	8	1
				30	175.5

The Cannabis cultivation at this site includes the use of fertilizers/amendments and Plant Therapy as needed for combating unwanted insects. The cultivator does not use any rodenticides. The cultivator does not receive deliveries of any of these products at the site but picks up fertilizers and amendments from the suppliers when needed. All fertilizers are kept in totes that are stored in a metal shipping container. Fertilizer products that are used in their entirety by the end of each season have their packaging disposed of at Recology Eel River, while left-over products will be stored in the totes during the winter season to be used the following year.

A Spill Kit will be kept on-site to address chemical spills, all chemicals are kept in secondary containment. The basic components of the cultivator's spill kit include:

Emergency phone numbers (California Office of Emergency Services: 1-800-852-7550)

Labels and MSDSs of all fertilizers, pesticides, and rodenticides on hand

A Copy of the Spill Plan

Personal Protective Equipment: rubber gloves, footwear, apron, goggles, face shield, respirator

Heavy plastic bags for material storage

10 lbs. of absorbent materials (cat litter, vermiculite, sorbent pads, etc.)

Shovel, broom or hand broom, dustpan

Heavy-duty detergent, chlorine bleach, and water for the final clean up

A sturdy plastic container that closes tightly and will hold the largest quantity of pesticide on hand

First-aid supplies

(From USDA FS Herbicide Spill Plan https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd497003.pdf)

Corrective Actions – BPTCs: # 104, 106

- Keep and use absorbent materials designated for spill containment and spill cleanup equipment on-site for use in an accidental spill of fertilizers, petroleum products, hazardous materials, and other substances which may degrade the waters of the state.

- Establish and use a separate storage area for pesticides, and fertilizers, and another storage area for petroleum or other liquid chemicals.

Project Operations - BPTCs: # 104,105,106, 108, 110, 111

Monitoring – BPTCs: # 113

- Cannabis cultivators shall monitor the weather forecast and will not apply agricultural chemicals within 48hrs of a predicted rainfall event of .25 inches or greater with a probability greater than 50 percent.
- Cannabis cultivators will record their fertilizer and amendment application and submit the total nitrogen and phosphorus use numbers annually to the State Water Quality and Control Board

3. Petroleum Product BPTC Measures

Very few fuel products are stored on the property, fuel is brought up on an as-needed basis. All water pumps are electric. Generators are run on gasoline, and additional electricity is provided by solar panels. Pumps, generators, rototillers, and fuel cans are stored in shipping containers adjacent to the lower cabin on parcel 210-144-012-000 during the winter. Generators and fuel cans will need secondary containment

Corrective Actions – BPTCs: # 73, 104

- Provide secondary containment for petroleum products (in a shed that meets the standards established by the EPA and upheld by the state of California. See Appendix C)
- Keep and use absorbent materials designated for spill containment and spill cleanup equipment on-site for use in an accidental spill of fertilizers, petroleum products, hazardous materials, and other substances which may degrade the waters of the state.

Project Operations - BPTCs: # 7, 104, 105,106, 108, 109, 110, 117

Monitoring – BPTCs: #116

- Cannabis cultivators will monitor the condition of their vehicles and machinery and inspect for leaks before refueling.

4. Trash/Refuse and Domestic Wastewater BPTC Measures

4.1 Trash and Refuse

Trash/refuse generated at this site consists of general household waste (cardboard, glass, metals, plastics, organics, etc.) as well as garden-specific waste. The organic garden waste (stems, roots, and leaves) will be composted onsite starting in the 2022 cultivation season. The other cannabis-related waste produced at this site includes, but is not limited to, oil filters, wiring, cardboard, and plastic packaging (cellophane and recyclable HDPE containers). All trash is kept in standard, Rubbermaid garbage cans with lids in a dog kennel cage and stored onsite until taken to Recology Eel River in Fortuna, CA; trips are made approximately one time each month during the cultivation season.

4.2 Employees, Visitors, Residents

There are 1-3 employees during cultivation and processing. The employees will likely live onsite during the cultivation season, due to its remoteness. The owners will stay onsite during the cultivation season, too, since they perform much of the required labor themselves.

4.2.1 Domestic Wastewater

Domestic wastewater generated at the site consists of ordinary household-generated wastewater. The domestic wastewater is disposed of in septic tanks and leach fields. It is unknown if the onsite wastewater

treatment systems were ever permitted. The septic systems have not been modified since before the properties were purchased.

Corrective Actions - BPTCs: # 124

- Ensure onsite wastewater treatment systems (e.g., septic systems) are permitted by the local agency or applicable Regional Water Board.

Project Operations - BPTCs: # 123, 124

Monitoring

- There is no monitoring required for this section.

5. Winterization BPTC Measures

At the end of the growing season, before winter rains, the following steps will be taken to prepare the site for winter:

- The soil used in cultivation will be covered or left in beds planted with a cover crop.
- Any bare soil on the fill slopes of the cultivation terraces will be covered with straw 2 to 3 inches thick and secured with a tackifier Cannabis cultivators shall apply erosion repair and control measures to the bare ground (e.g., cultivation area, access paths, etc.) to prevent discharge of sediment to waters of the state.
- Cannabis stems and root balls will be composted or hauled to a green waste disposal site.
- All nutrients, fuels, and other chemicals will be placed in a secure storage shed for storage
- All cultivation trash and debris will be properly disposed of
- All culverts, drop inlets, trash racks, and similar devices will be maintained to ensure they are not blocked by debris or sediment. The outflow of culverts shall be inspected to ensure erosion is not undermining the culvert. Culverts shall be inspected before the onset of fall and winter precipitation and following precipitation events that produce at least 0.5 inches/day or 1.0 inch/7 days of precipitation to determine if maintenance or cleaning is required.
- All temporary access roads will be blocked or otherwise closed to all motorized vehicles by the onset of the winter period each year.
- No heavy equipment of any kind will operate at the cannabis cultivation site during the winter period unless authorized for emergency repairs contained in an enforcement order issued by the State Water Board, Regional Water Board, or other agency having jurisdiction

If any BPTC measure cannot be completed before the onset of the winter period, the landowner will contact the Regional Water Board to establish a compliance schedule.

As stated by the Water Code section 13267 the landowner will complete and submit technical monitoring reports monthly until winterization measures have been implemented.

6. Water Use and Storage BPTC Measures

This parcel uses four permitted diversions. Two of the diversions are located on springs and one each on Class II and III watercourses. Much of the water for cultivation is provided by the rainwater catchment pond with an estimated capacity of at least 420,000 gallons on APN 210-144-017-000. Additional water storage is provided by 41 hard-sided water storage tanks and 2 bladders spread over the three parcels

totaling 143,000 gallons. Additional tanks include mixing tanks, domestic water storage tanks and tanks for fire suppression water storage; water for fire suppression is found in 2, 2500 gallon tanks on APN -012 and in 2, 2,500 gallon tanks on -017. There are a total of 55 tanks and 2 bladders on the project parcels. See updated (10.2022) Site Plans for accurate spatial representation of tanks and bladders.

Project 13 (POD1) is currently a point of diversion on a natural spring. The POD consists of a precast concrete spring box. HDPE pipes convey water using gravity to holding tanks downslope. The water is used for Cannabis cultivation.

Project 13 will be to ensure the intake is metered. The appropriate water rights and permits have been applied for with the SWRCB for use of this water. There will be no excavation and no disturbance of vegetation associated with this project.

Project 14 (POD2) is a surface water diversion for both cultivation and domestic use located on a Class II watercourse, approximately 85 feet northeast of Project 7. The POD was previously of a gravity-fed diversion through an unscreened HDPE pipe to a pair of holding tanks on an old road bench. Water was then pumped up to storage tanks and the points of use by a gas-powered generator powering an electric pump. The generator and storage tanks were within the 100-foot buffer of the watercourse but have since been removed. In the future, a system that does not rely on these elements will be implemented. The water from this source is used for both cultivation and domestic use. A SIUR and a Small Domestic Use registration have been filed with the SWRCB for this location.

Project 14 will install a screened intake with openings no larger than 3/32 of an inch on the polyethylene pipe to CDFW standards. The gas pump will be properly covered and contained, and the water lines will be separately metered to distinguish between domestic and cultivation use. A SIUR and a Small Domestic Use registration have been filed with the SWRCB for this location. There will be no excavation and no disturbance of vegetation associated with this project. The water tanks, generator, and pumps that were at this location have already been relocated outside of the watercourse buffers.

Project 15 (POD 3) is a surface water diversion for both cultivation and domestic use located on a Class II watercourse, adjacent to Project 11. The POD consists of a gravity-fed diversion through an unscreened HDPE pipe. The water is used for both cultivation and domestic use. The diversion is currently just a black HDPE pipe in the channel. A screened intake with openings no larger than 3/32 of an inch will be attached to the polyethylene pipe and installed to CDFW standards. A SIUR and a Small Domestic Use registration have been filed with the SWRCB for this location. There will be no excavation and no disturbance of vegetation associated with this project.

