Last Updated: Reporting For: Madison City 5/4/2016 2015 Financial Management 1. Provider of Financial Information Name: Steve Danner-Rivers (XXX) XXX-XXXX Telephone: (608) 261-9689 E-Mail Address sdannerrivers@cityofmadison.com (optional): 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) O 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: 2016 0 • 0-2 years ago (0 points) o 3 or more years ago (20 points) N/A (private facility) 2.3 Did you have a special account (e.g., CWFP 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) O No (40 points) 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: 2015 • 1-2 years ago (0 points) o 3 or more years ago (20 points) O N/A If N/A, please explain: 3.2 Equipment Replacement Fund Activity 3.2.1 Ending Balance Reported on Last Year's CMAR \$ 50,000.00 \$ 3.2.2 Adjustments - if necessary (e.g. earned interest, 0.00 audit correction, withdrawal of excess funds, increase making up previous shortfall, etc.) 3.2.3 Adjusted January 1st Beginning Balance 50,000.00 3.2.4 Additions to Fund (e.g. portion of User Fee, earned interest, etc.) \$ 20,000.00 3.2.5 Subtractions from Fund (e.g., equipment replacement, major repairs - use description box 3.2.6.1 below\*) 33,480.38 3.2.6 Ending Balance as of December 31st for CMAR \$ Reporting Year 36,519.62

Madison City

Last Updated: Reporting For:
5/4/2016 2015

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.

#### REPLACEMENT (UPSIZE) PUMPS AT AMERICAN FAMILY LIFT STATION

3.3 What amount should be in your Replacement Fund?	\$	0.00
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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 HELP link under Info 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 2016-2021.	772000	
	Infiltration & Inflow Improvements: This project is for the continuing 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 St & Cottage Grove Rd and also Lake Edge Blvd & Hegg Ave. Improvements based on the study began in 2013 and are planned to continue thru 2021 (improvements budgeted separately). Funding in 2016 includes further study of this area as well as study in the Truax area that has been noted during large rain events. Other areas of emphasis are the Waunona Way area and the failure of chimney seals in Sewer Access Structures (manholes). Amount shown is the estimate for 2016-2021.	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 2016-2021.	58821450	

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Madison City

Last Updated: Reporting For:
5/4/2016 2015

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 2017; however the anticipated construction year may be revised if development dictates.	1000000	2017
5	Lower Badger Mill Creek Sewer Extension: This project will continue the extension of sanitary sewer to serve the Lower Badger Mill Creek Watershed. Previously completed work includes a new lift station at Mid Town Road and the extension of sanitary sewer from Mid Town Road to Valley View Road and the West Branch sewer extension from Valley View Road to Mineral Point Road, completed in 2015. The final extension was not completed and consists of the east branch sewer from Valley View Road to the South Point Lift Station. Ultimately, the project will provide additional capacity for new development.	950000	2016
6	Trenchless Sewer Rehabilitations: This project shall rehabilitate 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 2016-2021.	10275150	
7	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, however the anticipated construction year may be revised if development dictates.	525000	2017
8	East Washington Ave Sewer Rehab: This project will rehabilitate a major sewer interceptor located within East Washington Avenue, from Blount Street to the Yahara River. The existing sewer is 24" and 30" diameter, concrete sewer, installed in 1949. While structurally sound, the inside sewer lining has experienced chemical deterioration of the concrete, leaving portions of the structural steel exposed and subject to more rapid degradation. This project will rehabilitate the existing line, primarily using trenchless technology methods that will not be disruptive to the right of way surface. The work may be completed together with work planned by the Madison Metropolitan Sewerage District.	1250000	2016

#### 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.

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

Madison City

Last Updated: Reporting For:
5/4/2016 2015

#### Sanitary Sewer Collection Systems

- 1. CMOM Program
- 1.1 Do you have a Capacity, Management, Operation & Maintenance (CMOM) requirement in your WPDES permit?
- Yes
- O No
- 1.2 Did you have a documented (written records/files, computer files, video tapes, etc.) sanitary sewer collection system operation & maintenance (O&M) or CMOM program last calendar year?
- Yes (Continue with question 1)
- O No (30 points) (Go to question 2)
- 1.3 Check the elements listed below that are included in your O&M or CMOM program.

Describe the specific goals you have for your collection system:

Convey wastewater to Nine Springs Waste Water 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 backups by providing immediate, concerned and efficient service to all emergency calls.

