CITY OF REDLANDS

SEWER SYSTEM

MANAGEMENT PLAN

Adopted: September 5, 2023

Resolution No: 8509

WDID # 8SSO10558

LAST UPDATE PREPARED BY:

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Regulatory Compliance Officer
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PART A: EXECUTIVE SUMMARY

To provide a consistent, statewide regulatory approach to address Sanitary Sewer Overflows (SSOs), the State Water Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 (Order) on May 2, 2006. The Order requires public agencies that own or operate sanitary sewer systems to develop and implement Sewer System Management Plans (SSMP) and report all Sanitary Sewer Overflows (SSOs) to the State Water Board's online SSO database.

The Order declares the following:

1. 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 Works (POTW) in the State of California are required to comply with the terms of (this) Order.

2. SSOs are overflows from sanitary sewer systems of domestic wastewater, as well as industrial and commercial wastewater, depending on the pattern of land uses in the area served by the sanitary sewer system. SSOs often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen-demanding organic compounds, oil and grease and other pollutants. SSOs may cause a public nuisance, particularly when raw untreated wastewater is discharged to areas with high public exposure, such as streets or surface waters used for drinking, fishing, or body contact recreation. SSOs may pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.

3. Sanitary sewer systems experience periodic failures resulting in discharges that may affect waters of the state. There are many factors (including factors related to geology, design, construction methods and materials, age of the system, population growth, and system operation and maintenance), which affect the likelihood of an SSO. A proactive approach that requires Enrollees to ensure a system-wide operation, maintenance, and management plan is in place will reduce the number and frequency of SSOs within the state. This approach will in turn decrease the risk to human health and the environment caused by SSOs.

4. Major causes of SSOs include grease blockages, root blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, excessive storm or ground water inflow/infiltration, debris blockages, sanitary sewer system age and construction material failures, lack of proper operation and maintenance, insufficient capacity and contractor caused damages. Many SSOs are preventable with adequate and appropriate facilities, source control measures and operation and maintenance of the sanitary sewer system.

The City of Redlands (City) is enrolled in the Order under Waste Discharge Identification Number (WDID) 8SSO10558 and is located in San Bernardino County with neighboring cities that include Loma Linda, San Bernardino, Highland, Mentone, Yucaipa, and unincorporated areas of San

Bernardino County. According to the 2020 United States Census Bureau data from April 1, 2020, the estimated population of the City is 73,168. The City's service area is approximately 36 square miles (see Figure 1 below).

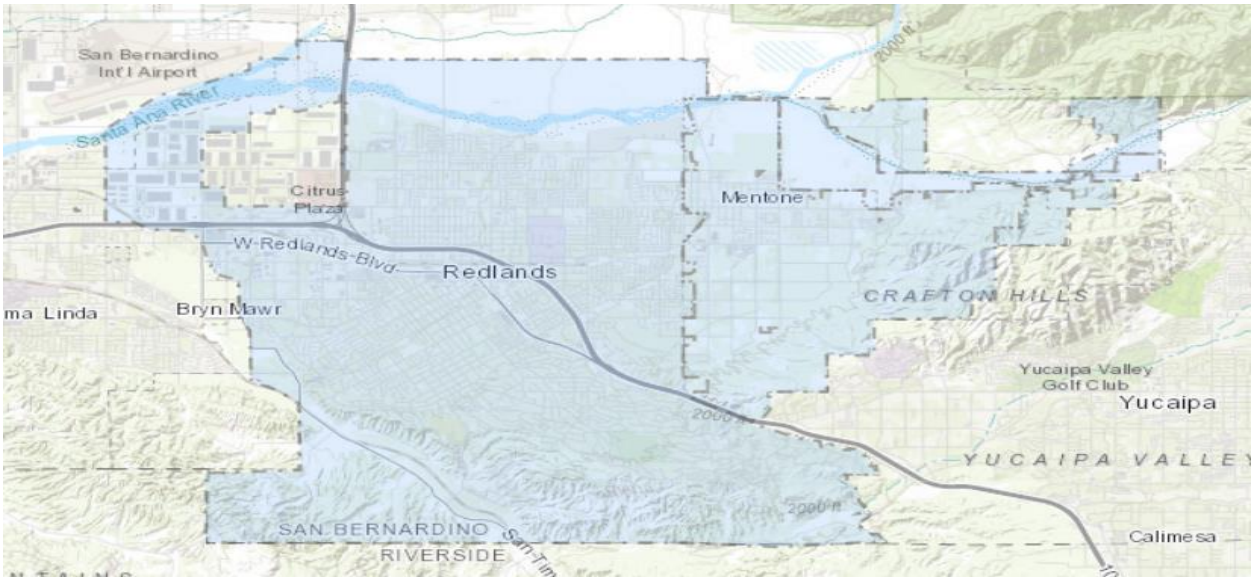


Figure 1-City of Redlands Map of Service Area

The City owns and operates a POTW which includes a wastewater collection system that consists of approximately 245 miles of gravity pipelines, ranging from 6 inches to 48 inches in diameter. Dischargers into the wastewater collection system include residential, commercial, and industrial sources thorough approximately 20,000 private lateral connections. The property owner is responsible for the private lateral from the City's main line to the building.

To overcome hydraulic challenges, a portion of the wastewater collection system is diverted to a lift station that receives an average flow of 3.0 Million Gallons per Day (MGD) and has a maximum capacity of 7.8 MGD. The sewage flow from the lift station is pumped through a pressure force main that is 14 inches in diameter and approximately 3.5 miles in length and a redundant section that is 12 inches in diameter and runs the entire length. The lift station is designed with an overflow bypass pipe network to divert flow in the event of a power outage or pump failure. There are three siphons located throughout the City which are monitored and cleaned on a regular basis. Tables 1-4 below further describe the wastewater collection system inventory.

Discharges into the wastewater collection system are conveyed to the City's Wastewater Treatment Plant (WWTP) which has been upgraded and expanded several times to its current design capacity of 9.5 MGD with an average daily influent flow of 6 MGD. The waste treatment process includes conventional treatment through an activated sludge process and tertiary treatment through a bio-membrane reactor process. The conventional treated waste is discharged to percolation ponds for percolation into the ground water. The tertiary treated waste is properly chlorinated and distributed through the City's recycled water distribution system for landscape irrigation and other approved uses. The City is permitted to discharge treated wastewater under Santa Ana Regional Water Quality Control Board Waste Discharge Requirement Order No. R8-2006-0008, amending Order No. 98-54.

Approx. Length by Pipe Material (ft.)											
Diameter	**ACP**	**CI**	**CON**	**DI**	**ELACSP**	**PVC**	**RCP**	**TRUSS**	**UNK**	**VCP**	**Total**
3										200	200
4									533	1,910	2,443
6						379				31,828	32,207
8	1,096	809		4,225		202,028		1,853	5,796	785,984	1,001,791
10			1,149	663		350				32,546	34,708
12		1,627				13,815		1,318		56,755	73,515
14				30		9,240			3	626	9,899
15						11,797			10	45,310	57,117
18				219	671	1,011				43,135	45,036
20					663					2,180	2,843
21										14,117	14,117
24				358						16,588	16,946
27					2,338					2,138	4,476
30				1,471	1,324					9,330	12,125
36										130	130
48							1,432				1,432
Total	1,096	2,436	1,149	6,966	4,996	238,620	1,432	3,171	6,342	1,042,777	1,308,985

ACP= Asbestos Cement Pipe CI= Cast Iron CON= Concrete DI= Ductile Iron ELACSP= Elastomeric Coated Steel Pipe
PVC= Polyvinylchloride RCP= Reinforced Concrete Pipe VCP= Vitrified Clay Pipe TRUSS = Truss Pipe UNK = Unknown

Table 1: Inventory of Sewer Line by Size and Material of Construction

Pipeline Type	Install Year	# of Segments	Approx. Length (miles)
Gravity	Unknown	11	1
	1902-1949	229	13.4
	1950-1959	639	31
	1960-1969	862	38
	1970-1979	1160	52.4
	1980-1989	1105	47
	1990-1999	538	22.5
	2000-2009	741	31.3
	2010-2021	171	7.5
Force Mains	1989-1990	2	3.5

Table 2: Inventory of Sewer Lines by Pipe Age

Siphon Name	Location	Size	Material	Age
Nevada	MH 5-4; MP I37	21”	VCP	1986
Kansas	MH 9-8; MP J36	24”	VCP	1960
Domestic	MH 12; MP N35/ MH 14 MP N36	18”	VCP	1987

MH- Manhole MP- Map Page VCP= Vitrified Clay Pipe

Table 3: Inventory of Siphons

Pump Station Name	Location	Pumps	Manufacture	Design Flow
Mountain View Lift Station	Mountain View & San Bernardino	2	Fairbank-Morse	3.5 MGD

Table 4: Inventory of Pump Stations

Under the Order the City is required to manage its wastewater collection system effectively and achieve the following objectives:

- Comply with all conditions of the Order.
- Take all feasible steps to eliminate SSOs and in the event of an SSO, mitigate the impact.
- In the event of an SSO, take all feasible steps to prevent untreated or partially treated discharge from entering any flood control channel or waters of the United States by protecting the storm drain system from an SSO and recover as much discharge as possible.
- Report all SSOs in accordance with the Order.
- Control, limit, terminate, recover, and dispose of any discharge associated with an SSO appropriately.
- Implement all remedial actions necessary that include intercepting/rerouting an SSO around a line failure; vacuum truck recovery of an SSO and wash down water; clean-up of debris; system modifications to prevent a reoccurrence; adequate sampling when appropriate to determine the nature of the impact and adequate public notification when appropriate to protect the public from exposure.
- Manage, maintain, and operate all aspects of the wastewater collection system and provide proper training to system operators, contractors, and other agents.
- Ensure that adequate resources are allocated to the operation, maintenance, and repair of the wastewater collection system. This includes proper rate structure, accounting mechanisms, and suiting procedures.
- Ensure that the wastewater collection system has the design capacity to reasonably prevent SSOs which include design storm events.
- Prepare and implement a written SSMP and make it available to the public and regulators and have the SSMP approved by the governing board at a public meeting.
- Ensure that all engineering and geological evaluations and judgments are prepared by, or under, appropriately qualified professionals. In accordance with the California Business and Professional Code sections 6735, 7835 and 7835.1.
- Certify the SSMP to be in compliance with the Order and acquire governing board approval at a public meeting.
- Perform wastewater collection system certifications, audits, and updates in accordance with the Order at the required frequency with the required certifications and approvals.

In addition, the SSMP must contains the following eleven elements:

1. Goals
2. Organization
3. Legal Authority
4. Operation and Maintenance Program
5. Design and Performance Provisions
6. Sewer Spill Emergency Response Plan
7. FOG Control Plan
8. System Evaluation and Capacity Assurance Plan
9. Monitoring, Measurement and Program Modifications
10. SSMP Program Audits
11. Communication Program

PART B: ACRONYMS

Acronym	Meaning
ACP	Asbestos Cement Pipe
APP	Application
BMP	Best Management Practice
CAL-OES	State of California Office of Emergency Services
CCTV	Closed Circuit Television
CI	Cast Iron
CIP	Capital Improvement Projects
CIWQS	California Integrated Water Quality System
CODE	Redlands Municipal Code
CON	Concrete Pipe
DI	Ductile Iron
ELACSP	Elastomeric Coated Steel Pipe
EPA	Environmental Protection Agency
FOG	Fats, Oil, and Grease
FSE	Food Service Establishment
FTE	Fulltime Equivalent
GIS	Geographical Information System
GRD	Grease Removal Device
LACP	Lateral Assessment Certification Program
LRO	Legally Responsible Official
MGD	Million Gallons a Day
MH	Maintenance Hole or Manhole
MACP	Manhole Assessment Certification Program
MP	Map Page
MUED	Municipal Utilities and Engineering Department – City of Redlands
NASSCO	National Associations of Sewer Service Companies
O&M	Operations and Maintenance
Order	Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 & 2013-0058-exec
PACP	Pipeline Assessment Certification Program
POTW	Publicly Owned Treatment Works
PVC	Polyvinyl Chloride Pipe
RCO	Regulatory Compliance Officer
RCP	Reinforced Concrete Pipe
RMC	Redlands Municipal Code
RWQCB	Regional Water Quality Control Board
SERP	Sewer Spill Emergency Response Plan (Also referred to as Overflow Emergency Response Plan (OERP))
SSMP	Sanitary Sewer Management Plan and all elements and change log
SOP	Standard Operating Procedure
SSO	Sanitary Sewer Overflow
SWRCB	State Water Resources Control Board
TRUSS	Truss Pipe
UNK	Unknown as to pipe material
VCP	Vitrified Clay Pipe
WCSS	Wastewater Collection System Supervisor
WCSW	Wastewater Collection System Worker
WDID	Waste Discharge Identification
WWTP	Wastewater Treatment Plant

Table 5: Acronyms

PART C: SSMP ELEMENTS

1. Goals

> Order Sec. D.13.(i) Goals: 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 do occur. To mitigate the impact of SSOs

The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the wastewater collection system to reduce and prevent SSOs as well as mitigate any SSOs that do occur. As such the City has established the following goals:

a. To provide resources necessary to properly manage and implement the City's SSMP;

b. To continuously improve upon the design and construction of the wastewater collection system to effectively reduce infiltration and inflow and ensure sufficient capacity for years to come;

c. To identify, prioritize, and correct deficiencies to minimize costs, maximize the life of the wastewater collection system, and to maintain its reliability;

d. To properly train and equip staff to mitigate the impact of a SSOs and to provide appropriate response for the protection of public health and the environment;

e. To provide education and public outreach to residents and industrial users with a focus on behaviors that are detrimental to the wastewater collection system and negatively impact public health and the environment; and

f. To provide a comprehensive training program, safety equipment, and tools needed to perform work in a safe and effective manner.

2. Organization

> Order Sec. D.13.(ii) Organization: The SSMP must identify:
> a) The name of the responsible or authorized representative as described in Section J of this Order (SSS WDR).
> b) The names and telephone numbers for management, administrative, and maintenance positions responsible 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 (Cal OES)).

The City of Redlands is a general law city incorporated in 1888. It is governed by a City Council/City Manager form of government. The wastewater collection system is managed by the City's Municipal Utilities and Engineering Department (MUED) with key management and supervisory roles and access to other departments within the City to provide support services. The City's organizational structure in relation to managing and implementing the SSMP include the following:

a. City Council: The City Council consists of five representatives chosen by district through an electoral process and is the governing body of the City.

b. The Mayor and Mayor Pro Tempore: City Council members elected by City Council who are responsible for setting policy, enacting legislation, authorizing public improvements, approving contracts, and adopting regulatory plans and the budget under which the City operates.

c. City Manager: Appointed by the City Council as the chief administrator for the City and responsible for the overall implementation of City Council's objectives.

d. Offices of the City Manager: Responsible for overseeing the City's budget, public relations, purchasing, human resource activities, and risk management. This department works under the direction of the City Manager.

e. Development Service Department: Responsible for review of various types of land use applications, plan checks, and performing plan check inspections to ensure compliance with State and City codes, standards, and other governmental requirements. This department works under the direction of the City Manager.

f. Facilities and Community Service Department: Responsible for operating vital City services as well as providing support services for other City departments including customer service and the purchase and maintenance of City owned vehicles and equipment. This department works under the direction of the City Manager.

g. Management Services Department: Responsible for activities related to finance, revenue, utility billing, customer service, Geographic Information Systems (GIS) and Innovation & Technology. This department works under the direction of the City Manager.

h. MUED: Responsible for the following:
    - Wastewater Division and other public utilities.
    - Engineering Division / City Engineer:
        - Review and inspection of development proposals for compliance with State and City codes, standards, and other governmental requirements;
        - Management, rehabilitation, and replacement of infrastructure such as sewer mains; and
        - Development and construction of new public facilities.
    - Customer Service: Responsible for providing customer assistance to the public for MUED related matters and communicating with MUED staff.

- Administration: Responsible for assisting MUED staff with administrative activities such as procurement, purchasing, budget, accounts payable, and accounts receivable; and

i. MUED Director: Duly Authorized Representative for MUED and responsible for the management and implementation of the SSMP by establishing policy; planning; leading staff; delegating responsibility; allocating resources; and authorizing outside contractors to perform services. Staff in this position work under the direction of the City Manager.

j. Wastewater Utility Manager: Responsible for overseeing responsibilities related to the management and implementation of the SSMP and the operation and maintenance of the City's wastewater treatment plant and wastewater collection system. Designated as a Legally Responsible Official (LRO) through the California Integrates Water Quality System (CIWQS). Staff in this position work under the direction of the MUED Director.

k. Laboratory Manager: Responsible for the overall operations of a certified environmental laboratory for the purpose of water and wastewater sample analysis including samples originating from an SSO. This person works under the direction of the MUED Director.

l. Laboratory Analysist: Responsible for receiving, handling, and analyzing samples for specific constituents using EPA 40 CFR 136 approved methods and documenting those results. Staff in this position work under the direction of the Laboratory Manager.

m. Regulatory Compliance Officer (RCO): Designated as a LRO through CIWQS and responsible for notifications to appropriate State and local authorities, managing and implementing regulatory programs such as the SSMP; regulatory reporting; and other compliance related tasks for MUED. Staff in this position work under the direction of the City Engineer.

n. Wastewater Collection System Supervisor (WCSS): Designated as the Data Submitter through CIWQS and is responsible for implementing SSMP related tasks and overseeing field operations and maintenance activities, leading emergency SSO response, and train field crew. Staff in this position work under the direct supervision of the Wastewater Utility Manager for day-to-today activities and adhere to guidance detailed by the RCO regarding regulatory programs and regulations, which includes the SSMP.

o. Wastewater Collection System Worker (WCSW): Responsible for the maintenance and inspection of the wastewater collection system, documentation on the condition of the system, reporting deficiencies, and documenting activities. This includes responding to sewer related call outs and remediating spills. Staff in this position work under the direction of the WCSS.

p. Wastewater Operations Supervisor: Responsible for the day-to-day operations activities related to wastewater treatment facilities, including pump stations. Staff in this position work under the direction of the Wastewater Utility Manager.

q. Wastewater Maintenance Foreperson: Responsible for the day-to-day maintenance activities related to wastewater treatment facilities, including pump stations. Staff in this position work under the direction of the Wastewater Operations Supervisor.

r. Wastewater Maintenance Staff: Responsible for maintenance of wastewater facilities and related processes, including pump stations. Staff in this position work under the direction of the Wastewater Maintenance Lead.

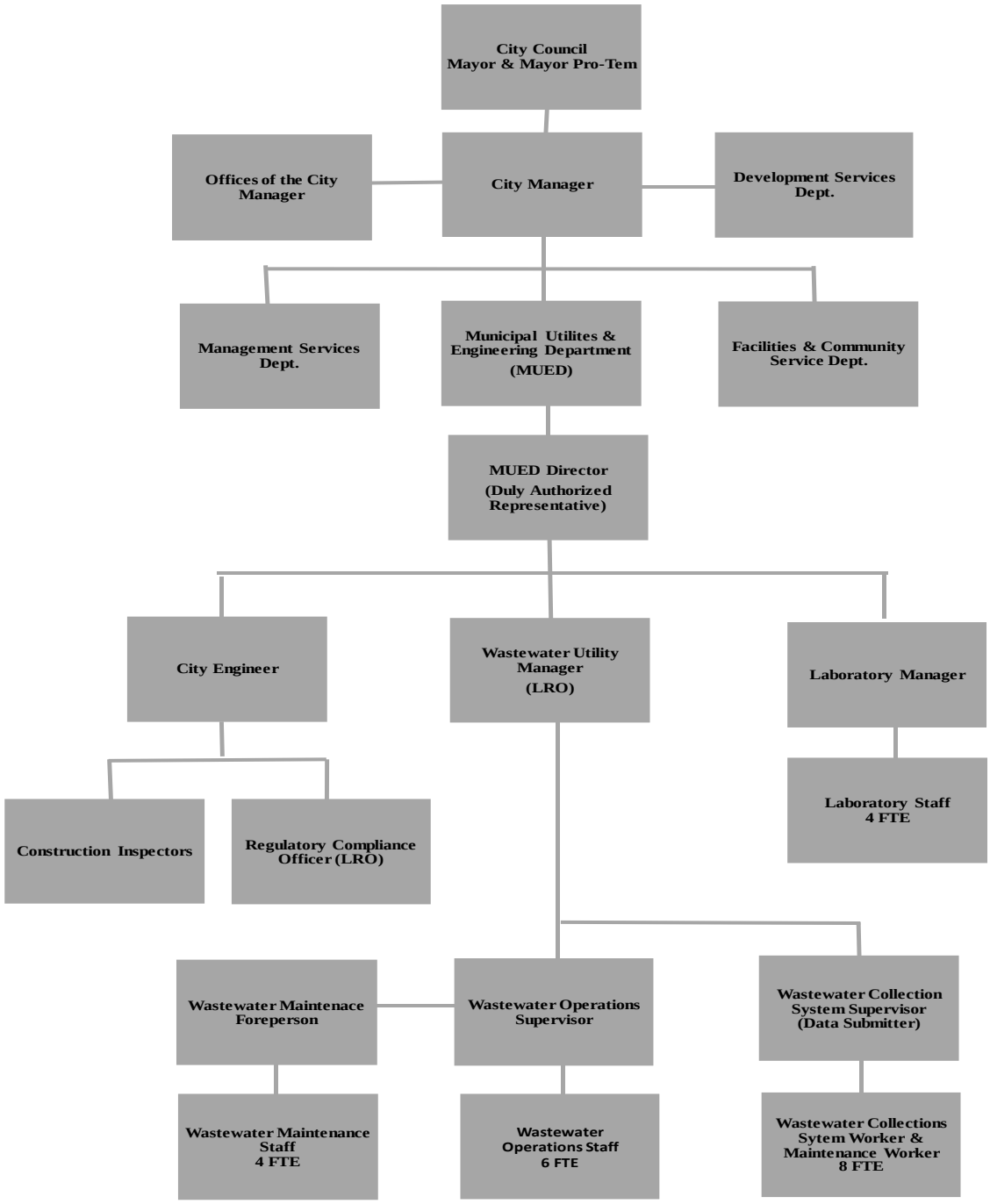


Figure 2: City of Redlands SSMP Implementation Organization Chart

2.1 RESPONSIBILITY FOR SSMP IMPLEMENTATION AND MAINTENANCE

Several City staff work in conjunction with one another for the development, implementation, and maintenance of the SSMP. Below is a list of responsibilities of key staff.

SSMP Element	Responsible City Position	Contact Number	Email Address
1-Goal	MUED Director	909-798-7698	jharris@cityofredlands.org
2-Organization	MUED Director	909-798-7698	jharris@cityofredlands.org
3-Legal Authority	MUED Director	909-798-7698	jharris@cityofredlands.org
4- O&M Program	Wastewater Utility Manager; Wastewater Operations Supervisor; Wastewater Maintenance Foreperson; WCSS	909-841-3142 909 353-9049 909- 557-6653 909-684-9472	fmata@cityofredlands.org jhamburger@cityofredlands.org skilday@cityofredlands.org jestrada@cityofredlands.org
5- Design & Performance	City Engineer	909-798-7698	gdobey@cityofredlands.org
6-SERP	Wastewater Utility Manager; RCO; WCSS	909-841-3142 909-557-6298 909-684-9472	fmata@cityofredlands.org ssimmers@cityofredlands.org jestrada@cityofredlands.org
7-FOG Control Program	RCO WCSS	909-557-6298 909-684-9472	ssimmers@cityofredlands.org jestrada@cityofredlands.org
8- System Evaluation & Capacity Assurance Plan	City Engineer	909-798-7698	gdobey@cityofredlands.org
9- Monitoring, Measuring &Program Modification	RCO	909-557-6298	ssimmers@cityofredlands.org
10-SSMP Program Audits	RCO	909-557-6298	ssimmers@cityofredlands.org
11-Communication	MUED Director	909-798-7698	jharris@cityofredlands.org

Table 6: Responsible Officials

2.2 SSO REPORTING CHAIN OF COMMUNICATION

The reporting chain of communication is listed below in Table 7: Reporting Chain of Communication for SSO Response. The communication chain begins with the receipt of complaint and continues to the reporting and follow-up activities.

Step	Responsible City Position	Description
Step 1:	Customer Service	Customer service staff receives notification via customer service line, City of Redlands 311 app, or other City resource. Information is documented and a work

(During business hours)		order is initiated. Phone contact is made to the WCSS, or designee, and the work order is emailed to the WCSS and RCO.
Step 1: (After business hours)	Police Department	Police department receives notification, and the information is documented. A phone call is initiated to the on-call wastewater collection system staff. The WCSS will initiate the work order the following business day and forward it to customer service.
Step 2: (During business hours)	WCSS	The WCSS evaluates the sewer complaint to determine appropriate response and resources based on details provided in the notification. Response is then initiated.
Step 2: (After business hours)	On-Call Wastewater Collection System Staff/Standby Employee	Initial Assessment: On-call staff evaluates the sewer complaint to determine appropriate response and resources based on details provided in the notification. Response is then initiated.
Step 3:	First Responder-WCSS, and/or WCSW	Field Assessment: The first responder at the SSO performs a quick assessment of the situation to determine what type of action is needed. If possible, photos are taken to document the condition upon arrival. The first responder will request additional resources if necessary and communicate the situation with supervising staff. If it is determined that the spill has the potential to meet the criteria for two-hour regulatory notification RCO is contacted.
Step 4:	Wastewater Collection System Staff On-Scene	If the cause of the SSO is from the City's mainline wastewater collection system staff will: • Relieve the blockage. • Take necessary measures to prevent the SSO from entering, or continuing to enter, into the City's storm drain system or other sensitive areas. • Contain, recollect, and return the spill to the sanitary sewer system. • Protect the public from the spill. • Perform clean-up activities. • Provide customer service packet(s) to affected residents if necessary. • Communicate SSO response progress to supervising staff. If the cause of the SSO is not from City's mainline wastewater collection system staff will: • Take necessary measures to minimize the environmental and public health impacts under the direction of the WCSS and RCO. • Make contact with affected resident(s) or other property representative(s). • Provide customer service packet(s) to the affected resident(s) if necessary. All SSO Appearances: • Document incident and complete necessary forms. • Take photographs throughout the response and clean-up process.
Step 5:	WCSS	If the spill reaches a waterbody the WCSS will notify the RCO immediately. WCSS will ensure that appropriate signage and barriers are in place and picture of signage are collected.
Step 6:	RCO	In the event a spill has the potential to meet the criteria for immediate notification RCO will perform an initial assessment to determine appropriate action. Upon determination of spill that meets the criteria RCO will contact City Emergency Operations Specialist, Office of Emergency Services (CAL/OES), and any additional agencies as directed by CAL/OES. If the spill exceeds 50,000 gallons, the RCO will initiate the sampling protocol. RCO will follow any additional instructions provide by CAL/OES or other regulating authorities.

Step 7:	WCSS	WCSS to review incident documentation and provide necessary forms and documentation to RCO in advance of CIWQS reporting deadlines.
Step 8:	RCO	The RCO reviews information provided by WCSS and reports the spill in CIWQS as required. If necessary RCO will make any additional notification to CAL/OES, and environmental health agencies and other regulating authorities.
Step 9:	RCO	Within 30 days of a Category 1 or Category 2 spill RCO to review entire incident with the WCSS and conduct debrief meetings to assess the need for program review, system modification, additional resources, and/or training; and determine if reporting was done in accordance with regulatory requirements, acting where necessary.

Table 7: Reporting Chain of Communication for SSO Response and Reporting

3. LEGAL AUTHORITY

Order Sec. D.13.(iii) Legal Authority: 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 (examples may include infiltration and inflow (I/I), storm water, chemical dumping, unauthorized debris and cut roots, etc.…);
b) Require that sewers and connections be properly designed and constructed;
c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;
d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and
e) Enforce any violation of its sewer ordinances.

The City is required to possess the necessary legal authority to:

a. Prevent illicit discharges into its sanitary sewer system;
b. Require that sewers and connections be properly designed and constructed;
c. Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;
d. Limit the discharge of fats, oils, and grease and other debris that may cause blockages; and
e. Enforce any violation of its sewer ordinances.

The City has established legal authority by way of City Code, Title 1 -19. The City of Redlands Municipal Code (RMC) is maintained electronically and the most current version is available at https://codelibrary.amlegal.com/codes/redlandsca/latest/redlands_ca/0-0-0-1. In addition, the City has adopted the California Plumbing Code.

Requirement	Legal Authority
Prevent illicit discharges into the wastewater collection system.	RMC 13.52.030(A)(1-17)
Require that sewers and connections be properly designed and constructed.	RMC 15.08 CA Plumbing Code
Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency.	RMC 13.44.160

Limit the discharge of fats, oils, and grease and other debris that may cause blockages.	RMC 13.52.40 (B) (3) CA Plumbing Code
Enforce any violation of its sewer ordinances.	RMC 1.22.030 RMC 13.52.010 RMC 13.52. (110-130)

Table 8: Summary of Legal Authority

4. OPERATIONS AND MAINTENANCE PROGRAM

Order Sec. D.13.(iv) Operation and Maintenance Program. The SSMP must include those elements listed below.

a) that are appropriate and applicable to the Enrollee's system:
b) 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 storm water conveyance facilities;
c) 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;
d) Develop 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
e) 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;
f) Provide training on a regular basis for staff in sanitary sewer system operations, maintenance, and require contractors to be appropriately trained; and
g) Provide equipment and replacement part inventories, including identification of critical replacement parts.

The City has developed certain Operation and Maintenance (O&M) elements to allow for effective management of its wastewater collection system and to achieve the goals outlined in the SSMP.

4.1 GIS MAPPING

The Management Services Department, Division of Innovation & Technology department is responsible for maintaining an up-to-date map of the sanitary sewer system using Geographic Information System (GIS) technology which has enhanced the City's ability to adapt to future changes in infrastructure and land use. The wastewater collection system GIS map includes all wastewater collection system line segments, manholes, pumping facilities, pressure pipes, valves, and the City's stormwater conveyance system. The City has a technical team in place to perform routine mapping updates and add new and modified assets as they are received from the Planning Department, Building and Safety, and MUED staff. In addition, the GIS mapping system can

maintain individual collection points in the field for information updates, corrections, and comments. Any change, additions, and comments to the system made in the field are sent automatically to the GIS team so that they can be incorporated into the GIS mapping system. Features included in the GIS mapping system include:

<table>
<tr>
<td><u>Manhole GIS Map Information</u>
✓ ID number or another unique identifier
✓ Location, with reference to streets and property lines
✓ Depth
✓ GPS coordinates
✓ Size
✓ Date built
✓ Rim elevation
✓ Invert elevation
✓ Material Type</td>
<td><u>Pump Stations GIS Map Information</u>
✓ ID number
✓ Location
✓ Capacity</td>
</tr>
<tr>
<td><u>Pipes and Siphon GIS Map Information</u>
✓ ID number or another unique identifier
✓ Location, with reference to streets, surface waters, property lines and manholes
✓ Size
✓ Direction of flow
✓ Length
✓ Material type
✓ Date built
✓ Slope
✓ Pipe invert elevations Service laterals</td>
<td rowspan="2"><u>Force Main GIS Map Information</u>
✓ ID number or another unique identifier
✓ Location, with reference to streets, surface waters, and property lines
✓ Direction of flow and pump station associated
✓ Length
✓ Material type
✓ Location of air release valves
✓ Date built
✓ Capacity
✓ Slope
✓ Invert elevations
✓ Plan or as-built ID number</td>
</tr>
<tr>
<td><u>Additional GIS Map Information</u>
Historical information online maintenance and inspection activities, sewer overflows, and anomalies</td>
</tr>
</table>

Table 9: GIS Wastewater Collection System Information

4.2 PREVENTATIVE MAINTENANCE PROGRAM

The City performs routine preventive operation and maintenance activities that includes a system for scheduling regular inspection and cleaning activities related to the wastewater collection system.

Fiscal Year	CCTV, miles	Percent of System	Cleaning, miles	Percent of System	Manhole Inspections (estimated)
18/19	36	14%	125	50%	50
19/20	37	15%	106	42%	50
20/21	56	22%	143	58%	50
21/22	52	21%	194	78%	50
Totals	180		373		200
Average Per Year	45	18%	142	57%	50

Table 10: Historical Inspection and Cleaning Activities

4.2.1 DOCUMENTATION AND WORK ORDER SYSTEM

The City uses several types of data management to document wastewater collection system activities which include excel, word, and PDF documents along with a computer program data management and filing system and GIS mapping. Work orders are issued by MUED customer service staff for sewer related call outs or other non-routine activities. Wastewater collection system staff responds accordingly and documents activities on the work order. Once the work order is completed a report is prepared and submitted to the originator and the work order is closed out. Documentation and data as a result of the work order are placed on-file on the MUED common drive for regulatory and historical purposes.

