



Oregon

Tina Kotek, Governor

Department of Environmental Quality

Eastern Region The Dalles Office

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The Dalles, OR 97058

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TTY 711

June 5, 2025

Daniel Hall
City of Madras
800 SE Grizzly Rd.
Madras, OR 97741

RE: Warning Letter with Opportunity to Correct
City of Madras
2025-WLOTC-9906
Permit # 101739
Jefferson County

Dear Mr. Hall:

The City of Madras is authorized to operate a wastewater collection, treatment, and recycled water reuse system in accordance with Water Pollution Control Facilities (WPCF) permit No. 101739. During recent review of the City's permit file, DEQ staff determined that the City land applied recycled water in a manner that caused overloading of the land with nitrogen, as described below. Furthermore, DEQ has determined that the City failed to comply with monitoring requirements in 2022.

Nutrient Overloading Violations:

Nitrogen loading during 2020, 2021, and 2022, for the Desert Peaks Golf Course (also identified as "Area #2") have been determined by DEQ to be violations of Condition A.1(b) of the City's WPCF permit, which requires reclaimed water to distributed "using sound irrigation practices so as to prevent: ...The overloading of land with nutrients..." The specific nitrogen loading rates for the golf course reported in the City's Recycled Water Annual Reports are summarized in Table 1. Recycled Water Annual Reports for 2020 through 2022 area also included as Attachment 1.

Table 1. Nitrogen loading at the "Area #2" Recycled Water Site.

Year	Nitrogen Loading lbs/acre
2020	412.16
2021	402.35
2022	442.62

The City's current approved Recycled Water Use Plan (RWUP) does not specify an agronomic rate or agronomic loading limit for turfgrass. Nevertheless, DEQ considers these loading rates to

be exceeding the needs of the turfgrass, and therefore contributing to nutrient overloading of the soil. There are two references which support this determination:

- 1) In the OSU guide “Fertilizing Lawns” (EC 1278; Cook & McDonald 2013), the highest nitrogen fertilizer rate recommended is 6 lbs/1000 sq ft, which is equivalent to 261 lbs/acre. This rate is only recommended for “top quality ryegrass or bluegrass lawns”, with other varieties of turf needing 1 – 4 lbs/1000 sq ft of nitrogen (equivalent to 44 – 174 lbs/acre).
- 2) In the report “Golf Course Environmental Profile” (GCSAA 2016), the median nitrogen use rate for golf courses surveyed in 2014 in the “Upper West/Mountain” region (which includes eastern Oregon) was 2.03 lbs/1000 sq ft, or 88.4 lbs/acre.

Therefore, from 2020 to 2022, nitrogen loading was 54 to 69% higher than the maximum rate recommended by OSU for turf, and 354 to 400% higher than the median application rate for other golf courses surveyed in the same region. Because the rates applied by the City were substantially above the recommended rates or typical rates for this type of use, DEQ concludes that applications of recycled water during 2020, 2021, and 2022 on “Area #2” constitute violations of the permit condition A.1(b) requiring the permittee to avoid overloading the land with nutrients.

Failure to Monitor Violations:

Condition B.1(b) requires the City to monitor TKN and NO2+NO3-N in effluent produced by the North Wastewater Treatment Plant (NWWTP) for land irrigation. Similarly, Condition B.1(c) requires monitoring TKN and NO2+NO3-N in effluent from the South Wastewater Treatment Plant (SWWTP). The permit requires monthly monitoring for these parameters, for both sources. In the 2022 Recycled Water Annual Report (see Attachment 1), neither TKN nor NO2+NO3-N were reported for April, for either the NWWTP or the SWWTP. Correspondence with a representative of the facility confirmed that the City likely did not evaluate these parameters in April 2022 (email included in Attachment 2). Therefore, these omissions are considered to be failures to monitor.

Nutrient loading and failure to monitor violations are summarized in Table 2.

Table 2. List of Water Quality Violations

Date	Violation	Class	Counts
2020	Overloading of land with nitrogen in violation of permit condition A.1(b). Violating any otherwise unclassified requirement; OAR 340-012-0053(2).	II	1
2021	Overloading of land with nitrogen in violation of permit condition A.1(b). Violating any otherwise unclassified requirement; OAR 340-012-0053(2).	II	1
2022	Overloading of land with nitrogen in violation of permit condition A.1(b). Violating any otherwise unclassified requirement; OAR 340-012-0053(2).	II	1
April 2022	Failure to monitor TKN and NO2+NO3-N per condition B.1(b) of the permit. Failing to collect	I	2



Date	Violation	Class	Counts
	monitoring data required in Schedule B of the permit; OAR 340-012-0055(1)(o).		
April 2022	Failure to monitor TKN and NO2+NO3-N per condition B.1(c) of the permit. Failing to collect monitoring data required in Schedule B of the permit; OAR 340-012-0055(1)(o)	I	2

Class I violations are considered the most serious violations; Class III violations are the least serious.

Environmental Impact of Violations

Regarding nitrogen loading of land application sites: overapplication of nitrogen through recycled water in conjunction with other fertilizer sources has the potential to cause leaching of nitrate to groundwater. Drinking water supplied from nitrate-contaminated groundwater is known to cause serious health effects in people.

