Rainwater Catchment Analysis
PLN-12402-CUP; PLN-12410-CUP; and PLN-12413-CUP
APN 210-071-001

A 2,000,000-gallon capacity rainwater catchment pond is proposed for the above projects.

The approximate surface catchment area of the pond and surrounding area is approximately 50,000 square feet.

Per https://prism.oregonstate.edu/explorer/ and using GPS coordinates for the project parcel, the lowest rainfall year between 1969 and 2024 was 2013 during which 28.92 inches of annual rainfall occurred. Analysis of the 10 lowest rainfall years (data table below) between 1969 and 2024 resulted in a low rainfall year average of 44.04 inches.

YEAR	RAIN
2013	28.92
1976	34.35
1985	37.52
2020	39.49
2022	44.55
1991	44.97
1989	50.55
1990	53.15
2018	53.44
1994	53.46

Total 440.4 inches / 10 = 44.04

Worst Drought Year Rainfall Collection Scenario (2013)
28.92 (rainfall) x 50,000 square feet (catchment area) x .623 (conversion factor)
= 900,858 gallons

10 Worst Rainfall Years Collection Scenario (1969 to 2024)
44.04 (rainfall) x 50,000 square feet (catchment area) x .623 (conversion factor)
= 1,371,846 gallons

Average Rainfall Collection Scenario (1969 to 2024)
69.64 (rainfall) x 50,000 square feet (catchment area) x .623 (conversion factor)
= 2,169,286 gallons

Conclusion: Pond 4 is likely to fill during an average rainfall year but is unlikely to fill in an average drought year or severe drought. The cultivation operations served by Pond 4 have additional irrigation sources in the form of permitted groundwater wells.

Rainwater Catchment Analysis
PLN-12991-CUP
APN 210-071-001

An existing 614,969-gallon capacity rainwater catchment pond is an irrigation source for the above project. The approximate surface catchment area of the pond and surrounding area is approximately 15,000 square feet.

Per https://prism.oregonstate.edu/explorer/ and using GPS coordinates for the project parcel, the lowest rainfall year between 1969 and 2024 was 2013 during which 28.92 inches of annual rainfall occurred. Analysis of the 10 lowest rainfall years (data table below) between 1969 and 2024 resulted in a low rainfall year average of 44.04 inches.

YEAR	RAIN
2013	28.92
1976	34.35
1985	37.52
2020	39.49
2022	44.55
1991	44.97
1989	50.55
1990	53.15
2018	53.44
1994	53.46

Total 440.4 inches / 10 = 44.04

Worst Drought Year Rainfall Collection Scenario (2013)
28.92 (rainfall) x 15,000 square feet (catchment area) x .623 (conversion factor)
= 270,257 gallons

10 Worst Rainfall Years Collection Scenario (1969 to 2024)
44.04 (rainfall) x 15,000 square feet (catchment area) x .623 (conversion factor)
= 411,554 gallons

Average Rainfall Collection Scenario (1969 to 2024)
69.64 (rainfall) x 15,000 square feet (catchment area) x .623 (conversion factor)
= 650,786 gallons

Conclusion: Pond 3 is likely to fill during an average rainfall year but is unlikely to fill in an average drought year or severe drought. The cultivation operation served by Pond 3 has an additional irrigation source in the form of a permitted groundwater well.

NATURA BLUE INC. RAINWATER CATCHMENT ASSESSMENT

Rainwater catchment for cannabis irrigation is limited to the 100 ft x 105 ft, 1.398-million-gallon capacity pond. Drawing from the 10 years with the least rainfall over the past 30 years an average catchment is 351,497.5 gallons. With the addition of water storage from well #6 which total 39,600 gallons, the total irrigation storage capacity during the worst-case drought years is 391,097 gallons. Calculating at a minimum of 1 gallon of water per day per smart pot, using 1870 smart pots over a period of 7 months cultivation season, a total of 382,100 gallons of water are needed annually in the worst-case scenario. Irrigation water available (391,097 gallons) during the driest years exceeds the irrigation water demand (382,100) in these same years. These calculations are based on existing irrigation storage from the well source, if the requested fifteen 5,000-gallon storage tanks (75,000 gallons) is granted then irrigation storage capacity increases to 466,097 gallons annually which is greater than the estimated annual water needs.

Data tables from https://prism.oregonstate.edu/explorer/ are presented below.

Year	Rainfall	
1993	76.26	
1994	**56.79**	*
1995	109.21	
1996	104.7	
1997	68.18	
1998	109.24	
1999	69.76	
2000	65.33	
2001	69.81	
2002	75.63	
2003	77.75	
2004	**62.97**	*
2005	91.58	
2006	82.7	
2007	**59.55**	*
2008	**58.58**	*
2009	64.09	
2010	103.57	
2011	76.81	
2012	116.14	
2013	**30.68**	*
2014	77.79	
2015	**62.51**	*
2016	94.98	
2017	89.48	
2018	**57.23**	*
2019	82.23	
2020	**41.29**	*
2021	**60.81**	*
2022	**46.58**	*
2023	77.17	

Drought Year	Rainfall	
2013	30.68	
2020	41.29	
2022	46.58	
1994	56.79	
2018	57.23	
2008	58.58	
2007	59.55	
2021	60.81	
2015	62.51	
2004	62.97	
	53.699	**Average**

Rainwater Catchment Analysis
PLN-12398-CUP
APN 210-054-009

An existing 310,337-gallon capacity rainwater catchment pond is an irrigation source for the above project. The approximate surface catchment area of the pond and surrounding area is approximately 8,500 square feet.

Per https://prism.oregonstate.edu/explorer/ and using GPS coordinates for the project parcel, the lowest rainfall year between 1969 and 2024 was 2013 during which 28.92 inches of annual rainfall occurred. Analysis of the 10 lowest rainfall years (data table below) between 1969 and 2024 resulted in a low rainfall year average of 44.04 inches.

YEAR	RAIN
2013	28.92
1976	34.35
1985	37.52
2020	39.49
2022	44.55
1991	44.97
1989	50.55
1990	53.15
2018	53.44
1994	53.46

Total 440.4 inches / 10 = 44.04

Worst Drought Year Rainfall Collection Scenario (2013)
28.92 (rainfall) x 8,500 square feet (catchment area) x .623 (conversion factor)
= 153,146 gallons

10 Worst Rainfall Years Collection Scenario (1969 to 2024)
44.04 (rainfall) x 8,500 square feet (catchment area) x .623 (conversion factor)
= 233,214 gallons

Average Rainfall Collection Scenario (1969 to 2024)
69.64 (rainfall) x 8,500 square feet (catchment area) x .623 (conversion factor)
= 368,779 gallons

Conclusion: Pond 1 is likely to fill during an average rainfall year but is unlikely to fill in an average drought year or severe drought. The cultivation operation served by Pond 1 has an additional irrigation source in the form of a permitted groundwater well.