

City of Benicia

Overflow Emergency Response Plan



Revised in 2015

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

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Sanitary Sewer Overflow Emergency Response Plan

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

1. Purpose

The purpose of the City of Benicia's Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The OERP provides guidelines for City personnel to follow in responding to, cleaning up, and reporting SSOs that may occur within the City's service area. This OERP satisfies the SWRCB Statewide General Waste Discharge Requirements (GWDR), which require wastewater collection agencies to have an Overflow Emergency Response Plan.

2. Policy

The City's employees are required to report all wastewater overflows found and to take the appropriate action to secure the wastewater overflow area, properly report to the appropriate regulatory agencies, relieve the cause of the overflow, and ensure that the affected area is cleaned as soon as possible to minimize health hazards to the public and protect the environment. The City's goal is to respond to sewer system overflows as soon as possible following notification. The City will follow reporting procedures in regards to sewer spills as set forth by the San Francisco Regional Water Quality Control Board (*SFRWQCB*) and the California State Water Resources Control Board (*SWRCB*).

3. Definitions As Used In This OERP

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

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

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

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

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

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

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

- a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.

- b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
- c. Occurs during, or as a result of, the treatment or disposal of wastes.

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

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

SANITARY SEWER BACKUP (BACKUP) – When blockages or flow conditions cause wastewater to backup into buildings and on private property.

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

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

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

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

SSO Categories:

- Category 1: Discharge of untreated or partially treated wastewater of any volume resulting from a sanitary sewer system failure or flow condition that either:
- Reaches surface water and/or drainage channel tributary to a surface water; or
 - Reached a Municipal Separate Storm Sewer System (MS4) and was not fully captured and returned to the sanitary sewer system or otherwise captured and disposed of properly.

- Category 2: Discharge of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from a sanitary sewer system failure or flow condition that either:
- Does not reach surface water, a drainage channel, or an MS4, or
 - The entire SSO discharged to the storm drain system was fully recovered and disposed of properly.

- Category 3: All other discharges of untreated or partially treated wastewater resulting from a sanitary sewer system failure or flow condition.

SANITARY SEWER SYSTEM: Any publicly-owned system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary

pipings, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.

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

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

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

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

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

GWDR Requirement

The collection system agency 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 Monitoring and Reporting Program (MRP). All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board Waste Discharge Requirements or National Pollutant Discharge Elimination System (NPDES) permit requirements. The Sewer System Management Plan 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 untreated wastewater and prevent discharge of untreated wastewater to Waters of the United States and 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 Sewer System Management Plan and critical supporting documents are available to the public at www.ci.benicia.ca.us.

5. Goals

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

- Work safely;
- Respond quickly to minimize the volume of the SSO;

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

6. SSO Detection and Notification

ref. SWRCB Order No. 2006-0003-DWQ VI(a)

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

The City operates 23 wastewater lift stations. In the event of any pump failure, the high level sensor activates the SCADA alarm system and the City is contacted. To prevent overflow, 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.

6.1 PUBLIC OBSERVATION

Public observation is the most common way that the City is notified of blockages and spills. Contact numbers and information for reporting sewer spills and backups are in the phone book and on the City's website: www.ci.benicia.ca.us. The City's telephone number for reporting sewer problems is (707) 746-4296.

Normal Work Hours

When a report of a sewer spill or backup is made during normal work hours, Corp Yard administrative staff receives the call and completed the Sewer Overflow Service Call Report. This information is forwarded to the Field Utilities and Streets Supervisor or Public Works Superintendent who will then dispatch a Collections Crew to the incident.

