

# MEMORANDUM



**Date:** November 14, 2019

**To:** Danny Crowe  
1116 Dawn Road  
Nipomo, CA

**From:** Shannon Jessica, PE  
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**Subject:** Water Demand Evaluation for Proposed Cannabis Cultivation – 1116 Dawn Road, Nipomo

CIVIL AND  
TRANSPORTATION  
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ARCHITECTURE

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WATER RESOURCES

Wallace Group has been retained to estimate the water demand for a proposed cannabis nursery in San Luis Obispo County. The proposed facility, located at 1116 Dawn Road, Nipomo includes the following:

- Indoor cultivation – 10,000 sf nursery

The recently adopted Cannabis Land Use Ordinance for San Luis Obispo County requires that applicants submit a detailed water management plan as part of the application package. The following memorandum has been developed to outline the estimated water demand for the proposed project.

Published water use values have not yet been consistently established in the industry, however the Central Coast Regional Water Quality Control Board (RWQCB) cannabis development team uses an estimate of 0.03 gal/sf canopy/day for outdoor cannabis plants and an application rate of 0.1 gallons per square foot of canopy for indoor grow operations. These values are derived from the *Santa Cruz County Draft Environmental Impact Report (EIR) for the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (August 2017)*<sup>1</sup>. In section 3.0, pages 3-16 and 3-17 of the EIR, it is described that the water application rates used are derived from a study in Humboldt County by Milewide Nursery<sup>2</sup>. The Milewide Nursery study includes a breakdown of the per yield water use. The study based their results on a 90-day cycle and estimate that two growing cycles could be completed in a year for outdoor cultivation, and an estimated 270 days growing season, or 3 cycles per year, for indoor cultivation.

As defined in the San Luis Obispo County Cannabis Ordinance, nursery plants are considered “indoor” grow and therefore an estimated water use of 0.1 gal/sf/day has typically been applied to nursery cultivation operations. It should be noted however,

<sup>1</sup>Santa Cruz County Draft Environmental Impact Report (EIR) for the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (August 2017)  
[http://www.sccoplanning.com/PlanningHome/Environmental/CEQAInitialStudiesEIRs/CannabisRegulationsEnvironmentalReview/CannabisEnvironmentalImpactReport\(EIR\).aspx](http://www.sccoplanning.com/PlanningHome/Environmental/CEQAInitialStudiesEIRs/CannabisRegulationsEnvironmentalReview/CannabisEnvironmentalImpactReport(EIR).aspx)

<sup>2</sup> <https://humboldtgrower.wordpress.com/2015/05/07/may-2015-humboldt-county-cannabis-water-use-study/>

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that this facility will be mainly nursery plants with few mother plants and therefore the water use will be considerably less than the industry standard indoor application rate. According to above-mentioned industry standard for indoor cannabis cultivation, the estimated water use associated with 10,000 sf of canopy would be approximately 720 gallons per day (0.8 AFY). However, that water demand would be indicative of irrigation for flowering “mother” plants, as opposed to nursery plants. It is anticipated that the water demand for the proposed nursery operation will be closer to 4,800 gallons per month (0.18 AFY). Daily water use will be monitored and tracked during operation of the facility, with annual reports submitted to the County for verification of estimated water use.

The following tables identify the estimated annual and monthly water demand for the proposed facility:

<b>Table 1: Annual Water Estimates</b>			
<b>Use</b>	<b>Rate</b>	<b>Gross Demand (gallons/ year)</b>	<b>Gross Demand (AFY)</b>
Nursery	10,000 sf	57,600	0.18

<b>Table 2. Estimated Monthly Water Demand for Cannabis Cultivation Operation</b>	
<b>Month</b>	<b>Indoor/Nursery Water Use (gal/month)</b>
October	4,800
November	4,800
December	4,800
January	4,800
February	4,800
March	4,800
April	4,800
May	4,800
June	4,800
July	4,800
August	4,800
September	4,800
<b>Total</b>	<b>57,600 gal/year</b>



**Water Supply and Offset**

The project will utilize an existing well for irrigation supply. The existing well draws from the Santa Maria Groundwater basin, and therefore new development will require a 1:1 offset for water use. The proposed daily water demand is estimated to be 160 gallons per day (gpd).

The property owner will retrofit existing plumbing fixtures to new low-flow fixtures as a means of offsetting the future increase in water demand. A total of four toilets on the property, each rated at 6 gallons per flush (GPF) will be retrofitted with toilets rated at 1.1 GPF. Per County of San Luis Obispo standards, and using the following table, the proposed water savings is equal to 296 gallons per day, which is greater than the required offset value of 160 gallons per day.

<b>Table 3. Nipomo Mesa Water Conservation Area</b>		
<b>Existing Toilet (gpf)</b>	<b>Replacement Toilet (gpf)</b>	<b>Single-Family Residential</b>
		<b>Gallons Saved Per Day* (Credits)</b>
6	1.28	71
	1.1	74
	0.8	79
3.5	1.28	33
	1.1	36
	0.8	41
1.6	1.28	4
	1.1	7
	0.8	12

**California Department of Fish and Wildlife**

Because the project will be using an existing groundwater well for water supply, the owner will not need to obtain a General Agreement or Lake or Streambed Alteration (LSA) permit through California Department of Fish and Wildlife (CDFW). However, annual licenses for cannabis cultivation issued by California Department of Food and Agriculture (CDFA) will require the owner to demonstrate by written verification from CDFW that an LSA Agreement is not required. This is accomplished by submitting a self-certification application on the CDFW webpage and obtaining written correspondence from CDFW verifying that the LSA is not required for this project.

**Regional Water Quality Control Board**

Some cultivation activities can generate wastewater such as hydroponic solutions, irrigation tail water, and sanitation activities, etc. Typically, wastewater will be discharged either into a community collection system or to an onsite wastewater

treatment system (septic tank/leachfield). These activities will be monitored through the Regional Water Quality Control Board for on-site disposal systems.

Regardless of the process wastewater discharge strategy, the RWQCB will require that cultivation operations enroll in the General Waste Discharge Requirements for Waste Associated with Cannabis Cultivation Activities (Cannabis General Order). The Cannabis Policy and General Order apply to commercial cannabis cultivation activities and enrollment in the General Order will be required for all commercial cultivation activities. The tier determination will need to be finalized by the RWQCB once an application has been submitted and reviewed by Board staff.

Coverage under the General Order is obtained by applying through the online application portal on the Regional Water Quality Control Board website. After the application is submitted and the application fee paid, the RWQCB will issue a Notice of Applicability (NOA). The NOA can be presented to the CDFA to obtain a commercial cannabis cultivation license. The application portal is located at: [www.waterboards.ca.gov/cannabis](http://www.waterboards.ca.gov/cannabis).

