

City of Kaukauna

Board of Public Works of June 20th, 2022

jn/engr dept

Agenda Item #2c

2021 Compliance Maintenance Annual Report (CMAR) to DNR

Background

Per Wisconsin DNR: Chapter NR 208, Wis. Adm. Code is more commonly known as the Compliance Maintenance Annual Report (CMAR) rule for publicly and privately owned domestic wastewater treatment works. The CMAR is a self-evaluation tool that promotes the owner's awareness and responsibility for wastewater collection and treatment needs, measures the performance of a wastewater treatment works during a calendar year, and assesses its level of compliance with permit requirements.

This report provides the following information to help:

- Describes the management and physical condition of the wastewater treatment works during the previous calendar year.
- Assesses system performance and wastewater maintenance activities.
- Evaluates compliance with WPDES permit requirements
- Provides an objective analysis to determine whether a more detailed evaluation of the wastewater facility is needed.
- Identifies proposed actions necessary to maintain regulatory compliance.
- A new section looks at energy usage for lift stations within the system

City of Kaukauna has achieved an overall grade of "A" in 2021 reporting, which requires no formal corrective actions. A Resolution acknowledging that the report has been completed and reviewed is required and is on the Common Council agenda tomorrow. Recommended collection system response and an overall comment/action items from the Council acknowledging the need to continue improvements to City sanitary sewer collection system is being requested.

Recommended Action

Resolution is on Tuesday night Common Council Agenda

1. Receive and place on file the 2021 Compliance Maintenance Annual Report and Recommend Adoption of the **"2021 Compliance Maintenance Annual Report (CMAR) Resolution"** to Common Council (also attached to end of report).

Compliance Maintenance Annual Report

Kaukauna Sewage Collection System

Last Updated: Reporting For:
6/17/2022 **2021**

Financial Management

1. Provider of Financial Information

Name:

William Van Rossum

Telephone:

(920) 766-6312

(XXX) XXX-XXXX

E-Mail Address
(optional):

wvanrossum@kaukauna-wi.org

2. Treatment Works Operating Revenues

2.1 Are User Charges or other revenues sufficient to cover O&M expenses for your wastewater treatment plant AND/OR collection system ?

● Yes (0 points) ☐

○ No (40 points)

If No, please explain:

2.2 When was the User Charge System or other revenue source(s) last reviewed and/or revised?
Year:

2021

● 0-2 years ago (0 points) ☐

○ 3 or more years ago (20 points) ☐

○ N/A (private facility)

2.3 Did you have a special account (e.g., CWP required segregated Replacement Fund, etc.) or financial resources available for repairing or replacing equipment for your wastewater treatment plant and/or collection system?

● Yes (0 points)

○ No (40 points)

0

REPLACEMENT FUNDS [PUBLIC MUNICIPAL FACILITIES SHALL COMPLETE QUESTION 3]

3. Equipment Replacement Funds

3.1 When was the Equipment Replacement Fund last reviewed and/or revised?

Year:

2021

● 1-2 years ago (0 points) ☐

○ 3 or more years ago (20 points) ☐

○ N/A

If N/A, please explain:

3.2 Equipment Replacement Fund Activity

3.2.1 Ending Balance Reported on Last Year's CMAR

\$ 5,661,171.00

3.2.2 Adjustments - if necessary (e.g. earned interest, audit correction, withdrawal of excess funds, increase making up previous shortfall, etc.)

\$ 126,617.00

3.2.3 Adjusted January 1st Beginning Balance

\$ 5,534,554.00

3.2.4 Additions to Fund (e.g. portion of User Fee, earned interest, etc.)

\$ 3,141,848.00

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

\$ 2,483,659.00

3.2.6 Ending Balance as of December 31st for CMAR Reporting Year

\$ 6,192,743.00

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.

2021 Sanitary Sewer Utility Budget, shows 2020 expenses. Detailed ledger is available upon request.

3.3 What amount should be in your Replacement Fund? \$ 1.00

Please note: If you had a CWFPP 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)?

● Yes

○ No

If No, please explain.

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. ☐ ☐

○ No

Project #	Project Description	Estimated Cost	Approximate Construction Year
1	Grignon Park and Riverside Park Sanitary Sewer Relay	500000	2022
2	Kenneth Ave Area Phase 2 of 2	900000	2022
3	Manhole Lining/Repair Project	50000	2022
4	Reaume Ave Area	950000	2023
5	Presidential Streets Phase 1 of 2	700000	2025
6	Presidential Streets Phase 2 of 2	800000	2026
7	Lift Station Force Main Upgrades	200000	2023
8	River Street Sanitary Sewer and Easement CIPP	150000	2024
9	Thilmany Interceptor	90000	2024
10	CE Lift Station Interceptor to KHS	400000	2023

5. Financial Management General Comments

None.