After Hours

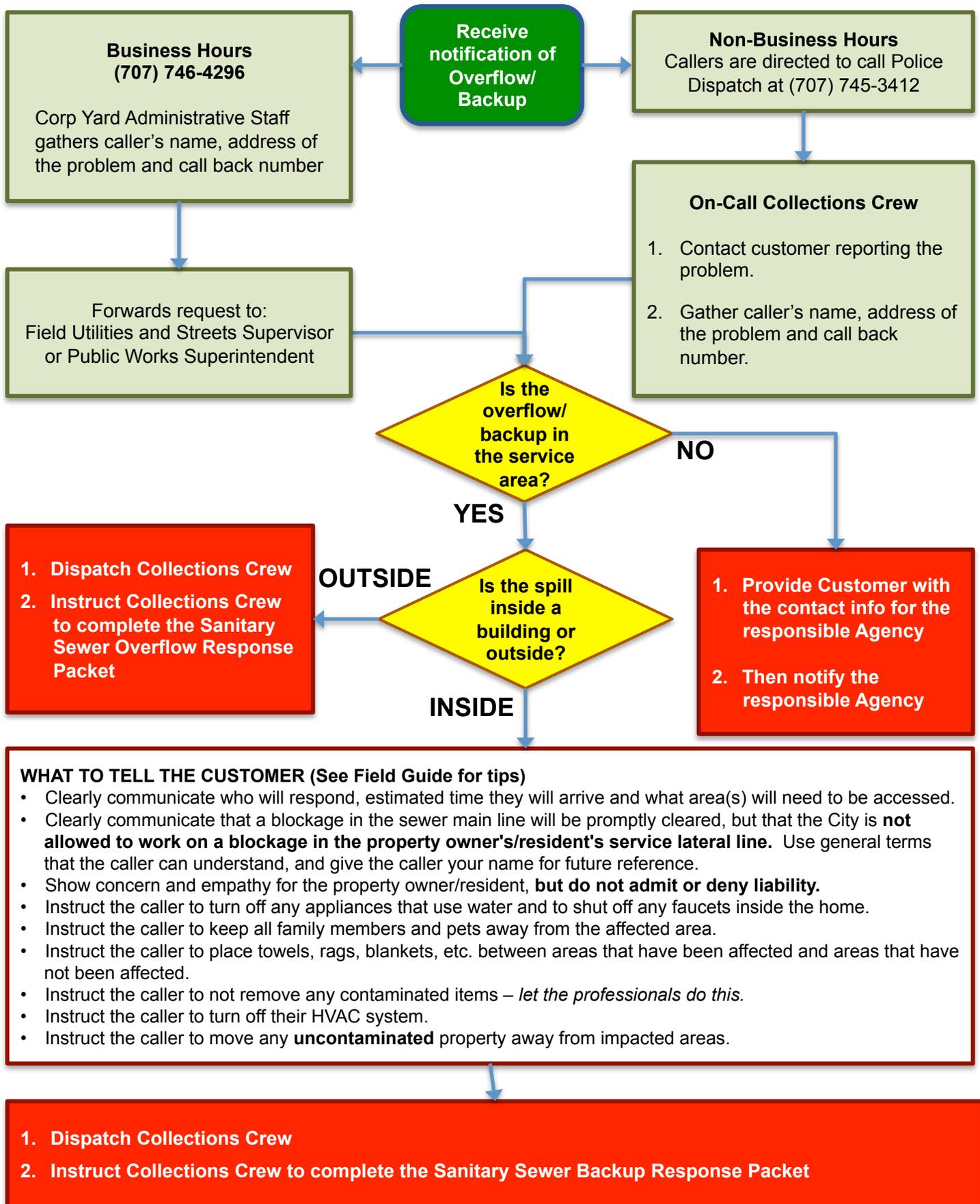
After hours callers are directed to call Police dispatch, which will notify the On-Call Employee.

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

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

The following is an overview of receiving a sewage overflow or backup report:

Figure 6.1 Overview of Receiving a Sewage Overflow or Backup Report Procedure



6.2 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.

6.3 CONTRACTOR OBSERVATION

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

1. Immediately notify the City
2. Protect storm drains
3. Protect the public
4. Provide Information to the City Collections Crew such as start time, appearance point, suspected cause, weather conditions, etc.
5. Direct ALL media and public relations requests to the Director of Public Works