Regarding monitoring violations: the City is responsible for understanding and completing the monitoring requirements included in the WPCF permit and associated plans. Fulfilling the mandatory reporting requirements is an important obligation. Without timely submittal of complete reports, the City, DEQ, and the public are unable to promptly evaluate the effectiveness of the City’s treatment system and its impact on environmental and human health.

Corrective Action Requested

In order to prevent the overapplication of nitrogen at land application sites in the future, the DEQ will require you to take the following actions by the date indicated:

- 1) **By August 1, 2025**, submit to DEQ an RWUP addendum that specifies an agronomic nitrogen loading rate for turf grass. The agronomic rate proposed must be supported by a regional university fertilizer guide, or equivalent publication that is based on scientific research. DEQ will expect the City to ensure that nutrient loading at sites planted with turfgrass will not exceed the value specified in the RWUP addendum. The addendum will be reviewed for approval by DEQ. Once approved, this addendum will be considered part of the RWUP, which is an enforceable part of the WPCF permit.

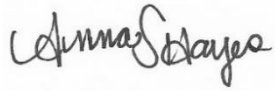
If the corrective action remains uncompleted by the required due date, or should the City repeat any of these violations, this matter may be referred to the Department’s Office of Compliance and Enforcement for formal enforcement action, including assessment of civil penalties and/or a Department order. Civil penalties can be assessed for each day of violation.

The Department endeavors to assist you in your compliance efforts. Should you have any questions about the content of this letter, or if you desire any follow-up technical assistance, feel free contact me in writing or by phone at 541-246-4562.



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Sincerely,

A handwritten signature in black ink, appearing to read "Anna Stayer". The signature is written in a cursive style with a large initial "A".

Permitting and Compliance Specialist

cc: Mike Hiatt, DEQ
Carl Makepeace, DEQ



References:

Cook, T., & McDonald, B. (2013, October). *Fertilizing Lawns*. Oregon State University Extension Service. <https://extension.oregonstate.edu/sites/extd8/files/catalog/auto/EC1278.pdf>

GCSAA. (2016). *Golf Course Environmental Profile*. https://www.gcsaa.org/docs/default-source/Environment/phase-2-nutrient-survey-full-report-update.pdf?sfvrsn=10a4173e_0



Attachment 1

Recycled Water Annual Reports
2020, 2021, and 2022



THE CITY OF **MADRAS**

City of Madras

2020 Annual Reuse Report

Permit# 101739

File # 52520

DEQ Bend Office:

For the reuse irrigation season for 2020, the City of Madras discharged a total of 67.94 million gallons of Class B treated wastewater from the North Treatment Plant. This was distributed over 83 acres in Area #2, #11, and the Grass Runway.

For Area #2, the City owned Desert Peaks Golf Course received 55.58 million gallons of treated water during the 2019 season on 60 acres for turf grass. The golf course will remain as turf grass for 2020.

The Airport grass runway received 10.71 million gallons of reuse water on 8 acres. The runway remains as grass for 2020.

Area #11 received 1.65 million gallons of reuse water during the month of April. It was irrigated on 15 acres of carrots for seed.

At this point in time the north treatment plant is not planning to discharge to farmland in 2021. The plan is to only irrigate the golf course and the grass runway.

The South Treatment Plant discharged 93.98 million gallons of Class B effluent to the Woodworth parcel and the McTaggart property covering 107 acres this past irrigation season.

The McTaggart (City) property had 26 acres of Kentucky Blue Grass for seed and received 28.45 million gallons of effluent this past season. This area has been planted carrots for seed for 2021.

The Woodworth Property had 81 acres of hay planted. We discharged 65.53 million gallons of effluent to this crop. All 81 acres of the Woodworth Property is planted in Hay for 2020.

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NWWTF		Daily	AVG	AVG	AVG	AVG	AVG	AVG	RAIN	EVAP
2020		Average	INF	INF	INF	EFF	CI2	TOTAL	FALL	RATES
		Influent	pH	TSS	BOD	pH	RES.	COLI.	INCHES	INCHES
January		0.24	6.97	239	331					
February		0.23	7.05	145	235					
March		0.22	7.09	115	236					
April		0.24	6.99	87	249	8.48	6.38	0.00		
May		0.37	7.25	29	117	7.21	4.90	0.00		
June		0.24	7.00	246	266	7.58	5.52	0.00		
July		0.24	7.16	188	159	9.23	4.82	0.00		
August		0.23	7.39	365	193	9.62	4.73	0.00		
September		0.24	7.20	175	176	9.33	4.00	0.00		
October		0.25	7.29	141	93	8.03	3.52	0.00		
November		0.27	7.38	251	136					
December		0.25	7.38	445	89					
TOTAL									0.00	0.00
AVERAGE		0.25	7.18	202	190	8.50	4.84	0.00		

