Madison City		Last Updated: 5/23/2017	Reporting For: 2016
Financial Managem	nent		
1. Provider of Financial	Information		
Name:	Steve Danner-Rivers		
Telephone:	(608) 261-9689	ー (XXX)XXX-XX	xx
E-Mail Address	(000) 201-9009		
(optional):		¬	
	sdannerrivers@cityofmadison.com		
treatment plant AND/O  • Yes (0 points)  o No (40 points)  If No, please explain:  2.2 When was the Use Year:  2017  • 0-2 years ago (0 po o 3 or more years ago o N/A (private facility)	or other revenues sufficient to cover O&M each collection system?  er Charge System or other revenue source(sounds)  ints) o (20 points)	s) last reviewed and/or re	evised?
financial resources ava plant and/or collection • Yes (0 points)	ilable for repairing or replacing equipment f	•	•
O No (40 points)  REPLACEMENT FLINDS	5 [PUBLIC MUNICIPAL FACILITIES SHALL CO	OMPLETE OLIESTION 31	
3. Equipment Replacem 3.1 When was the Equivalent Year:  2016  1-2 years ago (0 po o 3 or more years ago o N/A  If N/A, please explain	nent Funds  ipment Replacement Fund last reviewed and  ints)  i(20 points)		
3.2 Equipment Replace	ement Fund Activity		
3.2.1 Ending Balance	e Reported on Last Year's CMAR	\$ 36,519	
	necessary (e.g. earned interest, - rawal of excess funds, increase ortfall, etc.)	\$ 36,519	.62
3.2.3 Adjusted January	y 1st Beginning Balance	\$ 0.00	
3.2.4 Additions to Fun earned interest, etc.)	d (e.g. portion of User Fee, +	\$ 56,000.00	

Madison City	Last Updated:	Reporting For
	5/23/2017	2016
2.2.5. Cultivations from Fund (a.g. aguinment		

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

56,000.00

0

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.

Adjustment for unspent funds from 2015 Capital Budget

3.3 What amount should be in your Replacement Fund?

0.00

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)?
- Yes
- O 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.
- O No

Project #	Project Description		Approximate Construction Year
	Additions to Collection System: This project is for construction of assessable sewer facilities for new development, including easement acquisition where applicable. These project locations and schedules are typically development driven and may come up with short notice. Amount shown is the estimate for 2017-2022.	751000	
	Infiltration & Inflow Improvements: This program continues the work on sewer inflow and infiltration problems in specific areas. In 2012, a staff study outlined major improvements required for an area in the near east that experiences occasional sewer flooding problems. The problems are in the area of Johns Street and Cottage Grove Road and also Lake Edge Boulevard and Hegg Avenue. Improvements based on the study began in 2013 and are planned to continue through 2022 (some improvements are budgeted as separate projects).	1050000	
	Sewer with Reconstructed Streets: This project involves the replacement of older, problematic sewers in coordination with the City's Street Reconstruction and Pavement Management Program or as 'stand alone' projects. Typically this provides for the replacement of clay sewers that are difficult to maintain, nearing the end of their service life, have a significant repair costs, or are undersized. Also, the Sewer Utility encourages residents to replace the portion of their sewer lateral that lies within the public right-of-way by offering to fund 75% of the cost. Six-inch mains under streets that are being reconstructed will be replaced because they do not meet current codes. Sewers beneath streets being resurfaced are evaluated for replacement on a case-by-case basis. Amount shown is the estimate for 2017-2022.	59913900	