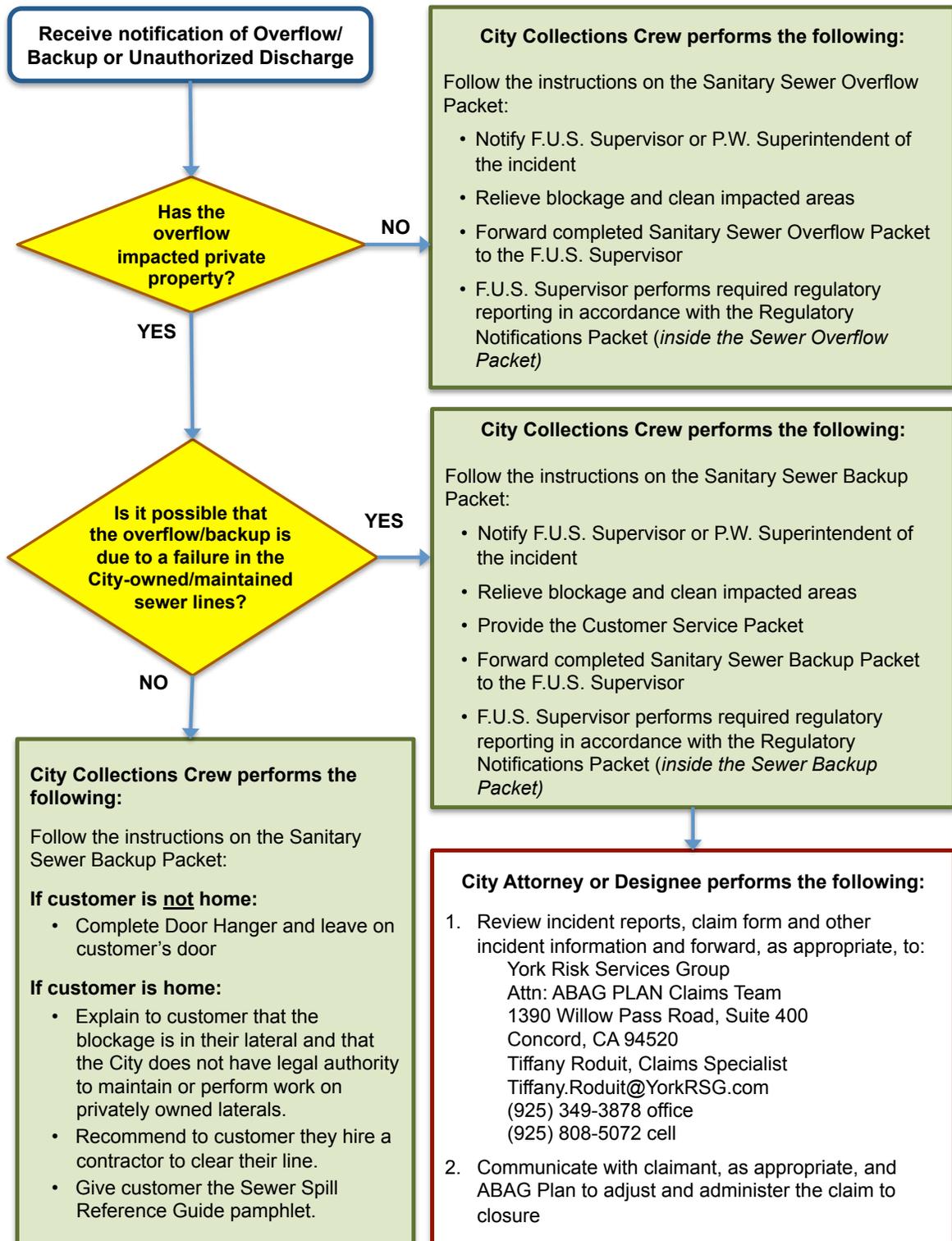
7. SSO Response Procedures

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

7.1 Sewer Overflow/Backup Response Summary

The City will respond to SSOs as soon as feasible following notification of an overflow/backup or unauthorized discharge. The following (Figure 7.1) is an overview of the response activities.

Figure 7.1 Overview of SSO/Backup Response



7.2 First Responder Priorities

The first responder's priorities are:

- To follow safe work practices.
- To respond promptly with the appropriate and necessary equipment.
- To contain the spill wherever feasible.
- To restore the flow as soon as practicable.
- To minimize public access to and/or contact with the spilled sewage.
- To promptly notify the Field Utilities and Streets Supervisor or Public Works Superintendent in event of major SSO.
- To return the spilled sewage to the sewer system.
- To restore the area to its original condition (or as close as possible).

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 starting the job.

7.4 Initial Response

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

The first responder will:

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

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.
- Pump around the blockage/pipe failure.

For detailed procedures refer to Appendix C: Sanitary Sewer Overflow Packet.

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 Field Utilities and Streets Supervisor or Public Works Superintendent. For detailed procedures refer to Appendix C: Sanitary Sewer Overflow Packet.

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 SSOs from gravity sewers.
- *Camera* -- A digital or disposable camera is required to record the conditions upon arrival, during clean up, and upon departure.
- *Emergency Response Trucks* -- A utility body pickup truck, or open bed is required to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools will include containment and clean up materials.
- *Portable Generators, Portable Pumps, Piping, and Hoses* – Equipment used to bypass pump, divert, or power equipment to mitigate an SSO.
- *Combination Sewer Cleaning Trucks* -- Combination high velocity sewer cleaning trucks with vacuum tanks are required to clear blockages in gravity sewers, vacuum spilled sewage, and wash down the impacted area following the SSO event.
- *Air plugs, sandbags and plastic mats*
- *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 Public Works Safety and Operations Maintenance Library.

8. Recovery and Cleanup

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

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

8.1 Estimate the Volume of Spilled Sewage

Use the methods outlined in the Sanitary Sewer Backup Packet (Appendix B), Sanitary Sewer Overflow Packet (Appendix C), and/or the Field Guide to estimate the volume of the spilled sewage. Wherever possible, document the estimate using photos and/or video of the SSO site before and during the recovery operation.

8.2 Recovery of Spilled Sewage

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

8.3 Clean-up and Disinfection

Clean up and disinfection procedures will be implemented to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event. The procedures described are for dry weather conditions and will be modified as required for wet weather conditions. Where cleanup is beyond the capabilities of the City Collections Crew, 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 obtain a City claim form from the City Attorney's Office at 250 East L Street, Benicia, CA 94510.

Hard Surface Areas

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

Landscaped and Unimproved Natural Vegetation

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

Natural Waterways

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

Wet Weather Modifications

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

8.4 Public Notification

Signs will be posted and barricades put in place to keep vehicles and pedestrians away from contact with spilled sewage. County Environmental Health instructions and directions regarding placement and language of public warnings will be followed. Additionally, the Field Utilities and Streets Supervisor 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 County Environmental Health, the Field Utilities and Streets Supervisor or designee.

Creeks, streams and beaches that have been contaminated as a result of an SSO will be posted at visible access locations until the risk of contamination has subsided to acceptable background bacteria levels. The 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 Director of Public Works or their designee will provide the media with all relevant information.

9. Water Quality

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

9.1 Waters of the State

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

- Carquinez Strait
- Suisun Bay

In the event that these waters are impacted by a sanitary sewer overflow, Clean Harbors Environmental Services, Inc. will be contacted.

9.2 Water Quality Sampling and Testing

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

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

9.3 Water Quality Monitoring Plan

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

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

9.4 SSO Technical Report

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

Causes and Circumstances of the SSO:

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

City's Response to SSO:

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

Water Quality Monitoring:

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

10. 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 Collections Crew 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 Collections Crew to gather information regarding the incident and notify the Field Utilities and Streets Supervisor or his/her designee.
- It is the responsibility of the City Attorney or his/her designee to review all claims and to oversee the adjustment and administration of the claim to closure.

11. Notification, Reporting, Monitoring and Recordkeeping Requirements

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

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

- Documentation of response steps and/or remedial actions
- Photographic evidence to document the extent of the SSO, field crew response operations, and site conditions after field crew SSO response operations have been completed. The date, time, location, and direction of photographs taken will be documented.
- Documentation of how any estimations of the volume of discharged and/or recovered volumes were calculated including all assumptions made.
- Regulator required notifications are outlined in Section 11.1 on the following page.

