Compliance Maintenance Annual Report

Lakeland Sanitary District

Last Updated: 6/10/2022 Reporting For: **2021**

Influent Flow and Loading

1. Monthly Average Flows and BOD Loadings

1.1 Verify the following monthly flows and BOD loadings to your facility.

Influent No. 702	Influent Monthly Average Flow, MGD	x	Influent Monthly Average BOD Concentration mg/L	x	8.34	=	Influent Monthly Average BOD Loading, lbs/day
January	0.2573	x	406	x	8.34	=	871
February	0.2834	x	400	x	8.34	=	945
March	0.2651	x	517	x	8.34	=	1,143
April	0.2556	x	486	x	8.34	=	1,036
May	0.2865	x	524	x	8.34	=	1,251
June	0.3320	x	534	x	8.34	=	1,478
July	0.3582	x	527	x	8.34	=	1,573
August	0.3317	x	483	x	8.34	=	1,335
September	0.2884	x	541	x	8.34	=	1,301
October	0.2603	x	547	x	8.34	=	1,188
November	0.2291	x	497	x	8.34	=	950
December	0.2367	x	446	x	8.34	=	879

2. Maximum Monthly Design Flow and Design BOD Loading

2.1 Verify the design flow and loading for your facility.

Design	Design Factor	x	%	=	% of Design
Max Month Design Flow, MGD	.75	x	90	=	0.675
		x	100	=	.75
Design BOD, lbs/day	2250	x	90	=	2025
		x	100	=	2250

2.2 Verify the number of times the flow and BOD exceeded 90% or 100% of design, points earned, and score:

	Months of Influent	Number of times flow was greater than 90% of	Number of times flow was greater than 100% of	Number of times BOD was greater than 90% of design	Number of times BOD was greater than 100% of design
January	1	0	0	0	0
February	1	0	0	0	0
March	1	0	0	0	0
April	1	0	0	0	0
May	1	0	0	0	0
June	1	0	0	0	0
July	1	0	0	0	0
August	1	0	0	0	0
September	1	0	0	0	0
October	1	0	0	0	0
November	1	0	0	0	0
December	1	0	0	0	0
Points per each		2	1	3	2
Exceedances		0	0	0	0
Points		0	0	0	0
Total Number of Points					**0**

0

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- ○ Yes
- ● No

If yes, describe the types of wastes received and any procedures or other restrictions that were in place to protect the facility from the discharge of hauled industrial wastes.

Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	**A**

If Yes, please explain:

4.2 At any time in the past year was there a failure of an effluent acute or chronic whole effluent toxicity (WET) test?

- ○ Yes
- ● No

If Yes, please explain:

4.3 If the biomonitoring (WET) test did not pass, were steps taken to identify and/or reduce source(s) of toxicity?

- ○ Yes
- ○ No
- ● N/A

Please explain unless not applicable:

Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	**A**

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Effluent Quality and Plant Performance (Ammonia - NH3)

1. Effluent Ammonia Results

1.1 Verify the following monthly and weekly average effluent values, exceedances and points for ammonia

Outfall No. 001	Monthly Average NH3 Limit (mg/L)	Weekly Average NH3 Limit (mg/L)	Effluent Monthly Average NH3 (mg/L)	Monthly Permit Limit Exceedance	Effluent Weekly Average for Week 1	Effluent Weekly Average for Week 2	Effluent Weekly Average for Week 3	Effluent Weekly Average for Week 4	Weekly Permit Limit Exceedance
January	15		.429	0					
February	15		.486	0					
March	15		.355	0					
April	15		2.565	0					
May	16		3.643	0					
June	16		.249	0					
July	16		1.639	0					
August	16		.214	0					
September	16		.356	0					
October	16		.223	0					
November	25		.184	0					
December	25		.348	0					

Points per each exceedance of Monthly average:	10
Exceedances, Monthly:	0
Points:	0
Points per each exceedance of weekly average (when there is no monthly average):	2.5
Exceedances, Weekly:	0
Points:	0
Total Number of Points	**0**

NOTE: Limit exceedances are considered for monthly OR weekly averages but not both. When a monthly average limit exists it will be used to determine exceedances and generate points. This will be true even if a weekly limit also exists. When a weekly average limit exists and a monthly limit does not exist, the weekly limit will be used to determine exceedances and generate points.