Madison City

Last Updated: Reporting For:
5/23/2017 2016

4	Felland Area Sewer Extension to Nelson Rd: This project will extend sanitary sewer service from the intersection of Burke Road and Felland Road, north to Nelson Road in order to serve the Nelson Neighborhood. This project will also relieve the Nelson Road Lift Station which is nearing capacity. In 2008, an Impact Fee District was established to recover the costs of this project. The easement acquisitions have been completed, and construction is scheduled for 2018; however, the anticipated construction year may be revised dependent on development interest in the area of service.	1000000	2018
5	Trenchless Sewer Rehabilitations: This program rehabilitates failing sewers that meet certain criteria but do not necessitate the need for a complete replacement by means of open cutting. New technology allows the lining of existing sewer mains using cameras and remote controlled tools. Some are also rehabilitated (or lined) to address inflow and infiltration problems, where clear water flow enters the sewer system, reducing pipe capacity and increasing treatment costs. The amount budgeted will repair approximately seven miles of sewer main at a number of strategically selected locations, based on citywide need. This item may also include replacement of inaccessible sewers by a 'direct bore' method, which is a relatively new technology for replacement of gravity sewer mains. Backyard sewer mains are a focus. Amount shown is the estimate for 2017-2022.	9840000	
6	Pumpkin Hollow Impact Fee District: This project will extend sanitary sewer service from the west side of the interstate highway south of Hoepker Road to the east side of the interstate and then northerly to Hoepker Road. This will allow for development of the Pumpkin Hollow Neighborhood. Easements have been obtained but the impact fee district is not yet established. The project will proceed once there exists a resurgence in development interest. Construction is tentatively planned for 2017, as a developer has expressed a need for sewer in 2017.	890000	2017
7	Citywide Pumping Stations-Emergency Power Stationary Generators: This program funds the installation of emergency power stationary generators at the City's pumping stations. The goal of the program is to ensure continuous service in the event of a power loss. In 2017, a FEMA grant is anticipated to provide 75% of the total cost of the planned generator installations. Amount shown is for 2017-2020.	572500	

#### 5. Financial Management General Comments

Annually the City of Madison adopts a Capital Budget which funds equipment replacement and infrastructure improvements, listed in a project format. Each project is reviewed and the funding amount for the next budget year is determined. In addition, the budget details future year estimates for the five subsequent years for each project.

#### **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: 29

Madison City

Last Updated: Reporting For: 5/23/2017 2016

	Electricity Consumed (kWh)	Natural Gas Consumed (therms)	
January	40,597	51	
February	40,948	165	
March	42,562	126	
April	38,495	28	
May	34,744	0	
June	34,513	0	
July	35,195	0	
August	39,139	0	
September	35,565	0	
October	36,142	0	
November	33,759	0	
December	37,016	0	
Total	448,675	370	
Average	37,390	93	
<ul> <li>□ Extended Shaft Pumps</li> <li>□ Flow Metering and Recording</li> <li>☑ Pneumatic Pumping</li> <li>☑ SCADA System</li> <li>□ Self-Priming Pumps</li> <li>☑ Submersible Pumps</li> <li>□ Variable Speed Drives</li> <li>□ Other:</li> </ul>			
6.2.2 Comme	ents:		
<ul><li>6.3 Has an En</li><li>No</li><li>O Yes</li><li>Year:</li><li>By Whom:</li></ul>	ergy Study been performe	ed for your pump/lift station	ns?
ا Describe an	d Comment:		

Madison City

Last Updated: Reporting For:
5/23/2017 2016

#### 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?

More efficient pumps will be installed as pumps need to be replaced.

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

Madison City

Last Updated: Reporting For:
5/23/2017 2016

#### 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
- o 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)
- O 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:

- II. Goals & Objectives
- A. DNR Required

The City of Madison's CMOM program is designed to ensure that the following general standards as articulated in NR 210.23 are met:

- 1. The sewage collection system is properly managed, operated, and maintained at all times.
- 2. The sewage collection system provides adequate capacity to convey all peak design flows.
- 3. NR 210.23(3)(c)All feasible steps are taken to eliminate excessive infiltration and inflow as defined in s. NR 110.03 (13c), cease sanitary sewer overflows and sewage treatment facility overflows and mitigate the impact of such overflows on waters of the state, the environment, and public health.
- 4. NR 210.23(3)(d)A process is in place to notify the public and other directly affected parties of any incidents of overflows from the sewerage system.
- 5. NR 210.23(3)(e) Annual reports are submitted in accordance with the provisions of ch. NR 208.
- B. MSU Specific

The City of Madison's goals for the operation and maintenance of its wastewater collection system are:

- Convey wastewater to the Nine Springs Wastewater Treatment Plant with minimum inflow, infiltration and exfiltration.
- Prevent public health hazards.
- Reduce inconvenience and damage by responsibly handling service interruptions.
- Eliminate claims and legal fees related to backup by providing immediate, concerned and efficient service to all emergency calls.
- Protect municipal investment by increasing the useful life and capacities of the system and parts.
- Use operating funds efficiently.
- Perform all activities safely and avoid injury.