11.1 Regulator Required Notifications

ELEMENT	REQUIREMENT	METHOD
NOTIFICATION	Within two hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, the City will notify the California Office of Emergency Services (CalOES) and obtain a notification control number.	Call Cal OES at: (800) 852-7550
REPORTING	<ul style="list-style-type: none"> • Category 1 SSO: The City will submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date. • Category 2 SSO: The City will submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date. • Category 3 SSO: The City will submit certified report within 30 calendar days of the end of month in which SSO the occurred. • SSO Technical Report: The City will submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters. • “No Spill” Certification: The City will certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred. • Collection System Questionnaire: The City will update and certify every 12 months 	Enter data into the CIWQS Online SSO Database ¹ (http://ciwqs.waterboards.ca.gov/) certified by the Legally Responsible Official(s) ² . All information required by CIWQS will be captured in the Sanitary Sewer Overflow Report. Certified SSO reports may be updated by amending the report or adding an attachment to the SSO report within 120 calendar days after the SSO end date. After 120 days, the State SSO Program Manager must be contacted to request to amend an SSO report along with a justification for why the additional information was not available prior to the end of the 120 days.
WATER QUALITY MONITORING	The City will conduct water quality sampling within 48 hours after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.	Water quality results will be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.
RECORD KEEPING	The City will maintain the following records: <ul style="list-style-type: none"> • SSO event records. • Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP. • Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters. • Collection system telemetry records if relied upon to document and/or estimate SSO Volume. 	Self-maintained records shall be available during inspections or upon request.

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

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

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

11.2 Complaint Records

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

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

All service requests are filed in the monthly call log and then entered into the City's Computerized Maintenance Management System (CMMS). This information will be maintained for a minimum of five years whether or not they result in an SSO.

12. Post SSO Event Debriefing

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

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

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

13. Failure Analysis Investigation

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

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

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

- Reviewing and completing the Sanitary Sewer Overflow Report (in Appendix B and Appendix C) and any other documents related to the incident
- Reviewing the incident timeline and other documentation regarding the incident
- Reviewing communications with the reporting party and witness
- Reviewing volume estimate, volume recovered estimate, volume estimation assumptions and associated drawings
- Reviewing available photographs
- Interviewing staff that responded to the spill
- Reviewing past maintenance records
- Reviewing past CCTV records,
- Conducting a CCTV inspection to determine the condition of all line segments immediately following the SSO and reviewing the video and logs,
- Reviewing any Fats, Oils, Roots and Grease (FROG) related information or results
- Post SSO debrief records
- Interviews with the public at the SSO location

The product of the failure analysis investigation will be the determination of the root cause and the identification and scheduling of the corrective actions. The Collection System Failure Analysis Form (in Appendix B and Appendix C) will be used to document the investigation.

14. SSO Response Training

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

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

14.1 Initial and Annual Refresher Training

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

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

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

The City will verify that annual safety training requirements are current for each employee, and that employees are competent in the performance of all core competencies. This will be verified through electronic testing, interviews and observations. The City will address, through additional training/instruction, any identified gaps in required core competencies.

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

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

14.2 SSO Response Drills

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

14.3 SSO Training Record Keeping

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

14.4 Contractors Working On City Sewer Facilities

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

All service contractors will be provided, and required to observe contractor procedures. See Appendix E: Contractor Orientation.

16. Authority

- Health & Safety Code Sections 5410-5416
- CA Water Code Section 13271
- Fish & Wildlife Code Sections 5650-5656
- State Water Resources Control Board Order No. 2006-0003-DWQ
- State Water Resources Control Board Order 2013-009-DWQ effective September 9, 2013

17. References

- Sanitary Sewer Overflow and Backup Response Field Guide, 2013, DKF Solutions Group, LLC
- Appendix A: Regulatory Notifications Packet
- Appendix B: Sanitary Sewer Backup Packet
- Appendix C: Sanitary Sewer Overflow Packet
- Appendix D: Field Sampling Kit
- Appendix E: Contractor Orientation

Appendix A
REGULATORY NOTIFICATIONS PACKET

Regulatory Notifications Packet

Instructions:

1. Receive call from on-site sewer crew reporting a Sanitary Sewer Overflow.
2. Open this packet.
3. Refer to the Regulatory Reporting Guide (A-1) for instructions.
4. Use the SSO Reporting Checklist for the appropriate category of spill (A-2a or A-2b) to document that all notifications are made according to the reporting schedule.

Contents:

<u>Form</u>	<u>Page Number</u>
Regulatory Reporting Guide	A-1
Reporting Checklist: Category 1	-2a
Reporting Checklist: Categories 2 and 3	-2b
RWQCB Notification Fax.....	-3

