SANITARY SEWER SYSTEM ASSESSMENT

What is this tool?

The Sanitary Sewer System Assessment is a form that helps your utility identify and document all of the components in your utility's sanitary sewer system. It can also serve as a record of the established programs and practices related to that system.

Why should you complete it?

Completing the system assessment provides the utility with comprehensive, up to date information on its municipal sanitary sewer system. It is very difficult to effectively operate and maintain your sanitary sewer system if you have no information about the components of that system. Too frequently, the history and information about a utility's sanitary sewer system are stored in an employee's brain and not written down anywhere. The greatest benefit to completing this tool will be having up to date information about all aspects of the utility's sanitary sewer system in one place available for anyone needing that information.

Utilities that do the assessment will be a step ahead when Capacity, Management, Operation, and Maintenance (CMOM) rules eventually become law. CMOM refers to rules that were proposed by the Environmental Protection Agency regulating municipal wastewater systems. They are part of a larger EPA program to eliminate the environmental effects of sanitary sewer overflows. The proposed CMOM rules expand the duties of owners/operators of municipal wastewater collection systems. Utilities that have system documentation in place prior to adoption of the proposed CMOM rules will find complying with the deadlines in the rules less burdensome.

Who should complete this document?

This document should be completed by the employee(s) or contractor who is most familiar with the utility's sanitary sewer system. It should be completed in the manner that is most effective and efficient for your utility. One person could complete the entire assessment document over time, the various sections could be given to different employees and then compiled upon completion, or perhaps this would be an appropriate assignment for an intern in the public works or wastewater area.

What do we do with it after it's completed?

Use it! Keep the assessment and use it as a reference tool for your utility's sanitary sewer system policies and practices. Remember, like any other policy, this is a living document and should be reviewed and updated periodically.

GENERAL INFORMATION

CHECKLIST COMPLETED BY: ☐ UTILITY STAFF ☐ CONTRACTOR/VENDOR

_____ _____

Name Date

_____

Contact Information

UTILITY CONTACT INFORMATION	
Utility Name _____	
MAILING ADDRESS _____ Street Address _____ Street Address (continued) _____ City State Zip	**CONTACT INFORMATION** _____ Name _____ Title _____ Email _____ Phone Fax

PERMITTED TREATMENT AND COLLECTION FACILITIES				
NPDES or State Permit #	Permittee/Jurisdictions	Check Which Utilities Have Permit Coverage		
		WWTP Effluent	Collection System	Wet Weather Facility

GENERAL INFORMATION

What category is the system of facility? (*circle one*) **I II III IV**

What class is the system or facility? (*circle one*) **A B C D**

Does appropriate person/staff have proper wastewater operating
license(s) as required by the Florida Department of Environmental Protection? (*See below)*
YES NO

Which type of license(s) does the operator(s) hold? (*Circle all that apply*)

Wastewater A B C D

Water A B C D

Class A License: Operator must have an active Class B license of the same type, document at least 5 years of appropriate experience (10,400 hours), and obtain a passing score on the Class A license exam.

Class B License: Operator must have an active Class C license of the same type, document at least 3 years of appropriate experience (6,240 hours), and obtain a passing score on the Class B license exam.

Class C License: Operator must have a high school diploma or its equivalent, document at least 1 year of appropriate experience (2,080 hours), and obtain a passing score on the Class C license exam.

Class D License: Operator must have a high school diploma or equivalent, and have at least three months appropriate experience; or document successful completion of an appropriate training course and have one hour of experience under a licensed operator.

COLLECTION SYSTEM DESCRIPTION

SYSTEM INVENTORY

Does the utility have a treatment facility? ☐ Yes ☐ No					
If no, where does the raw wastewater go?					
TREATMENT FACILITIES		**COLLECTION FACILITIES**			
No. of Treatment Facilities		Average Daily Flow (MGD)			
Design Capacity (MGD)		Average Dry Weather Flow (MGD)			
		Average Wet Weather Flow (MGD)			
ACCESS & MAINTENANCE		**CONVEYANCE & PUMPING**			
			Gravity Sewers (Feet)	Force Mains (Feet)	Pump Stations (Number)
No. of Manholes		**Pipes & Pumps** Total length/quantity			
No. of Backflow Prevention Devices		**Age of System**			
		0-25 years old			
		26-50 years old			
		51-75 years old			
		> 76 years old			

