

# Compliance Maintenance Annual Report

Madison City

Last Updated: Reporting For:  
6/11/2015 2014

## Financial Management

<p>1. Provider of Financial Information</p> <p>Name: <input style="width: 300px;" type="text" value="Steve Danner-Rivers"/></p> <p>Telephone: <input style="width: 150px;" type="text" value="(608) 261-9689"/> (XXX) XXX-XXXX</p> <p>E-Mail Address (optional): <input style="width: 300px;" type="text" value="sdannerrivers@cityofmadison.com"/></p>																			
<p>2. Treatment Works Operating Revenues</p> <p>2.1 Are User Charges or other revenues sufficient to cover O&amp;M expenses for your wastewater treatment plant AND/OR collection system ?</p> <p><input checked="" type="radio"/> Yes (0 points)</p> <p><input type="radio"/> No (40 points)</p> <p>If No, please explain:</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p>2.2 When was the User Charge System or other revenue source(s) last reviewed and/or revised?</p> <p>Year: <input style="width: 100px;" type="text" value="2014"/></p> <p><input checked="" type="radio"/> 0-2 years ago (0 points)</p> <p><input type="radio"/> 3 or more years ago (20 points)</p> <p><input type="radio"/> N/A (private facility)</p> <p>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?</p> <p><input checked="" type="radio"/> Yes (0 points)</p> <p><input type="radio"/> No (40 points)</p>	0																		
REPLACEMENT FUNDS [PUBLIC MUNICIPAL FACILITIES SHALL COMPLETE QUESTION 3]																			
<p>3. Equipment Replacement Funds</p> <p>3.1 When was the Equipment Replacement Fund last reviewed and/or revised?</p> <p>Year: <input style="width: 100px;" type="text" value="2014"/></p> <p><input checked="" type="radio"/> 1-2 years ago (0 points)</p> <p><input type="radio"/> 3 or more years ago (20 points)</p> <p><input type="radio"/> N/A</p> <p>If N/A, please explain:</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div>																			
<p>3.2 Equipment Replacement Fund Activity</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">3.2.1 Ending Balance Reported on Last Year's CMAR</td> <td style="width: 5%; text-align: center;">\$</td> <td style="width: 35%; text-align: right;"><input style="width: 100%;" type="text" value="95,566.72"/></td> </tr> <tr> <td>3.2.2 Adjustments - if necessary (e.g. earned interest, audit correction, withdrawal of excess funds, increase making up previous shortfall, etc.)</td> <td style="text-align: center;">-</td> <td style="text-align: right;"><input style="width: 100%;" type="text" value="45,566.72"/></td> </tr> <tr> <td>3.2.3 Adjusted January 1st Beginning Balance</td> <td style="text-align: center;">\$</td> <td style="text-align: right;"><input style="width: 100%;" type="text" value="50,000.00"/></td> </tr> <tr> <td>3.2.4 Additions to Fund (e.g. portion of User Fee, earned interest, etc.)</td> <td style="text-align: center;">+</td> <td style="text-align: right;"><input style="width: 100%;" type="text" value="0.00"/></td> </tr> <tr> <td>3.2.5 Subtractions from Fund (e.g., equipment replacement, major repairs - use description box 3.2.6.1 below*)</td> <td style="text-align: center;">-</td> <td style="text-align: right;"><input style="width: 100%;" type="text" value="0.00"/></td> </tr> <tr> <td>3.2.6 Ending Balance as of December 31st for CMAR Reporting Year</td> <td style="text-align: center;">\$</td> <td style="text-align: right;"><input style="width: 100%;" type="text" value="50,000.00"/></td> </tr> </table>	3.2.1 Ending Balance Reported on Last Year's CMAR	\$	<input style="width: 100%;" type="text" value="95,566.72"/>	3.2.2 Adjustments - if necessary (e.g. earned interest, audit correction, withdrawal of excess funds, increase making up previous shortfall, etc.)	-	<input style="width: 100%;" type="text" value="45,566.72"/>	3.2.3 Adjusted January 1st Beginning Balance	\$	<input style="width: 100%;" type="text" value="50,000.00"/>	3.2.4 Additions to Fund (e.g. portion of User Fee, earned interest, etc.)	+	<input style="width: 100%;" type="text" value="0.00"/>	3.2.5 Subtractions from Fund (e.g., equipment replacement, major repairs - use description box 3.2.6.1 below*)	-	<input style="width: 100%;" type="text" value="0.00"/>	3.2.6 Ending Balance as of December 31st for CMAR Reporting Year	\$	<input style="width: 100%;" type="text" value="50,000.00"/>	
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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.