SWWTF		Daily	AVG	AVG	AVG	AVG	AVG	AVG	RAIN	EVAP
2020		Average	INF	INF	INF	EFF	CI2	TOTAL	FALL	RATES
		Influent	pH	TSS	BOD	pH	RES.	COLI.	INCHES	INCHES
January		0.29	7.30	300	162	7.53	5.07	0.00		
February		0.30	7.38	197	254	7.41	5.24	<1		
March		0.35	7.58	28	134	7.26	9.01	0.00		
April		0.26	7.51	47	233	7.53	5.39	<1		
May		0.22	7.66	93	115	7.43	5.89	0.00		
June		0.29	7.65	102	193	7.51	4.01	<1		
July		0.31	7.61	227	125	7.90	5.69	0.00		
August		0.32	7.90	252	135	7.85	3.32	0.00		
September		0.31	7.63	233	112	7.77	2.61	0.00		
October		0.28	7.83	195	159	7.64	3.88	0.00		
November		0.28	7.61	161	118	7.88	4.35	0.00		
December		0.28	7.62	146	183	7.65	4.95	0.00		
TOTAL									0.00	0.00
AVERAGE		0.29	7.61	165	160	7.61	4.95	0.00		

Area # 2	Year	2020											
driving	range	DISCH	ACRE	NUID	TOTAL	TKN	TKN	NO2, NO3	NO2,NO3	NO3	NO3	ADDED	TOTAL
Month		MG	INCH	ACRE IN.	INCHES	mg/L	LB/ACRE	mg/L	LB/ACRE	mg/L	LB/ACRE	LB/ACRE	LB/ACRE
January		DID	NOT	DISCHARGE	0.00								0.00
February		DID	NOT	DISCHARGE	0.00								0.00
March		DID	NOT	DISCHARGE	0.00								0.00
April		5.90	3.14	0.00	3.14	6.96	5.37	0.98	0.76			43.00	49.13
May		5.18	2.81	0.00	2.81	8.39	5.33	0.29	0.18			96.00	101.51
June		6.12	3.32	0.00	3.32	5.14	3.86	0.49	0.37			48.00	52.23
July		12.32	6.67	0.07	6.74	5.29	7.99	1.24	1.87			38.00	47.86
August		6.57	3.55	0.78	4.33	0.82	0.66	0.11	0.09			96.00	96.75
September		18.26	9.89	0.32	10.21	4.44	9.85	0.04	0.09			22.00	31.94
October		1.22	0.66	0.25	0.91	4.66	0.70	0.28	0.04			32.00	32.74
November		DID	NOT	DISCHARGE	0.00								0.00
December		DID	NOT	DISCHARGE	0.00								0.00
TOTAL		55.58	30.04	1.42	31.46		33.76		3.40		0.00	375.00	412.16

RUNWAY	Year	2020											
		DISCH	ACRE	NUID	TOTAL	TKN	TKN	NO2, NO3	NO2, NO3	NO3	NO3	ADDED	TOTAL
Month		MG	INCH	ACRE IN.	INCHES	mg/L	LB/ACRE	mg/L	LB/ACRE	mg/L	LB/ACRE	LB/ACRE	LB/ACRE
January		DID	NOT	DISCHARGE	0.00								0.00
February		DID	NOT	DISCHARGE	0.00								0.00
March		DID	NOT	DISCHARGE	0.00								0.00
April		1.54	7.07	0.00	7.07	6.96	11.14	0.98	7.07				18.21
May		1.68	7.74	0.00	7.74	8.39	14.71	0.29	0.51				15.22
June		1.73	7.95	0.00	7.95	5.14	9.26	0.49	0.88				10.14
July		2.21	10.16	0.00	10.16	5.29	12.18	1.24	2.85				15.03
August		1.44	6.63	0.00	6.63	0.82	1.23	0.11	0.17				1.40
September		1.63	7.51	0.00	7.51	4.44	7.55	0.04	0.07				7.62
October		0.48	0.21	0.00	0.21	4.66	2.33	0.28	0.14				2.47
November		DID	NOT	DISCHARGE	0.00								0.00
December		DID	NOT	DISCHARGE	0.00								0.00
TOTAL		10.71	47.27	0.00	47.27		58.40		11.69		0.00	0.00	70.09

Area # 11	Year	2020											
		DISCH	ACRE	NUID	TOTAL	TKN	TKN	NO2, NO3	NO2, NO3	NO3	NO3	ADDED	TOTAL
Month		MG	INCH	ACRE IN.	INCHES	mg/L	LB/ACRE	mg/L	LB/ACRE	mg/L	LB/ACRE	LB/ACRE	LB/ACRE
January		DID	NOT	DISCHARGE	0.00								0.00
February		DID	NOT	DISCHARGE	0.00								0.00
March		DID	NOT	DISCHARGE	0.00								0.00
April		1.65	4.05	0.00	4.05	6.96	6.38	0.96	0.90				7.28
May		DID	NOT	DISCHARGE	0.00								0.00
June		DID	NOT	DISCHARGE	0.00								0.00
July		DID	NOT	DISCHARGE	0.00								0.00
August		DID	NOT	DISCHARGE	0.00								0.00
September		DID	NOT	DISCHARGE	0.00								0.00
October		DID	NOT	DISCHARGE	0.00								0.00
November		DID	NOT	DISCHARGE	0.00								0.00
December		DID	NOT	DISCHARGE	0.00								0.00
TOTAL		1.65	4.05	0.00	4.05		6.38		0.90		0.00	0.00	7.28

