

**TO:** SloBloom Farms – Mr. Austen Connella

**FROM:** Civil Design Solutions

**RE:** Water use estimates for SloBloom Farms (1255 Penman Springs Road)

---

The purpose of this document is to estimate the water demand and associated groundwater offset to the Paso Robles groundwater basin for the proposed SloBloom Farms cannabis cultivation project. The County of San Luis Obispo requires the applicant apply for a Use Permit for cannabis cultivation on this property. Water demand estimates are needed for the use permit to provide the necessary water offset as required for projects in the Paso Robles groundwater basin. The project is located at 1255 Penman Springs Road Paso Robles, CA and is proposing the following cannabis operations:

- Outdoor/Hoop house Grow: 130,680 Sq Ft (3 acres).
- Indoor/Greenhouse Grow 22,000 Sq. Ft.
- Ancillary indoor /Greenhouse Nursery Grow 30,000 Sq. Ft.

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 water management plan shall 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 SloBloom Farms proposed project.

While published water use values have not yet been consistently established in the industry, the Central Coast Regional Water Quality Control Board (RWQCB) cannabis development team uses an estimate of 0.03 gallons per day square foot of canopy 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. The water application rates referenced in the Milewide study and the Santa Cruz EIR are the rates used in this report for calculation of indoor and outdoor cultivation irrigation demand.

### **Water offset Calculation**

This project is located in the Paso Robles Groundwater basin and a 1:1 offset is required; however this is also in an area of severe decline therefore a 2:1 for water use is required. The property was historically a cattle farm and had 30-40 horses residing at the property. The water use by the horse farm was supplied by onsite wells and will be utilized as the baseline water use for the property. The baseline water demand value was subtracted from the proposed development demand, as it will be incorporated into the build out figure. The baseline water use was determined below:

---

35 horses @ 7 gallons per horse per day = 89,425gal/ per year =0.27 AFY

Existing residence and ancillary uses 375 gallon/day = 0.43 AFY

TOTAL EXISTING USE =0.70 SFY

TOTAL OFFSET = 0.27 AFY

TABLE 1 indicates the proposed water demand for the project. All horse related activities will be ceased therefore 100% credit is included for these activities. With a baseline of 0.70 acre-feet per year, the total increase in water demand (water offset) for the project is 7.35X 2=**14.70 AFY** without offset removed. Table 2 indicates the proposed monthly water use based on the total new water demand for indoor and outdoor grow operations. Local evapotranspiration data was used to extrapolate annual build out water use values to monthly estimates.

**TABLE 1: Annual Water Estimates for SloBloom Farms**

<u>USE</u>	<u>RATE</u>	<u>GROSS DEMAND (gal/year)</u>	<u>GROSS DEMAND (AFY)</u>
Outdoor/Hoop house Grow: 130,680 Sq Ft.	130,680 square feet Canopy area x 0.03 gal/sf/day x 220 days	862,488	2.64
Indoor/Greenhouse Grow 22,000 Sq. Ft.	22,000 square feet Canopy area x 0.10 gal/sf/day x 260 days	572,000	1.76
Ancillary indoor /Greenhouse Nursery Grow	30,000 square feet Canopy area x 0.10 gal/sf/day x 260 days	780,000	2.39
1 Restroom, 1 outdoor hose bibs, cold storage, processing office sink	500 gallons/day	182,500	0.56
Total New Water Demand	<b>TOTAL</b>	2,396,988	<b>7.35</b>

**TABLE 2: Estimated Monthly Water Demand for SloBloom Farms**

Month	ETo (in)	Outdoor ETo**	Outdoor Water use Per month (AF)	Indoor Water Use Per Month (AF)	Nursery Water Use Per Month (AF)	TOTAL Water Use Per Month (AF)
October	3.33	-	-	0.20	0.26	0.46
November	2.19	-	-	0.20	0.26	0.46
December	1.36	-	-	0.20	0.26	0.46
January	1.44	-	-	0.20	0.26	0.46
February	1.78	-	-	0.20	0.26	0.46
March	2.78	-	-	0.20	0.26	0.46
April	3.35	9.5%	0.35	0.19	0.26	0.80
May	6.13	17.3%	0.56	0.19	0.26	1.01
June	6.15	17.4%	0.56	0.19	0.26	1.01
July	8.15	23.0%	0.71	-	-	0.71
August	6.15	17.4%	0.56	-	-	0.56
September	5.47	15.5%	0.50	-	-	0.50
<b>TOTAL</b>	<b>48.27</b>	<b>100%</b>	<b>2.64</b>	<b>1.76</b>	<b>2.39</b>	<b>7.35</b>

\*\* Evaporation Data from California Department of Water Resources. Nacimiento Dam Station T09 6056



Robert J. Montoya PE 9/12/2020