Print on 6"x9" envelope

**Regulatory Notifications Packet
Regulatory Reporting Guide**

Reporting Instructions				
Deadline	See reverse side for contact information and definitions of the categories of spills of untreated or partially treated wastewater from publically owned sanitary sewer system			Spill from Private Lateral
	Category 1	Category 2	Category 3	
2 hours after awareness of SSO	If SSO is greater than or equal to 1,000 gallons, call CalOES at (800) 852-7550.	-	-	-
As soon as possible	If SSO impacts private property that may be due to a failure in the City sewer and/or if the City believes a claim for damages may be submitted against the City contact ABAG Plan Corporation and the City Attorney. See Side B for contact information.			-
48 Hours after awareness of SSO	If 50,000 gal or more were not recovered, begin water quality sampling and initiate impact assessment	-	-	-
3 Days after awareness of SSO	Submit Draft Spill Report in the CIWQS* database	Submit Draft Spill Report in the CIWQS* database	-	-
15 Days after response conclusion	Certify Spill Report in CIWQS*. Update as needed until 120 days after SSO end time	Certify Spill Report in the CIWQS* database. Update as needed until 120 days after SSO end time	-	-
30 Days after end of calendar month in which SSO occurred	-	-	Certify Spill Report in the CIWQS* database. Update as needed until 120 days after SSO end time	-
45 days after SSO end time	If 50,000 gal or more were not recovered, submit SSO Technical Report using CIWQS*	-	-	-

* In the event that the CIWQS online SSO database is not available, do the following until the CIWQS online SSO database becomes available: (See contact information on Side B)

1. Make required notifications to the San Francisco Regional Water Quality Control Board (SFRWQCB office) using A-3, and
2. Notify the State Water Resources Control Board (SWRCB) by phone or email

Note: For reporting purposes, if one SSO event results in multiple appearance points, complete one SSO report in the CIWQS SSO Online Database, and report the location of the SSO failure point, blockage or location of the flow condition that caused the SSO, in the CIWQS SSO Online Database, including all the discharge points associated with the SSO event.

**Regulatory Notifications Packet
Regulatory Reporting Guide**

**A-1
Side B**

Contact Information

Contact	Telephone/Fax/Email
CalOES	(800) 852-7550
ABAG Plan Corporation/York Risk Services Group	
Tiffany Roduit, Claims Specialist	Telephone: (925) 349-3878 Cell: (925) 808-5072
If you do not receive a call back from Tiffany Roduit within 30 minutes, call: Alex Davis, Claims Supervisor	Telephone: (925) 349-3890 Cell: (925) 349-3890
City Attorney	(707) 746-4216
San Francisco Regional Water Quality Control Board (SFRWQCB):	Telephone: (510) 622-2369 Fax: (510) 622-2460
State Water Resources Control Board (SWRCB):	
Russell Norman, P.E.	(916) 323-5598 Russell.Norman@waterboards.ca.gov
Victor Lopez, Water Resources Control Engineer	(916) 323-5511 Victor.Lopez@waterboards.ca.gov

Authorized Personnel

The following are authorized to perform regulatory reporting:

Title	Telephone	✓ If LRO*
Wastewater Treatment Plant Superintendent	(707) 746-4790	✓
Public Works Superintendent	(707) 746-4297	
Field Utilities and Streets Supervisor	(707) 746-4796 or (707) 590-3360	
Maintenance Superintendent	(707) 746-4297 or (707) 590-3517	

*Legally Responsible Official (LRO) is authorized to electronically sign and certify SSO reports in CIWQS.

Definitions of Spill Categories

The response crew will complete the SSO Report form in the SSO Packet to document how category was determined.

Category	Definition
Category 1:	Discharge of untreated or partially treated wastewater of any volume resulting from a sanitary sewer system failure or flow condition that either: <ul style="list-style-type: none"> Reaches surface water and/or drainage channel tributary to a surface water; or Reached a Municipal Separate Storm Sewer System (MS4) and was not fully captured and returned to the sanitary sewer system or otherwise captured and disposed of properly.
Category 2:	Discharge of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from a sanitary sewer system failure or flow condition that either: <ul style="list-style-type: none"> Does not reach surface water, a drainage channel, or an MS4, or The entire SSO discharged to the storm drain system was fully recovered and disposed of properly.
Category 3:	All other discharges of untreated or partially treated wastewater resulting from a sanitary sewer system failure or flow condition

**Regulatory Notifications Packet
Category 1 SSO Reporting Checklist**

A-2a

Use this Checklist for Category 1 SSOs only

STEP 1: Receive call from crew.

STEP 2: 2-hour Notification

- If SSO is greater than or equal to 1,000 gallons, notify CalOES within 2 hours of the time the agency was notified of the spill (800) 852-7550:
 - o Date Called: _____
 - o Time called: _____ : _____ AM PM
 - o CalOES Control number: _____
 - o CalOES Operator Name: _____

STEP 3: As soon as possible

If SSO impacts private property that may be due to a failure in the City sewer and/or if the City believes a claim for damages may be submitted against the City, notify the following:

- Contact ABAG Plan Corporation

STEP 4: Within 48-Hours after awareness of SSO

- Only if 50,000 gallons or more was not recovered, implement Water Quality Monitoring Plan.

STEP 5: Within 3 Days after awareness of SSO

- Submit a Draft Spill Report using the CIWQS online reporting database.

STEP 6: Within 15 Days after response conclusion

- Certify the Spill Report using the CIWQS online reporting database. Updates to the Spill Report may be made for up to 120 days following the conclusion of the SSO Response.

STEP 7: Within 45 Days after SSO end time

- Within 45 days after the SSO end time, submit an SSO Technical Report using the CIWQS online reporting database only if 50,000 gallons or more was spilled to surface waters.

This form completed by: _____
Name Title Date

Use this Checklist for Category 2 and 3 SSOs only

STEP 1: Receive call from crew.

STEP 2: As soon as possible

If SSO impacts private property that may be due to a failure in the City sewer and/or if the City believes a claim for damages may be submitted against the City, notify the following:

(Please note: Notification depends on the property that was affected by the SSO, home basement, business, park, etc.)