Project 16 (POD4) is currently a point of diversion on a spring with a small channel emerging from it. It is located on an adjoining parcel and deeded access to this water source has been granted. The water from this source is used for Cannabis Cultivation.

Project 16 will ensure the intake meets CDFW standards. The appropriate water rights and permits have been applied for with the SWRCB for use of this water. There will be no excavation and no disturbance of vegetation associated with this project.

Additional Point 5 is an existing unlined rainwater catchment pond not associated with any watercourse (non-jurisdictional). This water is used primarily for cultivation but is also used for domestic purposes.

The infrastructure consists of a gas-powered generator powering an electric pump that conveys water to storage tanks on top of the hill.

Work performed at Additional Point 5 will be to ensure the intake is properly screened with openings 3/32 of an inch or less, a submersible electric well pump will be used, and separate meters will be installed to distinguish between domestic and cultivation use. An escape ladder will be installed for wildlife and worker safety. There will be no additional excavation or disturbance of vegetation associated with this location.

Table 3. 2021 Irrigation water use (gal.)

Irrigation	January	February	March	April	May	June	July	August	September	October	November	December
Direct Diversion	0	0	0	0	0	0	0	0	0	0	0	0
To Storage from POD 1	5000	5000	5000	0	0	0	0	0	0	0	5000	7500
To Storage from POD 2	0	0	0	0	0	0	0	0	0	0	0	0
To Storage from POD 3	10000	10000	10000	0	0	0	0	0	0	0	10000	10000
Total to storage	15000	15000	15000	0	0	0	0	0	0	0	15000	17500
Water used from the rainwater pond	0	0	0	0	0	20000	40000	40000	40000	30000	0	0
Water used from Storage tanks	0	0	0	0	0	1,000	1,000	1,000	1,000	1,000	1,000	0

Table 4. 2021 Domestic water use (gal.)

Domestic	January	February	March	April	May	June	July	August	September	October	November	December
Direct Diversion	0	0	0	0	0	0	0	0	0	0	0	0
To Storage	0	0	0	0	0	0	0	0	0	0	0	0
From Storage	0	0	0	0	0	0	0	0	0	0	0	0

For continued future compliance, water meters will be used to quantify both direct diversion and diversion to storage. Water use will be recorded daily, and a photo of the meter reading will be taken monthly to document water use.

Corrective Actions – BPTCs: #74, 79, 82, 88, 89, 92, 96

- In use water bladders will be inspected and appropriate containment will be installed or use will be discontinued.
- No water shall be diverted unless the cannabis cultivator is operating the water diversion facility with a CDFW-approved water intake screen.
- Onstream storage reservoirs are prohibited.
- For continued future compliance, water meters will be used to quantify both direct diversion and diversion to storage. A photo of the meter reading will be taken weekly to document water use.
- Water storage tanks will be equipped with a float valve, or equivalent device, to shut off diversion when storage systems are full.

- Weed-free mulch will be used in cultivation areas that do not have ground cover to conserve soil moisture and minimize evaporative loss.

Project Operations - BPTCs: # 66, 67, 68, 69, 71, 77, 86, 90, 91, 93, 97, 98, 100, 101, 102

Monitoring – BPTCs: #75, 84, 89, 95, 99

- Regularly inspect irrigation delivery systems for leaks and repair as necessary.
- Written records describing the date, time, and nature of such inspections and repairs shall be kept on-site for at least two years.

The diversionary period set forth by the Water Board is between **Nov. 1 and March 31** of each year. To find out if it is OK to divert, simply click on this link:

https://www.waterboards.ca.gov/water_issues/programs/cannabis/online_mapping_tool.html

- Zoom in to your parcel (you can type 40.4061, -123.5774 into the address search bar)
- Note: You will have to zoom to “street level” for the pop-up to work.
- Click on your diversion (don’t worry if it doesn’t show up on the map)
- Read the pop-up: it will either say “DIVERSION AUTHORIZED” or “DIVERSION NOT AUTHORIZED”
- You can use the bookmark function (which looks like a book under the address search bar) to remember your location.



Figure 5. Example of compliance gage authorization

7. Summary of Corrective Actions and Monitoring

7.1 Corrective Actions

1. Sediment Discharge BPTC Measures

- If sediment builds up behind the linear sediment controls, it will be removed by hand to an upland area outside the watercourse buffer for disposal.
- The cannabis cultivator shall use appropriate erosion control measures to minimize erosion of disturbed areas.

- Store erodible soil, soil amendments, and spoil piles to prevent sediment discharges in stormwater.
- Contain and regularly remove all debris and trash associated with cannabis cultivation activities from the cannabis cultivation site.
- Dispose of or reuse spent growth medium (e.g., soil and other organic media) in a manner that prevents the discharge of soil and residual nutrients and chemicals to the riparian setback or waters of the state.
- Ensure that all access roads are hydrologically disconnected to receiving waters to the extent possible.
- Steep access roads >12% should be rock-surfaced and equipped with adequate drainage.
- Decommission or relocate existing roads away from riparian setbacks whenever possible.
- Ensure that access road surfacing, especially within a segment leading to a water body, is sufficient to minimize sediment delivery to the wetland or waterbody and maximize access road integrity.
- Ensure that access roads are not allowed to develop or show evidence of significant surface rutting or gulying. Use water bars and rolling dips to minimize access road surface erosion and dissipate runoff.
- Plant three oak trees for every one oak tree damaged or removed.
- Stabilize access road crossing approaches with rock or other appropriate surface protection to minimize surface erosion. Equip culvert crossings with critical dips to prevent diversion.
- Ensure culverts used at watercourse crossings are: 1) installed parallel to the watercourse alignment to the extent possible, 2) of sufficient length to extend beyond stabilized fill or side-cast material, and 3) embedded or installed at the same level and gradient of the streambed
- Store soil, construction, and waste materials outside the riparian setback except as needed for immediate construction needs.
- Existing dams will be removed, as permitted.
- Plant three oak trees for every one oak tree damaged or removed according to the revegetation plan.
- Revegetate soil exposed by cannabis cultivation activities with native vegetation by live planting, seed casting, or hydroseeding within seven days of exposure.
- Store soil, construction, and waste materials outside the riparian setback except as needed for immediate construction needs.

2. Fertilizers and Pesticides

- Keep and use absorbent materials designated for spill containment and spill cleanup equipment on-site for use in an accidental spill of fertilizers, petroleum products, hazardous materials, and other substances which may degrade the waters of the state.
- Establish and use a separate storage area for pesticides, and fertilizers, and another storage area for petroleum or other liquid chemicals.

3. Petroleum Products

- Provide secondary containment for petroleum products (in a shed that meets the standards established by the EPA and upheld by the state of California. See Appendix C)
- Keep and use absorbent materials designated for spill containment and spill cleanup equipment on-site for use in an accidental spill of fertilizers, petroleum products, hazardous materials, and other substances which may degrade the waters of the state.

4. Trash/Refuse and Domestic Waste

- Ensure onsite wastewater treatment systems (e.g., septic systems) are permitted by the local agency or applicable Regional Water Board.

5. Winterization BPTCs (see section 5, page 29)

6. Water Use and Storage

- Water bladders will safely contained within a secondary containment system with sufficient capacity to capture 110 percent of a bladder's maximum possible contents.
- No water shall be diverted unless the water diversion facility is operating with a CDFW-approved water intake screen.
- Onstream storage reservoirs are prohibited.
- For continued future compliance, water meters will be used to quantify both direct diversion and diversion to storage. A photo of the meter reading will be taken weekly to document water use.
- Water storage tanks will be equipped with a float valve, or equivalent device, to shut off diversion when storage systems are full.
- Weed-free mulch will be used in cultivation areas that do not have ground cover to conserve soil moisture and minimize evaporative loss.

7.2 Monitoring

1. Sediment Discharge BPTC Measures

- Regularly check for surface water runoff from irrigation. If surface water runoff is observed, the cultivator will reduce the amount of water being used and if there are any indications of soil erosion, take steps to repair the eroded surface.
- Monitor erosion control and sediment capture measures during and after each storm event that produces .5 inches in one day or 1 inch in 7 days.
- Perform inspection and maintenance as needed to optimize the access road performance.
- Regularly inspect ditch-relief culverts and clear them of any debris or sediment.
- Conduct regular inspections and maintenance of stream crossings to ensure crossings are not blocked by debris.
- Regularly inspect and maintain the condition of access roads, access road drainage features, and watercourse crossings. At a minimum, perform inspections before the onset of fall and winter precipitation and following storm events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation.
- Erosion control measures will be inspected before the onset of fall and winter precipitation and following storm events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation.
- Monitor revegetation for five years, as stated in the revegetation plan

2. Fertilizer, Pesticide, Herbicide, and Rodenticide Amendments (reported annually to State Water Board)

- Cannabis cultivators shall monitor the weather forecast and will not apply agricultural chemicals within 48hrs of a predicted rainfall event of .25 inches or greater with a probability greater than 50 percent.
- Cannabis cultivators will record (monthly) their fertilizer and amendment use.

