

9.2 Sources of Water

Existing Water Right

The property owner is the primary owner of the water rights affiliated with both reservoirs adjacent to the commercial cannabis cultivation site. The water right covers the storage of 23-acre feet of water under the diversion periods acceptable under the the SWRCB's General Order and Policy. Both reservoirs were inspected and cleared in a site inspection conducted over the course of two days in October of 2018; with representatives from the Regional Water Quality Division, the State Water Rights Division, and the CDFW. This same water right allows for the use of 20-acre feet of irrigation within the proposed location of the canopy. The water right Application number is 212240, the permit number is 14263, and license number 9370.

CDFW Clearance for Water Diversion

The Final Streambed Alteration Agreement, Notification number 1600-2018-0284-R2 was filed with the CDFW on May 13, 2019. This document covers the storage of water in both reservoirs as well as the diversion of water from the existing pump which will also be used on this proposed project. The applicant has worked closely with Kyle Stoner, the regional CDFW environmental scientist, on this project for over two years now.



Proposed Well Location and Withdrawal Rate

The property owner is using water dowsing, sonar technology, geographical surveys, and input from biologists and botanists to decide on the optimal location of the onsite well. With the information gathered thus far, the proposed well location can be accessed within the Site Management Plans. This final location along with the GPS coordinates will be updated to the County Community Development Department and Environmental Health Department as soon as the well is finalized. The property owner is using a licensed well driller who will be filing all of the necessary paperwork with the Environmental Health Department. The property owner is proposing to put in a 50 GPM well. This withdrawal rate will occur during the six months of the growing season for 12 hours per day totaling 1.1 millions of gallons of water per month. This water will total just over 20-acre feet of water and it will be used to maintain the optimal level of the onsite reservoirs to preserve wildlife and natural habitats. All waters in and out of each reservoir will be monitored and documented. The monitoring device will be in the production well and no monitoring well will be required for this project. This idea has been proposed to the county's Environmental Health Department, the SWRCB Water Rights Division, the SWRCB Water Quality Division, the Regional Water Quality Division, the CDFW, and most importantly the State Water Resources Department (who directly deals with groundwater for CA). All departments provided no resistance to the proposal and the applicant as well as the property owners are excited to see this through.

9.3 Restrictions on Water Use

The applicant shall not engage in unlawful or unpermitted drawing of surface water. Water use may only be permitted if all local, state, and federal permits required to utilize the water source are obtained. The use of water provided by a public water supply, unlawful water diversions, transported by a water hauler, bottled water, a water-vending machine, or a retail water facility is prohibited.

Only on an emergency basis shall water be supplied by a licensed retail water supplier, as defined in Section 13575 of the Water Code. The applicant shall notify the CDD within 7 days of the emergency and provide the following information:

- Description of the emergency
- Identification of the retail water supplier including license number
- Volume of water supplied
- Actions taken to prevent the emergency in the future.

9.4 Proposed Irrigation System and Methodology

The proposed irrigation system for this project utilizes a variety of methods and controls to ensure that water is being applied in the most efficient manner possible to optimally grow healthy plants while protecting the lot of record's invaluable natural resources of water. These methods and controls help to minimize water use through safety mechanisms, soil preparations, and the utilization of effective precipitation:

- Evapotranspiration based automatic irrigation controllers
- Backflow prevention devices
- Anti-drain or check valves
- Generous mulching
- Cover cropping
- Low-volume emitting irrigation lines

Using the Water Efficient Landscape Worksheet supplied through California Code of Regulations (Title 23. Waters Division 2. Department of Water Resources Chapter 2.7) a determination of the Maximum Applied Water Allowance (MAWA) was determined. This figure derives from the total square feet of the cultivation area (LA=522,720') along with the current annual Evapotranspiration rate (ET_o=49.4) in zone 8 of the California Irrigation Management Information Systems. The equation is as follows: MAWA = (ET_o) (0.62) [(0.7 x LA). The result of the equation allows for 11,206,907.71-gallons of water for the MAWA, leaving the annual Estimated Total Water Use (ETWU) of this project, 4,800,000-gallons of water use, well under half of the maximum allowed for the present location and size.

A state approved water metering device will be utilized to account for all water use pertaining to cannabis cultivation activities. This specific Water Use Meter calculates both single use and overall water consumption. Water use will be measured on an applied basis, accounting for all diverted water that is being used to irrigate the cannabis cultivation canopy.

