

CITY OF NEEDLES
WATER ACCOUNTING
MONTHLY CALCULATION SHEET
CALENDAR YEAR 2024

Diversions - Pumped from Wells	Pumped (Acre-Feet)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Well #8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Well # 15 (formerly #10)	89.95	70.21	103.04	113.54	132.90	153.86	168.50	166.20	144.98	132.58	101.59	95.91
Well #11	0.00	0.00	0.09	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Well #12	10.74	6.78	13.56	51.77	56.20	77.87	69.79	66.42	61.92	37.08	35.48	29.39
Sub-Total	100.69	76.99	116.69	165.31	189.17	231.73	238.29	232.62	206.90	169.66	137.07	125.30
Delivered to Ft. Mojave Indian Tribe (AZ)	2.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Delivered to Ft. Mojave Indian Tribe (CA)	0.00	8.30	1.79	1.90	6.20	5.07	3.63	0.93	3.96	1.76	3.20	0.00
Sub-Total	2.78	8.30	1.79	1.90	6.20	5.07	3.63	0.93	3.96	1.76	3.20	0.00
City of Needles' Net Diversion	97.91	68.69	114.90	163.41	182.97	226.66	234.66	231.69	202.94	167.90	133.87	125.30
Uses of Water												
Commercial Accounts	45.45	32.92	50.17	53.28	60.59	64.62	78.80	67.72	59.57	55.31	43.45	43.90
Residential Accounts	36.34	27.32	46.60	52.64	57.40	71.00	69.00	82.25	66.63	60.32	45.66	46.87
Golf Course	10.74	6.78	13.56	51.77	56.20	77.87	69.79	66.42	61.92	37.08	35.48	29.39
Parks, Ballparks, Cemetery	5.37	1.67	4.48	5.72	8.77	13.18	17.06	15.30	14.83	15.19	9.28	5.14
Total	97.90	68.69	114.81	163.41	182.96	226.67	234.65	231.69	202.95	167.90	133.87	125.30
												1,950.80

CALENDAR YEAR 2024
WASTEWATER TREATMENT PLANT

	Mean Flow	# Days	A/F	A/F Return
Jan	0.481	31	45.76	44.39
Feb	0.421	29	37.47	36.35
Mar	0.429	31	40.82	39.59
Apr	0.436	30	40.14	38.94
May	0.425	31	40.44	39.22
Jun	0.482	30	44.38	43.05
Jul	0.495	31	47.10	45.68
Aug	0.487	31	46.33	44.94
Sep	0.452	30	41.62	40.37
Oct	0.436	31	41.48	40.24
Nov	0.456	30	41.99	40.73
Dec	0.418	31	39.77	38.58
TOTAL	5.418	366	507.29	492.08

Daily mean flow x #days mo X 1,000,000 = gal/mo
divided by 7.48 divided by 43560 = A/F mo

Divisions														
Pumped from Wells		Pumped (Acre-Feet)												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Well #8		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Well # 15 (FKA #10)		89.95	70.21	103.04	113.54	132.90	153.86	168.50	166.20	144.98	132.58	101.59	95.91	1,473.26
Well #11		0.00	0.00	0.09	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
Well #12		10.74	6.78	13.56	51.77	56.20	77.87	69.79	66.42	61.92	37.08	35.48	29.39	517.00
Sub-Total		100.69	76.99	116.69	165.31	189.17	231.73	238.29	232.62	206.90	169.66	137.07	125.30	1,990.42
Delivered to Ft. Mojave Indian Tribe (AZ)		2.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.78
Delivered to Ft. Mojave Indian Tribe (CA)		0.00	8.30	1.79	1.90	6.20	5.07	3.63	0.93	3.96	1.76	3.20	0.00	36.74
Sub-Total		2.78	8.30	1.79	1.90	6.20	5.07	3.63	0.93	3.96	1.76	3.20	0.00	39.52
City of Needles' Net Diversion		97.91	68.69	114.90	163.41	182.97	226.66	234.66	231.69	202.94	167.90	133.87	125.30	1,950.90

Return and Other Credits														
Measured Returns														
Sewer Plant's Rapid Infiltration Ponds ¹	44.39	36.35	39.59	38.94	39.22	43.05	45.68	44.94	40.37	40.24	40.73	38.58	492.08	
Unmeasured Returns														
Percolation from Golf Course ²	0.00	0.00	0.00	30.79	11.66	28.12	24.29	24.26	29.57	21.04	16.34	14.81	200.88	
Percolation from Parks ³	2.15	0.67	1.79	2.29	3.51	5.27	6.82	6.12	5.93	6.08	3.71	2.06	46.40	
Percolation from Large Commercial Users ⁴	1.09	0.79	1.20	1.28	1.45	1.55	1.89	1.63	1.43	1.33	1.04	1.05	15.74	
System Losses ⁵	0.01	0.00	0.09	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.12	
Septic Tank Returns ⁶	4.12	3.84	4.41	4.22	4.12	3.96	4.54	4.48	4.16	4.16	3.98	3.99	50.00	
Total Unmeasured Returns	7.37	5.30	7.50	38.57	20.75	38.91	37.56	36.49	41.10	32.60	25.07	21.91	313.13	
Total Returns	51.76	41.65	47.09	77.51	59.97	81.96	83.24	81.43	81.47	72.84	65.80	60.49	805.21	

1/Calculated as WWTP Total Discharge*0.97.
2/Calculated as Monthly Delivery to Golf Course*Efficiency-Monthly ET. Efficiency =0.9
3/Calculated as Delivery to Parks,Ballparks,Cemetry*0.40.
4/Calculated as 24% of Deliveries to Commercial Accounts*0.10.
5/Calculated as City of Needles' Net Diversions-Total Uses.
6/Total Annual UMRF from septic tanks = 50; assumes 210 septic units*0.6 AF/yr*0.40 (where 0.40 = UMRF Factor). Annual volume is distributed monthly using a monthly distribution factor.

	Consumptive Use													
Diversion		97.91	68.69	114.90	163.41	182.97	226.66	234.66	231.69	202.94	167.90	133.87	125.30	1,950.90
Measured Returns		44.39	36.35	39.59	38.94	39.22	43.05	45.68	44.94	40.37	40.24	40.73	38.58	492.08
Unmeasured Returns		7.37	5.30	7.50	38.57	20.75	38.91	37.56	36.49	41.10	32.60	25.07	21.91	313.13
Consumptive Use		46.15	27.04	67.81	85.90	123.00	144.70	151.42	150.26	121.47	95.06	68.07	64.81	1,145.69