

**REPORT TO MAYOR AND COUNCIL**

TO THE HONORABLE MAYOR AND COUNCIL:

DATE: September 9, 2014

SUBJECT: APPROVAL OF THE SEWER SYSTEM MANAGEMENT PLAN

Report in Brief

The State Water Resources Control Board (SWRCB) issued an Order for statewide General Waste Discharge Requirements (GWDRs) for sanitary sewer systems to ensure consistent and comprehensive regulation of publicly-owned sanitary sewer systems throughout the State, as well as to quantify and reduce sanitary sewer overflows (SSOs). The GWDRs require all wastewater collection agencies with sanitary sewer systems more than one mile in length to electronically report SSOs to the SWRCB and to develop and implement a Sewer System Management Plan (SSMP).

The SSMP (Attachment 1) is a document that details how the collection system agency's sanitary sewer system is operated, maintained, evaluated, and funded. Agencies are required to update their SSMP to reflect changes to the organization or at a minimum of every five years. The City Council adopted Concord's current SSMP in March 2012. The SWRCB recently modified the categories of SSOs, notification and recordkeeping requirements and instituted new requirements for a Technical Report and Water Quality Monitoring Plan for any SSO greater than 50,000 gallons reaching waters of the State. The SWRCB modifications prompted staff to update the City's SSMP. Additionally, the City's SSMP has been updated to reflect current staffing levels and resource availability.

Staff recommends that the City Council approve the Sewer System Management Plan to comply with the State's Order No. 2006-0003 and Executive Order WQ-2013-0058.EXE, which calls for statewide General Waste Discharge Requirements for sanitary sewer systems.

Background

The SWRCB implemented a program which requires the electronic reporting of SSOs and the development of updated SSMPs at least every 5 years. Concord completed the last SSMP update in 2012. The mandated SSMP includes eleven different elements representative of a properly managed collection system:

- **Goals:** This element of the SSMP identifies goals for the management, operation and maintenance of the sewer system that comply with both the Regional Water Quality Control Board and the State Water Board.
- **Organization:** This element identifies the City staff members responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements.

APPROVAL OF THE SEWER SYSTEM MANAGEMENT PLAN

September 9, 2014

Page 2

- **Overflow Emergency Response Plan:** This element identifies an overview and summary of the City's emergency response procedures for sewer overflows.
- **Fats, Oils, and Grease Control Program (FOG):** The FOG Control Program includes cleaning, inspection, enforcement, and education. The City of Concord contracts with Central Contra Costa Sanitary District (CCCSD) for portions of the inspection, enforcement, and education elements of this program.
- **Legal Authority:** This element of the SSMP discusses the City's legal authority with respect to its wastewater collection system, including related City Ordinances and agreements with other agencies.
- **Measures and Activities:** These standard operating procedures are the largest section of the SSMP and include discussions on budget, staffing, inspection, hydrocleaning, rehabilitation and preventative maintenance. Adherence to these measures and activities result in fewer and smaller SSOs.
- **Design and Construction Standards:** Concord has adopted CCCSD's Standard Specifications for the design and construction of sanitary sewer systems, with a few exceptions regarding design flow criteria and certain manhole details. These standards apply to both new installations and the rehabilitation or repair of existing components of the collection system.
- **Capacity Management:** This element of the SSMP describes the process established at the City of Concord to assess the current and future capacity requirements of its collection system. There are three permanently installed flow meters that, when combined, account for the total wastewater flow from Concord and Clayton to CCCSD. By monitoring the flows through these meters, the City can continue analyzing trends indicating infiltration and inflow (I/I), as well as showing the true impact of development in the catchment areas served by each of the three meters. Additionally, in 2011, Council approved Project No. 2208 (Citywide Sewer Condition Assessment Study) which set aside \$200,000 annually for a five year period to the Capital Improvement Budget so that a comprehensive study could be conducted in areas that demand greater maintenance calls. These condition studies review both structural defects and capacity of the infrastructure.
- **Monitoring, Measurement and Program Modifications:** This element evaluates the effectiveness of the SSMP to keep it up-to-date and identify necessary changes. The proposed SSMP update which is before Council for approval is a result of this section of the SSMP.
- **SSMP Audits:** The City conducts a comprehensive audit of the SSMP each year, which includes the submittal of an annual SSO report to the Regional Water Board submitted by March 15th.
- **Communication Program:** This element of the SSMP describes the process established by the City of Concord to communicate with the public on the development, implementation, and performance of the SSMP. The City of Concord utilizes the website (<http://www.cityofconcord.org>) to inform the public about City activities related to sewer operations and to provide alerts and news to the public.

Discussion

Each element of SSMP must be updated to reflect current information and statistics with every 5 year submittal. This includes all financial data, annual audits, emergency plans, etc. making the SSMP a "living document" which will be updated over time as the regulations change or as new information becomes applicable to any of the elements in the SSMP. In addition to the annual audit and update requirement, the

SSMP must be brought back to the agency's governing board for approval every five years, as well as if any significant updates to the organization or SSMP have been made. Staff will continue to comply with these requirements.

Fiscal Impact

The Standard Operating Procedures outlined in the SSMP have been in place since 2008 and are included in Sewer Enterprise's fully-funded 20-Year Plan. The State estimates that the average annual cost of complying with their GWDRs are approximately \$72 per residential connection. Currently, the City of Concord collects \$402 per residential connection for performing collection system inspections, maintenance, rehabilitation and development of collection system master plans and capacity studies.

Public Contact

The City Council agenda was posted.

Recommendations for Action

Staff recommends that the City Council approve the Sewer System Management Plan to comply with the State's Order No. 2006-0003 and Executive Order WQ-2013-0058.EXE, which calls for statewide General Waste Discharge Requirements for sanitary sewer systems.

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City of Concord

Sewer System Management Plan

June 2014

CIWQS WDID: 2SSO10109

City Council Original Adoption July 14, 2008

City Council 2nd Adoption March 6, 2012

City Council 3rd Adoption: September 9, 2014



TABLE OF CONTENTS

- Introduction.....1**
- System Overview4**
- Element 1: Goals9**
- Element 2: Organization10**
 - 2.1. City of Concord Authorized Representatives and Lines of Authority..... 10
 - 2.2. Chain of Communications for Reporting SSOs 13
- Element 3: Legal Authority14**
- Element 4: Operations and Maintenance Program18**
 - 4.1. Collection System Maps 19
 - 4.2. Resources and Staffing.....19
 - 4.3. Preventive Maintenance Program.....20
 - 4.3.1. Preventive Maintenance21
 - 4.3.2. Pipeline Inspection and Condition Assessment22
 - 4.3.3. Construction Program24
 - 4.3.4. Utility Identification and Marking24
 - 4.3.5. Fats, Oils and Grease Cleaning Program25
 - 4.3.6. Work Order Management System25
 - 4.4. Training26
 - 4.4.1. City Sewer Section Personnel26
 - 4.4.2. Outreach to Plumbers and Contractors27
 - 4.5. Contingency Equipment and Critical Replacement Inventories27
- Element 5: Design and Performance Provisions30**
 - 5.1. City Design and Construction Standards30
- Element 6: Overflow Emergency Response Plan31**
 - 6.1. Purpose.....31
 - 6.2. Policy31
 - 6.3. Definitions As Used In This OERP32
 - 6.4. State Regulatory Requirements, Overflow Emergency Response Plan.....34
 - 6.5. Goals34
 - 6.6. SSO Detection and Notification34
 - 6.6.1. Public Observation.....34
 - 6.7. City Staff Observations37
 - 6.8. Contractor Observation37
 - 6.9. SSO Response Procedures37
 - 6.9.1. Sewer Overflow/Backup Response Summary37
 - 6.9.2. First Responder Priorities.....39
 - 6.9.3. Safety39
 - 6.9.4. Initial Response39
 - 6.9.5. Initiate Spill Containment Measures.....40

| | |
|--|-----------|
| 6.9.6. Restore Flow | 40 |
| 6.9.7. Equipment | 40 |
| 6.10. Recovery and Cleanup | 41 |
| 6.10.1. Estimate the Volume of Spilled Sewage | 41 |
| 6.10.1. Recovery of Spilled Sewage..... | 41 |
| 6.10.2. Clean-up and Disinfection..... | 41 |
| 6.10.3. Public Notification | 42 |
| 6.11. Water Quality | 43 |
| 6.11.1. Water Quality Sampling and Testing..... | 43 |
| 6.11.2. Water Quality Monitoring Plan | 43 |
| 6.11.3. SSO Technical Report..... | 43 |
| 6.12 Sewer Backup Into/Onto Private Property Claims Handling Policy | 44 |
| 6.13 Notification, Reporting, Monitoring and Recordkeeping Requirements..... | 45 |
| 6.13.1. Complaint Records..... | 46 |
| 6.14 Post SSO Event Debriefing..... | 47 |
| 6.15 Failure Analysis Investigation..... | 47 |
| 6.16 SSO Response Training | 48 |
| 6.16.1. Initial and Annual Refresher Training | 48 |
| 6.16.2. SSO Response Drills | 49 |
| 6.16.3. SSO Training Record Keeping | 50 |
| 6.16.4. Contractors Working On City Sewer Facilities | 50 |
| Element 7: Fats, Oils, and Grease Control Program | 51 |
| 7.1. Public Education and Outreach: | 52 |
| 7.1.1. FOG Disposal: | 52 |
| 7.2. Inspection, Source Control, and Enforcement:..... | 52 |
| 7.3. Design Standards and GRD Installment Requirements: | 53 |
| 7.3.1. FOG System Maintenance: | 54 |
| 7.3.2. Additional Source Control Measures:..... | 55 |
| Element 8: System Evaluation and Capacity Assurance Plan..... | 56 |
| 8.1. Evaluation of Historical System Capacity Efforts:..... | 56 |
| 8.2. Design Criteria..... | 58 |
| 8.3. Capacity Enhancement Efforts: | 58 |
| 8.4. Capital Improvement Program Schedule | 59 |
| Element 9: Monitoring, Measurement And Program Modifications | 61 |
| 9.1. Maintenance of Relevant Information on SSMP Activities | 61 |
| 9.2. Measurement of SSMP Effectiveness and Plan Modifications: | 63 |
| 9.3. SSO Trends and Historical Results..... | 64 |
| Element 10: Program Audits | 66 |
| Element 11: Communications Program | 75 |

TABLE OF TABLES

| | |
|---|----|
| Table 1. Service Area Infrastructure Estimates | 4 |
| Table 2. Inventory of Sewer Lines by Size | 5 |
| Table 3. Inventory Sewer Lines by Material Type | 6 |
| Table 4. Inventory of Sewer Lines by Pipe Age | 6 |
| Table 5. List of City Staff Responsible for SSMP Elements..... | 13 |
| Table 6. Legal Authority Checklist..... | 16 |
| Table 7. Problem Main Cleaning Schedule | 21 |
| Table 8. Evaluation of Results of Cleaning Operations | 22 |
| Table 9. Summary of Historical CCTV Results, Total System..... | 23 |
| Table 10. Regulator Required Notifications | 45 |
| Table 11. Capital Improvement Program Funding and Schedule | 60 |
| Table 12. SSMP Monitoring Performance Indicators, by SSMP Element | 62 |
| Table 13. Historical SSO Results Mains and Laterals Combined | 65 |
| Table 14. History of the Spill Volumes and Volumes Recovered..... | 65 |
| Table 15. Historical FOG Program Results Concord and Clayton Combined | 65 |

TABLE OF FIGURES

| | |
|---|----|
| Figure 1. City of Concord Sanitary Sewer System Service Area and Geographic Features | 8 |
| Figure 2. City of Concord Organization Chart | 12 |
| Figure 3. Sewer Section Organization Chart | 20 |
| Figure 4. CCTV Results and Future CCTV Frequencies | 24 |
| Figure 5. Overview of Receiving a Sewage Overflow or Backup Report Procedure..... | 36 |
| Figure 6. Overview of SSO/Backup Response | 38 |
| Figure 7. Map of FOG Problem Mains | 54 |

APPENDICES

- Appendix A. Log of SSMP Changes
- Appendix B. Annual Sewer System Reports
- Appendix C. Sewer System Management Plan Adoption Documents
- Appendix 4-A. Standard Measures of Observed Results for Collection System Cleaning
- Appendix10-1. Annual SSMP Audit Form

List of Abbreviations and Acronyms

| | |
|-------|--|
| ADWF | Average Dry Weather Flow |
| AWWF | Average Wet Weather Flow |
| BACWA | Bay Area Clean Water Agencies |
| BMP | Best Management Practices |
| CCCSD | Central Contra Costa Sanitary District |
| CIP | Capital Improvement Program |
| CMC | Concord Municipal Code |
| CWA | Clean Water Act |
| CWEA | California Water Environment Association |
| CIWQS | California Integrated Water Quality System |
| DS | Data Submitter for CIWQS System |
| DWQ | State Water Resources Control Board, Division of Water Quality |
| FOG | Fats, Oils, and Grease |
| FY | Fiscal Year |
| GIS | Geographic Information System |
| GPM | Gallons per Minute |
| GPS | Gallons per Second |
| GRD | Grease Removal Devices |
| GWDR | General Waste Discharge Requirements |
| HDPE | High Density Polyethylene |
| HP | Horsepower |
| JPA | Joint Powers Agreement |
| LRO | Legally Responsible Office for CIWQS System reporting |
| MGD | Million Gallons Per Day |
| MRP | Monitoring and Reporting Program |
| NOI | Notice of Intent |
| NOV | Notice of Violation |
| NPDES | National Pollution Discharge and Elimination System |
| NWS | Naval Weapons Station |
| OES | Office of Emergency Services |
| OSHA | Occupational Safety Hazard Association |

| | |
|---------|--|
| PSL | Private Sewer Lateral |
| PLSD | Private Sewer Lateral Discharge |
| RWB | San Francisco Regional Water Quality Control Board |
| SSMP | Sewer System Management Plan |
| SSO | Sanitary Sewer Overflow |
| SSS WDR | See GWDR above |
| SWB | State of California Water Resources Control Board |
| USA | Underground Service Alert |
| WDID | Waste Discharge Identification Number |
| WDR | See GWDR above |
| VCP | Vitrified Clay Pipes |

Introduction

In 2004, the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) indicated its intent to implement new regulations to uniformly monitor sanitary sewer overflows (SSOs). Also envisioned was some type of collection system management plan, which all agencies would be required to develop.

The Bay Area Clean Water Agencies (BACWA), with a broad base of collection system management experience, worked collaboratively with the Regional Water Board to develop a system which would meet the needs of the regulators while retaining a commonsense approach to the practicalities of managing sewage collection systems. BACWA representatives and staff from the Regional Water Board developed an outline of the key elements of a sewer system management plan (SSMP), an electronic reporting system for SSOs, and an implementation schedule for both of those items. BACWA-sponsored training was provided for all collection system agencies in this area prior to the Regional Water Board implementing this new program beginning in January 2005.

On May 2, 2006, the State Water Resources Control Board (State Water Board) adopted new statewide SSO requirements, including a new electronic reporting system and a requirement for sanitary sewer collection system agencies to develop SSMPs. These new General Waste Discharge Requirements (GWDRs) are applicable to all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly-owned treatment facility in the State of California. The elements of the SSMP are similar to, but not the same as, the elements previously required by the Regional Water Board.

In their letter dated September 29, 2006 to all Bay Area collection system authorities the Regional Water Board provided a summary comparison between the statewide program and this region's program. This letter directed Bay Area collection agencies to electronically report their SSOs to the State Water Board, rather than to the Regional Water Board, once the statewide system was implemented, but also directed that annual reports would still be submitted to the Regional Board. They recommended that only one SSMP be developed, with the information required by both programs incorporated in it. This letter also indicated that the Regional Water Board's deadlines for completing the various elements of the SSMP, which are more stringent than the State Water Board's deadlines, must be complied with. This SSMP includes all of the information required by the State and now uses the GWDR Section D13 SSMP outline.

In early 2008, the State Water Board amended the notification and reporting requirements for any SSO that discharges to a drainage channel or surface water. SSOs of that type must be reported to the Office of Emergency Services, the Regional Water Board, and the local health department within two hours of becoming aware of the SSO, and within 24 hours the collection system agency must certify to the Regional Water Board that those two-hour notifications have taken place. As a follow-on to this State Water Board action, the Regional Water Board then implemented new procedures, including re-establishing electronic reporting to the Regional Water Board, for these type SSOs. More recently, the State Water Board has again amended their notification and reporting requirements such that the Regional Water Board is no longer one of the notification or reporting agencies. Instead, notifications are limited to the State Water Board and the local health department, with follow-up reporting required with the State Water Board.

Effective September 9, 2013, the SWRCB amended the Monitoring and Reporting Program by Executive Order WQ-2013-0058.EXE that modified the categories of SSOs, notification and recordkeeping requirements and instituted new requirements for a Technical Report and Water Quality Monitoring Plan for SSO greater than 50,000 gallons reaching waters.

Historical Regulatory Documents Associated with the GWDR.

Regional Water Board Letter of 11/15/2004
Outlining New Requirements for Reporting
Sanitary Sewer Overflows (SSOs)

Regional Water Board Letter of 07/07/2005
Outlining New Requirements for Preparing
Sewer System Management Plans (SSMPs)

State Water Board Order No. 2006-003-DWQ,
Statewide General Waste Discharge
Requirements for Sanitary Sewer Systems

Regional Water Board Letter of 09/29/2006
Discussing Impact of State Water Board
Order No. 2006-003-DWQ

State Water Board Amendment of
Monitoring and Reporting Requirements
For Order No. 2006-003-DWQ (02/20/2008)

Regional Water Board Letter of 05/01/2008
With New Reporting Requirements for SSOs
That Discharge to Drainage Channels or
Surface Waters

State Water Board Order No. 2013-0058-EXEC,
Amending Monitoring And Reporting Program For
Statewide General Waste Discharge Requirements For
Sanitary Sewer Systems effective September 9, 2013

System Overview

The City of Concord is located approximately 30 miles east of San Francisco. The City covers 30.55 square miles, and with an estimated 2012 population of 124,711 residents, it is the largest city in Contra Costa County. As of the 2010 census, the population had grown to 122,067 people. The service area as of 2010 included 45,069 households with an average of 2.68 persons per household and 11,008 businesses. In addition, the City provides collection system maintenance services to the City of Clayton's collection system lines and a few lines in the unincorporated areas of Contra Costa County that discharge to the Clayton system through an agreement between the parties dated as of December 18, 1991. Figure 1 provides a plan showing the service areas of these three areas.

The City of Concord operates and maintains a wastewater collection and conveyance system serving both Concord and Clayton ("maintenance service area"). The estimated distribution of collection system infrastructure between the two Cities is provided in **Table 1** below.

Table 1. Service Area Infrastructure Estimates

| Asset | Concord | Clayton* | Total |
|----------------------------|---------|----------|-------|
| Pipelines, estimated miles | 344 | 45 | 389 |
| Manholes, each | 7,140 | 1,000 | 8,140 |
| Pump Stations, each | 0 | 0 | 0 |
| Siphons, each | 3 | 0 | 3 |

*Figures for Clayton are estimated numbers as of June 2014.

More than eighty percent of sewage discharged in the maintenance service area previously flowed by gravity to Concord's Sewage Pump Station, which was located adjacent to Waterworld. The sewage from that station was then pumped under the Walnut Creek Flood Control Channel and under Galaxy Way to the Central Contra Costa Sanitary District (CCCSD) 78-inch diameter A-Line located on the east side of I-680. That station was decommissioned in 2009 and since that time all sewage from the service area flows by gravity to the CCCSD treatment plant from the old pump station site. Two additional gravity-feed connections to the A-Line account for the remaining wastewater flow from Concord to the CCCSD treatment plant located in Martinez, California. One of these gravity-flow connections is located just north of Marsh Drive and services the North Concord area, and the other one is located just south of Concord Avenue and services the triangular area bounded by Concord Avenue, Walnut Creek Flood Control Channel, and I-680.