Did you accomplish them?

Yes

Madison City

Last Updated: Reporting For:
5/23/2017 2016

	3/23/2017 2010
o No	
If No, explain:	
Organization [NR 210.23 (4) (b)]	
Does this chapter of your CMOM include:	
oxtimes Organizational structure and positions (eg. organizational chart and pos	sition descriptions)
Person(s) responsible for reporting overflow events to the department a	and the public
☐ Legal Authority [NR 210.23 (4) (c)]	
What is the legally binding document that regulates the use of your sewers	1
Chapter 35 of the Madison General Ordinances - The Public Sewage System	
If you have a Sewer Use Ordinance or other similar document, when was it revised? (MM/DD/YYYY) 03/15/2015	: last reviewed and
Does your sewer use ordinance or other legally binding document address Private property inflow and infiltration	the following:
$oxed{oxed}$ 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	d controlled, as
necessary	
<ul><li>☒ Fat, oil and grease control</li><li>☒ Enforcement procedures for sewer use non-compliance</li></ul>	
☐ Operation and Maintenance [NR 210.23 (4) (d)]	
Does your operation and maintenance program and equipment include the	following:
Equipment and replacement part inventories	Tollowing.
☑ Up-to-date sewer system map	
☑A management system (computer database and/or file system) for colle	ction system
information for O&M activities, investigation and rehabilitation	
A description of routine operation and maintenance activities (see quest	tion 2 below)
☐ Capacity assessment program	
☐ Basement back assessment and correction	
Regular O&M training  Regular Ook training  Regular Ook training  Regular Ook training	
☑ Design and Performance Provisions [NR 210.23 (4) (e)] What standards and procedures are established for the design, construction	n and inspection of
the sewer collection system, including building sewers and interceptor sewer	•
property?	or private
State Plumbing Code, DNR NR 110 Standards and/or local Municipal Co	de Requirements
☑ Construction, Inspection, and Testing	
Others:	
City of Madison Standard Specifications for Public Works Construction	
☑ 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	
☑ 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	

Madison City	Last Updated: 5/23/2017	Reporting For 2016
☐ Sewer System Evaluation Survey (SSES) ☐ Sewer Evaluation and Capacity Managment Plan (SECAP) ☐ Lift Station Evaluation Report ☑ Others:		

Madison City

Last Updated: Reporting For:
5/23/2017 2016

I/I Analysis- The City has 3 areas where we have been focusing our efforts to reduce I/I due to observing high pump run times at the pumping stations that serve the basins. These 3 areas are the Hargrove/Johns Street area, the Truax Airport area and the Midtown Pumping Station area. With the Johns Street/ Hargrove Area, the City studied the area in 2012 utilizing pump run time data and flow monitors. We continue to replace/ line defective sewers in this area and monitor our end results by observing pump run time data at the pumping station. We studied the Truax Airport Lift Station Basin also utilizing flow monitoring equipment and pump run time data in 2004 and again in 2015. This basin has cured-in-place liners that were installed in 2008 as a result of recommendations from the 2004 Brown and Caldwell I/I study and some of these liners have since failed due to an inadequate amount of resin in the pipe liner. The 2015 Truax study done by City staff included reviewing the condition of the sewer mains with and without liners, reviewing flow monitoring data and evaluating pump flow data. Because of a lack of large rainfall events while we had our sewer flow monitors in place, we decided to continue our flow monitoring of the Truax Basin in 2016 when we did have rainfall. We found a significant amount of work needing to be done to reduce I/I. As a result of this study, we intend to pipe burst 350' of 24" diameter sewer, open cut replace 422' of 8" diameter, and cured in place line 10,677 ft of sewer main varying in size from 8" diameter to 18" diameter. The Mid-Town basin is a very new area where we experienced a casting being dislodged by farm equipment in September of 2014. We have since raised the problem casting and installed a bolted locking lid but we are still observing I/I in this basin with spikes in pump run times during rain events. The I/I problem in the basin is not believed to be an issue with the sewer mains but rather the manholes. In July of 2016, 4" rain fell in a 3 hour period causing the sanitary sewer castings to be submerged with water resulting in a spike in the pump volume at the Mid Town Lift Station. In 2017 the City has adjusted 10 of the manholes to the estimated 100 year flood elevations, installed bolted castings and sealed the manhole barrel joints.

