

City of Folsom

Environmental & Water Resources Department

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## **2021 SSMP SELF-AUDIT** **(July 1, 2019 - June 30, 2021)**



CITY OF  
**FOLSOM**  
DISTINCTIVE BY NATURE



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### Introduction

On May 2, 2006, the State Water Resource Control Board (SWRCB) adopted Statewide General Waste Discharge Requirements (GWDR's) for Sanitary Sewer Systems, herein referred to as the "General Order". The purpose of the General Order is to ensure that wastewater collection systems are properly operated and maintained by the municipalities that are in charge of their operations. The General Order applies to all public collection system agencies in California that own or operate collection systems comprised of more than one mile of pipe or sewer lines and convey untreated wastewater to a publicly owned treatment facility. The principal elements of the order include requiring each agency to prepare a Sewer System Management Plan (SSMP), which outlines how the municipality operates and maintains the collection system and reporting of all Sanitary Sewer Overflow (SSOs) to the SWRCB's online SSO database (CIWQS), with the ultimate goal of minimizing sanitary sewer overflows (SSO's).

### Background

The City of Folsom's (City) sanitary sewer system is made up of approximately 270 miles of gravity sewer mains, 109 miles of sewer laterals, and approximately 4 miles of sewer force main. Pipes range in size from 2 to 33 inches in diameter and sewage is pumped throughout the system by 17 pump stations. The City has four major sewer sheds and 18 sewer sub-basins currently monitored by 19 metering sites that all discharge to a 54-inch main interceptor in Folsom Boulevard that is owned, operated and maintained by Sacramento Regional County Sanitation District (SRCSD). Additionally, the City began incorporating the Folsom Plan Area (FPA) into the SSMP as development occurs.

<b>Collection System Overview</b>	
Miles of Gravity Sewer Mains	270 miles
Miles of Sewer Force Mains	4 miles
Miles of Sewer laterals (Lower Lateral)	109 miles
Number of Pump Stations	17
Population Served (Includes Prison Population)	86,873

### SSMP Internal Audit Overview

Section 10 of the WDR requires agencies to perform a self-audit every two years. The audit focuses on evaluating the effectiveness of the SSMP and Agency compliance with the SSMP requirements. The City's SSMP internal audit assesses the City's success in achieving compliance with various requirements of the SWRCB General Order No. 2006-003 and implementing programs as stated in the SSMP. The SSMP audit process allows the SSMP document to develop over time through the identification of deficiencies in the management, operation, and maintenance of the sanitary sewer collection system and the implementation of changes to the SSMP to address the deficiencies. The 2021 self-audit report is the sixth internal audit since the adoption of the GWDR's and addresses the following items:

- SSO history over the past 2 years
- Specific identification of performance areas in need of improvement
- Evaluation of performance improvements identified in the 2019 SSMP Audit (07/01/2019 – 06/30/2021).
- Summarizes proposed modifications to the SSMP elements and programs over the next audit periods to address all identified areas of past poor performance.
- Summarizes proposed SSMP modifications (i.e. new programs, new performance indicators, etc.) not tied to poor performance, but tied to a desire to change or increase the scope of management, operations, and maintenance activities.

### SSO History

Per the State Water Resources Control Board Order No. WQ2013-0058-EXEC, new spill categories, definitions, and California Integrated Water Quality System (CIWQS) reporting requirements took effect on September 9, 2013. The most significant change in the order reclassified SSO spill categories to include a Category 3 spill. Below are the definitions for each of the spill Categories.

#### Category 1:

Discharges of untreated or partially treated wastewater of **any volume** resulting from an enrollee's sanitary sewer system failure or flow condition that:

- Reach surface water and/or reach a drainage channel tributary to a surface water; or
- Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly.

#### Category 2:

Discharges of untreated or partially treated wastewater of **1,000 gallons or greater** resulting from an enrollee's sanitary sewer system failure or flow condition that **do not** reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.

#### Category 3:

All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.



Over the past two years (07/01/2019 through 06/30/2021) the City of Folsom responded to 44 public Sanitary Sewer Overflows (SSO's). Of the 44 public spills, 40 were Category 3, 1 was Category 2, and 3 were Category 1. The mainline SSO's increased when compared to the last SSMP audit period (FY 17-19). The primary causes of the SSO's were roots. As shown in the tables below, the City is below the Regional and State average for SSO Categories 1, 2, and 3.

**Audit comparison**

Year	Category 1	Category 2	Category 3	Total
Audit (FY 11-13)	2	39	0	41
Audit (FY 13-15)	1	0	47	48
Audit (FY 15-17)	3	0	35	38
Audit (FY 17-19)	1	0	26	27
Audit (FY 19-21)	3	1	40	44

\* On September 9, 2013 Category 3 spills were added to the reporting through SWRCB Order No. WQ2013-0058-EXEC to CIWQS. All previous spills were classified as either Category 1 or Category 2 SSO's.

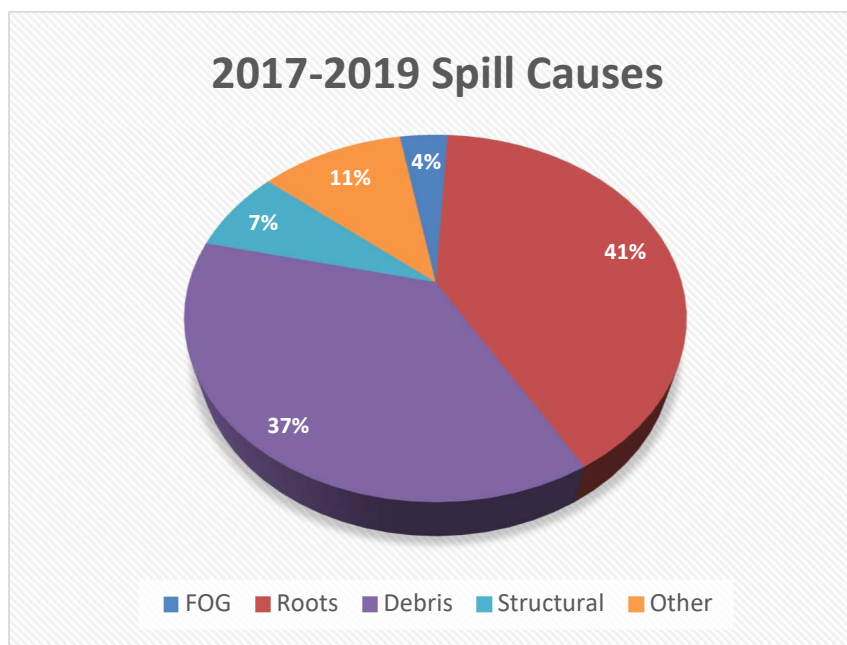
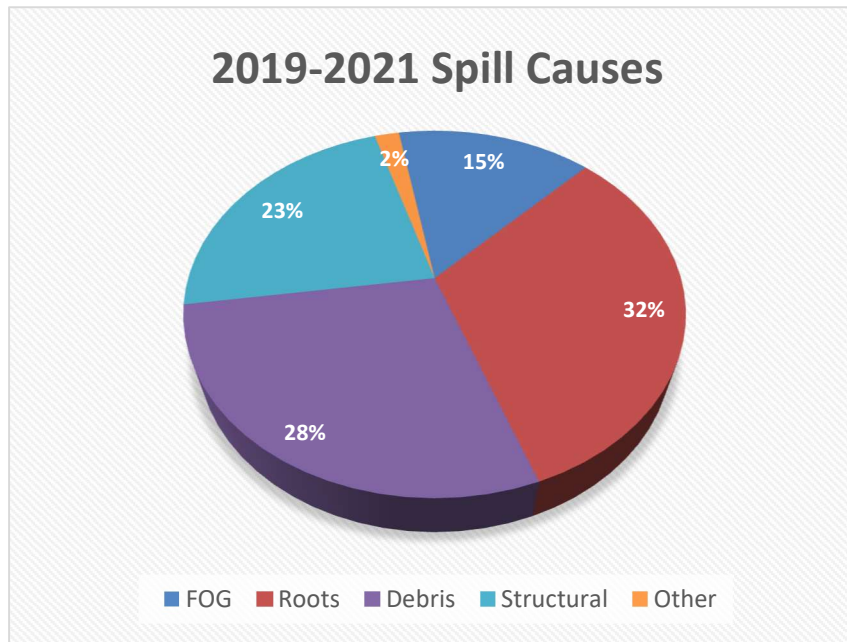
<b>Category 1 Spill Rate Indices (#spills/100mi/year)</b>			
Agency	Mainlines	Laterals	Not Specified
City of Folsom	0.36	0.49	0.0
Region - Municipal - Average	3.49	1.0	2.99
State - Municipal (Public) - Average	2.77	0.93	1.33

<b>Category 2 Spill Rate Indices (#spills/100mi/year)</b>			
Agency	Mainlines	Laterals	Not Specified
City of Folsom	0.18	0.0	0.0
Region - Municipal - Average	2.49	0.13	3.97
State - Municipal (Public) - Average	1.59	0.88	2.25

<b>Category 3 Spill Rate Indices (#spills/100mi/year)</b>			
Agency	Mainlines	Laterals	Not Specified
City of Folsom	3.46	10.29	0.13
Region - Municipal - Average	4.71	26.26	0.82
State - Municipal (Public) - Average	3.51	15.62	1.21

Data for State and Regional Municipal average was taken from the CIWQS database ([www.waterboards.ca.gov/ciwqs/](http://www.waterboards.ca.gov/ciwqs/)).

The City identified the cause of each spill from 07/01/2019 through 06/30/2021 and categorized each spill type in the pie chart below. Also included is the pie chart from FY 17-19 to compare spill categories of the previous 2-year internal audit.



The top 3 spill causes over the past two years were roots, debris, and structural (such as pipe failure). In FY 17-19, there were a total of 27 public SSO's with a volume of 859 gallons. In FY 19-21, there were a total of 44 public SSO's with a volume of 145,637 gallons. The significant increase in SSO volume during the FY 19-21 audit period was the result of a sewer force main break along East Bidwell Street. The force main broke on August 27, 2020 and resulted in the spilling of approximately 144,000 gallons.

In addition to categorizing each spill type and cause, the City also evaluates its SSO response time during business hours and after business hours. Between 07/01/2019 and 06/30/2021 the City responded to 27 public SSO's during business hours with an average response time of 15 minutes. The remaining 17 public SSO's responded to during non-business hours yielded an average response time of 33 minutes. These response times are well within the City's goal of responding to a spill within 30 minutes during business hours and within 60 minutes during non-business hours. For further explanation of each description, refer to Appendix A, Section 1 – Goals and Section 6 – Overflow Emergency Response Plan.

Performance Review

Attached to this report are performance assessment sheets that summarize the collection and analysis of specific data to provide a basis by which performance in various areas related to the management, operation, and maintenance of the sanitary sewer collection system may be measured. During each SSMP audit period, data is collected relating to each assessed area and a grade is provided for the City of Folsom's performance. Below is a summary of the grade given for each area assessed. For additional information, refer to Appendix A.

**SSMP Performance Review**

Section	No.	Description	Grade '17-'19	Grade '19-'21
Goals	1	Provide uninterrupted sewer service to meet customer's desired service levels	A	A
	2	Minimize the risk of Sanitary Sewer Overflows (SSOs) by reducing the impact and probability of SSOs	A	A-
	3	Mitigate any unforeseen SSOs to minimize water quality and environmental impacts	A	B
	4	Ensure adequate sewer capacity to address the City's growth and peak wet weather flows	A	A
	5	Sustain aging sewer infrastructures by implementing an asset management program to extend asset lifecycle	A	A
	6	Ensure adequate funding support and resources to sustain long-term asset management	A	A

Organization	1	Update City staff responsibilities of the SSMP elements once a year due to organizational changes	A	A
Legal Authority	1	Prevent illicit discharges into the City's sanitary sewer system including I & I from satellite wastewater collection systems and laterals, storm water, etc.	A-	A
	2	Require proper design and construction of sewers and connections	A	A
	3	Ensure access for maintenance, inspection and repairs to publicly owned portions of laterals	A	A
	4	Limit the discharge of Fats, Oils and Grease (FOG) and other debris that may cause blockages	A	A
	5	Enforce violations of its sewer ordinances	B+	B+
Operations & Maintenance Program	I.1	Update mapping system to reflect new development projects, Capital Improvement Project (CIP) or asset corrections due to field investigation.	A	A
	I.2	Identify all sewer lines within the City that are not within the City's right of way and validate through documentation whether each of the sewer lines have dedicated sewer easements and whether the sewer is publicly or privately owned	A	A
	I.3	Continue to populate the Geographic Information System (GIS) mapping system to include information such as age of infrastructure, development associated with sewer infrastructure, pipe type, pipe size, etc.	A	A
	II.1	Develop and implement standard operating procedures (SOPs) such as Closed-Circuit Television (CCTV), manhole inspections, flushing, and smoke testing	A	A
	II.2	Manhole Inspection, Flushing, CCTV, FSE Inspections, and Sewer Lateral Inspections are to be completed within the approved scheduled cycle	C+	N/A
	II.2A	FSE Inspections (2-Year Cycle)	N/A	N/A
	II.2B	Flushing Inspections (5-Year Cycle)	N/A	B
	II.2C	CCTV Inspections (5-Year Cycle)	N/A	A-

	II.2D	Manhole Inspections (5-Year Cycle)	N/A	A
	II.2E	Sewer Lateral Inspections (10-Year Cycle)	N/A	C-
	II.3	Perform routine pump station inspections	A	A
	II.4	Develop and implement emergency response procedures	A	A
	II.5	Develop a list of construction related projects that identifies and prioritizes system deficiencies by implementing a short-term and long-term rehabilitation program to address each deficiency and create a time schedule for developing and implementing the rehabilitation program	A	A
	II.6	Continue to implement the City's existing odor control program	A	A
	III.1	Schedule and track attendance of all safety meetings as it relates to sewer operations	A	A
	IV.1	Maintain and update an equipment and replacement parts inventory list	A	A
Design & Performance Program	1	Maintain design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations, and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems	A	A
	2	Maintain procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects	A	A
Overflow Emergency Response Plan	1	Ensure the City's Sanitary Sewer Overflow Response Plan Flow Chart, Sanitary Sewer Overflow Report Form and the Sanitary Sewer Overflow Response Plan is up to date	A	A
	2	Review all SSO's within the CIWQS for accuracy. Compare CIWQS SSO database to City's Excel SSO database for consistency.	B+	B+
	3	SSO History (Category 1, 2, and 3 SSO's)	A	N/A
	3A	Number of Category 3 SSOs	A	B
	3B	Number of Category 2 SSOs	A	A
	3C	Number of Category 1 SSOs	A	A
	4	Category 1, 2 and 3 Spill Causes	A	A

	5	Average response time during normal business hours	A	A
	6	Average response time after normal business hours	A	A
FOG Control Program	1	Necessary Legal Authority to prohibit discharges of FOG into the City's sanitary sewer system	A	A
	2	Commercial FOG Requirements for the installation of grease removal devices (such as traps or interceptors)	A	A
	3	Maintain a Public Outreach Program	A	A
	4	FOG Inspection of Food Service Establishments (FSE's)	A	A
	5	FOG outreach	A	A
	6	Lateral Inspections	B-	C
Sewer Evaluation and Capacity Assurance Plan	1	Determination of maximum hydraulic capacity in key sewer main lines	A	A
	2	Determination of existing groundwater infiltration and rain dependent infiltration levels in the system.	A	A
Monitoring, Measurement, & Program Modifications	1	Establish and prioritize appropriate SSMP activities	A	A
Communication Program	1	Communication with satellite agencies	A	B
	2	Communication of the SSMP with the public	A	A

*Evaluation of Performance Improvements Identified in the 2019 SSMP Audit*

The City identified the following items to address during the past 2 years (07/01/2019 – 06/30/2021). Outlined below are the most critical items identified during last audit period that were in need of improvement after assessing performance (See Appendix A for more detail).