In May 2006, the City of Concord entered into a Joint Powers Agreement (JPA) with CCCSD on a joint project for the design and construction of the next phase of CCCSD's A-Line Relief Interceptor and a gravity-flow connection between Concord's Sewage Pump Station and their new line. The first phase of CCCSD's A-Line Relief Interceptor was completed in 1995 and included the installation of 6400 feet of 102-inch diameter pipe from their treatment plant to Buchanan Fields Golf Course. The next phase of this project extended this line up to the intersection of Meridian Park Boulevard and Galaxy Way, completed in early 2009. At that time Concord's gravity-flow connection from the Sewage

Pump Station site to CCCSD's A-Line Relief Interceptor made it possible to take the Sewage Pump Station out of service.

Concord's wastewater collection system includes approximately 389 miles of 6-inch to 54-inch diameter collector and trunk sewer mains (a trunk main is defined as any main larger than 10-inches in diameter), approximately 119.7 miles of sewer laterals that Concord is responsible for maintaining (that portion of the lateral from the property line cleanout to the sewer main), 8,140 manholes, and more than 39,000 service connections as of June 2014. These numbers include the collection system in Clayton, where Concord owns the trunk mains and maintains the smaller Clayton owned collector lines. Approximately 50% of the collection system is comprised of 6-inch diameter pipes, and the majority of those lines are vitrified clay (VCP) with cement mortar joints. Current maintenance service area standards require all new sewer mains to be at least 8 inches in diameter. **Tables 2 to 4** provide a breakdown of the Concord piping system by size, pipe materials and by age.

Table 2. Inventory of Sewer Lines by Size

| Pipe Size | Concord | Clayton | Total | Concord | Clayton | Total |
|---------------|-------------|-------------|-------------|---------|---------|---------|
| Inches | Linear Feet | Linear Feet | Linear Feet | Percent | Percent | Percent |
| 6 | 852,897 | 74,168 | 927,065 | 46.82% | 31.62% | 45.09% |
| 8 | 448,469 | 65,101 | 513,570 | 24.62% | 27.75% | 24.98% |
| 9 | 36 | 0 | 36 | 0.00% | 0.00% | 0.00% |
| 10 | 94,157 | 1,973 | 96,130 | 5.17% | 0.84% | 4.68% |
| 12 | 58,975 | 3,306 | 62,281 | 3.24% | 1.41% | 3.03% |
| 15 | 55,351 | 4,092 | 59,443 | 3.04% | 1.74% | 2.89% |
| 16 | 1,185 | 0 | 1,185 | 0.07% | 0.00% | 0.06% |
| 18 | 16,945 | 3,925 | 20,870 | 0.93% | 1.67% | 1.02% |
| 19 | 0 | 287 | 287 | 0.00% | 0.12% | 0.01% |
| 20 | 635 | 0 | 635 | 0.03% | 0% | 0.03% |
| 21 | 24,605 | 0 | 24,605 | 1.35% | 0% | 1.20% |
| 24 | 15,117 | 0 | 15,117 | 0.83% | 0% | 0.74% |
| 27 | 10,308 | 0 | 10,308 | 0.57% | 0% | 0.50% |
| 30 | 4,147 | 0 | 4,147 | 0.23% | 0% | 0.20% |
| 33 | 6,288 | 0 | 6,288 | 0.35% | 0% | 0.31% |
| 36 | 19,073 | 0 | 19,073 | 1.05% | 0% | 0.93% |
| 39 | 10,156 | 0 | 10,156 | 0.56% | 0% | 0.49% |
| 42 | 3,319 | 0 | 3,319 | 0.18% | 0% | 0.16% |
| 54 | 2,789 | 0 | 2,789 | 0.15% | 0% | 0.14% |
| 72 | 3,305 | 0 | 3,305 | 0.18% | 0% | 0.16% |
| 78 | 7,811 | 0 | 7,811 | 0.43% | 0% | 0.38% |
| Unknown | 185,981 | 81,734 | 267,715 | 10.21% | 34.84% | 13.02% |
| Totals | 1,821,549 | 234,586 | 2,056,135 | 100% | 100% | 100% |
| | 344.99 mi | 44.43 mi | 389.42 mi | | | |

Table 3. Inventory Sewer Lines by Material Type

| Pipe Material | Concord | Clayton | Total | Concord | Clayton | Total |
|--------------------|-------------|-------------|-------------|---------|---------|---------|
| | Linear Feet | Linear Feet | Linear Feet | Percent | Percent | Percent |
| ABS | 4,695 | 213 | 4,908 | 0.26% | 0.09% | 0.24% |
| ACP | 164,307 | 60,253 | 224,560 | 9.04% | 25.68% | 10.94% |
| CIP | 1,532 | 0 | 1,532 | 0.08% | 0.00% | 0.07% |
| CIPP | 540 | 0 | 540 | 0.03% | 0.00% | 0.03% |
| DIP | 17,311 | 3,105 | 20,416 | 0.95% | 1.32% | 0.99% |
| Pipe Burst Plastic | 319 | 0 | 319 | 0.02% | 0% | 0.02% |
| Plastic Lined Pipe | 3,737 | 0 | 3,737 | 0.21% | 0% | 0.18% |
| PVC | 123,847 | 99,677 | 223,524 | 6.81% | 42.49% | 10.89% |
| RCP | 59,137 | 0 | 59,137 | 3.25% | 0% | 2.88% |
| VCP | 1,151,591 | 55,449 | 1,207,040 | 63.35% | 23.64% | 58.81% |
| Unknown | 290,940 | 15,900 | 306,840 | 16.00% | 6.78% | 14.95% |
| Total | 1,817,956 | 234,597 | 2,052,553 | 100% | 100% | 100% |
| | 344.31 mi | 44.43 mi | 388.74 mi | | | |

Table 4. Inventory of Sewer Lines by Pipe Age

| Age, Years | Construction Period | Percent of System | Linear Feet |
|---------------------------|---------------------|-------------------|-------------|
| 0-15 | 2000 - current | 7% | 143,678 |
| 16 – 35 | 1980 – 1999 | 29% | 595,239 |
| 36 – 55 | 1960 – 1979 | 25% | 513,137 |
| 56 – 75 | 1940 – 1959 | 31% | 636,290 |
| 76 - 95 | 1920 – 1939 | 5% | 102,627 |
| 95 - 115 | 1900 – 1119 | 3% | 61,576 |
| Total, linear feet | | | 2,052,537 |
| Total, miles | | | 388.74 |

Tables 2 and 3 above include large percentages of unknown pipe sizes and pipe materials. Concord collections staff should complete the identification of all pipe sizes and pipe materials in the next two years so that these percentages are reduced in both systems. They should also confirm that these lines segments have the proper installation dates associated with them.

Future Expansion of Concord Collection System

It is anticipated that the maintenance service area will continue to expand both by in fill and also by annexations into both Concord and Clayton. In addition, the City of Concord has recently acquired the responsibility for the former Concord Naval Weapons Station property. This large 5,046 acre addition to the maintenance service area will require long term

planning and development and it is expected that it may result in the addition of as many as 12,200 housing units, 6.1 million square feet of commercial building space and as many as 28,200 people and 26,500 jobs over the next ten to twenty years. Currently planning processes suggest that the first development will take place in the northern area of the property in logical development zones. It is not anticipated that any new discharging units will be in place in the coming five years of the SSMP. However continued planning for all utility infrastructure will include the Sewer Section and Engineering Divisions to assure proper operation and maintenance of any sewer facilities installed as the development proceeds forward. For additional information the reader is directed to the Concord Community Reuse Project webpage at <http://www.concordreuseproject.org>.

Figure 1. City of Concord Sanitary Sewer System Service Area and Geographic Features



Element 1: Goals

This element of the SSMP identifies goals the City has set for the management, operation and Maintenance of the sewer system. These goals provide focus for City staff to continue high-quality work and to implement improvement in the management of the City's wastewater collection system. This section fulfills the Goals requirement of the State Water Board.

State Water Board Requirement: The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent SSOs, as well as mitigate any SSOs that occur.

The City of Concord will strive to provide high quality and cost-effective wastewater collection services for the cities of Concord and Clayton by meeting the following goals:

- Continue to professionally manage, operate and maintain all components of the wastewater collection system.
- Provide adequate capacity to convey peak flows.
- Minimize the frequency of SSOs.
- Mitigate the impact of SSOs.
- Meet State Water Board requirements for SSO reporting and SSMP development, implementation, auditing, and updating.
- Provide personnel with the training and equipment to perform their work safely.
- Perform all maintenance activities in a cost-effective manner.
- Identify, prioritize, and continuously repair and replace deteriorated or deficient sewer system facilities to maintain reliability and system capacity.
- Annually provide the Council and service area customers' reports on SSMP implementation and collection system performance.

Element 2: Organization

This element of the SSMP identifies the City staff responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements. This section also includes the designation of agency representatives who are authorized to complete and certify the reports associated with SSOs in the California CIWQS reporting system. This section fulfills the Organization requirements of State Water Board.

State Water Board Requirement: The SSMP must identify:

- a. The name of the agency's responsible or authorized representative
- b. The names and telephone numbers for management, administrative, and maintenance positions for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and
- c. The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES).

2.1. City of Concord Authorized Representatives and Lines of Authority

The sewage collection systems in both Concord and Clayton are maintained by the personnel assigned to the Sewer Section working under the City of Concord's Public Works Department. The Clayton maintenance is provided by a Maintenance Agreement between the two agencies dated December 18, 1991. Currently Concord reports all required CIWQS information on behalf of Clayton under the City of Concord agency reports.

The Sewer Section, under the direction of the Director of Public Works, is responsible for implementing and managing the SSMP operations and maintenance and emergency response to sanitary sewer overflows. The Senior Maintenance Team Leader of the Sewer Section and the Infrastructure Maintenance Manager are the Legally Responsible Official (LRO) for reporting SSOs to the State Water Board (e.g., State Office of Emergency Services for SSOs greater than 1,000 gallons, which reach a drainage channel or surface water, which discharge into a storm drain and are not fully recovered and returned to the sanitary sewer collection system, or which are deemed to be an imminent health hazard; and, the California Department of Fish & Game if the SSO results in any fish kills). The City has not designated any classifications as Data Submitters for the input of SSO information prior to certification by the LRO. It is recommended that the City consider adding additional LROs and identify data submitters in the CIWQS system to assure 24/7/365 coverage for all reporting requirements.

Concord's City Engineer, working in concert with the Public Works Department, develops City Standard Plans and Specifications for the design and construction of wastewater collection system components. In accordance with Concord Municipal Code Section 17-35

et seq., sanitary sewer facilities shall be installed in accordance with those Standard Plans and Specifications. As noted in Section 71 of the Standard Specifications, Concord has adopted CCCSD's standard specifications for these type facilities, with only a few exceptions, such as the design flow criteria and certain manhole details.

The Building Divisions of both Concord and Clayton and CCCSD ensure that buildings are constructed in accordance with applicable building codes (Uniform Plumbing Code) and City standards, including appropriately sized grease traps and grease interceptors for commercial facilities that require them. The Capital Improvement Program (CIP) Division and the Current Development Division work for the City Engineer and ensure that new developments and new City facilities are properly designed and constructed, including their sanitary sewer systems; they also update the sewer system base maps after new developments or new city facilities have been constructed. In addition, the City Engineer is responsible for the determination that the collection system has adequate capacity to transmit all sewage discharged into the collection system and developing the capital improvement program including both capacity and renewal and rehabilitation of existing collection system lines and appurtenances. In the City of Clayton, the City Engineer has the responsibility for all capital extensions and replacement of collection system assets owned by that City. She/he is responsible for all capital improvement programs, acceptance of extensions and rehabilitations and approvals of additions. Discussions with the City's indicate that there is a need for more frequent communications and the development of procedures for the notification to Concord of new and capital replacement work upon acceptance by Clayton. These notifications should be done in formal written way and will assure that maps and maintenance required by this SSMP are appropriately included in the service provisions. These discussions and final procedures should be accomplished in the next twelve months.

Because the wastewater from the collection system operated and maintained by Concord is treated at the CCCSD treatment plant, Concord has delegated to CCCSD the authority to administer the source control program as noted in Section 13.05.120(c) of the Concord Municipal Code. CCCSD's source control program includes the FOG program also discussed in this SSMP. Their entire source control program is conducted in accordance with their Source Control Ordinance, Title 10, which is available on-line at www.centrialsan.org, under the Source Control Program link.

The organizational relationship and contact information for these pertinent functions are depicted on Figure 2 an abbreviated City organizational chart:

2.2. Chain of Communications for Reporting SSOs

When a report of an SSO within Concord or Clayton is received from the Police Dispatcher by the Public Works Department, Sewer Section personnel are dispatched to verify the report and to determine whether the overflow is from the public sewer or from a private sewer lateral. If they observe an ongoing SSO or evidence that there has been an SSO at that location they take immediate steps to locate, contain and remove the obstruction in the sewer main. Once the obstruction has been removed they recover as much of the overflow and washdown water as possible, and then sanitize the affected area. They then provide a report of the SSO particulars to the Senior Maintenance Team Leader, who in turn provides this information to the Infrastructure Maintenance Manager.

The Infrastructure Maintenance Manager, or the Senior Maintenance Team Leader in his absence, makes the required reports and certifications to the California Integrated Water Quality System (CIWQS). The paperwork associated with each SSO is maintained by the Senior Maintenance Team Leader and stored at the Team Leader’s office. These records shall be kept on file for a minimum of five years from the date of the event. SSO response and reporting procedures are described in more detail in SSMP Element 6 – Overflow Emergency Response Plan.

Table 5. List of City Staff Responsible for SSMP Elements

| Element | Element Name | Responsible City official | Phone | Email |
|---------|---|------------------------------------|--------------|------------------------------------|
| | Introduction and Overview | Infrastructure Maintenance Manager | 925-671-3045 | Joe.Tagliaboschi@cityofconcord.org |
| 1 | Goals | Infrastructure Maintenance Manager | 925-671-3045 | Joe.Tagliaboschi@cityofconcord.org |
| 2 | Organization | Infrastructure Maintenance Manager | 925-671-3045 | Joe.Tagliaboschi@cityofconcord.org |
| 3 | Legal Authority | Director of Public Works | 925-671-3231 | Justin.Ezell@cityofconcord.org |
| 4 | Operations and Maintenance Program | Infrastructure Maintenance Manager | 925-671-3045 | Joe.Tagliaboschi@cityofconcord.org |
| 5 | Design and Performance Provisions | City Engineer | 925-671-3470 | Robert.Ovadia@cityofconcord.org |
| 6 | Overflow Emergency Response Plan | Infrastructure Maintenance Manager | 925-671-3045 | Joe.Tagliaboschi@cityofconcord.org |
| 7 | Fats, Oils and Grease (FOG) Control Program | Building Official, CCCSD | 925-671-3107 | |
| 8 | System Evaluation and Capacity Assurance Plan | City Engineer | 925-671-3470 | Robert.Ovadia@cityofconcord.org |
| 9 | Monitoring, Measurement and Program Modifications | Infrastructure Maintenance Manager | 925-671-3045 | Joe.Tagliaboschi@cityofconcord.org |
| 10 | Program Audits | Infrastructure Maintenance Manager | 925-671-3045 | Joe.Tagliaboschi@cityofconcord.org |
| 11 | Communications Program | Infrastructure Maintenance Manager | 925-671-3045 | Joe.Tagliaboschi@cityofconcord.org |

Element 3: Legal Authority

This element of the SSMP discusses the City’s legal authority with respect to its wastewater collection system, including related City Ordinances and agreements with other agencies. This section fulfills the Legal Authority requirements of the State Water Board.

State Water Board Requirement: Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

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

The Concord Municipal Code (CMC) includes a number of sections that provide the legal authority to prevent illicit discharges into its sanitary sewer system; to require sanitary sewer systems to be properly designed and constructed; to ensure access for maintenance, inspection, or repairs for the portion of the collection system maintained by the City of Concord; to limit the discharge of fats, oils, grease and other debris that may cause blockages; and to enforce any violation of its sewer ordinances. The CMC is available on-line at www.ci.concord.ca.us, under the City Government link. Applicable code sections from Title 13 and 17 are included in **Table 3**, “Legal Authority Checklist” later in this section. In addition, because the City has contracted with Central Contra Costa Sanitary District for industrial waste management and FOG control management, the applicable section of the District code are also included in **Table 3**. Finally, the City of Clayton does have direct ownership for their collection system lines ; references to the Clayton Municipal Code are also included in the Table.

Because the wastewater from the collection system operated and maintained by Concord is treated at the CCCSD treatment plant, Concord has delegated to CCCSD the authority to administer the source control program as noted in Section 13.05.120 et seq. of the Concord Municipal Code. CCCSD’s source control program includes the FOG program also discussed in this SSMP. Their entire source control program is conducted in accordance with the CCCSD Source Control Ordinance, Title 10, which is available on-line at www.centalsan.org, under the Source Control Program link and as specified in **Table 3**.

Concord provides sanitary sewer service to the City of Clayton in accordance with the Agreement dated December 18, 1991. Under the terms of this Agreement, Concord owns the sewer trunk line in Clayton but also maintains the collection system in Clayton owned by that City. Concord must approve the plans and specifications for any proposed sewer mains, laterals and other improvements related to the sewer system in Clayton, and must approve

any connection to the collection system. Clayton residents and businesses are assessed the same sewer service rates as Concord's residents and businesses.

There are certain unincorporated areas adjacent to Concord, such as the Ayers Ranch area, where homes have historically been connected to septic tank systems. As those septic tank systems fail, properties that are close enough to connect to Concord's collection system are required to do that. They must also enter into a Contractual Sewer Service Agreement with Concord, and must agree to be annexed by Concord. They are charged the same connection fees and sewer service rates as are the residents of Concord and Clayton.

The table on the next page summarizes the pertinent CMC and CCCSD code provisions that provide for the legal authority over various activities associated with the sanitary sewer collection system operated and maintained by Concord.

Table 6. Legal Authority Checklist

| Requirement | Agency Code Reference* |
|---|--|
| Public Sewers | |
| Ability to prevent illicit discharges into the wastewater collection system | CMC 13.05.090 (b); 13.05.120 (c) & (d) CCCSD Title 10 Clayton MC 13.08.020 |
| Ability to limit the discharge of FOG and other debris that may cause blockages | CMC 13.05.120 (d)(2) & (d)(13) CCCSD Title 10 |
| Ability to require that sewers and connections be properly designed and constructed | CMC 17.35.040 CMC 17.35.210 |
| Ability to require proper installation, testing, and inspection of new and rehabilitated sewers | CMC 17.35.080 to 17.35.100 |
| Laterals | |
| Provide clear support for Agency responsibility (upper and/or lower lateral) and policies (e.g. courtesy cleaning, repair, cleanout installation) | CMC 13.05.100 (k) PW Dept. Order #31 |
| Ensure access for maintenance, inspection, or repairs for portions of the service lateral owned or maintained by the Agency | CMC 13.05.100 (k) |
| Ability to control infiltration and inflow (I/I) from private service laterals | 13.05.120 (13) |
| Satellite Collection Systems | |
| Ability to control infiltration and inflow (I/I) from satellite collection systems | Agreement between Concord and Clayton dated 12/18/91 |
| FOG Source Control | |
| Requirements for the installation of GRDs | CMC 13.05.120 (c) CCCSD 10.32.010 |
| Ability to set design standards for GRDs | CCCSD 10.32.010 |
| Ability to set maintenance requirements for GRDs | CCCSD 10.32.030 and .035 |
| Ability to require application of BMP | CCCSD 10.35.035A |
| Ability to require record keeping and reporting of GRD maintenance and repair | CCCSD 10.35.035F |
| Authority to inspect grease producing facilities | CMC 1.05.120 (c) CCCSD 10.32.035A |
| Enforcement | |
| Ability to enforce any violation of the Agency's sewer ordinances | CMC 13.05.070 CMC 13.05.100 (l) CMC 13.05.120 (e) to (l) CMC 13.05.150 Clayton MC 13.08.170 - .200 |
| Other Requirements (Recommended but not | |

| required by GWDR) | |
|--|---|
| Define lateral ownership and maintenance responsibility | CMC 13.05.100 (k) PW Dept. Order #31 |
| Prohibit vandalism (tampering) | CMC 13.05.100 (l) CCCSD 10.08.050 |
| Ability to deal effectively with private lateral problems (e.g. force property owner to correct failed/plugged private building sewer) | CMC 13.05.100 (g) |

*See City of Clayton SSMP for legal authorities related to collection system assets.

