# MEMORANDUM


**Date**: January 27, 2020

**To**: Steven Herring
Rich Properties Management, LLC

**From**: Shannon Jessica, PE
Wallace Group

**Subject**: Water Use Evaluation for Proposed Cannabis Cultivation on APN: 037-371-002

Wallace Group has been retained to estimate the water demand for a proposed cannabis cultivation operation in San Luis Obispo County. The proposed cultivation, located at 9110 Camatta Creek Road in Santa Margarita (APN: 037-371-002) and identified as SC2, includes the following:

- Outdoor/Hoop House Cultivation – 3 acres total

The Cannabis Land Use Ordinance for San Luis Obispo County requires that applicants submit a detailed water management plan as part of the application. The water management plan is to include proposed water supply, proposed conservation measures, and any water offset requirements. The following memorandum has been developed to outline the proposed water demand and associated offset required for the proposed project.

Published water use values have not yet been consistently established in the industry or in San Luis Obispo County. Research and conversations with the Central Coast Regional Water Quality Control Board (RWQCB) cannabis development team has indicated that local agencies are using 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 cultivation 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)*[1]. 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[2]. 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, hoop houses are considered outdoor cultivation while nursery cultivation is considered indoor.

[1]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

[2] https://humboldtgrower.wordpress.com/2015/05/07/may-2015-humboldt-county-cannabis-water-use-study/

WALLACE GROUP®

CIVIL AND TRANSPORTATION ENGINEERING
CONSTRUCTION MANAGEMENT
LANDSCAPE ARCHITECTURE
MECHANICAL ENGINEERING
PLANNING
PUBLIC WORKS ADMINISTRATION
SURVEYING / GIS SOLUTIONS
WATER RESOURCES

WALLACE GROUP
A California Corporation
612 CLARION CT
SAN LUIS OBISPO
CALIFORNIA 93401
T 805 544-4011
F 805 544-4294
www.wallacegroup.us

WALLACE GROUP®

Table 1 outlines the proposed water demand for this project. Table 2 outlines the proposed monthly water use, based on the total water demand for cultivation. Local evapotranspiration data was used to extrapolate the annual water demand into monthly estimates during the growing season.

| Table 1: Annual Water Demand Estimate for SC2 | | | |
|---|---|---|---|
| **Use** | **Rate** | **Gross Demand (gallons/ year)** | **Gross Demand (AFY)** |
| Outdoor Cultivation: 130,680 sf | 130,680 square feet canopy area x 0.03 gal/sf/day x 180 days | 705,672 | 2.17 |
| **Total New Water Demand** | | | **2.17** |

| Table 2. Estimated Monthly Water Demand for Cannabis Cultivation | | | |
|---|---|---|---|
| Month | ETo (in)** | Outdoor ETo During Growing Season (%) | Outdoor Cultivation Water Use/Month (AF) |
| October | 3.50 | - | - |
| November | 2.02 | - | - |
| December | 1.51 | - | - |
| January | 1.69 | - | - |
| February | 2.24 | - | - |
| March | 3.72 | - | - |
| April | 4.76 | 13.5 | 0.29 |
| May | 6.03 | 17.1 | 0.37 |
| June | 6.56 | 18.6 | 0.40 |
| July | 6.60 | 18.8 | 0.41 |
| August | 6.30 | 17.9 | 0.39 |
| September | 4.94 | 14.0 | 0.30 |
| **Total** | **49.87** | **100%** | **2.17** |

**California Irrigation Management Information System (CIMIS) Weather Station #163; Atascadero (active November 2000 to March 2018)

WALLACE GROUP®

## Water Offset

The project site is located within the Paso Robles Groundwater Basin and therefore the new water demand will require an offset of 2.17 AFY. The owner will be using an irrigation credit from the removal of vegetable row crops. Table 3 outlines the irrigation records associated with the subject property for the past 5 years.

**Table 3. Irrigation History for SC2 (APN: 037-371-002)**

| 2019 | 2018 | 2017 | 2016 | 2015 |
|---|---|---|---|---|
| No irrigation | 56 acres carrots, lettuce, spinach | 56 acres carrots, lettuce, spinach | 56 acres lettuce, spinach | 56 acres lettuce, spinach |

According to the San Luis Obispo Off-Site Agricultural Offset Clearance Table 3. Existing Crop-Specific Applied Water by Crop Type, irrigation of vegetables is associated with a 1.9 AF/Ac/Yr water demand. Therefore, the owner needs to remove at least 1.14 acres of vegetable row crops from circulation to offset the proposed cannabis cultivation water demand.