- Meet the 5-year cycle for flushing, sanitary sewer manhole inspections, and CCTV of sewer lines.
  - The 2<sup>nd</sup> year of the 5-year cycle ended on June 30, 2021. As of June 30, 2021, the City flushed approximately 80 miles of all sewer lines, inspected 2,482 sanitary sewer manholes, and performed CCTV of approximately 88 miles of pipes. Refer to Appendix A, Section 4 – Operations & Maintenance Program for further discussion and recommendation regarding the 5-year cycle.
  - Purchase 2 additional CCTV cameras and an additional CCTV van to increase productivity of sewer mains/CCTV.
    - An IBAK CCTV van with a CCTV camera crawler was purchased in January 2020 and an IBAK Panoramo® 4K CCTV camera was purchased in January 2021.
  - Purchase 2 additional zoom cameras to increase productivity of SSMH inspections.
    - The City purchased an additional zoom camera, a Quickview Air-HD zoom pole camera, in October 2019. Based on the current size of the sanitary sewer crew, it was determined that only 1 additional zoom (pole) camera would be required instead of the 2 zoom cameras that were initially anticipated.
  
- Continue to ensure all FSE's are inspected for FOG compliance on a 2-year cycle.
  - The FSE inspections were due to start in April 2020. However, due to the COVID-19 pandemic and the impact to the restaurant industry, the City had to temporarily suspend FSE inspections. Therefore, 0 FSE's were inspected from July 1, 2019 – June 30, 2021. The 2-year cycle of FSE inspections will resume in FY 21-22.
  
- Begin the 10-year sewer lateral inspection program.
  - The City recently converted a Utilities Technician position to a Collection Technician position that allows the City to begin inspecting laterals in-house. The goal of the recent position conversion is to inspect approximately 23,652 laterals over a 10-year period beginning in July 2019. As of June 30, 2021, the City has inspected approximately 1,789 sewer laterals.
  - Purchase the proper inspection equipment to begin the 10-year sewer lateral inspection program.
    - The City's inspection team already had the necessary equipment to perform routine lateral inspections, when inspecting from an accessible clean-out down through the City's lateral. However, when the cleanout is not able to be located or is not accessible, a lateral launch camera was purchased which was delivered with the new IBAK CCTV van in January 2020. The lateral launch allows the

team to begin the lateral inspection starting from the sewer main, where the camera is launched up through the City's lateral to continue the inspection.

- Update existing performance measures, or develop new ones, to make sure the City is meeting our 2-year schedule, 5-year schedule and 10-year schedule for inspecting the wastewater collection system.
  - Performance Measures such as FSE inspections, flushing, manhole inspections, CCTV, lateral inspections, etc. are updated quarterly. All performance measures information is up to date as of 07/01/2021.
- Continue to QA/QC the City's CMMS database (Lucity).
  - Continued the identification process of determining whether sewer lines located outside of the City right-of-way are publicly or privately owned.
  - Continued to populate the City's GIS system as it relates to sewer pipe material, age, and sizes as development occurs.
- Continue working to reduce SSO's.
  - Over the past two years (07/01/2019 through 06/30/2021) the City of Folsom responded to 44 public Sanitary Sewer Overflows (SSO's). The number of SSO's increased from 27 public spills occurring from 07/01/2017 – 06/30/2019. The City needs to continue to minimize the number of yearly SSO's through flushing, CCTV inspection, lateral inspection, and root control programs.
- Reduce I & I through smoke testing and/or CCTV based on sub-metering of sewer basin results.
  - The City sub-metered and smoke tested Basin 6A to help identify and reduce inflow and infiltration. I & I leaks identified by smoke testing in the West Yost Associates I & I report for Basin 6A from December 2019 were repaired by the City.
  - Continue to analyze sub-basin meter flow data within Basin 6C to determine specific locations of I & I. Once I & I locations have been determined, smoke test and/or CCTV to reduce I & I. Once work is complete in Basin 6C, continue working to reduce I & I within Basins 4 and 14.



Future Performance Improvements for 07/01/2021 – 06/30/2023 Audit

- Continue communication efforts with the Folsom State Prison (the City's satellite agency) staff regarding the agreement set forth between the City and the Prison for ongoing maintenance, I & I reduction, or other related operational items.
  - Continue to meet with the Folsom State Prison on an annual basis to maintain communication compliance as outlined within the SSMP.
- Meet the 2-year cycle for inspecting FSE's.
  - Resume the 2-year cycle of FSE inspections in FY 21-22.
- Meet the 5-year cycle for flushing, sanitary sewer manhole inspection, and CCTV of sewer lines.
  - While working on the 2021 SSMP Self-Audit, the 5-year cycles were separated into sub-sections in order to provide further discussion, recommendations, and assign individual grades. This allows for a better reflection of the inspections performed by City crews rather than assigning an overall grade.
  - Implement a program to inspect sewer pipes located in high traffic areas.
    - Distribute a Request for Proposals for a 5-year on-call traffic control contract to assist in the inspection of pipes located in high traffic areas.
  - Implement a program to inspect manholes that were previously not able to be located.
    - Identify buried manholes or manholes that are not shown correctly on the City's maps.
  - Complete the inspection of Basin 5 by either coordinating with the Prison for a self-inspection or through contracting with a third-party.
- Meet the 10-year cycle for inspecting sewer laterals.
  - Identify sewer laterals without a known lower lateral cleanout.
- Continue to QA/QC the City's CMMS database (Lucity).
- Continue working to reduce SSO's.
- Reduce I & I through smoke testing and/or CCTV based on sub-metering of sewer basin results.
- Reduce the odor impact from the vector dump station located at the Oak Avenue Pump Station.
- Develop a program to inspect and maintain sewer assets (pipes, manholes, etc.) that are located within high traffic areas.

- Develop a program to inspect and maintain large diameter sewer pipe that require specialized expertise and equipment.

SSMP Modifications Not Tied to Performance for 07/01/2019 – 06/30/2021 Audit

- Implement new water and sewer design standards, construction specifications, and construction details.
  - The City last updated the Sewer Design and Construction Standards and Specifications in February 2020.
- Update the City's organizational structure.
  - The City's organizational chart was updated in 2021 to reflect the most recent staff changes and revise the roles and responsibilities. Specifically, the position of Assistant Engineer was added to the organizational chart. The names for the agency staff responsible for each activity were also updated.
- Complete Basin 6A I & I analysis, implement ways to reduce I & I within Basin 6A (smoke testing or CCTV) and continue to sub meter Basins 4, 6C and 14.
  - The City sub-metered and smoke tested Basin 6A to help identify and reduce inflow and infiltration. I & I leaks identified by smoke testing in the West Yost Associates I & I report for Basin 6A from December 2019 were repaired by the City.
  - Continue to analyze sub-basin meter flow data within Basin 6C to determine specific locations of I & I. Once I & I locations have been determined, smoke test and/or CCTV to reduce I & I. Once work is complete in Basin 6C, continue working to reduce I & I within Basins 4 and 14.
- Create a new bypass pumping SOP's for recently built pump stations.
  - Easton Valley Parkway (EVP) Pump Station:
    - Bypass pumping SOP has been created for the EVP Pump Station.
  - Village H Pump Station:
    - Bypass pumping SOP has been created for the Village H Pump Station.
- Modify the existing Oak Avenue Pump Station Bypass SOP.
  - The City recently updated the SOP for the Oak Avenue Pump Station Emergency Bypass Procedure Plan.
- Create new maintenance and inspection SOP's for all sewer pipes and manholes that are inaccessible by vehicle.

- The City recently created an SOP for pipes/sanitary sewer manholes that are inaccessible by vehicle.
- Modify the existing Sanitary Sewer Overflow Response Plan to include how to respond to an SSO in areas that are inaccessible by vehicle.
  - The SSO Response Plans were updated in July 2019 to include how to respond to an SSO for areas that are accessible and also inaccessible by vehicles. The SSO Response Plan was also updated to reflect procedural changes.
- Update the spare parts and inventory list within Section 4 of the SSMP to include the EVP Pump Station and the Village H Pump Station.
  - In 2019, the EVP Pump Station and the Village H Pump Station were added to the Equipment & Replacement Parts Inventory list. This document is continuously updated as the inventory changes.
- Continue replacing sewer infrastructure through CIP's.
  - The City is currently in the Design or Construction Phase of the following CIP Projects:
    - Sewer Lateral Repair and Replacement Project (On-Going)
    - Natoma Alley Sewer Rehabilitation Project (Design Phase)
    - PS No. 3 Rehabilitation Project (Design Phase)
    - Folsom Blvd Sewer Rehabilitation Project (Design Phase)
    - Oak Avenue PWWF Relief Project (Construction Phase)
    - Basin 4 Sewer Phase 1 (Pre-Design Phase)
    - Basin 4 Sewer Phase 2 (Pre-Design Phase)
- Evaluate installing Mission Manhole covers or equal in areas where sewer manholes are inaccessible by vehicle. The Mission Manhole cover notifies the City of a high-level alarm within the manhole. This notification allows the City to respond faster and assess the cause of the high-level alarm. Installation of the Mission Manholes or equal in remote locations could help prevent an SSO or minimize the impact of an SSO.
  - Mission Manholes have been installed in approximately 30 locations around the City. Examples of these Mission Manhole locations include near the 12" sewer main at Blue Ravine and East Bidwell Street, the EVP Pump Station, and near the Alder Creek Bridge at Mangini Parkway.
- Re-Certify the City's 5-Year SSMP through City Council.
  - City Council approved the 2019 SSMP on July 23, 2019 through Resolution No. 10312.

*Future SSMP Modifications Not Tied to Performance for 07/01/2021 – 06/30/2023 Audit*

- Depending on progress of the development in the Folsom Plan Area (FPA), install additional flow meters in order to divide the FPA sewer shed basin into smaller sub-basins.
- Complete Basin 6C I & I analysis, implement ways to reduce I & I within Basin 6A (smoke testing or CCTV) and continue to sub meter Basin 4 and 14.
- Continue replacing sewer infrastructure through CIP's.
- Work with food trucks to not dispose of waste in the City's sanitary sewer system.
- Continue to implement training and outreach regarding Fats, Oils, and Grease.
  - Implement requirements during the plan review process to require multi-family apartment complexes and assisted living complexes with a communal kitchen to post an 8.5"x11" FOG Best Management Practices placard on the wall to inform residents that use the communal kitchen about fats, oils, and grease.
  - Coordinate with the Community Development Department to add language to the Home Occupation Form for Cottage Food Businesses regarding the Microenterprise Home Kitchen Operation (MEHKO) Acknowledgement. Applicants must sign and acknowledge receipt and understanding of the Folsom Municipal Code Section 13 regarding FOG.
- Keep repair items in stock in the event of a force main break in order to repair the force main within a timely manner.



Certification of Audit

By signing below, we certify that the information contained in this audit report is correct to the best of our knowledge.

Name	Position	Signature	Date
Marcus Yasutake	Environmental & Water Resources Director		8/2/2021



CITY OF  
**FOLSOM**  
DISTINCTIVE BY NATURE

## **Appendix A – SSMP Assessment**

## SSMP Section 1 - Goals

Responsible Person (RP):

Environmental & Water Resources Director

Summary:

In 2006 when the Waste Discharge Requirements (WDR's) were adopted through Order No. 2006-0003-DWQ by the State Water Resources Control Board (SWRCB) the City's Environmental & Water Resources (EWR) Department established goals to comply with Section 1 of the SSMP. The goals developed by the EWR Department include:

1. Provide uninterrupted sewer service to meet customers' desired service levels
2. Minimize the risk of Sanitary Sewer Overflows (SSO's) by reducing the impact and probability of SSO's
3. Mitigate any unforeseen SSO's to minimize water quality and environmental impacts
4. Ensure adequate sewer capacity to address the City's growth and peak wet weather flows
5. Sustain aging sewer infrastructures by implementing an asset management program to extend asset lifecycle
6. Ensure adequate funding support and resources to sustain long-term asset management

All goals were approved and adopted by the City Council on October 23<sup>rd</sup>, 2007 through Resolution No. 8160.

**1. Provide uninterrupted sewer service to meet customer's desired service levels.**

**Discussion:** To achieve uninterrupted sewer service to meet customer's desired service levels, the Wastewater Collections Division employs a full-time staff person who receives calls from customers regarding wastewater concerns during the business hours of 7:00 a.m. to 3:30 p.m. Calls received during business hours that involve field investigation have a goal for wastewater crews to be on-site within 30 minutes. Examples of field investigated calls include sewer backups, sewer spills, odor complaints, missing cleanout lids, and other related items of sewer service. Calls that come in after hours instruct the caller to contact the Police Department (PD) in the event of a sewer emergency. PD will contact the on-call wastewater personnel, and a wastewater employee proceeds to be on-site investigating the problem within 60 minutes. Non-emergency voicemails are addressed the next business day. As of October of 2012, the Wastewater Collections Division recently transitioned to tracking all calls through the City's Avaya phone system.