- Contact ABAG Plan Corporation

STEP 3: Submit Draft Spill Report (Category 2 only)

- Submit a Draft Spill Report using the CIWQS online reporting database within 3 days after awareness of Category 2 SSO.

STEP 4: Certify Spill Report

- Certify the Spill Report using the CIWQS online reporting database:
 - Category 2 SSO: Within 15 days after the conclusion of the response
 - Category 3 SSO: Within 30 days after the end of the calendar month in which the SSO occurred
- Updates to the Spill Report may be made for up to 120 days following the conclusion of the SSO Response.

This form completed by: _____
Name Title Date

**Regulatory Notifications Packet
Regional Water Quality Control Board Notification Fax**

A-3

NOTE TO City of Benicia Staff: Only use this form in the event that the CIWQS online SSO database is not available

FAX TO: San Francisco Regional Water Quality Control Board Date: _____
Fax Number: (510) 622-2460
Telephone: (510) 622-2369 # Pages: _____

FROM: City of Benicia Corp Yard
Telephone: (707) 746-4296
Fax: (707) 745-5154

Address of SSO: _____ City: _____

County: _____ Date/Time: _____

SSO Start Time: _____ SSO Stop Time: _____

Volume of SSO: _____ Volume Recovered: _____

Final Disposition: _____

Affected Water Body: _____

Samples Collected? YES NO

Taken to: _____

Crew Members: _____

<u>Agencies Notified</u>	<u>Number(s)</u>		<u>Contact</u>	<u>Time</u>	<u>Date</u>
CalOES	(800) 852-7550	<input type="checkbox"/> YES <input type="checkbox"/> NO	_____	_____	_____
CIQWS		<input type="checkbox"/> YES <input type="checkbox"/> NO	_____	_____	_____
OTHER:	_____				

Appendix B

SANITARY SEWER BACKUP RESPONSE PACKET

**Sanitary Sewer Backup Response Packet
Table of Contents**

<u>Form</u>	<u>Form Number</u>
Instructions and Chain of Custody	packet envelope
Backup Response Flowchart.....	B-1
Bubbled Toilets Letter	-2
First Responder Form.....	-3
Sanitary Sewer Overflow Report	-4
Start Time Determination Form	-5
Volume Estimation Forms	-6a, -6b, -6c
Lateral CCTV Report.....	-7
Claims Submittal Checklist.....	-8
Collection System Failure Analysis Form.....	-9
Customer Service Packet	
Instructions	packet envelope
Customer Information	CS-1
Claim Form	-2
Sewer Spill Reference Guide	pamphlet
Regulatory Notifications Packet	
Instructions	envelope
Regulatory Reporting Guide	A-1
Category 1 SSO Reporting Checklist	-2a
Category 2 & 3 SSO Reporting Checklist.....	-2b
RWQCB Notification Fax	-3
Door Hanger	

For pre-assembled packets contact DKF Solutions Group at (707) 373-9709 or losscontrol@sbcglobal.net

In the event of a Sewer Backup into a home/business READ THIS FIRST



If this is a Category 1 SSO greater than or equal to 1,000 gallons, IMMEDIATELY contact one of the following to make the 2-hour notification to CalOES at (800) 852-7550:

- Field Utilities and Streets Supervisor: (707) 590-3360
- Public Works Superintendent: (707) 746-4297

If the backup is into/onto private property AND possibly due to a problem in the public sewer, notify:

- Tiffany Roduit, Claims Specialist at York Risk Services Group/ABAG Plan Claims Team at (925) 349-3878 telephone or (925) 808-5072 cell. If she cannot be reached within 30 minutes, call Alex Davis, Claims Supervisor (925) 349-3890 telephone or (925) 349-3890 cell.

Don't forget photos!



Contact the Director of Public Works at (707) 746-4227 for any media requests.

Collections Crew:

- Follow the instructions on the Sewer Backup Response Flowchart (B-1).
Note: If multiple dwelling units are affected, use one packet per unit and check here:
- If indicated on the flowchart, give the customer the Bubbled Toilets Letter and/or the Customer Service Packet and have them initial here:
Customer acknowledgement of receipt of Bubbled Toilets Letter: _____
Customer acknowledgement of receipt of Customer Service Packet: _____
- Place completed forms in this envelope, complete the Chain of Custody record (right) and forward this packet to the Field Utilities and Streets Supervisor.

Print Name: _____

Initial: _____

Date: _____

Time: _____

Field Utilities and Streets Supervisor:

Follow the instructions on the bottom of the Sewer Backup Response Flowchart (B-1).

- Complete the Regulatory Notifications Packet.
- Complete the Claims Submittal Checklist.
- Complete the Chain of Custody record (right) and forward this packet to the City Attorney or designee.