3. Petroleum Products

- Cannabis cultivators will monitor the condition of their vehicles and machinery and inspect for leaks before refueling.

4. Trash/Refuse and Domestic Waste

- There is no monitoring required for this section.

5. Winterization BPTCs (see Section 5, page 29)

6. Water Use (water numbers reported annually to CDFW and State Water Board)

- Daily documentation of water gage compliance (permission to divert) during the surface water diversion period **Nov. 1 and March 31.**
- A daily documentation of water use (photos of continuous read meters)
- Regularly inspect irrigation delivery systems for leaks and repair as necessary.
- Written records describing the date, time, and nature of such inspections and repairs shall be kept on-site for at least two years.

7.3 Additional Reporting Requirements

Because this cultivation enrollment is currently Tier 2 high risk, additional reporting is required. The following reports will be submitted to the water boards.

- Stabilization of Disturbed Areas
- Nitrogen Management

Appendix A. Photo Documentation

All photos were taken on 10/02/19 unless otherwise indicated.



Photo 1. Western greenhouses on APN 210-144-011-000.



Photo 2. Central greenhouse on APN 210-144-011-000.



Photo 3. Northern greenhouses on APN 210-144-011-000.



Photo 4. Eastern outdoor cultivation area on APN 210-144-011-000.



Photo 5. Northern outdoor cultivation area on APN 210-144-011-000.



Photo 6. Compost area on APN 210-144-011-000.



Photo 7. Western greenhouses and outdoor cultivation area on APN 210-144-017-000.



Photo 8. Southeastern greenhouse on APN 210-144-017-000.



Photo 9. Solar Panels above the southeastern greenhouse on APN 210-144-017-000.



Photo 10. Southern greenhouse on APN 210-144-017-000.



Photo 11. Northwestern greenhouse and outdoor cultivation area on APN 210-144-012-000. The photo was taken on 2/17/2020.



Photo 12. Southwestern cultivation area on APN 210-144-012-000.



Photo 13. Southern greenhouses and outdoor cultivation area on APN 210-144-012-000.



Photo 14. The spring box at POD1.



Photo 15. The intake at POD2. The photo was taken on 6/15/2020.



Photo 16. The intake at POD3. The photo was taken on 6/15/2020.



Photo 17. The spring box at POD4. The photo was taken on 6/15/2020.



Photo 18. The rainwater catchment pond.



Photo 19. Four 2,500 Gallon hard-sided water storage tanks on APN 210-144-012-000.



Photo 20. Water storage tank farm on APN 210-144-017-000.



Photo 21. Water storage tank farm on APN 210-144-011-000.



Photo 22. The watercourse crossing at Project 1. The photo was taken on 2/13/2020.



Photo 23. The watercourse crossing at Project 2. The photo was taken on 2/13/2020.



Photo 24. The watercourse crossing at Project 3. The photo was taken on 2/13/2020.



Photo 25. The pond above the road at Project 3. The photo was taken on 6/19/2020.



Photo 26. The watercourse crossing at Project 4. The photo was taken on 2/13/2020.



Photo 27. The watercourse crossing at Project 5. The photo was taken on 2/13/2020.



Photo 28. The watercourse crossing at Project 6. The photo was taken on 2/13/2020.



Photo 29. The watercourse crossing at Project 7. The photo was taken on 2/13/2020.



Photo 30. The watercourse crossing at Project 8. The photo was taken on 2/13/2020.



Photo 31. The spoils in the watercourse buffer at Project 9.



Photo 32. The watercourse crossing at Project 10. The photo was taken on 2/17/2020.



Photo 33. The watercourse crossing at Project 11. The photo was taken on 2/17/2020.



Photo 34. The pond at Project 12. The water tank has been removed from the riparian buffer. The photo was taken on 6/15/2020.



Photo 35. The pond at Project 17. The photo was taken on 2/17/2020.



Photo 36. The breached berm of the former pond at Additional Point 1.



Photo 37. The watercourse crossing on the legacy skid road at Additional Point 2.



Photo 38. The area to be revegetated at Additional Point 4.



Photo 39. An ATV trail crosses a dry swale at Additional Point 8. The photo was taken on 2/17/2020.



Photo 40. Runoff from a legacy ranch road delivers to a watercourse at Additional Point 9. The photo was taken on 2/17/2020.

Appendix B. BPTC Measures from Attachment A of Cannabis Cultivation Policy

SECTION 2 – REQUIREMENTS RELATED TO WATER DIVERSIONS AND WASTE DISCHARGE FOR CANNABIS CULTIVATION

The following requirements apply to any water diversion or waste discharge related to cannabis cultivation.

Land Development and Maintenance, Erosion Control, and Drainage Features

Limitations on Earthmoving

1. Cannabis cultivators shall not conduct grading activities for cannabis cultivation land development or alteration on slopes exceeding 50 percent grade, or as restricted by local county or city permits, ordinances, or regulations for grading, agriculture, or cannabis cultivation; whichever is more stringent shall apply. The grading prohibition on slopes exceeding 50 percent does not apply to site mitigation or remediation if the cannabis cultivator is issued separate WDRs or enforcement orders for the activity by the Regional Water Board Executive Officer.
2. Finished cut and fill slopes, including side slopes between terraces, shall not exceed slopes of 50 percent and should conform to the natural pre-grade slope whenever possible.
3. Cannabis cultivators shall not drive or operate vehicles or equipment within the riparian setbacks or within waters of the state unless authorized under 404/401 CWA permits, a CDFW LSA Agreement, coverage under the Cannabis General Order water quality certification, or site-specific WDRs issued by the Regional Water Board. This requirement does not prohibit driving on established, maintained access roads that comply with this Policy.
4. Cannabis cultivation land development and access road construction shall be designed by qualified professionals. Cannabis cultivators shall conduct all construction or land development activities to minimize grading, soil disturbance, and disturbance to aquatic and terrestrial habitats.
5. The cannabis cultivator shall control all dust related to cannabis cultivation activities to ensure dust does not produce sediment-laden runoff. The cannabis cultivator shall implement dust control measures, including, but not limited to, pre-watering of excavation or grading sites, use of water trucks, track-out prevention, washing down vehicles or equipment before leaving a site, and prohibiting land disturbance activities when instantaneous wind speeds (gusts) exceed 25 miles per hour. Cannabis cultivators shall grade access roads in dry weather while moisture is still present in the soil to minimize dust and to achieve design soil compaction, or when needed use a water truck to control dust and soil moisture.

Construction Equipment Use and Limitations

6. Cannabis cultivators shall employ spill control and containment practices to prevent the discharge of fuels, oils, solvents, and other chemicals to soils and waters of the state.
7. Cannabis cultivators shall stage and store equipment, materials, fuels, lubricants, solvents, or hazardous or toxic materials in locations that minimize the potential for discharge to the Waters of the State. At a minimum, the following measures shall be implemented:
 - 7.1. Designate an area outside the riparian setback for equipment storage, short-term maintenance, and refueling. Cannabis cultivator shall not conduct any maintenance activity or refuel equipment in any location where the petroleum products or other pollutants may enter waters of the state as per Fish and Game Code section 5650 (a)(1).

7.2. Frequently inspect equipment and vehicles for leaks.

7.3. Immediately clean up leaks, drips, and spills. Except for emergency repairs that are necessary for the safe transport of equipment or vehicles to an appropriate repair facility, equipment or vehicle repairs, maintenance, and washing onsite is prohibited.

7.4. If emergency repairs generate waste fluids, ensure they are contained and properly disposed of or recycled off-site.

7.5. Properly dispose of all construction debris off-site. 6. Use dry cleanup methods (e.g., absorbent materials, cat litter, and/or rags) whenever possible. Sweep up, contain, and properly dispose of spilled dry materials.

Erosion Control

8. The cannabis cultivator shall use appropriate erosion control measures to minimize erosion of disturbed areas, potting soil, or bulk soil amendments to prevent discharges of waste. Fill soil shall not be placed where it may discharge into surface water. If used, weed-free straw mulch shall be applied at a rate of two tons per acre of exposed soils and, if warranted by site conditions, shall be secured to the ground.

9. The cannabis cultivator shall not plant or seed noxious weeds. Prohibited plant species include those identified in the California Invasive Pest Plant Council's database, available at: www.cal-ipc.org/paf/. Locally native, non-invasive, and non-persistent grass species may be used for temporary erosion control benefits to stabilize disturbed land and prevent exposure of disturbed land to rainfall. Nothing in this term may be construed as a ban on cannabis cultivation that complies with the terms of this Policy.