**Grade:** A

**Recommendation:** No action needed; the City will continue to uphold the goals as outlined above.

**2. Minimize the risk of Sanitary Sewer Overflows (SSO's) by reducing the impact and probability of SSO's.**

**Discussion:** To achieve minimizing the risk of Sanitary Sewer Overflows (SSO's) by reducing the impact and probability of SSO's, the City developed and employed a number of policies, procedures, and practices. Some of the policies, procedures, and practices are listed below:

- Perform Sanitary Sewer Inspection (Manhole Inspections, CCTV, flushing, etc.) of the entire wastewater system within the City of Folsom's scheduled cycle.
- Respond to all SSO's, with the goal of wastewater crews being on-site within 30 minutes during normal business hours and on-site within 60 minutes during non-business hours.
- Develop Standard Operating Procedures (SOP's) and provide frequent training on the SOP's

Over the past two years (07/01/2019 through 06/30/2021) the City of Folsom responded to 44 public Sanitary Sewer Overflows (SSO's). Of the 44 public spills, 40 were Category 3, 1 was Category 2, and 3 were Category 1. The mainline SSO's increased when compared to the last SSMP audit period (FY 17-19). The primary cause of the SSO's were roots. The City is below the Regional and State average for SSO Categories 1, 2, and 3.

**Audit comparison**

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**Grade:** A-

**Recommendation:** Continue to uphold the goals as outlined above. The majority of the SSO's were on the public side of the service lateral sewer lines. The primary cause of the SSO's were roots. The City is addressing roots through ongoing sewer mainline and lateral replacement CIP projects as well as through the City's 10-year cycle of sewer lateral inspection and rehabilitation program. Additionally, the number of Category 1 spills increased from the previous year from 1 to 3. The causes of the Category 1 spills were related to roots, debris, and structural.



### 3. Mitigate any unforeseen SSO's to minimize water quality and environmental impacts.

**Discussion:** Mitigating any unforeseen SSO's to minimize water quality and environmental impacts are achieved through various actions. Some of the actions the City employs to achieve this goal are:

- Storm Emergency Response Team (SERT) – Before, during, and after a storm event, City staff visually inspects all major wastewater facilities to ensure all assets and infrastructure are operating under normal conditions and have not been affected by the storm event. Wastewater staff also use Supervisory Control and Data Acquisition (SCADA) data, rainfall data, and projected weather patterns to prepare for a storm event. However, because of insufficient rainfall, the City did not activate the SERT Program from July 1, 2019 to June 30, 2021.
- Inspect all above ground wastewater mains every 6 months – As of 2012, the City implemented inspection of all above ground wastewater mains. Implementing this procedure sometimes results in identifying above ground wastewater mains that are overgrown with vegetation. City crews inspect the site and then clear any vegetation that is located within close proximity to the above ground wastewater mains.
- The City's goal is to inspect all Food Service Establishments (FSE) within the City of Folsom on a 2-year cycle. The FSE inspections were due to start in April 2020. However, due to the COVID-19 pandemic and the impact to the restaurant industry, the City had to temporarily suspend FSE inspections. Therefore, 0 FSE's were inspected from July 1, 2019 – June 30, 2021. The 2-year cycle of FSE inspections will resume in FY 21-22.
- Beginning July 1, 2019, as a part of the City's 5-year recertification of the SSMP, the lateral inspection program was revised to inspect approximately 23,652 laterals over a 10-year period (2019-2029). The City is currently behind schedule on the 10-year cycle for lateral inspections. The 2<sup>nd</sup> year of the 10-year cycle ended on June 30, 2021. The goal for the end of the 2<sup>nd</sup> year was to have approximately 4,819 laterals inspected. As of June 30, 2021, the City completed about 1,789 lateral inspections. The City needs to increase the amount of lateral inspections performed each week in order to meet the goals for the 10-year schedule.
- Over the past two years (FY 19-21) 129 sewer laterals were repaired. All 129 repairs were repaired by the City's Utility Maintenance Division.
- The City continues to install smart cover lids to help monitor sewer levels at critical sanitary sewer manhole locations. New installation locations during the current audit period include Bridge Street and Leidesdorff Street in Old Town Folsom. Other past installation locations include Hinkle Creek SSMH monitoring, the Zoo Sewer line, Mangini Ranch Gravity Sewer Line Bridge Crossing, and the Alder Creek Force Main Bridge Crossing. The addition of the

smart covers at these locations will notify City staff of potential surcharging in these SSMH's.

**Grade: B**

**Recommendation:** The City will need to continue to uphold the goals as outlined above. The City needs to resume the 2-year cycle of FSE inspections that were suspended due to the COVID-19 pandemic. Additionally, the City needs to increase the amount of lateral inspections performed each week in order to meet the goals of the 10-year schedule. Also, sewer laterals without a known lower lateral cleanout should also be identified in order to make future inspections easier.

#### **4. Ensure adequate sewer capacity to address the City's growth and peak wet weather flows.**

**Discussion:** In order to ensure adequate sewer capacity to address the City's growth and peak wet weather flows, the City typically conducts an updated sewer capacity and assurance plan every 3 to 5 years. The City recently completed an update to the City's Sewer Evaluation and Capacity Assurance Plan (SECAP) in October 2017. Recommendations from the SECAP report included:

- I & I Reduction within Basin 4, 6A, 6C, and 14
  - The City sub-metered and smoke tested Basin 6A to help identify and reduce inflow and infiltration. The City is currently sub-metering Basin 6C to obtain data. Once work in Basin 6C is completed, sub-metering will occur in Basin 4 and Basin 14.
- Pump Station No. 3 Flow Meter Installation
  - A flow meter will not be installed at PS No. 3 because as part of the Pump Station No. 3 Rehabilitation Project, it was determined to have all flow redirected to Pump Station No. 2. This results in Pump Station No. 3 only being used as an emergency back-up pump station and therefore a new flow meter at Pump Station No. 3 is not necessary.
- City WTP and Oak Ave PS Rain Gauge Installation
  - Installed rain gauges at both the WTP and the Oak Ave PS
- Folsom Blvd Sewer Rehabilitation Project
  - This project is currently in the design phase. The construction phase is expected to begin in 2021.
- Oak Avenue Parkway Peak Wet Weather Flow (PWWF) Relief Project
  - The design phase has been completed. This project is currently in construction and is expected to be completed in the summer/fall of 2021.

**Grade: A**

**Recommendation:** Continue working on implementing all recommendations based on the 2017 SECAP Report.

**5. Sustain aging sewer infrastructure by implementing an asset management program to extend asset lifecycle.**

**Discussion:** In order to sustain aging sewer infrastructure, the City continues to implement an asset management program to extend the life of each asset. This is achieved through various methods. The program begins with maintaining and inspecting the sewer system through manhole inspections, pipeline inspections (CCTV), flushing, cleaning, sewer lateral inspection and Food Service Establishment Fats, Oils and Grease inspections. Once the inspections have occurred and a priority rating has been assigned to each asset an action plan is developed based on that priority. Priorities are listed below:

- Priority 1 – Re-inspect within 5 years
- Priority 2 – Re-inspect within 2 years
- Priority 3 – Re-inspect within 6 months
- Priority 4 – Re-inspect within 1 month
- Priority 5 – Re-inspect within 2 weeks

Once the affected asset has been assigned a priority, different methods to rehabilitate the asset and extend its life are implemented. Some examples include:

- Clean and flush the sewer line to remove roots, debris, etc.
- Manhole Lining (Seals cracks and holes resulting in a reduction in Inflow and Infiltration)
- Cured in Place Pipe (Lining the inside of a sewer line to extend service life of pipe)

**Grade:** A

**Recommendation:** No action needed; the City will continue to uphold the goals as outlined above.

**6. Ensure adequate funding support and resources to sustain long-term asset management.**

**Discussion:** In order to ensure adequate funding support and resources for sustaining long-term asset management, the City develops a 5-year Capital Improvement Plan (CIP) along with a Wastewater Operations & Maintenance Budget. Each year this plan is approved and adopted by City Council. A rate increase was approved by City Council and then implemented in February 2020. Therefore, the City's annual wastewater budget increased to \$7 Million. Of the \$7 Million, \$3 Million is set aside for rehabilitation and replacement projects which are consistent with the CIP Plan. The remaining balance is set aside for Wastewater Operations and Maintenance activities and reserves.

**Grade:** A

**Recommendation:** No action needed; the City will continue to uphold the goals as outlined above.

## SSMP Section 2 - Organization

Responsible Person (RP):

Environmental & Water Resources Director

Summary:

Under the City's organizational structure, defined roles and responsibilities were established during the initial implementation of the City's SSMP. The Environmental & Water Resources (EWR) Department uses this organizational structure to assign tasks to individuals for each element of the SSMP.

**1. Update City staff responsibilities of the SSMP elements once a year due to organizational changes.**

**Discussion:** The City's organizational chart was updated in 2021 to reflect the most recent staff changes and revise the roles and responsibilities. Specifically, the position of Assistant Engineer was added to the organizational chart. The names for the agency staff responsible for each activity were also updated. The organizational chart will continue to be updated with each internal audit.

**Grade:** A

**Recommendation:** Continue to update the City's Department Organization chart and employees responsible for each SSMP element due to organizational changes.

### SSMP Section 3 - Legal Authority

Responsible Person (RP):

Environmental & Water Resources Director

Summary:

The City must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

- Prevent illicit discharges into its sanitary sewer system, including I/I from satellite wastewater collection systems and laterals, storm water, unauthorized debris, etc.
- Require proper design and construction of sewers and connections
- Ensure access for maintenance, inspection, and repairs to publicly owned portions of laterals
- Limit the discharge of FOG and other debris that may cause blockages
- Enforce violations of its sewer ordinances

**1. Prevent illicit discharges into the City's sanitary sewer system including I & I from satellite wastewater collection systems and laterals, storm water, etc.**

**Discussion:** There are multiple areas in which the City strives to prevent illicit discharges. Folsom Municipal Code Title 13, Chapter 13.08 (Municipal Sewer System – Regulations) provides the City with the legal authority to limit and enforce illicit discharges from upstream public and/or private satellite collection systems. Within the past two years the City has continued certain I & I reduction programs while implementing a number of new programs in order to help reduce I & I. Currently I & I reduction programs and procedures include:

- Continued communication efforts with the Folsom Prison (the City's satellite agency) staff regarding the agreement set forth between the City and the Prison for ongoing maintenance, I & I reduction, and other related operational items.
- Continue to identify and repair sewer laterals due to roots, structural issues, and offsets. All repairs were repaired by the City's Utility Maintenance Division in order to reduce I & I between Fiscal Year 2019-2021.
- Continue to implement the City's 10-year sewer lateral inspection program. Over the past two years (beginning July 1, 2019) the City began the 10-year sewer lateral inspection program as approved by City Council on July 23, 2019 through Resolution No. 10312 as part of the 2019 SSMP recertification. The 10-year sewer lateral inspection program evaluates the condition of each lateral to determine if it needs to be rehabilitated. If the lateral needs repair, the repair can be made in house by the City's Utility Maintenance Sewer Division or rehabilitated through the City's Sewer Service Lateral Capital

Improvement Project Program. The 2<sup>nd</sup> year of the 10-year cycle ended on June 30, 2021. The goal for the end of the 2<sup>nd</sup> year was to have approximately 4,819 laterals inspected. As of June 30, 2021, the City completed about 1,789 lateral inspections. The City needs to increase the amount of lateral inspections performed each week in order to meet the goals for the 10-year schedule.

- Continue to identify sources of inflow and infiltration (I & I) through smoke testing and CCTV inspection.
  
- Continue to implement numerous CIP projects to help reduce I/I. These projects include:
  - Sewer Lateral Repair and Replacement Project (On-Going)
  - Sewer Lateral CCTV Inspection (On-Going)
  - Folsom Blvd Sewer Rehabilitation Project (Pre-Design Phase)
  - Oak Avenue PWWF Relief Project (Construction Phase)
  - Natoma Alley Sewer Rehabilitation and Replacement Project (Design Phase)

**Grade:** A

**Recommendation:** Continue to review and update the City's Folsom Municipal Code as necessary in order to prevent illicit discharges.

## **2. Require proper design and construction of sewers and connections.**

**Discussion:** Folsom Municipal Code Title 16, Chapter 16.08.010 (Definitions & Responsibilities) and Chapter 16.36 (Improvements), requires all sewers and connections to be properly designed and constructed. Specific design and construction of sewers is covered within the City of Folsom Design Standards and the City of Folsom Construction Standards. Also, representatives from both engineering and operations are involved in the plan check and plan review process to ensure all sewers are designed and installed properly. Lastly, revisions to the Sewer Design Standards, Construction Standards, and Construction Specifications have been completed and were adopted in February 2020.

**Grade:** A

**Recommendation:** Continue to coordinate between engineering and operations for the plan check process to ensure proper design and installation.

**3. Ensure access for maintenance, inspection, and repairs to publicly owned portions of laterals.**

**Discussion:** The Folsom Municipal Code Title 16, Chapter 16.32.010 (Dedication of streets, alleys and other public right-of-way or easements) states that, “as a condition of approval of a tentative map, the subdivider shall dedicate or make an irrevocable offer of dedication of all parcels of land within the subdivision that are needed for streets and alleys, local transit facilities, public access easements, including access rights and abutters’ rights, drainage, public greenways, bicycle paths, trails, open space easements, sunlight easements, landscape easements, scenic easements, public utility easement and other public easements...”. Having this in place, allows the City to operate, maintain, inspect, and fix any portion of the sewer system located within an easement. In addition, Folsom Municipal Code Title 13, Chapter 13.08 has been updated to clearly identify who owns and/or maintains the sewer service lateral from the building foundation to the property line (upper lateral portion) and who owns and/or maintains the sewer service lateral from the property line to the sewer main line (lower lateral portion).