4.2.2 WASTEWATER COLLECTION SYSTEM RANKING PROCESS

Wastewater collections system staff delegated to perform wastewater collection system assessments include those certified through National Associations of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP), Lateral Assessment Certification Program (LACP), and Manhole Assessment Certification Program (MACP). This allows for proper and consistent assessment condition coding of pipelines, laterals, and manholes. This ranking system is used in evaluations for rehabilitation and replacement, Capital Improvement Projects (CIP), and future design and development.

4.2.3 WASTEWATER COLLECTION SYSTEM CLEANING PROGRAM

Routine Cleaning is performed on the collections system pipelines with the objective of cleaning the entire system within a three-year period at approximately 87 miles of pipeline each year along with targeted repeat cleaning activities. Achieving this objective is dependent on the availability of resources and allocation of those resources to other projects within the City. Cleaning results are documented and submitted to the WCSS for review. Documentation and data from the cleaning activities are placed on-file on the MUED common drive for regulatory and historical purposes.

Targeted repeat cleaning, referred to as high frequency cleaning, is performed throughout the year. The wastewater collection system is continually assessed to determine areas that may need to be added to the high frequency cleaning list and if repairs or replacement is warranted. Part of the assessment includes a rating system for repair and replacement needs. These results are used to prioritize rehabilitation and replacement projects and to determine the need for CIP. Additionally, high frequency locations are reassessed from time-to-time to determine if the frequency of cleaning is sufficient or if there is a need to modify frequency or remove the area from the list. The cleanings are performed at monthly, quarterly, semi-annual, and annual intervals.

Type	Clear	Light	Moderate	Heavy
Code	Code: CL	Code: DL	Code: DM	Code: DH
Debris	No observable amount	Minor amounts	< 5 gallons per line segment	> 5 gallons per line segment
		15 minutes or less to clean	15-30 minutes to clean	> 30 minutes to clean
		1 pass	2-3 passes	More than 4 passes
				Concern for future stoppage

Grease	No observable amount	Minor amounts	Small "chunks"	Big "chunks" or "logs"
		15 minutes or less to clean	No "logs"	> 30 minutes to clean
		1 pass	15-30 minutes to clean	More than 4 passes
			2-3 passes	Concern for future stoppage
Roots	No observable amount	Minor amounts	Thin "stringy" roots	Thick roots
		15 minutes or less to clean	No "clumps"	Large "clumps"
		1 pass	15-30 minutes to clean	> 30 minutes to clean
			2-3 passes	More than 4 passes
				Concern for future stoppage
Other: Pipe wall fragments soil/rock/dirt	No observable amount	Specify material if possible	Specify material	Specify material
		Minor amounts	< 5 gallons per line segment	> 5 gallons per line segment
				Concern for future stoppage

Table 11: Sewer Line Cleaning Observation Codes

4.2.4 WASTEWATER COLLECTION SYSTEM INSPECTION PROGRAM

Routine and non-routine inspections are performed on the collections system each year. Achieving this objective is dependent on the availability of resources and allocation of those resources to other projects within the City. Inspection results are used to prioritize rehabilitation and replacement projects and to determine the need for CIPs. Documentation and rating data from the inspections are filed appropriately for regulatory and historical purposes.

4.2.5 MAINTENANCE HOLE/ MANHOLE INSPECTION

Routine inspection is performed on all maintenance holes/ manholes to allow for the identification of worn-out frame and cover assemblies, damaged concrete cones, and other deficiencies. Findings are documented and submitted to the WCSS for review. Most repairs to manholes are performed by a contractor on an as needed basis. In addition, contractor performing work within the City is responsible for raising covered manholes to grade after street improvements.

4.2.6 VISUAL SEWER LINE INSPECTION

The wastewater collections system is visually inspected during routine cleaning and at the indication of a sewer line issue to observe flow levels, the condition of assets, and all other indicators of a potential problem. Findings are documented and submitted to the WCSS for review.

4.2.7 VIDEO INSPECTION

Video inspection is performed using advanced inspection equipment and vehicles on a routine bases with the objective of inspecting approximately 45 miles of gravity sewer line per year with more frequent inspections performed in suspected or known problem areas. Certain activities and conditions warrant non-routine inspection such as pretreatment program investigations, indication

of a sewer line issue, and evaluating newly installed/repaired assets and private laterals. Findings are documented and submitted to the WCSS for review.

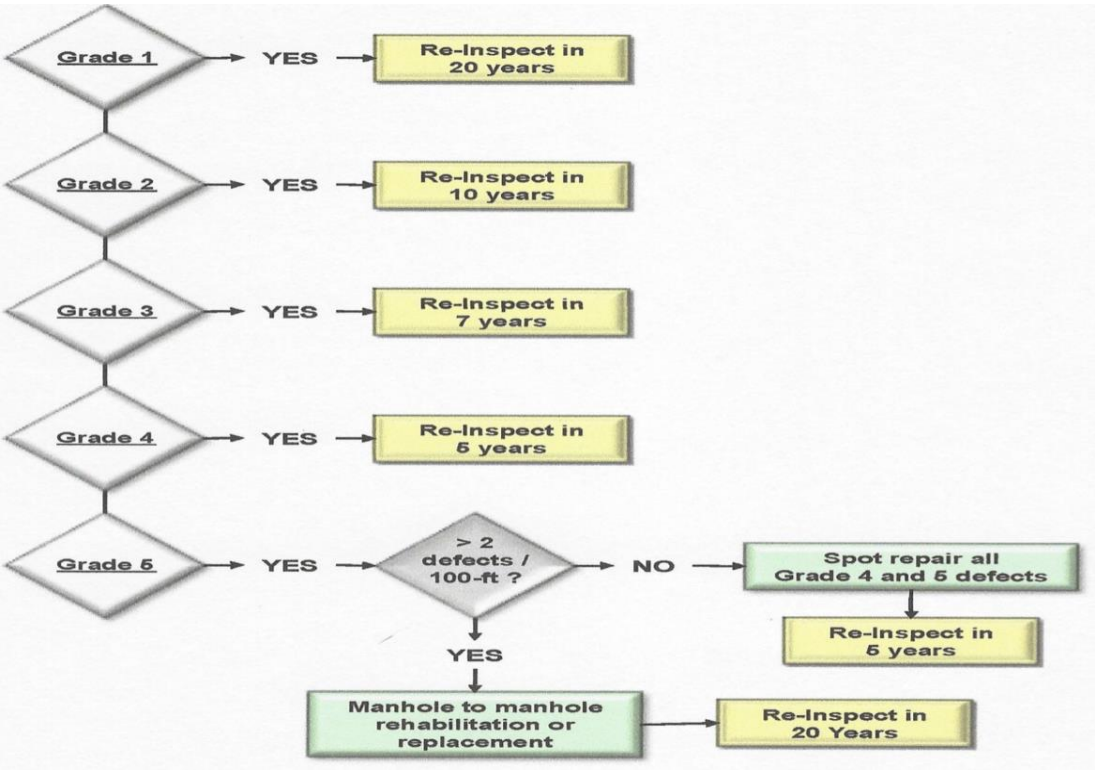


Figure 3: CCTV Inspection Return Frequency

4.2.8 CONDITIONS REQUIRING IMMEDIATE ACTION

In the event a condition is found during cleaning and inspection activities or during a sewer call out that requires immediate action the WCSS evaluates the need for an outside contractor to perform emergency repairs. For the protection of the public and the environment as well as City personnel and assets the City maintains a service agreement with an outside contractor to provide emergency repair services. Once a determination is made the contractor is notified and an emergency response is initiated.

4.2.9 ON-CALL SEWER LINE MAINTENANCE

In the event the City's wastewater collection system resources are temporarily compromised or deemed insufficient for a particular situation or project the City maintains a service agreement with an outside contractor to provide support. Once a determination is made the contractor is contacted and a support response is initiated.

4.2.10 SIPHON MAINTENANCE PROGRAM

Every three months a visual inspection is performed by experienced Wastewater Collection System Workers and results are documented in the GIS system to ensure each siphon is cleared of

debris and sediment. Periodic video inspection is performed on each siphon based on finding during visual inspection.

4.2.11 FORCE MAIN/ LIFT STATION

The Mountain View Lift Station has a current design capacity of 3.5 Million Gallons per Day (MGD). The sanitary flow from the lift station is pumped through one of two force mains, one with a 12-inch diameter and the other with a 14-inch diameter pipeline. The lift station is maintained and operated by WWTP operations and maintenance staff and continually monitored through Supervisory Control's and Data Acquisition, otherwise referred to as SCADA. A daily walkthrough is performed by wastewater operations staff to obtain flow and other readings. Weekly inspections are performed by wastewater maintenance staff and include routine greasing of pumps and motors.

4.2.12 ROOT CONTROL

To control sewer pipeline damage and sewer line blockages and back-ups related to root intrusion the City maintains a service agreement with a third-party contract to apply a chemical root control agent designed specifically to kill the root growth present in the lines. The treatment also inhibits root re-growth and sewer line intrusion without permanently damaging the vegetation producing the roots and without disrupting the wastewater treatment plant processes. Each year approximately 14,300 liner feet of main sewer line is serviced.

4.2.13 ROACH CONTROL

To control roach infestation within the wastewater collection system which, if left untreated has the potential to lead to a public nuisance and a health hazard, the City maintains a service agreement with a third-party contractor to apply a coating to upper portion of the manhole cone using a chemical designed not to interrupt the wastewater treatment plant process. Each year approximately 2300 manholes are treated.

4.3 REHABILITATION AND REPLACEMENT PLAN

The City has a routine rehabilitation and replacement process to identify and prioritize wastewater collection system deficiencies. This includes the development and implementation of multi-year CIPs to meet the needs identified so that the City can forecast funding sources, prioritize improvements based on funding available, and estimate a timeline for completion of individual improvements, both short and long term. The wastewater collections system preventative maintenance program is utilized to provide the necessary information though visual and video inspections with a ranking system to document findings. Priority is given to areas of the wastewater collection system that are at risk of collapse, prone to more frequent blockages due to defects, or other at-risk conditions that do not meet the qualifications for emergency repair.

4.4 TRAINING

The City considers training to be a high priority. Proper training ensures that the employee will be capable of performing their job in a safe and effective manner. Training is accomplished in

several ways and tends to be either job specific or general in nature. The employees are encouraged to seek additional training to improve their skills and technical trade on a continual basis. Training records are maintained for each employee electronically.

Skills training includes, but is not limited to:

- Routine Line Maintenance
- Heavy Equipment Operation
- Maintenance Equipment Operation
- Line Testing and Inspection
- Infrastructure Installation
- Pump Station Operation and Maintenance
- Electrical and Instrumentation
- Emergency Response
- Public Relations
- Safety
- SSO Response & Volume Estimation
- NASSCO

Safety training is obtained from qualified internal staff as well as contract safety trainers. The City expects employee's adherence to the following written safety policies and procedures:

- Illness & Injury Prevention Plan
- Confined Space Entry
- Seat Belt Policy
- Respiratory Protection Program
- Traffic Control
- Defensive Driving Program
- Cell Phone Policy

The wastewater collection system maintains appropriate safety equipment including protective clothing, safety glasses, hard hats, gloves, harnesses, tripods, hoists, fire extinguishers, atmospheric testing equipment and the City provides funding for safety boots. Lights, barricades, signage, and exhaust fans are also available at the wastewater collection system office and City corporation yard.

Some positions require a particular level of certification. Certifications can be achieved through organizations such as the California Water Environmental Association or other organizations that use Knowledge Skills and Ability assessments for certification purposes. Through the certification program the operators must obtain continuing education units which are achieved by attending a certain amount of technical training per certification term.

The following is a schedule of trainings that are completed at the indicated frequencies by the appropriate personnel using field training, technical training courses, webinars, and other training outlets:

- Safety Tailgates: Every Week
- Safety Equipment Training: Annually
- SSO Training: Annually
- Confined Space Entry: Annually
- Blood Borne Pathogens: Annually
- Hazardous Material Training: Annually
- Combination Vehicle Training: Annually
- CCTV Training: Annually
- Supervisor Training: Annually
- Traffic Control: Annually
- Cardiopulmonary Resuscitation and Arterial Defibrillation: Every Three Years
- National Associations of Sewer Service Companies (NASSCO): Every Three Years
- Pipeline Assessment Certification Program (PACP) Every: Three Years
- Lateral Assessment Certification Program (LACP): Every Three Years
- Manhole Assessment Certification Program (MACP): Every Three Years

4.5 EQUIPMENT REPLACEMENT PLAN

For the wastewater collection system lift station, the City maintains an adequate inventory of replacement parts which are warehoused at the location. The critical parts as well as other parts and equipment inventory are based on the manufacture operations manual for the specific equipment or device and general working knowledge of the system.

For cleaning and inspection activities within the wastewater collection system the various tools and equipment needed are warehoused at the WWTP. This includes two combination vehicles, one video inspection vehicle, an easement cleaner, and an air compressor trailer.

Regular inspections are performed on equipment and replacement parts to ensure that they can be used when needed. For those parts not readily accessible the City has vendors with open purchase orders that are utilized as needed and access to budget revenue. The City also maintains an open purchase order with a vendor to provide routine and as needed maintenance and repair for the combination and video inspection vehicles and the air compressor trailer.

Planned improvements and emergency repairs to the wastewater collection system are completed either through CIPs or through an open purchase order with a contractor for as needed emergency repairs. As such, the City does not maintain an inventory of parts and equipment related to those types of improvements and repairs.

4.5.1 CRITICAL PARTS INVENTORY

Description	Year Purchased	# Available	Location
Centrifugal Pump	2022	1	Lift Station
Pump Motor	2022	1	Lift Station

Table 12: Critical Parts Inventory

4.5.2 REPLACEMENT PARTS INVENTORY

Part Description	Number in Stock	Location
Manhole frame and cover	30	WWTP
Hose- Wastewater Collection System	2 spools	WWTP
Nozzles	6	WWTP
Valves	4	Lift Station
Hoses- Lift Station	3	Lift Station
Auto Switches	7	Lift Station
Power Supply	4	Lift Station
Relays	12	Lift Station

Table 13: Replacement Parts Inventory

4.6 CAPITAL IMPROVEMENT PROGRAM

The City's Capital Improvement Program includes both short- term and long-term capital planning with the goal of addressing necessary improvements identified through an assessment process to ensure that the wastewater collection system is reliable and sustainable and adequately designed and sized to meet future needs. The projects listed below include historical, current, and future CIPs.

Job Ledger	Project Description	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	Near-Term (2030)
73343	2018 Sewer Pipeline Cleaning and Inspection Services	$142,535					
73422	2019 CIP Sewer Pipeline Replacement		$973,060				
71353	2020 On-Call Sewer Repair			$250,000	$250,000		
521021	2021 CIP Sewer Pipeline Replacement				$266,062		
521010	Wastewater Master Plan Upgrade			$193,960			
P-0	System-wide Flow Monitoring					$162,000	
P-1	Cajon St, Cypress to Fern Ave, Pipeline Upsizing					$827,000	
P-2	Cajon St at Citrus Ave Pipeline Upsizing					$141,000	
P-3	Alabama St Pipeline Upsizing and Realignment					$4,967,000	
P-4	Brockton Ave Pipeline Upsizing						$445,000
P-5	Citrus Plaza Dr Pipeline Upsizing						$671,000
P-6	Nevada St Pipeline Upsizing						$2,452,000
P-7	San Bernardino Mountain View Lift Station Optimization Study					$40,000	
TBD	Sewer Pipeline Replacement Project					$3,000,000	
Total		$142,535	$973,060	$443,960	$516,062	$9,137,000	$3,568,000

Table 14: CIP Project-Historical and Projected

5. DESIGN AND PERFORMANCE PROVISIONS

D.13.(v) Design and Performance Provisions:

a) 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; and
b) Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

The City has established design and performance provisions through the Sewer System Standard Specifications, the adoption of the California Plumbing Code and the development of Sewer Notes that are required to be included in all plans and specifications for sewer improvements. These standards and specifications apply to the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects. Current standard details and specifications can be found on the City's website at www.cityofredlands.org/post/standard-details-specifications.

6 Overflow Emergency Response Plan

D.13.(vi) Overflow Emergency Response Plan - 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 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 the 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 WDR 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.

The City has developed an Overflow Emergency Response Plan (OERP), here in referred to as Sewer Spill Emergency Response Plan (SERP), and it is included in Appendix C. The objective of having a separate document is to provide a tool that can be used in the field as a reference while performing cleaning and inspection activities and emergency functions. The scope of the SERP is broader than the required scope of the SSMP and has been developed to satisfy the requirements of the Order.

6.1 PURPOSE

The purpose of the City's SERP is to support an orderly and effective response to SSOs. The SERP provides guidelines for City personnel to follow in responding to, cleaning up, and reporting SSOs that may occur within the City's service area and to comply with the Order.

6.2 POLICY

The City's employees are required to report all SSOs found and to take the appropriate action to secure the 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 will follow reporting procedures in regard to sewer spills as set forth by the RWQCB and the SWRCB.

6.3 GOALS

The goals with respect to responding to SSOs are as follows:

- Work safely;
- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Prevent SSOs or leaks from entering the storm drain system or receiving waters to the maximum extent practicable;
- Contain the SSO to the extent feasible;
- Minimize public contact with the SSO;
- 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.

6.5 AUTHORITY

This SERP is written in accordance with the Statewide Sanitary Sewer Systems General Order 2022-0103-DWQ which becomes in effect on June 5, 2023. In the event of a spill prior to the effective date of the new Order, the City will continue to categorize, report, and sample spills in accordance with:

- State Water Resources Control Board Order No. 2006-0003-DWQ; and
- State Water Resources Control Board Order No. 2013-0058-EXEC

7. FATS, OILS AND GREASE CONTROL PLAN

Order Sec. D.13.(vii) Fats, Oils, and Grease (FOG) Control Program: 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 for 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 (such as traps or interceptors) design standards for the removal devices, maintenance requirements, 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 establish 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 Order requires that a Fats, Oils, and Grease (FOG) program be developed and included as part of the dischargers SSMP, if deemed necessary. The City has determined that controlling FOG discharges from Food Service Establishments (FSEs) is an essential element in controlling SSOs, ensuring proper operations of the collection system and waste treatment facility, and to avoid negative impact from SSOs on human health and the environment. The FOG program is managed as part of the City's approved pretreatment program under RWQCB Order No. 98-54.

7.1 LEGAL AUTHORITY

The City of Redlands Municipal Code 13.52 (RMC) provides the legal authority to implement the FOG program. A summary of the applicable RMC from Ordinance No. 2268 are as follows:

Number	Municipal Code Section
13.52.010	General Provisions: (B) Administration "This Chapter shall apply to all discharges, whether direct or indirect, to the Wastewater Treatment Facilities, and authorizes the issuance of wastewater discharge permits; provides for monitoring, compliance, and enforcement activities; establishes administrative review procedures; requires user reporting; and provides for the establishment of fees for the equitable distribution of costs resulting from the program established herein. Except as otherwise provided herein, the City's Director of Municipal Utilities shall administer, implement, and enforce the provisions of this Chapter. Any powers granted or duties imposed upon the Director by this Chapter may be delegated by the Director to other City personnel"
13.52.020	Definitions: (T) Interceptor or Gravity Separation Interceptor,

13.52.030	Prohibited Discharge Standards: (A) (1) "…material in quantities or volume which will obstruct the flow of sewer or sewage in the public sewer or any object that will cause clogging of sewage pumps or sewage sludge or cause pumps or interfere pass through with the normal operation of the Wastewater Treatment Facilities…"
13.52.040	Pretreatment of Wastewater: Pretreatment Facilities (A) "Users shall provide wastewater treatment as necessary to comply with this Chapter and shall achieve compliance with all categorical pretreatment standards, local limits and the prohibitions of this Chapter within the time limit specified by EPA, the State, or the Director, whichever is more stringent. Any facilities necessary for compliance shall be provided, operated, and maintained at the user's expense…"
13.52.040	Pretreatment of Wastewater: (B) Additional Pretreatment Measures (3) "All non-domestic users shall be required to install and maintain a grease, oil and/or sand interceptor when the Director finds that such facility is necessary for the proper handling of liquid waste containing grease, flammable wastes, sand, or other harmful constituents which may be properly eliminated from the wastewater collection system by use of an interceptor…"
13.52.040	Pretreatment of Wastewater: (B) Additional Pretreatment Measures (3) "Such interceptors shall be inspected, cleaned, and repaired regularly, as needed, by the user at its expense. When an interceptor is cleaned, the removed sediment, liquid and floating material shall be legally disposed of other than to the City's POTW or storm drain.
13.52.040	Pretreatment of Wastewater: (B) Additional Pretreatment Measures (3) "All interceptor units shall be of the type and capacity approved by the Director and shall be so located to be easily accessible for cleaning and inspection
13.52.050	Waste Discharge Permit Application: (B) Waste Discharge Permit Requirements (2) "The Director may require other users to obtain wastewater discharge permits as necessary to carry out the purposes of this chapter."
13.52.080	Compliance Monitoring (A) Right of Entry: Inspection and Sampling. "The Director shall have the right to enter the premises of any user to determine whether the user is complying with all requirements of this Chapter and any wastewater discharge permit or order issued hereunder. Users shall allow the Director ready access to all parts of the premises for the purposes of examination and inspection, sampling, records copying, and the performance of any additional duties."
13.52.110	Administrative Enforcement Remedies: (A) Notice of Violation, (B) Compliance Order, (C) Emergency Suspension, and (D) Termination of Discharge
13.52.120	Judicial Enforcement Remedies: (A) Injunction Relief (B) Civil Penalties
13.52.120	Judicial Enforcement Remedies: (A) Injunction Relief (C) Criminal Penalties
13.52.130	Supplemental Enforcement Action: (C) Water Supply Severance and (D) Public Nuisance (D)
13.52.140	Miscellaneous Provisions: (A) Pretreatment Charges and Fees

Table 15: Legal Authority

7.2 GREASE REMOVAL DEVICE REQUIREMENTS

RMC section 13.52.40 (B) (3) requires that all grease generating facilities install a grease removal device if deemed necessary. The device shall be of the type and capacity approved and shall be so located to be easily accessible for cleaning and inspection. In addition, a sample box is to be installed downstream from the device, prior to connections with the sanitary sewer line. The grease interceptor and sample box must be of adequate capacity to sufficiently remove FOG from the wastestream and comply with City's standard design and specifications, California Plumbing Code, and no less than 750 gallons. The use of a hydro-mechanical device (or small grease trap)

is prohibited except under limited circumstances and requires approval in advance. If a variance is granted the alternative grease removal device type, design, capacity, and location must be accepted by the City and comply with County of San Bernardino Environmental Health Services Department requirements. Grease removal devices are not permitted in confined spaces or in other areas with the potential for hazards.

7.3 GREASE REMOVAL DEVICE MAINTENANCE

RMC section 13.52.40 (B) (3) requires that grease removal devices be inspected, cleaned, and repaired regularly and as needed, by the user at its expense to ensure proper operation, which may be established by the City. They are to be pumped and cleaned in their entirety at each service and contents removed are to be disposed of appropriately in accordance with applicable regulations. At no time shall a grease removal device be bypassed or otherwise disabled unless it is for maintenance and repair and no discharge to the sewer will occur. Records of service and maintenance are to be kept on-site for a minimum of three (3) years and made available for inspection upon request.

7.4 BEST MANAGEMENT PRACTICES

The City's educational outreach encourages the implementation of the following Best Management Practices (BMPs) that are enforceable if it is determent that the site is not properly maintained which results in a violation of certain provisions of RMC 13.52:

- Employee Training: Train staff annual and upon new hire on performing daily tasks in a manner that will reduce FOG in the facilities waste discharge and prevent deposits of FOG in outdoor areas.
- Drain Screens: Provide screens to protect drains from debris and food particles with openings no larger than 3/8" in any direction. They shall be cleaned frequently with the screenings deposited in the appropriate trash receptacle. Replace screens immediately after cleaning.
- Spill Prevention: Develop and post spill clean-up procedures and training employees. Used oil and other chemicals and other liquids shall be stored away from drains and stormwater conveyance systems, providing 110% containment when necessary. Close containers when not in use.
- Spill Cleanup: If a spill occurs, block off any drains where the spill may enter the sewer or stormwater conveyance and isolate the spill. Implement the use of dry-cleaning methods for spills whenever possible such as towels, absorbent material, broom, and dustpan. If additional cleaning is necessary, limit the use of chemicals and water and use a mop and bucket. If the area must be hosed down, contain, and recollect wash water and dispose of in the mop sink unless it contains a hazardous material. No wash water is to enter a stormwater conveyance or be left on the ground outside. Hazardous waste spills are to be cleaned, contained, and disposed of appropriately in accordance with applicable regulations.
- Routine Cleaning: Limit the use of chemicals when cleaning by diluting to the proper concentration and consider substituting with dish soap. The use of enzymes should be limited to the maximum extent possible. Use dry cleaning methods to remove excessive

deposits of used oil and grease prior to cleaning the area with water. Scrape all pans and dishes into the proper trash receptacles prior to washing. Discharge water temperature should not exceed 140 degrees.

- Used Oil and Grease Handling and Disposal: Properly dispose of used oil and other oily liquids in a recycle container, such as a grease tallow bin. Ensure the material is properly contained and managed until removed from the site. If stored outdoors, make sure the container and surrounding ground is free from spills and stored away from stormwater conveyance systems.
- Record Keeping: Maintain records of grease removal device cleaning, maintenance, and repair and used oil and grease recycling for a minimum of three (3) years and make available upon request.

7.5 AUTHORITY TO INSPECT AND ACCESS

RMC 13.52.080 section (A) provides the City with the authority to enter the premises of any user to determine whether the user is complying with all requirements of RMC and any wastewater discharge permit or other order. Access to all parts of the premises for the purposes of examination and inspection, sampling, records copying, and the performance of any additional duties are to be granted during business hours and other times as arranged. Grease removal devices are to be free from material or objects that will impede inspection during business hours.

7.6 INSPECTION PROCEDURES

The RMC and Enforcement Response Plan includes provisions for inspection for FOG generating facilities and subsequent enforcement actions in the event of a violation of RMC 13.52.

Routine inspections of facilities are conducted to ensure compliance with RMC 13.52 and other regulatory requirements. The inspections are generally unannounced and at a frequency that is determined by the site's compliance history, the presence of a grease removal device, and other determining factors. A typical inspection includes visual inspection of the inside and outside of the facility, physical inspection of the grease removal device (periodically), verification of proper BMP implementation, and review of records. Wastestream monitoring may be performed when necessary.

Inspections are also performed on a non-routine basis and are generally prompted by complaints or other issues identified which includes odor complaints, private lateral spills, and non-stormwater discharges. Procedures performed during non-routine inspection will vary and are based on the type of complaint or issue and may include activities performed during routine inspection as well as dye testing, drain inspections, wastestream monitoring, photographs, and interviews.

7.7 PLANS AND PLAN CHECK INSPECTIONS

Plans submitted by a FSEs for approval through the City of Redlands Building and Safety are reviewed to ensure that proposed grease removal devices conform to City standards and specifications and California Plumbing Code, and that sanitary and grease waste lines are

adequately segregated. Plan check inspections are conducted on an as needed basis to ensure that the site is built in accordance with the approved plans.

7.8 ENFORCEMENT ACTION

Enforcement action is available for facilities found to be in non-compliance with the RMC in accordance with the Enforcement Response Plan. The intent of enforcement action is to guide the facility into compliance. The type of enforcement is dependent on the nature of the violation, the facilities intent, the history of compliance of the facility, the effects of the violation on public safety and the environment, the safety of City staff, and the POTW.

Violations may include, and are not limited to, verbal warning, corrective action, Notice of Violation, compliance orders, emergency suspension, termination of discharge, civil and criminal penalties, supplemental enforcement actions and monetary compensation to remediate a nuisance. The City may take a combination of enforcement actions specified, as well as any other enforcement remedies that are available. Additionally, installation of, or improvements to, grease removal device may be required.

7.9 FOG DISPOSAL

The City does not provide a method for FOG disposal at the WWTP. FSEs are encouraged to check with San Bernardino County to obtain a current list of permitted haulers capable of transporting grease waste.

7.10 SERVICE AREA EVALUATION

Sewer mainlines that tend to have frequent blockages caused by deposits of FOG are identified based on qualitative findings such as tracking locations of repeat sewer blockages, significant grease collected on hydro-jetting nozzles during cleanings, or through CCTV findings. Identified trouble spots in the sewer mainline are put on a more frequent preventive maintenance cleaning schedule which may include monthly, bi-monthly, quarterly, or annual cleanings based on the likelihood of the issue contributing to or causing an SSO as well as other determining factors. These locations are inspected to determine the source of the issue and to perform educational outreach.

7.11 OUTREACH TO FOOD SERVICE ESTABLISHMENTS

Routine inspections of FSEs provide an opportunity to observe the effectiveness of Best Management Practices (BMPs) being implemented and to identify deficiencies that may lead to discharges of FOG, solids, or other pollutants. Education on the proper implementation and maintenance of BMP's and a FOG brochure is provided at that time. In addition, FSEs that are submitted for plan check review receive FOG brochure that includes BMPs and other resources.

7.12 OUTREACH TO RESIDENTS

Residents that use oils and grease for cooking may also contribute to potential sewer line blockages and spills. The City distributes educational outreach material to residents during special events and

downtown vendor fairs that includes a brochure with BMPs related to management of FOG, private lateral maintenance, and what not to dispose of in the sanitary sewer. Promotional giveaways designed to complement the outreach material and engage the residents are also provided.

8. SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

Order Sec. D.13.(viii) System Evaluation and Capacity Assurance Plan: The Enrollee shall prepare and implement a capital improvement plan (CIP) 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 from 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 capital improvement plan (CIP) to address identified hydraulic deficiencies including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, 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.

The City's most recent Wastewater Master Plan was completed in December 2021 by Dudek. The wastewater collection system capacity was evaluated by determining the maximum depth over diameter (d/D) values in the system estimated during peak flows. The existing and future capacity analyses resulted in approximately 10,500 linear feet (LF) of pipeline being identified for improvement based on a d/D trigger criterion of 1.0 (100% full flow) under anticipated peak wet weather flow conditions. Recommended upsizing of pipelines is based on meeting pipeline design criteria under anticipated ultimate (2070) peak wet weather flow conditions.

The Master Plan included the development of a hydraulic model using the Innovyze InfoSewer software. The average dry weather flows measured at the WWTP in August 2020 assisted in determining the model's dry weather scenarios. Similarly, wet weather flows measured at the WWTP on March 12,2020 were used to determined loads in the model's wet weather scenarios. The hydraulic model's hourly flows and 24-hour flows are withing 10% of field measurements, meaning the model is calibrated.

The capacity enhancement measures established as a result of the master plan and the schedule of completion is included in the Operations and Maintenance Program under the Capital Improvement Program section.

9. MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

Order Sec. D.13.(ix) Monitoring, Measurement, and Program Modifications: 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 preventative 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.

The City tracks several performance measures through tracking logs and annual reports. These logs and reports include information such as the number call outs, cause for the call out, call resolution and the location of the incident. The documentation includes the response time, customer complaint, key times of the event, potential reasons for the issue, results of inspection and investigation, the type of pipe in the affected area, and type of debris found. If the call out is due to an SSO, the findings, reports and notification are included along with any photographs, CCTV records and other data.

Periodic review of the wastewater collection system maintenance performance measures compared to the overflow events and the bi-annual SSMP audits are used to determine if any further monitoring, measures, or modifications are needed. Historical SSO trends and findings are also factored into the need for action. This allows the City to prioritize appropriate SSMP activities, assess its effectiveness, and identify any deficiencies.

9.1 PERFORMANCE INDICATORS

The following types of performance indicators are used in the evaluation to assess the effectiveness of the SSMP:

- Annual number of sanitary sewer overflows
- Annual number of dry weather overflows events
- Annual number of wet weather overflow events
- Total annual volume of overflows including recovered volumes
- Annual Number of SSOs by cause
- Annual linear feet of line cleaning by type – regular and high frequency
- Annual CCTV miles of pipeline condition assessments completed
- Number of customer complaints received and completed
- Average response time to overflow events.