Print Name: _____

Initial: _____

Date: _____

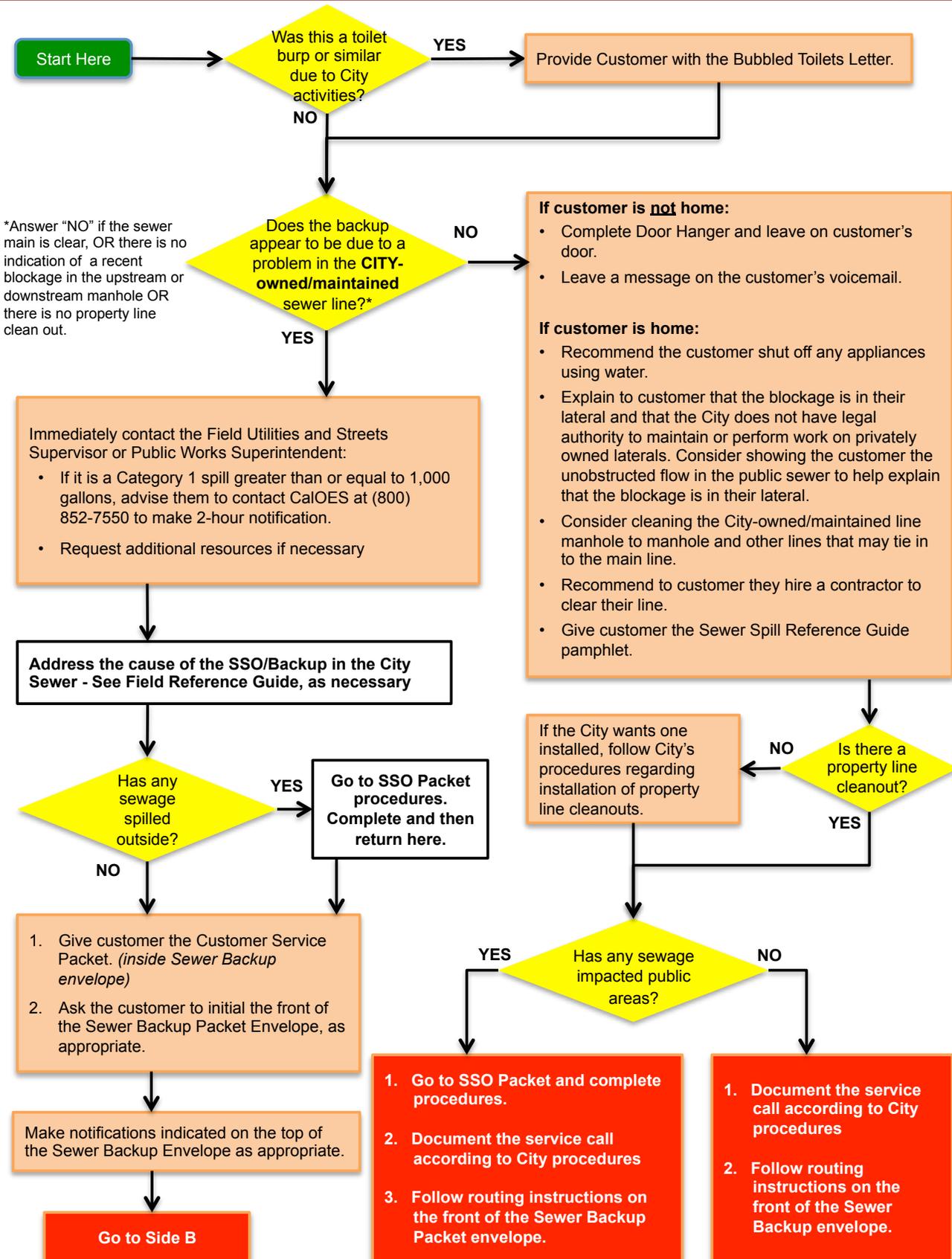
Time: _____

City Attorney or designee:

- Refer to the Claims Submittal Checklist.

City of Benicia Overflow Emergency Response Plan: Sanitary Sewer Backup Packet

**Sanitary Sewer Backup Response Packet
Backup Response Flowchart**



Sanitary Sewer Backup Response Packet
Backup Response Flowchart

Continue Here From Side A

1. Remove the First Responder Form from the Sewer Backup Packet envelope and complete.
2. Take photographs of affected and non-affected areas, if allowed by customer. Try to get pictures showing where the damaged areas stopped.
3. Immediately contact Tiffany Roduit, Claims Specialist at York Risk Services Group/ABAG Plan Claims Team and provide the information from the completed First Responder Form: (925) 349-3878 telephone or (925) 808-5072 cell. If you do not receive a call back from Tiffany Roduit within 30 minutes, call Alex Davis, Claims Supervisor (925) 349-3890 telephone or (925) 349-3890 cell.

- Complete the following forms (in the Sewer Backup Envelope):
- Sanitary Sewer Overflow Report
 - Start Time Determination Form (Remember, the spill was probably already occurring before it was reported.)
 - Volume Estimation (Use one or more worksheets and/or methods listed in the Field Guide.)

Clean any overflow outside of the building.

Ask for permission to photograph the backwater prevention device or cleanout and photograph, if allowed.

YES

Can you locate a backwater prevention device (BPD) or cleanout on the affected building?

NO

1. Complete a City work order to have lateral televised as soon as possible
2. Complete Lateral CCTV Report (inside the Sewer Backup Packet envelope)

YES

Do you want the lateral televised? (if applicable)

NO

1. Document the service call according to City procedures.
2. Complete the remaining instructions on the front of the Sewer Backup Packet.
3. Follow routing instructions as indicated on the front of the Sewer Backup Packet.

**Sanitary Sewer Backup Response Packet
Bubbled Toilets Letter**

Dear City of Benicia Customer,

Thank you for informing us that your toilet bubbled while our crews were working in proximity of your property. We apologize for the inconvenience and hope that this letter will answer some of your questions about bubbling toilets.