Element 4: Operations and Maintenance Program

This element of the SSMP discusses the City's documented performance measures and activities associated with the preventive maintenance performed in the maintenance service area. Adherence to these measures and activities should result in fewer and smaller SSOs. This section fulfills the requirements of the State Water Board.

SWRCB Waste Discharge Requirement:

The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:

- (a) Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable Stormwater conveyance facilities;
- (b) Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;
- (c) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;
- (d) Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and
- (e) Provide equipment and replacement part inventories, including identification of critical replacement parts.

4.1. Collection System Maps

The City currently operates using map books of the sewer and storm drain systems available to all maintenance personnel in full size 24" x 36" map sheets. These maps contain the entire collection and drainage systems for Concord and all known sewer collection system assets in the City of Clayton and the County. Changes and modifications of these maps noted by field personnel are currently added on the master maps in the office that are periodically updated by the Engineering Department on the original GIS base maps. Once updated, new map sheets are circulated to all plan holders to be inserted into the maps used by that crew. All new developments are added to the existing maps upon completion and acceptance for maintenance by the appropriate City Council. All new and extended pipelines installed within the City of Clayton are reviewed and approved by the City of Concord prior to construction. Clayton staff inspects and approves the final acceptance and then informs Concord so that maintenance can be initiated on these pipelines. These maps currently are missing 13 to 15% of the basic system information including both pipe size and pipe materials as noted in **Tables 2 and 3** earlier in this report. The City staff should establish goals to obtain this information during normal cleaning operations and enter this information into the maintenance management system within the next two years.

The City is in the process of updating their mapping capabilities by placing all system maps into a GIS platform that will allow for full electronic management of the sewer and storm drain system maps along with the inventory data associated with all pipe segments. These improvements will also include the maps of the Clayton sewer collection system as part of the improvements. In addition, the City will also be moving to include tablets with all mapping in the collection system crew vehicles that will allow for real time access to the maps of pipelines being maintained. It is anticipated that these mapping improvements will be completed and available to field crews in 2014.

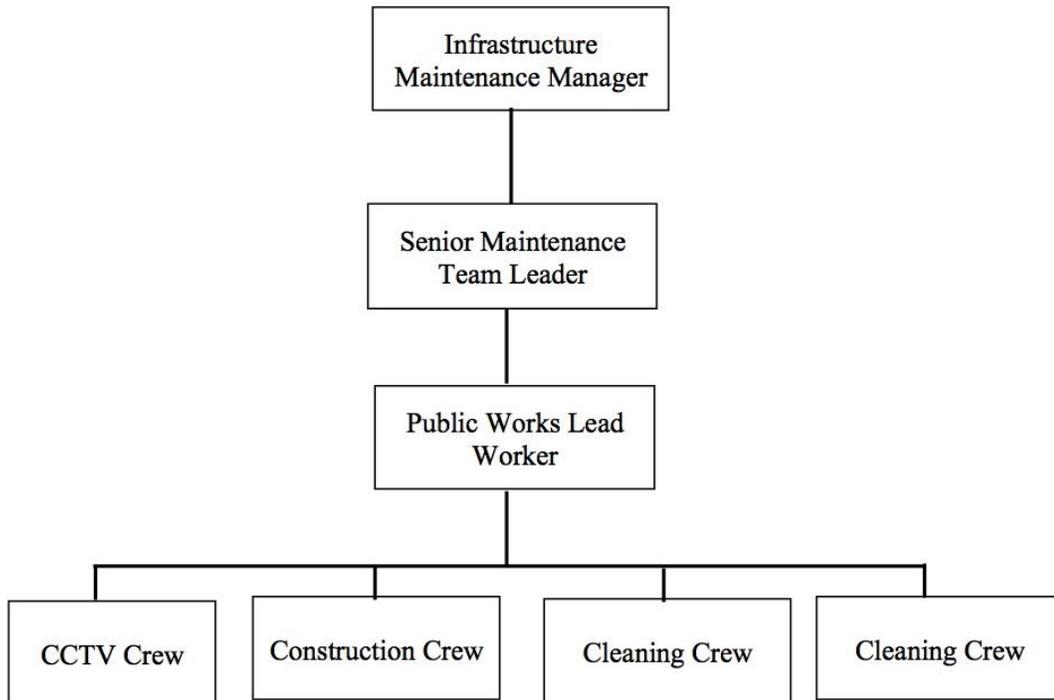
The City will be working to enhance its communications with the City of Clayton regarding the electronic mapping programs to assure that proper procedures are established to assure that the Clayton sewer system is up to date and complete. In addition, the City will also be working to add the Clayton storm drainage infrastructure to the GIS system.

4.2. Resources and Staffing

The ten personnel in the Sewer Section are responsible to maintain the collection systems in Concord and Clayton. The staffing of this Section includes a Senior Maintenance Team Leader, a Lead Worker, and eight Maintenance Worker positions. The collection system staff are formed into four crews including two cleaning crews, one CCTV crew and one construction crew. See Figure 3 for the current organization of the Sewer Section. The eight field staff operate in two-man crews with expansion to three man for high traffic and safety areas utilizing street maintenance personnel to assist with traffic control and general support related to safe operations. These crews provide regular and hot spot line cleaning, easement maintenance, lateral maintenance for some laterals with curbside cleanouts, CCTV inspection, condition assessment of lines and routine small, shallow construction repairs to the sewer system and laterals. The Public Works Lead Worker spends a considerable amount of time processing USA marking requirements for the City. Standby duty is currently rotated among four of the Maintenance Workers, who are on standby for one week at a time, ending

at 0700 each Monday (if Monday is a holiday that standby shift ends on Tuesday at 0700). The sanitary sewer operations are supported by administrative and clerical support personnel on a part time basis. Finally, the operations are also supported as needed by engineering and technical personnel in the Community and Economic Development Department.

Figure 3. Sewer Section Organization Chart



The Sewer Section is assigned three Vactor trucks, one CCTV van, four pick-up support vehicles, one trailer-mounted air compressor, portable generators, trash pumps, and two construction crew trucks. When needed, backhoes, flatbed trucks, dump trucks, arrow boards, and a Vactor hydrovac truck (Vacon) are available from the Streets Section. The FY 2011/12 operating budget to support this Section’s activities is \$4,363,273. Of this, \$4,132,626 is allocated to maintenance and operations (staff and CCTV), while \$230,647 is allocated to repairs.

4.3. Preventive Maintenance Program

The City’s collection system operations and maintenance program is composed of several elements including preventative and corrective maintenance, pipeline inspection and condition assessment of all sewer lines and appurtenances found in the maintenance service area of both cities.

4.3.1. Preventive Maintenance

Sewer Section crews hydroclean approximately 80,000 to 100,000 linear feet of sewer mains each month in the maintenance service area, which means that in a typical year they will hydroclean more than 100 miles of sewer mains. The length of hydrocleaning performed by the City is based upon hydrocleaning 50% of the 341 miles of 6", 8" and 10" diameter sewer mains every two years all the problem mains on the weekly, monthly, and quarterly hydrocleaning schedule. Problem sewer mains are cleaned repeatedly each year. There are currently 50 sewer main segments (manhole to manhole) that are hydrocleaned on a weekly basis, 47 additional segments that are cleaned on a monthly basis, and an additional 480 segments that are on a quarterly hydrocleaning schedule. Hydrocleaning sewer mains that are prone to blockage significantly reduce SSOs. In the past, the City has used a general required cleaning crews' to report findings of the cleaning operations in a very general way. In the future the City will be moving to use the rating of cleaning results using Appendix 4-A at the end of this Element. This change will assure uniform reporting of the results of the cleaning crews maintenance activities and will allow for a coordinated method for the determination of line cleaning needs in the future based upon both cleaning and condition assessment of lines. This revised rating process should result in significant revisions to the current schedule for pipeline operations and maintenance and should allow for proper cleaning on an as needed basis rather than based only upon a defined schedule. This will establish cleaning schedules that are appropriate for the pipeline in its operating condition.

The City currently does not have defined cleaning procedures for large diameter sewers 12 inches or greater but has not experienced any maintenance problems with these pipelines in the past. Currently this represents approximately 13% of the service area pipelines as indicated in **Table 2** earlier in this SSMP. It is recommend that the City staff develop policies and procedures for the operations and management of these large diameter lines to assure that they are clean and will not create opportunities for future sanitary sewer overflows. This effort would involve the definition of a program for large pipe condition assessment and cleaning protocols using either in house personnel or contract services for the regular assessment and maintenance of these lines. It is further recommended that this procedure be defined in the next two years of the sewer program.

Table 7. Problem Main Cleaning Schedule

| Cleaning Frequency | Number of Pipe Segments | Linear Feet of Line Segments on Schedule | Annual Total Linear Feet |
|--------------------|-------------------------|--|--------------------------|
| Weekly | 50 | 11,750 | 611,000 |
| Monthly | 47 | 6,750 | 81,000 |
| Quarterly | 480 | 108,868 | 241,800 |
| Totals | 577 | 127,368 | 933,800 |

The City does not currently manage the addition or deletion of lines from this Problem Main Cleaning Schedule. The staff should implement procedures for the evaluation as to reasons for lines to be on the list and philosophy as to means and methods to determine when and

how a line is added or deleted from this maintenance area. These evaluations should be based on regular cleaning intervals, historical cleaning results, CCTV evaluation and SSO history. These evaluations should also include research as to the need for repairs or replacement of the lines to eliminate the continued maintenance problems. The staff should develop these procedures in the coming fiscal year.

Table 8. Evaluation of Results of Cleaning Operations

| Calendar Year | Hydro Cleaning, LF | Percent of System |
|---------------|--------------------|-------------------|
| 2008 | 2,525,066 | 123.0% |
| 2009 | 2,071,383 | 100.9% |
| 2010 | 1,321,995 | 64.4% |
| 2011 | 790,466 | 38.5% |
| 2012 | 784,518 | 38.2% |
| 2013 | 1,287,361 | 62.7% |

Finally, a formal program for the condition assessment, evaluation and documentation of all manholes and other appurtenances maintained in the collection system should be developed and implemented along with processes to maintain historical information from this work.

The reductions in cleaning results in 2011 and 2012 were a direct result of unfilled positions and changes in management philosophy. The City anticipates that future results will reflect the target results stated earlier. Differences in the future will be evaluated and explained in the SSMP Audit Report as the City considers program effectiveness.

There are currently three (3) siphons in the collection system. These siphons are all double barrel types allowing for cleaning and maintenance with one line out of service. Currently the City cleans and inspects these line segments quarterly and maintains separate paper documents of these efforts.

Finally, the City will maintain lower laterals from the City main to separately installed curbside clean-out that is approved and accepted by the City. Once approved, the City staff maintains these portions of the lateral. The entire upper lateral and any laterals without approved clean-outs remains the responsibility of the private property owner.

4.3.2. Pipeline Inspection and Condition Assessment

The City is currently evaluating its pipeline condition assessment program including the CCTV frequency and use of formal condition assessment protocols. It is anticipated that they will establish CCTV frequencies based upon findings from previous CCTV efforts. It is expected that these policies and procedures will be in place within two years from the adoption date of this SSMP. These policies and procedures will include all pipes in Concord and Clayton service area.

The City currently does not revise the CCTV frequency of a sewer pipeline based upon findings from the inspection and condition assessment of the resulting video. It is proposed

that the City in the future move to implement its CCTV scheduling by utilizing the condition assessment results to formulate the future frequency of inspections of a pipeline segment. Figure 4, CCTV Results and Future CCTV Frequencies provides guidelines for the return frequency of CCTV efforts based upon the actual findings of the previous inspection and the PACP rating of an individual pipeline segment during the condition assessment. Based upon Figure 4, the City anticipates that a return frequency for all lines will result in a 15 to 18 year return frequency for CCTV assessments.

Table 9. Summary of Historical CCTV Results, Total System

| Calendar Year | Linear Feet Inspected | Percent of System |
|----------------------|------------------------------|--------------------------|
| 2008 | 131,132 | 6.4% |
| 2009 | 275,873 | 13.4% |
| 2010 | 329,164 | 16.0% |
| 2011 | 216,837 | 10.6% |
| 2012 | 104,067 | 5.1% |
| 2013 | 132,200 | 6.5% |
| Total | 1,189,273 | 57.9% |
| Average | 198,212 | 9.66 % |

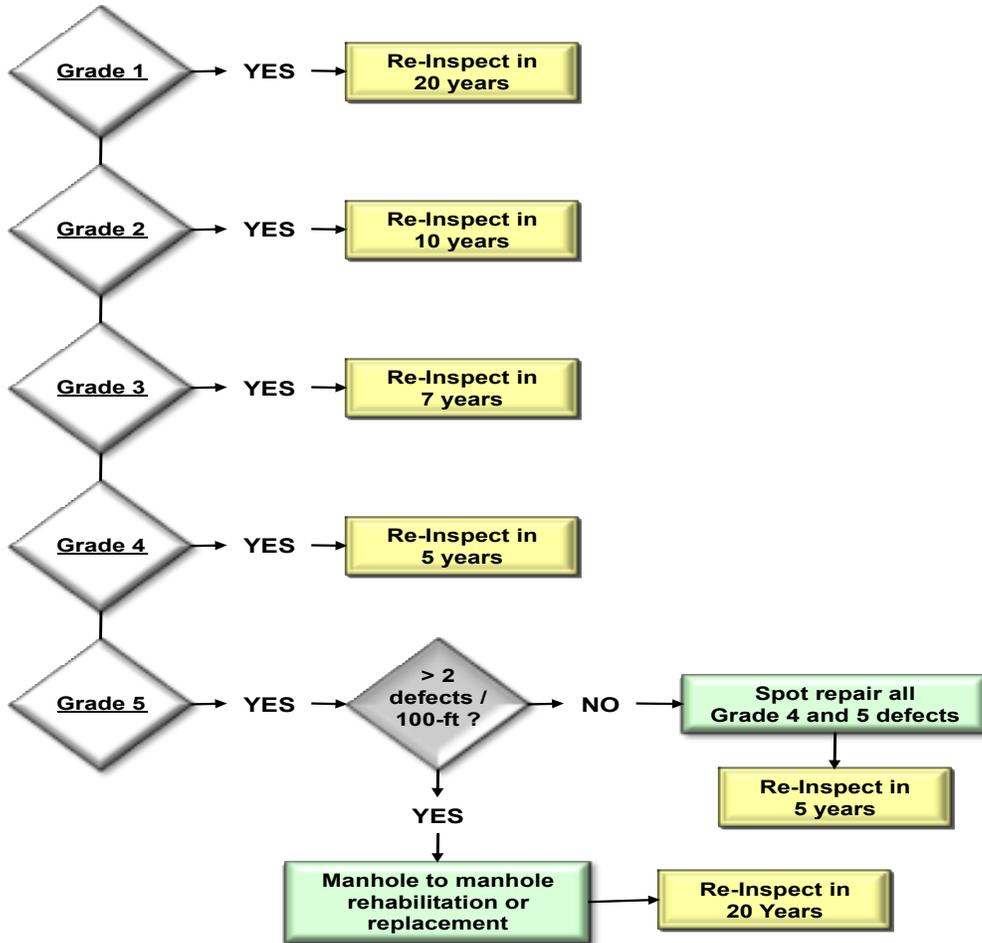


Figure 4. CCTV Results and Future CCTV Frequencies

4.3.3. Construction Program

The construction crew, typically consisting of two (2) persons, is responsible for minor spot repairs required in the collection system pipelines and lower laterals. This work is limited to construction not deeper than 5 – 6 feet from ground surface. All work is scheduled through the work order system. Construction deeper than 6 feet is handled either by separate purchase orders or by public bidding of projects greater in value that City purchasing guidelines or public bidding requirements.

4.3.4. Utility Identification and Marking

The Sewer Section Public Works Lead Worker is assigned to respond to all Underground Service Alert (USA) requests that are received for the entire maintenance service area. He or she locates and marks any sanitary sewer mains and any storm drainage system lines in the area delineated by each USA request. The Department handles approximately 3,700 requests

per year for pipeline identification. Recently the City has reported that they have stopped receiving USA requests for the Clayton area and are working to rectify this situation. The responsibility for this work area should be resolved as soon as possible to assure agency responsibility and to reduce the liability from a failure to mark Clayton infrastructure.

4.3.5. Fats, Oils and Grease Cleaning Program

The FOG program discussed in greater detail in Element 7 is another important component of the City's FOG preventive maintenance program. In a typical year, CCCSD will conduct more than 100 plus source control inspections in the maintenance service area and issued 15 or more enforcement actions (Warnings and NOVs) for violating various provisions of their Source Control Ordinance, Title 10. In the rare instance where a business does not correct the condition that resulted in them receiving a Notice of Violation, CCCSD can levy fines of up to \$5000/day until they are in compliance; the threat of that level fine is usually enough to encourage the business to comply.

In the course of responding to an SSO, Sewer Section crews will identify the cause of the overflow, which typically turns out to be grease or roots. The problem sewer line is then cleaned repeatedly until the problem that caused the overflow has been removed. They then perform a follow-up televised inspection of that sewer line, and if additional problems are noted that require a dig-up spot repair, or occasionally, the trenchless replacement (typically by pipe bursting or Cast-In-Place Pipe lining) of a segment of a sewer line, a Work Order is generated and prioritized for that repair work. All completed Work Orders for these repairs are recorded in the computerized maintenance management system, GBA.

4.3.6. Work Order Management System

The City of Concord has utilized the GBA Masters Series computerized maintenance management system for tracking service calls, Work Orders completed, manhole designations, pipe material, segment lengths, etc. currently. The images from the televised inspections of the sewer mains are not included in GBA, but the date the televising was done is noted, as well as what line segments were televised and any discrepancies observed during the video inspection (e.g., pipe offsets, etc.). The images are stored on external hard drives, each with backup storage, and held in the Team Leader's office. The City is currently replacing the GBA Masters Series software with the Acela Technologies, Inc. maintenance management system and enhancing its GIS system to allow for the integration of infrastructure data, CCTV video and work order management capabilities into a single system. The City reports that the new system should be operational in 2014 and will rely on information storage in the cloud thereby allowing for real time direct connectivity for all collection system crews utilizing the new vehicle hardware. This will allow crews to view maps and work orders in real time as they work in the field. This will significantly enhance the crews' ability to have the most up-to-date collection system information for the entire maintenance service area as needed in the field.

4.4 Rehabilitation and Repair of Existing Collection System Pipelines

In 2007 the City of Concord updated its General Plan, which projected 2030 land use that was significantly different from their previous Plan developed in 1994. As a result, wastewater flow generation was expected to exceed the capacity of sewers in the downtown area. In an effort to re-evaluate the existing sewers here both for capacity and structural condition assessment, the City retained Brown and Caldwell to prepare a “Downtown Area Sewer Evaluation Report,” completed in March of 2011.

Based on the findings of the “Downtown Area Sewer Evaluation Report,” the City immediately initiated emergency spot repairs through capital projects completed in the fall of 2011. In addition, the City launched a “Downtown Sewer and Streetscape Improvements Project” to address the highest priority sewers in the downtown area. The project included design and construction of sewer upgrades (upsizing of, and repairing high severity defects in, existing mains, developing a lateral replacement policy, installing cleanouts, and installing grease interceptors) and streetscape improvements impacted by construction of the laterals, cleanouts, and interceptors. The first phase of this project is now complete.

Also earmarked in the Sewer Enterprise Fund through 2016 is \$200,000 per year for the City’s Citywide Sewer Condition Assessment Study. Each year capital projects will be put out based on findings of these annual, area-specific studies, and construction improvements will be determined by priority based on condition, capacity (SSOs), and associated repair frequency, impacts, and costs (if no improvements are performed) of/to a particular segment within the system.

The City’s Sewer Master Plan is due for an update, but has been on hold pending approval of the Reuse Plan for the Naval Weapons Station. This Reuse Plan was approved in February 2010, although it is still pending refinement by the Planning Commission and City Council after several public meetings are held, as well as development of a draft EIR and amendment to the General Plan. Adoption of these documents is expected sometime soon, at which time the Sewer Master Plan will need to be updated.