**Grade:** A

**Recommendation:** No action needed; the City will continue to enforce the Folsom Municipal Code.

**4. Limit the discharge of FOG and other debris that may cause blockages.**

**Discussion:** The Folsom Municipal Code Title 13, Chapter 13.03 discusses the regulations to prohibit and control the discharge of Fats, Oils, and Grease (FOG) into the Sanitary Sewer Collection System. The City continues to improve its FOG inspection program of all Food Service Establishments (FSE). The inspection program collects data specific to each FSE, educates the FSE of FOG Best Management Practices (BMP’s), and notes when an FSE has violated any part of the City’s FOG Ordinance. The City also educated residents and the public about Fats, Oils, and Grease through Best Management Practice tips via the City’s website, City Newsletters, and through various community events such as City Works Day. The City’s goal is to inspect all FSE’s on a 2 year cycle. The FSE inspections were due to start in April 2020. However, due to the COVID-19 pandemic and the impact to the restaurant industry, the City had to temporarily suspend FSE inspections. The 2-year cycle of FSE inspections will resume in FY 21-22.

**Grade:** A

**Recommendation:** Continue to inspect all FSE’s on a 2-year cycle.



## 5. Enforce violations of its sewer ordinances

**Discussion:** The City's ordinance provides the City with the proper authority to issue notices to correct and notices of violation through the Folsom Municipal Code Title 13, Chapter 13.03.170 and Folsom Municipal Code Title 1, Chapters 1.08, 1.09 and 1.10. FSE's lacking Grease Control devices are noted in the City's Community Development Database. If an FSE without a Grease Control device submits an application to the Building Department for a permit from the City, their account is flagged. In order for them to obtain a permit for their project, a Grease Control device will need to be installed.

**Grade:** B+

**Recommendation:** Inspect all FSE's within a 2-year cycle. Continue to enforce violations of the City's sewer ordinances and educate FSE's on proper FOG handling procedures.

## SSMP Section 4 - Operations & Maintenance Program

Responsible Person (RP):

Environmental & Water Resources Director

Summary:

Section 4 – Operations & Maintenance Program of the SSMP requires a variety of elements that each agency must comply with. These include:

- I. Maintaining an up-to-date map of the sanitary sewer system
- II. Routine operation and maintenance activities and Rehabilitation & Replacement Program
- III. Training
- IV. Equipment Inventory

**I. Sewer System Mapping:** The City of Folsom maintains a GIS map of the City’s utility infrastructure, which includes the sanitary sewer collection system. The GIS map is generated by importing existing AutoCAD maps based on recorded as-built plans in order to create an inventory of utility infrastructure assets for the purpose of tracking and asset management.

- 1. Update mapping system to reflect new development projects, CIP projects or asset corrections due to field investigation.**

**Discussion:** As new development projects and CIP projects are completed, as-built information is updated into the City’s GIS system. The same process is used when field personnel find mapping errors. Corrections are drawn on a map and changes are made in GIS. To date all projects and known map errors have been revised.

**Grade:** A

**Recommendation:** No action needed.

- 2. Identify all sewer lines within the City that are not within the City’s right of way and validate through documentation whether each of the sewer lines have dedicated sewer easements and whether the sewer is publicly or privately owned.**

**Discussion:** The City continued the identification process of determining whether sewer lines located outside of the City right-of-way are publicly or privately owned.

**Grade:** A

**Recommendation:** Continue to update the mapping system when sewer lines located outside of the City’s right-of-way are publicly or privately owned. Continue to inform those that own the private sewers that they are responsible for all operations, maintenance, repairs, and costs associated with the private sewer.

**3. Continue to populate the GIS mapping system to include information such as age of infrastructure, development associated with sewer infrastructure, pipe type, pipe size, etc.**

**Discussion:** The City began working on this task in 2004 when the City switched from AutoCAD to GIS. Listed below is a table identifying the assets that are complete and those assets that still need additional information and the timeline for completing each task.

	Complete (%)	Incomplete (%)
Pipe Material	92%	8%
Pipe Age	96%	4%
Manhole	100%	-
Development	100%	-
Pipe Size	100%	-

**Grade:** A

**Recommendation:** Continue to improve and update the City’s GIS mapping system as it relates to pipe material, pipe age, pipe size, or manholes through sewer inspections.

**II. Preventive Operation & Maintenance and Rehabilitation & Replacement Program:** The Preventive Maintenance and Rehabilitation & Replacement Program outlines routine sewer operation and maintenance activities the City implements as part of the SSMP. The goals of the program are to:

- Develop and implement standard operating procedures (SOPs) such as Closed-Circuit Television CCTV, manhole inspections, flushing, and smoke testing
- Manhole Inspection, Flushing, CCTV, FSE Inspections, and Sewer Lateral Inspections are to be completed within the approved scheduled cycle
- Perform routine pump station inspections
- Develop and implement emergency response procedures
- Develop a list of construction related projects that identifies and prioritizes system deficiencies by implementing a short-term and long-term rehabilitation program to

address each deficiency and create a time schedule for developing and implementing the rehabilitation program

- Continue to implement the City's existing odor control program

**1. Develop and implement standard operating procedures (SOPs) such as CCTV, manhole inspections, flushing and smoke testing.**

**Discussion:** The City first developed SOP's when it received an NPDES and Cease and Desist Order from the State Water Resources Control Board (SWRCB) in 2001. Since this time, new SOP's have been developed and modified as part of the City's SSMP required by the SWRCB Waste Discharge Requirements (WDR) Order No. 2006-003 that was implemented in 2006 and was formally adopted and approved by City Council in August of 2009. SOP's developed by the City include pump station inspections, manhole inspections, CCTV, and flushing inspections. SOP's are updated on a continuous basis to account for staff changes, procedural changes, and operational changes. Examples of SOP's that have been recently added include the Easton Valley Parkway (EVP) Pump Station, Village H Pump Station, and pipes/sanitary sewer manholes inaccessible by vehicle. In addition, the Oak Avenue Pump Station Emergency Bypass Procedure Plan was recently updated.

**Grade:** A

**Recommendation:** All SOP's are up to date and in place. Continue updating existing SOP's and creating new SOP's as necessary in order to comply with the SSMP.

**2. Manhole Inspection, Flushing, CCTV, FSE Inspections, and Sewer Lateral Inspections are to be completed within the approved scheduled cycle.**

**Discussion:**

On July 23, 2019 through Resolution No. 10312, the City Council approved a revised schedule for various maintenance and inspection activities to include 2, 5, and 10 year cycles. All cycles were to begin in July 2019. This revised schedules are as follows:

- 2-Year Cycle
  - Inspect approximately 400 Food Service Establishments (FSE) for FOG compliance (Average of 4/week)
- 5-Year Cycle
  - Flush approximately 270 miles of mainline (Average of 5,500 lineal feet/week)
  - CCTV approximately 270 miles of mainline (Average of 5,500 lineal feet/week)
  - Inspect approximately 6,913 SSMH (Average of 27 per week)

➤ 10-Year Cycle

- Inspect approximately 23,652 sewer laterals (Average of 45 per week)

In addition to the scheduled maintenance and inspection activities, the City also performs pump station inspections on a daily basis, performs responsibility checks, responds to sanitary sewer overflows, responds to sewer calls, identifies and corrects areas of inflow and infiltration that have been identified through sub-metering or through smoke testing, and participates in weekly training.

**Grade:** N/A

**Recommendation:** Continue with daily pump station inspections, performing responsibility checks, responding to sanitary sewer overflows, responding to sewer calls, identifying and correcting areas of inflow and infiltration that have been identified through sub-metering or through smoke testing, and continue participating in weekly training. Refer to the sub-sections below for further discussion and recommendation regarding the 2, 5, and 10-year cycles.

**2A. FSE Inspections (2-Year Cycle)**

**Discussion:** Table 1 below identifies all FSE’s that have been inspected over the last 2-year cycle (2019-2021). The FSE inspections were due to start in April 2020. However, due to the COVID-19 pandemic and the impact to the restaurant industry, the City had to temporarily suspend FSE inspections. Therefore, 0 FSE’s were inspected from July 1, 2019 – June 30, 2021.

**Table 1 – FSE FOG Inspection (2-Year Schedule)**

<b>Priority</b>	<b>Basin #</b>	<b>Year</b>	<b>% FSE’s Inspected</b>
1	B13	2019-2020	N/A
2	B01	2019-2020	N/A
3	B05	2019-2020	N/A
4	B12	2019-2020	N/A
5	B08	2019-2020	N/A
6	B14	2019-2020	N/A
7	B02	2019-2020	N/A
8	B11	2019-2020	N/A
9	B09	2019-2020	N/A
10	B16	2020-2021	N/A
11	B06	2020-2021	N/A
12	B15	2020-2021	N/A
13	B17	2020-2021	N/A
14	B04	2020-2021	N/A

15	B07	2020-2021	N/A
16	B10	2020-2021	N/A
17	B03	2020-2021	N/A
18	FPA - 18th Basin	2020-2021	N/A

**Grade:** N/A

**Recommendation:** The FSE inspections were suspended due to the COVID-19 pandemic. The 2-year cycle of FSE inspections will resume in FY 21-22.

## 2B. Flushing Inspections (5-Year Cycle)

**Discussion:** The flushing data for the 5-year cycle was separated into the two tables below in order to more accurately display the flushing performed by City crews. Table 2 below shows the City's performance regarding flushing for the last 5-year cycle, which began in 2019. The 2<sup>nd</sup> year of the 5-year cycle ended on June 30, 2021. As of June 30, 2021, the City flushed approximately 80 miles of pipes. Table 3 below shows the pipe lengths per basin that are located in specialty areas. These specialty areas include pipe lengths that were located in high traffic areas and pipes that were too large to inspect by the City's crews (18" in diameter and larger). The pipes that are located in specialty areas are currently not able to be inspected by the City's crews.

**Table 2 – Flushing Performed By City Crews (5-Year Schedule)**

Basin	Fiscal Year Goal	Total Length Per Basin Able To Be Flushed By City Crews (feet)	Completed Flushing Length (feet)	Completed Flushing * (%)
B13	FY 19/20	62,313	55,161	89%
B01	FY 19/20	95,790	95,066	99%
B05	FY 19/20	^^ ----	0	0%
B12	FY 19/20	87,870	86,382	98%
B08	FY 20/21	228,305	164,485	72%
B14	FY 20/21	28,487	24,640	86%
B02	FY 21/22	53,298	0	0%
B11	FY 21/22	41,319	0	0%
B09	FY 21/22	91,262	0	0%
B16	FY 21/22	61,182	0	0%
B06	FY 22/23	145,573	0	0%
B15	FY 22/23	46,437	0	0%
B17	FY 22/23	90,108	0	0%

B04	FY 23/24	63,831	0	0%
B07	FY 23/24	67,684	0	0%
B10	FY 23/24	44,333	0	0%
B03	FY 23/24	61,698	0	0%
FPA - 18th Basin	^	85,136	0	0%

\* = The “Completed Flushing” percentages divide the “Completed Flushing Length” by the “Total Length Per Basin Able To Be Flushed By City Crews”.

^ = Inspected on date of installation. The City will reinspect (flush, etc.) in the next 5-year cycle (2025).

^^ = Inaccessible with the City’s current vehicle equipment; located within Prison system.

**Table 3 – Flushing in Specialty Areas (5-Year Schedule)**

Basin	Fiscal Year Goal	Length In Specialty Areas * (feet)	Completed Flushing Length in Specialty Areas (feet)	Completed Flushing in Specialty Areas (%)
B13	FY 19/20	6,438	0	0%
B01	FY 19/20	2,339	0	0%
B05	FY 19/20	3,371	0	0%
B12	FY 19/20	20,058	0	0%
B08	FY 20/21	25,337	0	0%
B14	FY 20/21	10,242	0	0%
B02	FY 21/22	----	0	0%
B11	FY 21/22	----	0	0%
B09	FY 21/22	----	0	0%
B16	FY 21/22	----	0	0%
B06	FY 22/23	----	0	0%
B15	FY 22/23	----	0	0%
B17	FY 22/23	----	0	0%
B04	FY 23/24	----	0	0%
B07	FY 23/24	----	0	0%
B10	FY 23/24	----	0	0%
B03	FY 23/24	----	0	0%
FPA - 18th Basin	^	----	0	0%

\* = “Specialty Areas” include pipe lengths that were located in high traffic areas and pipes that were too large to inspect (18” diameter and larger). The pipe lengths in “Specialty Areas” are not able to be inspected by the City’s crews.

^ = Inspected on date of installation. The City will reinspect (flush, etc.) in the next 5-year cycle (2025).

**Grade: B**

**Recommendation:** The City performed well in flushing the lengths of pipes that were accessible and also able to be flushed by City crews (i.e. pipes not located in specialty areas, Table 2). As part of this audit, the areas that the City needs improvement in, such as flushing pipes in high traffic areas, were separated into another table (Table 3 – Specialty Areas). Specialty areas include pipe lengths that were located in high traffic areas and pipes that were too large to inspect (18” diameter and larger). In order to increase flushing inspections, the City would need to implement a program to flush the pipes in these specialty areas. This can be accomplished by contracting with a third party to assist in cleaning, traffic control, etc. of these specialty areas where possible. In order to flush sewer lines larger than 18”, flushing will need to be performed during low flow conditions where possible. However, in some instances flow conditions don’t allow the City to perform flushing and/or CCTV on the mains. An example of this is on Folsom Blvd because the flow in this sewer main is typically over the ideal flow amount needed perform to flushing/CCTV. However, through the Folsom Blvd Sewer Rehabilitation Project, the City will be building a parallel sewer pipe on Folsom Blvd that will allow for the cleaning, flushing, CCTV, etc. of one pipe while the other pipe is fully operational. This project is currently in the design phase.

**2C. CCTV Inspections (5-Year Cycle)**

**Discussion:** The CCTV inspection data for the 5-year cycle was separated into the two tables below in order to more accurately display the CCTV performed by City crews. Table 4 below shows the City’s performance regarding CCTV inspections for the last 5-year cycle, which began in 2019. The 2<sup>nd</sup> year of the 5-year cycle ended on June 30, 2021. As of June 30, 2021, the City CCTV inspected approximately 88 miles of pipes. Table 5 below shows the pipe lengths per basin that are located in specialty areas. These specialty areas include pipe lengths that were located in high traffic areas and pipes that were too large to inspect by the City’s crews (24” diameter and larger). The pipes that are located in specialty areas are currently not able to be inspected by the City’s crews.

In order to increase productivity for the 5-year cycle of sewer main CCTV, the City recently purchased an additional CCTV van and 2 additional CCTV cameras. An IBAK CCTV van with a CCTV camera crawler was purchased in January 2020 and an IBAK Panoramo® 4K CCTV camera was purchased in January 2021.