10. Cannabis cultivators shall incorporate erosion control and sediment detention devices and materials into the design, work schedule, and implementation of the cannabis cultivation activities. The erosion prevention and sediment capture measures shall be effective in protecting water quality.

- Interim erosion prevention and sediment capture measures shall be implemented within seven days of completion of grading and land disturbance activities, and the Cannabis Cultivation Policy: Attachment A – October 17, 2017 Page 30 shall consist of erosion prevention measures and sediment capture measures including:
 - Erosion prevention measures are required for any earthwork that uses heavy equipment (e.g., bulldozer, compactor, excavator, etc.). Erosion prevention measures may include surface contouring, slope roughening, and upslope stormwater diversion. Other types of erosion prevention measures may include mulching, hydroseeding, tarp placement, revegetation, and rock slope protection.
 - Sediment capture measures include the implementation of measures such as gravel bag berms, fiber rolls, straw bale barriers, properly installed silt fences, and sediment settling basins
 - Long-term erosion prevention and sediment capture measures shall be implemented as soon as possible and before the onset of fall and winter precipitation. Long-term measures may include the use of heavy equipment to reconfigure access roads or improve access road drainage, installation of properly-sized culverts, gravel placement on steeper grades, and stabilization of previously disturbed land.
 - Maintenance of all erosion protection and sediment capture measures is required year-round. Early monitoring allows for the identification of problem areas or underperforming

erosion or sediment control measures. Verification of the effectiveness of all erosion prevention and sediment capture measures is required as part of winterization activities.

11. Cannabis cultivators shall only use geotextiles, fiber rolls, and other erosion control measures made of loose-weave mesh (e.g., jute, coconut (coir) fiber, or from other products without welded weaves). To minimize the risk of ensnaring and strangling wildlife, cannabis cultivators shall not use synthetic (e.g., plastic or nylon) monofilament netting materials for erosion control for any cannabis cultivation activities. This prohibition includes photo- or bio-degradable plastic netting.

12. Cultivation sites constructed on or near slopes with a slope greater than or equal to 30 percent shall be inspected for indications of instability. Indications of instability include the occurrence of slope failures at nearby similar sites, weak soil layers, geologic bedding parallel to slope surface, hillside creep (trees, fence posts, etc. leaning downslope), tension cracks in the slope surface, bulging soil at the base of the slope, and groundwater discharge from the slope. If indicators of instability are present, the cannabis cultivator shall consult with a qualified professional to design measures to stabilize the slope to prevent sediment discharge to surface waters.

13. For areas outside of riparian setbacks or for upland areas, cannabis cultivators shall ensure that rock placed for slope protection is the minimum amount necessary and is part of a design that provides for native plant revegetation. If retaining walls or other structures are required to provide slope stability, they shall be designed by a qualified professional.

14. Cannabis cultivators shall monitor erosion control measures during and after each storm event that produces at least 0.5 in/day or 1.0 inch/7 days of precipitation, and repair or replace, as needed, ineffective erosion control measures immediately.

Access Road/Land Development and Drainage

15. Access roads shall be constructed consistent with the requirements of the California Code of Regulations Title 14, Chapter 4. The Road Handbook describes how to implement the regulations and is available at <https://www.pacificwatershed.com/roadshandbook>. Existing access roads shall be upgraded to comply with the Road Handbook.

16. Cannabis cultivators shall obtain all required permits and approvals before the construction of any access road constructed for cannabis cultivation activities. Permits may include section 404/401 CWA permits, Regional Water Board WDRs (when applicable), CDFW LSA Agreement, and county or local agency permits.

17. Cannabis cultivators shall ensure that all access roads are hydrologically disconnected to receiving waters to the extent possible by installing disconnecting drainage features, increasing the frequency of (inside) ditch drain relief as needed, constructing out-sloped roads, constructing energy dissipating structures, avoiding concentrating flows in unstable areas, and performing inspection and maintenance as needed to optimize the access road performance.

18. New access road alignments should be constructed with grades (slopes) of 3- to 8- percent, or less, wherever possible. Forest access roads should generally be kept below 12 percent except for short pitches of 500 feet or less where road slopes may go up to 20- percent. These steeper access road slopes should be paved or rock surfaced and equipped with adequate drainage. Existing access roads that do not comply with these limits shall be inspected by a qualified professional to determine if improvements are needed.

19. Cannabis cultivators shall decommission or relocate existing roads away from riparian setbacks whenever possible. Roads that are proposed for decommissioning shall be abandoned and left in a condition that provides for the long-term, maintenance-free function of drainage and erosion controls. Abandoned roads shall be blocked to prevent unauthorized vehicle traffic.

20. If site conditions prohibit drainage structures (including rolling dips and ditch-relief culverts) at adequate intervals to avoid erosion, the cannabis cultivator shall use bioengineering techniques¹² as the preferred measure to minimize erosion (e.g., live fascines). If bioengineering cannot be used, then engineering fixes such as armoring (e.g., rock of adequate size and depth to remain in place under traffic and flow conditions) and velocity dissipaters (e.g., gravel-filled “pillows” in an inside ditch to trap sediment) may be used for problem sites. The maximum distance between water breaks shall not exceed those defined in the Road Handbook.

21. Cannabis cultivators shall have a qualified professional design the optimal access road alignment, surfacing, drainage, maintenance requirements, and spoils handling procedures

22. Cannabis cultivators shall ensure that access road surfacing, especially within a segment leading to a water body, is sufficient to minimize sediment delivery to the wetland or waterbody and maximize access road integrity. Road surfacing may include pavement, chip-seal, lignin, rock, or other material appropriate for timing and nature of use. All access roads that will be used for winter or wet weather hauling/traffic shall be surfaced. Steeper access road grades require higher quality rock (e.g., crushed angular versus river-run) to remain in place. The use of asphalt grindings is prohibited.

23. Cannabis cultivators shall install erosion control measures on all access road approaches to surface water diversion sites to reduce the generation and transport of sediment to streams.

24. Cannabis cultivators shall ensure that access roads are out-sloped whenever possible to promote even drainage of the access road surface, prevent the concentration of stormwater flow within an inboard ditch, and to minimize disruption of the natural sheet flow pattern of a hill slope to a stream.

25. If unable to eliminate inboard or inside ditches, the cannabis cultivator shall ensure adequate ditch relief culverts to prevent down-cutting of the ditch and to reduce water runoff concentration, velocity, and erosion. Ditches shall be designed and maintained as recommended by a qualified professional. To avoid point-source discharges, inboard ditches and ditch relief culverts shall be discharged onto vegetated or armored slopes that are designed to dissipate and prevent runoff channelization. Inboard ditches and ditch relief culverts shall be designed to ensure discharges into natural stream channels or watercourses are prevented.

26. Cannabis cultivators shall ensure that access roads are not allowed to develop or show evidence of significant surface rutting or gullyng. Cannabis cultivators shall use water bars and rolling dips as designed by a qualified professional to minimize access road surface erosion and dissipate runoff.

27. Cannabis cultivators shall only grade ditches when necessary to prevent erosion of the ditch, undermining of the banks, or exposure of the toe of the cut slope to erosion. Cannabis cultivators shall not remove more vegetation than necessary to keep water moving, as vegetation prevents scour and filters out sediment.

28. Access road stormwater drainage structures shall not discharge onto unstable slopes, earthen fills, or directly to a water body. Drainage structures shall discharge onto stable areas with straw bales, slash, vegetation, and/or rock riprap.

29. Sediment control devices (e.g., check dams, sand/gravel bag barriers, etc.) shall be used when it is not practical to disperse stormwater before discharge to a waterbody. Where potential discharge to a wetland or water body exists (e.g., within 200 feet of a waterbody) access road surface drainage shall be filtered through vegetation, slash, or other appropriate material, or settled into a depression with an outlet with adequate drainage. Sediment basins shall be engineered and properly sized to allow sediment settling, spillway stability, and maintenance activities.

Drainage Culverts (See also Watercourse Crossings)

30. Cannabis cultivators shall regularly inspect ditch-relief culverts and clear them of any debris or sediment. To reduce ditch-relief culvert plugging by debris, cannabis cultivators shall use 15- to 24-inch diameter pipes, at a minimum. In forested areas with a potential for woody debris, a minimum 18-inch diameter pipe shall be used to reduce clogging. Ditch relief culverts shall be designed by a qualified professional based on site-specific conditions.

31. Cannabis cultivators shall ensure that all permanent watercourse crossings that are constructed or reconstructed are capable of accommodating the estimated 100-year flood flow, including debris and sediment loads. Watercourse crossings shall be designed and sized by a qualified professional.