4.4. Training

4.4.1. City Sewer Section Personnel

The most important training Sewer Section personnel attend is safety training to ensure they are properly trained to perform their work safely. The Infrastructure Maintenance Division conducts bi-weekly safety training sessions in conjunction with the distribution of paychecks every other Thursday. All available personnel from both the Sewer Section and the Streets & Drainage Section are required to attend these sessions. The safety training schedule for each fiscal year is developed and distributed prior to July of each year and notes the date of each training session, the safety topic to be discussed, and which crew member will be leading that training session. Typical topics that pertain to both Sections include: motor vehicle safety, traffic control, trenching and shoring, ergonomics guidelines, safety responsibilities, first aid principles, stress management, daily vehicle inspections, heat stress, and personal protective equipment. Topics specific to the Sewer Section personnel include: confined space precautions, blood borne pathogens, confined space entry, lockout/blockout/tagout (with

respect to the Pump Station equipment), the Sanitary Sewer Management Plan and the SSO Overflow Emergency Response Plan. The City is also working on the development of an electronic based safety-training program titled My Safety Officer by DKF Solutions, Inc. This system will allow employees the ability to train using computer-based software and it will track and document all training activity for each employee. This system will be operational in mid 2014.

The Sewer Section personnel currently have an average of more than 5-years' experience in conducting sewer system maintenance. New personnel coming into that Section are teamed up with the more experienced crewmembers to receive on-the-job training on the various maintenance activities that they perform (hydrocleaning, televising mains, USA locates, etc.). The Sewer Section will be developing a New Employee Training Program for issues related to regulatory and risk management issues in the operations of the sewer system. All Sewer Section personnel also have the opportunity to participate in CWEA programs and vendor-sponsored training courses. All collection system employees are strongly encouraged to obtain Collection System certifications as a further indication of their competence and capabilities in this specialized area of maintenance.

4.4.2. Outreach to Plumbers and Contractors

As discussed in Element 7: FOG Control Program, "Public Education and Outreach," CCCSD has created pamphlets, posters, and brochures, and delivers them to commercial customers at the time of inspection and by mail as part of the FOG program that CCCSD conducts on Concord's behalf in the maintenance service area. These outreach materials are available on CCCSD's website, and are updated and improved regularly by CCCSD. Outreach promotes preventative measures to minimize fats, oils, and grease in the collection system. The materials are designed to educate the public about improper grease disposal and to promote the use of Best Management Practices in an effort to prevent blockages in private laterals, minimize FOG from entering the sewer mains, and reduce overall maintenance requirements of the City's sewer system.

The City requires all service and construction contractors to be trained or provide evidence of comparable emergency response training for all contractor employees in overflow emergency response procedures. In addition, all construction contracts include discussions at pre-construction and regular project meetings to assure that these contractors are aware of the proper response requirements should they cause or observe a sewage overflow in the Concord sewer system.

4.5. Contingency Equipment and Critical Replacement Inventories

The Sewer Section is assigned four utility pick-up trucks, portable generators, portable air compressors, and assorted Wacker trash pumps. When needed, backhoes, flatbed trucks, dump trucks, portable arrow boards, and a Vactor hydrovac truck are available from the Streets Section. Each of those vehicles is equipped with a first aid kit, latex gloves, hand disinfectant, copies of the sewer system and drainage system base maps, as well as hand tools, caution tape and a flashlight. Each hydro truck also carries four spare hydrocleaning

heads, as well as male and female repair couplers; 500 feet of spare hydrocleaning hose is stored at the Pump Station warehouse that is now utilized entirely for storage.

The Sewer Section crewmember on standby is assigned a pager and the standby vehicle. The standby vehicle is outfitted with an assortment of hand tools, the sewer system and drainage system base maps, flashlights, barricades, sand bags, absorbent, caution tape, cameras, buckets, gloves, brooms, shovels, a rake, a manhole lid puller, a sledgehammer, disinfectant, deodorizer, sprayer, and seven (7) gas detectors. These detectors are calibrated monthly and detect the levels of hydrogen sulfide, carbon monoxide, and oxygen in the atmosphere being tested, as well as the lower explosive limit of the atmosphere being tested.

Miscellaneous sewer main repair parts, including spare pipe sections, elbows, T-connectors and Y-connectors, are stored at the Pump Station warehouse. These parts, and more, are also readily available during normal working hours at a number of plumbing supply stores in the local area. Also stored at the Pump Station warehouse is a dual head halogen light, extra barricades, absorbent mats and waddles, disinfectant, deodorizer, sprayers, and spare manhole lids. In addition, the City has arrangements with Roto Rooter and Servicemasters to assist as necessary during emergency situations.

If very large sewage bypass pumps are required, Rain for Rent can provide this equipment at any time of the day or night in very short order. In addition, Concord and CCCSD are developing a Mutual Aid Agreement that would provide for additional resources to be brought into play should either agency need the other agency's assistance to respond to a sewer emergency.

**Appendix 4-A. Standard Measures of Observed Results
for Collection System Line Cleaning**

Standard Measures of Observed Results

The standard measures of observed “results” for cleaning of small diameter ^a (six and eight inch) sewers are:

| Category | None | Low | Medium | High |
|-----------------|---|---|---|---|
| Debris/Grit | Code: CL No observable debris or grit | Code: DL Minor amount of debris 15 minutes or less to clean 1 pass | Code: DM Less than 5 gallons of debris 15-30 minutes to clean 2-3 passes required Requires cleaning twice or less per year Only fine grit | Code: DH More than 5 gallons of debris More than 30 minutes to clean More than 4 passes required Requires cleaning four times per year Operator concern for future stoppage |
| Grease | Code: CL No observable grease | Code: GL Minor amount of grease 15 minutes or less to clean 1 pass | Code: GM Small chunks/no “logs” 15-30 minutes to clean 2-3 passes required Requires cleaning twice or less per year | Code: GH Big chunks/ “logs” More than 30 minutes to clean More than 4 passes required Operator concern for future stoppage |
| Roots | Code: CL No observable roots | Code: RL Minor amount of roots 15 minutes or less to clean 1 pass | Code: RM Thin/stringy roots present No large “clumps” 15-30 minutes to clean 2-3 passes required | Code: RH Thick roots present Large “clumps” More than 30 minutes to clean More than 4 passes required Operator concern for future stoppage |
| Other | Code: CL No observable materials | Code: OL Specify material Minor amount of material | Code: OM Specify material Less than 5 gallons of material | Code: OH Specify material More than 5 gallons of material Operator concern for future stoppage |

Footnote: (a) Times shown are typical manhole to manhole distance of 250 feet. Longer runs will require longer cleaning times. Judgment will need to be applied by the field crews for varying lengths and pipe diameters.

Element 5: Design and Performance Provisions

This element of the SSMP describes the design and construction standards adopted by the City of Concord for sanitary sewer systems. These standards fulfill the Design and Construction Standards requirements of the State Water Board.

State Water Board Requirement: The SSMP must identify 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. Each wastewater collection system agency shall identify procedures and standards for inspecting and testing the installation of new sewers, pump stations, and other appurtenances; and for rehabilitation and repair projects.

5.1. City Design and Construction Standards

Concord has adopted CCCSD's Standard Specifications for the design and construction of sanitary sewer systems, with minor exceptions regarding design flow criteria and certain manhole details within the Concord service area. These standards apply to both new installations and the rehabilitation or repair of existing components of the Concord collection system. These Standard Specifications also detail the procedures and standards for inspecting and testing the installation of collection system components. Copies of the latest edition of CCCSD's Standard Specifications, including amendments thereto, is available at the CCCSD website and at the City of Concord's Public Works Department. Concord has not adopted CCCSD's wastewater design flow criteria. Instead, Concord uses the design flow criteria outlined in the Newhall Ranch Alternate Trunk Sewer Feasibility Report performed by Grovers Engineers in June 1978. This wastewater design flow criteria was adopted by the City Council in 1978 and was also used in the 1991 Clayton Sewer Study performed by Grovers Engineers. This wastewater flow criteria has served the Cities of Concord and Clayton well over the years. Both of the above-noted Grovers Engineering documents are available in the Public Works Department.

Inspection and testing of new and rehabilitated collection system components is conducted by inspectors assigned to the CIP Department or the Current Development Department. These inspectors ensure that the work is performed in accordance with the City of Concord prescribed standards, which, as noted above, are for the standards detailed in CCCSD's Standard Specifications. Clayton inspectors are responsible for the inspection and acceptance of new pipelines constructed in the City of Clayton after Concord approval of the plans and specifications. In some instances inspections shall be performed by Concord for lines that are rehabilitated by the City of Concord capital improvement program.

The Building Department of each City ensures that buildings are constructed in accordance with applicable building codes and City standards, including appropriately sized grease traps and grease interceptors for commercial facilities that require them. The grease traps and grease interceptors are inspected and approved by CCCSD.

Element 6: Overflow Emergency Response Plan

This element of the SSMP provides an overview and summary of the City's emergency response procedures for sewer overflows. These procedures fulfill the Overflow Emergency Response Plan requirements of the State Water Board.

State Water Board Requirement: Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

- a. Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
- b. A program to ensure an appropriate response to all overflows;
- c. Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g., health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification;
- d. Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
- e. Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
- f. A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

6.1. Purpose

The purpose of the City of Concord's Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The OERP provides guidelines for City personnel to follow in responding to, cleaning up, and reporting SSOs that may occur within the City's service area (Concord and Clayton). This OERP satisfies the SWB Statewide General Waste Discharge Requirements (GWDR), which require wastewater collection agencies to have an Overflow Emergency Response Plan. The information contained in this Element comes directly from the City of Concord Overflow Emergency Response Plan prepared by DKF Solutions Group. That document contains all forms and Packets identified in this Element. The reader should refer directly to that document for the specific documents.

6.2. Policy

The City's employees are required to report all wastewater overflows found and to take the appropriate action to secure the wastewater overflow area, properly report to the appropriate regulatory agencies, relieve the cause of the overflow, and ensure that the affected area is

cleaned as soon as possible to minimize health hazards to the public and protect the environment. The City's goal is to respond to sewer system overflows as soon as possible following notification. The City will follow reporting procedures in regards to sewer spills as set forth by the San Francisco Regional Water Quality Control Board and the California State Water Resources Control Board.

6.3. Definitions As Used In This OERP

CALIFORNIA INTEGRATED WATER QUALITY SYSTEM (CIWQS): Refers to the State Water Resources Control Board online electronic reporting system that is used to report SSOs, certify completion of the SSMP, and provide information on the sanitary sewer system.

FOG or FROG – Fats, Roots, Oils, and Grease: FOG refers to fats, oils, and grease typically associated with food preparation and cooking activities that can cause blockages in the sanitary sewer system. Tree root invasion (R) presents an additional problem. If a mat of root hair forms in the sewer line it slows the flow of wastewater and exacerbates the rate of accumulation of FOG materials.

LEGALLY RESPONSIBLE OFFICIAL (LRO): Refers to an individual who has the authority to certify reports and other actions that are submitted through CIWQS.

MAINLINE SEWER: Refers to City wastewater collection system piping that is not a private lateral connection to a user.

MAINTENANCE HOLE OR MANHOLE: Refers to an engineered structure that is intended to provide access to a sanitary sewer for maintenance and inspection.

NOTIFICATION OF AN SSO: Refers to the time at which the City becomes aware of an SSO event through observation or notification by the public or other source.

NUISANCE - California Water Code section 13050, subdivision (m), defines nuisance as anything that meets all of the following requirements:

- a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
- b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
- c. Occurs during, or as a result of, the treatment or disposal of wastes.

PREVENTATIVE MAINTENANCE: Refers to maintenance activities intended to prevent failures of the wastewater collection system facilities (e.g. cleaning, CCTV, inspection).

PRIVATE LATERAL SEWAGE DISCHARGES – Sewage discharges that are caused by blockages or other problems within a privately owned lateral.

SANITARY SEWER OVERFLOW (SSO) - Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:

- (i) Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;
- (ii) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and
- (iii) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

SSOs that include multiple appearance points resulting from a single cause will be considered one SSO for documentation and reporting purposes in CIWQS.

NOTE: Wastewater backups into buildings caused by a blockage or other malfunction of a building lateral that is privately owned are not SSOs.

SSO Categories:

- Category 1: Discharge of untreated or partially treated wastewater of any volume resulting from a sanitary sewer system failure or flow condition that either:
- Reaches surface water and/or drainage channel tributary to a surface water; or
 - Reached a Municipal Separate Storm Sewer System (MS4) and was not fully captured and returned to the sanitary sewer system or otherwise captured and disposed of properly.
- Category 2: Discharge of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from a sanitary sewer system failure or flow condition that either:
- Does not reach surface water, a drainage channel, or an MS4, or
 - The entire SSO discharged to the storm drain system was fully recovered and disposed of properly.
- Category 3: All other discharges of untreated or partially treated wastewater resulting from a sanitary sewer system failure or flow condition.

SANITARY SEWER SYSTEM: Any publicly-owned system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.

SENSITIVE AREA: Refers to areas where an SSO could result in a fish kill or pose an imminent or substantial danger to human health (e.g. parks, aquatic habitats, etc.)

SEWER SERVICE LATERAL: Refers to the piping that conveys sewage from the building to the City's wastewater collection system.

UNTREATED OR PARTIALLY TREATED WASTEWATER: Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.

WATERS OF THE STATE: Waters of the State (or waters of the United States) means any surface water, including saline waters, within the boundaries of California. In case of a sewage spill, storm drains are considered to be waters of the State unless the sewage is completely contained and returned to the wastewater collection system and that portion of the

6.4. State Regulatory Requirements for Element 6, Overflow Emergency Response Plan

See Page one of Element 6 for the specific requirements for this Element..

6.5. Goals

The City's goals with respect to responding to SSOs are:

- Work safely;
- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Prevent sewage system overflows or leaks from entering the storm drain system or receiving waters to the maximum extent practicable;
- Contain the spilled wastewater to the extent feasible;
- Minimize public contact with the spilled wastewater;
- Mitigate the impact of the SSO;
- Meet the regulatory reporting requirements;
- Evaluate the causes of failure related to certain SSOs; and
- Revise response procedures resulting from the debrief and failure analysis of certain SSOs.

6.6. SSO Detection and Notification
ref. SWRCB Order No. 2006-0003-DWQ VI(a)

The processes that are employed to notify the City of the occurrence of an SSO include: observation by the public, receipt of an alarm, or observation by City staff or other public employees during the normal course of their work.

6.6.1. Public Observation

Public observation is the most common way that the City is notified of blockages and spills. Contact numbers and information for reporting sewer spills and backups are in

the phone book and on the City's website: <http://www.ci.concord.ca.us>. **The City's telephone number for reporting sewer problems is (925) 671-3099.**

Normal Work Hours

When a report of a sewer spill or backup is made during normal work hours, City staff receives the call, takes the information from the caller, and communicates it to the field crew.

After Hours

Service calls are automatically forwarded to Police dispatch, which receives the call, takes the information from the caller, pages the on call crew, and communicates the necessary information to the on-call crew.

When calls are received, either during normal work hours or after hours, the individual receiving the call will collect the following information:

- Time and date of call
- Specific location of potential overflow or incident
- Nature of call
- In case of SSO, estimated start time of overflow and how long it has been occurring
- Caller's name, telephone number, and address
- Caller's observations (e.g., odor, duration, location on property, known impacts, indication if surface water impacted, appearance at cleanout or manhole)
- Other relevant information

The Figure 5 is an overview of receiving a sewage overflow or backup reporting procedures followed by the City.

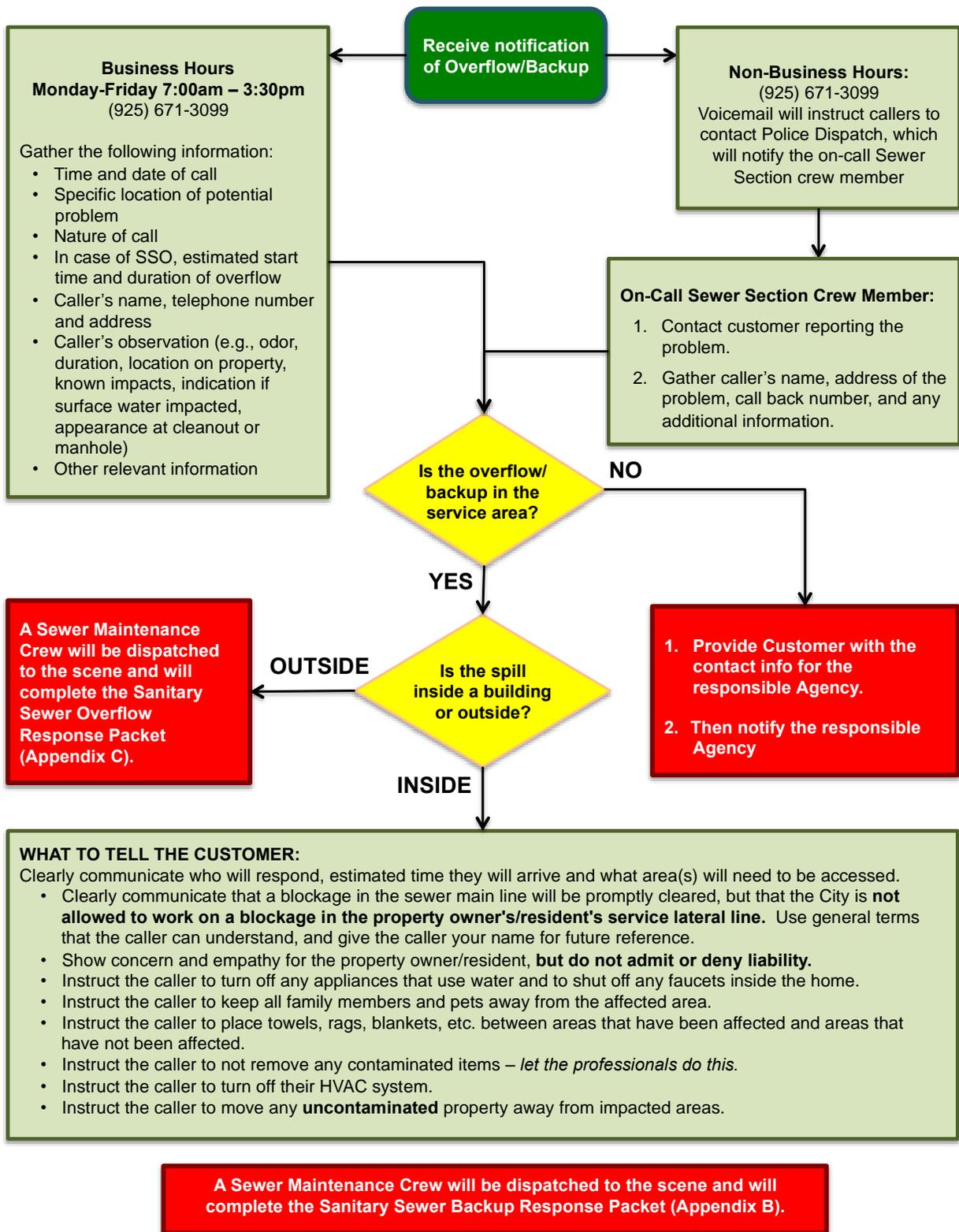


Figure 5. Overview of Receiving a Sewage Overflow or Backup Report Procedure

6.7. City Staff Observations

City staff conducts periodic inspections of its sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to appropriate City staff that, in turn, responds to emergency situations. Work orders are issued to correct non-emergency conditions.

6.8. Contractor Observation

The following procedures are to be followed in the event that a contractor causes or witnesses a Sanitary Sewer Overflow. If the contractor causes or witnesses an SSO they will:

1. Immediately notify the City by calling (925) 671-3099
2. Protect storm drains
3. Protect the public
4. Provide Information to City Staff such as start time, appearance point(s), suspected cause, weather conditions, etc.
5. Direct ALL media and public relations requests to the Public Works Director.

The City has and distributes a handout for Contractors with a flowchart of the above procedures.