1.2 If any violations occurred, what action was taken to regain compliance?

none

0

Total Points Generated	0
Score (100 - Total Points Generated)	100
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Biosolids Quality and Management

1. Biosolids Use/Disposal

1.1 How did you use or dispose of your biosolids? (Check all that apply)

- ☐ Land applied under your permit
- ☒ Publicly Distributed Exceptional Quality Biosolids
- ☐ Hauled to another permitted facility
- ☐ Landfilled
- ☐ Incinerated
- ☐ Other

NOTE: If you did not remove biosolids from your system, please describe your system type such as lagoons, reed beds, recirculating sand filters, etc.

1.1.1 If you checked Other, please describe:

3. Biosolids Metals

Number of biosolids outfalls in your WPDES permit:

3.1 For each outfall tested, verify the biosolids metal quality values for your facility during the last calendar year.

Outfall No. 003 - Municipal Sludge

Parameter	80% of Limit	H.Q. Limit	Ceiling Limit	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	80% Value	High Quality	Ceiling
Arsenic		41	75			9.7											0	0
Cadmium		39	85			1.5											0	0
Copper		1500	4300			520											0	0
Lead		300	840			17											0	0
Mercury		17	57			2											0	0
Molybdenum	60		75			13										0		0
Nickel	336		420			21										0		0
Selenium	80		100			0										0		0
Zinc		2800	7500			630											0	0

3.1.1 Number of times any of the metals exceeded the high quality limits OR 80% of the limit for molybdenum, nickel, or selenium = 0

Exceedence Points

- ● 0 (0 Points)
- o 1-2 (10 Points)
- o > 2 (15 Points)

3.1.2 If you exceeded the high quality limits, did you cumulatively track the metals loading at each land application site? (check applicable box)

- o Yes
- o No (10 points)
- ● N/A - Did not exceed limits or no HQ limit applies (0 points)
- o N/A - Did not land apply biosolids until limit was met (0 points)

3.1.3 Number of times any of the metals exceeded the ceiling limits = 0

Exceedence Points

- ● 0 (0 Points)
- o 1 (10 Points)
- o > 1 (15 Points)

3.1.4 Were biosolids land applied which exceeded the ceiling limit?

- o Yes (20 Points)
- ● No (0 Points)

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Outfall Number:	**005**
Biosolids Class:	A
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	07/01/2021 - 09/30/2021
Density:	4
Sample Concentration Amount:	MPN/G TS
Requirement Met:	Yes
Land Applied:	No
Process:	Thermophilic Aerobic Digestion
Process Description:	10 days retention time at 131 degrees F. or more

Outfall Number:	**005**
Biosolids Class:	A
Bacteria Type and Limit:	Fecal Coliform
Sample Dates:	10/01/2021 - 12/31/2021
Density:	3
Sample Concentration Amount:	MPN/G TS
Requirement Met:	Yes
Land Applied:	No
Process:	Thermophilic Aerobic Digestion
Process Description:	10 days retention time at 131 degrees or more

0

4.2 If exceeded Class B limit or did not meet the process criteria at the time of land application.

4.2.1 Was the limit exceeded or the process criteria not met at the time of land application?

- ○ Yes (40 Points)
- ● No

If yes, what action was taken?

5. Vector Attraction Reduction (per outfall):

5.1 Verify the following information. If any of the information is incorrect, use the Report Issue button under the Options header in the left-side menu.

Outfall Number:	**003**
Method Date:	04/06/2021
Option Used To Satisfy Requirement:	Volatile Solids Reduction
Requirement Met:	Yes
Land Applied:	Yes
Limit (if applicable):	>=38
Results (if applicable):	53

Outfall Number:	**005**
Method Date:	02/04/2021
Option Used To Satisfy Requirement:	Volatile Solids Reduction
Requirement Met:	Yes
Land Applied:	No
Limit (if applicable):	>=38
Results (if applicable):	56.10

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Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	**A**

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We keep up with all the preventive maintenance and are always going beyond for future improvements

Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	**A**

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OIT and Basic Certification:
- ○ Averaging 6 or more CECs per year.
- ○ Averaging less than 6 CECs per year.