Area #	Year	2020									
McTaggart		DISCH	ACRE	NUID	TOTAL	TKN	TKN	NO2, NO3	NO2, NO3	ADDED	TOTAL
Month		MG	INCH	ACRE IN.	INCHES	mg/L	LB/ACRE	mg/L	LB/ACRE	LB/ACRE	LB/ACRE
January		DID	NOT	DISCHARGE	0.00						0.00
February		DID	NOT	DISCHARGE	0.00						0.00
March		4.61	6.53	0.00	6.53	5.25	7.77	1.18	1.75		9.52
April		4.66	6.60	0.00	6.60	4.87	7.28	2.46	3.68		10.96
May		7.85	11.13	0.00	11.13	6.45	16.25	0.78	1.97		18.22
June		2.14	3.03	0.00	3.03	11.00	7.55	3.16	2.17		9.72
July		2.53	3.59	0.00	3.59	3.06	8.08	2.13	5.62		13.70
August		5.09	7.20	0.00	7.20	1.80	2.94	0.42	0.68		3.62
September		1.57	2.22	0.00	2.22	4.16	2.10	1.37	0.69		2.79
October		DID	NOT	DISCHARGE	0.00						0.00
November		DID	NOT	DISCHARGE	0.00						0.00
December		DID	NOT	DISCHARGE	0.00						0.00
											0.00
TOTAL		28.45	40.30	0.00	40.30		51.97		16.56	0.00	68.53

Area #	Year	2020									
Woodworth		DISCH	ACRE	NUID	TOTAL	TKN	TKN	NO2, NO3	NO2, NO3	ADDED	TOTAL
Month		MG	INCH	ACRE IN.	INCHES	mg/L	LB/ACRE	mg/L	LB/ACRE	LB/ACRE	LB/ACRE
January		DID	NOT	DISCHARGE	0.00						0.00
February		DID	NOT	DISCHARGE	0.00						0.00
March		DID	NOT	DISCHARGE	0.00						0.00
April		4.04	1.84	0.00	1.84	4.87	2.03	2.26	1.02		3.05
May		10.58	4.81	0.00	4.81	6.45	7.02	0.78	0.85		7.87
June		9.20	4.18	0.00	4.18	11.00	10.42	3.16	2.99		13.41
July		15.99	7.27	0.00	7.27	3.06	5.04	2.13	3.51		8.55
August		10.94	4.97	0.00	4.97	1.80	2.03	0.42	0.47		2.50
September		10.34	4.70	0.00	4.70	4.16	4.43	1.37	1.46		5.89
October		4.44	2.02	0.00	2.02	6.34	2.90	0.37	0.17		3.07
November		DID	NOT	DISCHARGE	0.00						0.00
December		DID	NOT	DISCHARGE	0.00						0.00
											0.00
TOTAL		65.53	29.79	0.00	29.79		33.87		10.47	0.00	44.34



City of Madras

2021 Annual Reuse Report

Permit# 101739

File # 52520

DEQ Bend Office:

For the reuse irrigation season for 2021, the City of Madras discharged a total of 33.04 million gallons of Class B treated wastewater from the North Treatment Plant. This was distributed over 68 acres in Area #2, the driving range, and the Grass Runway.

For Area #2, the City-owned Desert Peaks Golf Course and driving range received 27.62 million gallons of treated water during the 2021 season on 60 acres for turf grass. These areas will remain as turf grass for 2022.

The Airport grass runway received 5.42 million gallons of reuse water on 8 acres. The runway remains as grass for 2022.

At this point in time the north treatment plant is not planning to discharge to farmland in 2022. The plan is to only irrigate the golf course, driving range, and the grass runway.

The South Treatment Plant discharged 67.29 million gallons of Class B effluent to the Woodworth parcel and the McTaggart property covering 107 acres this past irrigation season.

The McTaggart (City) property had 26 acres of carrots for seed and received 12.01 million gallons of effluent this past season. This area has been planted in wheat for 2022.

The Woodworth Property had 81 acres of hay planted. We discharged 55.28 million gallons of effluent to this crop. All 81 acres of the Woodworth Property is planted in Hay for 2022.

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		Daily	AVG	AVG	AVG	AVG	AVG	AVG	RAIN
2021	Average	INF	INF	INF	EFF	CI2	TOTAL	FALL	
	Influent	pH	TSS	BOD	pH	RES.	COLI.	INCHES	
January	0.260	7.36	134	138					
February	0.260	7.30	223	141					
March	0.247	7.24	214	212					
April	0.245	7.14	193	218	8.85	5.16	0.00		
May	0.259	7.15	178	191	8.10	5.04	0.00		
June	0.259	7.29	125	172	8.41	4.03	0.00		
July	0.263	7.10	236	154	9.16	3.67	0.00		
August	0.254	7.04	215	174	10.68	2.30	0.00		
September	0.238	7.20	252	153	10.99	7.51	0.00		
October	0.250	7.19	274	141	11.40	3.40	0.00		
November	0.270	7.17	278	236					
December	0.255	7.32	160	200					
TOTAL									
AVERAGE	0.255	7.21	207	178	9.66	4.44	0.00		