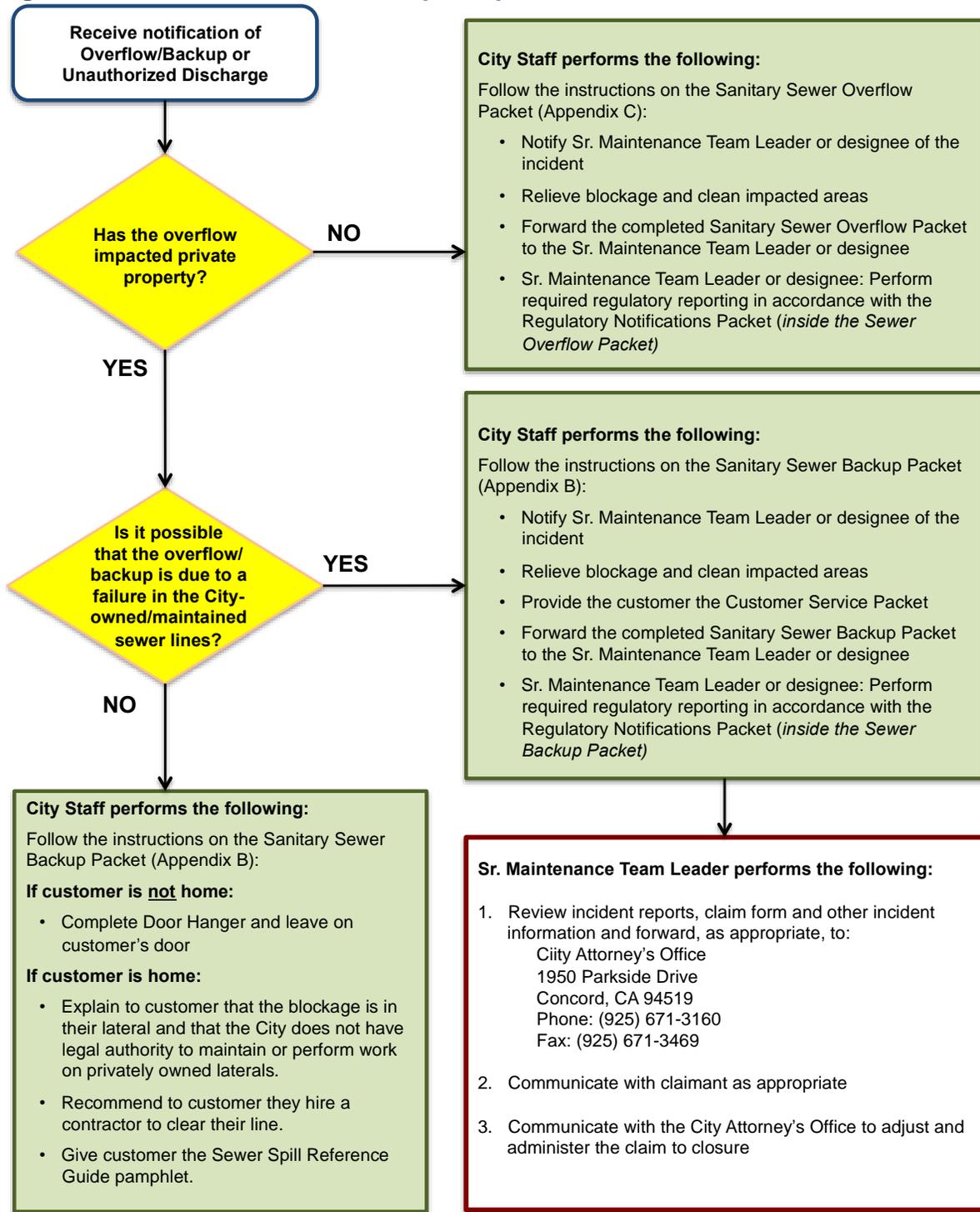
6.9. SSO Response Procedures

ref. SWRCB Order No. 2006-0003-DWQ Element 6(b)

6.9.1. Sewer Overflow/Backup Response Summary

The City will respond to SSOs as soon as feasible following notification of an overflow/backup or unauthorized discharge. The following (Figure 6) is an overview of the response activities.

Figure 6. Overview of SSO/Backup Response



6.9.2. First Responder Priorities

The first responder's priorities are:

- To follow safe work practices.
- To respond promptly with the appropriate and necessary equipment.
- To contain the spill wherever feasible.
- To restore the flow as soon as practicable.
- To minimize public access to and/or contact with the spilled sewage.
- To promptly notify the Sewer Maintenance Team Leader in event of major SSO.
- To return the spilled sewage to the sewer system.
- To restore the area to its original condition (or as close as possible).
- To photograph and document affected and unaffected areas from a spill.

6.9.3. Safety

The first responder is responsible for following safety procedures at all times. Special safety precautions must be observed when performing sewer work. There may be times when City personnel responding to a sewer system event are not familiar with potential safety hazards peculiar to sewer work. In such cases it is appropriate to take the time to discuss safety issues, consider the order of work, and check safety equipment before starting the job. This includes use of gas monitoring detectors for air quality in manholes and traffic controls at the site.

6.9.4. Initial Response

The first responder must respond to the reporting party/problem site and visually check for potential sewer stoppages or overflows.

The first responder will:

- Note arrival time at the site of the overflow/backup.
- Verify the existence of a public sewer system spill or backup.
- Determine if the overflow or blockage is from a public or private sewer.
- Identify and assess the affected area and extent of spill.
- Contact caller if time permits.
- If the spill is large or in a sensitive area, document conditions upon arrival with photographs. Decide whether to proceed with clearing the blockage to restore the flow or to initiate containment measures. The guidance for this decision is:
 - Small spills (i.e., spills that are easily contained) – proceed with clearing the blockage.
 - Moderate or large spill where containment is anticipated to be simple – proceed with the containment measures.
 - Moderate or large spills where containment is anticipated to be difficult – proceed with clearing the blockage; however, whenever deemed necessary, call for additional assistance and implement containment measures.

- Take steps to contain the SSO. Detailed procedures are contained in the Sanitary Sewer Backup Procedures and Sanitary Sewer Overflow Packet.

6.9.5. Initiate Spill Containment Measures

The first responder will attempt to contain as much of the spilled sewage as possible using the following steps:

- Determine the immediate destination of the overflowing sewage.
- Plug storm drains using air plugs, sandbags, and/or plastic mats to contain the spill, whenever appropriate. If spilled sewage has made contact with the storm drainage system, attempt to contain the spilled sewage by plugging downstream storm drainage facilities.
- Contain/direct the spilled sewage using dike/dam or sandbags.
- Pump around the blockage/pipe failure.

The Sanitary Sewer Overflow Packet of the OERP document contains the detailed procedures.

6.9.6. Restore Flow

Using the appropriate cleaning equipment, set up downstream of the blockage and hydro-clean upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not reoccur downstream. If the blockage cannot be cleared within a reasonable time from arrival, or sewer requires construction repairs to restore flow, then initiate containment and/or bypass pumping. If assistance is required, immediately contact other employees, contractors, and equipment suppliers. The Sanitary Sewer Overflow Packet of the OERP document contains the detailed procedures.

6.9.7. Equipment

This section provides a list of specialized equipment that is required to support this Overflow Emergency Response Plan.

- *Closed Circuit Television (CCTV) Inspection Unit* – A CCTV Inspection Unit is required to determine the root cause for all SSOs from gravity sewers.
- *Camera* -- A digital or disposable camera is required to record the conditions upon arrival, during clean up, and upon departure.
- *Emergency Response Trucks* -- A utility body pickup truck, or open bed is required to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools will include containment and clean up materials.
- *Portable Generators, Portable Pumps, Piping, and Hoses* – Equipment used to bypass pump, divert, or power equipment to mitigate an SSO.
- *Combination Sewer Cleaning Trucks* -- Combination high velocity sewer cleaning trucks with vacuum tanks are required to clear blockages in gravity

sewers, vacuum spilled sewage, and wash down the impacted area following the SSO event.

- *Air plugs, sandbags and plastic mats*
- *SSO Sampling Kits*
- *Portable Lights*

6.10. Recovery and Cleanup

ref. SWRCB Order No. 2006-0003-DWQ Element 6(e)

The recovery and cleanup phase begins immediately after the flow has been restored and the spilled sewage has been contained to the extent possible. The SSO recovery and cleanup procedures are:

6.10.1. Estimate the Volume of Spilled Sewage

City staff use the methods outlined in the Sanitary Sewer Backup Packet, Sanitary Sewer Overflow Packet, and/or the Field Guide to estimate the volume of the spilled sewage. Wherever possible, document the estimate using photos and/or video of the SSO site before and during the recovery operation.

6.10.1. Recovery of Spilled Sewage

Vacuum up and/or pump the spilled sewage and rinse water, and discharge it back into the sanitary sewer system.

6.10.2. Clean-up and Disinfection

Clean up and disinfection procedures will be implemented to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event. The procedures described are for dry weather conditions and will be modified as required for wet weather conditions. Where cleanup is beyond the capabilities of City staff, a cleanup contractor will be used.

Private Property

City crews are responsible for the cleanup when the property damage is minor in nature and is outside of private building dwellings, such as in front, side and backyards, easements, etc. In all other cases, affected property owners can call a water damage restoration contractor to complete the cleanup and restoration. If the overflow into property is the definite cause of City system failure, the property owner can call out a water damage restoration contractor to complete the cleanup and restoration. In both cases, City claim forms may be issued if requested by the property owners.

Hard Surface Areas

Collect all signs of sewage solids and sewage-related material either by protected hand or with the use of rakes and brooms. Wash down the affected area with clean water and/or deozyme or similar non-toxic biodegradable surface disinfectant until the water runs clear. The flushing volume will be approximately three times the estimated volume of the spill. Take reasonable steps to contain and vacuum up the wastewater. Allow area to dry. Repeat the process if additional cleaning is required.

Landscaped and Unimproved Natural Vegetation

Collect all signs of sewage solids and sewage-related material either by protected hand or with the use of rakes and brooms. Wash down the affected area with clean water until the water runs clear. The flushing volume will be approximately three times the estimated volume of the spill. Either contain or vacuum up the wash water so that none is released. Allow the area to dry. Repeat the process if additional cleaning is required.

Natural Waterways

The Department of Fish and Wildlife will be notified by CalOES for SSOs greater than or equal to 1,000 gallons.

Wet Weather Modifications

Omit flushing and sampling during heavy storm events (i.e., sheet of rainwater across paved surfaces) with heavy runoff where flushing is not required and sampling would not provide meaningful results.

6.10.3. Public Notification

Signs will be posted and barricades put in place to keep vehicles and pedestrians away from contact with spilled sewage. County Environmental Health instructions and directions regarding placement and language of public warnings will be followed when directed. Additionally, the Senior Maintenance Team Leader will use his/her best judgment regarding supplemental sign placement in order to protect the public and local environment. Signs will not be removed until directed by County Environmental Health, Senior Maintenance Team Leader, or designee.

Creeks, streams and beaches that have been contaminated as a result of an SSO will be posted at visible access locations until the risk of contamination has subsided to acceptable background bacteria levels. The warning signs, once posted, will be checked at least every day to ensure that they are still in place. Photographs of sign placement will be taken.

In the event that an overflow occurs at night, the location will be inspected first thing the following day. The field crew will look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.

When contact with the local media is deemed necessary, the Public Works Director or their designee will provide the media with all relevant information.

6.11. Water Quality

ref. SWRCB Order No. 2006-0003-DWQ Element 6(f)

6.11.1. Water Quality Sampling and Testing

Water quality sampling and testing is required for Category 1 SSOs of 50,000 gallons or greater to determine the extent and impact of the SSO. The water quality sampling procedures must be implemented within 48 hours and include the following:

- The first responders will collect samples as soon as possible after the discovery and mitigation of the SSO event.
- The water quality samples will be collected from upstream of the spill, from the spill area, and downstream of the spill in flowing water (e.g. creeks). The water quality samples will be collected near the point of entry of the spilled sewage.
- The samples shall then be brought to the Central Contra Costa Sanitary District Laboratory.

6.11.2. Water Quality Monitoring Plan

The City Water Quality Monitoring Plan will be implemented immediately upon discovery of any Category 1 SSO of 50,000 gallons or more in order to assess impacts from SSOs to surface waters. The SSO Water Quality Monitoring Program will:

1. Contain protocols for water quality monitoring.
2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.)
3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
5. Within 48 hours of the City becoming aware of the SSO, require water quality sampling for ammonia and total and fecal coliform.
6. Observe proper chain of custody procedures.

6.11.3. SSO Technical Report

The City will submit an SSO Technical Report to the CIWQS Online SSO Database within 45 calendar days of the SSO end date for any SSO in which 50,000 gallons or greater are spilled to surface waters. The City's Legally Responsible Official (LRO) will supervise the preparation of this report and will certify this report. This report, which does not preclude the Water Boards from requiring more detailed analyses if

requested, shall include at a minimum, the following:

Causes and Circumstances of the SSO:

- Complete and detailed explanation of how and when the SSO was discovered.
- Diagram showing the SSO failure point, appearance point(s), and final destination(s).
- Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
- Detailed description of the cause(s) of the SSO.
- Copies of original field crew records used to document the SSO.
- Historical maintenance records for the failure location.

City's Response to SSO:

- Chronological narrative description of all actions taken by the City to terminate the spill.
- Explanation of how the SSMP Overflow Emergency Response Plan was implemented to respond to and mitigate the SSO.
- Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

Water Quality Monitoring:

- Description of all water quality sampling activities conducted including analytical results and evaluation of the results.
- Detailed location map illustrating all water quality sampling points.

6.12 Sewer Backup Into/Onto Private Property Claims Handling Policy

It is the policy of the City that a claims form shall be offered to anyone wishing to file a claim. The following procedures will be observed for all sewer overflows/backups into/onto private property:

- City staff will offer a City claim form irrespective of fault whenever it is possible that the sanitary sewer backup may have resulted from an apparent blockage in the City-owned sewer lines or whenever a City customer requests a claim form. The claim may later be rejected if subsequent investigations into the cause of the loss indicate the City was not at fault.
- It is the responsibility of the Sewer Maintenance Crew to gather information regarding the incident and notify the Senior Maintenance Team Leader or his/her designee.
- It is the responsibility of the City Attorney's Office to review all claims and to oversee the adjustment and administration of the claim to closure.

6.13 Notification, Reporting, Monitoring and Recordkeeping Requirements

ref. SWRCB Order No. 2006-0003-DWQ Element 6(c)

In accordance with the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS GWDRs), the City of Concord maintains records for each sanitary sewer overflow. Records include:

- Documentation of response steps and/or remedial actions
- Photographic evidence to document the extent of the SSO, field crew response operations, and site conditions after field crew SSO response operations have been completed. The date, time, location, and direction of photographs taken will be documented.
- Documentation of how any estimations of the volume of discharged and/or recovered volumes were calculated including all assumptions made.

Regulator required notifications are outlined **Table 10**.

Table 10. Regulator Required Notifications

| ELEMENT | REQUIREMENT | METHOD |
|---------------------|--|--|
| NOTIFICATION | Within two hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, the City will notify the California Office of Emergency Services (CalOES) and obtain a notification control number. | Call Cal OES at: (800) 852-7550 |
| REPORTING | <ul style="list-style-type: none"> • Category 1 SSO: The City will submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date. • Category 2 SSO: The City will submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date. • Category 3 SSO: The City will submit certified report within 30 calendar days of the end of month in which SSO the occurred. • SSO Technical Report: The City will submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or | Enter data into the CIWQS Online SSO Database ¹ (http://ciwqs.waterboards.ca.gov/) certified by the Legally Responsible Official(s) ² . All information required by CIWQS will be captured in the Sanitary Sewer Overflow Report. Certified SSO reports may be updated by amending the report or adding an attachment to the SSO |

¹ In the event that the CIWQS online SSO database is not available, the Senior Maintenance Team Leader will notify SWRCB by phone and will fax or e-mail all required information to the RWQCB office at (510) 622-2460 in accordance with the time schedules identified above. In such an event, the City will submit the appropriate reports using the CIWQS online SSO database when the database becomes available. A copy of all documents that certify the submittal in fulfillment of this section shall be retained in the SSO file.

² The City always has at least one LRO. Any change in the LRO(s) including deactivation or a change to contact information, will be submitted to the SWRCB within 30 days of the change by calling (866) 792-4977 or emailing help@ciwqs.waterboards.ca.gov.

| ELEMENT | REQUIREMENT | METHOD |
|---------------------------------|---|--|
| | <p>greater are spilled to surface waters.</p> <ul style="list-style-type: none"> • “No Spill” Certification: The City will certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred. • Collection System Questionnaire: The City will update and certify every 12 months | <p>report within 120 calendar days after the SSO end date. After 120 days, the State SSO Program Manager must be contacted to request to amend an SSO report along with a justification for why the additional information was not available prior to the end of the 120 days.</p> |
| WATER QUALITY MONITORING | <p>The City will conduct water quality sampling within 48 hours after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.</p> | <p>Water quality results will be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.</p> |
| RECORD KEEPING | <p>The City will maintain the following records:</p> <ul style="list-style-type: none"> • SSO event records. • Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP. • Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters. • Collection system telemetry records if relied upon to document and/or estimate SSO Volume. | <p>Self-maintained records shall be available during inspections or upon request.</p> |

For reporting purposes, if one SSO event of whatever category results in multiple appearance points in a sewer system, a single SSO report is required in CIWQS that includes the GPS coordinates for the location of the SSO appearance point closest to the failure point, blockage or location of the flow condition that cause the SSO, and descriptions of the locations of all other discharge points associated with the single SSO event.

Currently the City of Concord will also submit draft reports on behalf of the City of Clayton until such time that the City of Clayton develops their own SSMP and registers the collection system with the SWRCB CIWQS System.

6.13.1. Complaint Records

The City maintains records of all complaints received whether or not they result in sanitary sewer overflows. These complaint records include:

- Date, time, and method of notification

- Date and time the complainant or informant first noticed the SSO or occurrence related to the call
- Narrative description describing the complaint
- A statement from the complainant or informant, if they know, of whether or not the potential SSO may have reached waters of the state
- Name, address, and contact telephone number of the complainant or informant reporting the potential SSO (if not reported anonymously)
- Follow-up return contact information for each complaint received (if not reported anonymously)
- Final resolution of the complaint with the original complainant
- Work service request information used to document all feasible and remedial actions taken

All complaint records will be maintained for a minimum of five years whether or not they result in an SSO. SSO records are kept under the direction and control of the Senior Maintenance Team Leader.

6.14 Post SSO Event Debriefing

ref. SWRCB Order No. 2006-0003-DWQ Element 6(d)

Every SSO event is an opportunity to evaluate the City response and reporting procedures. Each overflow event is unique, with its own elements and challenges including volume, cause, location, terrain, climate, and other parameters.

As soon as possible after Category 1 and Category 2 SSO events, the Infrastructure Maintenance Manager, and all of the participants, from the person who received the call to the last person to leave the site, will meet to review the procedures used and to discuss what worked and where improvements could be made in preventing or responding to and mitigating future SSO events. The results of the debriefing will be documented and tracked to ensure the action items are completed as scheduled.

6.15 Failure Analysis Investigation

ref. SWRCB Order No. 2006-0003-DWQ Element 6(d)

The objective of the failure analysis investigation is to determine the “root cause” of the SSO and to identify corrective action(s) needed that will reduce or eliminate future potential for the SSO to recur or for other SSOs to occur.

The investigation will include reviewing all relevant data to determine appropriate corrective action(s) for the line segment. The investigation will include:

- Reviewing and completing the Sanitary Sewer Overflow Report (contained in the Sanitary Sewer Overflow Packet) and any other documents related to the incident
- Reviewing the incident timeline and other documentation regarding the incident
- Reviewing communications with the reporting party and witness

- Reviewing volume estimate, volume recovered estimate, volume estimation assumptions and associated drawings
- Reviewing available photographs
- Interviewing staff that responded to the spill
- Reviewing past maintenance records
- Reviewing past CCTV records,
- Conducting a CCTV inspection to determine the condition of all line segments immediately following the SSO and reviewing the video and logs,
- Reviewing any Fats, Oils, Roots and Grease (FROG) related information or results
- Post SSO debrief records
- Interviews with the public at the SSO location

The product of the failure analysis investigation will be the determination of the root cause and the identification and scheduling of the corrective actions. The Collection System Failure Analysis Form (B-11 in Sanitary Sewer Backup Packet and C-5 in Sanitary Sewer Overflow Packet) will be used to document the investigation.

6.16 SSO Response Training

ref. SWRCB Order No. 2006-0003-DWQ Element 6(d)

This section provides information on the training that is required to support this Overflow Emergency Response Plan.

6.16.1. Initial and Annual Refresher Training

All City personnel who may have a role in responding to, reporting, and/or mitigating a sewer system overflow will receive training on the contents of this OERP. All new employees will receive training before they are placed in a position where they may have to respond. Current employees will receive annual refresher training on this plan and the procedures to be followed. The City will document all training.