**Table 4 – CCTV Inspections Performed By City Crews (5-Year Schedule)**

Basin	Fiscal Year Goal	Total Length Per Basin Able To Be Inspected By City Crews (feet)	Completed CCTV Length (feet)	Completed CCTV Inspections * (%)
B13	FY 19/20	59,628	52,855	89%
B01	FY 19/20	94,815	86,683	91%



B05	FY 19/20	^^ ----	0	N/A
B12	FY 19/20	88,953	82,217	92%
B08	FY 20/21	221,522	221,522	100%
B14	FY 20/21	25,648	23,834	93%
B02	FY 21/22	53,298	0	0%
B11	FY 21/22	41,319	0	0%
B09	FY 21/22	91,262	0	0%
B16	FY 21/22	61,182	0	0%
B06	FY 22/23	145,573	0	0%
B15	FY 22/23	46,437	0	0%
B17	FY 22/23	90,108	0	0%
B04	FY 23/24	63,831	0	0%
B07	FY 23/24	67,684	0	0%
B10	FY 23/24	44,333	0	0%
B03	FY 23/24	61,698	0	0%
FPA - 18th Basin	^	85,136	0	0%

\* = The “Completed CCTV Inspections” percentages divide the “Completed CCTV Length” by the “Total Length Per Basin Able To Be Inspected By City Crews”.

^ = Inspected on date of installation. The City will reinspect (SSMH, CCTV, flush, etc.) in the next 5-year cycle (2025).

^^ = Inaccessible with the City’s current vehicle equipment; located within Prison system.

**Table 5 – CCTV in Specialty Areas (5-Year Schedule)**

Basin	Fiscal Year Goal	Length In Specialty Areas * (feet)	Completed CCTV Length in Specialty Areas (feet)	Completed CCTV in Specialty Areas (%)
B13	FY 19/20	9,124	0	0%
B01	FY 19/20	3,314	0	0%
B05	FY 19/20	3,371	0	0%
B12	FY 19/20	18,975	0	0%
B08	FY 20/21	32,119	0	0%
B14	FY 20/21	13,081	0	0%
B02	FY 21/22	----	0	0%
B11	FY 21/22	----	0	0%
B09	FY 21/22	----	0	0%
B16	FY 21/22	----	0	0%
B06	FY 22/23	----	0	0%
B15	FY 22/23	----	0	0%
B17	FY 22/23	----	0	0%
B04	FY 23/24	----	0	0%
B07	FY 23/24	----	0	0%

B10	FY 23/24	----	0	0%
B03	FY 23/24	----	0	0%
FPA - 18th Basin	^	----	0	0%

\* = “Specialty Areas” include pipe lengths that were located in high traffic areas and pipes that were too large to inspect (24” diameter and larger). The pipe lengths in “Specialty Areas” are not able to be inspected by the City’s crews.

^ = Inspected on date of installation. The City will reinspect (SSMH, CCTV, flush, etc.) in the next 5-year cycle (2025).

**Grade: A-**

**Recommendation:** In general, the City performed well for the CCTV inspections of the pipes that were accessible and also able to be CCTV inspected by City crews (i.e. pipes not located in specialty areas, Table 4). As part of this audit, the areas that the City needs improvement in, such as CCTV inspecting pipes in high traffic areas, were separated into another table (Table 5 – Specialty Areas). Specialty areas include pipe lengths that were located in high traffic areas and pipes that were too large to inspect (24” diameter and larger). In order to increase CCTV inspections, the City would need to implement a program to CCTV the pipes in these specialty areas. This can be accomplished by contracting with a third party to assist in cleaning, traffic control, etc. of these specialty areas where possible. In order to CCTV sewer lines larger than 24”, CCTV will need to be performed during low flow conditions where possible. However, in some instances flow conditions don’t allow the City to perform CCTV and/or flushing on the mains. An example of this is on Folsom Blvd because the flow in this sewer main is typically over the ideal flow amount needed to perform CCTV/flushing. However, through the Folsom Blvd Sewer Rehabilitation Project, the City will be building a parallel sewer pipe on Folsom Blvd that will allow for the cleaning, flushing, CCTV, etc. of one pipe while the other pipe is fully operational. This project is currently in the design phase.

**2D. Manhole Inspections (5-Year Cycle)**

**Discussion:** The manhole (SSMH) inspection data for the 5-year cycle was separated into the two tables below in order to more accurately display the SSMH inspections performed by City crews. Table 6 below shows the City’s performance regarding the SSMH inspections for the last 5-year cycle, which began in 2019. The 2<sup>nd</sup> year of the 5-year cycle ended on June 30, 2021. As of June 30, 2021, the City inspected approximately 2,482 SSMH. Table 7 below shows the SSMH per basin that are located in specialty areas. These specialty areas include SSMH that were not able to be located and SSMH that were located in high traffic areas. The SSMH that are located in the specialty areas are currently not able to be inspected by the City’s crews.

To meet the demands of the SSMH inspections in the 5-year cycle, the City purchased an additional zoom camera. A Quickview Air-HD zoom pole camera was purchased in October 2019. Based on the current size of the sanitary sewer crew, it was decided that only 1 additional zoom (pole) camera would be required instead of 2 zoom cameras that were originally mentioned in the “Future Performance Improvements” of the 2019 SSMP.

**Table 6 – SSMH Inspections Performed By City Crews (5-Year Schedule)**

Basin	Fiscal Year Goal	Total SSMH Per Basin Able To Be Inspected By City Crews	Completed SSMH Inspections	Completed SSMH Inspections * (%)
B13	FY 19/20	293	289	99%
B01	FY 19/20	486	457	94%
B05	FY 19/20	5	5	100%
B12	FY 19/20	404	400	99%
B08	FY 20/21	1,129	1,129	100%
B14	FY 20/21	204	202	99%
B02	FY 21/22	278	0	0%
B11	FY 21/22	361	0	0%
B09	FY 21/22	384	0	0%
B16	FY 21/22	280	0	0%
B06	FY 22/23	635	0	0%
B15	FY 22/23	254	0	0%
B17	FY 22/23	384	0	0%
B04	FY 23/24	359	0	0%
B07	FY 23/24	306	0	0%
B10	FY 23/24	241	0	0%
B03	FY 23/24	276	0	0%
FPA - 18th Basin	^	472	0	0%

\* = The “Completed SSMH Inspections” percentages divide the “Completed SSMH Inspections” by the “Total SSMH Per Basin Able To Be Inspected By City Crews”.

^ = Inspected on date of installation. The City will reinspect (SSMH, CCTV, flush, etc.) in the next 5-year cycle (2025).

**Table 7 – SSMH In Specialty Areas (5-Year Schedule)**

Basin	Fiscal Year Goal	SSMH In Specialty Areas *	Completed SSMH Inspections in Specialty Areas	Completed SSMH Inspections in Specialty Areas (%)
B13	FY 19/20	22	0	0%
B01	FY 19/20	1	0	0%
B05	FY 19/20	----	0	0%
B12	FY 19/20	56	0	0%
B08	FY 20/21	53	0	0%
B14	FY 20/21	30	0	0%
B02	FY 21/22	----	0	0%
B11	FY 21/22	----	0	0%
B09	FY 21/22	----	0	0%
B16	FY 21/22	----	0	0%
B06	FY 22/23	----	0	0%
B15	FY 22/23	----	0	0%
B17	FY 22/23	----	0	0%
B04	FY 23/24	----	0	0%
B07	FY 23/24	----	0	0%
B10	FY 23/24	----	0	0%
B03	FY 23/24	----	0	0%
FPA - 18th Basin	^	----	0	0%

\* = “Specialty Areas” include SSMH that were not found and manholes located in high traffic areas. The SSMH in “Specialty Areas” are not able to be inspected by the City’s crews.

^ = Inspected on date of installation. The City will reinspect (SSMH, CCTV, flush, etc.) in the next 5-year cycle (2025).

**Grade:** A

**Recommendation:** The City performed well in SSMH inspections for the manholes that were accessible and also able to be inspected by City crews (i.e. manholes not located in specialty areas, Table 6). As part of this audit, the areas that the City needs improvement in, such as inspecting manholes in high traffic areas, were separated into another table (Table 7 – Specialty Areas). Specialty areas include manholes that were not able to be found and manholes that were located in high traffic areas. In order to increase SSMH inspections, the City would need to implement a program to inspect the manholes in these specialty areas. This can be accomplished by contracting with a third party to assist in locating, cleaning, traffic control, etc. of these specialty areas where possible. Buried manholes or manholes that are not shown correctly on the City’s maps should also be identified.

## 2E. Sewer Lateral Inspections (10-Year Cycle)

**Discussion:** In July 2019, the City began a proactive sewer lateral inspection program. The City recently converted a Utilities Technician position to a Collection Technician position that allows the City to begin inspecting laterals in-house. The goal of the recent position conversion is to inspect approximately 23,652 laterals over a 10-year period beginning in July 2019. The City’s inspection team already had the necessary equipment to perform routine lateral inspections, i.e. when inspecting from an accessible clean-out down through the City’s lateral. However, for when the cleanout is not able to be located or is not accessible, a lateral launch camera was purchased which was delivered with the new IBAK CCTV van in January 2020. The lateral launch allows the team to begin the lateral inspection starting from the sewer main, where the camera is launched up through the City’s lateral to continue the inspection.

Table 8 below shows the City’s performance regarding the sewer lateral inspections. Beginning July 1, 2019, as a part of the City’s 5-year recertification of the SSMP, the lateral inspection program was revised to inspect approximately 23,652 laterals over a 10-year period (2019-2029). The City is currently behind schedule on the 10-year cycle for lateral inspections. The 2<sup>nd</sup> year of the 10-year cycle ended on June 30, 2021. The goal for the end of the 2<sup>nd</sup> year was to have approximately 4,819 laterals inspected. As of June 30, 2021, the City completed about 1,789 lateral inspections.

**Table 8 – Lateral Inspections Performed By City Crews (10-Year Schedule)**

Basin	Fiscal Year Goal	Total Laterals Per Basin	Total Laterals Inspected	Laterals Inspected (%)
B13	FY 19/20	1,318	1,271	96%
B08	FY 19-21	4,814	518	11%
B05	FY 20/21	N/A	N/A	N/A
B01	FY 21-23	1,655	0	0%
B12	FY 22/23	1,601	0	0%
B14	FY 23/24	514	0	0%
B02	FY 23/24	568	0	0%
B11	FY 23/24	730	0	0%
B09	FY 24/25	1,429	0	0%
B16	FY 24/25	409	0	0%
B06	FY 25/26	2,469	0	0%
B15	FY 26/27	825	0	0%
B17	FY 26/27	1,606	0	0%
B04	FY 27/28	976	0	0%
B07	FY 27/28	1,208	0	0%

B10	FY 28/29	768	0	0%
B03	FY 28/29	915	0	0%
FPA - 18th Basin	*	1,847	0	0%

\* = Laterals were inspected on date of installation. The City will reinspect the laterals in the next 10-year cycle (2030).

**Grade:** C-

**Recommendation:** The City needs to increase the number of laterals inspected each week in order to meet the 10-year sewer lateral inspection goal. Additionally, as part of the sewer lateral inspection program, sewer laterals without a known lower lateral cleanout are identified and a lower lateral cleanout is installed by the City’s Utility Maintenance Sewer Division in order to make future inspections easier.

### 3. Perform routine pump station inspections

**Discussion:** Pump Station inspections are inspected on a weekly, monthly, semi-yearly, and yearly basis. The scope of pump station inspection varies depending on the inspection interval. An SOP has been developed for each specific pump station and the necessary action items that field staff needs to follow based on the type of inspection (weekly, monthly, semi-annual, or annual inspection). Inspections are recorded on Preventive Maintenance Templates and input by City staff in Lucity (The City’s CMMS System). To date, all pump station inspections are on schedule.

**Grade:** A

**Recommendation:** No action needed, all pump station inspections are up to date and recorded in Lucity. Continue inspections and documentation.

### 4. Develop and implement emergency response procedures

**Discussion:** In addition to Standard Operating Procedures, the City also developed Emergency Operating Procedures. These procedures include topics such as sewer force-main break, sewer main break, and pump station failure. The City has the ability to bypass pump at all pump stations within the City of Folsom in the event of a complete pump station failure. Emergency bypass pumping procedures have been written for each of these stations and the crews are trained regularly on performing bypass pumping as seen in the chart below. The other pump stations have their bypass trainings annually during the SSO and SSMP trainings.

<b>Bypass Pump Station Training</b>	
Pump Station	Date
Oak Ave PS	6/3/2020
PS No. 2	06/12/2020
EVP PS	Planned for Summer 2021
Lake Forest PS	Planned for Summer 2021

Recently the City acquired two new pump stations (EVP Pump Station and Village H Pump Station). As a result of the construction of these two pump stations, new emergency bypass pump SOP's were created. The ability to bypass pumping capability at each of the stations reduces the risk of SSO's during a power/electrical failure.

**Grade:** A

**Recommendation:** No additional action needed, continue to update and implement new emergency procedures as necessary and continue training on all emergency procedures such as bypass pumping.

**5. Develop a list of construction related projects that identifies and prioritizes system deficiencies by implementing a short-term and long-term rehabilitation program to address each deficiency and create a time schedule for developing and implementing the rehabilitation program.**

**Discussion:** During each of the inspections (manhole, CCTV, lateral inspections) performed by the City's Wastewater Division, an overall condition assessment is assigned as outlined below:

- Rating 1 – Noted and follow up inspection within 5 years
- Rating 2 – Noted and follow up inspection within 2 to 3 years
- Rating 3 – Replace within 6 months
- Rating 4 – Replace within 1 month
- Rating 5 – Emergency (Replace within 2 weeks)

If the asset rating is a 3 or higher, the asset is categorized into one of two areas. Once the inspection request is completed and a rating of 3 or higher is assigned to that asset, a work order is generated and scheduled for repair or replacement by the City's Utilities Maintenance Division within the timeframe listed above. Typical repair or replacement projects performed by the Utility Maintenance Division include replacing cleanouts, repairing/replacing laterals, and

repairing/replacing main lines. For FY 19-21, 129 sewer construction requests were made and 129 of the 129 (100%) sewer laterals were completed within the past two fiscal years (FY 19-21). In addition to the City's Utility Maintenance Division performing sewer lateral repairs, the City also periodically develops together a Capital Improvement Project for an outside Contractor to perform sewer lateral repairs. During the 2019-2021 audit period, no repair services were performed by an outside Contractor.