SSMP Element	Summary of Element Purpose	Example Performance Indicators for Tracking Effectiveness

Goals	Establish priorities and provide focus for staff	**Review of goals based upon results of performance evaluations.**
Organization	Document organization and chain of command & communication for SSO response	**Review of Organization Chart and all contact information, making any changes identified**
Legal Authority	Ensure sufficient legal authority to properly maintain and protect the integrity of the system	**Review of codes and/or ordinances for revisions, including schedule for identified updates.**
Operations and Maintenance Program	Minimize blockages and SSOs by properly operating and maintaining the system	**Review of** • **Total number and volume of SSOs** • **Number of repeat SSOs (from same location as any previous SSO)** • **Number of lateral SSOs (if known for private laterals)** • **Number of main linesSSOs** • **Total volume spilled** • **Total amount recovered** • **Total amount estimated to reach surface waters** • **Percent reaching surface water** • **Number of pipe failures** • **Total length of pipe camera inspected** • **Total length of pipe hydro-cleaned** • **Total length of pipe repaired or replaced**
Design & Construction Standards	Ensure new facilities are properly designed and constructed	**Review of new technologies and materials for collection systems assets.**
Overflow Emergency Response Plan (OERP)	Provide timely and effective response to SSO emergencies and comply with regulatory reporting requirements	▪ **Average response time from call to arrival** ▪ **Average response time from arrival to SSO stoppage and cleanup** ▪ **Percent of total SSO volume contained or returned to sewer**
Fats, Oils & Grease (FOG) Control	Minimize blockages and overflows due to FOG	▪ **Number of blockages due to FOG** ▪ **Number of SSOs due to FOG** ▪ **Inspections of FOG-producing facilities**
Monitoring, Measurement, & Program Modifications	Evaluate effectiveness of SSMP, keep SSMP up-to- date, and identify necessary changes to SSMP Elements	▪ **Prepare and update performance results in Elements 4, 6 & 7.** ▪ **Review and update callout forms as needed.** ▪ **Conduct annual review of CIWQS data.**
Program Audits	Formally identify SSMP effectiveness, limitations, and necessary changes on an annual basis	▪ **Date of completion of last annual audit**

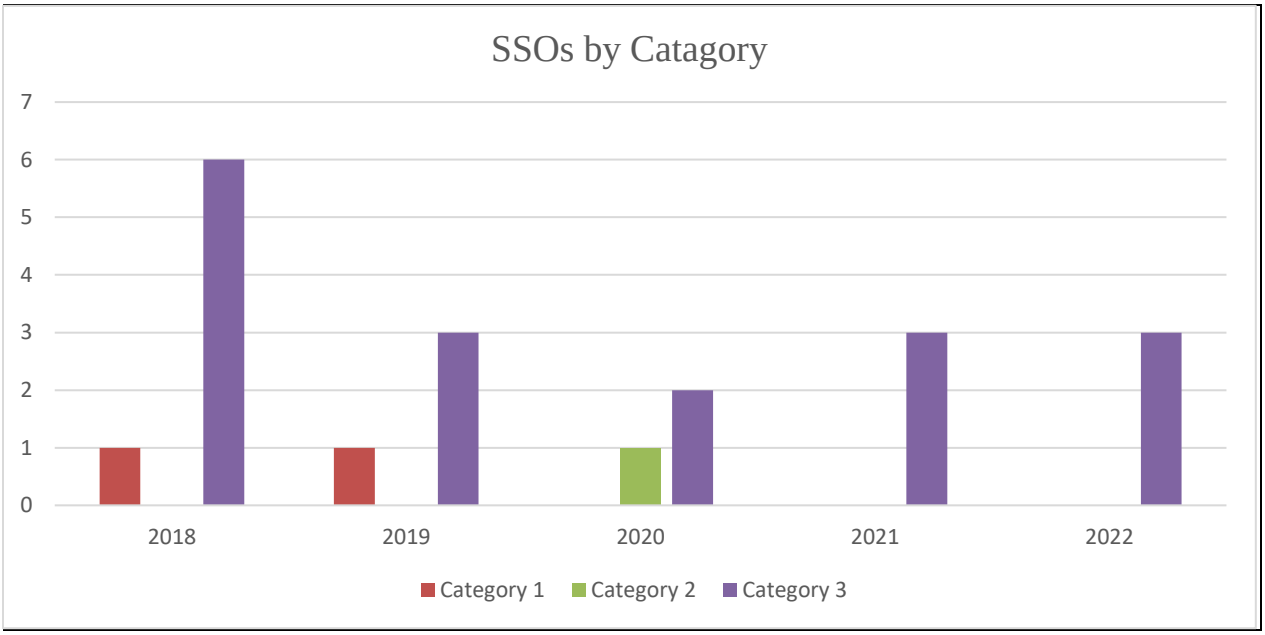
Communicati on Plan	Communicate with the public and satellite agencies.	**Place audit on webpage.**

Table 16: Example SSMP Monitoring Performance Indicators

9.2 SSO Evaluation

Historical data for the previous 5 years is reviewed, and the following types of tables and graphs are used to evaluate the data and demonstrate the effectiveness of the SSMP:

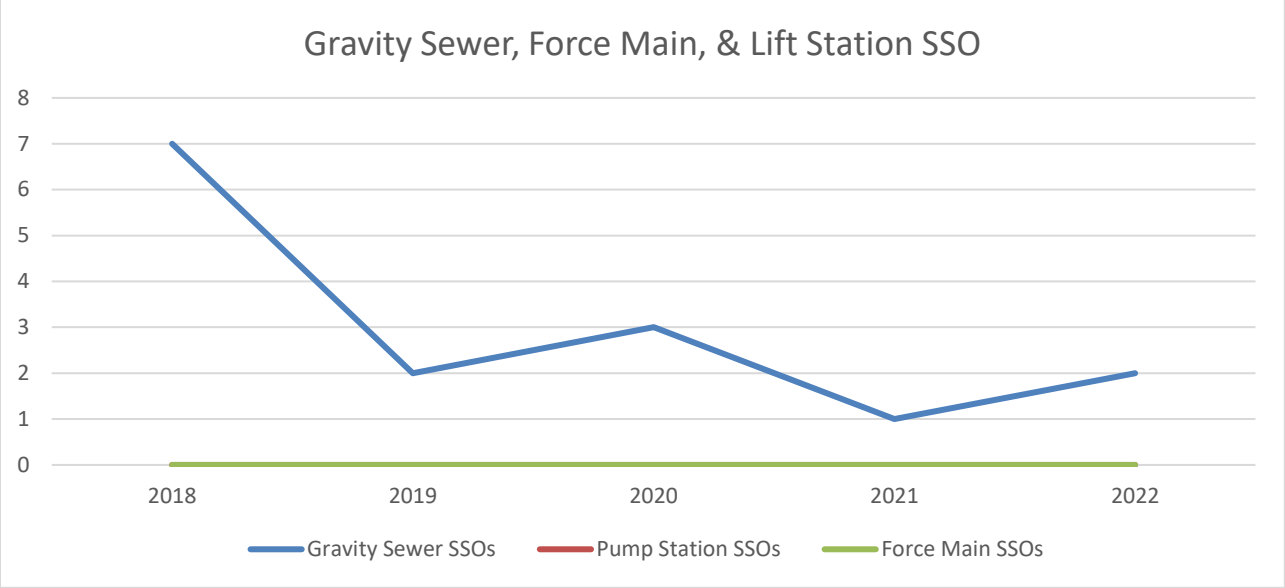
- SSOs by Category
- Gravity, Force Main, & Lift Station SSO Data
- SSO Recovery Data
- SSO by Cause



Graph 1: SSO by Category

Calendar Year	Category 1	Category 2	Category 3
2018	1	0	6
2019	1	0	3
2020	0	1	2
2021	0	0	3
2022	0	0	3

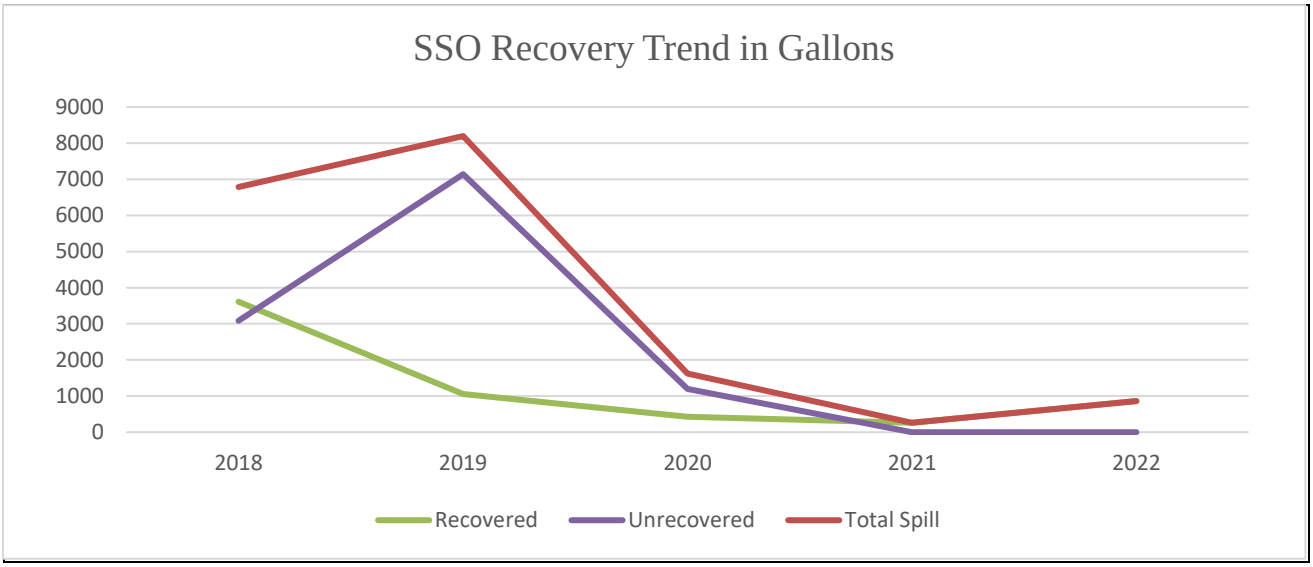
Table 17: SSO by Category



Graph 2: Gravity, Force Main, & Lift Station SSO Data

Calendar Year	Gravity Sewer SSOs	Pump Station SSOs	Force Main SSOs
2018	7	0	0
2019	2	0	0
2020	3	0	0
2021	1	0	0
2022	2	0	0

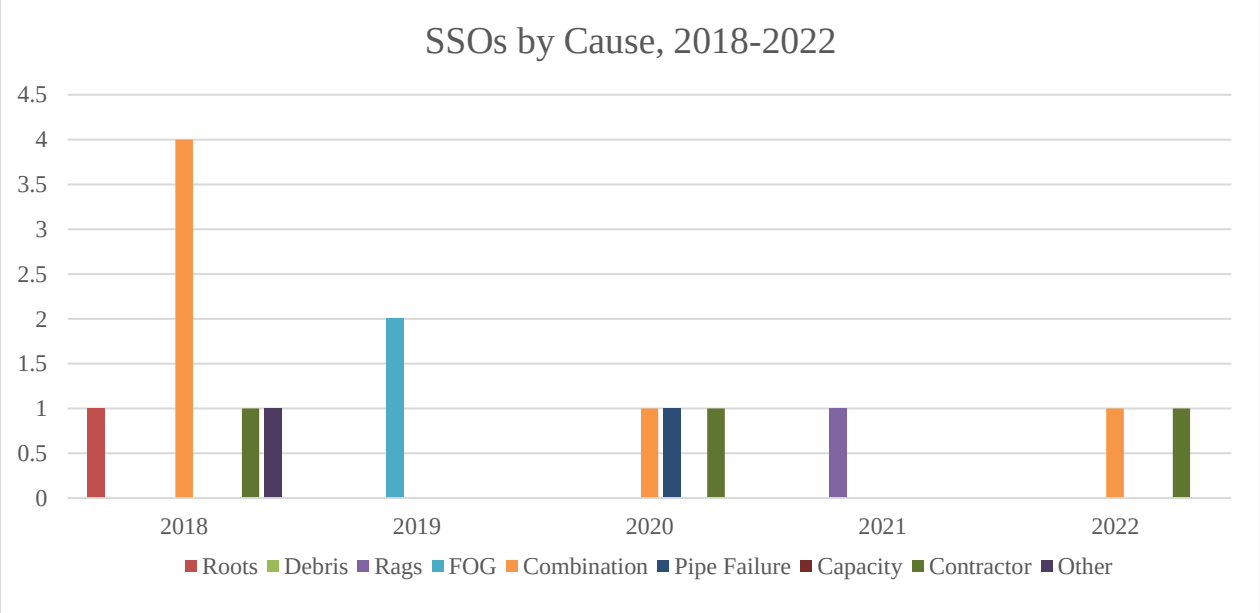
Table 18: Gravity, Force Main, & Lift Station SSO Data



Graph 3:SSO Recovery Data

Calendar Year	Total Volume SSO	Returned to Sewers	Unrecovered
2018	6784	3610	3084
2019	8195	1055	7140
2020	1626	427	1199
2021	261	261	0
2022	860	860	0

Table 19:SSO Recovery Data



Graph 4:SSO by Cause

Calendar Year	Roots	Debris	Rags	FOG	Combination	Pipe Failure	Capacity	Contractor	Other
2018	1	0	0	0	4	0	0	1	1
2019	0	0	0	2	0	0	0	0	0
2020	0	0	0	0	1	1	0	1	0
2021	0	0	1	0	0	0	0	0	0
2022	0	0	0	0	1	0	0	1	0

Table 20:SSO by Cause

10. SSMP PROGRAM AUDITS

> D.13.(x) SSMP Program Audits - 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 this subsection (D.13.), including identification of any deficiencies in the SSMP and steps to correct them.

The goal of each bi-annual SSMP Program Audit is to ensure that it is appropriate and implemented properly and that any deficiencies in the plan are identified and addressed. The historical sewer system performance and overflow results are used to determine the SSMP effectiveness over the proceeding audit period. The audit also includes a review of related regulations to determine if any changes are necessary for compliance. The audit team consisted of RCO and WCSS and may be expanded to other relevant City staff based on scope of the audit and the complexity of the findings.

The following outline is used as a guide for each audit:

- Determine the lead auditor.
- Determine the audit team.
- Determine the scope of the audit.
- Prepare an audit outline which shall include the various approaches.
- Distribute tasks amongst the audit team.
- Establish timelines for tasks.
- Review findings and recommendations as a team.
- Itemize corrective actions and establish due dates.
- Document findings, recommendations, corrective actions, and corrective action results and include in the SSMP Internal Audit Report.
- Include any needed plan updates that shall be included in the next SSMP update.
- Share the results of the completed audit with affected staff.
- Update the SSMP Change Log for any revisions or changes identified.

11. Communication Program

> D.13.(xi) Communication Program**.** The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication 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 City has established communication lines through several means to ensure that the public has ample access to the City's sewer program activities, current and future plans and projects, community outreach and general public information. The City also provides public outreach to

educate the residents on important issues such as FOG program, water conservation, stormwater pollution prevention, safety, and emergency preparedness. The City routinely uses the outlets listed below to help provide its residents, businesses, satellite agencies, and other interested parties with the most up-to-date information possible:

- Public Relations Coordinator
- Cable TV Channel
- Website
- Local Media (TV and Newspaper)
- City Council Agenda & Meeting Minutes
- Public Hearings
- Personal Visits / Phone Calls
- Door Hangers
- Sign Postings
- Customer Mailings
- During Crew Interactions with the Public
- Public Events

The City's official website, www.cityofredlands.org, provides the public has access to relevant documents as well as public services, City business, community outreach, budget information, and other related public education such as:

- Annual budget
- Sewer Use Ordinances
- SSMP
- SERP
- Claims Process
- Public education related to FOG control, illegal dumping, lateral maintenance, and other pollution prevention measures.

Appendix A:
Sewer System Management Plan
Change Log

Date	SSMP Element/ Section	Description of Change/Revision Made	Updated By:
July 14, 2009	Original	Development of SSMP	Jorge Ramirez
January 15, 2010	Various	SSMP Annual Review Update	Jorge Ramirez
March 30, 2011	Various	SSMP Audit Review Update	Jorge Ramirez
April 18, 2012	Various	SSMP Annual Review Update	Jorge Ramirez
May 21, 2013	Various	SSMP Audit Review Update	Jorge Ramirez
November 21, 2014	Various	SSMP Annual Review Update	Jorge Ramirez
December 04, 2017	Various	SSMP Audit Review Update	Shannon Simmers
December 12, 2019	Various	SSMP Audit Review Update	Shannon Simmers
December 12, 2021	Various	SSMP Audit Review Update	Shannon Simmers
April 10, 2023	Various	SSMP Audit Review Update	Shannon Simmers
September 5, 2023	SSMP	SSMP Adoption/Recertification	City Council

Appendix B:

SSMP Adoption and Recertification Documents

RESOLUTION NO. 8509

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF REDLANDS APPROVING THE CITY OF REDLANDS 2023 SEWER SYSTEM MANAGEMENT PLAN (SSMP), AS REQUIRED BY THE STATE WATER RESOURCES CONTROL BOARD

WHEREAS, on May 2, 2006, the State Water Resources Control Board (SWRCB) adopted Water Quality Order No. 2006-0003-DWQ, which established the Statewide General Waste Discharge Requirements (WDRs) for publicly owned or operated sanitary sewer systems within the State of California. Water Quality Order No. 2006-0003 was later amended by Order Nos. 2008-0002-EXEC, 2013-0058-EXEC, and replaced by Order No. 2022-0103-DWQ; and

WHEREAS, the WDR requires that 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; 1) report Sanitary Sewer Overflows to the SWRCB; and 2) develop and implement a Sewer System Management Plan (SSMP) which under the current Order is referred to as the Sewer Spill Overflow Emergency Response Plan; and

WHEREAS, the SSMP is a written document that details how an entity's sewer system is operated, maintained, repaired, and funded. The WDR requires the SSMP to be updated every five (5) years and to be re-certified by the City Council when significant updates to the SSMP are made.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF REDLANDS AS FOLLOWS:

Section 1. This City Council determines that approval of the Resolution to adopt the City of Redlands 2023 Sewer System Management Plan is exempt from environmental review in accordance with California Environmental Quality Act (CEQA) pursuant to Section 15061(B)(3) since it is reasonably certain that this action will have no significant negative environmental effects.

Section 2. This City Council further determines that approval of the SSMP is exempt from CEQA pursuant to Section 21000 because it is an action taken by a regulatory agency to assure the protection of the environment and the regulatory process involves procedures for protection of the environment. In addition, this action is exempt from CEQA pursuant to Section 15301 to the extent that it applies to existing sanitary sewer collection systems that constitute "existing facilities" as that term is used in Section 15301, and Section 15302, to the extent that it results in the repair or replacement of existing systems involving negligible or no expansion of capacity.

Section 3. This City Council hereby approves and adopts the 2023 SSMP and certifies that it complies with the Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems (Water Quality Order No. 2022-0103-DWQ).

ADOPTED, SIGNED AND APPROVED this 5th day of September 2023.

Eddie Tejeda, Mayor

ATTEST:

Jeanne Donaldson, City Clerk

I, Jeanne Donaldson, City Clerk of the City of Redlands, hereby certify that the foregoing resolution was duly adopted by the City Council at a regular meeting thereof held on the 5th day of September 2023, by the following vote:

AYES:	Councilmembers Barich, Davis, Guzman-Lowery, Saucedo; Mayor Tejeda
NOES:	None
ABSENT:	None
ABSTAINED:	None

Jeanne Donaldson, City Clerk

City Council/Successor Agency Meeting **AGENDA ITEM NO. J. 14.**

DATE: 09/05/2023

TO: Honorable Mayor and City Council Members

SUBJECT: Adopt Resolution No. 8509 for the 2023 Sewer System Management Plan, and determine that this action is exempt from environmental review in accordance with Sections 15061(b)(3), 21000, 15301 and 15302 of the State's guidelines implementing the California Environmental Quality Act (Municipal Utilities and Engineering Director Harris)

MOTION(S):

If City Council determines the staff recommendation is appropriate, the following motions are provided:

1. I move that City Council determine that adoption of Resolution No. 8509 for the 2023 Sewer System Management Plan is exempt from environmental review in accordance with Sections 15061(b)(3), 21000, 15301 and 15302 of the State guidelines implementing the California Environmental Quality Act; and

2. I move that City Council adopt Resolution No. 8509.

RECOMMENDATION:

Staff recommends that City Council determine that adoption of Resolution No. 8509 is exempt from environmental review in accordance with Sections 15061(b)(3), 21000, 15301 and 15302 of the State's guidelines implementing the California Environmental Quality Act, and adopt Resolution No. 8509.

DISCUSSION:

Since 2002, the Santa Ana Regional Water Quality Control Board (Water Board) has prohibited the discharge of untreated sewage into any surface water or storm drainage system. Specific requirements originally included in Order No. R8-2002-0014 mandated that agencies responsible for the collection and treatment of wastewater prepare, implement, and update at appropriate intervals a Sewer System Management Plan (SSMP) to comply with the Order. The Order has been revised several times since 2002 by way of order No. 2006-003-DWQ and amending order Nos. 2008-002-EXEC, 2013-0058-EXEC, and replaced by Order No. 2022-0103-DWQ. The SSMP is an operations and maintenance document that provides guidance for City Wastewater Operators that includes public health protection provisions, emergency response protocols, and other system management practices. The 2023 SSMP updates previous versions to include details of the 2021 Citywide Wastewater Master Plan, improves spill prevention and response processes, and meets Water Board requirements. The SSMP must be adopted by a resolution of the City Council at a public meeting.

Adoption of the Resolution relating to the 2023 SSMP is exempt from environmental review in accordance with California Environmental Quality Act Section 15061(B)(3) since it is reasonably certain that this action will have no significant negative environmental effects. Additionally, approval of the SSMP is exempt from CEQA pursuant to Section 21000 because it is an action taken by a regulatory agency to assure the protection of the environment and the regulatory process involves procedures for protection of the environment. Also, this action is exempt from CEQA pursuant to Section 15301 to the extent that it applies to existing sanitary sewer collection systems that constitute “existing facilities” as that term is used in Section 15301, and Section 15302, to the extent that it results in the repair or replacement of existing systems involving negligible or no expansion of capacity.

ALTERNATIVES:

City Council may deny the staff recommendation and provide alternate direction.

STRATEGIC PLAN:

N/A

SUBMITTED BY:
John R. Harris, Municipal Utilities and Engineering Director

RECOMMENDED BY:
Charles M. Duggan Jr., City Manager

REVIEWED BY:
Yvette M. Abich Garcia, City Attorney
Janice McConnell, Assistant City Manager
Goutam K. Dobey, City Engineer
Fernando Mata, Wastewater Utility Manager

PREPARED BY:
Shannon Simmers, Regulatory Compliance Officer

Fiscal Impact

Discussion:
There is no fiscal impact associated with this item.

Attachments

Resolution No. 8509
Redlands SSMP
State Order (Reference only)

Appendix C:

Sewer Spill Emergency Response Plan

City of Redlands

Sewer Spill Emergency Response Plan

Effective Date: _____

Revised Date: _____

Approved by: _____

Signature: _____

Date: _____

Prepared by: David Patzer
DKF Solutions Group, LLC
dpatzer@dkfsolutions.com

TABLE OF CONTENTS

1. PURPOSE

The purpose of the City of Redlands Spill Emergency Response Plan (SERP) is to support a prompt, orderly and effective response to spills (sanitary), reduce spill volumes, and collect information for prevention of future spills. A "spill" in this document is defined, by State Water Board Order No. WQ 2022-0103-DWQ as: a discharge of sewage from any portion of a sanitary sewer system due to a sanitary sewer system overflow, operational failure, and/or infrastructure failure.

The SERP provides guidelines for City personnel to follow in responding to, cleaning up, reporting, and properly documenting spills that may occur within the City's service area. This SERP satisfies the State Water Board Order No. WQ 2022-0103-DWQ, which require wastewater collection agencies to have a Spill Emergency Response Plan.

Additionally, the SERP outlines procedures for responding to sanitary sewer spill backups into structures as required by the City's insurer. See definitions. "Backup" is a term typically used by insurers to describe property damage resulting from exposure and contact to untreated or partially treated sewage.

2. POLICY

The City's employees are required to report all spills from agency owned sewer mains and publicly owned laterals found and to take the appropriate action to secure the spill area, properly report to the appropriate regulatory agencies, relieve the cause of the spill, 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 spills as soon as possible following notification. The City will follow reporting procedures regarding sewer spills as set forth by the Santa Ana Regional Water Quality Control Board (Region 8) and the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR).

3. DEFINITIONS AS USED IN THIS SERP

ANNUAL REPORT: An Annual Report (previously termed as Collection System Questionnaire in previous State Water Board Order No. 2006-0003-DWQ) is a mandatory report in which the City provides a calendar-year update of its efforts to prevent spills.

BASIN PLAN: A Basin Plan is a water quality control plan specific to a Regional Water Quality Control Board (Regional Water Board), that serves as regulations to: (1) define and designate beneficial uses of surface and groundwaters, (2) establish water quality objectives for protection of beneficial uses, and (3) provide implementation measures.

BENEFICIAL USES: The term "Beneficial Uses" is a Water Code term, defined as the uses of the waters of the State that may be protected against water quality degradation. Examples of beneficial uses include but are not limited to, municipal, domestic, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

CALIFORNIA INTEGRATED WATER QUALITY SYSTEM (CIWQS): CIWQS is the statewide database that provides for mandatory electronic reporting as required in State and Regional Water Board-issued waste discharge requirements.

DATA SUBMITTER: A Data Submitter is an individual designated and authorized by the City's Legally Responsible Official to enter spill data into the online CIWQS Sanitary Sewer System Database. A Data Submitter does not have the authority of a Legally Responsible Official to certify reporting entered into the online CIWQS Sanitary Sewer System Database.

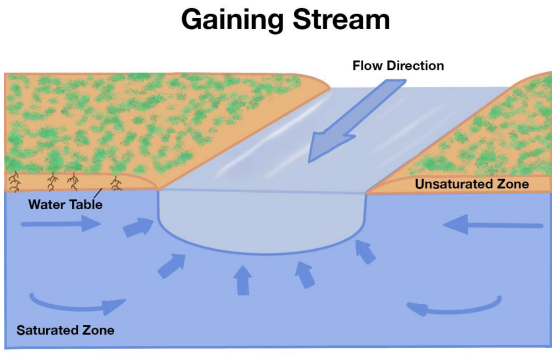
DRAINAGE CONVEYANCE SYSTEM: A drainage conveyance system is a publicly- or privately-owned separate storm sewer system, including but not limited to drainage canals, channels, pipelines, pump stations, detention basins, infiltration basins/facilities, or other facilities constructed to transport stormwater and non-stormwater flows.

ENVIRONMENTALLY SENSITIVE AREA: An environmentally sensitive area is a designated agricultural and/or wildlife area identified to need special natural landscape protection due to its wildlife or historical value.

EXFILTRATION: Exfiltration is the underground exiting of sewage from a sanitary sewer system through cracks, offset or separated joints, or failed infrastructure due to corrosion or other factors.

FOG – Fats, Oils, and Grease: Refers to fats, oils, and grease typically associated with food preparation and cooking activities that can cause blockages in the sanitary sewer system.

HYDROLOGICALLY CONNECTED: Two waterbodies are hydrologically connected when one waterbody flows, or has the potential to flow, into the other waterbody. For the purpose of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR), groundwater feeds into the surface water. The surface waterbody in this example is termed a gaining stream as it gains flow from surrounding groundwater. See image, right.



LATERAL (INCLUDING LOWER AND UPPER LATERAL): A lateral is an underground segment of smaller diameter pipe that transports sewage from a customer's building or property (residential, commercial, or industrial) to the City's main sewer line in a street or easement. Upper and lower lateral boundary definitions are subject to local jurisdictional codes and ordinances, or private system ownership. A lower lateral is the portion of the lateral located between the sanitary sewer system main, and either the property line, sewer clean out, curb line, established utility easement boundary, or other jurisdictional locations. An upper lateral is the portion of the lateral from the property line, sewer clean out, curb line, established utility easement boundary, or other jurisdictional locations, to the building or property.

LEGALLY RESPONSIBLE OFFICIAL: A Legally Responsible Official is an official representative, designated by the City, with authority to sign and certify submitted information and documents required by this General Order.

MAINLINE SEWER: Refers to City wastewater collection system piping downstream of the sewer laterals that is not a private sewer lateral connection to a building.

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 A SPILL: Refers to the time at which the City becomes aware of a spill event through observation or notification by the public or other source.

NUISANCE: For the purpose of State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR), a nuisance, as defined in Water Code section 13050(m), is anything that meets all of the following requirements:

- 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;

- 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; and

- 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 SPILL – Spills that are caused by blockages or other problems within a privately-owned lateral.

PRIVATE SANITARY SEWER SYSTEM: A private sanitary sewer system is a sanitary sewer system of any size that is owned and/or operated by a private individual, company, corporation, or organization. A private sanitary sewer system may or may not connect into a publicly owned sanitary sewer system.

PRIVATE SEWER LATERAL: A private sewer lateral is the privately-owned lateral that transports sewage from private property(ies) into a sanitary sewer system.

POTENTIAL TO DISCHARGE, POTENTIAL DISCHARGE: Potential to Discharge, or Potential Discharge, means any exiting of sewage from a sanitary sewer system which can reasonably be expected to discharge into a water of the State based on the size of the sewage spill, proximity to a drainage conveyance system, and the nature of the surrounding environment.

RECEIVING WATER: A receiving water is a water of the State that receives a discharge of waste.

SANITARY SEWER SYSTEM: A sanitary sewer system is a system that is designed to convey sewage, including but not limited to, pipes, manholes, pump stations, siphons, wet wells, diversion structures and/or other pertinent infrastructure, upstream of a wastewater treatment plant headworks, including:

- Laterals owned and/or operated by the City;

- Satellite sewer systems; and/or

- Temporary conveyance and storage facilities, including but not limited to temporary piping, vaults, construction trenches, wet wells, impoundments, tanks, and diversion structures.

For purpose of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR), sanitary sewer systems include only systems owned and/or operated by the City.

SATELLITE SEWER SYSTEM: A satellite sewer system is a portion of a sanitary sewer system owned or operated by a different owner than the owner of the downstream wastewater treatment facility ultimately treating the sewage.

SEWAGE: Sewage, and its associated wastewater, is untreated or partially treated domestic, municipal, commercial and/or industrial waste (including sewage sludge), and any mixture of these wastes with inflow or infiltration of storm-water or groundwater, conveyed in a sanitary sewer system.

SEWER BACKUP A sanitary sewer spill resulting from a sanitary sewer system overflow, operational failure, and/or infrastructure failure in a publicly owned sewer system, with an appearance point and subsequent discharge into a structure.

SPILL: A spill is a discharge of sewage from any portion of a sanitary sewer system due to a sanitary sewer system overflow, operational failure, and/or infrastructure failure. Exfiltration of sewage is not considered to be a spill under the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR), if the exfiltrated sewage remains in the subsurface and does not reach a surface water of the State.

- **Category 1 Spill:**

  A Category 1 spill is a spill of any volume of sewage from or caused by a sanitary sewer system regulated under the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR), that results in a discharge to:

  - A surface water, including a surface water body that contains no flow or volume of water; or
  - A drainage conveyance system that discharges to surface waters when the sewage is not fully captured and returned to the sanitary sewer system or disposed of properly.

  Any spill volume not recovered from a drainage conveyance system is considered a discharge to surface water, unless the drainage conveyance system discharges to a dedicated stormwater infiltration basin or facility.

  A spill from an City-owned and/or operated lateral that discharges to a surface water is a Category 1 spill; the City shall report all Category 1 spills per section 3.1 of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.

- **Category 2 Spill**

  A Category 2 spill is a spill of 1,000 gallons or greater, from or caused by a sanitary sewer system regulated under the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR) that does not discharge to a surface water. A spill of 1,000 gallons or greater that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system, is a Category 2 spill.

- **Category 3 Spill**

  A Category 3 spill is a spill of equal to or greater than 50 gallons and less than 1,000 gallons, from or caused by a sanitary sewer system regulated under the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR) that does not discharge to a surface water. A spill of equal to or greater than 50 gallons and less than 1,000 gallons, that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 3 spill.

- **Category 4 Spill**

  A Category 4 spill is a spill of less than 50 gallons, from or caused by a sanitary sewer system regulated under the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR) that does not discharge to a surface water. A spill of less than 50 gallons that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 4 spill.

TRAINING: Training is in-house or external education and guidance needed that provides the knowledge, skills, and abilities to comply with the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR.

WASH DOWN WATER: Wash down water is water used to clean a spill area.

WASTE: Waste, as defined in Water Code section 13050(d), includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

WATERS OF THE STATE: Waters of the State are surface waters or groundwater within boundaries of the state as defined in Water Code section 13050(e), in which the State and Regional Water Boards have authority to protect beneficial uses. Waters of the State include, but are not limited to, groundwater aquifers, surface waters, saline waters, natural washes and pools, wetlands, sloughs, and estuaries, regardless of flow or whether water exists during dry conditions. Waters of the State include waters of the United States.

WATERS OF THE UNITED STATES: Waters of the United States are surface waters or waterbodies that are subject to federal jurisdiction in accordance with the Clean Water Act.

WATER QUALITY OBJECTIVE: A water quality objective is the limit or maximum amount of pollutant, waste constituent or characteristic, or parameter level established in statewide water quality control plans and Regional Water Boards' Basin Plans, for the reasonable protection of beneficial uses of surface waters and groundwater and the prevention of nuisance.