Affected employees will receive annual training on the following topics by knowledgeable trainers:

- The City's Overflow Emergency Response Plan and Sanitary Sewer Management Plan
- Sanitary Sewer Overflow Volume Estimation Techniques
- Researching and documenting Sanitary Sewer Overflow Start Times
- Impacted Surface Waters: Response Procedures
- State Water Resources Control Board Employee Knowledge Expectations
- Employee Core Competency Evaluations on Sanitary Sewer Operations
- Water Quality Sampling Plan

The City will verify that annual safety training requirements are current for each employee, and that employees are competent in the performance of all core

competencies. This will be verified through electronic testing, interviews and observations. The City will address, through additional training/instruction, any identified gaps in required core competencies.

Through SWRCB Employee Knowledge Expectations training the employee will be able to answer the following:

1. Please briefly describe your name and job title.
2. Please describe for us approximately when you started in this field and how long you have worked for your agency.
3. Please expand on your current position duties and role in responding in the field to any SSO complaints.
4. Please describe your SOPs used to respond/mitigate SSOs when they occur.
5. Describe any training your agency provides or sends you to for conducting spill volume estimates.
6. We are interested in learning more about how your historical SSO response activities have worked in the field. We understand from discussions with management earlier that you use the OERP from the SSMP. Please elaborate on how you implement and utilize the procedures in the plan.
7. Historically, before any recent changes, can you please walk us through how you would typically receive and respond to any SSO complaints in the field?
8. Can you tell us who is responsible for estimating SSO volumes discharged? If it is you, please describe how you go about estimating the SSO volume that you record on the work order/service request forms?
9. What other information do you collect or record other than what is written on the work order form?
10. Describe if and when you ever talk with people that call in SSOs (either onsite or via telephone) to further check out when the SSO might have occurred based on what they or others know? If you do this, can you tell us where this information is recorded?
11. We understand you may be instructed to take pictures of some sewer spills/backups into structures. Other than these SSOs, when else would you typically take any pictures of an SSO?
12. Please walk us through anything else you'd like to add to help us better understand how your field crews respond and mitigate SSO complaints.

6.16.2. SSO Response Drills

Periodic training drills or field exercises will be held to ensure that employees are up to date on these procedures, equipment is in working order, and the required materials are readily available. The training drills will cover scenarios typically observed during sewer related emergencies (e.g. mainline blockage, mainline failure, and lateral blockage). The results and the observations during the drills will be recorded and action items will be tracked to ensure completion.

6.16.3. SSO Training Record Keeping

Records will be kept of all training that is provided in support of this plan. The records for all scheduled training courses and for each overflow emergency response training event and will include date, time, place, content, name of trainer(s), and names and titles of attendees.

6.16.4. Contractors Working On City Sewer Facilities

All construction contractors working on or around City sewer facilities will be required to develop a project-specific OERP, will provide project personnel with training regarding the content of the contractor's OERP and their role in the event of an SSO, and to follow that OERP in the event that they cause or observe an SSO. Emergency response procedures shall be discussed at project pre-construction meetings, regular project meetings and after any contractor involved incidents. All service contractors will be provided, and required to observe contractor procedures. The City uses the standardized Contractor Orientation.

Element 7: Fats, Oils, and Grease Control Program

This element of the SSMP discusses the City's Fats, Oils, and Grease (FOG) control measures, including identification of problem areas, focused cleaning, and source control. This section fulfills the FOG Control Program requirements of the State Water Board.

State Water Board Requirement: Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed the Enrollee must provide justification as to why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:

- a. An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
- b. A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;
- c. The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
- d. Requirements to install grease removal devices (GRD) (such as traps or interceptors), design standards for the removal devices, maintenance requirements, best management practice (BMP) requirements, record keeping and reporting requirements;
- e. Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;
- f. An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and
- g. Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.

The goal of the FOG Control Program is to reduce the cost of maintenance associated with FOG or FROG and to reduce the number of blockages and SSOs caused by FOG discharged to the sewer collection system.

The FOG Control Program includes cleaning, inspection, enforcement, and education. The City of Concord contracts with CCCSD for portions of the inspection, enforcement, and education elements of this program in the maintenance services area as detailed in CMC Section 13.05.120 et seq. and various agreements and amendments since 1974.

7.1. Public Education and Outreach:

CCCSD has created pamphlets, posters, and brochures, and delivers them to customers at the time of inspection and by mail. Outreach is key to FOG Control because it promotes preventative measures to minimize grease in the collection system. The materials are designed to educate the public about improper grease disposal and to promote the use of Best Management Practices. CCCSD is continually updating and improving existing outreach materials and creating new documents that focus on specific issues of grease, grease traps, and grease interceptors.

Specific operation and maintenance documents are provided for grease traps and for grease interceptors. Other documents outline proper grease disposal techniques, describe the available pretreatment devices, explain the inspection process, and provide tips on water pollution prevention.

7.1.1. FOG Disposal:

CCCSD has a Waste Hauler Program that includes a list of permitted waste haulers that pay fees for disposal of FOG at their treatment plant or other agencies' plants that are available to process FOG waste. A multi-agency workgroup called CalFOG has slated a project to identify and maintain a list of all agencies within the various service areas that will accept FOG wastes. Waste haulers are required to identify the disposal facility of the hauled waste to the generator of the waste. More information may be found in the CCCSD SSMP, as well as on their website.

7.2. Inspection, Source Control, and Enforcement:

The City of Concord determines the need for and inspects new pretreatment facilities as they are constructed. The current inspection and source control program with CCCSD includes inspecting all FOG-producing facilities in Concord. That includes 245 vehicle service facilities, 359 food service facilities, 22 permitted industries, and 365 other facilities (assisted living, commercial, dental labs, dry cleaners, golf course, healthcare, janitorial services, laboratories, laundry, manufacturing, nurseries, paint shops, pest control, pool, property management, property owners, recycling, residential, retail, school/colleges, veterinary, warehouse). Also included in this inspection program are the 23 Notice of Intent (NOI) facilities that are located in Concord (e.g., BART, American Medical Response Inc., US Army Department of Defense, Systron-Donner, etc.), which are inspected annually, even though NOI facilities are permitted and regulated by the State Water Board.

CCCSD conducts FOG program compliance inspections to ensure compliance with ordinances and proper operation. All records associated with this responsibility are maintained by CCCSD and are available on request from the City. Compliance inspections involve:

- ✓ Recording the number of fixtures in the facility

- ✓ Checking the condition of the grease trap or interceptor
- ✓ Noting dates of cleaning
- ✓ Noting means of grease disposal or how oil is recycled

The frequency of inspections depends on a facility's location and compliance history. If a facility is found to be in compliance, then the next inspection will be in 4-5 years. A facility that is out of compliance will be inspected more frequently until CCCSD is satisfied with customer compliance. Inspections are normally carried out without warning the customer so that the inspectors may get an accurate view of normal operating conditions.

Warning Notices are issued for a minor ordinance violation or a condition that, if uncorrected, could result in a violation. A Notice of Violation (NOV) is issued for ordinance violations, failure to respond to a Warning Notice, or Violations of Permit Conditions. A facility must then propose a plan to achieve compliance. Facilities have 30 days to respond and 100 days to install a grease pretreatment device.

CCCSD's source control program is conducted in accordance with their Source Control Ordinance, Title 10, Section 10.05.120 et seq. which is available on-line at their website (www.centernalsan.org).

The City of Concord and CCCSD has sufficient staff to inspect and enforce their respective responsibilities associated with FOG control ordinances. Those legal authorities are summarized **Table 6** Legal Authority.

7.3. Design Standards and GRD Installment Requirements:

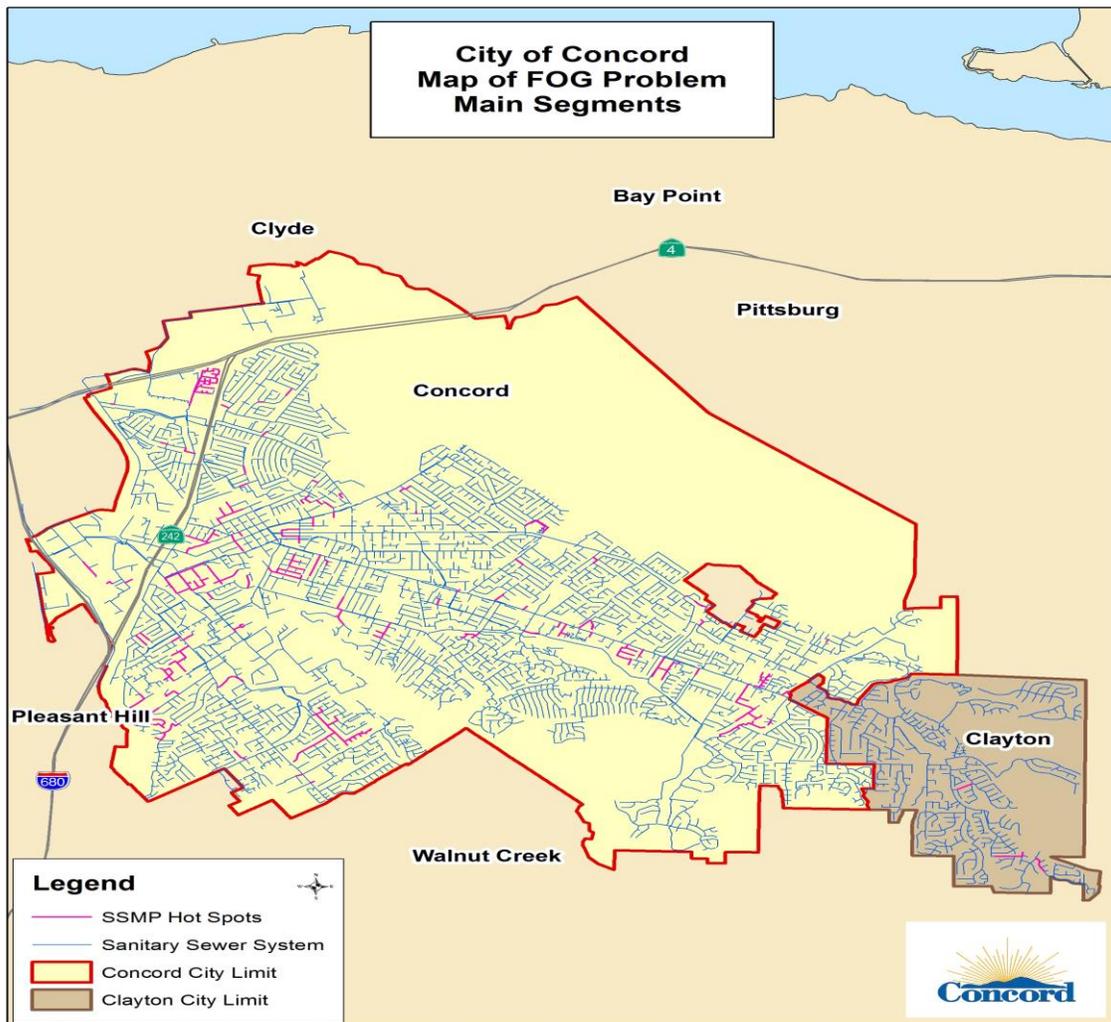
Users who are currently connected or who propose to connect to the City of Concord's collection system (including connections in Clayton or in the unincorporated portion of the County abutting the collection systems in Concord or Clayton) must obtain a connection permit from the City of Concord's Permit Center. At the Permit Center, staff from the Building Department will determine if a grease trap and/or grease interceptor is required in association with their connection. When it is determined that a grease pretreatment device is required, such as is typically the case for restaurants, City of Concord inspectors will ensure it is properly constructed, and that location will be added to the list of sites that CCCSD inspects as part of its commercial/industrial FOG compliance program. Both the City of Concord and CCCSD can cite users found to be in violation of their ordinances.

Pursuant to federal requirements, the CCCSD annually publishes, in the largest daily newspaper within the jurisdictional boundaries of the CCCSD, a list of the users who were in significant noncompliance with any pretreatment requirements or standards during the twelve previous months. That notification must also summarize enforcement actions taken against the user(s) during the same twelve months.

7.3.1. FOG System Maintenance:

City of Concord Sewer Section personnel have a vigorous and well-documented program of hydrocleaning sewer mains to remove FOG from the sewer collection system. They also televise sewer mains to identify problem areas and respond to service calls due to blockages and overflows. In a typical year these personnel will televise more than 60 miles of sewer mains and hydroclean more than 100 miles of sewer mains as part of a comprehensive preventive maintenance program.. Problem mains are cleaned repeatedly each year. There are currently 28 sewer main segments (manhole to manhole) that are hydrocleaned on a weekly basis, 28 additional segments that are cleaned on a monthly basis, and 480 segments that are on a quarterly hydrocleaning schedule.

Figure 7. Map of FOG Problem Mains Segments



7.3.2. Additional Source Control Measures:

The City of Concord is currently working at targeting FOG reduction through their Downtown Sewer and Streetscape Improvement CIP project. Installation of grease interceptors is a large component in this project, specifically aimed at lessening SSO's and blockages caused by FOG discharged to the sewer collection system given the density of FOG-producing facilities connected to sewers in the downtown area. More information on planned City projects may be found in Element 4: Operations and Maintenance Program.

Element 8: System Evaluation and Capacity Assurance Plan

This element of the SSMP describes the process established at the City of Concord to assess the current and future capacity requirements of its collection system. This section fulfills the Capacity Management requirements of both the Regional Water Board and the State Water Board.

State Water Board Requirement: The Enrollee shall prepare and implement a capital improvement plan that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:

- a. Evaluation: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events.
- b. Design Criteria: Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and
- c. Capacity Enhancement Measures: The steps needed to establish a short-and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.
- d. Schedule: The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a) – (c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D. 14.

8.1. Evaluation of Historical System Capacity Efforts:

In January 2001, Govers Engineers performed a Pump Station Capacity Evaluation of the now decommissioned Pump Station that determined the pumping capacity needed to be increased to handle peak wet weather flows during major storm events. This led to the replacement of the 50 horsepower pump motors with 60 horsepower units, and the pumps were rebuilt to increase their capacity from 6,500 gpm to 8,000 gpm.

As described in Element 5: Measures and Activities, “Scheduled Inspections and Condition Assessment,” the engineering consulting firm of Brown and Caldwell performed a condition assessment of the concrete trunk sewer system for the City of Concord in 2000, and a hydraulic capacity analysis under the then-current and ultimate land use conditions in 2002.

From these studies, a total of 18 capital improvement projects were developed for the collection system needing improvements. The total estimated cost for those 18 projects was \$50M. A series of four prioritized (worst-first) bond-funded projects spread over twenty years was envisioned to correct these problems.

Work began in 2004 on the first phase of work and was completed in 2006. Due to the unexpected low bids for that work, 15 of the original 18 projects were completed for only \$12M, with more than ten miles of trunk mains being rehabilitated. The two hydraulic improvement projects identified as necessary in the hydraulic capacity study were also completed during this time period, in 2005.

The next phase of work to construct a gravity-flow connection from the Pump Station to CCCSD's new A-Line Relief Interceptor began in early 2008, was completed in early 2009, and cost approximately \$12M. The remaining work from those original 18 projects was completed in 2009 and included rehabilitation of the trunk main on Meridian Park Boulevard from Galaxy Way to Concord Avenue, connection of the Pump Station flows to the CCCSD treatment plant, and decommissioning of the Pump Station. This remaining work cost less than \$5M. The fully funded 20-Year Sewer Enterprise Plan funded the final phases of the trunk sewer rehabilitation program.

A Trunk Sewer Master Plan was developed by John Carollo Engineers in 1973. This Master Plan established the anticipated population growth within the service area, as depicted by the Concord and Clayton General Plans, and presented staged construction of a Sewer Master Plan tailored to collect and transport the wastewater generated from the projected population growth. The projected saturation population utilized in that Master Plan was 224,470.

As a follow-up to that Master Plan study, Govers Engineers was retained in 1978 to develop the Newhall Ranch Alternate Trunk Sewer. The primary purpose of that study was to determine the feasibility of an alternate trunk sewer serving the Clayton Valley area that would be less expensive, be more responsive to projected development areas, and have less of a construction impact on the residents of the affected areas than the improvements proposed for that area in the 1973 Trunk Sewer Master Plan. A secondary purpose of the study was to evaluate the capability of the existing collector sewers to convey sewage from Newhall Ranch developments to the alternate trunk sewer. As a result of the Govers' study, a new trunk line was installed through Newhall Park in 1980; this trunk line was relined in 2005.

In 1991, Govers Engineers conducted an investigation into the sanitary sewer system serving Clayton to determine if that system had adequate capacity to meet Clayton's 2000 General Plan. The trunk sewer was determined to have adequate capacity but the study did recommend that several of the collection lines be increased in size as development progressed in that area. The study also reiterated the validity of the 1978 Newhall Ranch Alternate Trunk Sewer study, including the flow criteria used by Concord.

Past work funded by annual capital improvement projects targeted repairing of sewers in an effort to reduce system losses. For example, in FY 2006-07, four different contracts were

awarded to contractors to perform collection system repairs including dig up repairs, and to replace deteriorated sewer main segments through pipe bursting and slip-lining. Also, in FY 2007-08, four more contracts were awarded for collection system repairs, including the replacement of 554 feet of 8” diameter deteriorated VCP pipe with 8” diameter high density polyethylene (HDPE) pipe through pipe bursting.

The City of Concord has three permanently installed flow meters that, when combined, account for the total wastewater flow from Concord and Clayton to CCCSD. Those meters are calibrated and maintained by CCCSD meter technicians. One of these meters is located at the now decommissioned Pump Station, one is located on the east side of Walnut Creek Flood Control Channel north of March Drive just prior to the connection to CCCSD’s system, and one is located on the Ford dealership property on Diamond Boulevard at Concord Avenue. All three meters continuously transmit real-time flow readings which are recorded on the chart recorders at the Pump Station and which are also transmitted to CCCSD for revenue purposes. Each chart holds one week of flow data. Historical flow record charts are on file at the Team Leader’s office going back to when the Pump Station first began operating in 1976. Eighty percent of the combined flow of Concord and Clayton flowed through the meter at the Pump Station until the Pump Station was decommissioned in 2009. From 2003 - 2007, the average daily flow in the wettest month of the year (January) was 13.382 mgd, while the average daily flow during the driest month (September) was 10.070 mgd; this AWWF of only 1.33 times the ADWF was indicative of a tight system with respect to infiltration and inflow (I/I).

8.2. Design Criteria

The City’s design criteria are discussed in detail earlier in Element 5 of the SSMP. The City has long established these criteria and has utilized them for the design, construction and acceptance of all sanitary sewer system infrastructure for many years. The City periodically reviews these criteria for appropriateness as they evaluate new technology and construction techniques specifically related to sanitary sewer systems.

8.3. Capacity Enhancement Efforts:

Since the Pump Station has been decommissioned, the CCCSD reports to the City on the total system flows both for their treatment plant and for the three meters in the City of Concord on a fiscal year basis. For the fiscal year 2010 to 2011, the ADWF and AWWF are calculated based on three-month running averages. For this fiscal year, the ADWF is 10.32 mgd (Aug-Oct), and the AWWF is 15.13 mgd (Feb-Apr). This increase (47% versus 33% from 2003-2007) indicates increased I/I into the City’s sewer system. This increase in I/I is consistent with the increased maintenance required on the City’s sewer system in the last several years, and is in part the driving force behind the City’s planned rehabilitation and improvements to the City’s sewer system.

By monitoring the flows through these meters, the City can continue analyzing trends indicating I/I increases and reductions (expected outcome once the planned improvement projects are constructed), as well as showing the true impact of development in the catchment areas served by each of the three meters.

In March of 2011, the City retained Brown and Caldwell to prepare a “Downtown Area Sewer Evaluation Report” in an effort to re-evaluate the existing sewers in the downtown area both for capacity and structural condition assessment. Out of this study three projects were developed. The first project targeting highest priority emergency spot repairs was completed in the Fall of 2011. This first phase project was accepted by the City in February 2014. The second targeting system upgrades in the residential portions of the downtown area will initiate construction in early 2014 with an expected completion in 2015. The third project, which involves work in mostly commercial and retail areas of the downtown, will start in Summer of 2014 and may overlap some of the work on the second project. All projects are funded through the City’s CIP and Sewer Enterprise Fund.