Fund adjusted down to reflect current estimate of needs.

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

Please note: If you had a CFWP 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
- 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	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. Known projects anticipated for 2015 include Bear Claw Way (Brader to Cobalt) and Wilrich Street (Bear Claw to West 900 feet). Other projects are anticipated. Amount shown is the estimate for 2015-2020.	1,065,000	
2	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 through 2021 (improvements budgeted separately). Funding in 2015 will support further study of this area as well as 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 2015-2020.	1,050,000	
3	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 2015-2020.	57,790,980	

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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 2015; however the anticipated construction year may be revised as development dictates.	1,000,000	2016
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. The remaining work in this project includes a the west branch sewer extension from Valley View Road to Mineral Point Road, scheduled for 2014, and the east branch sewer extension from Valley View Road to the South Point Lift Station. Ultimately, the project will provide additional capacity for new development. Property acquisitions for the west branch were completed in 2012.	500,000	2015
6	Trenchless Sewer Rehabilitations: This project 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 2015-2020.	8,993,325	
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 2016, however the anticipated construction year may be revised if development dictates.	525,000	2016
8	East Washington 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.	1,250,000	2015

## 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	A

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## Sanitary Sewer Collection Systems

### 1. CMOM Program

1.1 Do you have a Capacity, Management, Operation & Maintenance (CMOM) requirement in your WPDES permit?

- Yes
- 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)
- No (30 points) (Go to question 2)

1.3 Check the elements listed below that are included in your O&M or CMOM program.

Goals

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 claim and legal fees related to backup 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)
- 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?

- State plumbing code

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- 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 equipment
- 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
- Sewer system plans and specifications
- Manhole location 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 Management Plan (SECAP)
- Lift Station Evaluation Report
- Others:

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The City installed flow monitors again in the Johns St/ Hargrove Area in 2014. This time we looked at the area in the in the Johns Street basing south of Cottage Grove Road. As you will recall, the City conducted a study of the Johns St/ Hargrove Area in 2012/2013 after it was brought to our attention that there was high run times at MMSD's Johns Street Pumping Station (Pump Station #6). As a result of a flow monitoring study and extensive televising of the sanitary sewers in the area, the City is proposing \$5.2 million in sewer replacements and upsizing over the next 10 years. The City also plans for extensive lining- 43,032' over the next 5 years. The City continues to monitor the Johns Street Pump Station run times during the wet weather conditions to see how well our rehab efforts are helping the area.

In 2014, the City also initiated flow monitoring the City's downtown UW campus area where there has been several new high rise developments being built. The goal of the flow monitoring was to ensure that the City's sanitary sewer system has adequate capacity for this high population area. Based upon our findings, the City's infrastructure appears to be prepared for the additional population growth for the foreseeable future.

0

## 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="57.35"/>	% of system/year
Root removal	<input type="text" value="1.26"/>	% of system/year
Flow monitoring	<input type="text" value="1.27"/>	% of system/year
Smoke testing	<input type="text" value="0"/>	% of system/year
Sewer line televising	<input type="text" value="6.50"/>	% of system/year
Manhole inspections	<input type="text" value="0.99"/>	% of system/year
Lift station O&M	<input type="text" value="76"/>	# per L.S./year
Manhole rehabilitation	<input type="text" value="1.01"/>	% of manholes rehabbed
Mainline rehabilitation	<input type="text" value="1.31"/>	% of sewer lines rehabbed
Private sewer inspections	<input type="text" value="0"/>	% of system/year
Private sewer I/I removal	<input type="text" value="0"/>	% of private services