SERVICE AREA CHARACTERISTICS

		Number of Service Connections		
Service Area (sq. miles)		Residential (Number)	Non-Residential (Number)	Total (Number)
Service Population (no. of people)				
Annual Precipitation (inches)				

At what point in the system is the utility responsible for maintenance and repair related to the service laterals? (check one)

☐ At main connection only ☐ At the building

☐ At the property line or easement ☐ Other: _____

Combine Sewer Systems

Is there any part of the system served by combined sewers (i.e., sanitary sewage and storm water in the same pipe)? ☐ **yes** ☐ **no**

The service lateral is constructed by the private owner for sewer service to a private property. The service lateral is the extension that connects a private sewer to a utility sewer.

COLLECTION SYSTEM DESCRIPTION

Note the number of feet of the following kinds of pipe in the utility's sanitary sewer system.

PIPE SIZE			
Gravity Sewers		**Force Mains**	
Pipe Diameter	Length (feet)	Pipe Diameter	Length (feet)
8 inches or less		2 inches or less	
> 8-12 inches		> 2-4 inches	
>12-20 inches		> 4-6 inches	
> 20 inches		> 6-8 inches	
		Other	

PIPE MATERIAL			
Gravity Sewers		**Force Mains**	
	Length (feet)		Length (feet)
Vitrified Clay Pipe (VCP)		Ductile Iron (DIP)	
Polyvinyl Chloride (PVC)		Polyvinyl Chloride (PVC)	
High Density Polyethylene (HDPE)		High Density Polyethylene (HDPE)	
Reinforced Concrete Pipe (RCP)		Asbestos Cement (AC)	
Pre-stressed Concrete Cylinder Pipe (PCCP)		Other (Explain) _____ _____ _____	
Other (Explain) _____ _____ _____			

LIFT STATIONS

Number of Lift Stations? _____

LS-1. Are standard operating procedures (SOPs) and standard maintenance Procedures (SMPs) used for each pump station? ☐ Yes ☐ No

Components of SOPs and SMPs include:

Easy availability of original manuals that contain the manufacturers recommended maintenance schedules for all lift station equipment

- Operating procedures for manipulating pump operations (manually or automatically) during wet weather to increase in-line storage of wet weather flows
- Setting wet well operating levels to limit pump start/stops
- Cleaning wet well
- Calibrating flow meters or conducting draw down tests
- Regular rotation of lead, lag, and backup pumps
- Maintenance of operation logs and general records for all lift station activities, including inspections
- Clean force mains
- Identify problem areas/components

LS-2. Does the utility record the number of lift stations, their location, date of installation, and capacity of each pump station? ☐ Yes ☐ No

LS-3. What type of alarm system(s) does the lift station(s) have?
☐ Telemetered…How many? ____ ☐ Audiovisual only…How many? ____

LS-4 Is the alarm system monitored 24 hours per day? ☐ ☐

LS-5 Is there a 24 hour notification of alarms? ☐ ☐

LS-6 Who manufactured the alarm?

LS-7 Which of the following does the utility use when loss of power occurs?

☐ On-site electrical generators ☐ Portable electric generators
☐ Portable bypass pump ☐ Vacuum trucks to bypass pump stations
☐ Alternate power source ☐ Other

LIFT STATIONS

The following assessment can be used to identify the utility's lift stations and how often the alarm systems are monitored. This checklist recognizes that some communities might have a large number of grinder pumps. If this is the case, you could group the number of grinder pumps together and list their monitoring frequency as a whole (e.g. grinder pumps 1-37 are monitored quarterly).