4. STATE REGULATORY REQUIREMENTS FOR ELEMENT 6, SPILL EMERGENCY RESPONSE PLAN

The Sewer System Management Plan (SSMP) must include an up to date Spill Emergency Response Plan (SERP) to ensure prompt detection and response to spills to reduce spill volumes and collect information for prevention of future spills. The SERP must include procedures to:

- Notify primary responders, appropriate local officials, and appropriate regulatory agencies of a spill in a timely manner;
- Notify other potentially affected entities (for example, health agencies, water suppliers, etc.) of spills that potentially affect public health or reach waters of the State;
- Comply with the notification, monitoring and reporting requirements of State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR), State law and regulations, and applicable Regional Water Board Orders;
- Ensure that appropriate staff and contractors implement the SERP and are appropriately trained;
- Address emergency system operations, traffic control and other necessary response activities;
- Contain a spill and prevent/minimize discharge to waters of the State or any drainage conveyance system;
- Minimize and remediate public health impacts and adverse impacts on beneficial uses of waters of the State;
- Remove sewage from the drainage conveyance system;
- Clean the spill area and drainage conveyance system in a manner that does not inadvertently impact beneficial uses in the receiving waters;
- Implement technologies, practices, equipment, and interagency coordination to expedite spill containment and recovery;
- Implement pre-planned coordination and collaboration with storm drain agencies and other utility

agencies/departments prior, during, and after a spill event;

- Conduct post-spill assessments of spill response activities;
- Document and report spill events as required in this General Order; and
- Annually, review and assess effectiveness of the Spill Emergency Response Plan, and update it as needed.

The Sewer System Management Plan is available to the public at http://www.cityofredlands.org.

5. SPILL EMERGENCY RESPONSE PLAN OBJECTIVES

The Spill Emergency Response Plan includes measures to protect public health and the environment. The City will respond to spills from its system(s) in a timely manner that minimizes water quality impacts and nuisance by:

- Immediately stopping the spill and preventing/minimizing a discharge to waters of the State;
- Intercepting sewage flows to prevent/minimize spill volume discharged into waters of the State;
- Thoroughly recovering, cleaning up and disposing of sewage and wash down water; and
- Cleaning publicly accessible areas while preventing discharges to waters of the State.

Additionally, City Staff will:

- Work safely;
- Properly document each spill event in a separate file including photos and/or video where applicable;
- Collect information for prevention of future spills;
- Minimize public contact with the spilled wastewater;
- Mitigate the impact of the spill;
- Meet the regulatory reporting requirements;
- Evaluate the causes of failure related to spills;
- Perform post-spill response evaluation for adherence to procedures and effectiveness of response; and
- Revise response procedures, modify maintenance practices or provide additional training based on the results from the debrief and failure analysis of spills, if needed.

6. SPILL DETECTION AND NOTIFICATION

ref. State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR), ATTACHMENT D, Element 6, Page D-6

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

6.1 LIFT STATION ALARMS

The City operates one wastewater lift station. In the event of a station failure the SCADA alarm system is activated and the City is contacted. To prevent spills, wastewater from the wet well can either be pumped into a vacuum

truck for disposal to a nearby sanitary sewer manhole or bypassed around the station into the sanitary sewer system.

6.2 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 on the City's website: http://www.cityofredlands.org. The City's telephone number for reporting sewer problems during business hour is (909) 798-7516 and the after hours reporting number is (909) 798-7681.

- Normal Work Hours: When a report of a sewage overflow or backup is made during normal work hours, Customer Service staff takes the call. Normal work hours for the purpose of the SERP is Monday through Friday 7:30 am to 5:30 pm. If the problem is within the City's service area, Customer Service collects the caller's information and address of the problem, and then generates an electronic service request. The work order is then followed up immediately with a phone call to the Wastewater Collection System Supervisor or designee. The work order is then emailed to the Wastewater Collection System Supervisor. The Wastewater Collection System Supervisor, or designee, will dispatch a Wastewater Collection System Crew as appropriate. The Wastewater Collection System Crew will verify the problem is with the City's sewer system. They will assess and respond accordingly and document their findings and response on the Daily Work Log. The crew supervisor, or designee, will complete the work order form from the Daily Work Log notes and email it back to Customer Service for archiving.

- After Hours: After hours, the Standby Employee will respond to the callout and request additional support, if warranted. Standby Employee will log findings and actions taken in their Daily Work Log. The next business day the Wastewater Collection System Supervisor or designee will initiate a Work Order from the Standby Employee's notes. Depending on whether or not the issue was resolved, the Wastewater Collection System Supervisor, or designee, will continue to work towards resolution of the issue. Once resolved, the completed work order is emailed to Customer Service for archiving.

When calls are received, either during normal work hours or after hours, the individual receiving the call will collect and include in the spill event file, at a minimum, the following information to record the complaint:

- Date, time, and method of notification,
- Date and time the complainant first noticed the spill, if available,
- Narrative description of the complaint, including any information the caller provided regarding whether the spill has reached surface waters or a drainage conveyance system, if available,
- Complainant's contact information, if available, and
- Final resolution of the complaint.

If the spill or backup is not in the City's service area the individual receiving the call provides the customer with the contact information for the responsible agency, and then notifies that agency.

6.3 CITY STAFF OBSERVATION

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.

6.4 CONTRACTOR OBSERVATION

Contractors working on the City sewer system will be informed of contractor spill response procedures. Contractors working on behalf of property owners will be provided spill response information when they pull a permit by the One Stop Permit Center. The following procedures are to be followed in the event that a contractor/plumber causes or witnesses a sanitary sewer spill. If the contractor/plumber causes or witnesses a spill they should:

1. Immediately notify the City at (909) 798-7516 during business hours or (909) 798-7681 after hours and provide the following information if available:
    a. Date, time contractor first noticed the spill
    b. Description of the contractor's observation, including any information regarding whether the spill has reached surface waters or a drainage conveyance system
    c. Contractor's contact information
2. Protect storm drains.
3. Protect the public.
4. Direct ALL media and public relations requests to the City Public Information Officer at (909) 798-7633.

6.5 NO OBSERVATION

If there are no witnesses or no call was received for a spill, the City staff will contact nearby residences or business owners in the vicinity of the spill, in an attempt to obtain information that brackets a given start time that the spill began. This information will be collected and documented on the Sanitary Sewer Spill Report in the Sanitary Sewer Spill/Backup Response Workbook.

7. SPILL RESPONSE PROCEDURES *(Ref. State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR), ATTACHMENT D Element 6 page D-6)*

7.1 SEWER OVERFLOW/BACKUP RESPONSE SUMMARY

The City will respond to spills as soon as feasible following notification of a spill/backup.

If it is not possible that the spill/backup is due to a failure in the City-owned/maintained sewer lines the Wastewater Collection System Crew performs the following:

- Follows the instructions in the Sanitary Sewer Spill/Backup Response Workbook.
- If the customer is not home the Wastewater Collection System Crew completes the Door Hanger and leaves it on the customer's door.

- If the customer is home the Wastewater Collection System Crew:
    - Explains that the blockage is in the customer's lateral and the City does not have legal authority to maintain or perform work on privately owned laterals.
    - Recommends to the customer that they hire a licensed contractor to clear their line.
    - Gives the customer the Sewer Spill Reference Guide pages from the Sanitary Sewer Spill/Backup Response Workbook.

If it is possible that the spill/backup is due to a failure in the City-owned/maintained sewer lines the Wastewater Collection System Crew:

- Follows the instructions in the Sanitary Sewer Spill/Backup Response Workbook.
- Notifies Regulatory Compliance Officer of the incident.
- Relieves blockage and cleans impacted areas.
- Forwards the completed Sanitary Sewer Spill/Backup Response Workbook to the Regulatory Compliance Officer.

The Regulatory Compliance Officer performs required regulatory reporting in accordance with the Sanitary Sewer Spill/Backup Response Workbook's Regulatory Reporting section.

If the overflow has impacted private property, the Wastewater Collection System Crew:

- Follows the instructions in the Sanitary Sewer Spill/Backup Response Workbook.
- Provides the customer with forms and information as indicated in the Sanitary Sewer Spill/Backup Response Workbook.
- Forwards the completed Sanitary Sewer Spill/Backup Response Workbook to the Regulatory Compliance Officer.

The Regulatory Compliance Officer notifies the Risk Manager of incident.

The Risk Manager or designee:

- Reviews incident reports, claim form and other incident information and forwards, as appropriate, to the Risk Manager.
- Communicates with claimant as appropriate.
- Adjusts and administers the claim to closure.
- Properly documents in writing all activities and communications before approving the final event file.

7.2 FIRST RESPONDER PRIORITIES

The first responder's priorities are:

- Prompt response to spills.
- To follow safe work practices.

- To respond promptly with the appropriate and necessary equipment.
- To reduce spill volume and 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 Regulatory Compliance Officer in event of a spill needing additional resources, and/or impacting environmentally sensitive areas.
- To return the spilled sewage to the sewer system.
- To restore the area to its original condition (or as close as possible). Collect information for the prevention of future spills.
- Properly document the spill and response activities on the forms provided in the Sanitary Sewer Spill/Backup Response Workbook, including photos and/or video where practicable.

7.3 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 beginning response activities.

If the first responders encounter access restrictions or unsafe conditions that prevent its compliance with spill response requirements or monitoring requirements in this General Order, the City provides written documentation of access restrictions and/or safety hazards in the corresponding required report.

7.4 INITIAL RESPONSE

The first responder must respond to the site of the spill/backup and visually check for potential sewer stoppages. The first responder will:

- Note arrival time at the site of the spill/backup.
- Verify the existence of a public sewer system spill or backup.
- Identify and assess the affected area and extent of spill.
- Assess the spill location(s) and spread using photography, global positioning system (GPS), and other best available tools.
- Contact caller if time permits.
- Document the spill according to the requirements described in Section 10 of this SERP, including taking photos and/or videos of overflowing manhole(s)/cleanout(s).
- Take steps to contain, recover, and return the spill to the sanitary sewer as feasible. For procedures refer to the Sanitary Sewer Spill/Backup Response Workbook.

- Protect surface waters to the extent practicable. For procedures refer to the Sanitary Sewer Spill/Backup Response Workbook.

- Implement pre-planned coordination and collaboration with storm drain agencies and other utility agencies/departments prior, during, and after a spill event.

7.5 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.
- Vacuum retrieve sewage whenever practicable.
- Pump around the blockage/pipe failure.

Containment efforts will be documented. For procedures refer to the Sanitary Sewer Spill/Backup Response Workbook, form C-1.

7.6 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 other assistance is required, immediately contact the Regulatory Compliance Officer. For procedures refer to the Sanitary Sewer Spill/Backup Response Workbook.

7.7 EQUIPMENT

This section provides a list of specialized equipment that may be used 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 spills from gravity sewers.

- *Camera* -- A digital or disposable camera (photo, video or phone) 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 a spill.

- *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 spill event.
- *Portable mini jetter and easement jetter equipment for responding to smaller main line blockages.*
- *Sandbags and plastic covering.*
- *Spill Sampling Kits*
- *Portable Lights*

Standard operating procedures for equipment that may be necessary in the event of a sanitary sewer overflow or backup can be found in the MUED Common Drive.

8. RECOVERY AND CLEANUP *(Ref. State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR), Element 6, ATTACHMENT D, Page D-6)*

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 spill recovery and cleanup procedures are described in the following sections.

8.1 ESTIMATE THE FLOW AND VOLUME OF SPILLED SEWAGE

A variety of approaches exist for estimating the volume of a sanitary sewer spill. The Wastewater Collection System Crew members should use the method most appropriate to the sewer overflow in question and reference the Sanitary Sewer Spill/Backup Response Workbook which provides four (4) methods (other volume estimation methods may be used depending on the situation):

- Eyeball Estimation Method
- Duration and Flow Rate Calculation Method
- Area/Volume Method
- Upstream Connections Method

In addition, the following will be documented on the Sewer Spill Report form:

1. Description, photographs, and GPS coordinates of the system location where the spill originated. If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the spill appearance point explanation field;
2. Estimated total spill volume exiting the system;
3. Description and photographs of the extent of the spill and spill boundaries;
4. Did the spill reach a drainage conveyance system? If yes:
    - Description of the drainage conveyance system transporting the spill;
    - Photographs of the drainage conveyance system entry location(s);

- Estimated spill volume that reached the drainage conveyance system;
- Estimated spill volume fully recovered from the drainage conveyance system;
- Estimated spill volume remaining within the drainage conveyance system
- Estimated spill volume discharged to a groundwater infiltration basin or facility, if applicable;
- Estimated spill travel time from the point of entry into the drainage conveyance system to the point of discharge into the receiving water.

5. Estimated total spill volume recovered.

8.2 RECOVERY OF SPILLED SEWAGE

Vacuum up and/or pump the spilled sewage and wash down water and discharge it back into the sanitary sewer system. Thoroughly recover and dispose of sewage and wash down water.

8.3 CLEAN-UP AND DISINFECTION

Clean up procedures will be implemented to reduce the potential for human health issues and adverse environmental impacts associated with a spill 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, property owners may submit a City claim form.

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 disinfectant sanitizer 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. Whenever possible, take 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. Whenever possible, 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.

Waters of the State

The Department of Fish and Wildlife will be notified by CalOES for spills greater than or equal to 1,000 gallons. For spills less than 1000 gallons, contact the County of San Bernardino Division of Environmental Health for direction.

Wet Weather Modifications

Collect all signs of sewage solids and sewage-related material either by protected hand or with the use of rakes and brooms. 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.

8.4 PUBLIC NOTIFICATION

Signs will be posted and barricades put in place to keep vehicles and pedestrians away from contact with spilled sewage whenever it is safe to do so and it does not further impact the volume and duration of the spill. San Bernardino Division of Environmental Health Services instructions and directions regarding placement and language of public warnings will be followed. Additionally, the Regulatory Compliance Officer will use their best judgment regarding supplemental sign placement in order to protect the public and local environment. Signs will not be removed until directed by the San Bernardino Division of Environmental Health Services or the Regulatory Compliance Officer.

Creeks, streams and beaches that have been contaminated as a result of a spill will be posted at visible access locations until the risk of contamination has subsided to acceptable background bacteria levels. Document the number and location of posted signs. The area and warning signs, once posted, will be checked 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 City Public Information Officer or their designee will provide the media with all relevant information.

9. WATER QUALITY *(Ref. State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR), Element 6, Attachment A - DEFINITIONs page A-5, Attachment E1 2.3 through 2.4 pages E1-5 through E1-8)*

9.1 SURFACE WATERS OF CONCERN

The following waters of the State are in the City's service area:

- Santa Ana River
- Santa Mateo Canyon
- The Zanja

9.2 WATER QUALITY SAMPLING AND TESTING

For sewage spills in which an estimated 50,000 gallons or greater are discharged into a surface water, the City will conduct the following water quality sampling as soon as possible but no later than **18 hours** after the City's knowledge of a potential discharge to a surface water. Collect one water sample, each day of the duration of the spill, at:

- The DCS-001 location as described in section 9.5 (Receiving Water Sampling Locations) below, if sewage discharges to a surface water via a drainage conveyance system; and/or
- Each of the three receiving water sampling locations in section 9.5 (Receiving Water Sampling Locations) below;

If the receiving water has no flow during the duration of the spill, the City must report "No Sampling Due To No Flow" for its receiving water sampling locations.

The City staff collecting the samples will complete the Chain of Custody prior to transferring ownership of the samples to the Wastewater Treatment Plant Lab.

The Wastewater Treatment Plant Lab shall analyze the collected receiving water samples for the following constituents: ammonia, and Fecal coliform in accordance with the Region 8 Basin Plan Water Quality Objectives:

- REC-1: Fecal coliform: log mean less than 200 organisms/1001 mL based on five or more samples/30- day period, and not more than 10% of the samples exceed 400 organisms/100 mL for any 30-day period.
- SHEL: Fecal coliform: median concentration not more than 14 MPN (most probable number)/100 mL and not more than 10% of samples exceed 43 mpn /100 mL.

Dependent on the receiving water(s), sampling of bacterial indicators shall be sufficient to determine post-spill (after the spill) compliance with the water quality objectives and bacterial standards of the California Ocean Plan or the California Inland Surface Water Enclosed Bays, and Estuaries Plan, including the frequency and/or number of post-spill receiving water samples as may be specified in the applicable plans.

The City shall collect and analyze additional samples as required by the applicable Regional Water Board Executive Officer or designee.

9.3 LAB SELECTION

Analytical Lab
Samples collected for spill response and background monitoring purposes will be analyzed at Wastewater Treatment Plant Lab, which is accredited through the California State Water Resources Control Board Environmental Laboratory Accreditation Program (ELAP). ELAP provides evaluation and accreditation of environmental testing laboratories to ensure the quality of analytical data used for regulatory purposes to meet the requirements of the State's drinking water, wastewater, shellfish, food, and hazardous waste programs. The State agencies that monitor the environment use the analytical data from these accredited labs. The ELAP-accredited laboratories have demonstrated capability to analyze environmental samples using approved methods.

Getting Samples to the Lab
At all times, sample hold times identified below will be observed in accordance with the following:

Analytical Parameter	Maximum Holding Time	Required Container Type	Required Preservative	Mini-mum Amount
Ammonia (NH3 as N); SM 4500NH3 B/C or B/G	28 days	Plastic / Glass	H_2SO_4 pH <2 +0-6°C	200 mL
Coliform, Total / Fecal; SM 9221 B/E	8 hours – wastewater/storm-water 30 hours – drinking water	Plastic (sterile)	$Na_2S_2O_3$ + 0-10°C; No regulatory temp. req. for drinking water)	100 mL
Coliform, Total / E.Coli; SM 9223 B (Present/Ab-sent or Quantitray)	30 hours – drinking water	Plastic (sterile)	$Na_2S_2O_3$ + 0-10°C; No regulatory temp. req. for DW	100 mL
Enterococcus by Enter-olert	8 hours	Plastic (sterile)	$Na_2S_2O_3$ + 0-10°C	100 mL

Once samples are collected, they will be transported to the lab to be processed.

9.4 WATER QUALITY ANALYSIS SPECIFICATIONS

Spill monitoring must be representative of the monitored activity (40 Code of Federal Regulations section 122.41(j)(1)).

Sufficiently Sensitive Methods

Sample analysis must be conducted according to sufficiently sensitive test methods approved under 40 Code of Federal Regulations Part 136 for the sample analysis of pollutants. For the purposes of this General Order, a method is sufficiently sensitive when the minimum level of the analytical method approved under 40 Code of Federal Regulations Part 136 is at or below the receiving water pollutant criteria.

Environmental Laboratory Accreditation Program-Accredited Laboratories

The analysis of water quality samples required per this General Order must be performed by a labora-tory that has accreditation pursuant to Article 3(commencing with section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code. (Water Code section 13176(a).) The State Water Board accredits laboratories through its Environmental Laboratory Accreditation Program (ELAP).

9.5 RECEIVING WATER SAMPLING LOCATIONS

The City shall collect receiving water samples at the following locations.

Sampling of Flow in Drainage Conveyance System (DCS) Prior to Discharge

Sampling Location	Sampling Location Description
DCS-001	A point in a drainage conveyance system before the drainage con-veyance system flow discharges into a receiving water.

Receiving Surface Water Sampling (RSW)[1]

Sampling Location	Sampling Location Description
RSW-001: Point of Discharge	A point in the receiving water where sewage initially enters the receiving water.
RSW-001U: Upstream of Point of Discharge	A point in the receiving water, upstream of the point of sewage discharge, to capture ambient conditions absent of sewage discharge impacts.

Sampling Location	Sampling Location Description
RSW-001D: Downstream of Point of Discharge	A point in the receiving water, downstream of the point of sewage discharge, where the spill material is fully mixed with the receiving water.

9.6 STREAM VELOCITY MEASUREMENTS

If sampling is performed after the spill has stopped, stream velocity will be determined using either a stream velocity meter of or other acceptable method. In cases where a water velocity probe is used, the manufacturer's instructions will be followed.

9.7 SAMPLE TYPES

Grab Samples

Grab samples are appropriate for the characterization of surface waters at a particular time and place, to provide information about minimum and maximum concentrations, and to allow for the collection of variable sample volume.

Grab samples may be collected directly into the sample container, or a clean decontaminated intermediate container may be used if a wading sample is not possible or safe. If an intermediate container is used, when in the field, double rinse the sampling device (bucket, automatic sampler) with sample water prior to collecting the sample and be sure to discard rinse water downstream of where sample will be collected. If samples are collected in a bucket and distributed a consolidation collection container, swirl the contents of the bucket as it is being poured into the consolidation collection container to avoid settling of solids (and pour in back-and-forth pattern – *e.g.*, 1-2-3-3-2-1).

- Grab Sample: A grab sample is defined as an individual sample collected at a given time. Grab samples represent only the condition that exists at the time the sample is collected (US EPA 1977).
- Surface Grab Sample: A sample collected at the water surface (i.e., skimming) directly into the sample container or into an intermediate container such as a clean bucket. A single or discrete sample collected at a single location.

[1] The City must use its best professional judgment to determine the upstream and downstream distances based on receiving water flow, accessibility to upstream/downstream waterbody banks, and size of visible sewage plume.

Field Blanks

Field Blanks are used to evaluate the potential for contamination of a sample by site contaminants from a source not associated with the sample collected (e.g., airborne dust, etc.). Sterile, deionized water is taken into the field in a sealed container. This is the stock water. The stock water is then poured into the sample container. The containers and sample submission forms are labeled as "Field Blank." The same template selected for the test samples should be used. Field blanks are subject to the same holding time limitations as samples. The appropriate FIELD QC box on the sample Chain of Custody form should be checked.

9.8 SAMPLE LABELING AND CHAIN OF CUSTODY PROCEDURES

At a minimum, the following grab samples will be collected:

- Field Blank: See Section 9.7 for discussion.
- Upstream: A point in the receiving water, upstream of the point of sewage discharge, to capture ambient conditions absent of sewage discharge impacts.
- Source: A point in the receiving water where sewage initially enters the receiving water.
- See Section 9.6 for information on determining velocity of the surface water in order to determine the Source sample location.
- "Downstream" of spill: A point in the receiving water, downstream of the point of sewage discharge, where the spill material is fully mixed with the receiving water. This location will vary with the velocity of the surface water to be sampled (*see Section 9.6)*.

Sample labels shall be completed for each sample, using waterproof ink.

Photos or video of each sample location will be taken, properly labeled with date, time, and view direction and a map of the photo locations completed. Photos and videos shall include relevant landmarks to identify sampling locations and their surroundings.

Due to the evidentiary nature of samples collected during enforcement investigations, possession must be traceable from the time the samples are collected until they are analyzed. To maintain and document sample possession, a Surface Water Sample Chain of Custody Record (see Sewer Spill/Backup Response Workbook) must be completed. A sample is under custody if:

- It is in your possession, or
- It is in your view, after being in your possession, or
- It was in your possession and under your control to prevent tampering, or
- It is in a designated secure area.

As few people as possible should handle samples. The person taking the samples is personally responsible for the care and custody of the samples collected until they are transferred or dispatched properly.

Samples are accompanied by a chain of custody record. When transferring the possession of samples, the individuals relinquishing and receiving will sign, date, and note the time on the record. This record documents sample custody transfer from the sampler, often through another person, to the analyst at the laboratory. The samples are typically transferred to the sample-receiving custodian at the laboratory.

9.9 SAMPLING EQUIPMENT

The following are examples of sampling equipment used by the City:

- Sampling pole with fixed container
- Sampling pole with removable container
- Sampling pail and rope
- Stream velocity meter

9.10 DECONTAMINATION PROCEDURES

Removing or neutralizing contaminants from sampling equipment minimizes the likelihood of sample cross contamination, reduces or eliminates transfer of contaminants to clean areas, and prevents the mixing of incompatible substances.

Gross contamination can be removed by physical decontamination procedures. These abrasive and non-abrasive methods include the use of brushes, air and wet blasting, and high and low pressure water cleaning.

The decontamination procedures for the sample types and sampling equipment (other than sample bottles, which are provided to Wastewater Collection System Crew in a "ready to be used" condition by the lab) used at the City may be summarized as follows:

1. Physical removal
2. Tap water rinse
3. Air dry

9.11 SAMPLING KIT

Necessary sampling supplies, bottles and PPE will be assembled, as needed, from the WWTP lab. Additionally, any City employee utilizing the kit is responsible for decontaminating sampling equipment and field monitoring devices and replenishing the kit.

Spill Sample Collection Kit Inventory:

- Cooler
- Surface Water Sampling SOP (in Sewer Spill/Backup Response Workbook)
- Ice
- 10 Ammonia sample bottles, preserved
- 10 Bacti sample bottles: 6 for samples (3 sets of duplicates), 2 for Field Blanks and 1 extra in the event of contamination, or other contingency
- Minimum of 20 blank sample bottle labels
- Digital camera or smart phone camera
- Latex gloves
- Safety glasses/goggles
- Waterproof Pen
- Surface Water Sampling Worksheet (in Sewer Spill/Backup Response Workbook)

- Chain of Custody form (in Sewer Spill/Backup Response Workbook)

9.12 SAMPLING PROCEDURES

9.12.1. Sample Location and Identification Procedures

Samples will be collected by the Regulatory Compliance Officer. It is impossible to establish hard and fast rules concerning sampling locations. However, the following general guidelines should be applied whenever surface waters are sampled:

- The sampling location should be far enough upstream or downstream of confluences or point sources so that the surface water and SSO volume is well mixed. Natural turbulence can be used to provide a good mixture.
- Samples should be collected at a location where the velocity is sufficient to prevent deposition of solids, and to the extent practical, should be in straight reach having uniform flow. All flow in the reach should be represented, so divided flow areas should be avoided and samples should be taken towards the middle of the reach where feasible.
- Sampler must always stand downstream of the collection vessel, and sample "into the current." Care must be taken to avoid introducing re-suspended sediment into the sample.

9.12.2. Surface Water Sampling Standard Operating Procedure (SOP)

The Surface Water Sampling SOP, Section G in the Sewer Spill and Backup Response Workbook, provides step-by-step procedures to collect samples and deliver them for analysis in accordance with State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR), Element 6.

9.12.3 Follow Up Sampling

Sampling will be repeated every 24 hours, or as directed by the RWQCB or the San Bernardino Division of Environmental Health Services, until such time as one of the following criteria have been met:

- The San Bernardino Division of Environmental Health Services or the RWQCB indicates follow up sampling is no longer required, or
- Both the ammonia and bacteria levels downstream are approximately equal to or less than the upstream levels.

9.13 SAFETY AND ACCESS EXCEPTIONS

If the City encounters access restrictions or unsafe conditions that prevents its compliance with spill response requirements or monitoring requirements in this General Order, the City shall provide documentation of access restrictions and/or safety hazards in the corresponding required report.

Personal safety of staff engaged in any fieldwork activity (e.g. in transit, walking or hiking, and any field activities while at the sample site) is of primary importance. Staff should never place themselves in dangerous or risky situations. Any hazards that are known by field personnel should be communicated to other members of the field crew.

Fieldwork should be postponed if there is indication that engagement in the field activity could cause bodily harm. Working during lightning storms, in heavy vegetation or poison oak, near aggressive wildlife or domestic animals,

traversing steep or rugged terrain, unstable slopes or creek banks, near swiftly moving water or potential flash flood conditions, or during snowy weather is not considered "normal risk." If any member of the field crew is uncomfortable with a reasonable self-determined hazardous field condition, it is that person's responsibility to bring this to the attention of the onsite field supervisor or their supervisor. A "reasonable self-determined hazardous field condition" is defined as other than normal risk. Supervisors shall not dismiss any person's spoken concerns that field conditions are too hazardous to complete the work assignment.

The person taking the samples must have adequate protection, including protective clothing. They must wear gloves, as protection against chemical and/or bacteriological hazards, while they are sampling or handling samples that are known or suspected to be hazardous (e.g. visible solids or sheens, downstream from sewage spills, etc.), or if hands have open wounds. The type of gloves worn shall be determined by the sampling circumstance and type of pollutants expected – for instance longer gloves are needed when samples must be taken well below the surface.

When in a boat or wading in a stream and where the danger of drowning exists, a personal floatation device shall be worn at all times in addition to following the other requirements of Title 8 CCR 1602 Working Over or Near Water. Other protective measures shall be taken in accordance with City safety procedures.

Upon arrival at a sampling site, safety equipment such as signs, cones, lights, etc. shall be set out as appropriate. Vehicles shall be parked in locations and directions to minimize traffic disruption and avoid sample contamination. Photos should be ultimately taken of the placement of all safety equipment and signage.

The following guidelines apply to all fieldwork by City staff.

- No sample or measurement is worth the risk of injury.
- All staff shall use proper personnel protective gear as appropriate for the incident (e.g., life preservers, gloves, goggles, etc.)
- Field sampling crews should consist of at least two members unless otherwise approved by a supervisor.
- Be conscious of the whereabouts of rattlesnakes, mountain lions, and other dangerous animals.
- Open body wounds are entry sites for infection; take the necessary precautions for self-protection.
- If there is storm activity in the work area, wait for safer conditions to develop or postpone the sampling.
- Do not sample at night without approval from your supervisor.
- Do not trespass on private property or posted restricted public lands without prior permission and written approval from property owner or administrator.
- If strange or suspicious looking people are in the work area, either wait for them to leave or postpone the work to a later time. Do not force confrontations with strangers and back away from any confrontations with the public. Be courteous and understanding of public concerns of the situation.
- Take the necessary precautions against exposure to harmful weather conditions such as heat, wind, snow, cold, rain, etc.
- Carefully evaluate a given on-site situation to determine if the task can be performed safely.
- Streams will not be entered unless the responding employees have the necessary protective footwear (e.g. rubber boots, waders) and the footwear does not pose an additional risk to worker safety (e.g. waders filling with water if the employee slips in the stream).

- Streams will not be entered if deemed unsafe to so by the most senior employee on the responding crew and if entered, will only be done so in accordance with Title 8 CCR Section 1602 Work Over or Near Water.

9.14 SPILL TECHNICAL REPORT: Spill Technical Report for Individual Category 1 Spill in which 50,000 Gallons or Greater Discharged into a Surface Water

For any spill in which 50,000 gallons or greater discharged into a surface water, **within 45 calendar days** of the spill end date, the Regulatory Compliance Officer shall submit a Spill Technical Report to the online CIWQS Sanitary Sewer System Database. The Spill Technical Report, at minimum, must include the following information:

1. Spill causes and circumstances, including at minimum:
    - Complete and detailed explanation of how and when the spill was discovered;
    - Photographs illustrating the spill origin, the extent and reach of the spill, drainage conveyance system entrance and exit, receiving water, and post-cleanup site conditions;
    - Diagram showing the spill failure point, appearance point(s), the spill flow path, and ultimate destinations;
    - Detailed description of the methodology employed, and available data used to calculate the discharge volume and, if applicable, the recovered spill volume;
    - Detailed description of the spill cause(s);
    - Description of the pipe material, and estimated age of the pipe material, at the failure location;
    - Description of the impact of the spill;
    - Copy of original field crew records used to document the spill; and
    - Historical maintenance records for the failure location.
2. City's response to the spill:
    - Chronological narrative description of all actions taken by the City to terminate the spill;
    - Explanation of how the Sewer System Management Plan Spill Emergency Response Plan was implemented to respond to and mitigate the spill; and
    - Final corrective action(s) completed and a schedule for planned corrective actions, including:
        - Local regulatory enforcement action taken against an illicit discharge in response to this spill, as applicable,
        - Identifiable system modifications, and operation and maintenance program modifications needed to prevent repeated spill occurrences, and

- Necessary modifications to the Emergency Spill Response Plan to incorporate lessons learned in responding to and mitigating the spill.

3. Water Quality Monitoring, including at minimum:

   - Description of all water quality sampling activities conducted;
   - List of pollutant and parameters monitored, sampled and analyzed; as required in Section 9.2.
   - Laboratory results, including laboratory reports;
   - Detailed location map illustrating all water quality sampling points; and
   - Other regulatory agencies receiving sample results (if applicable).

5. Evaluation of spill impact(s), including a description of short-term and long-term impact(s) to beneficial uses of the surface water.

9.15 TRAINING

Training will be provided in accordance with the table below:

Surface Water Sampling Training Program	
Who Is Trained to Collect Surface Water Samples?	Regulatory Compliance Officer
Training Curriculum	At a minimum, training shall include: • The City of Redlands Water Quality Monitoring Plan • Sampling technique, including hands on practice • Sampling equipment calibration, use and decontamination procedures, including hands on practice • Sampling safety • Completion of the Sampling Equipment Calibration/Maintenance Log, Surface Water Sampling Report and Chain of Custody
Training Documentation	Attendees shall be required to sign-in to all training on the appropriate forms used by the City.
Refresher Training Frequency	Annual
Who is Responsible for Ensuring Training Occurs?	Wastewater Collections Supervisor and Regulatory Compliance Officer
Required Training Records	Employee training sign in log
Who is Responsible for Maintaining Records?	Wastewater Collections Supervisor and Regulatory Compliance Officer

10. NOTIFICATION, REPORTING, MONITORING AND RECORDKEEPING REQUIREMENTS

ref. ORDER WQ 2022-0103-DWQ Attachment E-1 and E-2

10.1 REPORTING REQUIREMENTS

All reporting required in this General Order must be submitted electronically to the online CIWQS Sanitary Sewer System Database (https://ciwqs.waterboards.ca.gov), unless specified otherwise in this General Order. Electronic reporting may solely be conducted by a Legally Responsible Official or Data Submitter(s) previously designated by the Legally Responsible Official, as required in section 5.8 (Designation of Data Submitters) of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR).