In 2016, the City experienced four rain events over 2 inches. The largest rainfall event was 4" on 7/21/16 on the southwest side of Madison in a 3 hour time period. According to the City's Pump data, we did experience flow spikes over the typical daily observed flow in all 3 of the basins but the peaks did not coincide. We observed a 47% peak over the average observed flow in the Johns Street basin(2.22 MGD Average, 3.27 MGD Peak on 10/27/16); 94% in Truax basin(0.558 MGD Average, 1.08 Peak MGD on 9/7/16) and 118% in Mid Town basin (0.11 MGD Ave, 0.24 MGD on 7/21/16).

SSES- On average, the City televises 85 Miles of sewer per year to evaluate how the sewers are performing and how we plan to improve the collection system based upon pipe defects (broken, fractured pipe, root obstructions, sags) or capacity concerns (pipe appears to be running at high levels).

SECAP- While the City is not required to have a formal SECAP plan, we have been closely monitoring the downtown redevelopment monitoring our capacity needs and upsizing sewer interceptors where it is needed. The City did do a study in 2015 of the sewer capacity needs in the near east side and the campus area where there has been a significant high density residential growth. Based upon the flow level observations and pending number of proposed dwelling units, the City intends to upsize the sewer on Bassett next year(2017) between University Ave to Dayton Street(2 city blocks, 732' of sewer being upsized) from a 12" diameter sewer to and 18" diameter sewer. The City also plans to upsize the sanitary sewer on Frances Street from Dayton Street north of University Ave., 1158' of sewer to a 24" diameter sewer within the next 5 years.

Lift Station Evaluation Report- The City's Lift Stations are maintained and operated by the Madison Metropolitan Sewerage District. MMSD provides the City updates if there are pump run time spikes and or if there are problems with operation of the stations. The City also meets annually with MMSD to identify which stations have been problematic through the year. They also notify the City which stations are in need of upgrades whether it being upgrading pumps, electrical upgrades or complete pumping station renovation.