Assets such as sewer pipelines with a rating of 3 or higher that are large enough in scope of work are placed on a CIP list. Listed below are the projects that were completed within the past two years or projects that are currently in the design or construction phase.

- Sewer Lateral Repair and Replacement Project (On-Going)
- Natoma Alley Sewer Rehabilitation Project (Design Phase)
- PS No. 3 Rehabilitation Project (Design Phase)
- Folsom Blvd Sewer Rehabilitation Project (Pre-Design Phase)
- Oak Avenue PWWF Relief Project (Construction Phase)
- Basin 4 Sewer Phase 1 (Pre-Design Phase)
- Basin 4 Sewer Phase 2 (Pre-Design Phase)

**Grade:** A

**Recommendation:** Continue to proceed with Utility Maintenance repair/replacement work and CIP Projects.

## **6. Continue to implement the City's existing odor control program**

**Discussion:** Currently the City of Folsom has three known locations that cause odor issues. The three areas are Oak Avenue Pump Station, Rowberry/Walden/Withers residential subdivision area, and Pump Station No. 2.

Upgrades to reduce/eliminate odor at all three known locations have been made between 2015 and 2019. Currently, each location has an effective method to reducing/eliminating odor as outlined below:

- Oak Avenue Pump Station
  - Installation of a pig launching station to clean the Oak Avenue Force Main
  - ANUE Water Technologies system installed to create surface agitation in the Oak Avenue PS wet well that breaks up and prevents organic and bi-organic matter



buildup. This system helps reduce odor and eliminates FOG mat that typically forms in wet wells.

- Both items have been effective in reducing/eliminating odors in the surrounding Oak Ave PS area.
  
- Rowberry/Walden/Withers residential subdivision area
  - Installation of 1,800 feet of underground vent pipe
  - Installation of a carbon scrubber
  - Both the vent pipe and the carbon scrubber have been effective in reducing the amount of odor complaints in the surrounding Rowberry/Walden/Withers subdivision community.
  
- PS No. 2
  - Installation of a carbon scrubber at PS No. 2 Facility
  - ANUE Water Technologies system installed to create surface agitation in Pump Station No. 2 wet well that breaks up and prevents organic and bi-organic matter buildup. This system helps reduce odor and eliminates FOG mat that typically forms in wet wells.
  - Both items have been effective in reducing/eliminating odors in the surrounding PS No. 2 area

**Grade:** A

**Recommendation:** Maintain the 3 existing odor control facilities. As new odor problems arise, address the problem as needed.

**III. Sewer System Operations and Maintenance Training:** Training is a critical element to the SSMP. Training employees helps increase employee knowledge and operational know how. Ultimately, training staff on various elements of the SSMP is critical to reducing the number of SSO's. Training of City staff occurs in many different forms such as; tailgate meetings, formal meetings, seminars, educational classes, etc.

**1. Schedule and track attendance of all safety meeting as it relates to sewer operations.**

**Discussion:** Training frequency and dates are logged and can be seen in the table listed below. Frequency of training depends on the importance of the topic. Some topics are reviewed whenever there is a new hire while other topics are reviewed on an ongoing or annual basis.

Environmental & Water Resources Training Log	Training Frequency	Training Dates	Scheduled 2020	
Accident Review and Investigation	A			
Covid-19	N	4/8/2020		Completed
Asbestos Awareness	N/A			
Battery Handling & Maintenance	N			
Employee Wellness/Blood Borne Pathogens	N/A			
Compressed Gas Safety	N	2/5/2020		Completed
Confined Space Entry	N/O			
Confined Space Entry Quiz	N			
CSON - Collection System Operations Notice Overview				
Defensive Driving (staff who drive at work)	N			
Electrical Safety	N	<a href="#">Arc Flash Electrical Safety.pdf</a>	10/21/2020	Completed
Emergency Action/Fire Prevention	N/O			
Emergency Eye Wash	N			
Equipment Operation Safety (department specific)	N/O			
Ergonomics- Office	N			
Ergonomics- Back Injury Prevention/Safety	N			
Excavation/Trenching/Shoring	N			
Fall Protection	N			
First Aid/CPR (designated staff)	N/ 2Year	Completed at Fire station and online	9/23/2020	Completed
Forklift	N/ 3Year			
Hazard Outdoors, Animals, Insects, Etc.	N/O			
Hearing Conservation	N/A			
Heat Illness Prevention/UV Protection	A-SPRING	<a href="#">Heat Stress.pdf</a>	5/6/2020	Completed
Hand Injuries	N	<a href="#">Real Accidents, Real Stories.pdf</a>	8/5/2020	Completed
Housekeeping/Organize				
Hydro-Ranger Milltronics Training				
Injury & Illness Prevention Program	N/O			
Ladder Safety	N			
Lead Awareness	N/O			
Lockout/Tag Out	N/O	<a href="#">Lock Out Tag Out Safety.pdf</a>	11/10/2020	Completed
New Employees Safety Orientation/Specific Job Hazards	N			
MSA Gas meter training	0			
Oak Avenue Bypass Training	A			
Outdoor Hazards (plants, animals, insects)	A-SPRING			
Personal Protective Equipment Requirements (PPE)	N/O			
Herbicide Use Safety	N/O	<a href="#">Herbicide Training.pdf</a>	11/4/2020	Completed
Rigging/Hoisting	N			
Supervisor Safety Training (designated employees)	N/O			
Tools-Hand & Power (department specific)	N/O			
Traffic Control & Flagger Training	N			
Water Safety				
Tree Work	N			
Welding & Cutting Safety/Fire Watch/Hot Work	N			
Workplace Violence/Evacuation Drills	N			
Chemical or Petroleum Surface Spill	A			
Mountain Oak SOP including Bypass	A			

Stress in the Work Place	A			
SSMP Overview	A			
Lake Forest SOP including Bypass	A			
Del Norte SOP including Bypass	A			
Hazards of Working in Hot Weather	A			
Young Wo SOP including Bypass	A			
Orangevale Ave SOP including Bypass	A			
6A-ARC SOP including Bypass	A			
SSO reporting /Spill Volume/ Refresher	Bi-A	<a href="#">SSO Reporting Spill Training.pdf</a>	6/3/2020	Completed
Competent Person Training	N			
Vac All Training	N			
Respirator Fit Test	A			
GHS Harzard Communication (OHSA)				
Station 2 Bypass Training	N/O	<a href="#">malko.St. @ Bypass Training.pdf</a>	6/11/2020	Completed
Run. Hide. Fight. Surviving an Active Shooter Event				
Safety Awareness: Real Accidents, Real Stories				
Safe Operation and Use of Overhead Cranes				

N= New Employee  
A= Annual Training  
Bi-A = Bi-Annual Training  
O= Ongoing Training

**Grade: A**

**Recommendation:** Continue Training Efforts as outlined in the schedule above.

**IV. Equipment & Replacement Parts Inventory:** Maintaining an Equipment & Replacement Parts Inventory is critical to the operation of an agency’s sewer system. During an emergency such as a pump failure it is important to have spare parts on hand to be able to react quickly to the emergency and minimize the down time due to a failure.

**1. Maintain and update an equipment and replacement parts inventory list.**

**Discussion:** As shown in the figure below, the City maintains a spreadsheet that lists all critical equipment relevant to the City’s sewer system. Items such pump manufacturers, pump horsepower, manufacturers of various items, serial numbers, generators, etc. are listed. In 2019, the EVP Pump Station and the Village H Pump Station were added to the Equipment & Replacement Parts Inventory. The inventory list is current for 2021.

OAK AVENUE												
Station Type:												
Receives flow from:												
Pumps it to:												
EQUIPMENT NAME	TYPE	SERIAL NO.	MANUFACTURER	MODEL NO.	CAPACITY	SIZE (HP)	V/PH/Hz	SPEED	HEAD (TDH)	NOTES	RECOMMENDED PREVENTIVE MAINTENANCE*	FREQUENCY*
Pump #1	MOUNTED PUMP	2293085	Hidrostal	8213		60	60/460/115	1785			Check semi-annually for stable and smooth operation. Check the unit running records for hourly usage vs. power consumption, vibration and pump output to determine if internal inspection is required.	6 mos 6 mos
Pump #2	MOUNTED PUMP	2293086	Hidrostal	8213		60	60/460/115	1785			1. Pull pumps twice a year for inspection and wash down with pressure hose. 2. Check bubbler switches. 3. Check the seal oil in the seal chamber yearly or when the seal alarm signal is given.	1.6 mos 2. 3 mos 3. 12 mos
Pump #3	MOUNTED PUMP	2293087	Hidrostal	8213		60	60/460/115	1785			1. Pull pumps twice a year for inspection and wash down with pressure hose. 2. Check bubbler switches. 3. Check the seal oil in the seal chamber yearly or when the seal alarm signal is given.	1.6 mos 2. 3 mos 3. 12 mos
BACKFLOW VALVE-1	Milliken		Check Valve	700							1. Check and clean as needed.	As needed
BACKFLOW VALVE-2	Milliken		Check Valve	700							1. Check and clean as needed.	As needed
BACKFLOW VALVE-3	Milliken		Check Valve	700							1. Check and clean as needed.	As needed
GENERATOR												
WET WELL	WELL										1. Clean grease from wet well.	6 mos/when needed
SUMP PUMP	PUMP		GOULD	V5511E		1/2		1725			1. Check sump pump for normal operation.	2 wks/when needed
COMPRESSOR (2)	COMP		INGRAM	HRIDWB2		60Hz						
Bridge Crane											1. Check and clean as needed.	As needed
MUFFIN MONSTER MOTOR 1	MOTOR	18065	JVC ENVIRONMENTAL	CMD		3OR5 HP	V-208/ 230/460 Ph-3 Hz- 50/60	1725			1. Check motor and grease as needed.	Routine Inspection Visit
MUFFIN MONSTER MOTOR 2	MOTOR	18066	JVC ENVIRONMENTAL	CMD		3OR5 HP	V-208/ 230/460 Ph-3 Hz- 50/61	1725			1. Check motor and grease as needed.	Routine Inspection Visit
EMERGENCY GENERATOR	EGU	625004	KOHLER	135RZD			Ph-3 Hz-60	1800			1. Change oil and filter. 2. Tune up.	6 mos 12 mos
SNAP ARM VALVE	VLV		ND, 52SC								1. Inspect valve for normal operation. 2. Sprag with oil.	Routine Inspection Visit
3-WAY VALVE	VLV										1. Inspect valve for normal operation.	Routine Inspection Visit
AUTO VALVE	VLV										1. Inspect valve for normal operation.	Routine Inspection Visit
REFRIGERATED AIR DRYER	HVAC										1. Check air dryer for normal operation.	Routine Inspection Visit
EXHAUST FAN	HVAC		JEN FAN CO.	CVD 100A		1/3	Ph-1 V-115/230	1800			1. Check fan for normal operation.	Routine Inspection Visit
SAFETY VALVE	INC										1. Inspect and crack open safety valve.	Weekly
TANK VALVE	VLV										1. Bleed out condensation.	Routine Inspection
EMERGENCY EYE WASH			GAURDIAN EQUIPMENT									Weekly
CHATTERBOX REMOTE MONITOR Verbatim			RACO									Weekly
L3000 PROGRAMABLE CONTROLLER			TESCO									Weekly
ANUE Odor Control Station	Wet Well mounted		ANUE			5hp/3hp	60					Routine Inspection Visit
PIG Launching Station											1. Inspect valve for normal operation.	Routine Inspection Visit

\* NOTE: Preventive maintenance frequency subject to adjustment, based on manufacturer's recommendations.  
 \* NOTE: Preventive maintenance frequency subject to adjustment, based on manufacturer's recommendations.

Grade: A

Recommendation: No action needed, continue to update the spreadsheet as necessary.

## SSMP Section 5 - Design & Performance Program

### Responsible Person (RP):

Environmental & Water Resources Director

### Summary:

Design and Construction Standards are important to help streamline the process for both design review and construction. It is important to recognize the close relationship between design and construction. These processes can best be viewed as an integrated system. Design is the process of creating something new like sewer system infrastructure, usually represented by detailed plans and specifications, while construction is the process of identifying activities and resources required to make the design a physical reality.

- 1. Maintain design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations, and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems.**

**Discussion:** The City requires design engineers and contractors to adhere to the most recent version of the City of Folsom Standards. The City currently has the following documents:

- Design Manual
- Standard Specifications
- Standard Details

The City has recently updated the Sewer Design and Construction Standards and Specifications. The Standards and Specifications were last updated in February 2020. In addition, the City of Folsom conducts plan review meetings with both the engineering and operations division to ensure all sewers are properly designed and installed.

**Grade:** A

**Recommendation:** None, continue to incorporate the new standards.

- 2. Maintain procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.**

**Discussion:** The City of Folsom adopted detailed standard construction specifications that all construction must adhere to. In addition, City inspectors oversee each aspect of the construction project including the installation and testing of new sewers, pumps, etc. The City recently updated the standard specifications and construction details that were adopted in February 2020.

**Grade:** A

**Recommendation:** Ensure City inspectors are familiar with the newly adopted standards.

## SSMP Section 6 - Overflow Emergency Response Plan

### Responsible Person (RP):

Environmental & Water Resources Director

### Summary:

In the event of a Sanitary Sewer Overflow (SSO), it is of greatest importance to limit the liability, severity of damage, and protect the natural resources of the City of Folsom. The source of the SSO should be stopped and contained as soon as possible. In addition to cleanup procedures, the City is responsible for notification of affected residents, property owners, and agencies that could be impacted by an SSO. The City's Overflow Emergency Response Plan is intended to provide City staff with procedures to be followed for SSO response and notification. The City of Folsom's success in preventing the occurrence of sanitary sewer overflows is a key metric in gauging the overall success of several SSMP programs. Proper procedures, response, and notification so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner are critical to an SSO event.

### **1. Ensure the City's Sanitary Sewer Overflow Response Plan Flow Chart, Sanitary Sewer Overflow Report Form and the Sanitary Sewer Overflow Response Plan is up to date.**

**Discussion:** The SSO Report Form was updated in 2021 to reflect organization personnel changes. The SSO Response Plans were updated in July 2019 to include how to respond to an SSO for areas that are accessible and also inaccessible by vehicles. The Plans were also updated to reflect procedural changes. Some of the procedures outlined in these SSO Response Plans include assessment/investigation of the SSO, notification of the emergency response team, procedures to stop and/or contain the overflow, cleanup and mitigation, sample collection, notification, and SSO reporting and documentation.