The City shall report any information that is protected by the Homeland Security Act, by email to SanitarySewer@waterboards.ca.gov, with a brief explanation of the protection provided by the Homeland Security Act for the subject report to be protected from unauthorized disclosure and/or public access, and for official Water Board regulatory purposes only.

Refer to APPENDIX A for detailed reporting requirements by spill category.

10.2 REGULATOR REQUIRED NOTIFICATIONS

10.2.1 Spill Category 1: Spills to Surface Waters

Spill Requirement	Due	Method
Notification	**Within two (2) hours** of the City's knowledge of a Category 1 spill of 1,000 gallons or greater, discharging or threatening to discharge to surface waters notify the California Office of Emergency Services and obtain a notification control number.	California Office of Emergency Services at: (800) 852-7550 (Section 1 of Attachment E1 of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR))
Monitoring	• Conduct spill-specific monitoring; • Conduct water quality sampling of the receiving water within **18 hours** of initial knowledge of spill of 50,000 gallons or greater to surface waters.	(Section 2 of Attachment E1 of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR))
Reporting	• Submit Draft Spill Report **within three (3) business days** of the City's knowledge of the spill; • Submit Certified Spill Report **within 15 calendar days** of the spill end date; • Submit Technical Report **within 45 calendar days** after the spill end date for a Category 1 spill in which **50,000 gallons or greater** discharged to surface waters; and • Submit Amended Spill Report **within 90 calendar days** after the spill end date.	(Section 3.1 of Attachment E1 of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR))

10.2.2 Spill Category 2: Spills of 1,000 Gallons or Greater That Do Not Discharge to Surface Waters

Spill Requirements	Due	Method
Notification	**Within two (2) hours** of the City's knowledge of a Category 2 spill of 1,000 gallons or greater threatening to discharge to waters of the State: Notify California Office of Emergency Services and obtain a notification control number.	California Office of Emergency Services at: (800) 852-7550 (Section 1 of Attachment E1 of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR))
Monitoring	Conduct spill-specific monitoring.	(Section 2 of Attachment E1 of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR))
Reporting	• Submit Draft Spill Report **within three (3) business days** of the City's knowledge of the spill; • Submit Certified Spill Report **within 15 calendar days** of the spill end date; and • Submit Amended Spill Report **within 90 calendar days** after the spill end date.	(Section 3.2 of Attachment E1 of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR))

10.2.3 Spill Category 3: Spills of Equal or Greater than 50 Gallons and Less than 1,000 Gallons That Does Not Discharge to Surface Waters

Spill Requirements	Due	Method
Notification	Not Applicable	Not Applicable
Monitoring	Conduct spill-specific monitoring.	(Section 2 of Attachment E1 of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR))
Reporting	• Submit monthly Certified Spill Report to the online CIWQS Sanitary Sewer System Database within **30 calendars days** after the end of the month in which the spills occur; and	(Section 3.3 and 3.5 of Attachment E1 of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR))

	• Submit Amended Spill Reports **within 90 calendar days** after the Certified Spill Report due date.	

10.2.4 Spill Category 4: Spills Less Than 50 Gallons That Do Not Discharge to Surface Waters

Spill Requirements	Due	Method
Notification	Not Applicable	Not Applicable
Monitoring	Conduct spill-specific monitoring.	(Section 2 of Attachment E1 of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR))
Reporting	• If, during any calendar month, Category 4 spills occur, certify monthly, the estimated total spill volume exiting the sanitary sewer system, and the total number of all Category 4 spills into the online CIWQS Sanitary Sewer System Database, within 30 days after the end of the calendar month in which the spills occurred. • Upload and certify a report, in an acceptable digital format, of all Category 4 spills to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occur.	(Section 3.4, 3.6, 3.7 and 4.4 of Attachment E1 of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR))

10.2.5 City Owned and/or Operated Lateral Spills That Do Not Discharge to Surface Waters

Spill Requirements	Due	Method
Notification	**Within two (2) hours** of the City's knowledge of a spill of 1,000 gallons or greater, from an City- owned and/or operated lateral, discharging or threatening to discharge to waters of the State: Notify California Office of Emergency Services and obtain a notification control number. Not applicable to a spill of less than 1,000 gallons.	California Office of Emergency Services at: (800) 852-7550 (Section 1 of Attachment E1 of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR))
Monitoring	Conduct visual monitoring.	(Section 2 of Attachment E1 of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR))
Reporting	• Upload and certify a report, in an acceptable digital format, of all lateral spills (that do not discharge to a surface water) to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occur. • Report a lateral spill of any volume that discharges to a surface water as a Category 1 spill.	(Sections 3.6, 3.7 and 4.4 of Attachment E1 of the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR))

10.3 COMPLAINT RECORDS

The City maintains records of all complaints received whether or not they result in sanitary sewer overflows. These complaint records include, but are not limited to, records documenting how the City responded to notifications of spills. Each complaint record must, at a minimum, include the following information:

- Date, time, and method of notification,
- Date and time the complainant first noticed the spill, if available,
- Narrative description of the complaint, including any information the caller provided regarding whether the spill has reached surface waters or a drainage conveyance system, if available,
- Complainant's contact information, if available, and

- Final resolution of the complaint;

All complaint records will be maintained for a minimum of five years whether or not they result in a spill. Hard-copy files (field notes, spill/Backup Response Workbook) are kept on the MUED Common Drive under the responsibility of the Regulatory Compliance Officer and Wastewater Collection System Supervisor.

11. POST-SPILL ASSESSMENTS OF SPILL RESPONSE ACTIVITIES

(ref. State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR), Element 6, ATTACHMENT D, Page D-6)

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

As soon as possible after spill events all 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 responding to and mitigating future spill events. The results of the debriefing will be documented and tracked to ensure the action items are completed as scheduled.

11.1 FAILURE ANALYSIS INVESTIGATION

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

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

- Reviewing and completing the Sanitary Sewer Spill Report 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 spill and reviewing the video and logs,
- Reviewing any Fats, Oils, Roots and Grease (FROG) related information or results
- Post spill debrief records
- Interviews with the public at the spill 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 (in Sanitary Sewer Spill/Backup Response Workbook) will be used to document the investigation.

12. SPILL RESPONSE TRAINING

(ref. State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR), Element 6, Attachment D 4.3 page D-5 and Element 6 page D-6

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

12.1 INITIAL AND ANNUAL REFRESHER TRAINING

All City personnel who may have a role in responding to, reporting, and/or mitigating a sewer system spill will receive training on the contents of this SERP. 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 SERP 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 requirements of State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR), Element 6
- The City's Spill Emergency Response Plan procedures and practice drills
- Containment and cleanup methods
- Researching and documenting Sanitary Sewer Spill Start Times
- Skilled estimation of spill volume for field operators
- Impacted Surface Waters: Sample location selection, sampling, and documentation procedures
- Electronic CIWQS reporting procedures for staff submitting data
- State Water Resources Control Board Employee Knowledge Expectations

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 spill complaints.
4. Please describe your SOPs used to respond/mitigate spills 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 spill response activities have worked in the field. We understand from discussions with management earlier that you use the SERP 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 spill complaints in the field?

8. Can you tell us who is responsible for estimating spill volumes discharged? If it is you, please describe how you go about estimating the spill 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 spills (either onsite or via telephone) to further check out when the spill 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 spills, when else would you typically take any pictures of a spill?

12. Please walk us through anything else you'd like to add to help us better understand how your field crews respond and mitigate spill complaints.

12.2 SPILL 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.

12.3 SPILL TRAINING RECORD KEEPING

Records will be kept of all training that is provided in support of this SERP for 5 years. The records for all scheduled training courses and for each overflow emergency response training event will include date, time, place, content, name of trainer(s), names and titles of attendees, brief narrative description of the training, including training method(s) and training materials and/or equipment used.

12.4 CONTRACTORS WORKING ON CITY SEWER FACILITIES

All contractors working on City sewer facilities will be required to follow the spill response instructions on the Sanitary Sewer Spill Response Instructions for Contractors (Appendix C). Additional training may be required depending on the nature of the work on any or all of the following:

- The requirements of State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR) Element 6
- Communication procedures to City in the event a spill is caused or witnessed
- The City's Spill Emergency Response Plan procedures and practice drills

- Skilled estimation of spill volume for field operators
- Electronic CIWQS reporting procedures for staff submitting data

13. 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 Wastewater Collection System Crew to gather information regarding the incident and notify the Wastewater Collection System Supervisor who forwards to the Regulatory Compliance Officer. The Regulatory Complacence Officer will notify Risk Management.
- It is the responsibility of the City Risk Manager or their designee to review all claims and to oversee the adjustment and administration of the claim to closure.

14. AUTHORITY

This SERP is written in accordance with the State Water Board Order No. WQ 2022-0103-DWQ (SSSWDR).

15. APPENDICES

A. Reporting Requirements by Spill Category
B. Door Hanger
C. Sanitary Sewer Spill Response Instructions for Contractors
D. Sanitary Sewer Spill/Backup Response Workbook

APPENDIX A:

Reporting Requirements by Spill Category

REPORTING REQUIREMENTS FOR INDIVIDUAL CATEGORY 1 SPILL REPORTING

Draft Spill Report

Within three (3) business days of the City's knowledge of a Category 1 spill, the City shall submit a Draft Spill Report to the online CIWQS Sanitary Sewer System Database.

The Draft Spill Report must, at minimum, include the following items:

1. Contact information: Name and telephone number of City contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the City was notified of, or self-discovered, the spill;
4. Operator arrival time;
5. Estimated spill start date and time;
6. Date and time the City notified the California Office of Emergency Services, and the assigned control number;
7. Description, photographs, and GPS coordinates of the system location where the spill originated; If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the spill appearance point explanation field;
8. Estimated total spill volume exiting the system;
9. Description and photographs of the extent of the spill and spill boundaries;
10. Did the spill reach a drainage conveyance system? If Yes:
    a. Description of the drainage conveyance system transporting the spill;
    b. Photographs of the drainage conveyance system entry location(s);
    c. Estimated spill volume fully recovered from the drainage conveyance system;
    d. Estimated spill volume remaining within the drainage conveyance system;
    e. Description and photographs of all discharge point(s) into the surface water;
    f. Estimated spill volume that discharged to surface waters; and
    g. Estimated total spill volume recovered.

(Category 1 continued)

Certified Spill Report

Within 15 calendar days of the spill end date, the City shall submit a Certified Spill Report for Category 1 spills, to the online CIWQS Sanitary Sewer System Database.

Upon completion of the Certified Spill Report, the online CIWQS Sanitary Sewer System Database will issue a final spill event identification number.

The Certified Spill Report must, at minimum, include the following mandatory information in addition to all information in the Draft Spill Report:

1. Description of the spill event destination(s), including GPS coordinates if available, that represent the full spread and reach of the spill;
2. Spill end date and time;
3. Description of how the spill volume estimations were calculated, including at a minimum:
    a. The methodology, assumptions and type of data relied upon, such as supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
    b. The methodology(ies), assumptions and type of data relied upon for estimations of the spill start time and the spill end time;
4. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
5. System failure location (for example, main, lateral, pump station, etc.);
6. Description of the pipe material, and estimated age of the pipe material, at the failure location;
7. Description of the impact of the spill;
8. Whether or not the spill was associated with a storm event;
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
10. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of major milestones for those steps;
11. Spill response completion date;
12. Detailed narrative of investigation and investigation findings of cause of spill;
13. Reasons for an ongoing investigation (as applicable) and the expected date of completion;
14. Name and type of receiving water body(s);
15. Description of the water body(s), including but not limited to:
    a. Observed impacts on aquatic life,
    b. Public closure, restricted public access, temporary restricted use, and/or posted health warnings due to spill,
    c. Responsible entity for closing/restricting use of water body, and
    d. Number of days closed/restricted as a result of the spill.

(Category 1 continued)

16. Whether or not the spill was located within 1,000 feet of a municipal surface water intake; and
17. If water quality samples were collected, identify sample locations and the parameters the water quality samples were analyzed for. If no samples were taken, Not Applicable shall be selected.

Amended Certified Spill Reports

The City shall update or add additional information to a Certified Spill Report within **90 calendar days** of the spill end date by amending the report or by adding an attachment to the Spill Report in the online CIWQS Sanitary Sewer System Database. The City shall certify the amended report.

After **90 calendar days**, the City shall contact the State Water Board at SanitarySewer@waterboards.ca.gov to request to amend a Spill Report. The Legally Responsible Official shall submit justification for why the additional information was not reported within the Amended Spill Report due date.

REPORTING REQUIREMENTS FOR INDIVIDUAL CATEGORY 2 SPILL REPORTING

Draft Spill Report

Within three (3) business days of the City's knowledge of a Category 2 spill, the City shall submit a Draft Spill Report to the online CIWQS Sanitary Sewer System Database.

The Draft Spill Report must, at minimum, include the following items:

1. Contact information: Name and telephone number of City contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the City was notified of, or self-discovered, the spill;
4. Operator arrival time;
5. Estimated spill start date and time;
6. Date and time the City notified the California Office of Emergency Services, and the assigned control number;
7. Description, photographs, and GPS coordinates of the system location where the spill originated; If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the spill appearance point explanation field;
8. Estimated total spill volume exiting the system;
9. Description and photographs of the extent of the spill and spill boundaries;
10. Did the spill reach a drainage conveyance system? If Yes:
    - Description of the drainage conveyance system transporting the spill;
    - Photographs of the drainage conveyance system entry location(s);
    - Estimated spill volume fully recovered from the drainage conveyance system;
    - Estimated spill volume remaining within the drainage conveyance system;
11. Estimated spill volume discharged to a groundwater infiltration basin or facility, if applicable; and
12. Estimated total spill volume recovered.

(Category 2 continued)

Certified Spill Report

Within 15 calendar days of the spill end date, the City shall submit a Certified Spill Report for the Category 2 spill, to the online CIWQS Sanitary Sewer System Database (https://ciwqs.waterboards.ca.gov). Upon completion of the Certified Spill Report, the online CIWQS Sanitary Sewer System Database will issue a final spill event identification number.

The Certified Spill Report must, at minimum, include the following mandatory information in addition to all information in the Draft Spill Report:

1. Description of the spill event destination(s), including GPS coordinates if available, that represent the full spread and reach of the spill;
2. Spill end date and time;
3. Description of how the spill volume estimations were calculated, including at a minimum:
    - The methodology, assumptions and type of data relied upon, such as supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
    - The methodology(ies), assumptions and type of data relied upon for estimations of the spill start time and the spill end time;
4. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
5. System failure location (for example, main, pump station, etc.);
6. Description of the pipe/infrastructure material, and estimated age of the pipe material, at the failure location;
7. Description of the impact of the spill;
8. Whether or not the spill was associated with a storm event;
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
10. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of major milestones for those steps;
11. Spill response completion date;
12. Detailed narrative of investigation and investigation findings of cause of spill;
13. Reasons for an ongoing investigation (as applicable) and the expected date of completion; and
14. Whether or not the spill was located within 1,000 feet of a municipal surface water intake.

(Category 2 Continued)

Amended Certified Spill Reports

The City shall update or add additional information to a Certified Spill Report within **90 calendar days** of the spill end date by amending the report or by adding an attachment to the Spill Report in the online CIWQS Sanitary Sewer System Database. The City shall certify the amended report.

After **90 calendar days**, the City shall contact the State Water Board at SanitarySewer@waterboards.ca.gov to request to amend a Spill Report. The Legally Responsible Official shall submit justification for why the additional information was not reported within the Amended Spill Report due date.

REPORTING REQUIREMENTS FOR INDIVIDUAL CATEGORY 3 SPILL REPORTING

Monthly Certified Spill Reporting

The City shall report and certify all Category 3 spills to the online CIWQS Sanitary Sewer System Database within 30 calendar days after the end of the month in which the spills occurred. (For example, all Category 3 spills occurring in the month of February shall be reported and certified by March 30th). After the Legally Responsible Official certifies the spills, the online CIWQS Sanitary Sewer System Database will issue a spill event identification number for each spill.

The monthly reporting of all Category 3 spills must include the following items for each spill:

1. Contact information: Name and telephone number of City contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the City was notified of, or self-discovered, the spill;
4. Operator arrival time;
5. Estimated spill start date and time;
6. Description, photographs, and GPS coordinates where the spill originated. If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the spill appearance point explanation field;
7. Estimated total spill volume exiting the system;
8. Description and photographs of the extent of the spill and spill boundaries;
9. Did the spill reach a drainage conveyance system? If Yes:
    a. Description of the drainage conveyance system transporting the spill;
    b. Photographs of the drainage conveyance system entry locations(s);
    c. Estimated spill volume fully recovered from the drainage conveyance system; and
    d. Estimated spill volume discharged to a groundwater infiltration basis or facility, if applicable.
10. Estimated total spill volume recovered;
11. Description of the spill event destination(s), including GPS coordinates, if available, that represent the full spread and reaches of the spill;
12. Spill end date and time;
13. Description of how the spill volume estimations were calculated, including, at minimum:
    a. The methodology and type of data relied upon, including supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was re-covered), and
    b. The methodology and type of data relied upon to estimate the spill start time, on-going spill rate at time of arrival (if applicable), and the spill end time;
14. Spill cause(s) (for example, root intrusion, grease deposition, etc.);

(Category 3 Continued)

15. System failure location (for example, main, pump station, etc.);
16. Description of the pipe/infrastructure material, and estimated age of the pipe/infrastructure material, at the failure location;
17. Description of the impact of the spill;
18. Whether or not the spill was associated with a storm event;
19. Description of spill response activities including description of immediate spill containment and cleanup efforts;
20. Description of spill corrective actions, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of the major milestones for those steps; including, at minimum:
    a. Local regulatory enforcement action taken against an illicit discharge in response to this spill, as applicable, and
    b. Identifiable system modifications, and operation and maintenance program modifications needed to prevent repeated spill occurrences at the same spill event location, including:
        - Adjusted schedule/method of preventive maintenance,
        - Planned rehabilitation or replacement of sanitary sewer asset,
        - Inspected, repaired asset(s), or replaced defective asset(s),
        - Capital improvements,
        - Documentation verifying immediately implemented system modifications and operating/maintenance modifications,
        - Description of spill response activities,
        - Spill response completion date, and
        - Ongoing investigation efforts, and expected completion date of investigation to determine the full cause of spill;
21. Detailed narrative of investigation and investigation findings of cause of spill.

(Category 3 Continued)

Amended Certified Spill Reports

Within 90 calendar days of the certified Spill Report due date, the City may update or add additional information to a certified Spill Report by amending the report or by adding an attachment to the Spill Report in the online CIWQS Sanitary Sewer System Database. The City shall certify the amended report.

After 90 calendar days, the Legally Responsible Official shall contact the State Water Board at SanitarySewer@waterboards.ca.gov to request to amend a certified Spill Report. The Legally Responsible Official shall submit justification for why the additional information was not reported within the 90-day timeframe for amending the certified Spill Report, as provided above.

REPORTING REQUIREMENTS FOR INDIVIDUAL CATEGORY 4 SPILL REPORTING

Monthly Certified Spill Reporting

The City shall report and certify the estimated total spill volume exiting the sanitary sewer system, and the total number of all Category 4 spills to the online CIWQS Sanitary Sewer System Database, within 30 calendar days after the end of the month in which the spills occurred.

Annual Certified Spill Reporting of Category 4 and/or Lateral Spills

For all Category 4 spills and spills from its owned and/or operated laterals that are caused by a failure or blockage in the lateral and that do not discharge to a surface water, the City shall:

- Maintain records per section 4.4. of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order. The City shall provide records upon request by State Water Board or Regional Water Board staff.

- Annually upload and certify a report, in an appropriate digital format, of all recordkeeping of spills to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occurred.

A spill from an City-owned and/or operated lateral that discharges to a surface water is a Category 1 spill; the City shall report all Category 1 spills per section 3.1 of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.

Monthly Certification of "No-Spills" Or "Category 4 Spills" and/or "Non-Category 1 Lateral Spills"

If either (1) no spills occur during a calendar month or (2) only Category 4, and/or City-owned and/or operated lateral spills (that do not discharge to a surface water) occur during a calendar month, the City shall certify, within 30 calendar days after the end of each calendar month, either a "No-Spill" certification statement, or a "Category 4 Spills" and/or "Non-Category 1 Lateral Spills" certification statement, in the online CIWQS Sanitary Sewer System Database, certifying that there were either no spills, or Category 4 and/or Non-Category 1 Lateral Spills that will be reported annually (per section 3.6 of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order) for the designated month.

If a spill starts in one calendar month and ends in a subsequent calendar month, and the City has no further spills of any category, in the subsequent calendar month, the City shall certify "no-spills" for the subsequent calendar month.

If the City has no spills from its systems during a calendar month, but the City voluntarily reported a spill from a private lateral or a private system, the City shall certify "no-spills" for that calendar month.

If the Citys has spills from its owned and/or operated laterals during a calendar month, the City shall not certify "no spills" for that calendar month.

APPENDIX B:

Door Hanger

CITY OF REDLANDS

On (date) _____

at (location) _____

we responded to a reported blockage of the sanitary sewer service to your property.

We discovered a blockage in:

- ☐ The sanitary sewer main and cleared the line
- ☐ Your sanitary sewer lateral, which is your responsibility to maintain.

If you require assistance to clear your portion of the lateral you can search the internet for "Sewer Contractors" or "Plumbing Drains & Sewer Cleaning." If you plan to hire a contractor, we recommend getting estimates from more than one company.

City representative notes: _____

_____

_____

City representative name:

_____

For questions or comments, please call

CITY OF REDLANDS
Business Hours: (909) 798-7516
After Hours: (909) 798-7681

CITY OF REDLANDS

On (date) _____

at (location) _____

we responded to a reported blockage of the sanitary sewer service to your property.

We discovered a blockage in:

- ☐ The sanitary sewer main and cleared the line
- ☐ Your sanitary sewer lateral, which is your responsibility to maintain.

If you require assistance to clear your portion of the lateral you can search the internet for "Sewer Contractors" or "Plumbing Drains & Sewer Cleaning." If you plan to hire a contractor, we recommend getting estimates from more than one company.

City representative notes: _____

_____

_____

City representative name:

_____

For questions or comments, please call

CITY OF REDLANDS
Business Hours: (909) 798-7516
After Hours: (909) 798-7681

APPENDIX C:

Sanitary Sewer Spill Response Instructions for Contractors

Sanitary Sewer Spill Response Instructions for Contractors

For contractors working on the sanitary sewer system the City expects them to have, at all worksites, spill response materials necessary to block drainage conveyance system entry points near the work area and surface waters.

Additionally, contractor must be trained on spill response materials and equipment.

The following procedures are to be followed in the event that a contractor/plumber causes or witnesses a sanitary sewer spill. If the contractor/plumber causes or witnesses a spill they should:

1. Immediately notify the City at (909) 798-7516 during business hours or (909) 798-7681 after hours and provide the following information if available:
   - Date, time contractor first noticed the spill
   - Description of the contractor's observation, including any information regarding whether the spill has reached surface waters or a drainage conveyance system
   - Contractor's contact information

2. Protect storm drains.

3. Protect the public.

4. Direct ALL media and public relations requests to the City Public Information Officer at (909) 798-7633.

APPENDIX D:

Sanitary Sewer Overflow/Backup Response Workbook

City of Redlands

Sewer Spill Emergency Response Plan

Sewer Spill/Backup Response Workbook

INSERT TAB:
Tab A: Start Here

Sanitary Sewer Spill/Backup Response Workbook

See the following page for contact information as needed.

☐ Make immediate notifications:

- If this spill is discharging or threatening to discharge greater than or equal to 1,000 gallons to surface waters, immediately contact the Regulatory Compliance Officer at (909) 798-7506 ext. 5 or (909) 557-6298 (mobile) to make the 2-hour notification to CalOES at (800) 852-7550.
- If there is a backup into a residence/business that may be due to a problem in the City's sewer, notify the Regulatory Compliance Officer at (909) 798-7506 ext. 5 or (909) 557-6298 (mobile).
- For media inquiries/requests contact the City Public Information Officer at (909) 798-7633.

☐ Refer to the Regulatory Reporting Guide in this Workbook for additional reporting requirements.

WASTEWATER COLLECTION SYSTEM CREW:	CHAIN OF CUSTODY
☐ Refer to the Spill Event Checklist (A-4), follow the instructions on the Spill/Backup Response Flowchart (C-1), and complete forms in this Workbook as indicated. ☐ Complete the chain of custody record (to the right) and deliver this workbook to the Wastewater Collection System Supervisor. After review, Wastewater Collections System Supervisor forwards to Regulatory Compliance Officer.	Print Name: Initial: Date:

REGULATORY COMPLIANCE OFFICER:	CHAIN OF CUSTODY
☐ Review the Spill Event Checklist (A-4) and the forms in this Workbook. Contact the Wastewater Collection System Crew for additional information if necessary. ☐ Confirm that all required regulatory notifications have been made (B-1). ☐ If this was a Sewer Backup, follow instructions on the Backup Forms Checklist (F-1). ☐ Complete the Post Spill Assessment (H-1) and Collection System Failure Analysis Form (H-2). ☐ Complete the Chain of Custody record (right) and forward Workbook to Data Submitter	Print Name: Initial: Date:

DATA SUBMITTER:	CHAIN OF CUSTODY
☐ Refer to Spill Event Checklist (A-4) Data Submitter Responsibilities ☐ Complete the chain of custody record (to the right) and deliver this workbook to a Legally Responsible Official (see A-2 for LROs).	Print Name: Initial: Date:

LEGALLY RESPONSIBLE OFFICIAL:	CHAIN OF CUSTODY
☐ Refer to Spill Event Checklist (A-4) Data Submitter Responsibilities ☐ Complete the chain of custody record (to the right) and file this Workbook with the spill file.	Print Name: Initial: Date:

Contact	Description	Telephone/Email/Address
CAL/OES	California Office of Emergency Services	(800) 852-7550
City Public Information Officer	Media inquiries/requests	(909) 798-7633
City Regulatory Compliance Officer	▪ CalOES 2-hour notification and other regulatory notifications. ▪ Outside assistance / mutual aid.	Tel: (909) 798-7506 ext. 5 Cell: (909) 557-6298
City Risk Manager	Assistance with sewer backup customers	(909) 798- 7514
Santa Ana Regional Water Quality Control Board		info8@waterboards.ca.gov Tel: (951)782-4130 Fax: (951)781-6288
State Water Resources Control Board	Walter Mobley	(916) 323-0878 Walter.Mobley@waterboards.ca.gov
Wastewater Treatment Plant Lab	Water quality sample analysis	(909) 798-7506 ext. 4178 laboratory@cityofredlands.org 1950 Nevada St. Redlands, CA 92373

Authorized Personnel:

The following are authorized to perform regulatory reporting of spills:

Name	Job Title	Telephone
Shannon Simmers	Regulatory Compliance Officer	(909) 557-6298
James Estrada	Wastewater Collection System Supervisor	(909) 684-9472
Fernando Mata	Wastewater Utility Manager	(909) 841-3142

The City's Legally Responsible Official (LRO) is authorized to electronically sign and certify spill reports in CIWQS.

NOTE: All references to "SSWDR" refer to State Water Board Order No. WQ 2022-0103-DWQ.

DRAINAGE CONVEYANCE SYSTEM: A drainage conveyance system is a publicly- or privately-owned separate storm sewer system, including but not limited to drainage canals, channels, pipelines, pump stations, detention basins, infiltration basins/facilities, or other facilities constructed to transport stormwater and non-stormwater flows.

SPILL: A spill is a discharge of sewage from any portion of a sanitary sewer system due to a sanitary sewer system overflow, operational failure, and/or infrastructure failure. Exfiltration of sewage is not considered to be a spill under SSWDR if the exfiltrated sewage remains in the subsurface and does not reach a surface water of the State.

- **Category 1 Spill:**

  A Category 1 spill is a spill of any volume of sewage from or caused by a sanitary sewer system regulated under SSWDR that results in a discharge to:

  - A surface water, including a surface water body that contains no flow or volume of water; or
  - A drainage conveyance system that discharges to surface waters when the sewage is not fully captured and returned to the sanitary sewer system or disposed of properly.

  Any spill volume not recovered from a drainage conveyance system is considered a discharge to surface water, unless the drainage conveyance system discharges to a dedicated stormwater infiltration basin or facility.

  A spill from an City-owned and/or operated lateral that discharges to a surface water is a Category 1 spill; the City shall report all Category 1 spills per section 3.1 of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of SSWDR.

- **Category 2 Spill**

  A Category 2 spill is a spill of 1,000 gallons or greater, from or caused by a sanitary sewer system regulated under SSWDR that does not discharge to a surface water. A spill of 1,000 gallons or greater that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system, is a Category 2 spill.

- **Category 3 Spill**

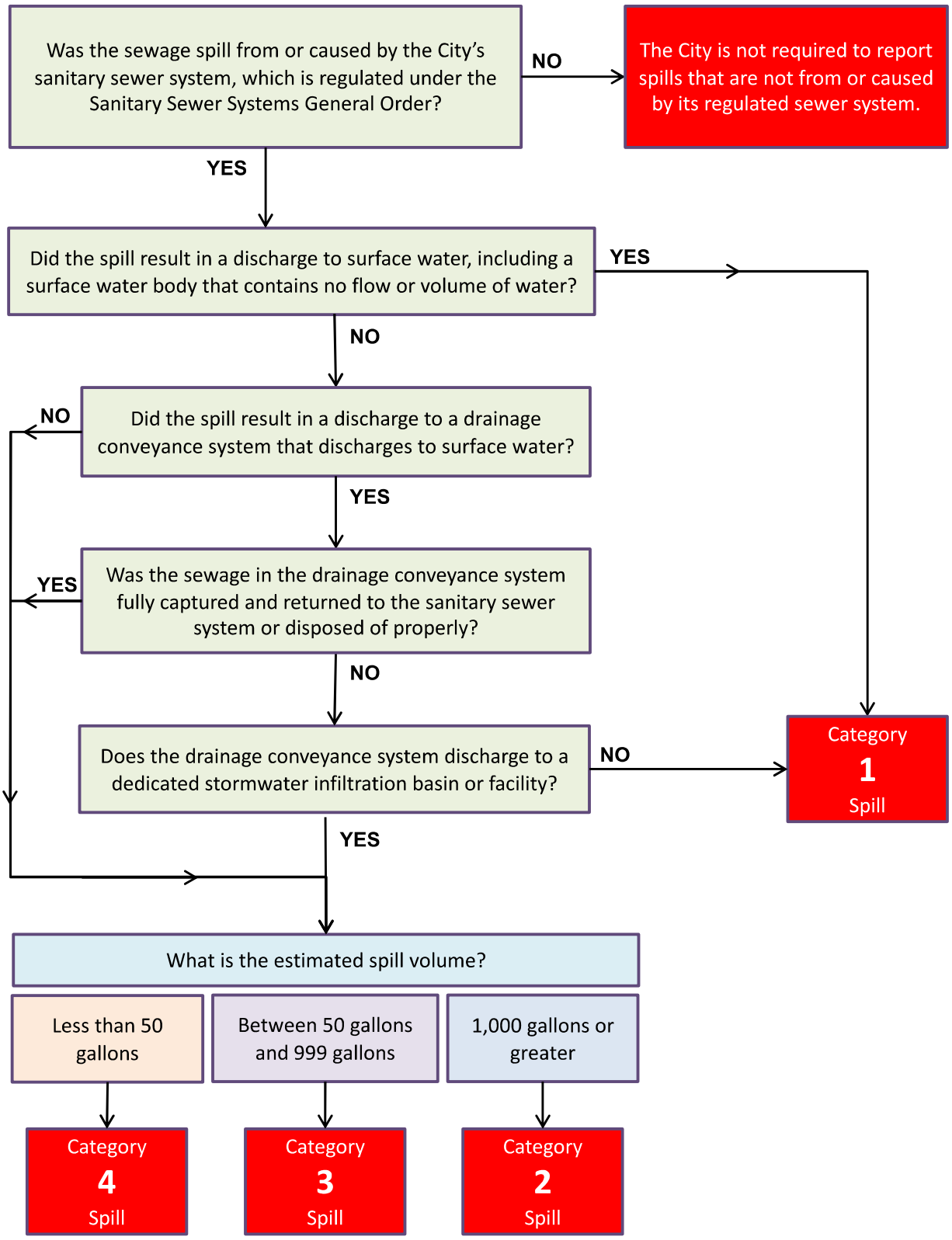
  A Category 3 spill is a spill of equal to or greater than 50 gallons and less than 1,000 gallons, from or caused by a sanitary sewer system regulated under SSWDR that does not discharge to a surface water. A spill of equal to or greater than 50 gallons and less than 1,000 gallons, that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 3 spill.