Also, \$200,000 per year is earmarked in the Sewer Enterprise Fund through 2016 for the City’s Citywide Sewer Condition Assessment Study. Each year capital projects will be put out based on findings of these annual, area-specific studies, and construction improvements will be determined by priority. And lastly, a capital reserve fund of \$943,000 per year has been established for sewer improvements, escalated each year.

More details on the current efforts in capacity management may be found in Element 4: .

8.4. Capital Improvement Program Schedule

The schedule for the rehabilitation and replacement of pipelines shall be based upon the results of the condition assessment efforts by the CCTV crews utilizing a defined rating system that prioritizes necessary repairs. The City Capital Improvement Program includes the annual expenditure of funds for the completion of the television evaluation of the entire collection systems of Concord and Clayton in the next three years. In addition, funds have been included in the City’s Capital Improvement Program to annually implement the repair and replacement of pipelines based upon the results of the condition rating system. **Table 11** below provides the estimated funding and schedule for pipeline assessment and replacement. The Capital Improvement Program is reviewed annually and evaluated for appropriateness based upon not only the CCTV effort but also the findings and results of the collection system operations and maintenance results from the field crews and funds available in the sewer enterprise fund.

Table 11. Capital Improvement Program Funding and Schedule

| Project Number | Project Title | Prior Year Allocations | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | Total |
|-----------------------|---|-------------------------------|----------------|------------------|------------------|------------------|----------------|-------------------|
| 2244 | Citywide Sewer Lateral Replacement | 400,000 | 150,000 | 150,000 | 150,000 | 150,000 | 150,000 | 1,150,000 |
| 2209 | Sewer Capital Facility Replacement | 960,000 | 500,000 | 500,000 | 500,000 | 300,000 | 200,000 | 2,960,000 |
| 2208 | Citywide Sewer Condition Assessment Study | 475,000 | 100,000 | 100,000 | 100,000 | 100,000 | 0 | 875,000 |
| 2243 | Monte Gardens/San Vicente Sanitary Sewer Rehabilitation | 900,000 | 0 | 0 | 0 | 0 | 0 | 900,000 |
| 2185 | Sanitary Sewer Upgrade - Downtown Area | 8,965,000 | 0 | 0 | 0 | 0 | 0 | 8,965,000 |
| 2187 | Citywide Sanitary Sewer Main Extension | 200,000 | 0 | 0 | 0 | 0 | 0 | 200,000 |
| 2245 | Willow Pass Trunk Sewer | 528,388 | 0 | 0 | 0 | 0 | 0 | 528,388 |
| SWR1302 | Cowell Road BART Area Sanitary Sewer Upgrade | | 0 | 250,000 | 800,000 | 850,000 | 0 | 1,900,000 |
| SWR1306 | Downtown Replacement - Priority 3 | | 0 | 0 | 0 | 250,000 | 500,000 | 750,000 |
| | Total | 12,428,388 | 750,000 | 1,000,000 | 1,550,000 | 1,650,000 | 850,000 | 18,228,388 |

Element 9: Monitoring, Measurement And Program Modifications

This element of the SSMP describes the process established by the City of Concord to assess the accuracy and adequacy of each element of the SSMP. This section fulfills the Monitoring, Measurement and Program Modifications requirements of the State Water Board.

State Water Board Requirement: The Enrollee shall:

- a. Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;
- b. Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;
- c. Assess the success of the preventive maintenance program;
- d. Update program elements, as appropriate, based on monitoring or performance evaluations; and
- e. Identify and illustrate SSO trends, including: frequency, location, and volume.

9.1. Maintenance of Relevant Information on SSMP Activities

The City of Concord already tracks a number of sewer system performance metrics through its GBA maintenance management system. Performance measures tracked in the GBA on a monthly basis include the length of sewer mains and sewer laterals cleaned, the number of SSOs in sewer mains, the number of SSOs in sewer laterals, the length of sewer mains and sewer laterals televised, sewer service requests and emergency calls received, USA marking requests and the number of repairs made to sewer mains and laterals. These results are analyzed monthly and discussed at length in the annual Year End Report prepared by the Infrastructure Maintenance Manager. The Annual Sewer System Report is provided to the City Council each year in the Month of September and will be placed on the City's Utilities Division web page for public information. Finally, each Annual Report shall be added to Appendix B, Annual Reports at the end of this SSMP. Currently Concord reports all performance measures for the Concord and Clayton service area under the Concord WDID at the State. It is anticipated that in the future the City of Concord may be required to report Clayton SSOs separately under a new WDID number. When and if this occurs, the City will disaggregate the performance information now displayed in this Element of the SSMP. In addition, it is anticipated that Clayton will be developing and approving a separate SSMP as required by the WDR for systems with more than one mile of collection system lines.

Each year, during the budget development process for the upcoming fiscal year, the performance measures and tasks are analyzed for their effectiveness and efficiency, discussed with the Director of Public Works and the City Manager, and adjusted as deemed appropriate to better measure the performance of the Sewer Section operations.

By comparing the data from the annual reports, trends can be observed and corrective action taken, when so indicated, to shift the focus of preventive maintenance activities to correct any trends of concern and to assure the effectiveness of the SSMP

The CIWQS SSOs electronic reports to the SWRCB can be downloaded, either individually or in summary report form. The individual SSO records contain all of the information reported, including the date of the SSO; its location, volume, cause, impacted area(s); and the volume recovered. The summary reports can be generated based on any period of time back to 2007, and show the total number of SSOs during the specified time period, the total volume of the SSOs, the total volume recovered, the total volume that reached surface waters, the percent recovered, the percent that reached surface waters, and the total number of SSOs per 100 miles of sewer system lines. These statistics can then be compared over various time periods (e.g., annually) to help evaluate the effectiveness of the preventive maintenance program and to help determine whether or not adjustments need to be made to the preventive maintenance activities and SSO response actions carried out by City personnel. The electronic reporting system also provides comparisons of SSO performance results in both the local area and across the State of California. These comparisons should be available along with the City’s annual performance results.

In addition to analyzing the information already tracked and the reports made to the State Water Board, the City will monitor the following performance indicators that can be documented and compared on an annual basis in the Sewer System Annual Report. These performance indicators were selected because they are straightforward, quantitative, and focused on results. The following table lists each SSMP element, the overall purpose of the SSMP element, and the specific performance indicator that the City plans to track that will help in evaluating the effectiveness of the SSMP.

Table 12. SSMP Monitoring Performance Indicators, by SSMP Element

| SSMP Element | Summary of Element Purpose | Performance Indicators for Tracking Effectiveness |
|------------------------------------|---|--|
| Goals | Establish priorities of City and provide focus for City staff | Annual review of goals based upon results of performance results. |
| Organization | Document organization of City staff and chain of communication for SSO response | Review of Organization Chart and all contact information making any changes identified. |
| Legal Authority | Ensure the City has sufficient legal authority to properly maintain the system | Annual review of CMC Title 13 for revisions including schedule for identified updates. |
| Operations and Maintenance Program | Minimize blockages and SSOs by properly maintaining the system and keeping the system in good condition | <ul style="list-style-type: none"> ▪ Total number and volume of SSOs ▪ Number of repeat SSOs (same location as any previous SSO) |

| SSMP Element | Summary of Element Purpose | Performance Indicators for Tracking Effectiveness |
|--|--|---|
| | | <ul style="list-style-type: none"> ▪ Number of lateral SSOs ▪ Number of main SSOs ▪ Total volume spilled ▪ Total recovered ▪ Percent reach surface water ▪ Number of pipe failures ▪ Total length of pipe CCTV'ed ▪ Total length of pipe hydrocleaned |
| Design & Construction Standards | Ensure new facilities area properly designed and constructed | Annual review of new technologies and materials for collection systems assets. |
| Overflow Emergency Response Plan | Provide timely and effective response to SSO emergencies and comply with regulatory reporting requirements | <ul style="list-style-type: none"> ▪ Average response time ▪ Percent of total SSO volume contained or returned to sewer |
| Fats, Oils & Grease Control | Minimize blockages and overflows due to FOG | <ul style="list-style-type: none"> ▪ Number of blockages due to FOG ▪ Number of overflows due to FOG ▪ Number of FOG producing facilities inspected |
| Monitoring, Measurement, & Program Modifications | Evaluate effectiveness of SSMP, keep SSMP up-to-date, and identify necessary changes | <ul style="list-style-type: none"> ▪ Prepare and update performance results in elements 4, 6 & 7. ▪ Conduct annual review of CIWQS data at the State. |
| Program Audits | Formally identify SSMP effectiveness, limitations, and necessary changes on an annual basis | <ul style="list-style-type: none"> ▪ Date of completion of last annual audit |
| Communication Plan | Communicate with the public and satellite agencies. | <ul style="list-style-type: none"> ▪ Provide audit to City Council and place on City webpage. |

9.2. Measurement of SSMP Effectiveness and Plan Modifications:

The SSMP will need to be updated periodically to maintain current information, and programs will need to be enhanced or modified if they are determined to be less effective than needed as seen from the resulting performance metrics and as experienced by collection system crews in the field. The City will review the successes and needed improvements of

the SSMP as part of the SSMP annual audit, described in Element 10. All modifications and changes will be identified in Appendix A, SSMP Change Log.

City staff will update critical information, such as contact numbers and the SSO response chain of communication, as needed. Every five years, the SSMP will be brought back to the City Council for approval irrespective of changes made during the intervening period. Major changes to the SSMP will require Council consideration and approval earlier than five years.

9.3. SSO Trends and Historical Results

This 2014 SSMP represents the major changes made by the SWRCB Executive Officer order providing a new set on Monitoring and Reporting Program requirements as described earlier in this SSMP.

Table 13. Historical SSO Results Mains and Laterals Combined

| YEAR | TOTAL | CAUSE | | | | | | | CAPTURE | | |
|------|-------|--------|-----------|-----------------|------------------|---------------------------------|--------|-------|---------|---------|----|
| | | Grease | Ro ots | Du st Pan | Pip e Fail | Vandal ism/Cr oss Bore | Debris | Paper | 100% | Partial | 0% |
| 2008 | 25 | 10 | 12 | | | | | 3 | 22 | 2 | 1 |
| 2009 | 17 | 4 | 10 | 1 | 1 | | 1 | | 10 | 4 | 3 |
| 2010 | 13 | 5 | 7 | | | | 1 | | 11 | 2 | |
| 2011 | 19 | 8 | 8 | | | 1 | 2 | | 16 | 1 | 2 |
| 2012 | 30 | 14 | 11 | | | 1 | 4 | | 18 | 9 | 3 |
| 2013 | 30 | 10 | 9 | | 1 | 1 | 1 | | 7 | 11 | 4 |

Table 14. History of the Spill Volumes and Volumes Recovered

| Calendar Year | Sanitary Sewer Overflows, each | Spill Volume, gallons | Volume Recovered, gallons | Percent Recovered |
|---------------|---|--------------------------|---------------------------------|-------------------|
| 2008 | 26 | 1,313 | 1,100 | 83% |
| 2009 | 18 | 1,955 | 1,280 | 65% |
| 2010 | 13 | 1,335 | 1,220 | 91% |
| 2011 | 20 | 4,555 | 4,185 | 91% |
| 2012 | 30 | 9,070 | 7,704 | 84% |
| 2013 | 30 | 21,472 | 11,910 | 55% |
| Total | 137 | 39,700 | 27,399 | 69% |

Table 15. Historical FOG Program Results Concord and Clayton Combined

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|-------------------------------------|------|------|------|------|------|------|
| Number of SSOs caused by FOG | 11 | 4 | 5 | 8 | - | - |
| Number of FOG inspections completed | 166 | 113 | 162 | 130 | 120 | 119 |
| Number of enforcement actions taken | 11 | 4 | 19 | 15 | 15 | 16 |

Element 10: Program Audits

This element of the SSMP describes the process established by the City of Concord to conduct periodic audits of its SSMP and to correct any deficiencies identified in those audits. This section fulfills the SSMP Audit requirements of the State Water Board.

State Water Board Requirement: As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the Enrollee's compliance with the SSMP requirements identified in Subsection D. 13 of the GWDRs, including identification of any deficiencies in the SSMP and steps to correct them.

The City will complete audits of the SSMP at least biannually, and will annually include a Sewer System Annual Report of the performance results to the City Council at a public meeting and posted to the Sewer website. The audit will be performed using the attached Appendix 10-1 and which includes a review of each Element of the SSMP to ensure it contains up-to-date information, as well as a review of the SSOs for that year. Finally, the audit form also allows for identification and discussion of changes and modifications that result from the review of the effectiveness of the Element in meeting to goals of the SSMP and the SWRCB Waste Discharge Regulations.

Upon completion of the audit, the City will attach a copy to Appendix B, Sewer System Annual Reports of this SSMP.

Appendix 10-1
Annual SSMP Audit Form

**City of Concord
Sewer System
Management Plan
Annual Audit Report Form**

The purpose of the SSMP Audit is to evaluate the effectiveness of the City of Concord's (City's) SSMP and to identify any needed improvements to assure the effective operation of the sanitary sewer collection system to achieve the goals of the SSMP.

Date of Audit: _____

Audit Conducted by: _____

Directions: Please check YES or NO for each question. If NO is answered for any question, describe the updates/changes needed and the timeline to complete those changes.

| | | YES | NO |
|---------------------------------|--|--------------------------|--------------------------|
| ELEMENT 1 - GOALS | | | |
| A. | Have there been any changes to the system that require updates to the System Overview summary in the Introduction? | <input type="checkbox"/> | <input type="checkbox"/> |
| B. | Is Figure 1, Service Area and Geographic Features up-to-date? | <input type="checkbox"/> | <input type="checkbox"/> |
| C. | Have the boundaries of the City service area changed since the last Audit? If so, describe the changes. | <input type="checkbox"/> | <input type="checkbox"/> |
| D. | Have there been any changes in the regulations that should be identified and described in the Introduction? | <input type="checkbox"/> | <input type="checkbox"/> |
| E. | Are the goals stated in Element 1 still appropriate and accurate? | <input type="checkbox"/> | <input type="checkbox"/> |
| Discussion: | | | |
| ELEMENT 2 - ORGANIZATION | | | |
| A. | Is the List of City Staff Responsible for SSMP, Table 2-1 current? | <input type="checkbox"/> | <input type="checkbox"/> |
| B. | Is the Sanitary Sewer Overflow Responder List current? | <input type="checkbox"/> | <input type="checkbox"/> |
| C. | Is Figure 2-1 of the SSMP, the City Organization Chart, current? | <input type="checkbox"/> | <input type="checkbox"/> |
| D. | Are the position descriptions an accurate definition of staff responsibilities? | <input type="checkbox"/> | <input type="checkbox"/> |
| E. | Is Table 2-2 in the Chain of Communication for Reporting and Responding to SSOs section accurate and up-to-date? | <input type="checkbox"/> | <input type="checkbox"/> |

| | | | |
|----|--|--------------------------|--------------------------|
| F. | Is the list of LRO officials and data submitters in the CWIQS System current? Are all legally responsible officials and data submitters identified in the SSMP? Have all terminated officials been removed from the CIWQS System on the required timeline as required by the GWDR. | <input type="checkbox"/> | <input type="checkbox"/> |
|----|--|--------------------------|--------------------------|

Discussion:

ELEMENT 3 – LEGAL AUTHORITY

Does the SSMP contain current references to the Concord Municipal Code, the Clayton Municipal Code and the Central Contra Costa Sanitary District Code documenting the City’s legal authority to:

| | | | |
|----|---|--------------------------|--------------------------|
| A. | Prevent illicit discharges? | <input type="checkbox"/> | <input type="checkbox"/> |
| B. | Require proper design and construction of sewers and connections | <input type="checkbox"/> | <input type="checkbox"/> |
| C. | Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained b the City? | <input type="checkbox"/> | <input type="checkbox"/> |
| D. | Limit discharges of fats, oils and grease? | <input type="checkbox"/> | <input type="checkbox"/> |
| E. | Enforce any violation of its sewer ordinances? | <input type="checkbox"/> | <input type="checkbox"/> |
| F. | Were any changes or modifications made in the past year to City Sewer Ordinances, Regulations or standards? If so please state below.. | <input type="checkbox"/> | <input type="checkbox"/> |
| G. | Are the sewer service charge provisions current and provide the authority for full funding of the sanitary sewer operations? | <input type="checkbox"/> | <input type="checkbox"/> |
| H. | Has there been documented and regular communications with other agencies such as City of Clayton and the Central Contra Costa Sanitary District in the past year? If so are these meetings and communications documented appropriately? | <input type="checkbox"/> | <input type="checkbox"/> |
| L. | Are all report forms used during sanitary sewer system cleaning and CCTV inspection current or require changes to mirror current operations? | <input type="checkbox"/> | <input type="checkbox"/> |
| M. | Have the Annual Pump Station Inspections been conducted and are necessary improvements scheduled and being implemented? | <input type="checkbox"/> | <input type="checkbox"/> |

Discussion:

ELEMENT 4 – OPERATIONS AND MAINTENANCE

| | | | |
|--|--|--------------------------|--------------------------|
| Collection System Maps | | | |
| A. | Does the SSMP reference the current process and procedures for maintaining the City’s wastewater collection system maps? | <input type="checkbox"/> | <input type="checkbox"/> |
| B. | Are the City’s collection system maps complete, current and sufficiently detailed? Have all Clayton collection system modifications been identified and added or deleted from the GIS system? Are all versions of the City maps current? | <input type="checkbox"/> | <input type="checkbox"/> |
| C. | Are storm drainage facilities identified on the collection system maps? If not, are SSO responders able to determine locations of storm drainage inlets and pipes for possible discharge to waters of the state? | <input type="checkbox"/> | <input type="checkbox"/> |
| Prioritized Preventive Maintenance | | | |
| C. | Does the SSMP describe current preventive maintenance activities and the system for prioritizing the cleaning of sewers? | <input type="checkbox"/> | <input type="checkbox"/> |
| D. | Based upon information in the Annual SSO Report, are the City’s preventive maintenance activities sufficient and effective in minimizing SSOs and blockages? | <input type="checkbox"/> | <input type="checkbox"/> |
| Scheduled Inspections and Condition Assessments | | | |
| E. | Is there an ongoing condition assessment program sufficient to develop a capital improvement plan addressing the proper management and protection of infrastructure assets? Are the current components of this program documented in the SSMP? | <input type="checkbox"/> | <input type="checkbox"/> |
| F. | Does the SSMP contain a prioritized capital improvement plan for future rehabilitation and replacement of the sanitary sewer system for the next five years? Is it current? | <input type="checkbox"/> | <input type="checkbox"/> |
| Contingency Equipment and Replacement Inventory | | | |
| G. | Does the SSMP list the major equipment currently used in the operation and maintenance of the collection system and documents the procedures for inventory management? | <input type="checkbox"/> | <input type="checkbox"/> |
| H. | Are contingency and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance? | <input type="checkbox"/> | <input type="checkbox"/> |
| Training | | | |
| J. | Has all annual training been conducted as required? | <input type="checkbox"/> | <input type="checkbox"/> |
| Outreach to Plumbers and Building Contractors | | | |
| K. | Does the SSMP document current outreach efforts to plumbers and building contractors? | <input type="checkbox"/> | <input type="checkbox"/> |
| Discussion: | | | |

| ELEMENT 5- DESIGN AND PERFORMANCE STADARDS | | | |
|---|---|--------------------------|--------------------------|
| A. | Does the SSMP reference current design and construction standards for the installation for new sanitary sewer systems, pump stations and other appurtenances and for the rehabilitation and repair of existing sanitary sewer systems? | <input type="checkbox"/> | <input type="checkbox"/> |
| B. | Does the SSMP document current procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and the rehabilitation and repair of existing sewer lines? Have any changes to the standards been implemented since the last audit? | <input type="checkbox"/> | <input type="checkbox"/> |
| Discussion: | | | |