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: 7

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	Electricity Consumed (kWh)	Natural Gas Consumed (therms)
January	9,725	
February	10,425	
March	9,379	
April	9,931	
May	9,939	
June	9,305	
July	10,432	
August	10,916	
September	11,145	
October	9,216	
November	9,398	
December	9,416	
Total	119,227	0
Average	9,936	0

6.1.2 Comments:

Total and average kWh were down in 2021. 2020 = 129,223 Total and 10,769 avg.

6.2 Energy Related Processes and Equipment

6.2.1 Indicate equipment and practices utilized at your pump/lift stations (Check all that apply):

- ☐ Comminution or Screening
- ☐ Extended Shaft Pumps
- ☒ Flow Metering and Recording
- ☐ Pneumatic Pumping
- ☐ SCADA System
- ☒ Self-Priming Pumps
- ☒ Submersible Pumps
- ☐ Variable Speed Drives
- ☐ Other:

6.2.2 Comments:

None.

6.3 Has an Energy Study been performed for your pump/lift stations?

● No

○ Yes

Year:

By Whom:

Describe and Comment:

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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?

During the systematic upgrades to lift-stations, energy efficiency will be a determining factor for equipment choice. Pump selection for 10th Street Lift station included selection of an alternate pump model/style with increased efficiency.

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

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Sanitary Sewer Collection Systems

1. Capacity, Management, Operation, and Maintenance (CMOM) Program

1.1 Do you have a CMOM program that is being implemented?

- Yes
- No

If No, explain:

1.2 Do you have a CMOM program that contains all the applicable components and items according to Wisc. Adm Code NR 210.23 (4)?

- Yes
- No (30 points)
- N/A

If No or N/A, explain:

1.3 Does your CMOM program contain the following components and items? (check the components and items that apply)

- ☒ Goals [NR 210.23 (4)(a)]

Describe the major goals you had for your collection system last year:

Specific 2021 Numerical Goals and Results are found in Appendix IV of City CMOM. A summary is attached.

Overall System Goals:

- 1) No sanitary sewer overflows
- 2) No basement back-ups due to lack of mainline maintenance
- 3) No infrastructure failure (street or sewer collapse) due to lack of maintenance
- 4) Maintain capacity for community and industrial growth within the City and HOVMSD interceptor
- 5) Review and update City Sewer Use Ordinance and maintain compliance with WIDNR and HOVMSD ordinances
- 6) Assist HOVMSD in implementation of a FOG control program.
- 7) Continue to identify and eliminate illegal sump pump discharges, cross connections, and other illicit connections.
- 8) Design and implement an on-going sewer condition evaluation program
- 9) Maintain an adequate budget to perform necessary maintenance of sewer system
- 10) Maintain and update records to ensure accurate and efficient data management

Did you accomplish them?

- Yes
- No

If No, explain:

Experienced 1 basement back-up in 2021 - related to system maintenance. We believe the change in maintenance schedule for this area will prevent future backups.

- ☒ Organization [NR 210.23 (4) (b)] ☐

Does this chapter of your CMOM include:

- ☒ Organizational structure and positions (eg. organizational chart and position descriptions)
- ☒ Internal and external lines of communication responsibilities
- ☒ Person(s) responsible for reporting overflow events to the department and the public

- ☒ Legal Authority [NR 210.23 (4) (c)]

What is the legally binding document that regulates the use of your sewer system?

Municipal Ordinance - Sewer Use Ordinance

If you have a Sewer Use Ordinance or other similar document, when was it last reviewed and revised? (MM/DD/YYYY) 2021-12-07

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Does your sewer use ordinance or other legally binding document address the following:

- ☒ Private property inflow and infiltration
- ☒ New sewer and building sewer design, construction, installation, testing and inspection
- ☒ Rehabilitated sewer and lift station installation, testing and inspection
- ☒ 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 Management 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	<input type="text" value="18"/>	% of system/year
Root removal	<input type="text" value="0"/>	% of system/year
Flow monitoring	<input type="text" value="100"/>	% of system/year
Smoke testing	<input type="text" value="0"/>	% of system/year