Perform condition assessments of existing assets using CCTV technology to provide a long term plan for on-going system rehabilitation and maintenance and develop a recommended Capital Improvement Program.

Protect municipal investment by increasing the useful life and capacity of the system and parts.

Use operating funds efficiently.

Perform all activities safely and avoid injury.

- ☑ Organization
  - Do you have the following written organizational elements (check only those that apply)?
  - ☑ Ownership and governing body description
  - ☑ Organizational chart
  - ☑ Personnel and position descriptions
  - ☑ Internal communication procedures
  - ☑ Public information and education program
- Legal Authority

Do you have the legal authority for the following (check only those that apply)?

- Sewer use ordinance Last Revised Date (MM/DD/YYYY) 03/15/2015
- ☑ Pretreatment/industrial control Programs
- ☑ Fat, oil and grease control
- ☑ Illicit discharges (commercial, industrial)
- ☑ Private property clear water (sump pumps, roof or foundation drains, etc.)
- ☑ Private lateral inspections/repairs
- □ Service and management agreements
- ☑ Maintenance Activities (provide details in question 2)
- □ Design and Performance Provisions
- How do you ensure that your sewer system is designed and constructed properly?

Madison City

Last Updated: Reporting For: 5/4/2016 2015

M DND ND 110 standards	
☑ DNR NR 110 standards	
☐ Local municipal code requirements	
☐ Construction, inspection, and testing	
☑ Others:	
City of Madison Standard Specifications for Public Works Construction	
☐ Overflow Emergency Response Plan:	
Does your emergency response capability include (check only those that apply)?	
☑ Alarm system and routine testing	
☑ Emergency procedures	
☑ Communications/notifications (DNR, internal, public, media, etc.)	
☐ Capacity Assurance:	
How well do you know your sewer system? Do you have the following?	
☑ Current and up-to-date sewer map	
☑ Lift station pump and wet well capacity information	
☐ Lift station O&M manuals	
Within your sewer system have you identified the following?	
Areas with flat sewers	
□ Areas with surcharging	
☐ Areas with bottlenecks or constrictions	
☐ Areas with chronic basement backups or SSOs	
Areas with excess debris, solids, or grease accumulation	
Areas with heavy root growth	
☑ Areas with excessive infiltration/inflow (I/I)	
☐ Sewers with severe defects that affect flow capacity	
☑ Adequacy of capacity for new connections	
☐ Lift station capacity and/or pumping problems	
☑Annual Self-Auditing of your O&M/CMOM Program to ensure above components are being	
_implemented, evaluated, and re-prioritized as needed	
□ 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:	

Madison City

Last Updated: Reporting For:
5/4/2016 2015

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 continued to replace/ line defective sewers in this area and monitor our end results by observing pump run time data at the pumping station. In 2015, we studied the Truax Airport Lift Station Basin utilizing flow monitoring equipment and pump run time data. This basin has cured place liners that were installed in 2008 as a result of a recommendations from a 2004 Brown and Caldwell I/I study and these liners have since failed due to an inadequate amount of resin in the pipe liner. The 2015 Truax study done by City staff has 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. The Mid-Town basin is a very new area where we experience a casting being dislodged in September of 2014. We have since lifted the casting and installed a bolted locking lid but we are still observing I/I in this basin. This I/I problem in this basin is not believed to be an issue with the sewer but rather the manholes. We intend to do additional manhole adjustments and manhole barrel joint sealing in 2016.

While 2015 was not a year when we experienced an excessive amount of I/I, according to the City's Pump data, on 12/14/2015, we did experience flow spikes over the typical daily observed flow in all 3 of the basins: 27% in the Johns Street basin(1.39 MGD Average,1.95 MGD on 12/14/15); 57% in Truax basin(0.49 MGD Average, 0.77 MGD on 12/14/15) and 79% in Mid Town basin (0.10 MGD Ave, 0.18 MGD on 12/14/15).

0

SSES- In 2015 the City televised 85 Miles of sewer 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 we do not 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. (Phil working on Maps if you want to include with 2015 reporting).

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.