Cleanup, Restoration, and Mitigation

32. Cannabis cultivators shall limit disturbance to existing grades and vegetation to the actual site of the cleanup or remediation and any necessary access routes.

33. Cannabis cultivators shall avoid damage to native riparian vegetation. All exposed or disturbed land and access points within the stream and riparian setback with damaged vegetation shall be restored with regional native vegetation of similar native species. Riparian trees over four inches in diameter at breast height shall be replaced by similar native species at a ratio of three to one (3:1). Restored areas must be mulched, using at least 2 to 4 inches of weed-free, clean straw or similar biodegradable mulch over the seeded area. Mulching shall be completed within 30 days after land disturbance activities in the areas cease. Revegetation planting shall occur at a seasonally appropriate time until vegetation is restored to pre-cannabis or pre-Legacy condition or better. Cannabis cultivators shall stabilize and restore any temporary work areas with native vegetation to pre-cannabis cultivation or pre-Legacy conditions or better. Vegetation shall be planted at an adequate density and variety to control surface erosion and re-generate a diverse composition of regional native vegetation of similar native species.

34. Cannabis cultivators shall avoid damage to oak woodlands. Cannabis cultivator shall plant three oak trees for every one oak tree damaged or removed. Trees may be planted in groves to maximize wildlife benefits and shall be native to the local county.

35. Cannabis cultivators shall develop a revegetation plan for:

- All exposed or disturbed riparian vegetation areas,
- any oak trees that are damaged or removed, and
- temporary work areas.
- Cannabis cultivators shall develop a monitoring plan that evaluates the revegetation plan for five years. Cannabis cultivators shall maintain annual inspections to assess an 85 percent survival and growth of revegetated areas within five years. The presence of exposed soil shall be documented for three years following revegetation work. If the revegetation results in less than an 85 percent success rate, the unsuccessful vegetation areas shall be replanted. Cannabis cultivators shall

identify the location and extent of exposed soil associated with the site; pre-and post-revegetation work photos; diagram of all areas revegetated, the planting methods, and plants used; and an assessment of the success of the revegetation program. Cannabis cultivators shall maintain a copy of the revegetation plan and monitoring results onsite and make them available, upon request, to Water Boards staff or authorized representatives. An electronic copy of monitoring results is acceptable in Portable Document Format (PDF).

36. Cannabis cultivators shall revegetate soil exposed as a result of cannabis cultivation activities with native vegetation by live planting, seed casting, or hydroseeding within seven days of exposure.

37. Cannabis cultivators shall prevent the spread or introduction of exotic plant species to the maximum extent possible by cleaning equipment before delivery to the cannabis cultivation Site and before removal, restoring land disturbance with appropriate native species, and post-cannabis cultivation activities monitoring and control of exotic species. Nothing in this term may be construed as a ban on cannabis cultivation that complies with the terms of this Policy.

Stream Crossing Installation and Maintenance

Limitations on Work in Watercourses and Permanently Poned Areas

38. Cannabis cultivators shall obtain all applicable permits and approvals before doing any work in or around water bodies or within riparian setbacks. Permits may include section 404/401 CWA permits, Regional Water Board WDRs (when applicable), and a CDFW LSA Agreement.

39. Cannabis cultivators shall avoid or minimize temporary stream crossings. When necessary, temporary stream crossings shall be located in areas where erosion potential and damage to the existing habitat are low. Cannabis cultivators shall avoid areas where runoff from access roadway side slopes and natural hillsides will drain and flow into the temporary crossing. Temporary stream crossings that impede fish passage are strictly prohibited on permanent or seasonal fish-bearing streams.

40. Cannabis cultivators shall avoid or minimize the use of heavy equipment in a watercourse. If use is unavoidable, heavy equipment may only travel or work in a waterbody with a rocky or cobbled channel. Wood, rubber, or clean native rock temporary work pads shall be used on the channel bottom before the use of heavy equipment to protect the channel bed and preserve channel morphology. Temporary work pads and other channel protection shall be removed as soon as possible once the use of heavy equipment is complete.

41. Cannabis cultivators shall avoid or minimize work in or near a stream, creek, river, lake, pond, or other water bodies. If work in a waterbody cannot be avoided, activities and associated workspace shall be isolated from flowing water by directing the water around the worksite. If water is present, then the cannabis cultivator shall develop a site-specific plan prepared by a qualified professional. The plan shall consider partial or full stream diversion and dewatering. The plan shall consider the use of cofferdams upstream and downstream of the work site and the diversion of all flow from upstream of the upstream dam to downstream of the downstream dam, through a suitably sized pipe with intake screens that protect and prevent impacts to fish and wildlife. Cannabis cultivation activities and associated work shall be performed outside the water body from the top of the bank to the maximum extent possible.

Temporary Watercourse Diversion and Dewatering: All Live Watercourses

42. Cannabis cultivators shall ensure that cofferdams are constructed before commencing work and as close as practicable upstream and downstream of the work area. Cofferdam construction using offsite materials, such as clean gravel bags or inflatable dams, is preferred. Thick plastic may be used to minimize leakage

but shall be completely removed and properly disposed of upon work completion. If the cofferdams or stream diversion fails, the cannabis cultivator shall repair them immediately.

43. When any dam or other artificial obstruction is being constructed, maintained, or placed in operation, the cannabis cultivator shall allow sufficient water at all times to pass downstream to maintain aquatic life below the dam according to Fish and Game Code section 5937.

44. If possible, gravity flow is the preferred method of water diversion. If a pump is used, the cannabis cultivator shall ensure that the pump is operated at the rate of flow that passes through the cannabis cultivation site. Pumping rates shall not dewater or impound water on the upstream side of the cofferdam. When diversion pipe is used it shall be protected from cannabis cultivation activities and maintained to prevent debris blockage.

45. Cannabis cultivators shall only divert water such that water does not scour the channel bed or banks at the downstream end. Cannabis cultivators shall divert flow in a manner that prevents turbidity, siltation, and pollution and provides flows to downstream reaches. Cannabis cultivators shall provide flows to downstream reaches during all times that the natural flow would have supported aquatic life. Flows shall be of sufficient quality and quantity, and of appropriate temperature to support fish and other aquatic life both above and below the diversion. Block netting and intake screens shall be sized to protect and prevent impacts on fish and wildlife.

46. Once the water has been diverted around the work area, cannabis cultivators may dewater the site to provide an adequately dry work area. Any muddy or otherwise contaminated water shall be pumped to a settling tank, dewatering filter bag, or upland area, or to another location approved by CDFW or the appropriate Regional Water Board Executive Officer before re-entering the watercourse.

47. Upon completion of work, cannabis cultivators shall immediately remove the flow diversion structure in a manner that allows the flow to resume with a minimum of disturbance to the channel substrate and that minimizes the generation of turbidity.

Watercourse Crossings

48. Cannabis cultivators shall ensure those watercourse crossings are designed by a qualified professional.

49. Cannabis cultivators shall ensure that all access road watercourse crossing structures allow for the unrestricted passage of water and shall be designed to accommodate the estimated 100-year flood flow and associated debris (based upon an assessment of the stream's potential to generate debris during high flow events). Consult CAL FIRE 100-year Watercourse Crossings document for examples and design calculations, available at: [http://calfire.ca.gov/resource_mgt/downloads/100%20yr%20revised%208-08-17%20\(finale\).pdf](http://calfire.ca.gov/resource_mgt/downloads/100%20yr%20revised%208-08-17%20(finale).pdf).

50. Cannabis cultivators shall ensure that watercourse crossings allow migration of aquatic life during all life stages supported or potentially supported by that stream reach. Design measures shall be incorporated to ensure water depth and velocity do not inhibit the migration of aquatic life. Any access road crossing structure on watercourses that supports fish shall be constructed for the unrestricted passage of fish at all life stages, and should use the following design guidelines:

- CDFW's Culvert Criteria for Fish Passage;

- CDFW's Salmonid Stream Habitat Restoration Manual, Volume 2, Part IX: Fish Passage Evaluation at Stream Crossings; and

- National Marine Fisheries Service, Southwest Region Guidelines for Salmonid Passage at Stream Crossings.

51. Cannabis cultivators shall conduct regular inspections and maintenance of stream crossings to ensure crossings are not blocked by debris. Refer to California Board of Forestry Technical Rule No. 5 available at: <http://www.calforests.org/wpcontent/uploads/2013/10/Adopted-TRA5.pdf>.

52. Cannabis cultivators shall only use rock fords for temporary seasonal crossings on small watercourses where aquatic life passage is not required during the time of use. Rock fords shall be oriented perpendicular to the flow of the watercourse and designed to maintain the range of surface flows that occur in the watercourse. When constructed, rock shall be sized to withstand the range of flow events that occur at the crossing and rock shall be maintained at the rock ford to completely cover the channel bed and bank surfaces to minimize soil compaction, rutting, and erosion. Rock must extend on either side of the ford up to the break in slope. The use of rock fords as watercourse crossings for all-weather access road use is prohibited.