ALARM SYSTEMS	
Lift Station	**Monitoring Frequency**
Name________________________________ Location________________________________	☐ Daily ☐ Weekly ☐ Other (*explain*) ______________________
Name________________________________ Location________________________________	☐ Daily ☐ Weekly ☐ Other (*explain*) ______________________
Name________________________________ Location________________________________	☐ Daily ☐ Weekly ☐ Other (*explain*) ______________________
Name________________________________ Location________________________________	☐ Daily ☐ Weekly ☐ Other (*explain*) ______________________
Name________________________________ Location________________________________	☐ Daily ☐ Weekly ☐ Other (*explain*) ______________________
Name________________________________ Location________________________________	☐ Daily ☐ Weekly ☐ Other (*explain*) ______________________
Name________________________________ Location________________________________	☐ Daily ☐ Weekly ☐ Other (*explain*) ______________________

SEWER CLEANING

CLN-1 Does the utility have a written schedule in place for routine inspecting/cleaning of the system? ☐Yes ☐No

CLN-2 Does the utility have a documented inspection and cleaning program of problem areas? ☐Yes ☐No

CLN-3 Does the utility have a documented root control program? ☐Yes ☐No

CLN-4 Does the utility have a documented fats, oils, and grease (FOG) program? (FOG usually comes from food service or production industries, but may stem from residential homes and/or other businesses.) ☐Yes ☐No

CLN-5 Are stoppages plotted on maps and correlated with other data such as pipe size and material or location? ☐Yes ☐No

CLN-6 Does the utility televise private lines? ☐Yes ☐No

CLN-7 When does the utility televise the lines? *(Check all that apply.)*

☐ Before cleaning ☐ After a claim has been made

☐ After cleaning ☐ During weather event

☐ On a regular schedule ☐ After weather event

☐ When pipe is identified as having a backup, having a history of backups, or other possible problem identified during routine maintenance

CLN-8 Which of the following is included in the sewer cleaning records? *(Check all that apply.)*

☐ Manhole inspection ☐ Method of cleaning ☐ Identity of cleaning crew

☐ Date and time ☐ Public line ☐ Materials removed from line

☐ Cause of Stoppage ☐ Private line ☐ Further action necessary/initiated

☐ Location of stoppage or routine cleaning activity

CLN-9 Does the utility contract (vendor, contractor, other utility) for sewer cleaning? ☐Yes ☐No

CLN-10 What services are contracted? _____

_____

CLN-11 Does the contractor televise the lines before and after cleaning? ☐Yes ☐No

CLN-12 Does the utility receive a copy of the video and a written report summarizing findings and observations before and after lines are cleaned? ☐Yes ☐No

RECORD KEEPING

For purposes of this checklist, the term “backup” is defined as an overflow or accumulation in the system due to a stoppage, malfunction, etc. The term “bypass” is defined as the removal of sanitary sewage or storm water within the system for purposes of placing elsewhere.

RK-1 Does the utility have a record keeping system in place for tracking maintenance activities? (*Either electronic or good paper files*.) ☐Yes ☐No

RK-2 Are records maintained for a minimum of at least five years or in accordance with utility policies (ask utility attorney)? ☐Yes ☐No

RK-3 Does the utility keep track of all backup events? ☐Yes ☐No

RK-4 Which of the following have a program management tracking system in place? (*check all that apply*.)

☐ Work orders	☐ Scheduled inspections	☐ Equipment/tool tracking
☐ Public Education	☐ Safety Incidents	☐ Standard operating procedures
☐ Scheduled Maintenance	☐ Public backups	☐ Scheduled monitoring/sampling
☐ Private backups	☐ Parts inventory	☐ Compliance/overflow tracking

RK-5 How often are your records updated? (*check one*.)

☐ Immediately (within one business day)	☐ Within one week of the “incident”
☐ Monthly	☐ As time permits

NEW SYSTEM CONSTRUCTION

NSC-1 Are construction sites inspected by qualified personnel to ensure construction is taking place in accordance with plans and specs? ☐Yes ☐No

NSC-2 Are new lines televised prior to being hooked into utility systems? ☐Yes ☐No

NSC-3 Are the televised records retained for a minimum of 5 years or in accordance with utility policies (ask utility attorney)? ☐Yes ☐No

OVERFLOW EMERGENCY RESPONSE PLAN

Components of an OERP include:

- A detailed description of specific responsibilities for personnel who respond to emergencies
- Ongoing training and drills for staff who respond to emergency situations
- Prompt access for work crews to tools and equipment during emergencies
- Standard procedures for notifying state agencies, duty officers, local health departments, the NPDES authority, the public, and drinking water authorities of overflow events
- A public notification plan
- Procedures to limit public access to and contact with areas affected with SSOs (*Procedures can be delegated to another authority.)*
- Containment techniques to protect the storm drainage systems

OERP-1 Does the utility have a documented OERP available for utility staff to use?
☐Yes ☐No

OERP-2 Is the OERP reviewed and updated at least once a year? ☐Yes ☐No

OERP-3 Does the utility keep track of the names, titles, phone numbers, and responsibilities of all personnel involved in emergency response? ☐Yes ☐No

OERP-4 Are hazardous materials or petroleum spills reported to the State Warning Point (1-800-320-0519 in a timely manner? ☐Yes ☐No

OERP-5 What information is included in the utility's overflow records? (*Check all that apply*.)

☐ Date and time	☐ Location	☐ Any corrective efforts/actions
☐ Cause(s)	☐ How it was stopped	☐ Estimated flow/volume discharged
☐ Weather/rainfall	☐ Duration of flow	☐ Name(s) of employee(s) responding
☐ Overflow treatment provided		☐ Name(s) of affected receiving water(s)

SAFETY

SAF-1 Does the utility/city have an active safety program (i.e., safety committee, regular safety meetings, safety training programs, records of employee safety training)? ☐Yes ☐No

SAF-2 Does the utility have a written safety policy that is reviewed and/or revised at least once a year? ☐Yes ☐No

SAF-3 Does the utility have written safety procedures for the following? (check all that apply)

	Y	N	N/A		Y	N	N/A
Lockout/tagout	☐	☐	☐	Biological hazards in wastewater	☐	☐	☐
Material safety data sheets	☐	☐	☐	Traffic control and work site	☐	☐	☐
Chemical handling	☐	☐	☐	Electrical and mechanical systems	☐	☐	☐
Confined space entry	☐	☐	☐	Pneumatic and hydraulic systems	☐	☐	☐
Trenching and excavations	☐	☐	☐				

SAF-4 Are the following equipment items available and in adequate supply?

	Y	N	N/A		Y	N	N/A
Atmospheric testing equipment and gas detectors	☐	☐	☐	Portable crane/hoist	☐	☐	☐
Respirators and/or self contained breathing apparatus	☐	☐	☐	Fire extinguishers	☐	☐	☐
Full body harness	☐	☐	☐	Protective clothing (PPE)	☐	☐	☐
Confined space ventilation equipment	☐	☐	☐	Traffic/public access control equipment	☐	☐	☐
Tripods or non-entry rescue equipment	☐	☐	☐	Fiberglass or aluminum ladders	☐	☐	☐
5-minute escape breathing devices	☐	☐	☐	Antibacterial soap and first aid kit	☐	☐	☐

SYSTEM MAPPING

	Yes	No
MAP-1 Are "as built" plans (record drawings) or maps available for use in the office and in the field?	☐	☐
MAP-2 Is there a procedure to record changes or inaccuracies in the maps and update the mapping system?	☐	☐
MAP-3 Do the maps show the date the map was drafted and the date of the last revision?	☐	☐
MAP-4 Is there a numbering and identification method established to identify manholes, sewer lines, and other items (pump stations, etc.)?	☐	☐

MAP-5 Do you require new "as built" plans to include the following? (This recognizes that older as-built plans may not have the following components.) (*Check all that apply*.)

☐ Scale	☐ Street names	☐ Slope
☐ North arrow	☐ Flow monitor location	☐ Pipe diameter
☐ Date the map was drafted	☐ Force mains	☐ Installation date
☐ Date of last revision	☐ Pump stations	☐ Age of manhole
☐ Service area boundaries	☐ Lined sewers	☐ Manhole depth
☐ Property lines	☐ Main, trunk, and interceptor	☐ Manhole material
☐ Manhole coordinates sewers	☐ Easement lines and dimensions	
☐ Pipe material points	☐ Distance between manholes	
☐ Condition of pipe	☐ Location of building laterals	
☐ Separate/combined sewer	☐ Manhole and other access	
☐ Other landmarks (roads, Manhole inverts/drops water bodies, etc.)		