#### 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	58.6	4 % of system/year
Root removal	1.44	% of system/year
Flow monitoring	4.15	% of system/year
Smoke testing	0	% of system/year

Sewer line televising

ivia	dison City			5/4/2016	2015	
		11.01	% of system/yea	r		
М	anhole					
in	spections	59.35	% of system/yea	r		
Li	ft station O&M	82	# per L.S./year			
	anhole habilitation	0.94	% of manholes re	ehabbed		
	ainline habilitation	1.24	% of sewer lines	rehabbed		
	rivate sewer spections	O	% of system/yea	r		
	rivate sewer I/I emoval	O	% of private serv	ices		
	Please include addition	al comments about your	sanitary sewer co	llection system below:		
3.		s g collection system and to tal actual amount of pre				
	34.48 Ar	nnual average precipitati	ion (for your location	on)		
	771 Mi	les of sanitary sewer				
	29 Nu	umber of lift stations				
	O Nu	umber of lift station failu	ires			
	14 Nu	umber of sewer pipe fail	ures			
	15 Nu	umber of basement back	cup occurrences			
	40 Nu	umber of complaints				
	25.5 A\	verage daily flow in MGD	(if available)			
	Pe	eak monthly flow in MGD	(if available)			
	Pe	eak hourly flow in MGD (	if available)			
3.	2 Performance ratios for					
		ft station failures (failure	3 ,			
		ewer pipe failures (pipe f				
	0.00 Sa	anitary sewer overflows	(number/sewer mi	le/yr)		
	0.02 Ba	asement backups (numb	er/sewer mile)			
	0.05 Cd	omplaints (number/sewe	er mile)			
	0.0 Pe	eaking factor ratio (Peak	Monthly: Annual D	aily Avg)		
	0.0 Pe	eaking factor ratio (Peak	Hourly: Annual Da	ily Avg)		
4.	4. Overflows					
		WER (SSO) AND TREAT				
	Date	Locatio	on	Vo	Estimated olume (MG)	
	1/15/2015 8:45:00 AM - 1/15/2015 9:30:00 AM	Manhole at 2312 University Av	venue	Plugged Sewer 0.0	0183 - 0.0183	

Madison City

Last Updated: Reporting For:
5/4/2016 2015

1	4/16/2015 9:00:00 AM -	Near the SAS structure at the intersection of	Equipment Failure	0.0001 - 0.0001
	4/16/2015 9:15:00 AM	Davidson St. and Major Avenue - approx 50 gallons		

\*\* 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?

Post-SSO Standard Operating Procedure:

After resolving issues causing SSO our standard operating procedure is to televise impacted line. The inspection is reviewed to determine if a structural deficiency is present that needs to be remedied, if a different preventive maintenance cleaning schedule or process is required, and/or if a sewer system user needs to be contacted to address discharge issues.

- 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:

I/I did not create problems with our system in 2015. We did experience increased pumping times during rain events at our Lift Stations at Johns Street, Truax Airport and the Mid Town Pumping Station.

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

None; We continue to observe the pump run times in the Johns Street, Truax Airport and the Mid Town Pumping Station areas as 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 2015, the City replaced 2300' of 15" diameter aging vitrified clay sewer main and in 2016, the City intends to replace 8,100 ft of sewer main in the basin varying in size from 8" to 21" diameter. In the Truax Area, the City replaced one 24" diameter sewer main (347' long) along Anderson Street in 2015 and in 2016 we will be pipe bursting 700' of 12" diameter sewer containing failed liners the MATC athletic fields. With the Mid- Town, we are adjusting castings to the 100 year flood elevation levels, installing bolted locking casting to avoid castings from being dislodged and sealing leaking barrel joints in manholes.

City-wide we lined 33,042 If of existing sanitary sewer main. We are also replacing "pin-type" castings. The City also requires installation of a short liner in the main to permanently abandon sanitary connections no longer needed.

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

Madison City

Last Updated: Reporting For:
5/4/2016 2015

## **Grading Summary**

WPDES No: 0047341

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

compliance Mainter	iance Annuai Report		
Madison City		Last Updated: 5/4/2016	Reporting For: 2015
Resolution or Owner's	Statement		
Name of Governing Body or Owner: Date of Resolution or Action Taken: Resolution Number: Date of Submittal:	Madison Common Council		
	HE GOVERNING BODY OR OWNER RELA ade A or B. Required for grade C, D, or e = A		C CMAR
Post-SSO Standard Operation After resolving issues causing as soon as possible, typically structural deficiency is pres	se required for Collection Systems if SSOs	s to televise impactored to determine if a preventive mainte	enance
GRADE POINT AVERAGE AI	HE GOVERNING BODY OR OWNER RELAND ANY GENERAL COMMENTS nan or equal to 3.00, required for G.P.A. le		ERALL