53. Cannabis cultivators shall ensure that culverts used at watercourse crossings are designed to direct flow and debris toward the inlet (e.g., use of wing-walls, pipe beveling, rock armoring, etc.) to prevent erosion of road fill, debris blocking the culvert, and watercourses from eroding a new channel.

54. Cannabis cultivators shall regularly inspect and maintain the condition of access roads, access road drainage features, and watercourse crossings. At a minimum, cannabis cultivators shall perform inspections before the onset of fall and winter precipitation and following storm events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation. Cannabis cultivators are required to perform all of the following maintenance:

- Remove any wood debris that may restrict flow in a culvert.
- Remove sediment that impacts access road or drainage feature performance. Place any removed sediment in a location outside the riparian setbacks and stabilize the sediment.
- Maintain records of access road and drainage feature maintenance and consider redesigning the access road to improve performance and reduce maintenance needs.

55. Cannabis cultivators shall compact access road crossing approaches and fill slopes during installation and shall stabilize them with rock or other appropriate surface protection to minimize surface erosion. When possible, cannabis cultivators shall ensure that access roads over culverts are equipped with a critical dip to ensure that, if the culvert becomes blocked or plugged, water can flow over the access road surface without washing away the fill prism. Access road crossings where specific conditions do not allow for a critical dip or in areas with potential for significant debris accumulation shall include additional measures such as emergency overflow culverts or oversized culverts that are designed by a qualified professional.

56. Cannabis cultivators shall ensure that culverts used at watercourse crossings are: 1) installed parallel to the watercourse alignment to the extent possible, 2) of sufficient length to extend beyond stabilized fill/side-cast material, and 3) embedded or installed at the same level and gradient of the streambed in which they are being placed to prevent erosion.

Soil Disposal and Spoils Management

57. Cannabis cultivators shall store soil, construction, and waste materials outside the riparian setback except as needed for immediate construction needs. Such materials shall not be stored in locations of known slope instability or where the storage of construction or waste material could reduce slope stability.

58. Cannabis cultivators shall separate large organic material (e.g., roots, woody debris, etc.) from soil materials. Cannabis cultivators shall either place the large organic material in long-term upland storage sites or properly dispose of these materials offsite.

59. Cannabis cultivators shall store erodible soil, soil amendments, and spoil piles to prevent sediment discharges in stormwater. Storage practices may include the use of tarps, upslope land contouring to divert surface flow around the material, or the use of sediment control devices (e.g., silt fences, straw wattles, etc.).

60. Cannabis cultivators shall contour and stabilize stored spoils to mimic natural slope contours and drainage patterns (as appropriate) to reduce the potential for fill saturation and slope failure. 61. For soil disposal sites cannabis cultivators shall:

- Revegetate soil disposal sites with a mix of native plant species,
- Cover the seeded and planted areas with mulched straw at a rate of two tons per acre, and
- Apply non-synthetic netting or similar erosion control fabric (e.g., jute) on slopes greater than 2:1 if the site is erodible.

62. Cannabis cultivators shall haul away and properly dispose of excess soil and other debris as needed to prevent discharge to the Waters of the State.

Riparian and Wetland Protection and Management

63. Cannabis cultivators shall not disturb aquatic or riparian habitats, such as pools, spawning sites, large wood, or shading vegetation unless authorized under a CWA section 404 permit, CWA section 401 certification, Regional Water Board WDRs (when applicable), or a CDFW LSA Agreement.

64. Cannabis cultivators shall maintain existing, naturally occurring, riparian vegetative cover (e.g., trees, shrubs, and grasses) in aquatic habitat areas to the maximum extent possible to maintain riparian areas for streambank stabilization, erosion control, stream shading, and temperature control, sediment and chemical filtration, aquatic life support, wildlife support, and to minimize waste discharge.

Water Storage and Use

Water Supply, Diversion, and Storage

65. Cannabis cultivators shall only install, maintain, and destroy wells in compliance with county, city, and local ordinances and with California Well Standards as stipulated in California Department of Water Resources Bulletins 74-90 and 74-81.14

66. All water diversions for cannabis cultivation from a surface stream, a subterranean stream flowing through a known and definite channel (e.g., groundwater well diversions from subsurface streamflow), or other surface water bodies are subject to the surface water Numeric and Narrative Instream Flow Requirements. This includes lakes, ponds, and springs (unless the spring is deemed exempt by the Deputy Director).

67. Groundwater diversions may be subject to additional requirements, such as a forbearance period if the State Water Board determines those requirements are reasonably necessary to implement the purposes of this Policy.

68. Cannabis cultivators are encouraged to use appropriate rainwater catchment systems to collect from impermeable surfaces (e.g., rooftops, etc.) during the wet season and store stormwater in tanks, bladders, or off-stream engineered reservoirs to reduce the need for surface water or groundwater diversions.

69. Cannabis cultivators shall not divert surface water unless it is diverted under an existing water right that specifies, as appropriate, the source, location of the point of diversion, the purpose of use, place of use, and quantity and season of diversion. Cannabis cultivators shall maintain documentation of the water right at the cannabis cultivation site. Documentation of the water right shall be available for review and inspection by the Water Boards, CDFW, and any other authorized representatives of the Water Boards or CDFW.

70. Cannabis cultivators shall ensure that all water diversion facilities are designed, constructed, and maintained so they do not prevent, impede, or tend to prevent the passing of fish, as defined by Fish and Game Code section 45, upstream or downstream, as required by Fish and Game Code section 5901. This includes but is not limited to the supply of water at an appropriate depth, temperature, and velocity to facilitate upstream and downstream aquatic life movement and migration. Cannabis cultivators shall allow sufficient water at all times to pass past the point of diversion to keep in good condition any fish that may be planted or exist below the point of diversion as defined by Fish and Game Code section 5937. Cannabis cultivators shall not divert water in a manner contrary to or inconsistent with these requirements.

71. Cannabis cultivators issued a Cannabis SIUR by the State Water Board shall not divert surface water unless in compliance with all additional Cannabis SIUR conditions required by CDFW.

72. Water diversion facilities shall include satisfactory means for bypassing water to satisfy downstream prior rights and any requirements of policies for water quality control, water quality control plans, water quality certifications, waste discharge requirements, or other local, state, or federal instream flow requirements. Cannabis cultivators shall not divert in a manner that results in injury to holders of legal downstream senior rights. Cannabis cultivators may be required to curtail diversions should diversion result in injury to holders of legal downstream senior water rights or interfere with maintenance of downstream instream flow requirements.

73. Fuel-powered (e.g., gas, diesel, etc.) diversion pumps shall be located in a stable and secure location outside of the riparian setbacks unless authorized under a 404/401 CWA permits, a CDFW LSA Agreement, coverage under the Cannabis General Order water quality certification, or site-specific WDRs issued by the Regional Water Board. The use of non-fuel-powered diversion pumps (solar, electric, gravity, etc.) is encouraged. In all cases, all pumps shall:

1. be properly maintained,
2. have suitable containment to ensure any spills or leaks do not enter surface water bodies or groundwater, and
3. have sufficient overhead cover to prevent exposure of equipment to precipitation.

74. No water shall be diverted unless the cannabis cultivator is operating the water diversion facility with a CDFW-approved water intake screen (e.g. fish screen). The water intake screen shall be designed and maintained under screening criteria approved by CDFW. The screen shall prevent wildlife from entering

the diversion intake and becoming entrapped. The cannabis cultivator shall contact the regional CDFW Office, LSA Program for information on screening criteria for diversion(s). The cannabis cultivator shall provide evidence that demonstrates that the water intake screen is in good condition whenever requested by the Water Boards or CDFW. Points of re-diversion from off-stream storage facilities that are open to the environment shall have a water intake screen, as required by CDFW.

75. Cannabis cultivators shall inspect, maintain, and clean water intake screens and bypass appurtenances as directed by CDFW to ensure proper operation for the protection of fish and wildlife.

76. Cannabis cultivators shall not obstruct, alter, dam, or divert all or any portion of a natural watercourse before obtaining all applicable permits and approvals. Permits may include a valid water right, 404/401 CWA permits, a CDFW LSA Agreement, coverage under the Cannabis General Order water quality certification, or site-specific WDRs issued by the Regional Water Board.

77. Cannabis cultivators shall plug, block, cap, disconnect, or remove the diversion intake associated with cannabis cultivation activities during the surface water forbearance period unless the diversion intake is used for other beneficial uses, to ensure no water is diverted during that time.

78. Cannabis cultivators shall not divert from surface water or a subterranean stream for cannabis cultivation at a rate more than a maximum instantaneous diversion rate of 10 gallons per minute unless authorized under an existing appropriative water right.