- **Category 4 Spill**

  A Category 4 spill is a spill of less than 50 gallons, from or caused by a sanitary sewer system regulated under SSWDR that does not discharge to a surface water. A spill of less than 50 gallons that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 4 spill.

WATERS OF THE STATE: Waters of the State are surface waters or groundwater within boundaries of the state as defined in Water Code section 13050(e), in which the State and Regional Water Boards have authority to protect beneficial uses. Waters of the State include, but are not limited to, groundwater aquifers, surface waters, saline waters, natural washes and pools, wetlands, sloughs, and estuaries, regardless of flow or whether water exists during dry conditions. Waters of the State include waters of the United States.

INSTRUCTIONS: Answer each question in order and stop at the red box once you have determined the category.



Spill Event Checklist

Date of Spill: _____ Spill Location/Name: _____

CIWQS Event ID #: _____ Category? ☐ 1 ☐ 2 ☐3 ☐4 OES#: _____

Property Damage? ☐ Yes ☐ No Service Request #: _____

WASTEWATER COLLECTION SYSTEM CREW RESPONSIBILITIES

- ☐ Effort made to contain and return a portion/all to the sanitary sewer
- ☐ Pictures/video taken of spill
- ☐ Pictures taken of affected/unaffected area
- ☐ If property damage, start that process
- ☐ Pictures taken of containment efforts
- ☐ Impacted waters identified?
- ☐ Assess and document spill location and spread including photos
- ☐ Spill Report Form Complete (includes fields for all required fields in CIWQS, and a sketch of spill)
- ☐ Volume Estimation Worksheet(s) done
- ☐ Start Time Determination Form done
- ☐ Follow Water Quality Monitoring and Sampling procedures

REGULATORY COMPLIANCE OFFICER RESPONSIBILITIES

- ☐ If spill is Cat 1 > 1000 gallons or Cat 2 > 1000 gal threatening to discharge to waters of the State: OES Control #_____
- ☐ Were surface waters impacted waters?
- ☐ Map of where samples were taken, if applicable
- ☐ For Cat 1 Spills 50,000 gallons or larger, obtain sampling results
- ☐ Ensure Technical Report is written
- ☐ Initial review of forms is complete (ensure consistency of dates, times, volumes, and other data)
- ☐ Conduct Post Spill Assessment & complete form (H-1)
- ☐ Failure Analysis (may be done by Wastewater Collection System Supervisor)
  - TV to determine cause
  - Review Asset History
- ☐ Determine next steps to prevent recurrence
- ☐ Document findings and next steps on Spill Report
- ☐ Review of photos and videos (label/date)
- ☐ Start folder for all documentation for this spill event. Put everything in it (Spill Report, Field Reports, Worksheets/Forms, follow-up work orders, notes, photos, drawings, CIWQS print outs, emails, etc.)

DATA SUBMITTER AND/OR REGULATORY COMPLIANCE OFFICER RESPONSIBILITIES

- ☐ Submit Draft in CIWQS w/in 3 business days (for Categories 1 and 2 only)
- ☐ Print CIWQS Draft hard copy and email
- ☐ Review CIWQS, spill Report, Worksheets, CMMS, and any other documentation to ensure data is consistent (e.g. dates, times, volumes, cause, follow-up action, etc.
- ☐ Attach photos, forms etc. to CIWQS
- ☐ Attach Technical Report to CIWQS, if applicable
- ☐ Submit Ready to Certify in CIWQS (with sufficient time for LRO review)
- ☐ Print CIWQS Ready to Certify and email
- ☐ Hand Workbook to LRO and complete Chain of Custody form

LRO RESPONSIBILITIES

- ☐ LRO review Workbook and CIWQS verify accurate and consistent data
- ☐ Certify in CIWQS (within 15 calendar days for Categories 1 & 2, 30 days after the month for Category 3 & 4)
- ☐ Print Certified CIWQS and email
- ☐ Any changes? Change in CIWQS and hard copies and explain changes, print our current version
- ☐ Move completed Workbook and spill folder to spill files
- ☐ If any changes are made to SSMP
  - Update SSMP and link on CIWQS to SSMP
  - Add change to SSMP Change Log
  - Consider need to re-certify SSMP

INSERT TAB:
Tab B: Regulatory Reporting

Regulatory Reporting Guide

The City's Legally Responsible Officials (LROs) are authorized to electronically sign and certify spill reports in CIWQS. See contact information for LROs on page A-2.

Deadline	Category 1 Spill*	Category 2 Spill++	Category 3 Spill++	Category 4 Spill++
2 hours after awareness of spill	Within two (2) hours of the City's knowledge of a Category 1 spill of 1,000 gallons or greater, discharging or threatening to discharge to Waters of the State, notify CalOES and obtain a notification control number.	Within two (2) hours of the City's knowledge of a Category 2 spill of 1,000 gallons or greater threatening to discharge to Waters of the State, notify CalOES and obtain a notification control number.	-	-
Within 18 hours of awareness of spill	Conduct water quality sampling of the receiving water within 18 hours of initial knowledge of spill of 50,000 gallons or greater to surface waters.	-	-	-
3 Business Days after awareness of spill	Submit Draft Spill Report in the CIWQS database.	Submit Draft Spill Report in the CIWQS database.	-	-
15 Days after the spill end date	Submit Certified Spill Report within 15 calendar days of the spill end date. (Submit Amended Spill Report, as needed, within 90 calendar days after the spill end date.)	Submit Certified Spill Report within 15 calendar days of the spill end date. (Submit Amended Spill Report, as needed, within 90 calendar days after the spill end date.)	-	-
Within **30 calendars days** after the end of the calendar month in which the spill occurs	-	-	Submit monthly Certified Spill Report to the online CIWQS Sanitary Sewer System Database (Submit Amended Spill Report, as needed, within 90 calendar days after the Certified Spill Report due date.)	Certify monthly, the estimated total spill volume exiting the sanitary sewer system, and the total number of all Category 4 spills into the online CIWQS Sanitary Sewer System Database.
45 days after spill end date	Submit Technical Report within 45 calendar days after the spill end date for a Category 1 spill in which 50,000 gallons or greater discharged to surface waters; and	-	-	-
By February 1st after the end of the calendar year in which the spills occur.	-	See + note below.	-	Upload and certify a report, in an acceptable digital format, of all Category 4 spills to the online CIWQS Sanitary Sewer System Database.

* A spill from an Enrollee-owned and/or operated lateral that discharges to a surface water is a Category 1 spill.

++ See following page for notes.

++ Agency owned lateral spills (Cat 2-4) to be reported by Feb 1 of the following year.

- **Monthly Spill Reporting of Non-Category 1 Lateral Spills:** If either (1) no spills occur during a calendar month or (2) only Category 4, and/or Enrollee-owned and/or operated lateral spills (that do not discharge to a surface water) occur during a calendar month, the Enrollee shall certify, within 30 calendar days after the end of each calendar month, either a "No-Spill" certification statement, or a "Category 4 Spills" and/or "Non-Category 1 Lateral Spills" certification statement, in the online CIWQS Sanitary Sewer System Database, certifying that there were either no spills, or Category 4 and/or Non-Category 1 Lateral Spills that will be reported annually for the designated month.

- **Annual Certified Spill Reporting of Category 4 and/or Lateral Spills:** For all Category 4 spills and spills from its owned and/or operated laterals that are caused by a failure or blockage in the lateral and that do not discharge to a surface water, the Enrollee shall annually upload and certify a report, in an appropriate digital format, of all recordkeeping of spills to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occurred.

Regulatory Reporting/Notifications Log

Agency/Firm Contacted	Individual Spoken to:	Date	Time	Notes
CalOES				Control Number:

INSERT TAB:
Tab C: Flowchart

Spill/Backup Response Flowchart

START HERE

Does the spill/backup appear to be due to a problem in the **City-owned/maintained** sewer line?

NO

This is a Private Spill

1. Photograph the extent of the discharge and the discharge boundaries if possible.
2. Notify the property owner that the blockage is in their lateral and that the City does not have legal authority to maintain or perform work on privately-owned laterals.
3. Give customer the "Your Responsibilities as a Private Property Owner" pages from this Workbook (F-6).
4. Recommend to customer they hire a contractor to clear their line.
5. If customer is not home:
   - Complete Door Hanger and leave on customer's door.
   - Leave a message on the customer's voicemail.
6. If the property owner is unable or unwilling to address the cause of the Spill, immediately contact your supervisor and discuss whether Code Enforcement, the County Department of Environmental Health or Regional Water Quality Control Board should be notified.
7. If you are directed to to break the stoppage and clean up the private spill. Be sure to document City staff time and equipment used for potential billing purposes and take pictures.

1. **Document the service call according to City procedures.**
2. **STOP. Do not continue to PAGE 2**

YES

1. Document arrival time.
2. Consider the need to call out additional staff, contractor or mutual aid assistance.
3. If it is possible that this is a Category 1 spill greater than or equal to 1,000 gallons or a Category 2 spill that is threatening to discharge to surface water, immediately contact the Regulatory Compliance Officer to make the 2-hour notification to CalOES and obtain a control number.

1. Record manhole number or cleanout location of the spill appearance point closest to the failure point, and describe each additional appearance point on the Spill Report (D-1).
2. Take photographs of all spill appearance points, the extent of the spill, and spill boundaries.

Go to PAGE 2

Continue from PAGE 1

BEGIN DIVERSION AND CONTAINMENT, AS NECESSARY

1. **DIVERT AWAY FROM SENSITIVE AREAS:**

   a. Cover unplugged storm drains w/mats, or use dirt/other material to divert sewage away from sensitive areas (e.g., schools, playgrounds, intersections, etc.)

   b. ENSURE PUBLIC CONTACT DOES NOT OCCUR. Use cones/barricades to isolate area.

2. **CONTAIN SPILL & RETURN TO SYSTEM, IF POSSIBLE:**

   a. As practical, block drainage conveyance system entry locations or use plastic covering to cover basin inlet and divert flow to a downstream sanitary sewer manhole (*barricade manhole if left open and monitor after barricade)* or area suitable to capture the spill for later collection.

      If any amount has already reached the drainage conveyance system, trace it downstream to a dry manhole and block it from entering surface waters. i.e. sandbags, or vacuum truck

   b. If you are confident that you can capture the spill in the drainage conveyance system, trace it downstream to a dry manhole and then divert the spill to the drainage conveyance system for later recovery and return to the sanitary sewer.

   c. Use bypass pumps to pump around blockage until it can be removed.

   d. Divert to low area of ground where it can be collected later.

3. **PHOTOGRAPH each drainage conveyance system entry location.**

ADDRESS CAUSE OF SPILL/BACKUP ASAP

1. For spill/backups not related to a pump station, relieve the stoppage. Note the distance of the obstruction from the manhole and catch/remove debris that could cause another stoppage. After flow has returned to normal, clean the pipe thoroughly. Consider televising (CCTV) the affected line.

2. For pump station related spill/backups refer to that station's Emergency Response Plan.

3. Photograph staff activities while clearing the blockage.

Go to PAGE 3

Spill/Backup Response Flowchart

Continue from PAGE 2

Has the spill reached surface waters?

YES

1. Sample surface waters the spill has reached if safe and if the property owner allows (if the surface water access point is on private property):
   - If preliminary volume estimates of the spill are 50,000 gallons or greater, begin collecting as soon as possible but no later than 18 hours after becoming aware of the spill.
   - If people are fishing or swimming in the waters, collect samples regardless of the volume of the spill.
2. Refer to and follow the sampling standard operating procedure (Section G in this Workbook).

NO

Is it feasible/practical to contain/recover any of the spill from the surface waters?

NO

YES

Contain/recover/clean up as much of the spill in the waters and shoreline as possible. Contact the Regulatory Compliance Officer to request outside assistance, as appropriate.

Was drainage conveyance system impacted?

YES

DRAINAGE CONVEYANCE SYSTEM CLEANING SOP

1. Seal or berm the drainage conveyance system immediately downstream of point the spill reached.
2. Photograph impacted drainage conveyance system before cleaning.
3. Vacuum any visible sewage – *Record the volume of sewage recovered. Record volume on the spill report.*
4. Flush impacted sections of the drainage conveyance system with 3X amount of spill, if possible, and contain. Record volume of flush water used and volume of flush water returned to the sanitary sewer on Spill Report.
5. Ensure all visible signs of sewage have been removed.
6. Photograph drainage conveyance system after cleaning is completed.

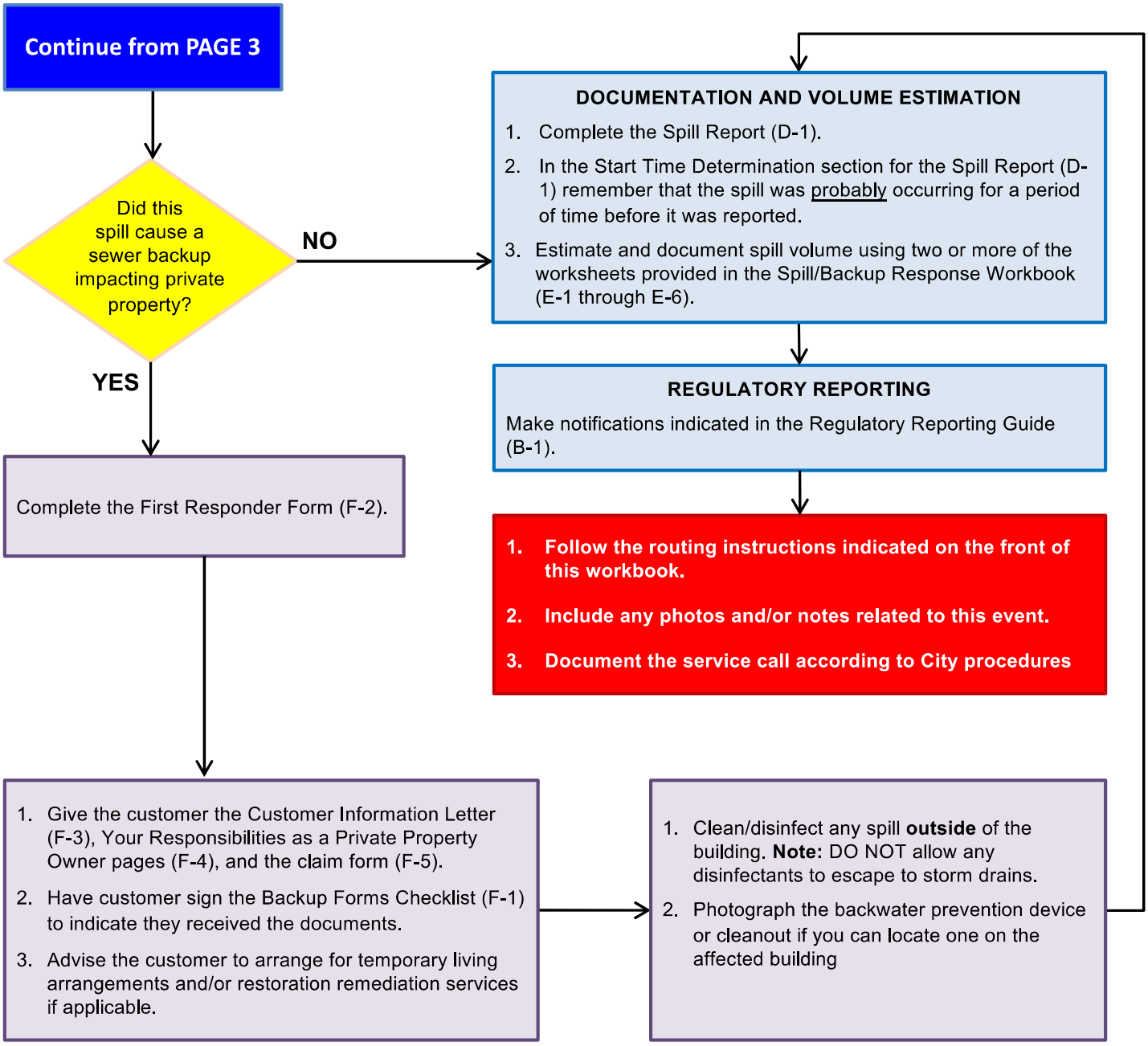
NO

IMPACTED AREA CLEANUP, AS NECESSARY

1. **Assign staff to begin cleanup.** If you might use the area measured volume method to estimate the volume, draw a sketch of the spill footprint and capture dimensions before washing it down.
2. **Remove all signs of gross pollution** with a shovel, broom, rake, and bucket. (toilet paper, solids, grease, etc.)
3. **Flush impacted area** with 3X amount of spill, if possible, and contain. Record volume of flush water used and volume of flush water returned to the sanitary sewer on the Spill Report (D-1).
4. Setup berm/other means to contain all water so it can be returned to sewer
5. Don't use disinfectants if they may enter storm drain system and not be fully recovered or if they may enter surface waters.
6. **Address saturated soil** with removal and/or in-place treatment, depending on the extent of the contamination, the location, and land use. Take measures to prevent accidental contact by the public. NOTE: addressing saturated soil may involve returning to the site one or more days after the spill event.
7. **Photograph the area when cleanup operations are complete**

Go to PAGE 4

Spill/Backup Response Flowchart



INSERT TAB:
Tab D: Spill Report

Sanitary Sewer Spill Field Report

Check spill category (see A-3 for definitions): ☐CATEGORY 1 ☐CATEGORY 2 ☐CATEGORY 3 ☐CATEGORY 4

CalOES NOTIFICATION*		
Date:	Time:	Assigned Control Number:

Names of the Persons Completing this Report	Contact Information

PHYSICAL LOCATION DETAILS	
Spill location name:	
Location description:	
Address of spill:	
City: **Redlands**	Cross Street:
Regional Water Quality Control Board: **Santa Ana**	County: **San Bernardino**

DATE/TIME

Date and time the City was notified of, or self-discovered, the spill: _____

Operator arrival time: _____

PHOTOGRAPHS

Photos must be taken during the spill event. At a minimum, the following photos must be taken:

- ○ Appearance point closest to the failure point
- ○ Extent of the spill and spill boundaries
- ○ Entry location of each drainage conveyance system the sewage entered
- ○ All discharge points into surface waters
- ○ Location(s) of clean up

Where are photographs stored?

* Within two (2) hours of the City's knowledge of a Category 1 or Category 2 spill of 1,000 gallons or greater, discharging or threatening to discharge to waters of the State, notify CalOES and obtain a notification control number.

SPILL ORIGINATION	
Description and GPS coordinates of the system location where the spill originated*: *Include manhole number or cleanout location of the spill appearance point closest to the failure point as applicable.*	
Latitude:	Longitude:
Number of additional appearance points:	
Spill appearance points: (Check all that apply) ☐ Backflow Prevention Device ☐ Combined Sewer Drain Inlet (Combined Collection System Only) ☐ Force Main ☐ Gravity Mainline ☐ Inside Building/Structure ☐ Lateral Clean Out (Private) ☐ Lateral Clean Out (Public) ☐ Lower Lateral (Private) ☐ Lower Lateral (Public) ☐ Manhole ☐ Other Sewer System Structure ☐ Pump Station ☐ Upper Lateral (Private) ☐ Upper Lateral (Public) ☐ Other, describe:	
Describe each spill appearance point:	
Check to confirm photos were taken of all appearance points: ☐	

* Note: If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the "Describe each spill appearance point" description section above. Take photos of spill appearance point(s).

SPILL DESTINATION (Check all that apply)	
Final spill destination(s): ☐ Drainage Conveyance System That Discharges to Surface Water ☐ Surface Water ☐ Building or Structure ☐ Drainage Conveyance System ☐ Groundwater Infiltration Basic or Facility ☐ Paved Surface ☐ Street/Curb and Gutter ☐ Unpaved Surface ☐ Other, describe:	
Description of the spill event destination(s) including GPS coordinates if available that represent the full spread and reach of the spill.	
Latitude:	Longitude:
Latitude (if needed):	Longitude (if needed):
Latitude (if needed):	Longitude (if needed):
Latitude (if needed):	Longitude (if needed):
Check to confirm photos were taken of spill destination/boundaries: ☐	

SPILL VOLUME

Estimated total spill volume exiting the system: _____ gallons

Did the spill reach a drainage conveyance system? ☐ YES ☐ NO If yes:

- Estimated time the spill reached the drainage conveyance system: _____
- Distance from drainage conveyance system to entry point to surface waters: _____ feet
- Method to determine travel time from point of entry to drainage conveyance system to receiving waters:

  _____

  _____

  _____
- Describe the drainage conveyance system transporting the spill: _____

  _____

  _____

Estimated spill volume fully recovered from the drainage conveyance system: _____ gallons

Estimated spill volume remaining within the drainage conveyance system: _____ gallons

Check to confirm photos taken of entry location of drainage conveyance system the sewage entered: ☐

Did the spill reach surface water? ☐ YES ☐ NO

If yes:

- Estimated time the spill entered the surface water: _____
- Distance from spill appearance point to entry point to surface water: _____ feet
- Method to determine travel time to receiving waters: _____

  _____

  _____
- Describe all discharge points: _____

  _____

  _____

Estimated spill volume that discharged to surface waters: _____ gallons

Estimated total spill volume recovered: _____ gallons

Check to confirm photos were taken of the following, as applicable: all discharge points into surface waters, waterbody bank erosion, floating matter, water surface sheen, discoloration of receiving water, any notable impacts to the receiving water: ☐

Did the spill discharge to a groundwater infiltration basin or facility? ☐ YES ☐ NO

If yes,

- Estimated time the spill entered the groundwater infiltration basin or facility: _____
- Estimated spill volume discharged to the groundwater infiltration basin or facility: _____ gallons

Estimated spill volume that did NOT reach drainage conveyance system, surface water, or groundwater infiltration basin or facility: _____ gallons

Estimated Total Spill Volume Recovered: _____ gallons

SPILL VOLUME (continued)
Method and explanation of volume estimation methods used: (Check all that apply) ☐ Eyeball Estimate (worksheet included in Spill/Backup Response Workbook) ☐ Counting Upstream Connections (worksheet included in Spill/Backup Response Workbook) ☐ Duration and Flow Rate (worksheet included in Spill/Backup Response Workbook) ☐ Measured Volume (worksheet included in Spill/Backup Response Workbook) ☐ Other (provide worksheet/calculations)
Description of how the spill volume estimations were calculated, including at a minimum, the methodology, assumptions and types of data relied upon, such as supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information, used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered):

SPILL START TIME and END TIME DETERMINATION

Were there witnesses to the spill? ☐ YES ☐ NO If yes, provide Spill Witness Statements below:

Witness 1 Name:	Witness 1 Contact Information:

Where did they see sewage spill from? ☐ Manhole ☐ Inside Building ☐ Vent/Clean Out ☐ Catch Basin ☐ Wet Well/Lift Station ☐ Other (describe):

When did the witness notice the sewage spilling? _____ AM / PM Date _____ /_____ /_____

Witness description of spill and affected area:

Is it currently spilling? ☐ YES ☐ NO

When did the witness last observe **NO Spill** occurring? _____ AM / PM Date _____ /_____ /_____

Did the witness notice if the spill had reached the storm drain or surface waters?

Comments:

Witness 2 Name:	Witness 2 Contact Information:

Where did they see sewage spill from? ☐ Manhole ☐ Inside Building ☐ Vent/Clean Out ☐ Catch Basin ☐ Wet Well/Lift Station ☐ Other (describe):

When did the witness notice the sewage spilling? _____ AM / PM Date _____ /_____ /_____

Witness description of spill and affected area:

Is it currently spilling? ☐ YES ☐ NO

When did the witness last observe **NO Spill** occurring? _____ AM / PM Date _____ /_____ /_____

Did the witness notice if the spill had reached the storm drain or surface waters?

Comments:

Witness 3 Name:	Witness 3 Contact Information:

Where did they see sewage spill from? ☐ Manhole ☐ Inside Building ☐ Vent/Clean Out ☐ Catch Basin ☐ Wet Well/Lift Station ☐ Other (describe):

When did the witness notice the sewage spilling? _____ AM / PM Date _____ /_____ /_____

Witness description of spill and affected area:

Is it currently spilling? ☐ YES ☐ NO

When did the witness last observe **NO Spill** occurring? _____ AM / PM Date _____ /_____ /_____

Did the witness notice if the spill had reached the storm drain or surface waters?

Comments:

SPILL START TIME and END TIME DETERMINATION (continued)

Are the volume of the spill and rate of flow known? ☐ YES ☐ NO

If yes, divide volume by rate of flow to get duration of spill event:

_____Gallons ÷ _____GPM = _____ Minutes
Spill Volume Flow Rate Spill Duration

Subtract the duration from the spill end date/time to establish the spill start date/time:

_____ — _____ = _____
Spill End Date/Time Duration Spill Start Time

Method to determine flow rate:

Solids Present? ☐ None or small amount (indicates recent start)
☐ Significant amount of buildup

Staining? ☐ None (indicates recent start)
☐ Minor
☐ Significant

Distance sewage has traveled from spill point:

Spill Start Time:

Spill End Date and Time:

How was end time determined?
☐ Broke stoppage
☐ Turned pump station back on
☐ Other, explain:

Description of the methodology(ies), assumptions and type of data relied upon for estimations of the spill start time and the spill end time.

SPILL CAUSE (check all that apply)
☐ Air Relief Valve (ARV)/Blow Off Valve (BOV)/Backwater Valve Failure
☐ Construction Diversion Failure
☐ Collection System Maintenance Failure (Specify Below)
☐ Damage by Others Not Related to CS Construction/Maintenance (Specify Below)
☐ Debris from Construction
☐ Debris from Lateral
☐ Debris-General
☐ Debris-Rags
☐ Debris-wipes/Non-disposables
☐ Flow Exceeded Capacity (Separate CS Only)
☐ Fats, Oils and Grease (FOG)
☐ Inappropriate Discharge to CS
☐ Natural Disaster (Specify Below)
☐ Operator Error (Specify Below)
☐ Pipe Structural Problem/Failure – Installation
☐ Pipe Structural Problem/Failure – Controls
☐ Pump Station Failure – Power
☐ Pump Station Failure – Mechanical
☐ Pump Station Failure – Controls
☐ Rainfall Exceeded Design, I and I (Separate CS Only)
☐ Root Intrusion
☐ Siphon Failure
☐ Surcharged Pipe (Combines CS Only)
☐ Vandalism (Specify Below)
☐ Other, specify:

SYSTEM FAILURE LOCATION	
System failure location: ☐ Air Relief Valve (ARV)/Blow Off Valve (BOV) Failure ☐ Force Main ☐ Gravity Mainline ☐ Lower Lateral ☐ Manhole ☐ Pump Station Failure – Controls ☐ Pump Station Failure – Mechanical ☐ Pump Station Failure – Power ☐ Siphon ☐ Upper Lateral (Specify Below) ☐ Other, specify:	
Description of the pipe material at the failure location: ☐ Copper ☐ Galvanized Steel ☐ Polyvinyl Chloride (PVC) ☐ Acrylonitrile Butadiene Styrene (ABS) ☐ Cross-Linked Polyethylene (PEX) ☐ Cast Iron ☐ Vitrified Clay ☐ Concrete ☐ Ductile Iron ☐ Fiberglass ☐ Other, specify:	
Estimated age of sewer asset at the point of blockage or failure (if applicable):	years
Diameter of sewer pipe at the point of blockage or failure:	inches

SPILL IMPACT
Description of the impact of the spill:

STORM EVENT
Was spill associated with a storm event? ☐ YES ☐ NO

SPILL RESPONSE ACTIVITIES (check all that apply)
☐ Cleaned Up (Specify Below) ☐ Mitigated Effects of Spill (Specify Below) ☐ Contained All or Portion of Spill ☐ Restored Flow ☐ Returned All Spill to Sanitary Sewer System ☐ Returned Portion of Spill to Sanitary Sewer System ☐ Property Owner Notified ☐ Other Enforcement Agency Notified ☐ Other, specify:
Description of spill response activities including description of immediate spill containment and cleanup efforts:

SPILL CORRECTIVE ACTION (check all that apply)
☐ Added Sewer to Preventive Maintenance Program ☐ Adjusted Schedule/Method of Preventive Maintenance ☐ Enforcement Action Against FOG Source ☐ Inspected Sewer Using CCTV to Determine Cause ☐ Plan Rehabilitation or Replacement of Sewer ☐ Repaired Facilities or Replaced Defect ☐ Other, specify:
Refer to Collection System Failure Analysis Report for details about: • Spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of major milestones for those steps. • Schedule of major milestones Check to confirm completion of each report: ☐ Post-Spill Assessment ☐ Collection System Failure Analysis
Spill response completion date:

INVESTIGATION
Detailed narrative of investigation and investigation findings of cause of spill:
Is the City conducting an ongoing investigation? ☐ YES ☐ NO If yes, reasons for an ongoing investigation: If yes, expected date of completion of investigation: _____

SURFACE WATERS (Complete for Category 1 Spills Only)		
Name of receiving water body	Type of receiving water body: Stream, Ocean, Wetland, Slough, Estuary, River, Lake, Reservoir, Vernal Pool, Wash, or Other (specify)	Description of the water body(s), including but not limited to: ○ Observed impacts on aquatic life, ○ Public access impact(s): public closure, restricted public access, temporary restricted use, and/or other (specify below) ○ Responsible entity for closing/restricting use of water body, and ○ Number of days closed/restricted as a result of the spill.

MUNICIPAL INTAKE (Complete for Category 1 and 2 Spills Only)		
Was the spill located within 1,000 feet of a municipal surface water intake?	☐ YES	☐ NO
Describe:		

WATER SAMPLING
Were water quality samples collected? ☐ YES ☐ NO ☐ N/A If yes, identify sample locations:
Identify parameters the water quality samples were analyzed for: (Check all that apply) ☐ Total Coliform Bacteria ☐ Fecal coliform bacteria ☐ E-coli ☐ Ammonia ☐ Other, specify:

INSERT TAB:
Tab E: Volume Estimation

Miscellaneous Computations & Examples

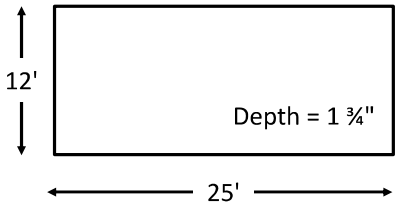
To convert inches to feet (NOTE: for the purposes of this worksheet, the unit of measurement will be in feet for formula examples)	Divide the inches by 12 or use the chart on the right. **Example 1:** 27" ÷ 12 = 2.25' **Example 2:** 1¾" = ?' 1" (0.08') + ¾" (0.06') = 0.14'
Volume of one cubic foot	7.48 gallons of liquid
Area: Two-dimensional measurement represented in square feet (SQ/FT or ft^2)	Square/rectangle: Area = Length x Width Circle: Area = $\pi \times r^2$ (where $\pi \approx 3.14$ and r = radius = ½ diameter) Triangle: Area = ½ (Base x Height)
Volume: Three-dimensional measurement represented in cubic feet (CU/FT or ft^3)	Rectangle/square footprint: Volume = Length x Width x Depth Circle footprint (cylinder): Volume = $\pi \times r^2$ x Depth (where $\pi \approx 3.14$ and r = radius = ½ diameter) Triangle footprint: Volume = ½ (Base x Height) x Depth
Depth: Wet Stain on Concrete or asphalt surface	If the depth is not measurable because it is only a wet stain, use the following estimated depths: ○ Depth of a wet stain on concrete surface: 0.0026' (1/32") ○ Depth of a wet stain on asphalt surface: 0.0013' (1/64") These were determined to be a reasonable depth to use on the respective surfaces through a process of trial and error. One gallon of water was poured onto both asphalt and concrete surfaces. Once the area was determined as accurately as possible, different depths were used to determine the volume of the wetted footprint until the formula produced a result that (closely) matched the one gallon spilled. This process was repeated several times.
Depth: Contained or "Ponded" sewage	Measure actual depth of standing sewage whenever possible. When depth varies, measure several representative sample points and determine the average. Use that number in your formula to determine volume.