		Daily	AVG	AVG	AVG	AVG	AVG	AVG	RAIN
2021	Average	INF	INF	INF	EFF	CI2	TOTAL	FALL	
	Influent	pH	TSS	BOD	pH	RES.	COLI.	INCHES	
January	0.274	7.50	221	156	7.55	6.16	0.00		
February	0.280	7.60	223	141	8.03	5.26	0.00		
March	0.279	7.71	207	181	8.10	2.53	0.00		
April	0.279	7.74	196	131	7.55	3.38	0.00		
May	0.290	7.62	513	95	7.46	5.20	0.00		
June	0.302	7.65	289	167	7.83	3.82	0.00		
July	0.315	7.80	272	146	8.01	2.42	0.00		
August	0.309	7.58	219	164	7.66	2.40	0.00		
September	0.302	7.46	362	244	7.51	3.18	0.00		
October	0.285	7.72	131	144	8.37	4.46	0.00		
November	0.278	7.57	145	191	7.35	6.26	0.00		
December	0.298	7.68	183	174	7.44	4.26	0.00		
TOTAL									
AVERAGE	0.291	7.64	247	161	7.74	4.11	0.00		

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Area # 2	Year	2021									
Driving Range	DISCH	ACRE	NUID	TOTAL	TKN	TKN	NO2,NO3	NO2,NO3	ADDED	TOTAL	
Month	MG	INCH	ACRE IN.	INCHES	mg/L	LB/ACRE	mg/L	LB/ACRE	LB/ACRE	LB/ACRE	
January	DID	NOT	DISCHARGE	0.00						0.00	
February	DID	NOT	DISCHARGE	0.00						0.00	
March	DID	NOT	DISCHARGE	0.00						0.00	
April	5.58	3.42	0.00	3.42	6.68	5.18	0.48	0.37	93.40	98.95	
May	7.46	4.58	0.14	4.72	6.52	6.76	0.32	0.33	25.00	32.09	
June	3.82	5.41	2.26	7.67	7.84	4.16	0.80	0.42	57.00	61.58	
July	6.15	3.77	0.44	4.21	5.98	5.11	0.41	0.35	96.00	101.46	
August	0.83	0.51	0.66	1.17	4.84	0.56	N.D.	0.00	33.30	33.86	
September	2.56	1.57	0.00	1.57	4.56	1.62	N.D.	0.00	48.00	49.62	
October	1.22	0.75	0.07	0.82	4.60	0.78	0.06	0.01	24.00	24.79	
November	DID	NOT	DISCHARGE	0.00						0.00	
December	DID	NOT	DISCHARGE	0.00						0.00	
TOTAL	27.62	20.01	3.57	23.58		24.17		1.48	376.70	402.35	

GRASS	Year	2021									
RUNWAY		DISCH	ACRE	NUID	TOTAL	TKN	TKN	NO2, NO3	NO2,NO3	ADDED	TOTAL
Month		MG	INCH	ACRE IN.	INCHES	mg/L	LB/ACRE	mg/L	LB/ACRE	LB/ACRE	LB/ACRE
January		DID	NOT	DISCHARGE	0.00						0.00
February		DID	NOT	DISCHARGE	0.00						0.00
March		DID	NOT	DISCHARGE	0.00						0.00
April		0.91	4.20	0.00	4.20	6.68	6.35	0.48	0.46	62.50	69.31
May		1.44	6.63	0.00	6.63	6.52	9.79	0.32	0.48	0.00	10.27
June		1.15	5.30	0.00	5.30	7.84	9.42	0.80	0.96	0.00	10.38
July		1.01	4.60	0.00	4.60	5.98	6.28	0.41	0.43	0.00	6.71
August		0.91	4.20	0.00	4.20	4.84	4.60	N.D.	0.00	0.00	4.60
September		DID	NOT	DISCHARGE	0.00						0.00
October		DID	NOT	DISCHARGE	0.00						0.00
November		DID	NOT	DISCHARGE	0.00						0.00
December		DID	NOT	DISCHARGE	0.00						0.00
TOTAL		5.42	24.93	0.00	24.93		36.44		2.33	62.50	101.27

SWWTF Discharged to upper pond

January		10.570		
February		9.005		
March		19.749		
April		12.502		
May		18.098		
June		9.871		
July		14.262		
August		13.781		
September		25.170		
October		9.547		
November		9.748		
December		23.694		
TOTAL		175.997		

Area #	Year	2021									
McTaggart		DISCH	ACRE	NUID	TOTAL	TKN	TKN	NO2,NO3	NO2,NO3	ADDED	TOTAL
Month		MG	INCH	ACRE IN.	INCHES	mg/L	LB/ACRE	mg/L	LB/ACRE	LB/ACRE	LB/ACRE
January		DID	NOT	DISCHARGE	0.00						0.00
February		DID	NOT	DISCHARGE	0.00						0.00
March		DID	NOT	DISCHARGE	0.00						0.00
April		1.70	2.40	0.00	2.40	7.53	4.10	4.67	4.10	0.00	8.20
May		2.58	3.66	0.00	3.66	1.83	1.52	0.03	0.02	0.00	1.54
June		3.45	4.88	0.00	4.88	6.31	6.98	1.98	2.19	0.00	9.17
July		0.98	1.39		1.39	4.65	1.46	1.82	0.57	0.00	2.03
August		DID	NOT	DISCHARGE	0.00						0.00
September		DID	NOT	DISCHARGE	0.00						0.00
October		3.30	4.67	0.00	4.67	1.56	1.65	1.09	1.15	0.00	2.80
November		DID	NOT	DISCHARGE	0.00						0.00
December		DID	NOT	DISCHARGE	0.00						0.00
TOTAL		12.01	17.00	0.00	17.00		15.71		8.03	0.00	23.74