82. Onstream storage reservoirs are prohibited unless either:

- The cannabis cultivator has an existing water right with irrigation as a designated use, issued before October 31, 2017, that authorizes the onstream storage reservoir, or
- The cannabis cultivator obtains an appropriative water rights permit with irrigation as a designated use before diverting water from an onstream storage reservoir for cannabis cultivation. Cannabis cultivators with a pending application or an unpermitted onstream storage reservoir shall not divert for cannabis cultivation until the cannabis cultivator has obtained a valid water right.

83. Cannabis cultivators are encouraged to install separate storage systems for water diverted for cannabis irrigation and water diverted for any other beneficial uses, or otherwise shall install separate measuring devices to quantify diversion to and from each storage facility, including the quantity of water diverted and the quantity, place, and purpose of use (e.g., cannabis irrigation, other crop irrigation, domestic, etc.) for the stored water.

84. The cannabis cultivator shall install and maintain a measuring device(s) for surface water or subterranean stream diversions. The measuring device shall be, at a minimum equivalent to the requirements for direct diversions greater than 10 acre-feet per year in California Code of Regulations, Title 23, Division 3, Chapter 2.717. The measuring device(s) shall be located as close to the point of diversion as reasonable. Cannabis cultivators shall maintain daily diversion records for water diverted for cannabis cultivation. Cannabis cultivators shall maintain separate records that document the amount of water used for cannabis cultivation separated from the amount of water used for other irrigation purposes and other beneficial uses of water (e.g., domestic, fire protection, etc.). Cannabis cultivators shall maintain daily diversion records at the cultivation site and shall make the records available for review or by request by the Water Boards CDFW, or any other authorized representatives of the Water Boards or CDFW. Daily diversion records shall be retained for a minimum of five years. Compliance with this term is required for any surface water diversion for cannabis cultivation, even those under 10 acre-feet per year.

85. The State Water Board intends to develop and implement a basin-wide program for real-time electronic monitoring and reporting of diversions, withdrawals, releases, and streamflow in a standardized format if and when resources become available. Such real-time reporting will be required upon a showing by the State Water Board that the program and the infrastructure are in place to accept real-time electronic reports. Implementation of the reporting requirements shall not necessitate an amendment to this Requirement.

86. Cannabis cultivators shall not use off-stream storage reservoirs and ponds to store water for cannabis cultivation unless they are sited and designed or approved by a qualified professional in compliance with the Division of Safety of Dams (DSOD), county, and/or city requirements, as applicable. If the DSOD, county, and/or city do not have established requirements they shall be designed consistent with the Natural Resource Conservation Service National Engineering Manual. Reservoirs shall be designed with an adequate overflow outlet that is protected and promotes the dispersal and infiltration of flow and prevents channelization. All off-stream storage reservoirs and ponds shall be designed, managed, and maintained to accommodate average annual winter period precipitation and stormwater inputs to reduce the potential for overflow. Cannabis cultivators shall plant native vegetation along the perimeter of the reservoir in locations where it does not impact the structural integrity of the reservoir berm or spillway. The cannabis cultivator shall control vegetation around the reservoir berm and spillway to allow for visual inspection of berm and spillway conditions and control burrowing animals as necessary.

87. Cannabis cultivators shall implement an invasive species management plan prepared by a Qualified Biologist for any existing or proposed water storage facilities that are open to the environment. The plan shall include, at a minimum, an annual survey for bullfrogs and other invasive aquatic species. If bullfrogs or other invasive aquatic species are identified, eradication measures shall be implemented under the direction of a qualified biologist, if appropriate after consultation with CDFW (according to Fish and Game Code section 6400). Eradication methods can be direct or indirect. Direct methods may include handheld dip net, hook and line, lights, spears, gigs, or fish tackle under a fishing license (under Fish and Game Code section 6855). An indirect method may involve seasonally timed complete dewatering and a drying period of the off-stream storage facility under a Permit to Destroy Harmful Species (under Fish and Game Code section 5501) issued by CDFW.

88. Water storage bladders are not encouraged for long-term use. If bladders are used, the cannabis cultivator shall ensure that the bladder is designed and properly installed to store water and that the bladder is sited to minimize the potential for water to flow into a watercourse in the event of a catastrophic failure. If a storage bladder has been previously used, the cannabis cultivator shall carefully inspect the bladder to confirm its integrity and confirm the absence of any interior residual chemicals before resuming use. Cannabis cultivators shall periodically inspect water storage bladders and containment features to ensure integrity. Water storage bladders shall be properly disposed of or recycled and not resold when the assurance of structural integrity is no longer guaranteed.

89. Cannabis cultivators shall not use water storage bladders unless the bladder is safely contained within a secondary containment system with sufficient capacity to capture 110 percent of a bladder's maximum possible contents in the event of bladder failure (i.e., 110 percent of the bladder's capacity). Secondary containment systems shall be of sufficient strength and stability to withstand the forces of released contents in the event of a catastrophic bladder failure. In addition, secondary containment systems that are open to the environment shall be designed and maintained with sufficient capacity to accommodate precipitation and stormwater inputs from a 25-year, 24-hour storm event.

90. Cannabis cultivators shall not cause or allow any overflow from off-stream water storage facilities that are closed to the environment (e.g., tanks and bladders) if the off-stream facilities are served by a diversion

from surface water or groundwater. Cannabis cultivators shall regularly inspect for and repair all leaks in the diversion and storage system.

91. Water storage tanks, bladders, and other off-stream water storage facilities that are closed to the environment shall not be located in a riparian setback or next to equipment that generates heat. Cannabis cultivators shall place water storage tanks, bladders, and other off-stream water storage facilities that are closed to the environment in areas that allow for ease of installation, access, maintenance, and minimal road development.

92. Cannabis cultivators shall install vertical and horizontal tanks according to the manufacturer's specifications and shall place tanks on properly compacted soil that is free of rocks and sharp objects and capable of bearing the weight of the tank and its maximum contents with minimal settlement. Tanks shall not be located in areas of slope instability. Cannabis cultivators shall install water storage tanks capable of containing more than 8,000 gallons only on a reinforced concrete pad providing adequate support and enough space to attach a tank restraint system (anchor using the molded-in tie-down lugs with moderate tension, being careful not to over-tighten) per the recommendations of a qualified professional.

93. To prevent rupture or overflow and runoff, cannabis cultivators shall only use water storage tanks and bladders equipped with a float valve, or equivalent device, to shut off diversion when storage systems are full. Cannabis cultivators shall install any other measures necessary to prevent overflow of storage systems to prevent runoff and the diversion of more water than can be used and/or stored.

94. Cannabis cultivators shall ensure that all vents and other openings on water storage tanks are designed to prevent the entry and/or entrapment of wildlife.

95. Cannabis cultivators shall retain, for a minimum of five years, appropriate documentation for any hauled water¹⁸ used for cannabis cultivation. Documentation for hauled water shall include, for each delivery, all of the following:

1. A receipt that shows the date of delivery and the name, address, license plate number, and license plate issuing state for the water hauler,
2. A copy of the Water Hauler's License (California Health and Safety Code section 111120),
3. A copy of proof of the Water Hauler's water right, groundwater well, or other authorization to take water, the location of the water source, and
4. The quantity of water delivered or picked up from a water source, in gallons. Documentation shall be made available, upon request, to Water Boards or CDFW staff and any other authorized representatives of the Water Boards or CDFW.

Water Conservation and Use

96. Cannabis cultivators shall regularly inspect their entire water delivery system for leaks and immediately repair any leaky faucets, pipes, connectors, or other leaks.

97. Cannabis cultivators shall use weed-free mulch in cultivation areas that do not have ground cover to conserve soil moisture and minimize evaporative loss.

98. Cannabis cultivators shall implement water-conserving irrigation methods (e.g., drip or trickle irrigation, micro-spray, or hydroponics).

99. Cannabis cultivators shall maintain daily records of all water used for the irrigation of cannabis. Daily records may be calculated by the use of a measuring device or, if known, by calculating the irrigation system rates and duration of time watered (e.g., irrigating for one hour twice per day using 50 half-gallon drips equates to 50 gallons per day (1*2*50*0.5) of water used for irrigation). Cannabis cultivators shall retain, for a minimum of 5 years, irrigation records at the cannabis cultivation site and shall make all irrigation records available for review by the Water Boards, CDFW, and any other authorized representatives of the Water Boards or CDFW.

Irrigation Runoff

100. Cannabis cultivators shall regularly inspect for leaks in mainlines, laterals, irrigation connections, sprinkler heads, or at the ends of drip tape and feeder lines and immediately repair any leaks found upon detection.

101. The irrigation system shall be designed to include redundancy (e.g., safety valves) if leaks occur, so that waste of water and runoff is prevented and minimized.

102. Cannabis cultivators shall regularly replace worn, outdated, or inefficient irrigation system components and equipment to ensure a properly functioning, leak-free irrigation system at all times.