Miscellaneous Computations & Examples (continued)

Convert Inches to Feet	
Inches	**Feet**
1/8"	0.01'
1/4"	0.02'
3/8"	0.03'
1/2"	0.04'
5/8"	0.05'
3/4"	0.06'
7/8"	0.07'
1"	0.08'
2"	0.17'
3"	0.25'
4"	0.33'
5"	0.42'
6"	0.50'
7"	0.58'
8"	0.67'
9"	0.75'
10"	0.83'
11"	0.92'
12"	1.00'

Area/Volume of a Rectangle or Square

Formula: Length x Width x Depth = Volume in **cubic feet**



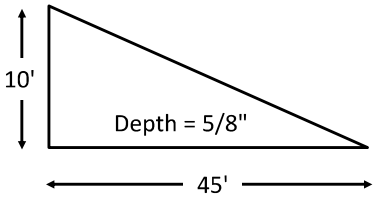
25' X 12' X 0.14' = **42 Cubic Feet**
Length Width Depth Volume

Multiply the volume by 7.48 gallons to determine the volume in **gallons**:

42 ft³ X 7.48 = **314.16 gallons**
Volume gal/ft³ Volume

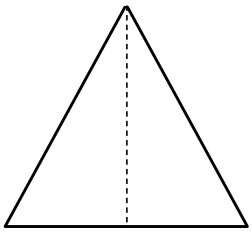
Area/Volume of a Right Triangle

Formula: Base x Height x Depth = Volume in **cubic feet**



0.5 X 45' X 10' X 0.05' x 7.48 = 84.15 gallons
Base Height Depth gal/ft³ Volume

For isosceles triangles (two sides are equal lengths), break it down into two right triangles and compute area as you would for the right triangle.

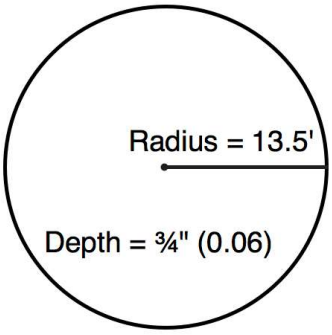


Area/Volume of a Circle

Formula: π x r² x Depth = Volume in **cubic feet**

The radius is ½ the diameter, which is a straight line passing from side to side through the center of a circle.

13.5' X 13.5' X 3.14 X 0.06' x 7.48 = 256.8 gallons
Radius Radius π Depth gal/ft³ Volume



Volume Estimation: Eyeball Estimation Method (for ≤100 gallons) E-2

Spill Date: _____ Location: _____

This method is invalid if surface conditions are wet (due to rainfall, irrigation, etc.) DO NOT use this method under these circumstances.

STEP 1: Position yourself so that you have a vantage point where you can see the entire spill.

STEP 2: Imagine one or more buckets or barrels of water tipped over. Depending on the size of the spill, select a bucket or barrel size as a frame of reference. It may be necessary to use more than one bucket/barrel size.

STEP 3: Estimate how many of each size bucket or barrel it would take to make an equivalent spill. Enter those numbers in Column A of the row in the table below that corresponds to the bucket/barrel sizes you are using as a frame of reference.

STEP 4: Multiply the number in Column A by the multiplier in Column B. Enter the result in Column C.

	A	B	C
Size of bucket(s)/barrel(s)	How many of this size?	Multiplier	Estimated Spill Volume
		x 1 gallon	
		x 5 gallons	
		x 32 gallons	
		x 55 gallons	
		x ___ gallons	
		Estimated Total Spill Volume:	

STEP 5: List assumptions made to arrive at the total estimated spill volume:

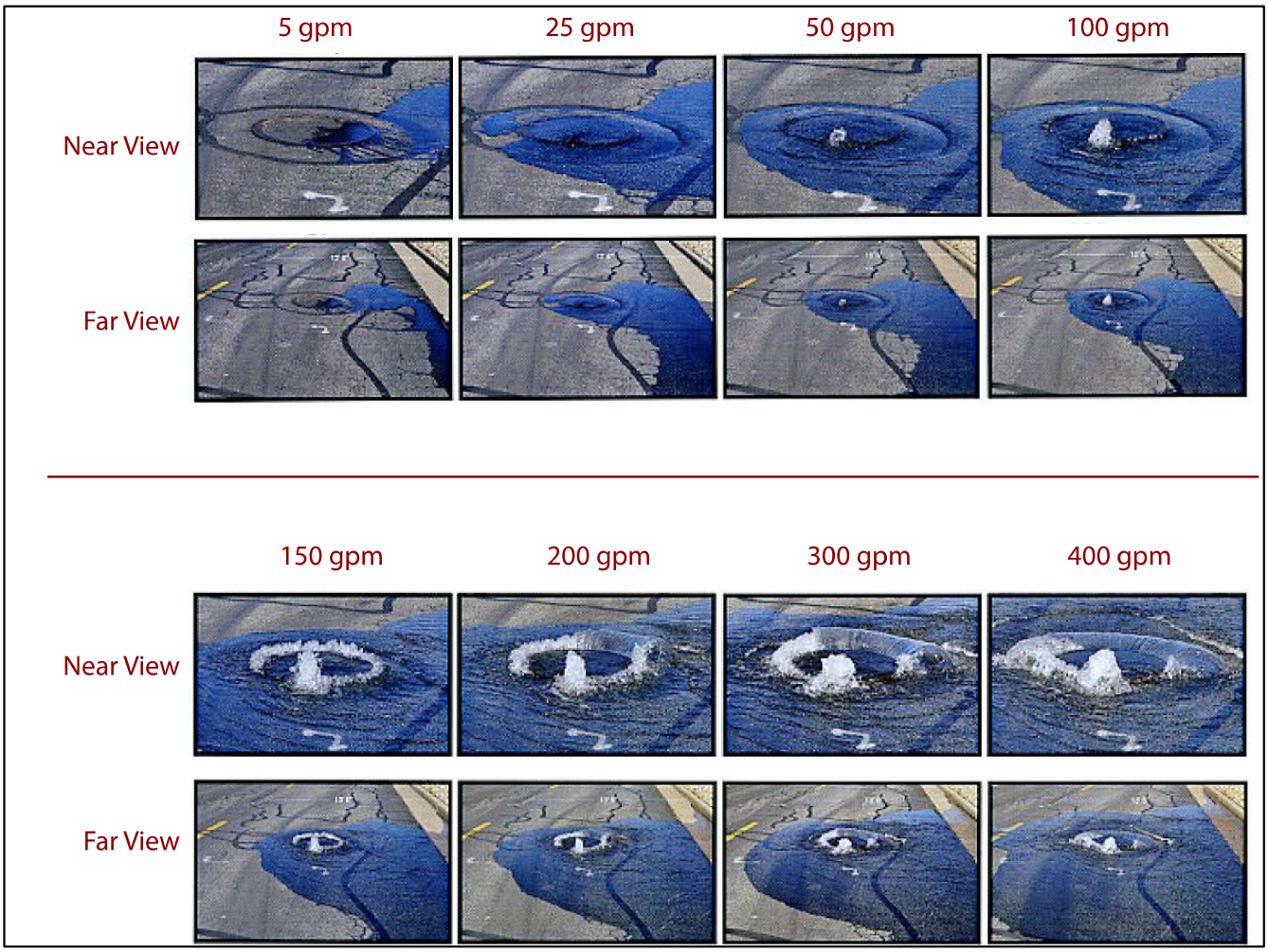
STEP 6: Take photographs. Where are photographs stored?

The following photos must be taken: appearance point closest to the failure point, extent of the spill and spill boundaries, the entry location of each drainage conveyance system the sewage entered, all discharge points into surface waters (Category 1 spill only), and location(s) of clean up.

Volume Estimation: Duration and Flow Rate Comparison Method

Spill Date: _____ Location: _____

Compare the spill to reference images below to estimate flow rate of the current spill. **NOTE: If the manhole cover in your picture has vent holes or more than one pry hole, do not use these pictures for comparison.**



SSCSC Manhole Spill Gauge: CWEA Southern Section Collections Systems Committee. Spill Simulation courtesy of Eastern Municipal Water District.

Describe which reference photo(s) were used and any additional factors that influenced applying the reference photo data to the actual spill:

Flow Rate Based on Photo Comparison: _____ gallons per minute (gpm)

(Continued on next page)

Start Date and Time	1.
End Date and Time	2.
Spill Event Total Time Elapsed (subtract Line 1 from Line 2. Show in minutes.)	3.
Average Flow Rate GPM (Account for diurnal flow pattern)	4.
Total Volume Estimated Using Duration and Flow Method (Line 3 x Line 4)	5.

List assumptions made to arrive at the total estimated spill volume:

Take photographs. Where are photographs stored?

The following photos must be taken: appearance point closest to the failure point, extent of the spill and spill boundaries, the entry location of each drainage conveyance system the sewage entered, all discharge points into surface waters (Category 1 spill only), and location(s) of clean up.

Volume Estimation: Area/Volume Method

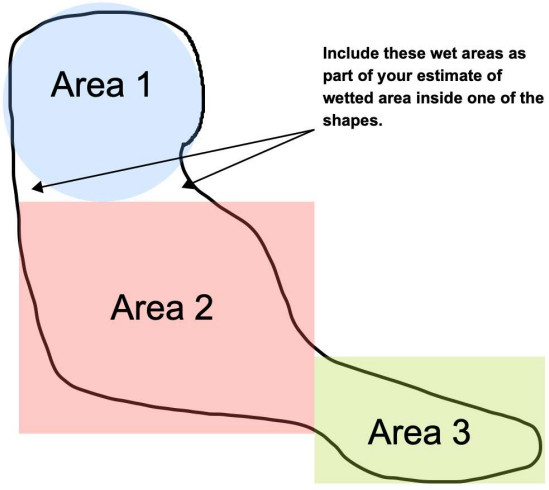
Spill Date: _____ Location: _____

STEP 1: Describe spill area surface: ☐ Asphalt ☐ Concrete ☐ Dirt ☐ Landscape ☐ Inside Building

☐ Other: _____

STEP 2: Draw/sketch the outline (footprint) of the spill. Then break the footprint down into recognizable shapes. Label/identify each sketch outline area (Area 1, Area 2, etc.) See example below.

EXAMPLE:



Dimensions: 2.5' diameter
+/- 100% of the surface inside the circle is wet

Dimensions: 8' x 6'
+/- 80% of the surface inside the rectangle is wet

Dimensions: 6' x 3'
+/- 60% of the surface inside the rectangle is wet

STEP 3: Calculate the area of the footprint by completing the table below for each area in Step 2. Measure actual depth of standing sewage whenever possible. When depth varies, measure several representative sample points and determine the average. If the depth is not measurable because it is only a wet stain, use the following estimated depths: Depth of a wet stain on concrete surface: 0.0026' (1/32")
Depth of a wet stain on asphalt surface: 0.0013' (1/64")

Rectangles:

Area # (from labeled drawing)		Length	X	Width	X	% Wet	=	Area	X	Depth	=	Volume
	→	ft	X	ft	X	%	=	ft^2	X	ft	=	ft^3
	→	ft	X	ft	X	%	=	ft^2	X	ft	=	ft^3
	→	ft	X	ft	X	%	=	ft^2	X	ft	=	ft^3

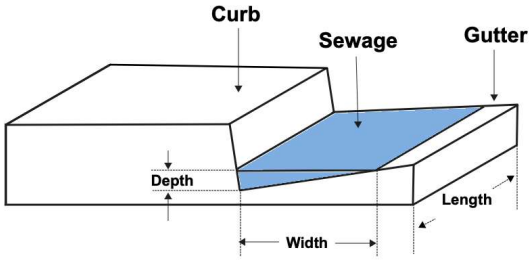
Circles:

Area # (from labeled drawing)		π	X	Radius	X	Radius	X	% Wet	=	Area	X	Depth	=	Volume
	→	3.14	X	ft	X	ft	X	%	=	ft^2	X	ft	=	ft^3
	→	3.14	X	ft	X	ft	X	%	=	ft^2	X	ft	=	ft^3
	→	3.14	X	ft	X	ft	X	%	=	ft^2	X	ft	=	ft^3

STEP 4: If part of the spill is in a gutter, use the formula below to calculate the volume:

_____ X _____ X _____ X 0.5 = _____ ft^3

Length Depth Width **Volume**



STEP 5: Calculate Total Spill Volume (sum of all of the volume calculations above): _____ ft^3

STEP 6: Convert from cubic feet to gallons by multiplying by 7.48.

_____ ft^3 x 7.48 gallons = _____ gallons

spill volume in cubic feet **Total estimated volume**

STEP 7: List assumptions made to arrive at the total estimated spill volume. Adjust estimation up for moderate to severe cracking and/or roughness of surface (General Rule 20% to 40%):

STEP 8: Take photographs. Where are photographs stored?

The following photos must be taken: appearance point closest to the failure point, extent of the spill and spill boundaries, the entry location of each drainage conveyance system the sewage entered, all discharge points into surface waters (Category 1 spill only), and location(s) of clean up.

Volume Estimation: Upstream Connections Method

Spill Date: _____ Location: _____

Attach and/or reference system map and identify location of spill and buildings contributing to spill.

STEP 1: Determine the number of Equivalent Dwelling Units (EDUs) for this spill: _____ EDUs
NOTE: A single-family residential home = 1 EDU. For commercial buildings, refer to agency documentation.

STEP 2: This volume estimation method utilizes daily usage data based on flow rate studies of several jurisdictions in California. Column A shows how an average daily usage of 180 gallons per day is distributed during each 6-hour period. Adjust the table as necessary to accurately represent the actual data.

Complete Column E by entering the number of minutes the spill was active during each 6-hour time period. Multiply column D times Column E to calculate the gallons spilled during each time period. Add the numbers in Column F together for the Total Estimated spill Volume per EDU.

	Flow Rate Per EDU				**Spill**	
	A	**B**	**C**	**D**	**E**	**F**
Time Period	Gallons per Period	Hours per period	A÷B = Gallons per Hour	C÷60 = Gallons per Minute	Minutes spill was active during period	D × E = Gallons spilled per period
6am-noon	72	6	12	0.20		
noon-6pm	36	6	6	0.10		
6pm-midnight	54	6	9	0.15		
midnight-6am	18	6	3	0.05		
Total Estimated Spill Volume per EDU:						

STEP 3: Multiply the Estimated spill Volume per EDU from Step 2 by the number of EDUs from Step 1.

_____ gallons X _____ = _____ gallons
Volume per EDU # of EDUs Estimated spill Volume

STEP 4: Adjust spill volume as necessary considering other factors, such as activity that would cause a fluctuating flow rate (doing laundry, taking showers, etc.). Explain rationale below and indicate adjusted spill estimate (attach a separate page if necessary).

Total Estimated spill Volume: _____ gallons

STEP 7: List assumptions made to arrive at the total estimated spill volume:

STEP 8: Take photographs. Where are photographs stored?

The following photos must be taken: appearance point closest to the failure point, extent of the spill and spill boundaries, the entry location of each drainage conveyance system the sewage entered, all discharge points into surface waters (Category 1 spill only), and location(s) of clean up.

Drawing Worksheet

INSERT TAB:
Tab F: Backup Forms

Backup Forms Checklist (Backup Only) F-1

Complete this form only if there is a backup into a residence or business.

Instructions to Wastewater Collection System Crew:

1. Tear forms listed below out of this workbook and hand to customer. *Leave this page (F-1) and the First Responder Form (F-2) in this workbook, do not give to Customer.*
2. Check each item that was provided to the customer.
3. Have customer sign below.

Forms/Documents:

- ☐ Form F-3: Customer Information Letter
- ☐ Form F-4: Your Responsibilities as a Private Property Owner
- ☐ Form F-5: Claim Form

Forms Provided to:

_____
Customer Name

_____
Customer Signature

_____
Date

Check here if customer declines to sign: ☐

Formularios / Documentos:

- ☐ F-3: Carta de Información del Cliente
- ☐ F-4: Sus Responsabilidades Como Propietario de Una Propiedad Privad
- ☐ F-5: Formulario de Reclamación

Formularios Proporcionados a:

_____
Nombre del cliente

_____
Firma del cliente

_____
Fecha

Marque aquí si el cliente se niega a firmar: ☐

Forms Provided by: _____ _____ _____
Employee Name Initial Date

Instructions to Regulatory Compliance Officer:

Send photos, including the photos of the documents given to the customer, and a copy of the First Responder form to the City Risk Manager.

Complete this form only if there is a backup into a residence or business.

Fill out this form as completely as possible.
Ask customer if you may enter the home. If so, take photos of all damaged and undamaged areas.

PERSON COMPLETING THIS FORM: Name: _____ Title: _____	PHONE: DATE: TIME:
TIME STAFF ARRIVED ON-SITE:	
DID/WILL THE CUSTOMER CALL FOR CLEANING SERVICE? ☐ Yes ☐ No If customer called a cleaning contractor, provide name and contact number:	
RESIDENT NAME: ☐ Owner ☐ Renter ADDRESS: PHONE:	IF RENT, PROPERTY MANAGER(S): OWNER: ADDRESS: PHONE:
# OF PEOPLE LIVING AT RESIDENCE:	

Approximate Age of Home:	# of Bathrooms:	# of Rooms Affected:

Numbers of Photographs or Videos Taken: ☐ Photographs _____ ☐ Video _____ ☐ Customer did not provide or allow photographs	Where are photos/video stored?

Is nearest upstream manhole visibly higher than the drain/fixture that spilled? ☐ Yes ☐ No

Does property have a Property Line Cleanout or BPD? ☐ Cleanout ☐ BPD ☐ Neither ☐ Unknown

If yes, was the Property Line Cleanout/BPD operational at the time of the spill? ☐ Yes ☐ No ☐ Unknown

Have there ever been any previous spills at this location? ☐ Yes ☐ No ☐ Unknown

Has the resident had any plumbing work done recently? ☐ Yes ☐ No ☐ Unknown
If YES, please describe:

GO TO PAGE 2

LIVABILITY ASESSMENT

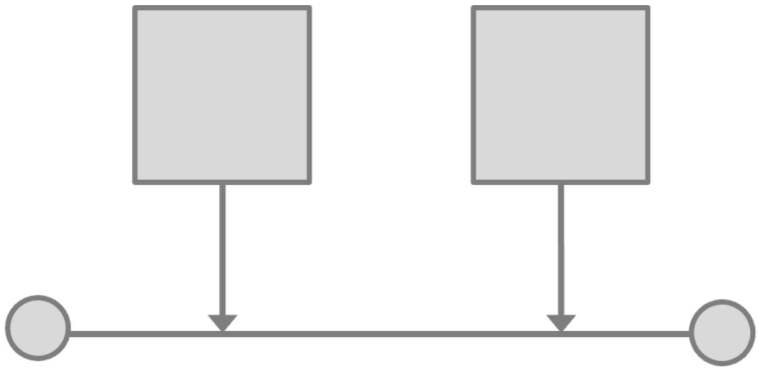
- Is there insufficient non-contaminated living space for residents to stay during cleaning including a functioning and non-contaminated bathroom? ☐ Yes ☐ No
- Are there any residents that are pregnant, are children, have severe allergies/asthma, have respiratory problems, and/or have a compromised immune system? ☐ Yes ☐ No
- Is the area a childcare or extended care facility? ☐ Yes ☐ No
- Is the food preparation area contaminated? ☐ Yes ☐ No
- Is it currently after 8pm, or if it is currently before 8pm will the cleaning and disinfection be completed after 10pm? ☐ Yes ☐ No

If the answer to any of the questions above is YES, advise the resident to consider relocating temporarily until the living space is cleaned.

SANITARY SEWER LINE BLOCKAGE LOCATION

PLEASE CHECK THE BOXES THAT DESCRIBE YOUR OBSERVATIONS:	
Building Cleanout Was: ☐ Non-Existent ☐ Full ☐ Empty	Property Line Cleanout was ☐ Non-Existent ☐ Full ☐ Empty

On the diagram below, place an X where in the mainline or lateral you believe the problem occurred.



Did sewage go under buildings? ☐ Yes ☐ No ☐ Unsure

Recommended Follow-Up Action(s):

Customer Information Letter (Backup Only) F-3 (English)

Dear Property Owner:

We recognize that sewer backup incidents can be stressful and require immediate response while all facts concerning how an incident occurred are still unknown. Rest assured that we do all we can to prevent this type of event from occurring in the first place. Nevertheless, occasionally tree roots or other debris in the sewer lines causes a backup into homes immediately upstream of the blockage. At this time the City is investigating the cause of this incident.

You should immediately contact a firm for clean-up of the affected areas. Search the internet or local telephone book for Sewage Cleanup and Restoration. The City recommends you use a professional that is certified by the Institute of Inspection Cleaning and Restoration Certification (IICRC) to help ensure that they adhere to established protocols that are designed to assure thorough, cost-effective and expeditious cleaning services.

To following list of restoration firms is provided as a resource only. The City does not require or endorse the use of any of these firms. This list is not to be construed as exclusive, comprehensive, or limiting in any way.

Padgett's Fire & Flood Restoration
(909) 307-2769
https://www.trustpadgetts.com

SERVPRO of South Redlands / Yucaipa / North Riverside City / Big Bear / Lake Arrowhead / NE Rancho Cucamonga
(909) 307-9700
https://www.servprosouthredlandsyucaipa.com/south-redlands-yucaipa

Eagles Restoration Services
(909) 853-3380
https://eaglesrestorationservices.com

Depending on the extent of the backup our Wastewater Collection System Crew may advise you to consider relocating temporarily while the living area is cleaned. In that case, if the City is found to be responsible for the backup you may submit a claim for reimbursement of reasonable lodging for one night. Additional lodging and other expenses may be discussed with the City Risk Manager.

To discuss this matter, contact the Wastewater Collection System Supervisor at (909) 684-9472. To submit a claim for damages, contact the City Risk Manager at (909) 798-7514.

Sincerely,
The City of Redlands

Customer Information Letter (Backup Only) F-3 (Spanish)

Estimado Propietario:

Reconocemos que los incidentes de desbordamiento de alcantarillado pueden ser estresantes y requieren una respuesta inmediata, mientras que aún se desconocen todos los hechos relacionados con cómo ocurrió un incidente. Tenga la seguridad de que hacemos todo lo posible para evitar que este tipo de eventos ocurran en primer lugar. Sin embargo, ocasionalmente las raíces de los árboles u otros desechos en las líneas de alcantarillado provocan un retroceso en las casas inmediatamente aguas arriba del bloqueo. En este momento la Ciudad está investigando la causa de este incidente.

Debe comunicarse de inmediato con una empresa para la limpieza de las áreas afectadas. Buscar en internet o teléfono local Libro de Limpieza y Restauración de Aguas Residuales. La Ciudad recomienda que use un profesional que esté certificado por el Instituto de Inspección, Limpieza y Certificación de Restauración (IICRC) para ayudar a garantizar que se adhieran a protocolos establecidos que están diseñados para garantizar servicios de limpieza completos, rentables y rápidos.

La siguiente lista de empresas de restauración se proporciona solo como un recurso. La Ciudad no exige ni respalda el uso de ninguna de estas empresas. Esta lista no debe interpretarse como exclusiva, completa o limitante de ninguna manera.

Dependiendo de la extensión de la copia de seguridad, nuestro Wastewater Collection System Crew puede aconsejarle que considere reubicarse temporalmente mientras se limpia la sala de estar. En ese caso, si se determina que el ciudad es responsable de la copia de seguridad, puede presentar una reclamación de reembolso de alojamiento razonable por una noche. El alojamiento adicional y otros gastos pueden discutirse con el Administrador de Riesgos de la Ciudad al (909) 798-7514.

Para discutir este asunto, comuníquese con el Supervisor del Sistema de Recolección de Aguas Residuales al (909) 684-9472. Para presentar un reclamo por daños, comuníquese con el Administrador de Riesgos de la Ciudad al (909) 798-7514.

Atentamente,
La Ciudad de Redlands

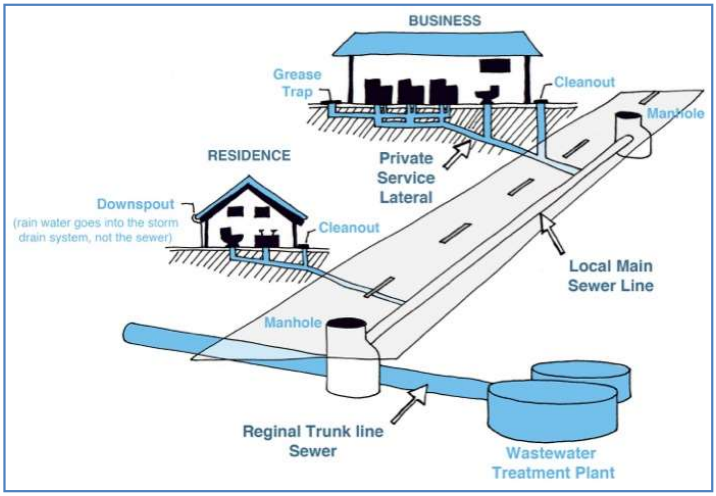
Your Responsibilities as a Private Property Owner (Backup Only)

How a Sewer System Works

A property owner's sewer pipes are called ***service laterals*** and are connected to larger local main and regional trunk lines. Service laterals run from the connection at the home to the connection with the public sewer. Depending on your location, a portion of the lateral is the responsibility of the property owner and must be maintained by the property owner.

How do sewage spills happen?

Sewage spills occur when the wastewater in underground pipes spills through a manhole, cleanout, or broken pipe. Most spills are relatively small and can be stopped and cleaned up quickly, but left unattended they can cause health hazards, damage to homes and businesses, and threaten the environment, local waterways, and beaches. Common causes of sewage spills include grease build-up, tree roots, broken/cracked pipes, missing or broken cleanout caps, undersized sewers, and groundwater/rainwater entering the sewer system through pipe defects and illegal connections.



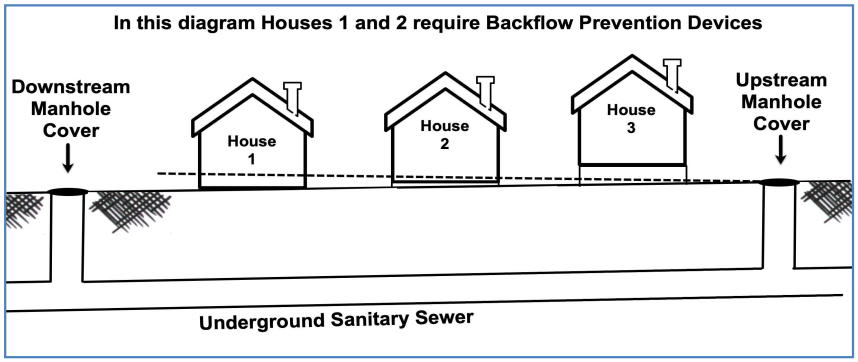
Prevent most sewage backups with a Backflow Prevention Device

This type of device can help prevent sewage backups into homes and businesses. If you don't already have a Backflow Prevention Device, contact a professional plumber or contractor to install one as soon as possible.

Is my home required to have a backflow prevention device?

Section 710.1 of the Uniform Plumbing Code (U.P.C.) states: *"Drainage piping serving fixtures which have flood level rims located below the elevation of the next upstream manhole cover or private sewer serving such drainage piping **shall** be protected from backflow of sewage by installing an approved type of backwater valve."* The intent of Section 710.1 is to protect the building interior from mainline sewer spills or surcharges.

Additionally, U.P.C. 710.6 states: *"Backwater valves **shall** be located where they will be accessible for inspection and repair at all times and, unless continuously exposed, shall be enclosed in a masonry pit fitted with an adequately sized removable cover."*



Spill cleanup inside the home:

For large clean ups, a professional cleaning firm should be contacted to clean up impacted areas, If you hire a contractor, it is recommended to get estimates from more than one company. Sometimes, homeowner's insurance will pay for the necessary cleaning due to sewer backups. Not all policies have this coverage, so check with your agent.

If you decide to clean up a small spill inside your home, protect yourself from contamination by observing the following safety measures. Those persons whose resistance to infection is compromised should not attempt this type of clean up.

Seek immediate attention if you become injured or ill during or after the cleanup process.

Other Tips:

- Keep children and pets out of the affected area.
- Turn off heating/air conditioning systems
- Wear rubber boots, rubber gloves, and goggles during cleanup.
- Discard items that cannot be washed and disinfected (such as: mattresses, rugs, cosmetics, toys, etc.)
- Remove and discard drywall and insulation that has been contaminated with sewage or flood waters.
- Thoroughly clean all hard surfaces (such as flooring, concrete, molding, wood and metal furniture, countertops, appliances, sinks and other plumbing fixtures) with hot water and laundry or dish detergent.
- Help the drying process with fans, air conditioning units, and dehumidifiers.
- After completing cleanup, wash your hands with soap and water. Use water that has been boiled for 1 minute (allow the water to cool before washing your hands) OR use water that has been disinfected (solution of 1/8 teaspoon of household bleach per 1 gallon of water). Let it stand for 30 min. If water is cloudy, use ¼ teaspoon of household bleach per 1 gallon of water.
- Wash clothes worn during cleanup in hot water & detergent (wash apart from uncontaminated clothes).
- Wash clothes contaminated with sewage in hot water and detergent. Consider using a Laundromat until your onsite wastewater system has been professionally inspected and serviced.

Spill cleanup outside the home:

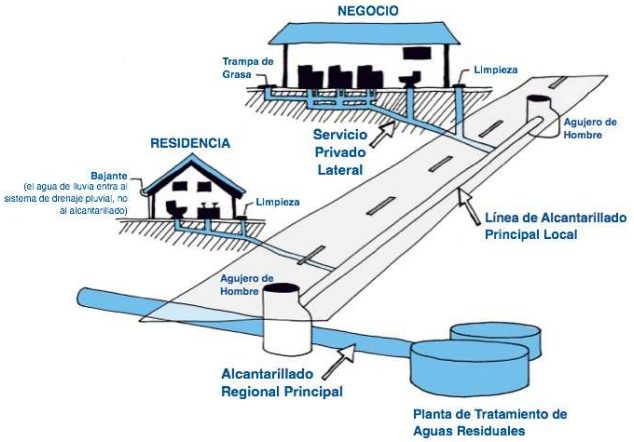
- Keep children and pets out of the affected area until cleanup has been completed.
- Wear rubber boots, rubber gloves, and goggles during cleanup of affected area.
- Clean up sewage solids (fecal material) and place in properly functioning toilet or double bag and place in garbage container.
- On hard surfaces areas such as asphalt or concrete, it is safe to use a 2% bleach solution, or ½ cup of bleach to 5 gallons of water, but don't allow it to reach a storm drain as the bleach can harm the environment.
- After cleanup, wash hands with soap and water. Use water that has been boiled for 1 minute (allow to cool before washing your hands) OR use water that has been disinfected (solution of 1/8 teaspoon of household bleach per 1 gallon of water). Let it stand for 30 min. If water is cloudy, use ¼ teaspoon of household bleach per 1 gallon of water.
- Wash clothes worn during cleanup in hot water and detergent (wash apart from uncontaminated clothes).
- Wash clothes contaminated with sewage in hot water and detergent. Consider using a laundromat until your onsite wastewater system has been professionally inspected and serviced.

Cómo funciona un sistema de alcantarillado

Las tuberías de alcantarillado de un propietario se denominan servicios laterales y están conectadas a líneas troncales principales y regionales locales más grandes. Los servicios laterales se ejecutan desde la conexión en el hogar hasta la conexión con el sistema de alcantarillado del Distrito. Estos laterales son responsabilidad del propietario y deben ser mantenidos por el propietario.

¿Cómo ocurren los derrames de aguas residuales?

Los derrames de aguas residuales ocurren cuando las aguas residuales en las tuberías subterráneas se desbordan a través de un pozo de acceso, limpieza o tubería rota. La mayoría de los derrames son relativamente pequeños y se pueden detener y limpiar rápidamente, pero si se los deja desatendidos, pueden causar riesgos para la salud, dañar viviendas y negocios y amenazar el medio ambiente, las vías fluviales locales y las playas. Las causas comunes de derrames de aguas residuales incluyen acumulación de grasa, raíces de árboles, tuberías rotas / agrietadas, tapas de limpieza faltantes o rotas, alcantarillas de tamaño insuficiente y aguas subterráneas / pluviales que ingresan al sistema de alcantarillado a través de defectos en las tuberías y conexiones ilegales.



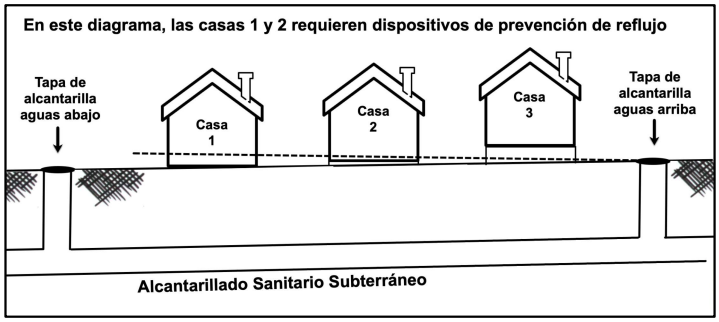
Prevenga la mayoría de las copias de seguridad de aguas residuales con un dispositivo de prevención de reflujo

Este tipo de dispositivo puede ayudar a prevenir las copias de seguridad de aguas residuales en hogares y empresas. Si aún no tiene un dispositivo de prevención de reflujo, comuníquese con un plomero o contratista profesional para instalar uno lo antes posible.

¿Se requiere que mi hogar tenga un dispositivo de prevención de reflujo?