Area #	Year	2021									
Woodworth		DISCH	ACRE	NUID	TOTAL	TKN	TKN	NO2,NO3	NO2,NO3	ADDED	TOTAL
Month		MG	INCH	ACRE IN.	INCHES	mg/L	LB/ACRE	mg/L	LB/ACRE	LB/ACRE	LB/ACRE
January		DID	NOT	DISCHARGE	0.00						0.00
February		DID	NOT	DISCHARGE	0.00						0.00
March		DID	NOT	DISCHARGE	0.00						0.00
April		7.23	3.28	0.00	3.28	7.53	5.60	4.67	3.47	0.00	9.07
May		7.37	3.35	0.00	3.35	1.83	1.52	0.03	0.02	0.00	1.54
June		9.31	4.23	0.00	4.23	6.31	6.05	1.98	2.19	0.00	8.24
July		14.74	6.70	0.00	6.70	4.65	7.05	1.82	2.76	0.00	9.81
August		12.89	5.86	0.00	5.86	2.98	3.95	0.03	0.04	0.00	3.99
September		3.72	1.69	0.00	1.69	2.53	0.97	0.49	0.19	0.00	1.16
October		0.02	0.01	0.00	0.01	1.56	0.00	1.09	0.00	0.00	0.01
November		DID	NOT	DISCHARGE	0.00						0.00
December		DID	NOT	DISCHARGE	0.00						0.00
TOTAL		55.28	25.12	0.00	25.12		25.14		8.67	0.00	33.82



THE CITY OF **MADRAS**

City of Madras Sewer Department
Annual Reuse/Irrigation Report for 2022
Permit #101739 File # 52520

DEQ Bend Office:

For the irrigation season of 2022, the City of Madras discharged a total of 52.81 million gallons of treated wastewater from the North Treatment Plant. This was distributed over 76 acres in Area #2 and the grass runway.

For Area #2, the city owned Desert Peaks golf course received 49.45 million gallons of treated water during the 2022 season on 68 acres of turf grass. For 2023, it will remain turf grass.

The city discharged 3.36 million gallons of treated water to the grass runway. It was distributed over 8 acres of turf grass. It will remain turf grass for 2023.

For the irrigation season of 2022, the City of Madras discharged a total of 82.11 million gallons of treated wastewater from the South Treatment Plant. This was distributed over 81 acres of Woodworth property, and 26 acres of McTaggart property.

The Woodworth property received 61.13 million gallons of treated water distributed over 81 acres of alfalfa hay. It will remain planted in alfalfa for the 2023 irrigation season.

The McTaggart property received 20.98 million gallons of treated water distributed over 26 acres of barley hay. It will be planted in bluegrass for the 2023 irrigation season.

Area # 2	Year	2022											
Month	DISCH	ACRE	NUID	TOTAL	TKN	TKN	NO2	NO2	NO3	NO3	ADDED	TOTAL	
	MG	INCH	ACRE IN.	INCHES	mg/L	LB/ACRE	mg/L	LB/ACRE	mg/L	LB/ACRE	LB/ACRE	LB/ACRE	
January	0.0	NOT	D-SCHARGE	0.00								0.00	
February	0.0	NOT	D-SCHARGE	0.00								0.00	
March	0.0	NOT	D-SCHARGE	0.00								0.00	
April	2.79	1.52		1.52							73.00	73.00	
May	7.02	3.80		3.80	10.70	9.22	0.30	0.26			48.00	57.48	
June	6.36	3.44		3.44	15.90	12.40	0.18	0.14			48.00	60.54	
July	12.76	6.91	3.20	10.11	5.66	8.86	0.35	0.55			48.00	57.41	
August	8.94	4.84	0.40	5.24	5.31	5.82	0.03	0.03			81.00	88.85	
September	5.36	2.92	1.90	4.82	9.39	6.20	0.21	0.14			73.00	79.34	
October	6.20	3.36	6.70	10.06	9.39	6.00	0.21				22.00	28.00	
November	0.0	NOT	D-SCHARGE	0.00								0.00	
December	0.0	NOT	D-SCHARGE	0.00								0.00	
TOTAL	49.45	26.79	12.20	38.99		48.50		1.12		0.00	393.00	442.62	