9.5 Projected Water Use

Water use shall be limited to what is reasonably required for the beneficial use of irrigation for the thirteen-acre canopy proposed in this project. Below is a projected monthly and annual usage rate for the irrigation of thirteen-acres of cannabis under the project's current growing operations. The only other water use in connection with the project will be for dust mitigation during common agricultural practices such as disking and tilling. This is projected to be quite a minimal amount so no numbers are reflected on the chart below, however, in compliance with the SWRCB all uses will be documented and recorded.

Month	Gallons/Acre	Gallons/Canopy	Acre-Feet/Canopy
May	13,333	159,996	0.49
June	26,666	319,992	0.98
July	46,666	559,992	1.72
August	66,666	799,992	2.45
September	113,333	1,359,996	4.17
October	133,333	1,599,996	4.91
Annual Total	400,000	4,800,000	14.72

Agronomic flow rates regulated by pressure compensated emitters will ensure uniform application of irrigation. Automatic rain shut off devices will further safeguard this consistent agronomic flow is only applied when needed. The automated features in this irrigation system will ensure minimal to no runoff from the cultivation canopy thus protecting the surrounding watercourses and habitats. These attributes will further protect the water resources on the subject parcel by minimizing water use to exclusively the intended and necessary amounts for the healthy growth of the cannabis plants. The thorough and regular application of on-site produced mulch will assist in these water conservation efforts; maintaining and improving soil moisture and minimizing any threat of runoff or erosion of the growing medium. Routine maintenance of all irrigation lines will help conserve water use as well. The use of holes instead of bags for the base of the plants will give the roots the ability to tap potential groundwater underneath the canopy thus, further saving surface water resources. Further details pertaining to irrigation and how it will assist in conservation and protection of the water resources on the subject parcel can be found in the Water Use section of this document. These methods and practices integrated with the very low risk distance of setbacks from watercourses will ensure the protection of the water resources of the County and State.

All maintenance activities on the subject parcel will be conducted with adherence to the applicable Best Management Practices (BMP). No grading is required for this project at this time, however, the BMP's to protect water resources for any construction related activities have been reviewed and will be implemented if and when necessary. These construction BMPs concentrate specifically on erosion control, sediment capture, and stormwater management.

The strict and absolute adherence to the waste management plan for the subject parcel will be maintained throughout the entirety of the 10-year duration of the major use permit being applied for. The waste management plan assures that no hazardous or non-hazardous waste will be discharged or even have the opportunity to discharge into the water resources on the subject parcel or surrounding parcels. The details pertaining to the methods and practices of this plan along with the safe setback distances of the waste storage facility can be found in the Waste Management section of this document.

Plans to preserve and protect these water resources have been made through the Central Valley Regional Water Quality Control Board. Certain preventative measures have already been implemented and these best practical treatments and controls will continue to be set forth throughout the summer and fall to ensure optimal protection for the waters of the state and county before the onset of winter. Details pertaining to both preventative and permanent measures regarding erosion control and sediment capture are located in the Stormwater Management section of this document. Maintenance activities to preserve these measures throughout the year are covered in the section as well.



Conservation and restoration practices have been implemented under the guidance of the NRCS and these practices shall greatly assist in the ultimate conservation of water and other natural resources on the subject parcel. Restoration projects which involve the planting of native vegetation may have irrigation requirements within the first two to three years of the project, however, water diversion will ultimately discontinue, and water quality and quantities will improve.



9.6 Water Availability for Project

Surface water diversions for this project will maintain its strict compliance with all applicable regulatory departments. About half of the water that is being used for this project is being diverted under a water right which was established in 1963. The sheer length of the water right clearly shows the precedence that this use has over other rights established at later dates within the area. Prior to water rights being granted, the SWRCB conducts a water availability analysis, leaving this water right inherently cleared of any further analysis. About half of the water use for this project will be coming from ground water through a legally constructed well. In researching the groundwater basin in the area, the Hough Springs area which this project resides in, is located in a groundwater basin within fractured rock – which is not subject to the Sustainable Groundwater Management Act (SGMA). The SGMA only addresses alluvial groundwater basins identified as high or medium priority. In addition, alluvial low and very low priority basins are not subject to the requirements outlined in the SGMA, but local managers can still form Groundwater Sustainability Agencies and develop groundwater sustainability plans if they wish. With that being said, there is no designated Groundwater Sustainability Agency for this area/groundwater basin. All of this information was compiled with the assistance of the State Water Resources Department, the lead agency in protecting California's groundwaters.

10.0 References and Resources by Section

The following are the written and verbal sources which provided information regarding processes, requirements, and other information referred to in this document.

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