103. Cannabis cultivators shall minimize irrigation deep percolation by applying irrigation water at agronomic rates.

Fertilizers, Pesticides, and Petroleum Products

104. Cannabis cultivators shall not mix, prepare, over-apply, or dispose of agricultural chemicals/products (e.g., fertilizers, pesticides, and other chemicals as defined in the applicable water quality control plan) in any location where they could enter the riparian setback or waters of the state. The use of agricultural chemicals inconsistently with product labeling, storage instructions, or DPR requirements for pesticide applications is prohibited. Disposal of unused products and containers shall be consistent with labels.

105. Cannabis cultivators shall keep and use absorbent materials designated for spill containment and spill cleanup equipment on-site for use in an accidental spill of fertilizers, petroleum products, hazardous materials, and other substances which may degrade the waters of the state. The cannabis cultivator shall immediately notify the California Office of Emergency Services at 1-800-852-7550 and immediately initiate cleanup activities for all spills that could enter a waterbody or degrade groundwater.

106. Cannabis cultivators shall establish and use a separate storage area for pesticides, and fertilizers, and another storage area for petroleum or other liquid chemicals (including diesel, gasoline, oils, etc.). All such storage areas shall comply with the riparian setback Requirements, be in a secured location in compliance with label instructions, outside of areas of known slope instability, and be protected from accidental ignition, weather, and wildlife. All storage areas shall have appropriate secondary containment structures, as necessary, to protect water quality and prevent spillage, mixing discharge, or seepage. Storage tanks and containers must be of suitable material and construction to be compatible with the substances stored and conditions of storage, such as pressure and temperature.

107. Throughout the wet season, Cannabis Cultivators shall ensure that any temporary storage areas have a permanent cover and side-wind protection or be covered during non-working days and before and during rain events.

108. Cannabis cultivators shall only use hazardous materials²⁴ in a manner consistent with the product's label.

109. Cannabis cultivators shall only keep hazardous materials in their original containers with labels intact, and shall store hazardous materials to prevent exposure to sunlight, excessive heat, and precipitation. Cannabis cultivators shall provide secondary containment for hazardous materials to prevent possible exposure to the environment. Disposal of unused hazardous materials and containers shall be consistent with the label.

110. Cannabis cultivators shall only mix, prepare, apply, or load hazardous materials outside of the riparian setbacks.

111. Cannabis cultivators shall not apply agricultural chemicals within 48 hours of a predicted rainfall event of 0.25 inches or greater with a probability greater than 50 percent. In the Lake Tahoe Hydrologic Unit, cannabis cultivators shall not apply agricultural chemicals within 48 hours of any weather pattern that is forecast to have a 30 percent or greater chance of precipitation greater than 0.1 inch per 24 hours. This requirement may be updated based on amendments to the Lahontan Regional Water Board construction stormwater general order.

Fertilizers and Soils

112. To minimize infiltration and water quality degradation, Cannabis cultivators shall irrigate and apply fertilizer consistent with the crop need (i.e., agronomic rate).

113. When used, cannabis cultivators shall apply nitrogen to cannabis cultivation areas consistent with crop need (i.e., agronomic rate). Cannabis cultivators shall not apply nitrogen at a rate that may result in a discharge to surface water or groundwater that causes or contributes to exceedance of water quality objectives, and no greater than 319 pounds/acre/year unless plant tissue analysis is performed by a qualified individual demonstrates the need for additional nitrogen application. The analysis shall be performed by an agricultural laboratory certified by the State Water Board's Environmental Laboratory Accreditation Program.

114. Cannabis cultivators shall ensure that potting soil or soil amendments, when not in use, are placed and stored with covers, when needed, to protect from rainfall and erosion, to prevent discharge to waters of the state, and to minimize leaching of waste constituents into groundwater.

Pesticides and Herbicides

115. Cannabis cultivators shall not apply restricted materials, including restricted pesticides, or allow restricted materials to be stored at the cannabis cultivation site.

116. Cannabis cultivators shall implement integrated pest management strategies where possible to reduce the need and use of pesticides and the potential for discharges to the waters of the state.

Petroleum Products and Other Chemicals

117. Cannabis cultivators shall only refuel vehicles or equipment outside of riparian setbacks. Cannabis cultivators shall inspect all equipment using oil, hydraulic fluid, or petroleum products for leaks before use and shall monitor equipment for leakage. Stationary equipment (e.g., motors, pumps, generators, etc.) and vehicles not in use shall be located outside of riparian setbacks. Spill and containment equipment (e.g., oil spill booms, sorbent pads, etc.) shall be stored on-site at all locations where equipment is used or staged.

118. Cannabis cultivators shall store petroleum, petroleum products, and similar fluids in a manner that provides chemical compatibility, secondary containment, and protection from accidental ignition, the sun, wind, and rain.

119. Use of an underground storage tank(s) for the storage of petroleum products is allowed if compliant with all applicable federal, state, and local laws; regulations; and permitting requirements.

Cultivation-Related Waste

120. Cannabis cultivators shall contain and regularly remove all debris and trash associated with cannabis cultivation activities from the cannabis cultivation site. Cannabis cultivators shall only dispose of debris and trash at an authorized landfill or other disposal sites in compliance with state and local laws, ordinances, and regulations. Cannabis cultivators shall not allow litter, plastic, or similar debris to enter the riparian setback or waters of the state. Cannabis plant material may be disposed of onsite in compliance with any applicable CDFA license conditions.

121. Cannabis cultivators shall only dispose or reuse spent growth medium (e.g., soil and other organic media) in a manner that prevents the discharge of soil and residual nutrients and chemicals to the riparian setback or waters of the state. The spent growth medium shall be covered with plastic sheeting or stored in water-tight dumpsters before proper disposal or reuse. Spent growth medium should be disposed of at an authorized landfill or other disposal sites in compliance with state and local laws, ordinances, and regulations. Proper reuse of spent growth medium may include incorporation into garden beds or spreading on a stable surface and revegetating the surface with native plants. Cannabis cultivators shall use erosion control techniques, as needed, for any reused or stored spent growth medium to prevent polluted runoff.

Refuse and Domestic Waste

122. Cannabis cultivators shall ensure that debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement and concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to any life stage of fish and wildlife or their habitat (includes food sources) does not contaminate soil or enter the riparian setback or waters of the state.

123. Cannabis cultivators shall not dispose of domestic wastewater unless it meets applicable local agency and/or Regional Water Board requirements. Cannabis cultivators shall ensure that human or animal waste is disposed of properly. Cannabis cultivators shall ensure onsite wastewater treatment systems (e.g., septic system) are permitted by the local agency or applicable Regional Water Board.

124. If used, chemical toilets or holding tanks shall be maintained in a manner appropriate for the frequency and conditions of usage, sited in stable locations, and comply with the riparian setback Requirements.

Winterization

125. Cannabis cultivators shall implement all applicable Erosion Control and Soil Disposal and Spoils Management Requirements in addition to the Winterization Requirements below by the onset of the winter period.

126. Cannabis cultivators shall block or otherwise close any temporary access roads to all motorized vehicles no later than the onset of the winter period each year.

127. Cannabis cultivators shall not operate heavy equipment of any kind at the cannabis cultivation site during the winter period unless authorized for emergency repairs contained in an enforcement order issued by the State Water Board, Regional Water Board, or other agency having jurisdiction.

128. Cannabis cultivators shall apply linear sediment controls (e.g., silt fences, wattles, etc.) along the toe of the slope, the face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow length at the frequency specified below.

Slope (percent)	Sheet Flow Length not to Exceed (feet)
0 – 25	20
25 – 50	15
>50	10

129. Cannabis cultivators shall maintain all culverts, drop inlets, trash racks, and similar devices to ensure they are not blocked by debris or sediment. The outflow of culverts shall be inspected to ensure erosion is not undermining the culvert. Culverts shall be inspected before the onset of fall and winter precipitation and following precipitation events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation to determine if maintenance or cleaning is required.

130. Cannabis cultivators shall stabilize all disturbed areas and construction entrances and exits to control erosion and sediment discharges from land disturbance.

131. Cannabis cultivators shall cover and berm all loose stockpiled construction materials (e.g., soil, spoils, aggregate, etc.) that are not actively (scheduled for use within 48 hours) being used as needed to prevent erosion by stormwater. The cannabis cultivator shall have adequate cover and berm materials available on site if the weather forecast indicates a probability of precipitation.

132. Cannabis cultivators shall apply erosion repair and control measures to the bare ground (e.g., cultivation area, access paths, etc.) to prevent the discharge of sediment into the waters of the state.

133. As part of the winterization plan approval process, the Regional Water Board may require cannabis cultivators to implement additional site-specific erosion and sediment control requirements if the implementation of the requirements in this section does not adequately protect water quality.