**Table 4. Proposed Water Offset**

| | Area x Irrigation | Water Demand |
|---|---|---|
| New Cannabis Cultivation | 3 acres canopy area x 0.03 gal/sf/day x 180 days | 2.17 |
| Removal of Previous Vegetable Irrigation Demand | 1.14 acres x 1.9 AFY/ac | -2.17 |
| **Net Zero Water Demand** | | **0** |

## Water Supply

The proposed project will utilize an on-site groundwater well to supply water for crop irrigation. The existing well is 483 feet deep and is estimated to yield 1000 gpm (see Attachment A for pump test results). Water level was determined to be 63.3 feet below ground surface. This well will be shared by two other neighboring properties for additional cannabis cultivation projects. At 1000 gpm, the well has potential capacity of 1,613 AFY supply. Therefore, the well has sufficient capacity to serve all three properties at their maximum cultivation potential per the SLO County Cannabis Ordinance.

WALLACE GROUP

Water used for cannabis irrigation will be metered separately by each property being supplied water from the well. Water demand will be recorded daily and monitored closely to ensure the system is operating efficiently and without leaks or line breaks.

**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 outdoor 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. Based on the proposed cultivation area and the characteristics of the property, it is likely this project will be categorized as a Tier 2, Low Risk according to RWQCB regulations. The tier determination will need to be finalized by the RWQCB once an application has been submitted and reviewed by Board staff. Tier 2 dischargers are required to submit a technical report to the RWQCB, due March 1, annually.

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.

WALLACE GROUP®

## APPENDIX A – WELL PUMP AND WATER INFORMATION

Filipponi & Thompson Drilling Inc.

State License No. C57 432680
P.O. BOX 845
ATASCADERO, CA 93423
805-466-1271

| | | | | | |
|---|---|---|---|---|---|
| Name | BOB MORRISON | | | Date | 11/2/2015 |
| Mailing Address | 9110 CAMATTA CREEK ROAD - SANTA MARGARITA, CA | | | Phone | 238-9509 |
| Job Location | FLORIDA WELL | | | Fax | |
| Well Size | 14" STEEL | Depth | 483.3' | Duration | 4 HOUR + RECOVERY |
| Tested by | C. HALL | Rate of Flow (gpm) | 1000 | Static Level | 63.3' |

## Well Test Report

| Date | Time | Water Level (FT) | G.P.M. |
|---|---|---|---|
| 10/26/2015 | 8:15AM | 63.3 | 1000.0 |
| | 8:20 | 97.8 | 1000.0 |
| | 8:25 | 99.6 | 1000.0 |
| | 8:30 | 100.5 | 1000.0 |
| | 8:35 | 101.4 | 1000.0 |
| | 8:45 | 102.5 | 1000.0 |
| | 8:55 | 103.3 | 1000.0 |
| | 9:05 | 104.0 | 1000.0 |
| | 9:15 | 104.6 | 1000.0 |
| | 9:30 | 105.0 | 1000.0 |
| | 9:45 | 105.5 | 1000.0 |
| | 10:00 | 105.9 | 1000.0 |
| | 10:15 | 106.2 | 1000.0 |
| | 10:30 | 106.5 | 1000.0 |
| | 10:45 | 106.8 | 1000.0 |
| | 11:00 | 107.0 | 1000.0 |
| | 11:15 | 107.2 | 1000.0 |
| | 11:30 | 107.4 | 1000.0 |
| | 11:45 | 107.6 | 1000.0 |
| | 12:00PM | 107.7 | 1000.0 |
| | 12:15 | 107.8 | 1000.0 |

## Recovery

| Date | Time | Water Level (FT) |
|---|---|---|
| 10/26/2015 | 12:15PM | 107.8 |
| | 12:20 | 74.0 |
| | 12:25 | 72.3 |
| | 12:30 | 71.2 |
| | 12:35 | 70.6 |
| | 12:45 | 69.7 |

Additional Comments:
PUMP WAS SET @ 260'

Thank you,

Ned M. Thompson