NWTF	Daily	AVG	AVG	AVG	AVG	AVG	AVG	AVG	RAIN	EVAP
2022	Average	INF	INF	INF	EFF	CI2	TOTAL	FALL	RATES	RATES
	Influent	pH	TSS	BOD	pH	RES.	COLI	INCHES	INCHES	
January	0.259	7.42	262.00	218.00						
February	0.256	7.48	312.00	160.00						
March	0.228	7.00	255.00	166.00						
April	0.260	6.92	176.00	224.00	7.65	4.90	0.00			
May	0.244	6.99	212.00	179.00	8.00	4.44	0.00			
June	0.244	6.96	182.00	161.00	7.99	3.28	0.00			
July	0.235	7.09	279.00	265.00	8.77	2.40	0.00			
August	0.250	6.96	90.00	160.00	8.81	1.30	0.00			
September	0.256	7.03	105.00	141.00	8.72	1.60	0.00			
October	0.226	7.05	232.00	177.00						
November	0.242	7.18	126.00	140.00						
December	0.204	7.26	147.00	85.00						
TOTAL								0.00	0.00	
AVERAGE	0.242	7.11	198.17	177.17	8.36	2.99	0.00			

SWTF	Daily	AVG	AVG	AVG	AVG	AVG	AVG	AVG	RAIN	EVAP
2022	Average	INF	INF	INF	EFF	CI2	TOTAL	FALL	RATES	RATES
	Influent	pH	TSS	BOD	pH	RES.	COLI	INCHES	INCHES	
January	0.299	7.66	158	330	7.48	2.67	0.00			
February	0.317	7.63	204	194	7.85	3.49	0.00			
March	0.311	7.56	175	165	7.94	2.57	0.00			
April	0.295	7.53	305	205	8.94	2.07	0.00			
May	0.305	7.52	101	109	7.36	3.14	0.00			
June	0.289	7.52	74	138	7.33	3.00	0.00			
July	0.288	7.74	304	131	7.77	2.50	0.00			
August	0.279	7.72	62	105	7.71	2.39	0.00			
September	0.279	7.46	355	168	7.53	2.11	0.00			
October	0.281	7.51	167	130	7.30	2.16	0.00			
November	0.290	7.57	197	172	7.25	3.00	0.00			
December	0.317	7.63	252	225	7.52	2.86	0.00			
TOTAL								0.00	0.00	
AVERAGE	0.295	7.59	196	172	7.67	2.66	0.00			

SWWTF Discharges to Upper pond

January	57855	
February	21,8487	
March	21,6207	
April	4,9109	
May	11,2907	
June	7,3606	
July	14,8289	
August	12,1528	
September	12,2727	
October	5,0188	
November	0,018	
December	1,0858	
TOTAL	118.39	

GRASS	RUNWAY	2022											
Month		DISCH MG	ACRE INCH	NU:ID ACRE IN.	TOTAL INCHES	TKN mg/L	TKN LB/ACRE	NO2 mg/L	NO2 LB/ACRE	NO3 mg/L	NO3 LB/ACRE	ADDED LB/ACRE	TOTAL LB/ACRE
January	D:ID	NOT	DISCHARGE		0.00								0.00
February	D:ID	NOT	DISCHARGE		0.00								0.00
March	D:ID	NOT	DISCHARGE		0.00								0.00
April		0.48	2.21		2.21								0.00
May		0.95	4.42		4.42	10.70	10.71	0.30	0.30				11.01
June		0.48	2.21		2.21	15.90	7.96	0.18	0.09				8.05
July		1.15	5.30		5.30	5.66	6.80	0.35	0.42				7.22
August		0.29	1.33		1.33	5.31	1.59	0.03	0.01			62.50	64.10
September	D:ID	NOT	DISCHARGE		0.00								0.00
October	D:ID	NOT	DISCHARGE		0.00								0.00
November	D:ID	NOT	DISCHARGE		0.00								0.00
December	D:ID	NOT	DISCHARGE		0.00								0.00
TOTAL		3.36	15.47	0.00	15.47		27.06		0.82		0.00	62.50	90.38

Area # 16	Year	2022											
Month		DISCH MG	ACRE INCH	NU:ID ACRE IN.	TOTAL INCHES	TKN mg/L	TKN LB/ACRE	NO2 mg/L	NO2 LB/ACRE	NO3 mg/L	NO3 LB/ACRE	ADDED LB/ACRE	TOTAL LB/ACRE
January					0.00								0.00
February					0.00								0.00
March					0.00								0.00
April					0.00								0.00
May					0.00								0.00
June					0.00								0.00
July					0.00								0.00
August					0.00								0.00
September					0.00								0.00
October					0.00								0.00
November					0.00								0.00
December					0.00								0.00
TOTAL		0.00	0.00	0.00	0.00		0.00		0.00		0.00	0.00	0.00

McTeer	Year	2022									
Month		DISCH	ACRE	NUD	TOTAL	TKN	TKN	NO2/NO3	NO2/NO3	ADDED	TOTAL
		MG	INCH	ACRE IN.	INCHES	mg/L	LB/ACRE	mg/L	LB/ACRE	LB/ACRE	LB/ACRE
January		DID	NOT	DISCHARGE	0.00						0.00
February		DID	NOT	DISCHARGE	0.00						0.00
March		DID	NOT	DISCHARGE	0.00						0.00
April		1.58	2.23		2.23						0.00
May		3.55	5.03		5.03	4.54	5.17	2.11	2.40		7.57
June		0.00	0.00		0.00	2.51		0.03			0.03
July		0.00	0.00		0.00	7.77		0.28			0.00
August		2.98	4.19		4.19	3.77	3.58	0.42	0.40		3.98
September		9.98	1.41		1.41	4.64	14.85	0.71	2.27		17.12
October		2.92	4.13		4.13	4.03	3.77	3.15	2.95		6.72
November		DID	NOT	DISCHARGE	0.00						0.00
December		DID	NOT	DISCHARGE	0.00						0.00
TOTAL		20.98	16.99	0.00	16.99		27.37		8.02	0.00	35.39

