



MEMORANDUM



FROM: Annje Dodd, PhD, PE
NorthPoint Consulting Group, Inc.

TO: Mary Claybon, Senior Planner
Lake County Community Development Department

RE: Water Demand Update – UP 23-08 – Wellness Ranch, LLC

DATE: **March 5, 2025**

The subject project has modified their current application, UP 23-08, to reduce the request for new outdoor canopy from 130,680 square feet (sf) to 87,120 sf and increase the request for new indoor cultivation canopy from 2,400 sf to 6,420 sf. Provided below is the summary of existing (already approved) cultivation and new cultivation:

- 1) Total Outdoor Canopy, upon approval of UP 23-08
 - a. 10,000 sf at Site 1 (approved)
 - b. 97,120 sf at Site 2 (10,000 sf approved, 87,120 sf new)
- 2) Total Indoor Canopy, upon approval of UP 23-08
 - a. Within the existing 2,400 sf barn: two tiers of canopy within 90% of the floor area to allow for aisles = 90% of 4,800 sf = 4,320 sf (2,400 sf is already approved)
 - b. Within the proposed 2,500 sf barn: two tiers of canopy within 90% of the floor area to allow for aisles = 90% of 5,000 sf = 4,500 sf

Thus, upon approval UP 23-08, at buildout, there will be a total of 107,120 sf of outdoor canopy (20,000 sf approved and 87,120 sf new) and 8,820 sf of indoor canopy (2,400 sf approved and 6,420 sf new).

The purpose of this Memorandum is to provide an update to the hydrology analysis due to the change in canopy areas. Demand is estimated here utilizing the same methodology as the Ordinance 3106 Hydrology Report and Drought Management Plan prepared for Wellness Ranch dated April 2024 (April 2024 Report).



Revised Project Water Demand

Table 1. Estimated annual residential and irrigation demand in Area 1 – Well #1 Source.

Source	# days	Annual Demand (gallons)	Annual Demand (acre-feet)	Change from April 2024 Report
Residence	365	109,500	0.34	No Change
10,000 sf Outdoor	150	108,030	0.33	No Change
8,820 sf Indoor	365	231,854	0.71	Increase
	Total	449,384	1.38	+100,417 gallons (0.31 acre-feet)

Table 2. Estimated annual irrigation demand in Area 2 – Well #2, #3, and #4 Source.

Source	# days	Annual Demand (gallons)	Annual Demand (acre-feet)	Change from April 2024 Report
97,120 SF (2.23 Acre) Outdoor	150	1,049,188	3.22	Decrease by 470,578 gallons (1.44 acre-feet)

The estimated demand is an average over the cultivation period which is lower during seedling/vegetative states and higher during the flowering period. Using the 2022 monthly demand distribution to estimate the distribution of demand for the outdoor cultivation, and assuming indoor demand remains constant year-round, the total monthly demand is summarized in Table 3. The total revised projected annual demand, including residential demand, is approximately 1,498,572 gallons or 4.6 acre-feet, which is an overall reduction of water demand of 370,161 gallons (~1.1 acre-feet).

The estimated irrigation water demand is an average daily rate over the course of the growing season; however, seasonal water demand likely varies in response to temporal and environmental variables (e.g., temperature, relative humidity, wind, plant age and size, etc.).

Table 3. Estimated projected monthly water use (1,000 gallons).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Area 1	29	26	29	28	29	45	58	55	52	40	28	29	449
Area 2	0	0	0	0	4	169	281	255	234	107	0	0	1,049
Total	29	26	29	28	33	215	338	310	287	147	28	29	1,499



Project Water Storage and Wells

The project proposes to use the existing groundwater well #1 to fill one (1) 5,000-gallon water tank near the residence and four (4) 2,500-gallon tanks near the western, 10,000 SF outdoor grow site, for a total of 15,000 gallons of water storage for Area 1. The approximate peak daily demand, including residential demand, for Area 1 is 1,870 gallons, which is an increase of 278 gallons. Well #1 has a yield of 10 gpm, and is sufficient to meet the maximum daily demand in about 3.1 hrs. The storage provided in Area 1 represents about 8 days of water storage during peak demand in Area 1. The drawdown analysis in the April 2024 Report for Well #1 was conducted using 3-hours of pumping. The change in the estimated radius of influence is negligible and no nearby offsite wells are within the radius of influence for Well #1.

The project proposes to use wells #2, 3 and 4 to fill up eleven (11) 5,000-gallon water tanks to be used for irrigation and one (1) 5,000-gallon tank to be used for fire suppression, for a total 55,000 gallons of water storage for irrigation in Area 2. The approximate peak daily demand for Area 2 is 9,051 gallons which is 4,060 gallons per day less than what was evaluated in the April 2024 Report.

Conclusions

- The change in the project results in an increase in demand to Area 1 and a decrease in demand to Area 2 with an overall reduction in water demand of 370,428 gallons (~1.1 acre-feet).
- The increase in demand to Area 1 results in a negligible change to the estimated radius of influence and would not impact nearby wells.
- Based on the information provided herein and in the April 2024 Report, the project would have sufficient water and would not have a significant impact on the surrounding area.

Limitations

The study of groundwater hydrology is very complex and often relies on limited data, especially in rural areas. Recommendations and conclusions provided herein are based on professional judgment made using information of the groundwater systems and geology in Lake County, which is limited and allows only for a general assessment of groundwater aquifer conditions and recharge. NorthPoint Consulting Group, Inc. is making analyses, recommendations, and conclusions based on readily available data, including studies and reports conducted by other professionals, Lake County, the State of California, and other consultants hired by the project proponent to prepare technical studies for the proposed project. If additional information or data becomes available for the project area, the recommendations and conclusions presented herein may be subject to change.