Please include additional comments about your sanitary sewer collection system below:

## 3. Performance Indicators

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

<input type="text" value="35.31"/>	Total actual amount of precipitation last year in inches
<input type="text" value="34.48"/>	Annual average precipitation (for your location)
<input type="text" value="765.81"/>	Miles of sanitary sewer
<input type="text" value="29"/>	Number of lift stations
<input type="text" value="0"/>	Number of lift station failures
<input type="text" value="4"/>	Number of sewer pipe failures
<input type="text" value="21"/>	Number of basement backup occurrences
<input type="text" value="26"/>	Number of complaints

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25.327	Average daily flow in MGD (if available)
	Peak monthly flow in MGD (if available)
	Peak hourly flow in MGD (if available)
3.2 Performance ratios for the past year:	
	Lift station failures (failures/year)
	Sewer pipe failures (pipe failures/sewer mile/yr)
	Sanitary sewer overflows (number/sewer mile/yr)
	Basement backups (number/sewer mile)
	Complaints (number/sewer mile)
	Peaking factor ratio (Peak Monthly:Annual Daily Avg)
	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	3/7/2014 2:30:00 PM - 3/7/2014 3:30:00 PM	Manhole off westbound S Park St entrance ramp to Beltline HWY.	Plugged Sewer	0.0121 - 0.0121
1	3/19/2014 11:00:00 AM - 3/19/2014 11:30:00 AM	Manhole at west end of Badger Road, on private property and railroad right-of-way	Plugged Sewer	0.0010 - 0.0010
2	8/19/2014 7:30:00 PM - 8/19/2014 8:00:00 PM	Manhole at 7810 W. Oakbrook Circle, Madison	Plugged Sewer	0.0003 - 0.0003
3	9/4/2014 2:00:00 PM - 9/5/2014 10:00:00 AM	Manhole at SAS Structure north of Mid Town Rd, South of Valley View Rd, East of Meadow Road, - Also 176,400 gallons of storm water	Rain	0.0036 - 0.0036

\*\* 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 occurrences in the future?

CORRECTION: The Sept 4th/5th SSO was caused by a farmer knocking a casting off a manhole with his tractor. This allowed stormwater to enter the system and overload it.

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?

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:

While I/I did not create problems for our system in 2014 we did experience increased pumping times during rain events at our lift stations in the Johns Street and the Truax Airport areas.

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

None

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

City Engineering has identified the Hargrove & Johns Street basins as top priorities for eliminating I/I. The City plans to upsize or replace 21,275 linear foot of aging vitrified clay sanitary sewer main over the next 10 years in this area including 70 manholes totaling \$5.2 million in this area. The City also plans for extensive lining in this area- 36,003' over the next 4 years as a result of our identifying the area as being prone to I/I. The City lined 7,029 of sewer main in this area in 2014. The City also replaced 9 manholes and upsized 1,229 lineal foot of sanitary sewer main in the Johns St./ Hargrove St. area in 2014. In 2015, the City plans to replace 8 manholes and upsized 1,121 lineal foot of sanitary sewer main on Johns Street. The Truax Airport area is another area of concern where the City had previously done extensive lining in 2008. Some of the liners have since failed and appear to be infiltrating groundwater through the liner. The City intends to rehab / replace the liners which have failed in the area. Of particular interest is the 345' of 24" diameter sanitary on Anderson Street which the City will be replacing in 2015. As a whole, the City intends to line 23,056 feet of clay sanitary sewer main in 2015, and 26,000 ft of sewer main in 2016 including both wet and dry land areas. Engineering Crews will continue performed open-cut and trenchless repairs and will continue to do so prior to lining. In 2014, the City in total replaced 32,985 lineal foot of aging vitrified clay sanitary sewer main and 188 manholes.

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				

### 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:

Date of Resolution or  
Action Taken:

Resolution Number:

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. Regardless of grade, required for Collection Systems if SSOs were reported):

Financial Management: Grade = A

Collection Systems: Grade = A

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