La Sección 710.1 del Código Uniforme de Plomería (UPC) establece: “Los accesorios de tuberías de drenaje que tienen llantas de nivel de inundación ubicadas debajo de la elevación de la siguiente boca de alcantarilla corriente arriba o la alcantarilla privada que atiende dicha tubería de drenaje deben protegerse contra el reflujo de aguas residuales al instalar un tipo de válvula de evacuación ”. La intención de la Sección 710.1 es proteger el interior del edificio de los desagües o sobrecargas de alcantarillado de la línea principal.

Adicionalmente, U.P.C. 710.6 dice: Las válvulas de aguas residuales deben ubicarse donde puedan ser inspeccionadas y reparadas en todo momento y, a menos que estén continuamente expuestas, deben estar encerradas en un pozo de mampostería equipado con una cubierta removible del tamaño adecuado.



Limpieza de derrames dentro de la casa:

Para grandes limpiezas, se debe contactar a una empresa de limpieza profesional para limpiar las áreas afectadas. Si contrata a un contratista, se recomienda obtener estimaciones de más de una compañía. A veces, el seguro del propietario de vivienda pagará la limpieza necesaria debido a las reservas de alcantarillado. No todas las pólizas tienen esta cobertura, así que consulte con su agente.

Si decide limpiar un pequeño derrame dentro de su casa, protéjase de la contaminación observando las siguientes medidas de seguridad. Aquellas personas cuya resistencia a la infección esté comprometida no deben intentar este tipo de limpieza.

Busque atención inmediata si se lesiona o se enferma durante o después del proceso de limpieza.

Otros consejos:

- Mantenga a los niños y mascotas fuera del área afectada.
- Apague los sistemas de calefacción / aire acondicionado
- Use botas de goma, guantes de goma y gafas durante la limpieza.
- Deseche los artículos que no se puedan lavar y desinfectar (como: colchones, alfombras, cosméticos, juguetes, etc.)
- Retire y deseche los paneles de yeso y el aislamiento contaminado con aguas residuales o aguas de inundación.
- Limpie a fondo todas las superficies duras (como pisos, concreto, molduras, muebles de madera y metal, mostradores, electrodomésticos, fregaderos y otros accesorios de plomería) con agua caliente y ropa o detergente para platos.
- Ayude al proceso de secado con ventiladores, unidades de aire acondicionado y deshumidificadores.
- Después de completar la limpieza, lávese las manos con agua y jabón. Use agua que haya sido hervida por 1 minuto (deje que el agua se enfríe antes de lavarse las manos) O use agua que haya sido desinfectada (solución de 1/8 cucharadita de lejía doméstica por 1 galón de agua). Dejar reposar durante 30 min. Si el agua está turbia, use ¼ cucharadita de lejía de uso doméstico por 1 galón de agua.
- Lave la ropa usada durante la limpieza con agua caliente y detergente (lave aparte de la ropa no contaminada).
- Lavar la ropa contaminada con aguas residuales en agua caliente y detergente. Considere usar una lavandería hasta que su sistema de aguas residuales en el sitio haya sido inspeccionado y reparado profesionalmente.

Limpieza de derrames fuera de la casa:

- Mantenga a los niños y las mascotas fuera del área afectada hasta que se haya completado la limpieza.
- Use botas de goma, guantes de goma y gafas protectoras durante la limpieza del área afectada.
- Limpie los sólidos de alcantarillado (material fecal) y colóquelos en un inodoro o bolsa doble que funcione correctamente y colóquelos en un contenedor de basura.
- En áreas de superficies duras como el asfalto o el concreto, es seguro usar una solución de lejía al 2%, o ½ taza de lejía a 5 galones de agua, pero no permita que llegue a un drenaje de tormenta ya que la lejía puede dañar la ambiente.
- Después de la limpieza, lávese las manos con agua y jabón. Use agua que haya sido hervida por 1 minuto (deje enfriar antes de lavarse las manos) O use agua que haya sido desinfectada (solución de 1/8 cucharadita de cloro por 1 galón de agua). Dejar reposar durante 30 min. Si el agua está turbia, use ¼ cucharadita de lejía de uso doméstico por 1 galón de agua.
- Lave la ropa usada durante la limpieza con agua caliente y detergente (lave aparte de la ropa no contaminada).
- Lavar la ropa contaminada con aguas residuales en agua caliente y detergente. Considere usar una lavandería hasta que su sistema de aguas residuales en el sitio haya sido inspeccionado y reparado profesionalmente.

CLAIM AGAINST THE CITY OF REDLANDS

File with: City of Redlands
City Clerk's Office
35 Cajon Street, Suite 4
P.O. Box 3005
Redlands, CA 92373

DATE STAMP

DO NOT WRITE IN THIS SPACE

READ THE CLAIM FORM BEFORE BEGINNING. ALL THE INFORMATION YOU PROVIDE SHOULD BE AS COMPLETE AS POSSIBLE. PLEASE TYPE OR PRINT CLEARLY. YOU MUST FILE YOUR CLAIM BY MAIL OR IN PERSON AT THE CITY CLERK'S OFFICE. CLAIMS SUBMITTED BY FACSIMILE OR EMAIL WILL NOT BE ACCEPTED. THE CLAIM FORM MUST BE SIGNED AND DATED. ATTACH ADDITIONAL SHEETS IF NECESSARY.

Name of Claimant

Home Telephone Number

Address

Work Telephone Number

City, State, Zip Code

Cell phone Number

Address to Which Claimant Wants Notices Sent:

Name and Firm/Business Name

Address

Telephone Number

City, State, Zip Code

When did damage or injury occur? Date_____ Time_____

Where did damage or injury occur? Describe fully. Where appropriate, give street names and addresses and measurements from landmarks.

If known, provide names of any City employees involved in the damage or injury._____

Describe in detail how the damage or injury occurred._____

Describe in detail what damage or injury you claim resulted._____

_____

_____

If property was damaged, are you the legal owner of the property?_____

What particular Act or Omission do you claim caused the damage or injury?_____

_____

_____

Was the incident that resulted in damage or injury investigated by law enforcement?_____ If yes, what agency?_____

_____ Report #_____

Amount claimed for injury, damage, or loss to date (required for claims under $10,000):_____

Estimated amount of future injury, damage, or loss (required for claims under $10,000):_____

Total amount of claim (required for claims under $10,000):_____

☐ Damages are between $10,000 and $25,000
☐ Damages exceed $25,000

Basis for computation of amount claimed, or attach copies of all bills, invoices, and estimates (required for claims under $10,000)

(For property damage, to help the City evaluate your claim, please submit two estimates or one paid repair bill for each item):_____

_____

_____

_____

Provide other information that you believe should be considered in reviewing your claim (attach additional sheets if necessary)._____

_____

_____

Witnesses to the incident that resulted in the damage or injury:

Name_____ Address_____ Telephone_____

Name_____ Address_____ Telephone_____

Name_____ Address_____ Telephone_____

Treating doctors and hospitals:

Hospital_____ Date(s) of Service_____

Address_____ Telephone_____

Doctor_____ Date(s) of Treatment_____

Address_____ Telephone_____

Doctor_____ Date(s) of Treatment_____

Address_____ Telephone_____

_____ _____

Date Signature of Claimant or person filing on behalf of claimant

NOTICE:
Section 72 of the Penal Code provides: "Every person who, with intent to defraud, presents for allowance or for payment to any state board of office or to any county, town, city, district, ward or village board or officer, authorized to allow or pay the same if genuine, any false or fraudulent claim, bill, account, voucher, or writing, is guilty of a felony."

INSERT TAB:
Tab G: SAMPLING SOP

Process:	***Surface Water Sampling***
Personnel Required:	• 1
Personal Protective Equipment:	• Safety Glasses • Rubber Gloves
License Required:	• None required
Common Hazards:	• Drowning or submersion • Slip, trip, and fall • Exposure • Insect/Wildlife • Weather • Boat/Watercraft • Physical Strain or Injury
Safe Operation Guidelines:	• Wear proper PPE • Be aware of currents, depth, and unstable banks • Do not eat, drink or smoke while sampling • Avoid cross-contamination • Label all samples clearly

Lab Contact Information	Wastewater Treatment Plant Lab laboratory@cityofredlands.org 909-798-7506 ext. 4178 1950 Nevada St. Redlands, CA 92373

Surface water sampling helps to ensure water quality by identifying areas of concern and potential failure mechanisms that may impact surface waters or stormwater infrastructure in the service area.

Minimize Impacts

Surface water sampling allows for the proper evaluation of potential contamination following a sanitary sewer spill.

Having a thorough understanding of the service area and its various challenges can help responders be better prepared to minimize the impacts of a spill on local surface waters and stormwater infrastructure.

Before beginning the sampling process there are several important steps that must be taken to ensure that the samples collected are representative of the water quality in the area being monitored.

These steps include:

1. **Gathering the necessary equipment:**
    - The surface water sampling worksheet, chain of custody, sampling pole, sample containers, and PPE are essential tools that must be prepared and organized before sampling can begin.
2. **Donning appropriate personal protective equipment:**
    - To protect against exposure to potentially harmful contaminants and the sulfuric acid preservative in the Ammonia sample bottles, workers must wear gloves, eye protection, and other personal protective equipment, as needed.
3. **Determining the point of spill entry into the waterway:**
    - It's important to locate the point at which any spill entered the waterway in order to collect the required samples: point of entry into the surface water, downstream, and upstream.

The approximate stream velocity and time since the spill flow to the surface water stopped should be determined to calculate the appropriate distance to move downstream to collect:

1. **The downstream sample,**
2. **Move upstream to collect the spill entry point sample,**
3. **And move further upstream to collect the upstream or reference sample.**

Personal Protective Equipment

Personal Protective Equipment (PPE) should be used when conducting surface water sampling. The PPE that is required includes:

- Gloves
- Eye Protection

Sampling Equipment

In addition to PPE, other sampling equipment is necessary:

- Sample Bottles & Containers
- Cooler with Ice, or Ice packs
- Sampling Pole, or
- Rope & Bucket

The use of PPE and proper sampling equipment is important for the safety of the sampler and for ensuring accurate and reliable sampling results.

Test Type		Sample Locations		
	Spill Area	Downstream of Spill	Upstream of Spill	Drainage Conveyance System (as applicable)
Ammonia/ Nitrogen	1 pint with H2SO4	1 pint with H2SO4	1 pint with H2SO4	1 pint with H2SO4
Fecal Coliforms	2 bacti bottles	2 bacti bottles	2 bacti bottles	2 bacti bottles

Water samples must be collected in different bottles for various tests and then transported in a cooler with ice packs.

For each of the three sampling sites (plus drainage conveyance system as applicable), one bottle is needed for ammonia/nitrogen testing, and two bacti bottles are required for each type of bacteria being tested.

Additionally, one field blank sample is required for each constituent. Field blank sample bottles are filled with sterilized water during sampling to serve as quality control on the sampler's sampling methods.

Since the sample bottles contain sterilized water, bacteria and ammonia should not be present in the water. If the lab analysis shows the presence of bacteria or ammonia, it indicates that the sampler's method may not have been correct, and the other bacti samples may have been contaminated.

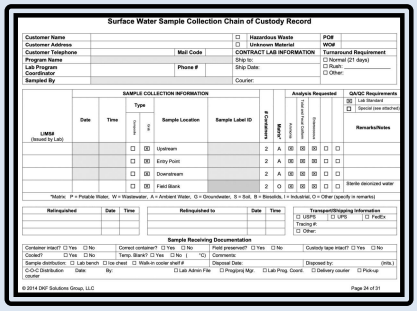
Surface Water Sampling – Preparation

Step 1 of 4

Prepare the cooler for sample storage by adding an instant ice pack, ice pack, or ice to keep the samples cold during transport to the lab.

Step 2 of 4

Identify the point of the spill where the wastewater entered the waterway and take a photograph of this location with a reference point in the picture.



Surface Water Sample Collection Chain of Custody Record

Step 3 of 4

Begin completing the ***Surface Water Sampling Worksheet*** to record the relevant information about the sampling location and collected samples.

Step 4 of 4

To determine which direction is upstream and downstream for sample collection, you should observe the direction of water movement from the point of discharge.

The purpose of this procedure is to provide a standard for collecting surface water samples to assess water quality, avoid contamination, and ensure that samples can be accurately labeled and transported to the lab for processing.

Notes:

Start by collecting downstream samples first.

In order to determine where the downstream sample is located in a stream, creek, or river, you will need to determine the velocity of the surface water. This can be accomplished through the use of a stream velocity meter or by measuring off a distance along the bank and timing how long it takes for a floating object to travel that distance.

Use the formula on the *Surface Water Sampling Worksheet* to calculate the stream velocity. Once known, determine the time that the spill **has not been** entering the surface water.

This, along with the stream velocity, will inform you how far downstream you need to travel to collect the downstream sample.

Step 1 of 9

Don the appropriate PPE from your sampling kit. This should include latex or rubber gloves and safety glasses.

Step 2 of 9

Label all samples with their location (refer to table on G-8), your name, and the date and time they are collected. Record this information on the surface water sampling worksheet.

Step 3 of 9

Take photos of each sample location and ensure a reference point is visible in each photo. In the photo (left), the dock and sign serve as excellent reference points.

Step 4 of 9

Remove the seal from the Ammonia sample container just prior to collecting your sample, as applicable.

To reduce the likelihood of contamination, remove the cap immediately before collecting each sample.

Step 5 of 9

To prevent sample contamination, do not allow the inside of the cap to touch anything while you are obtaining the sample.

Step 6 of 9

When filling the ammonia nitrogen sample bottle, don't overfill it because it contains sulfuric acid. Sweep the bottle or dipper upstream and out of the water without disturbing the bottom sediment. Remember to leave the sulfuric acid in the bottle and avoid skin contact.

Step 7 of 9

Fill the Ammonia sample bottle to the fill line, and immediately replace the cap. If there is no clear fill line, fill it to the "neck" of the bottle.

Acquire samples from each location in duplicate.

Step 8 of 9

Open the Bacteria sample container and allow water to gently flow into the bottle just to the fill line.

Acquire samples from each location in duplicate.

Repeat the sampling process for all sample points, ensure there are two of each sample, and **provide a "field blank"** sample using sterile water, which verifies the quality of the samples.

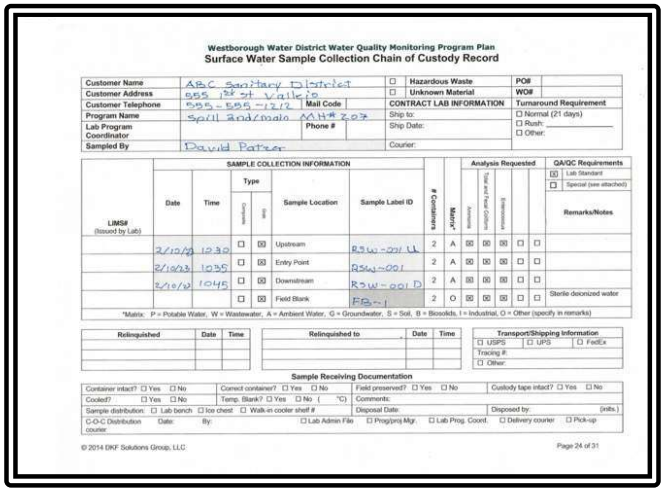
Step 9 of 9

Place all samples in the cooler on the ice pack. To ensure accurate analysis, the Bacti samples must be transported to the lab within 6 hours of the time of collection.

Step 1 of 4: Documentation

All samples must be labeled with their location, your name, and the date and time they were collected. Refer to the state requirements found on the last page of this document. Record this information on the chain of custody form and the surface water sampling worksheet.

Chain of Custody Record



Westborough Water District Water Quality Monitoring Program Plan
Surface Water Sample Collection Chain of Custody Record

Customer Name	ABC Sanitary District	☐ Hazardous Waste	PO#
Customer Address	555 12th st. Valley	☐ Unknown Material	WO#
Customer Telephone	555-555-1212	Mail Code	CONTRACT LAB INFORMATION
Program Name	Spill 2nd/main	Phone #	Turnaround Requirement
Lab Program Coordinator		Ship to:	☐ Normal (21 days)
Sampled By	David Potter	Ship Date:	☐ Rush: ☐ Other:
		Courier:	

LIMS# (Issued by Lab)	Date	Time	Type: Grab	Type: Comp	Sample Location	Sample Label ID	# Containers	Matrix*	Analysis Requested	QA/QC Requirements	Remarks/Notes
	2/10/23	1030	☐	☒	Upstream	RSW-001U	2	A	☒ ☒ ☐ ☐	☒ Lab Standard ☐ Special (see attached)	
	2/10/23	1035	☐	☒	Entry Point	RSW-001	2	A	☒ ☒ ☐ ☐		
	2/10/23	1045	☐	☒	Downstream	RSW-001D	2	A	☒ ☒ ☐ ☐		
			☐	☒	Field Blank	FB-1	2	O	☒ ☒ ☐ ☐		Sterile deionized water

*Matrix: P = Potable Water, W = Wastewater, A = Ambient Water, G = Groundwater, S = Soil, B = Biosolids, I = Industrial, O = Other (specify in remarks)

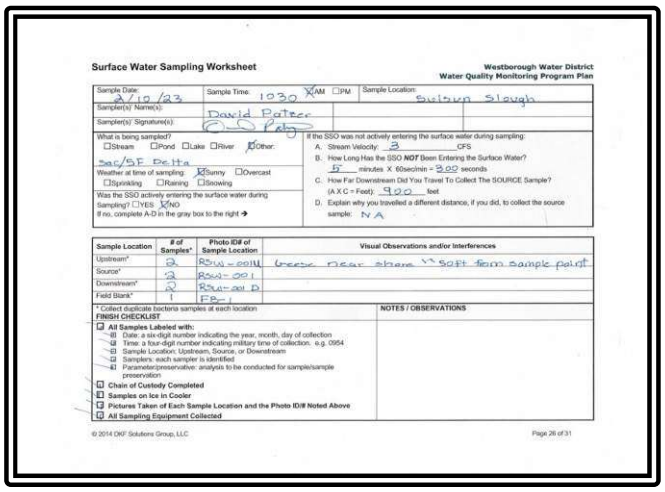
Relinquished	Date	Time	Relinquished to	Date	Time

Transport/Shipping Information: ☐ USPS ☐ UPS ☐ FedEx; Tracing #: ; ☐ Other:

Sample Receiving Documentation

Container intact? ☐ Yes ☐ No	Correct container? ☐ Yes ☐ No	Field preserved? ☐ Yes ☐ No		Custody tape intact? ☐ Yes ☐ No
Cooled? ☐ Yes ☐ No	Temp. Blank? ☐ Yes ☐ No (°C)	Comments:		
Sample distribution: ☐ Lab bench ☐ Ice chest ☐ Walk-in cooler shelf #		Disposal Date:	Disposed by:	(initls.)
C-O-C Distribution courier	Date: By:	☐ Lab Admin File ☐ Prog/proj Mgr. ☐ Lab Prog. Coord. ☐ Delivery courier ☐ Pick-up		

Surface Water Sampling Worksheet



Surface Water Sampling Worksheet
Westborough Water District
Water Quality Monitoring Program Plan

Sample Date: 2/10/23	Sample Time: 1030 ☒AM ☐PM	Sample Location: Suisun Slough	
Sampler(s) Name(s): David Potter			
Sampler(s) Signature(s): D.S. Potter			
What is being sampled? ☐Stream ☐Pond ☐Lake ☐River ☒Other: Sac/SF Delta	If the SSO was not actively entering the surface water during sampling: A. Stream Velocity: 3 CFS; B. How Long Has the SSO NOT Been Entering the Surface Water? 5 minutes X 60sec/min = 300 seconds; C. How Far Downstream Did You Travel To Collect The SOURCE Sample? (A X C = Feet): 900 feet; D. Explain why you travelled a different distance, if you did, to collect the source sample: N A		
Weather at time of sampling: ☒Sunny ☐Overcast ☐Sprinkling ☐Raining ☐Snowing			
Was the SSO actively entering the surface water during Sampling? ☐YES ☒NO If no, complete A-D in the gray box to the right →			

Sample Location	# of Samples*	Photo ID# of Sample Location	Visual Observations and/or Interferences
Upstream*	2	RSW-001U	Geese near shore 15 soft from sample point
Source*	2	RSW-001	
Downstream*	2	RSW-001D	
Field Blank*	1	FB-1	

* Collect duplicate bacteria samples at each location

FINISH CHECKLIST

☑ All Samples Labeled with:
- ☑ Date: a six-digit number indicating the year, month, day of collection
- ☑ Time: a four-digit number indicating military time of collection. e.g. 0954
- ☑ Sample Location: Upstream, Source, or Downstream
- ☑ Samplers: each sampler is identified
- ☑ Parameter/preservative: analysts to be conducted for sample/sample preservation

☑ Chain of Custody Completed
☑ Samples on Ice in Cooler
☑ Pictures Taken of Each Sample Location and the Photo ID/# Noted Above
☑ All Sampling Equipment Collected

NOTES / OBSERVATIONS

Step 2 of 4: Contact the Lab

Inform the lab that the following samples require processing: ammonia-nitrogen, total/fecal coliform. Provide any additional information the lab may require.

Step 3 of 4: Transport Samples

Place the samples in the cooler on the ice pack and transport them to the lab within 6 hours of collection time. Complete the chain of custody form and ensure all samples are properly secured during transport.

Step 4 of 4: Post Warning Signs

If directed by your supervisor or the county environmental health division, post warning signs in the affected area. Keep track of sign locations and remove warning signs and lift restrictions only when authorized to do so.

The Enrollee shall collect receiving water samples at the following locations:

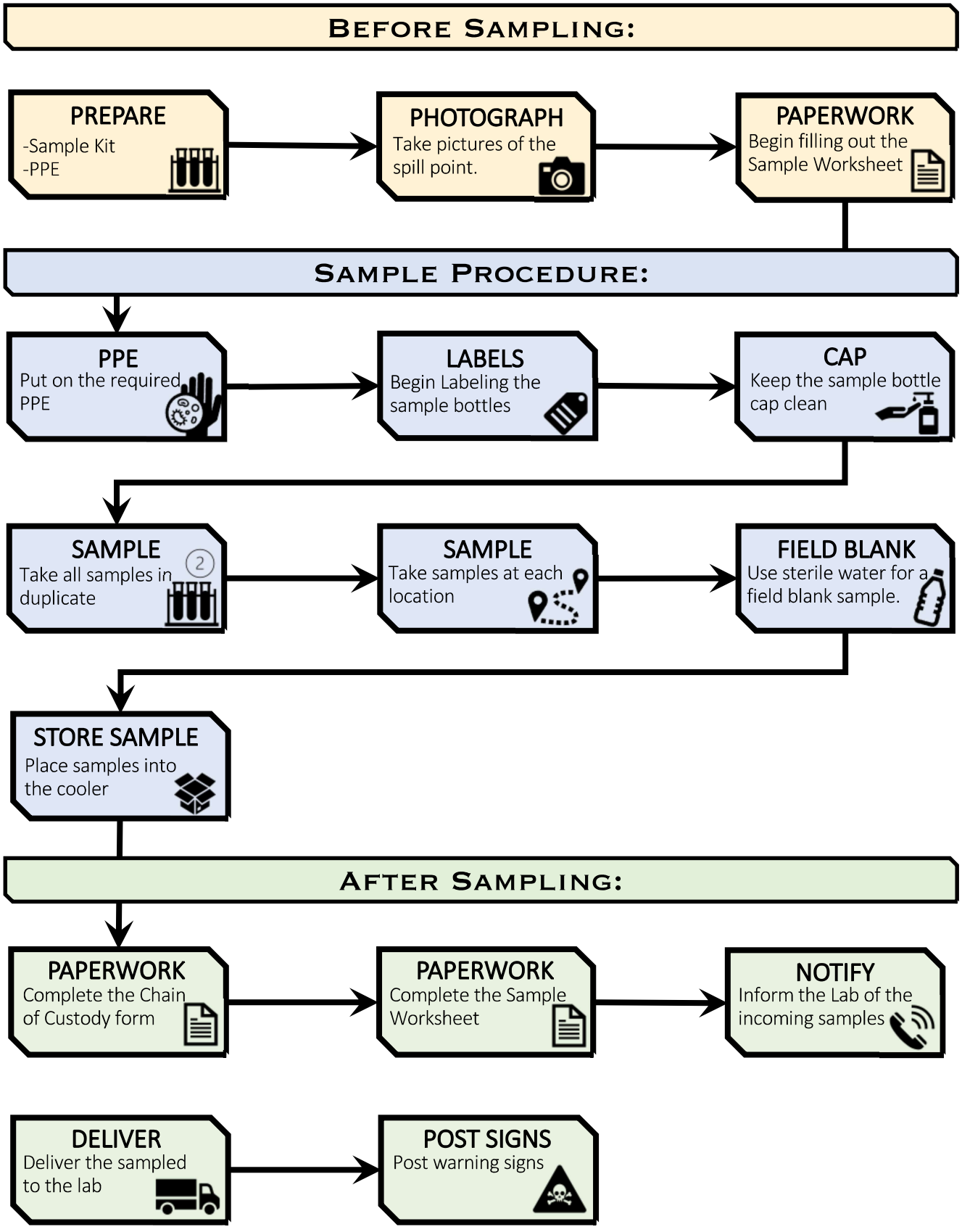
Sampling of Flow in Drainage Conveyance System (DCS) Prior to Discharge

Sampling Location	Sampling Location Description
DCS-001	A point in a drainage conveyance system before the drainage conveyance system flow discharges into a receiving water.

Receiving Surface Water Sampling (RSW[1])

Sampling Location	Sampling Location Description
RSW-001 Point of Discharge	A point in the receiving water where sewage initially enters the receiving water.
RSW-001U Upstream of Point of Discharge	A point in the receiving water, upstream of the point of sewage discharge, to capture ambient conditions absent of sewage discharge impacts.
RSW-001D Downstream of Point of Discharge	A point in the receiving water, downstream of the point of sewage discharge, where the spill material is fully mixed with the receiving water.

[1]The Enrollee must use its best professional judgment to determine the upstream and downstream distances based on receiving water flow, accessibility to upstream/downstream waterbody banks, and size of visible sewage plume.



Surface Water Sampling Worksheet

Sample Date:	Sample Time: ☐AM ☐PM	Sample Location:
Sampler(s)' Name(s):		
Sampler(s)' Signature(s):		

What is being sampled?

☐Stream ☐Pond ☐Lake ☐River ☐Other:

Weather at time of sampling:

☐Sunny ☐Overcast ☐Sprinkling ☐Raining

Was the spill actively entering the surface water during Sampling?

☐YES ☐NO If no, complete A-D in the gray box to the right.

If the spill was not actively entering the surface water during sampling:

A. Stream Velocity: _____CFS

B. How Long Has the spill ***NOT*** Been Entering the Surface Water?

_____ minutes X 60sec/min = _ seconds

C. How Far Downstream Did You Travel To Collect The SOURCE Sample?

(A X C = Feet): _____ feet

D. Explain why you travelled a different distance, if you did, to collect the source sample:

Sample Location	Sample Label	# of Samples*	Photo ID# of Sample Location	Visual Observations and/or Interferences
Drainage Conveyance	DCS-001	3		
Source*	RSW-001	3		
Upstream*	RSW-001U	3		
Downstream*	RSW-001D	3		
Field Blank*	Field Blank	2		

* Collect duplicate bacteria samples at each location

FINISH CHECKLIST	NOTES / OBSERVATIONS
☐ **All Samples Labeled with:** ☐ Date: a six-digit number indicating the year, month, day of collection ☐ Time: a four-digit number indicating military time of collection. e.g. 0954 ☐ Sample Location: Drainage Conveyance, Source, Upstream, or Downstream ☐ Samplers: each sampler is identified ☐ Parameter/preservative: analysis to be conducted for sample/sample preservation ☐ **Chain of Custody Completed** ☐ **Samples on Ice in Cooler** ☐ **Pictures Taken of Each Sample Location and the Photo ID/# Noted Above** ☐ **All Sampling Equipment Collected**	

Surface Water Sample Chain of Custody Record

Customer Name	City of Redlands	☐	**Hazardous Waste**	**PO#**	
Customer Address		☐	**Unknown Material**	**WO#**	
Customer Telephone	**Zip Code**	**CONTRACT LAB INFORMATION**		**Turnaround Requirement**	
Program Name		Ship to:		☐ Normal (21 days)	
Lab Program Coordinator	**Phone #**	Ship Date:		☐ Rush: _____	
Sampled By		Courier:		☐ Other:	

LIMS# (Issued by Lab)	SAMPLE COLLECTION INFORMATION						# Containers	Matrix*	Analysis Requested					QA/QC Requirements	
	Date	Time	Type: Composite	Type: Grab	Sample Location	Sample Label ID			Ammonia	Total and Fecal Coliform	Enterococcus	E. coli		☒ Lab Standard ☐ Special (see attached)	Remarks/Notes
			☐	☒	Drainage Conveyance	DCS-001	3	A	☒	☒	☐	☐	☐		
			☐	☒	Entry Point	RSW-001	3	A	☒	☒	☐	☐	☐		
			☐	☒	Upstream	RSW-001U	3	A	☒	☒	☐	☐	☐		
			☐	☒	Downstream	RSW-001D	3	A	☒	☒	☐	☐	☐		
			☐	☒	Field Blank	Field Blank	2	O	☒	☒	☐	☐	☐		Sterile deionized water

*Matrix: P = Potable Water, W = Wastewater, A = Ambient Water, G = Groundwater, S = Soil, B = Biosolids, I = Industrial, O = Other (specify in remarks)

Relinquished	Date	Time

Relinquished to	Date	Time

Transport/Shipping Information		
☐ USPS	☐ UPS	☐ FedEx
Tracing #:		
☐ Other:		

Sample Receiving Documentation

Container intact? ☐ Yes ☐ No	Correct container? ☐ Yes ☐ No	Field preserved? ☐ Yes ☐ No	Custody tape intact? ☐ Yes ☐ No
Cooled? ☐ Yes ☐ No	Temp. Blank? ☐ Yes ☐ No (°C)	Comments:	
Sample distribution: ☐ Lab bench ☐ Ice chest ☐ Walk-in cooler shelf #		Disposal Date:	Disposed by: (inits.)
C-O-C Distribution courier	Date: By:	☐ Lab Admin File ☐ Prog/Proj Mgr. ☐ Lab Prog. Coord. ☐ Delivery courier ☐ Pick-up	

INSERT TAB:
Tab H: POST-SPILL

SPILL LOCATION
Spill location name:
Address of spill:

NOTIFICATION AND COMMUNICATION PROCEDURES	
Were notification procedures adhered to?	☐ Yes ☐ No
Were notification procedures effective?	☐ Yes ☐ No
RESPONSE PROCEDURES	
Were response time goals met?	☐ Yes ☐ No
Were safety procedures adhered to?	☐ Yes ☐ No
Were safety procedures effective?	☐ Yes ☐ No
Were initial response procedures adhered to?	☐ Yes ☐ No
Were initial response procedures effective?	☐ Yes ☐ No
Were containment procedures adhered to?	☐ Yes ☐ No

RESPONSE PROCEDURES (continued)	
Were containment procedures effective?	☐ Yes ☐ No
Were clean up and recovery procedures adhered to?	☐ Yes ☐ No
Were clean up and recovery procedures effective?	☐ Yes ☐ No
Were sewer back up procedures adhered to?	☐ Yes ☐ No
Were sewer back up procedures effective?	☐ Yes ☐ No
Were chain of custody procedures adhered to?	☐ Yes ☐ No
Was failure analysis investigation performed and documented?	☐ Yes ☐ No
REPORTING AND NOTIFICATION PROCEDURES	
Were reporting and notification timeline requirements met?	☐ Yes ☐ No

DOCUMENTATION	
Was spill file created?	☐ Yes ☐ No
Was QA/QC performed to ensure field data matched CIWQS data?	☐ Yes ☐ No

RECOMMENDED CHANGES
☐ N/A

ATTENDEES	

FACILITATED BY	
	Date:

OFFICE USE ONLY

Incident Report #		Prepared By	
Spill/Backup Information			
Cause			
Summary of Historical Spills/Backups/Service Calls/Other Problems			
Date	Cause	Date Last Cleaned	Crew
Records Reviewed By:		Record Review Date:	
Summary of CCTV Information			
CCTV Inspection Date		File Name/Number	
CCTV File Reviewed By		CCTV Review Date	
Observations			

Go to Page 2

Recommendations					
✓	Type	Specific Actions	Who is Responsible?	Completion Deadline	Who Will Verify Completion?
	No Changes or Repairs Required	n/a	n/a	n/a	n/a
	Added sewer to preventive maintenance program				
	Adjusted schedule/method of preventive maintenance				
	Enforcement action against FOG source				
	Plan rehabilitation or replacement of sewer				
	Repaired facilities or replaced defect				
	Change(s) to Spill Response Procedures				
	Training				
	Misc.				
Comments/Notes:					
Reviewed By:				Review Date:	