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Sewer line televising	<input type="text" value="5.6"/>	% of system/year
Manhole inspections	<input type="text" value="20"/>	% of system/year
Lift station O&M	<input type="text" value="54"/>	# per L.S./year
Manhole rehabilitation	<input type="text" value="2.1"/>	% of manholes rehabbed
Mainline rehabilitation	<input type="text" value="1.4"/>	% of sewer lines rehabbed
Private sewer inspections	<input type="text" value="1"/>	% of system/year
Private sewer I/I removal	<input type="text" value="1"/>	% of private services
River or water crossings	<input type="text" value="100"/>	% of pipe crossings evaluated or maintained
Please include additional comments about your sanitary sewer collection system below:		
<input type="text"/>		

3. Performance Indicators

3.1 Provide the following collection system and flow information for the past year.

<input type="text" value="34.45"/>	Total actual amount of precipitation last year in inches
<input type="text" value="31.08"/>	Annual average precipitation (for your location)
<input type="text" value="85"/>	Miles of sanitary sewer
<input type="text" value="7"/>	Number of lift stations
<input type="text" value="0"/>	Number of lift station failures
<input type="text" value="0"/>	Number of sewer pipe failures
<input type="text" value="2"/>	Number of basement backup occurrences
<input type="text" value="30"/>	Number of complaints
<input type="text" value="2.69"/>	Average daily flow in MGD (if available)
<input type="text" value="4.82"/>	Peak monthly flow in MGD (if available)
<input type="text" value="20.22"/>	Peak hourly flow in MGD (if available)

3.2 Performance ratios for the past year:

<input type="text" value="0.00"/>	Lift station failures (failures/year)
<input type="text" value="0.00"/>	Sewer pipe failures (pipe failures/sewer mile/yr)
<input type="text" value="0.00"/>	Sanitary sewer overflows (number/sewer mile/yr)
<input type="text" value="0.02"/>	Basement backups (number/sewer mile)
<input type="text" value="0.35"/>	Complaints (number/sewer mile)
<input type="text" value="1.8"/>	Peaking factor ratio (Peak Monthly:Annual Daily Avg)
<input type="text" value="7.5"/>	Peaking factor ratio (Peak Hourly:Annual Daily Avg)

4. Overflows

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2021

LIST OF SANITARY SEWER (SSO) AND TREATMENT FACILITY (TFO) OVERFLOWS REPORTED **

Date	Location	Cause	Estimated Volume
None reported			

** If there were any SSOs or TFOs that are not listed above, please contact the DNR and stop work on this section until corrected.

5. Infiltration / Inflow (I/I)

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

● Yes

○ No

If Yes, please describe:

I&I could be detected at meter stations, specifically after rain events and changes in river level.

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:

Approximately 6,500 feet of deteriorated clay, concrete, and truss main and approximately 109 service laterals were replaced or rehabilitated as part of City rehabilitation projects in 2021. In addition, some temporary manhole improvements were made in the river to reduce inflow.

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

The City is systematically replacing the collection system, including main and laterals to the home. Televising and flow monitoring continue to identify priority areas for rehabilitation. Clearwater inspections are performed on a 10 year cycle in all homes and businesses; and also at time reconstruction projects in each neighborhood. Mini-Storm and Storm sewer lateral installations, along with mandatory sump pump connections have also helped decrease I&I cross connections. Additional work on river manholes is scheduled for 2022.

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

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Grading Summary

WPDES No: 0047341

SECTIONS	LETTER GRADE	GRADE POINTS	WEIGHTING FACTORS	SECTION POINTS
Financial	A	4	1	4
Collection	A	4	3	12
TOTALS			4	16
GRADE POINT AVERAGE (GPA) = 4.00				

Notes:

A = Voluntary Range (Response Optional)

B = Voluntary Range (Response Optional)

C = Recommendation Range (Response Required)

D = Action Range (Response Required)

F = Action Range (Response Required)

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Resolution or Owner's Statement

Name of Governing
Body or Owner:

City of Kaukauna Common Council

Date of Resolution or
Action Taken:

2022-06-21

Resolution Number:

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):

Financial Management: Grade = A

None.

Collection Systems: Grade = A

(Regardless of grade, response required for Collection Systems if SSOs were reported)

None.

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. = 4.00

Continue systematic inspection, rehabilitation, and replacement of sanitary sewer collection system to maintain zero sanitary sewer overflows and assure capacity of the system for future growth.