**Grade:** A

**Recommendation:** No action needed.

### **2. Review all SSO's within CIWQS for accuracy.**

**Discussion:** Overall, the City does a good job of inputting and performing QA/QC of SSO reports. All SSO's are input by the Wastewater Collection Lead Worker into Excel. Once the SSO Excel Form is complete, the document is reviewed by the Senior Engineer and Utilities Section Manager. Once the QA/QC process has been completed all data is transferred by the Wastewater Collection Lead Worker from Excel into the CIWQS database. Once the data has been uploaded into CIWQS it is then approved by the City's Legal Responsible Official (LRO). During the FY19-21 reporting period, there

were three discrepancies between the City’s SSO reports and CIWQS. Better QA/QC needs to be performed when entering data for spill locations in the CIWQS database.

**2019-2021 Audit Period**

<b>CIWQS vs. City of Folsom SSO Reporting QA/QC Discrepancies</b>						
<b>No.</b>	<b>SSO ID</b>	<b>Address</b>	<b>Date</b>	<b>Volume</b>	<b>Private/ Public</b>	<b>Discrepancy</b>
1	861695 and 861834	144 Canyon Rim Drive	9/16/2019	10	Public	This is a duplicate SSO report in CIWQS. The duplicate (SSO ID: 861695) needs to be deleted from the CIWQS database. The City of Folsom contacted the State Water Resources Control Board about this discrepancy on 4/15/2021, 5/18/2021, and 6/29/2021.
2	873709	123 Mesquite Court	3/17/2020	2	Public	This spill was not originally reported in CIWQS. This SSO was reported to CIWQS on 5/19/2021.
3	871384	255 Silberhorn Drive	12/15/2020	40	Public	The SSO report in CIWQS had the wrong address as 225 Silberhorn Drive. The correct address (255 Silberhorn Dr.) needs to be updated in CIWQS database. The City of Folsom contacted the State Water Resources Control Board about this discrepancy on 5/19/2021 and 6/29/2021.

**Grade:** B+

**Recommendation:** Continue to accurately enter SSO information into the Excel Form and CIWQS database.

**3. SSO History (Category 1, 2 and 3 SSO’s)**

Per the State Water Resources Control Board Order No. WQ2013-0058-EXEC, new spill categories, definitions and CIWQS reporting requirements took effect on September 9, 2013. The most significant change in the order reclassified SSO spill categories to include a Category 3 spill. Each of the spill Categories are defined below:

Category 1:

Discharges of untreated or partially treated wastewater of **any volume** resulting from an enrollee’s sanitary sewer system failure or flow condition that:

- Reach surface water and/or reach a drainage channel tributary to a surface water; or
- Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly.

Category 2:

Discharges of untreated or partially treated wastewater of **1,000 gallons or greater** resulting from an enrollee’s sanitary sewer system failure or flow condition that **do not** reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.

Category 3:

All other discharges of untreated or partially treated wastewater resulting from an enrollee’s sanitary sewer system failure or flow condition.

**3A. Number of Category 3 SSOs.**

**Discussion:** Of the 44 public spills occurring from 07/01/2019 – 06/30/2021, 40 were Category 3 SSO’s. As shown in the table below, the City is below the Regional and State averages for SSO’s occurring on Mainlines, Laterals, and Not Specified.

**2019-2021 Audit Period**

<b>Category 3 Spill Rate Indices (#spills/100mi/year)</b>			
<b>Agency</b>	<b>Mainlines</b>	<b>Laterals</b>	<b>Not Specified</b>
City of Folsom	3.46	10.29	0.13
Region - Municipal - Average	4.71	26.26	0.82
State – Municipal (Public) - Average	3.51	15.62	1.21

**Grade:** B

**Recommendation:** The City of Folsom is below the regional and statewide average of Category 3 SSO spills. However, the number of Category 3 spills increased from 26 public SSO’s during FY 17-19 to 40 public SSO’s during FY 19-21. The majority of the SSO’s were on the public side of the service lateral sewer lines. The primary cause of the SSO’s were roots. Continue to work to minimize the number of Category 3 spills through flushing, CCTV inspection, root control programs, or other methods as needed.

**3B. Number of Category 2 SSOs.**

**Discussion:** Utilizing the data from the CIWQS website, of the 44 public spills that occurred from 07/01/2019 through 06/30/2021, 1 spill was classified as Category 2 SSOs. The number of spills per 100 miles per year within the City was compared against the State and Regional average. As shown in the table below, the City is well below the Regional and State average.



**2019-2021 Audit Period**

<b>Category 2 Spill Rate Indices (#spills/100mi/year)</b>			
Agency	Mainlines	Laterals	Not Specified
City of Folsom	0.18	0.0	0.0
Region - Municipal - Average	2.49	0.13	3.97
State - Municipal (Public) - Average	1.59	0.88	2.25

**Grade:** A

**Recommendation:** The City of Folsom is well below the regional and statewide average of Category 2 SSO spills. The City had 1 Category 2 SSO's during FY 19-21.

**3C. Number of Category 1 SSOs.**

**Discussion:** Utilizing the sewer asset database and the CIWQS website, there were 3 Category 1 SSO's occurring from 07/01/2019 to 06/30/2021. The City continues to be well below the Regional and State average, however, the City needs to continue to work on reducing the number of Category 1 SSO's.

**2019-2021 Audit Period**

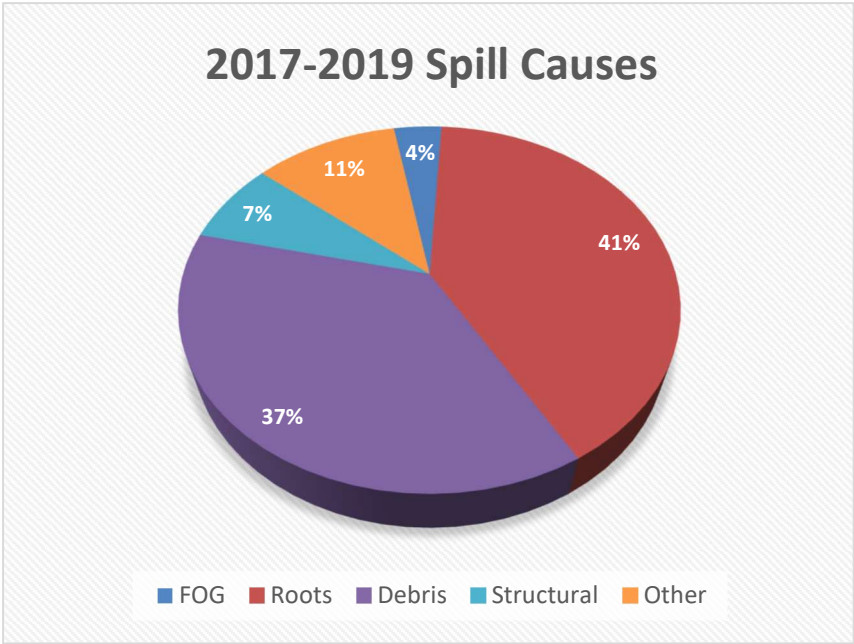
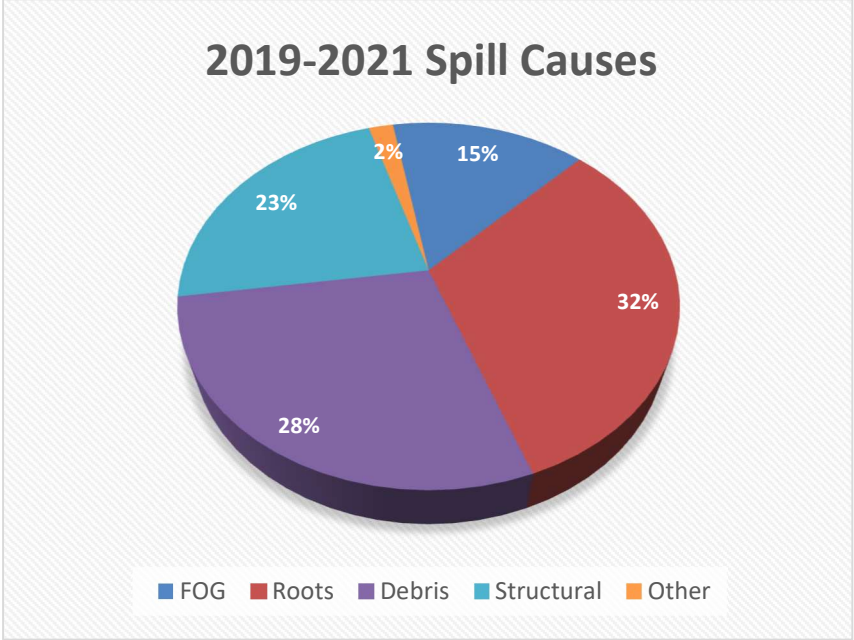
<b>Category 1 Spill Rate Indices (#spills/100mi/year)</b>			
Agency	Mainlines	Laterals	Not Specified
City of Folsom	0.36	0.49	0.0
Region - Municipal - Average	3.49	1.0	2.99
State - Municipal (Public) - Average	2.77	0.93	1.33

**Grade:** A

**Recommendation:** The City of Folsom is well below the regional and statewide average of Category 1 SSO spills and should continue to work to prevent Category 1 SSO's.

**4. Category 1, 2 and 3 Spill Causes**

**Discussion:** The chart below evaluates the cause of the 44 public spills that occurred from 07/01/2019 through 06/30/2021 and compares the spill cause to those from the 2017-2019 SSMP self-audit.



The top 3 spill causes over the past two years were roots, debris, and structural (such as pipe failure). In FY 17-19, there were a total of 27 public SSO's with a volume of 859 gallons. In FY 19-21, there were a total of 44 public SSO's with a volume of 145,637 gallons. The significant increase in SSO volume during the FY 19-21 audit period was the result of a sewer force main break along East

Bidwell Street. The force main broke on August 27, 2020 and resulted in the spilling of approximately 144,000 gallons.

**Grade:** A

**Recommendation:** Since most of the City's spills occur within the sewer lateral, the City began a proactive and progressive lateral inspection program to inspect approximately 23,652 sewer laterals over a 10-year period in order to identify sewer lateral deficiencies with the goal of reducing spills and other potential overflow related spills such as roots, grease, and structural defects.

#### **5. Average response time during normal business hours.**

**Discussion:** The City had 27 public spills during normal business hours between July 1, 2019 and June 30, 2021. The average response time of those 27 public spills was 15 minutes, which is a two minute improvement from the previous audit period.

**Grade:** A

**Recommendation:** Ensure staff members are thoroughly aware of spill response procedures in the event of future SSOs, per the requirement of the SSMP Section VI – Overflow Emergency Response Plan.

#### **6. Average response time after normal business hours.**

**Discussion:** The City had 17 public spills after hours between July 1, 2019 and June 30, 2021. The average response time of those 17 public spills was 33 minutes, which is a 6 minute improvement from the previous audit period.

**Grade:** A

**Recommendation:** Ensure staff members are thoroughly aware of spill response procedures in the event of future SSOs, per the requirement of the SSMP Section VI – Overflow Emergency Response Plan.

## SSMP Section 7 - FOG Control Program

Responsible Person (RP):

Environmental & Water Resources Director

Summary:

The purpose of the FOG Control Program is to control the discharge of Fats, Oils, and Grease (FOG) from City of Folsom facilities, such as Food Services Establishments (FSE), apartments, single family homes, etc., in order to reduce the potential for FOG accumulation in the sanitary sewer collection system.

**1. Necessary Legal Authority to prohibit discharges of FOG into the City's sanitary sewer system.**

**Discussion:** On March 13, 2007, the City Council adopted Ordinance No. 1071 which addresses the prohibition and control of discharging fats, oils, and grease into the City's Sanitary Sewer System. The ordinance can be found in Title 13, Section 13.03 of the City's Folsom Municipal Code. On August 25, 2015 through Ordinance No. 1233, City Council approved revisions to Section 13.03 of the Folsom Municipal Code to improve upon the regulations of fats, oils, and grease.

**Grade:** A

**Recommendation:** Continue to review the ordinance periodically to ensure the ordinance is still relevant and up to date.

**2. Commercial FOG Requirements for the installation of grease removal devices such as traps or interceptors.**

**Discussion:** Currently, the Building Department and Community Development Department in conjunction with the Environmental & Water Resources (EWR) Department work together during the plan review process to ensure all food service establishments are installing the proper grease control device. Prior to 2012, most decisions were made through verbal discussions. However to help streamline the process, the EWR Department created a set of "Grease Control Device Guidelines" for the Building Department to refer to when reviewing plans. FSE's lacking Grease Control devices are noted in the City's Community Development Database. If an FSE without a Grease Control device submits an application to the Building Department for a permit from the City, their account is flagged. In order for them to obtain a permit for their project, a Grease Control device will need to be installed. On August 25, 2015 through Ordinance No. 1233, City Council approved revisions to Section 13.03 of the Folsom Municipal Code to improve upon the regulations of fats, oils, and grease.

**Grade:** A

**Recommendation:** Continue the plan review process as described above. Continue to review the ordinance periodically to ensure the ordinance is still relevant and up to date.

### 3. Maintain a Public Outreach Program

**Discussion:** The City developed numerous articles to help provide residents and business owners within the City of Folsom with the proper tools and knowledge to prevent sanitary sewer pipe blockages that cause backups and sanitary sewer overflows. The articles are posted on the City's website ([www.folsom.ca.us](http://www.folsom.ca.us)) and include material such as:

#### Commercial FOG

- Why a FOG Program
- Proper Disposal of FOG BMP's
- Grease Removal Devices
- Grease Interceptor Maintenance
- Grease Trap Maintenance
- How To Recycle Kitchen Grease
- Selecting a Grease Hauler
- Requirements for New & Remodeled FSE's
- Dumpster & Recycling Containers
- Equipment Cleaning
- Grease Interceptor Cleaning Record Form
- Employee FOG Training Log

#### Residential FOG

- Why a FOG Program
- The Do's and Don'ts of FOG

In addition, there is additional FOG outreach and educational materials listed on the website for residents and business owners to view.