Advanced Certification:
- ● Averaging 8 or more CECs per year.
- ○ Averaging less than 8 CECs per year.

Total Points Generated	0
Score (100 - Total Points Generated)	100
Section Grade	**A**

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3.2.5 Subtractions from Fund (e.g., equipment replacement, major repairs - use description box 3.2.6.1 below*) - $ 0.00

3.2.6 Ending Balance as of December 31st for CMAR Reporting Year $ 277,806.58

All Sources: This ending balance should include all Equipment Replacement Funds whether held in a bank account(s), certificate(s) of deposit, etc.

3.2.6.1 Indicate adjustments, equipment purchases, and/or major repairs from 3.2.5 above.

3.3 What amount should be in your Replacement Fund? $ 278,092.87

0

Please note: If you had a CWFP loan, this amount was originally based on the Financial Assistance Agreement (FAA) and should be regularly updated as needed. Further calculation instructions and an example can be found by clicking the SectionInstructions link under Info header in the left-side menu.

3.3.1 Is the December 31 Ending Balance in your Replacement Fund above, (#3.2.6) equal to, or greater than the amount that should be in it (#3.3)?

- o Yes
- ● No

If No, please explain.

because we earned interest

4. Future Planning

4.1 During the next ten years, will you be involved in formal planning for upgrading, rehabilitating, or new construction of your treatment facility or collection system?

- ● Yes - If Yes, please provide major project information, if not already listed below.☐☐
- o No

Project #	Project Description	Estimated Cost	Approximate Construction Year
1	Potential treatment for phosphorus regs.	550000	2022
2	ATAD repairs.	150000	2022
3	ATAD repairs.	150000	2022

5. Financial Management General Comments

ENERGY EFFICIENCY AND USE

6. Collection System

6.1 Energy Usage

6.1.1 Enter the monthly energy usage from the different energy sources:

COLLECTION SYSTEM PUMPAGE: Total Power Consumed

Number of Municipally Owned Pump/Lift Stations: 17

6.4 Future Energy Related Equipment

6.4.1 What energy efficient equipment or practices do you have planned for the future for your pump/lift stations?

7. Treatment Facility

7.1 Energy Usage

7.1.1 Enter the monthly energy usage from the different energy sources:

TREATMENT PLANT: Total Power Consumed/Month

	Electricity Consumed (kWh)	Total Influent Flow (MG)	Electricity Consumed/ Flow (kWh/MG)	Total Influent BOD (1000 lbs)	Electricity Consumed/ Total Influent BOD (kWh/1000lbs)	Natural Gas Consumed (therms)
January	64,720	7.98	8,110	27.00	2,397	5,250
February	57,440	7.94	7,234	26.46	2,171	6,626
March	59,280	8.22	7,212	35.43	1,673	4,434
April	62,480	7.67	8,146	31.08	2,010	2,271
May	60,880	8.88	6,856	38.78	1,570	2,081
June	34,640	9.96	3,478	44.34	781	90
July	83,280	11.10	7,503	48.76	1,708	44
August	68,800	10.28	6,693	41.39	1,662	19
September	63,920	8.65	7,390	39.03	1,638	16
October	67,760	8.07	8,397	36.83	1,840	19
November	62,160	6.87	9,048	28.50	2,181	1,287
December	61,360	7.34	8,360	27.25	2,252	5,547
Total	**746,720**	**102.96**		**424.85**		**27,684**
Average	**62,227**	**8.58**	**7,369**	**35.40**	**1,824**	**2,307**

7.1.2 Comments:

7.2 Energy Related Processes and Equipment

7.2.1 Indicate equipment and practices utilized at your treatment facility (Check all that apply):

- ☒ Aerobic Digestion
- ☐ Anaerobic Digestion
- ☐ Biological Phosphorus Removal
- ☐ Coarse Bubble Diffusers
- ☒ Dissolved O2 Monitoring and Aeration Control
- ☐ Effluent Pumping
- ☐ Fine Bubble Diffusers
- ☐ Influent Pumping
- ☒ Mechanical Sludge Processing
- ☐ Nitrification
- ☒ SCADA System
- ☒ UV Disinfection
- ☒ Variable Speed Drives
- ☐ Other:

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☒ Sewage flows satellite system and large private users are monitored and controlled, as necessary
☒ Fat, oil and grease control
☒ Enforcement procedures for sewer use non-compliance

☒ Operation and Maintenance [NR 210.23 (4) (d)]

Does your operation and maintenance program and equipment include the following:

☒ Equipment and replacement part inventories
☒ Up-to-date sewer system map
☒ A management system (computer database and/or file system) for collection system information for O&M activities, investigation and rehabilitation
☒ A description of routine operation and maintenance activities (see question 2 below)
☒ Capacity assessment program
☒ Basement back assessment and correction
☒ Regular O&M training

☒ Design and Performance Provisions [NR 210.23 (4) (e)]☐☐

What standards and procedures are established for the design, construction, and inspection of the sewer collection system, including building sewers and interceptor sewers on private property?

☒ State Plumbing Code, DNR NR 110 Standards and/or local Municipal Code Requirements
☒ Construction, Inspection, and Testing
☐ Others:

0

☒ Overflow Emergency Response Plan [NR 210.23 (4) (f)]☐☐

Does your emergency response capability include:

☒ Responsible personnel communication procedures
☒ Response order, timing and clean-up
☒ Public notification protocols
☒ Training
☒ Emergency operation protocols and implementation procedures

☒ Annual Self-Auditing of your CMOM Program [NR 210.23 (5)]☐☐

☒ Special Studies Last Year (check only those that apply):

☒ Infiltration/Inflow (I/I) Analysis
☐ Sewer System Evaluation Survey (SSES)
☐ Sewer Evaluation and Capacity Managment Plan (SECAP)
☐ Lift Station Evaluation Report
☐ Others:

2. Operation and Maintenance

2.1 Did your sanitary sewer collection system maintenance program include the following maintenance activities? Complete all that apply and indicate the amount maintained.

Cleaning	33.3	% of system/year
Root removal	10	% of system/year
Flow monitoring	100	% of system/year
Smoke testing	0	% of system/year
Sewer line televising	30	% of system/year
Manhole inspections	33.3	% of system/year

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5.1 Was infiltration/inflow (I/I) significant in your community last year?

- ○ Yes
- ● No

If Yes, please describe:

5.2 Has infiltration/inflow and resultant high flows affected performance or created problems in your collection system, lift stations, or treatment plant at any time in the past year?

- ○ Yes
- ● No

If Yes, please describe:

5.3 Explain any infiltration/inflow (I/I) changes this year from previous years:

no changes

5.4 What is being done to address infiltration/inflow in your collection system?

we inspect mains and fix problems, and we see them

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Score (100 - Total Points Generated)	100
Section Grade	**A**

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Resolution or Owner's Statement

Name of Governing Body or Owner: Lakeland Sanitary District 1

Date of Resolution or Action Taken: 2022-06-14

Resolution Number: 2022

Date of Submittal:

ACTIONS SET FORTH BY THE GOVERNING BODY OR OWNER RELATING TO SPECIFIC CMAR SECTIONS (Optional for grade A or B. Required for grade C, D, or F):

Influent Flow and Loadings: Grade = A

Effluent Quality: BOD: Grade = A

Effluent Quality: TSS: Grade = A

Effluent Quality: Ammonia: Grade = A

Effluent Quality: Phosphorus: Grade = B

Biosolids Quality and Management: Grade = A

Staffing: Grade = A

Operator Certification: Grade = A

Financial Management: Grade = A

Collection Systems: Grade = A
(Regardless of grade, response required for Collection Systems if SSOs were reported)

ACTIONS SET FORTH BY THE GOVERNING BODY OR OWNER RELATING TO THE OVERALL GRADE POINT AVERAGE AND ANY GENERAL COMMENTS
(Optional for G.P.A. greater than or equal to 3.00, required for G.P.A. less than 3.00)
G.P.A. = 3.92