Madison City

Last Updated: Reporting For: 5/23/2017 2016

<ul><li>2. Operation and Maintenance</li><li>2.1 Did your sanitary sewer collection system maintenance program include the following</li></ul>			
maintenance activities? Comp <u>lete all that apply and indicate the amount maintained.</u>			
Cleaning	63.16 % of system/year		
Root removal	1.72 % of system/year		
Flow monitoring	4 % of system/year		
Smoke testing	0 % of system/year		
Sewer line	6.67 % of system/year		
televising	6.67 % of system/year		
Manhole inspections	3.08 % of system/year		
Lift station O&M	76 # per L.S./year		
Manhole			
rehabilitation	1.50 % of manholes rehabbed		
Mainline	0.73 % of sower lines rehabled		
rehabilitation	0.73 % of sewer lines rehabbed		
Private sewer inspections	0 % of system/year		
Private sewer I/I			
removal	0 % of private services		
River or water			
crossings	43.42 % of pipe crossings evaluated or maintained		
Please include additional comments about your sanitary sewer collection system below:			
3. Performance Indicato			
	ng collection system and flow information for the past year.  Total actual amount of precipitation last year in inches		
	Annual average precipitation (for your location)		
	Ailes of sanitary sewer		
29 N	Number of lift stations		
	Number of lift station failures		
21 N	Number of sewer pipe failures		
8	Number of basement backup occurrences		
13 N	Number of complaints		
26.7 A	Average daily flow in MGD (if available)		
P	Peak monthly flow in MGD (if available)		
P	Peak hourly flow in MGD (if available)		
3.2 Performance ratios			
U U U S C	ift station failures (failures/year)		
	Sewer pipe failures (pipe failures/sewer mile/yr)		
0.00	Sewer pipe failures (pipe failures/sewer mile/yr) Sanitary sewer overflows (number/sewer mile/yr)		
0.00 S 0.01 E	Sewer pipe failures (pipe failures/sewer mile/yr) Sanitary sewer overflows (number/sewer mile/yr) Basement backups (number/sewer mile)		
0.00 S 0.01 E 0.02 C	Sewer pipe failures (pipe failures/sewer mile/yr) Sanitary sewer overflows (number/sewer mile/yr)		

Madison City

Last Updated: Reporting For:
5/23/2017 2016

0.0 Peaking factor ratio (Peak Hourly: Annual Daily Avg)

#### 4. Overflows

	LIST OF SANITARY SEWER (SSO) AND TREATMENT FACILITY (TFO) OFERFLOWS REPORTED **			
	Date	Location	Cause	Estimated Volume (MG)
0		Manhole at intersection of Mineral Point Rd and Mineau Pky.	Plugged Sewer	0.0015 - 0.0015

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

What actions were taken, or are underway, to reduce or eliminate SSO or TFO occurences in the future?

Increased frequency of scheduled preventive maintenance cleaning. Installed spot liner to eliminate roughness at offset joint.

- 5. Infiltration / Inflow (I/I)
- 5.1 Was infiltration/inflow (I/I) significant in your community last year?
- o 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?
- o Yes
- No

If Yes, please describe:

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

I/I did not create any major problems with our system in 2016. We did experience increased pumping times during rain events at our Lift Stations at Johns Street, Truax Airport, and the Mid Town Pumping Station. We continue to make sewer improvements in these areas.

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

We continued to replace defective sewers in the Johns Street Area. In 2016, the City replaced 9,828 ft of sewer in 2016 varying in size from 8" to 21" diameter and intend to replace 5,829 in 2017. Even with the significant sewer replacement, the Johns St Lift station is still experiencing I/I. In the Truax Area as a result of the City's most recent I/I study, we will be pipe bursting 350' of 24" diameter sewer, open cut replacing 422' of 8" diameter, and cured in place lining 10,677 ft of sewer main varying in size from 8" diameter to 18" diameter. With the Mid- Town, we adjusted castings to the 100 year flood elevation levels during the Winter of 2016/2017, installing bolted locking casting to avoid castings from being dislodged and sealing leaking barrel joints in manholes.

Total Points Generated	
Score (100 - Total Points Generated)	100
Section Grade	А

Madison City

Last Updated: Reporting For:
5/23/2017 2016

### **Grading Summary**

WPDES No: 0047341

SECTIONS	LETTER GRADE	GRADE POINTS	WEIGHTING FACTORS	SECTION POINTS	
Financial	А	4	1	4	
Collection	А	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)

Madison City	Last Updated: 5/23/2017	Reporting For 2016
Resolution or Owner's Statement		
Name of Governing Body or Owner:  Date of Resolution or Action Taken:		
Resolution Number:		
Date of Submittal:		
ACTIONS SET FORTH BY THE GOVERNING BODY OR OWNER RELATING SECTIONS (Optional for grade A or B. Required for grade C, D, or F):  Financial Management: Grade = A		C CMAR
Collection Systems: Grade = A (Regardless of grade, response required for Collection Systems if SSOs were	re reported)	
ACTIONS SET FORTH BY THE GOVERNING BODY OR OWNER RELATING 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 to G.P.A. = 4.00		ERALL