Woodworth	Year	2022									
Month		DISCH	ACRE	NUD	TOTAL	TKN	TKN	NO2/NO3	NO2/NO3	ADDED	TOTAL
		MG	INCH	ACRE IN.	INCHES	mg/L	LB/ACRE	mg/L	LB/ACRE	LB/ACRE	LB/ACRE
January		DID	NOT	DISCHARGE	0.00						0.00
February		DID	NOT	DISCHARGE	0.00						0.00
March		DID	NOT	DISCHARGE	0.00						0.00
April		3.98	1.80		1.80						0.00
May		13.32	6.06		6.06	4.54	6.23	2.11	2.89		9.12
June		6.48	2.94		2.94	2.51	1.67	0.03	0.02		1.69
July		12.28	5.58		5.58	7.77	9.83	0.28	0.35		10.18
August		13.22	6.01		6.01	3.77	5.13	0.42	0.57		5.70
September		11.29	5.13		5.13	4.64	5.40	0.71	0.83		6.23
October		0.58	2.64		2.64	4.03	0.24	3.15	0.19		0.43
November		DID	NOT	DISCHARGE	0.00						0.00
December		DID	NOT	DISCHARGE	0.00						0.00
TOTAL		61.13	30.16	0.00	30.16		28.50		4.85	0.00	33.35

Area #	Year	DISCH	ACRE	NUID	TOTAL	TKN	TKN	NO2	NO2	NO3	NO3	ADDED	TOTAL
Month	2019.00	MG	INCH	ACRE IN.	INCHES	mg/L	LB/ACRE	mg/L	LB/ACRE	mg/L	LB/ACRE	LB/ACRE	LB/ACRE
January					0.00								0.00
February					0.00								0.00
March					0.00								0.00
April					0.00								0.00
May					0.00								0.00
June					0.00								0.00
July					0.00								0.00
August					0.00								0.00
September					0.00								0.00
October					0.00								0.00
November					0.00								0.00
December					0.00								0.00
TOTAL		0.00	0.00	0.00	0.00		0.00		0.00		0.00	0.00	0.00

Area #	Year	DISCH	ACRE	NUID	TOTAL	TKN	TKN	NO2	NO2	NO3	NO3	ADDED	TOTAL
Month	2019.00	MG	INCH	ACRE IN.	INCHES	mg/L	LB/ACRE	mg/L	LB/ACRE	mg/L	LB/ACRE	LB/ACRE	LB/ACRE
January					0.00								0.00
February					0.00								0.00
March					0.00								0.00
April					0.00								0.00
May					0.00								0.00
June					0.00								0.00
July					0.00								0.00
August					0.00								0.00
September					0.00								0.00
October					0.00								0.00
November					0.00								0.00
December					0.00								0.00
TOTAL		0.00	0.00	0.00	0.00		0.00		0.00		0.00	0.00	0.00

Attachment 2

Email correspondence regarding TKN and NO₃+NO₂-N Monitoring
in 2022



MAKEPEACE Carl * DEQ

From: Daniel Hall <dhall@madras.gov>
Sent: Tuesday, May 27, 2025 1:23 PM
To: MAKEPEACE Carl * DEQ
Cc: MORGAN-HAYES Anna * DEQ
Subject: Re: Send data from MFP13873232 05/27/2025 10:49

Carl, It looks like we didn't start discharging until about the 19th of April that year, so do to time restraints on getting the samples back from the lab we probably didn't start the TKN NO2/3 sampling until May.

From: MAKEPEACE Carl * DEQ <carl.makepeace@deq.oregon.gov>
Sent: Tuesday, May 27, 2025 12:55 PM
To: Daniel Hall <dhall@madras.gov>
Cc: MORGAN-HAYES Anna * DEQ <Anna.MORGAN-HAYES@deq.oregon.gov>
Subject: RE: Send data from MFP13873232 05/27/2025 10:49

Daniel,

I am not seeing TKN or NO3/NO2 monitoring results for April of that year. As far as you were aware, was that data collected?

-Carl Makepeace

From: Daniel Hall <dhall@madras.gov>
Sent: Tuesday, May 27, 2025 10:32 AM
To: MAKEPEACE Carl * DEQ <carl.makepeace@deq.oregon.gov>
Cc: MORGAN-HAYES Anna * DEQ <anna.morgan-hayes@deq.oregon.gov>
Subject: Fw: Send data from MFP13873232 05/27/2025 10:49

Carl, here is a copy of the 2022 reports. Let me know if you can read these ok.

From: pwcopier@ci.madras.or.us <pwcopier@ci.madras.or.us>
Sent: Tuesday, May 27, 2025 10:49 AM
To: Daniel Hall <dhall@madras.gov>
Subject: Send data from MFP13873232 05/27/2025 10:49

Scanned from MFP13873232
Date:05/27/2025 10:49
Pages:1
Resolution:200x200 DPI

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