| ELEMENT 6 – OVERFLOW AND EMERGENCY RESPONSE PLAN | | | |
|---|--|--------------------------|--------------------------|
| A. | Does the City’s Sanitary Sewer Overflow Emergency Response Plan establish procedures for the emergency response, notification, and reporting of SSOs? Have any changes in past practices been implemented since the last audit? If so please explain. | <input type="checkbox"/> | <input type="checkbox"/> |
| B. | Are City staff and contractor personnel appropriately trained and verified on the procedures of the Sanitary Sewer Overflow Emergency Response Plan? | <input type="checkbox"/> | <input type="checkbox"/> |
| C. | Considering SSO performance data, is the Sanitary Sewer Overflow Emergency Response Plan effective in handling SSOs in order to safeguard public health and the environment? | <input type="checkbox"/> | <input type="checkbox"/> |
| D. | Are all SSO and claims reporting forms current or do they require revisions or additions? | <input type="checkbox"/> | <input type="checkbox"/> |
| E. | Does all SSO event recordkeeping meet the GWDR requirements? Are all SSO event files complete and have they been certified in the CIWQS system? | <input type="checkbox"/> | <input type="checkbox"/> |
| F. | Is all information in the CIWQS system current and correct? Have periodic reviews of the data been made during the year to assure compliance with GWDR? Have all Technical Report and Water Quality Sampling requirements of the GWDR been uploaded to the CIWQS data management system? | <input type="checkbox"/> | <input type="checkbox"/> |
| G. | Are all SSO Response Procedure Flow Charts current and have all contact information been checked and certified correct? | <input type="checkbox"/> | <input type="checkbox"/> |
| H. | Were all large SSOs evaluated for “root cause” and did they identify corrective actions required to assure reductions or elimination of future SSOs? Were post SSO debriefing events held with appropriate staff and all responders? | <input type="checkbox"/> | <input type="checkbox"/> |

| | | | |
|---|---|--------------------------|--------------------------|
| I. | Were all Technical Reports and Water Quality Monitoring results of SSOs greater than 50,000 gallons submitted to the CIWQS System according to the required timeline? | <input type="checkbox"/> | <input type="checkbox"/> |
| J. | Were all No Spill Certifications provided as required by the WDR regulations completed and certified in CIWQS? Was the Annual Collection System Questionnaire completed? | <input type="checkbox"/> | <input type="checkbox"/> |
| K. | Are all SSO records complete and maintained for five-years from the date of the SSO? Have all files older than five years been disposed of according to City records management system and Regional Board requirements or directions? | <input type="checkbox"/> | <input type="checkbox"/> |
| L. | Is staff properly trained on appropriate methods for spill volume estimation and start time requirements for all SSOs? Has this training been documented appropriately? | <input type="checkbox"/> | <input type="checkbox"/> |
| Discussion: | | | |
| ELEMENT 7 – FATS, OILS AND GREASE (FOG) CONTROL PROGRAM | | | |
| A. | Does the FOG Control Program include efforts to educate the residential customers on proper handling and disposal of FOG? | <input type="checkbox"/> | <input type="checkbox"/> |
| B. | Does the FOG Control Program identify sections of the collection system subject to FOG blockages, establish a cleaning schedule and address source control measures to minimize these blockages? | <input type="checkbox"/> | <input type="checkbox"/> |
| C. | Are requirements for grease removal devices, best management practices (BMP), record keeping and reporting established in the City’s and CCCSD FOG Control Program? | <input type="checkbox"/> | <input type="checkbox"/> |
| D. | Does the City have sufficient legal authority to implement and enforce the FOG Control Program? Are all enforcements effective and resulting in appropriate compliance with requirements? | <input type="checkbox"/> | <input type="checkbox"/> |
| E. | Is the current FOG program effective in minimizing blockages of sewer lines resulting from discharges of FOG to the system | <input type="checkbox"/> | <input type="checkbox"/> |
| Discussion: | | | |
| ELEMENT 8- SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN | | | |
| A. | Does the City of Concord Sanitary Sewer Master Plan evaluate hydraulic deficiencies in the system, establish sufficient design criteria and recommend both short and long term capacity enhancement and improvement projects and schedules? | <input type="checkbox"/> | <input type="checkbox"/> |
| B. | Does the City’s Capital Improvement Plan (CIP) establish a schedule of approximate completion dates for both short and long-term improvements and is the schedule reviewed and updated to reflect current budgetary capabilities and accomplishments? | <input type="checkbox"/> | <input type="checkbox"/> |

Discussion:

ELEMENT 9- MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

| | | | |
|----|---|--------------------------|--------------------------|
| A. | Does the SSMP accurately portray the methods of tracking and reporting selected performance indicators? | <input type="checkbox"/> | <input type="checkbox"/> |
| B. | Is the City able to sufficiently evaluate the effectiveness of the SSMP elements based on relevant information? | <input type="checkbox"/> | <input type="checkbox"/> |

Discussion:

ELEMENT 10 – SSMP AUDITS

| | | | |
|----|---|--------------------------|--------------------------|
| A. | Was the SSMP Audit completed, reviewed and filed in Appendix B? | <input type="checkbox"/> | <input type="checkbox"/> |
| B. | Have the collection system performance results been provided to the City Council and the public annually? Are the results available on the City website? | <input type="checkbox"/> | <input type="checkbox"/> |
| C. | Have the performance results been evaluated for specific changes to meet targeted goals for SSO reduction? Have changes in procedures been implemented to enhance the City sanitary sewer operations? | <input type="checkbox"/> | <input type="checkbox"/> |
| D. | Has the Change Log been updated with all changes made to the SSMP during the past year? | | |
| E. | Do City SSO performance results agree with all CIWQS information? | | |

Discussion:

ELEMENT 11 – COMMUNICATION PROGRAM

| | | | |
|----|--|--------------------------|--------------------------|
| A. | Does the City effectively communicate with the public and other agencies about the implementation and performance results of the SSMP and continue to address any feedback? | <input type="checkbox"/> | <input type="checkbox"/> |
| B. | Did the City Council receive and review the Annual Sewer System Report? Was the annual report uploaded to the City Sewer Section website and added to Appendix B? | <input type="checkbox"/> | <input type="checkbox"/> |
| C. | Did City staff conduct and document meetings with treatment systems, the City of Clayton and FOG Pretreatment Program agency? Are all agreements current or are changes necessary to these agreements? | <input type="checkbox"/> | <input type="checkbox"/> |

Change Log

| | | | |
|-------------|---|--------------------------|--------------------------|
| A. | Is the SSMP Change Log, current and up to date? | <input type="checkbox"/> | <input type="checkbox"/> |
| Discussion: | | | |

Prepared By: _____ Reviewed By: _____

Approved for Filing on: _____ (date)

Element 11: Communications Program

This element of the SSMP describes the process established by the City of Concord to communicate with the public on the development, implementation, and performance of the SSMP. This section fulfills the SSMP Communications Plan requirements of the State Water Board (Element 11).

SWRCB Requirement: The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communications system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.

The original SSMP was considered and approved by minute action by the City Council at a meeting on July 14, 2008. The 2012 updated SSMP was considered and approved by minute action during a City Council meeting on March 6, 2012. The current update was considered and approved by the City Council on July __, 2014 and was required by the substantial changes by the SWRCB to the Monitoring and Reporting Requirements effective on September 9, 2013. The formal adoption documents of the City Council are attached hereto in Appendix C, Sanitary Sewer Management Plan, Formal Adoption Documents.

The City of Concord maintains a website (<http://www.ci.concord.ca.us/>) to inform the public about City collection system activities. The City's website is an effective communication channel for providing alerts and news to the public. The main page of the website provides important announcements, agendas and minutes for City Council meetings, and other key information for City residents. Once this SSMP is adopted by City Council, there will be a link on the City website, under the Public Works Department, Sewer Collection System that will connect to Concord's SSMP and other sanitary sewer related information including the State CIWQS SSO reporting system and bi-annual audits. The City will also use the website to notify the public of important upcoming activities related to sewer system operations and management.

As a tributary system to CCCSD's sewage treatment plant, Concord has regular communications with CCCSD and the City of Clayton. This includes discussions with CCCSD's Source Control staff on the FOG program which Concord pays CCCSD to perform; attending key CCCSD Board meetings and providing input on issues of common interest; as well as an annual meeting with CCCSD's General Manager and key management staff to discuss issues of mutual importance. These topics include joint projects, the Concord Naval Weapons Station (NWS) Reuse Plan, ensuring sufficient capacity is available to manage the City of Concord's and Clayton's flows, flow modeling to determine how new flows from development projects will be accommodated in the City's system, and associated ownership of the system. Additional topics include discussion of collection system

administration and management; NPDES permit regulations, mutual aid, sewer laterals, pretreatment, pollution prevention, and the household hazardous waste program. CCCSD, which conducts the FOG program under contract to the City of Concord, has created pamphlets, posters, and brochures, and delivers them to customers at the time of inspection and by mail. These outreach materials are also available on CCCSD's website at <http://www.centalsan.org/index.cfm?navId=15> and <http://www.centalsan.org/index.cfm?navId=152> . Outreach is key to FOG Control because it promotes preventative measures to minimize grease in the collection system. The materials are designed to educate the public about improper grease disposal and to promote the use of Best Management Practices. CCCSD is continually updating and improving existing outreach materials and creating new documents that focus on specific issues of grease, grease traps, and grease interceptors. The Sewer Collection System web page also includes direct links to CCCSD as well as information for residential and commercial customers on sewer system operations.

The City also conducts regular meetings with appropriate staff members of the City of Clayton to assure clear understanding of the operations and maintenance program conducted on Clayton's behalf pursuant to the service agreement between the agencies, review of rehabilitation project needs, system expansions in the Clayton system, changes that would affect design and construction standards related to new collection system infrastructure and changes to rules and regulations impacting system operations. All meetings are documented with agendas and attendance sheets and filed in the City of Concord Public Works offices.

Appendix A

Log of SSMP Changes

Appendix B

**Sewer System Audits
and
Annual Reports**

Sewer System Management Plan 2013 Audit Report

| Name of agency | City of Concord |
|---|---|
| Date of audit | 12/31/2013 |
| Name of auditor | Darin Fitzpatrick, Sr. Maintenance Team Leader, Sewer Maintenance |
| System Overview | |
| Miles of gravity sewer mains | 382.5 |
| Miles of lower laterals | 119.0 |
| Miles of force mains | 0 |
| Total miles of all sewer lines | 501.5 |
| Number of pump stations | 0 |
| Population served | 132,964 |
| Current average monthly single family residential sewer rate | \$25.50 |

I. GOALS

1. Are the goals stated in the SSMP still appropriate and accurate? YES / NO
(circle one)
2. If you answered NO to question 1, describe content and schedule for updates.

II. ORGANIZATION

REFERENCE MATERIAL

- **Organization chart**
- **Phone list**

3. Is the SSMP up-to-date with agency organization and staffing contact information? YES / NO
4. If you answered NO to question 3, describe content and schedule for updates.

III. OVERFLOW EMERGENCY RESPONSE PLAN

REFERENCE MATERIAL

- **Electronic reports submitted to the State Water Board**
- **Annual report to the Regional Water Board**
- **Service call data**

Table 1. Annual SSO Statistics

| | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|------|------|------|------|------|
| Number of dry weather SSOs | 9 | 6 | 8 | 7 | |
| Number of wet weather SSOs | 16 | 11 | 5 | 12 | |
| Total number of SSOs | 25 | 17 | 13 | 19 | |
| Number of SSOs per 100 miles of sewer per year | 4.99 | 3.39 | 2.59 | 3.78 | |

| | 2008 | 2009 | 2010 | 2011 | 2012 |
|--|------|------|------|------|------|
| Number of SSOs < 100 gallons | 23 | 10 | 8 | 9 | |
| Number of SSOs 100 to 999 gallons | 2 | 7 | 5 | 8 | |
| Number of SSOs 1,000 to 9,999 gallons | 0 | 0 | 0 | 2 | |
| Number of SSOs >10,000 gallons | 0 | 0 | 0 | 0 | |
| Total volume of SSOs (gallons) | 1208 | 1945 | 1335 | 4505 | |
| Total volume recovered and returned to collection system (gallons) | 1060 | 1055 | 1233 | 4135 | |
| Net volume of SSOs (total minus recovered, gallons) | 148 | 890 | 102 | 370 | |
| Percent volume recovered (100 x Total volume recovered / Total volume of SSOs) | 87.7 | 54.2 | 92.3 | 91.7 | |
| SSOs caused by: | | | | | |
| Roots | 11 | 10 | 7 | 8 | |
| Grease build-up | 11 | 4 | 5 | 8 | |
| Flushed debris (heavy paper, tampons, etc.) | 2 | 1 | 1 | 2 | |
| Pipe failure | 0 | 1 | 0 | 0 | |
| Construction or maintenance (cut roots, broken sewer snakes, etc.) debris | 1 | 0 | 0 | 0 | |
| Capacity-limited pipe segment (no debris) | 0 | 0 | 0 | 0 | |
| Other | 0 | 1 | 0 | 1 | |
| Number of locations with more than one SSO in the past year | 0 | 0 | 0 | 0 | |

5. Does the SSMP contain an up-to-date version of your agency’s Overflow Emergency Response Plan? **YES** / NO
6. Considering the information in Table 1, is the Overflow Emergency Response Plan effective in handling SSOs? **YES** / NO
7. If you answered NO to questions 5 and/or 6, describe content and schedule for necessary revisions and implementation.

IV. FATS, OILS, AND GREASE (FOG) CONTROL PLAN

REFERENCE MATERIAL

- **List or map of FOG sources in service area**
- **List or map of hotspots**
- **Cleaning schedules**
- **Restaurant inspection reports or summaries**
- **Electronic reports submitted to State Water Board**
- **Annual report to Regional Water Board**
- **Service call data**

Table 2. FOG Control Statistics

| | 2008 | 2009 | 2010 | 2011 | 2012 |
|--|------------|------------|------------|------------|------|
| Number of SSOs caused by FOG | 11 | 4 | 5 | 8 | |
| Number of FOG inspections completed | 166 | 113 | 162 | 130 | |
| Number of enforcement actions taken | 11 | 4 | 19 | 15 | |

8. Does the SSMP contain up-to-date information about your agency's FOG control program? YES / NO
9. Considering the information in Table 2, is the current FOG program effective in documenting and controlling FOG sources? YES / NO
10. If you answered NO to questions 8 and/or 9, describe content and schedule for necessary changes.

V. LEGAL AUTHORITY

REFERENCE MATERIAL

- **Ordinances**
- **Enforcement actions**

11. Does the SSMP contain up-to-date information about your agency's legal authority? YES / NO
12. Does your agency have sufficient legal authority to control sewer use and maintenance? YES / NO
13. If you answered NO to questions 11 and/or 12, describe content and schedule for necessary changes.

VI. MEASURES AND ACTIVITIES

a. COLLECTION SYSTEM MAPS

REFERENCE MATERIAL

- **Summary of information included in mapping system**

14. Does the SSMP contain up-to-date information about your agency's maps? YES / NO
15. Are your agency's collection system maps complete, up-to-date, and sufficiently detailed? YES / NO
16. If you answered NO to questions 14 and/or 15, describe content and schedule for necessary changes.

b. RESOURCES AND BUDGET

REFERENCE MATERIAL

- **Current Capital Improvement Program (CIP)**
- **Current operating budget**

17. Does the SSMP contain up-to-date information about your agency's resources and budget? **YES** / **NO**
18. Are your agency's resources and budget sufficient to support effective sewer system management? **YES** / **NO**
19. Do your agency's planning efforts support long-term goals? **YES** / **NO**
20. If you answered NO to questions 17, 18, and/or 19, describe content and schedule for necessary changes.

c. PRIORITIZED PREVENTIVE MAINTENANCE

REFERENCE MATERIAL

- **Hydrocleaning records**
- **CCTV inspection records**
- **List of hotspots**
- **Work orders**
- **Service call data**

Table 3. Annual Preventive Maintenance Activities

| | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|--------------|--------------|--------------|--------------|-------------|
| Total miles of gravity sewer mains | 381.5 | 382.5 | 382.5 | 382.5 | |
| Total miles of sewer mains hydrocleaned | 478.2 | 387 | 250 | 149 | |
| Total miles of sewer mains inspected by CCTV | 24.6 | 52.2 | 62 | 41 | |

21. Does the SSMP contain up-to-date information about your agency's preventive maintenance activities? **YES** / **NO**
22. Considering the information in Tables 1 – 3, are your agency's preventive maintenance activities sufficient and effective in reducing and preventing SSOs and blockages? **YES** / **NO**
23. If you answered NO to questions 21 and/or 22, describe content and schedule for necessary improvements.

d. SCHEDULED INSPECTIONS AND CONDITION ASSESSMENT

REFERENCE MATERIAL

- **Inspection reports**
- **Infiltration and Inflow (I/I) monitoring studies and reports**
- **Pipe and manhole condition data**

24. Does the SSMP contain up-to-date information about your agency's inspections and condition assessment? **YES** / **NO**
25. Are your agency's scheduled inspections and condition assessment system effective in locating, identifying, and addressing deficiencies? **YES** / **NO**

26. If you answered NO to questions 24 and/or 25, describe content and schedule for necessary changes.

e. CONTINGENCY EQUIPMENT AND REPLACEMENT INVENTORIES

REFERENCE MATERIAL

- **Funds spent on equipment and materials**
- **Equipment and parts inventory**

27. Does the SSMP contain up-to-date information about equipment and replacement inventories? **YES** / **NO**

28. Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance? **YES** / **NO**

29. If you answered NO to questions 27 and/or 28, describe content and schedule for necessary arrangements.

f. TRAINING

REFERENCE MATERIAL

- **Employee training records**

30. Does the SSMP contain up-to-date information about your agency’s training expectations and programs? **YES** / **NO**

31. Do supervisors believe that their staff is sufficiently trained? **YES** / **NO**

32. If you answered NO to questions 30 and/or 31, describe content and schedule for necessary improvements.

g. OUTREACH TO PLUMBERS AND BUILDING CONTRACTORS

REFERENCE MATERIAL

- **Fliers/mailings**
- **Mailing lists**

33. Does the SSMP contain up-to-date information about your agency’s outreach to plumbers and building contractors? **YES** / **NO**

34. Has your agency conducted or participated in any outreach activities to plumbers and building contractors this year? **YES** / **NO**

35. If you answered NO to questions 33 and/or 34, describe content and schedule for future activities.

VII. DESIGN AND CONSTRUCTION STANDARDS

REFERENCE MATERIAL

➤ **Design and construction standards**
 ➤ **Ordinances**

36. Does the SSMP contain up-to-date information about your agency’s design and construction standards? YES / NO
37. Are design and construction standards, as well as standards for inspection and testing of new and rehabilitated facilities sufficiently comprehensive and up-to-date? YES / NO
38. If you answered NO to questions 36 and/or 37, describe content and schedule for necessary revisions.

VIII. CAPACITY MANAGEMENT

REFERENCE MATERIAL

- **Capacity assessment reports**
 ➤ **Capital Improvement Program**
 ➤ **SSO data**

Table 4. SSOs Caused by Hydraulic Limitations

| | 2008 | 2009 | 2010 | 2011 | 2012 |
|--|----------|----------|----------|----------|------|
| Number of SSOs caused by capacity limitations | 0 | 0 | 0 | 0 | |

39. Does the SSMP contain up-to-date information about your agency’s capacity assessment? YES / NO
40. Has your agency completed a capacity assessment and identified and addressed any hydraulic deficiencies in the system? YES / NO
41. If you answered NO to questions 39 and/or 40, describe content and schedule for necessary activities.

IX. MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

42. Does the SSMP contain up-to-date information about your agency’s data collection and organization? YES / NO
43. Is your agency’s data collection and organization sufficient to evaluate the effectiveness of your SSMP? YES / NO
44. If you answered NO to questions 42 and/or 43, describe content and schedule for necessary improvements.

X. SSMP AUDITS

45. Will this SSMP Audit be submitted with the Annual Report YES / NO

to the Regional Water Board by March 15?

XI. COMMUNICATION PROGRAM

REFERENCE MATERIAL

- **Mailings and mailing lists**
- **Website**
- **Other communication records such as newspaper ads, site postings, or other outreach**
- **Customer feedback**

46. Does the SSMP contain up-to-date information about your agency's public outreach activities? YES / NO

47. Does the SSMP contain up-to-date information about your agency's communications with satellite and tributary agencies? YES / NO

48. Has your agency effectively communicated with the public and other agencies about the SSMP, and addressed feedback? YES / NO

49. If you answered NO to questions 46, 47, and/or 48, describe content and schedule for necessary improvements.

Appendix C

Sanitary Sewer Management Plan Formal Adoption Documents