ANNUAL MAINTENANCE GOALS AND PERFORMANCE MEASURES						
2021						
Sewer Mainline O&M						
MAINTENANCE ITEM	GOAL	% of System	2019	2020	2021	Comments
Sewer Mainline Televised	1 mile per year- 5% of system per year	5.0%	19,200 ft (4.3%)	22,650 ft (5%)	25,239 ft (5.6%)	Project Areas, Subd., CCTV
Main Line Rehabilitation and Replacement	1 mile per year	1.2%	5,550 ft (1.2%)	7,200 ft (1.6%)	6,468 ft (1.4%)	Utility Relays on 9th and Lawe
Clean Main Line Sewers	10 miles per year	12%	82,203ft (18%)	139,100ft (31%)	82,075 ft (18%)	Approx. 25% of Branch lines per year
Root Cutting	TBD - Per Cleaning/Televising	TBD	5%	5%	0%	
Flow Monitoring	TBD – Project Areas	TBD	0%	0%	0%	100% metered at meter stations and lift stations -Discuss future metering options for project areas
Dye Test /Smoke Test	TBD - Visual Inspections will dictate	TBD	0 ft	0 ft	0 ft	
Manholes O&M						
MAINTENANCE ITEM	GOAL	% of System	2019	2020	2021	Comments
Visual Inspection of Critical and Easement MHs	Inspect 100% at least once annually	100%	99%	100%	100%	
Visual Inspection of standard MHs	Inspect every 4 years	25%	511 (27%)	660 (35%)	465 (25%)	Sewer Crew + CCTV + Project Areas
Manhole Rehabilitation/Replacement	Repair or replace 2% per year	2%	45 (2.4%)	26 (1.3%)	41 (2.1%)	Paving and Lining
Lift Station O&M						
MAINTENANCE ITEM	GOAL	# Per Year	2019	2020	2021	Comments
Lift Station Inspections	2 inspections per week of each station	104 per lift station	104	104	104	
Lift Station O&M Check	1 maintenance check per week	52 per lift station	52	52	52	
Clean and Degrease Lift Stations	2 times per year each	2 per lift station	2	3	2	
Easement O&M						
MAINTENANCE ITEM	GOAL	% of System	2019	2020	2021	Comments
Visual Inspection of Easements	Inspect twice per year	100%	100%	100%	100%	
Easement Maintenance	Maintain access to each mh and mark for visibility	As needed	NA	NA	NA	
Private Lateral O&M						
MAINTENANCE ITEM	GOAL	#	2019	2020	2021	Comments
Visual Inspection of Laterals	Inspect 100% of Laterals in Rehab Area	Varies	100%(83)	100%(14)	100% (109)	
Replace Private Laterals	Replace 95% of residential laterals - rehab project	Varies	90% (61 of 68)	100% (14 of 14)	85% (64 of 75)	
Inspect Private Properties for Illicit Connections	Inspect all properties within a 10 year cycle	10%	2%	2%	2%	Mostly performed by Building Insp. & ENG - KU also performed 29.

RESOLUTION ____-2022

2021 COMPLIANCE MAINTENANCE ANNUAL REPORT (CMAR) RESOLUTION

WHEREAS, , it is a requirement under a Wisconsin Pollutant Discharge Elimination System (WPDES) permit issued by the Department of Natural Resources for the governing body to file a Compliance Maintenance Annual Report (CMAR) for its wastewater collection system under Wisconsin Administrative Code NR 208; and

WHEREAS, the governing body has reviewed the Compliance Maintenance Annual Report (CMAR); and

WHEREAS, it is necessary to provide recommendations or an action response plan for the Collection Systems CMAR section grades of "C" or less and/or an overall grade point average <3.00, or if a Sanitary Sewer Overflow was reported;

NOW THEREFORE BE IT RESOLVED, by the Common Council of the City of Kaukauna that the following recommendations or actions will be taken to address or correct problems/deficiencies of the wastewater treatment or collection system as identified in the Compliance Maintenance Annual Report (CMAR):

- 1) Continue systematic inspection, rehabilitation, and replacement of sanitary sewer collection system to maintain zero sanitary sewer overflows and assure capacity of the system for future growth.

I hereby certify that the foregoing resolution was duly adopted by the Kaukauna City Council at a legal meeting on this 21st day of June, 2022.

Anthony J. Penterman, Mayor

ATTEST:

Sally Kenney, Clerk