**Grade:** A

**Recommendation:** Update the FOG material as necessary.

#### 4. FOG Inspection of FSE's

**Discussion:** In April of 2013, the City began a more robust FOG inspection program to inspect all Food Service Establishments (FSEs). The inspection program collects data specific to each FSE, educates the FSE of FOG Best Management Practices (BMP's) and notes when an FSE has violated any part of the City's FOG Ordinance.

The City's goal is to inspect all FSE's within the City of Folsom on a 2-year cycle. The latest FSE inspections were due to start in April 2020. However, due to the COVID-19 pandemic and the impact to the restaurant industry, the City had to temporarily suspend FSE inspections. Therefore, 0 FSE's were inspected from July 1, 2019 – June 30, 2021. The 2-year cycle of FSE inspections will resume in FY 21-22.

**Grade:** A

**Recommendation:** Resume 2-year cycle of inspections in FY 21-22. Then continue FSE inspections as scheduled, identify any FSE's in violation, and ensure FSE's are brought into compliance. Continue to remove FSE's from the inspection list that do not require a grease control device.

#### 5. FOG outreach

**Discussion:** In April of 2013, the City began a FOG outreach program. The program consists of FOG inspection SOP, checklists, ordinance, and outreach material. In addition to the FOG outreach for FSE's, the City also has hangers for when a FOG related SSO occurs in residential neighborhoods to educate the public how to prevent a potential blockage.

**Grade:** A

**Recommendation:** Continue to educate the FSE's and public on how to prevent FOG related buildup in the sewer system.

#### 6. Lateral Inspections

**Discussion:** The City began a proactive sewer lateral inspection program in July 2019. This program consists of closed-circuit television (CCTV) inspection of all the City owned laterals (approximately 23,652) over a 10-year period to proactively identify and repair lateral issues. The City is currently behind schedule on the 10-year cycle for lateral inspections. The 2<sup>nd</sup> year of the 10-year cycle ended on June 30, 2021. The goal for the end of the 2<sup>nd</sup> year was to have approximately 4,819 laterals

inspected. As of June 30, 2021, the City completed about 1,789 lateral inspections. The City needs to increase the amount of lateral inspections performed each week in order to meet the goals for the 10-year schedule.

**Grade: C**

**Recommendation:**

In order to minimize FOG build up found in laterals, the City needs to increase the amount of sewer lateral inspections performed each week. The results of the inspections will help identify customers that have FOG related build up in their sewer system. The City will educate the customer about Best Management Practices to help the customer prevent FOG build up within the sewer system.

## SSMP Section 8 - Sewer Evaluation and Capacity Assurance Plan

### Responsible Person (RP):

Environmental & Water Resources Director

### Summary:

The Environmental & Water Resources Department (EWR) uses Sewer InfoWorks to evaluate the hydraulic capacity of key portions of the City's sanitary sewer collection system which is broken up into 18 basins. The hydraulic capacity of these key portions of the system are compared to existing flow monitoring data to determine the potential for SSOs due to the capacity being exceeded during peak wet weather sewer flows. Additionally, the City analyzes flow monitoring data to quantify actual I & I rates experienced by the sanitary sewer collection system.

The City recently completed an update in October 2017 to the City's Sewer Evaluation and Capacity Assurance Plan (SECAP).

### **1. Determination of maximum hydraulic capacity in key sewer main lines.**

**Discussion:** In October 2017, the City's SECAP Report identified areas of concern via the 10-yr/6-hour wet weather storm event which is defined as:

1. Any location where surcharging is occurring to within less than 5 feet from the surface of the upstream manhole (5-ft freeboard due to a downstream restriction in flow. Note that some smaller diameter pipes and associated manholes are installed less than 5 feet deep, and in those cases, these are not considered capacity deficiencies.
2. Any location where surcharging above the crown of the pipe exceeds 2'-0" due to a downstream restriction in flow.

Areas of Concern are identified below:

1. 27-Inch Trunk Folsom Blvd
  - a. The Folsom Blvd 27" trunk has some locations where pipe slope is minimal, and the line is slightly under capacity at existing conditions resulting in minor surcharging. For the General Plan (GP) and Ultimate Build Out (UBO) scenarios, however, surcharging increases and is almost entirely driven by assumed growth in Folsom State Prison flows. Current Prison flows are only 70% of permitted Average Dry Weather Flow (ADWF) and 50% of permitted max Peak Dry Weather Flow (PDWF).
2. 12" Main Blue Ravine & East Bidwell (and upstream of Flower Drive Basin 6C)
  - a. The 12" main on Blue Ravine (built in 2010 under the Basin 6 Flow Diversion Project) is under capacity. Modeled Peak Wet Weather Flows (PWWF) are approximately 2.1 MG, but the pipe as designed has a capacity of 1.5 mgd at d/D = 1. This is causing



surcharging in the branching manhole B12-2161 next to the Blue Ravine/East Bidwell pedestrian bridge crossing. The upstream portions of Flower Drive are modeled as slightly surcharged but have greater than 5 feet of freeboard.

3. 6" Main Montrose Drive (Basin 6B)
  - a. Several 6" lines along Montrose Drive are under capacity due to flatter than recommended slopes. No action is recommended, however, as a 6" overflow weir exists at the Montrose and School intersection (directs flow to Basin 6A). This weir controls excess surcharging and subsequent downstream flow levels by diverting most of the surcharged flow.
4. Oak Ave Pump Station
  - a. Modeled PWWF influent at the Oak Ave PS has max values of 6.2 mgd (existing), 6.4 mgd (General Plan), and 6.7 mgd (Ultimate Build-Out). These numbers closely match the January 2017 flow meter results of 6.3 mgd. Existing max pumping capacity with two pumps is 7.0 mgd, with the third pump serving as a backup in the event that one of the other two pumps fails. Because the Ultimate Build-Out flow (6.7 mgd) is close to the max capacity of two pumps (7.0 mgd), the City designed and is currently in construction on the Oak Avenue Pump Station Peak Wet Weather Flow Relief Project. This project will provide system redundancy, enhance the performance of the City sewer force main, and provide the City with operational flexibility during emergency and peak wet weather flow conditions.

**Grade: A**

**Recommendation:**

- (1) The City has recently completed the pre-design phase and selected an alternative to address the first area of concern, the Folsom Blvd 27" trunk sewer. The City is currently in the design phase as of FY 21-22 and anticipates that construction will begin in FY 22-23.
- (2) The first step to address the second area of concern regarding the 12" Main at Blue Ravine & East Bidwell Street is to install a Mission Manhole covers at nearby manholes to confirm that the SSMH is surcharging during a storm event as the model indicates. If there is significant surcharging near this location of concern, one possible solution could be to install a diversion weir structure within the sanitary sewer manhole of concern. This would effectively restore small, controlled overflows into the older line, and redirect flow to Bidwell and then Orchard Drive, which has sufficient capacity.
- (3) The third area of concern, the 6" Main on and around Montrose Drive being under capacity will continue to be monitored. As stated above, there is an existing weir at the Montrose and School intersection that controls excess surcharging and subsequent downstream flow levels by diverting most of the surcharged flow into Basin 6A.

(4) In order to address Peak Wet Weather Flows (PWWF) at the Oak Avenue Pump Station, the City is currently in the construction phase of the Oak Avenue Pump Station Peak Wet Weather Flow Relief Project. Construction activity includes the installation of approximately 1,500 lineal feet of 12" sewer force main parallel to the existing force main. The project also includes the installation of plug valves, potholing to verify high points along the City's existing force main, replacing/relocating air-release valves along the City's existing force main, and the installation of various sewer appurtenances.

The City has also implemented the additional items below as recommended by the SECAP:

- Pump Station No. 3 Flow Meter Installation
  - As part of the Pump Station No. 3 Rehabilitation Project, it was determined to have all flow redirected to Pump Station No. 2. This results in Pump Station No. 3 only being used as an emergency back-up pump station and therefore a new flow meter at Pump Station No. 3 is not necessary.
- City WTP or Oak Ave PS Rain Gauge Installation
  - Rain gauges have been installed at both the WTP and the Oak Ave PS

## **2. Determination of existing groundwater infiltration and rain dependent infiltration levels in the system.**

### **Discussion:**

Determining the relative magnitude of observed Rain Derived Inflow and Infiltration (RDII) and Groundwater Infiltration (GWI) per In-Dia.-Mi of sewer system per Basin is a useful method of ranking actual basin performance. The Basins are ranked relative to each other based on different categories. A higher ranking (closer to zero) indicates a larger response to storm events, (i.e. "Leakier basin"). It is recommended that an overall I & I reduction program strategy focus on targeting high-ranked basins to solve specific capacity issues, particularly aiming and reducing I & I within Basins 4, 6A, 6C and 14.

A targeted basin I & I reduction program is anticipated to last several years, with Phase 1 being an investigation period to identify specific system rehabilitation CIPs, and Phase 2 being the construction of these projects and confirmation of the rehab CIP effectiveness in reducing I & I.

**Grade:** A

### **Recommendation:**

The City sub-metered and smoke tested Basin 6A to help identify and reduce I & I. The City is currently sub-metering Basin 6C to determine specific locations of I & I. Once I & I has been

determined, smoke testing and/or CCTV will occur to reduce I & I. Once work in Basin 6C is complete, the City will continue to work to reduce I & I efforts by sub-metering Basins 4 and 14.

## SSMP Section 9 - Monitoring, Measurement, and Program Modifications

### Responsible Person (RP):

Environmental & Water Resources Director

### Summary:

The WDR/SSMP Monitoring, Measurement, and Program Modification requirement specifies that each enrollee shall establish and prioritize appropriate SSMP activities.

### **1. Establish and prioritize appropriate SSMP activities.**

**Discussion:** The following audit elements are used to help establish and prioritize appropriate SSMP activities:

- *Preventive, Corrective, and Emergency Work Order History* – These items are tracked, updated and input through the City’s CMMS program (Lucity).
- *Preventative Maintenance (PM) Schedules* – All PM are tracked through Lucity. A work order is generated for each item on the PM schedule. This includes routine flushing of trouble lines, pump station inspections, etc. All PM’s over the past two years have been met.
- *SSO History* – All SSO’s are reported through the California Integrated Water Quality System (CIWQS). Furthermore, the City keeps a copy of all SSO’s categorized by year and address on the local City server. All spills through 6/30/2021 have been input into CIWQS and saved to the City’s local server.
- *Performance Measures* – Performance Measures such as FSE inspections, flushing, manhole inspections, CCTV, lateral inspections, etc. are updated quarterly. All performance measures information is up to date as of 07/01/2021.
- *Staff Training Records* – All training records are schedule and logged on the City’s local server. All scheduled training as of 07/01/2021 has been met.
- *Condition Assessment Data* – The condition of all assets such as manholes, pipes, etc. are logged within the City’s CMMS (Lucity). Any asset with a priority rating of 3 or higher is scheduled for replacement within 6 months or sooner. All scheduled repairs are logged and kept track of via an Excel spreadsheet. As of 07/01/2021, all scheduled maintenance has been met.
- *Program Improvements* – Program Improvements are assessed and implemented throughout each Calendar Year. The two most recent programs implemented to improve the effectiveness of the City’s SSMP include the lateral inspection program and the FOG inspection program. In addition, the City has worked diligently over the past few years to address odor and grease issues throughout the City’s sewer system (Oak Avenue Pump Station, Rowberry-Walden Odor Control Facility and Pump Station No. 2).

**Grade: A**

**Recommendation:** No Action needed. Continue to monitor, measure, and modify programs within the SSMP to improve the effectiveness of the SSMP.

## SSMP Section 11 - Communications Program

Responsible Person (RP):

Environmental & Water Resources Director

Summary:

The City shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP.

### 1. Communication with satellite agencies

**Discussion:** The City's only satellite agency is the Folsom State Prison (FSP). The City began more frequent ongoing communication with FSP starting in 2012. Meeting agendas between the City and FSP typically include:

- The City of Folsom and FSP Sewer Line Agreement
- Annual Operations and Maintenance of joint facilities
- Upcoming CIP projects that affect the joint facilities
- Sewer System Management Plan
- Meter Accuracy/Calibration
- Site Improvements

The City holds annual meetings to continue ongoing communication with its satellite agency. Special meetings to address items such as updates to the Waste Discharge Requirements (WDR's) may occur more frequently.

The City also meets annually with the Sacramento Regional County Sanitation District (Regional San), which receives all of the wastewater flows from the City of Folsom. The City and Regional San discuss:

- Wastewater Discharge Requirements
- Sanitary Sewer Management Plan
- FOG control efforts
- Legislative and Regulatory Affairs update
- Inflow and Infiltration

**Grade:** B

**Recommendation:** Continue meeting with the Folsom State Prison and Regional San on an annual basis to maintain communication compliance as outlined within the SSMP. The City has continued to meet with Regional San on a yearly basis. However, the last meeting between the City and the

Folsom State Prison was in 2018. The City needs to meet with the Folsom State Prison on an annual basis. The City should schedule additional meetings as necessary to address updates to the WDR.

## **2. Communication of the SSMP with the public.**

**Discussion:** Communication with the public about the City's SSMP is accomplished through two avenues. First, communication is achieved through City Council meetings where the public has the opportunity to comment on any element of the City's SSMP at any of the scheduled City Council Meetings throughout the year. Second, the City developed a link on the City of Folsom website ([www.folsom.ca.us](http://www.folsom.ca.us)) where the public can view and provide input on the City's SSMP. Comments are addressed and corrected accordingly. All applicable comments are taken into consideration during the annual audit and review process. Currently, the City of Folsom's website provides the following list of documents for public review:

- State Water Resources Control Board Order No. 2006-003-EXEC
- State Water Resources Control Board Order No. 2008-002-EXEC
- State Water Resources Control Board Order No. WQ 2013-0058-EXEC
- SSO On-Line Database (CIWQS)
- 2009 SSMP
- Resolution No. 8526 (2009 SSMP Certification)
- 2011 SSMP Self-Audit
- 2013 SSMP Self-Audit
- 2014 SSMP
- Resolution No. 9419 (2014 SSMP Re-Certification)
- 2015 SSMP Self-Audit
- 2017 SSMP Self-Audit
- 2019 SSMP Self-Audit
- 2019 SSMP
- Resolution No. 10312 (2019 SSMP Re-Certification)
- 2021 SSMP Self-Audit

**Grade:** A

**Recommendation:** Continue to update the City's website as necessary.