1. Is this a health risk?

The water that came out of your toilet is potable water from the toilet bowl. Unless your toilet was in use when this occurred, this water is no different than that encountered while cleaning your toilet.

2. What is the City doing in the street?

In order to insure reliable sewer service, the City inspects, cleans, and repairs its sewer system on a continuous basis.

3. How does sewer cleaning cause my toilet to bubble?

Typical industry cleaning equipment uses high-pressure water to clean sewers. The first step is to use the high-pressure water jets to propel the hose and cleaning nozzle upstream as far as 800 feet. During this process, air within the main pipe is displaced and sometimes goes up the private lateral pipe and releases through the toilet. This can also happen during the cleaning phase, when high-pressure water is pulled downstream to the cleaning truck.

4. What causes the air to come from my toilet?

Over the years, City crews have found that the bubbling of toilets have many causes, some of which are:

- Obstructed vent pipes;
- Vent pipes that are positioned too far from the toilet;
- Lateral pipes that may be in use as the crew is cleaning (e.g. draining washing machine, draining bathtub, etc.);
- Lateral pipes that may have obstructions that are causing them to hold water (e.g. roots, grease, etc.).

5. What does City staff do, once informed of a bubbling toilet?

Once notified of a bubbling toilet, the crew leader explains to the customer what has happened, and checks to see if there is a clean-out in the customer's yard that could be opened in the future during cleaning. The crew leader then makes notes and completes paperwork that puts the address on the City's notification list. In the future, crews will notice that this address was "bubbled" at one time, and, before commencing the cleaning, they will notify the occupant of the possibility of bubbling toilets. In the event the occupant is not present when the cleaning begins, the crews will attempt to open clean-outs and/or lower water pressure to avoid bubbling.

6. What can I do to prevent my toilet from bubbling?

When a sewer begins to drain slowly, it may be a sign that it needs to be cleaned or repaired. Trees and shrubs may have root structures that are entering the lateral pipe. The homeowner needs to make sure to have a clean-out for accessing the line. It is the homeowner's responsibility to keep the sewer lateral pipe in good working condition.

It is always a good idea to keep the toilet lid down when not in use, and not install carpets in the bathroom unless they can be easily removed and cleaned. For more information please call the Field Utilities and Streets Supervisor at (707) 746-4796.

Sincerely,

City of Benicia

Sanitary Sewer Backup Response Packet
Carta de Inodoros Burbujeados

Estimado Cliente de la Ciudad de Benicia:

Gracias por habernos informado que su lavabo burbujeó mientras que nuestros empleados estaban trabajando en proximidad a su propiedad. Le pedimos perdón por la inconveniencia y esperamos que esta carta le contestará algunas de sus preguntas acerca de inodoros burbujeantes.

1. ¿Es riesgo de salud esto?

El agua que salió de su inodoro es agua potable de la taza del inodoro. Menos que su inodoro estaba en uso cuando esto ocurrió, esa agua no es diferente de aquella encontrada mientras que limpia su inodoro.

2. ¿Qué está haciendo la Ciudad en la calle?

Para asegurar servicio de alcantarilla confiable, la Ciudad inspecciona, limpia, and repara su Sistema de alcantarillado en una forma continua.

3. ¿Cómo causa la limpieza de la alcantarilla que burbujee mi inodoro?

El equipamiento industrial de limpieza típico usa agua de alta presión para limpiar alcantarillas. La primer medida es de usar chorros de agua de alta presión para propulsar a la manguera y a la boquilla de limpieza contracorriente tan lejos como ochocientos (800) pies. Durante este proceso, el aire dentro la tubería principal es desplazada y a veces camina para arriba de la tubería lateral privada y se libera por el inodoro. Esto también puede ocurrir durante la fase de limpieza, cuando agua de alta presión es jalada corriente abajo al camión de limpieza.

4. ¿Qué causa al aire que venga de mi inodoro?

A lo largo de los años, los empleados de la Ciudad han encontrado que el burbujeo de inodoros tiene muchas causas, algunas de cuales son:

- Tubería de ventilación obstruida;
- Tubería de ventilación que está posicionada muy lejos del inodoro;
- Tubería lateral que pueda estar en uso mientras que los empleados estén limpiando (por ej., vaciando la máquina de lavar, vaciando el baño, etcétera);
- Tubería lateral que podrá tener obstrucciones que están causándola a contener agua (por ej., raíces, grasa, etcétera).

5. ¿Qué hace el personal de la Ciudad, una vez informados de un inodoro burbujeante?

Una vez notificado de un inodoro burbujeante, el líder de nuestros empleados le explica al cliente lo que ha ocurrido, y hace un chequeo para ver si hay una limpieza general en el patio del cliente que se pudiera abrir en el futuro durante la limpieza. El líder de personal luego toma apuntes y completa papeleo que pone a la dirección en la lista de notificación de la Ciudad. En el futuro, los empleados tomarán nota que hubo un tiempo en que esta dirección fue «burbujeada», y, antes de empezar la limpieza, ellos le avisarán al ocupante de la posibilidad de inodoros burbujeantes. En el evento que el ocupante no esté presente cuando la limpieza empiece, los empleados tratarán de abrir las limpiezas generales y/o rebajar la presión del agua para impedir la ocurrencia de burbujeo.

6. ¿Qué puede hacer para impedir a mi inodoro de burbujeando?

Cuando una alcantarilla empieza a desaguar lentamente, puede que sea un indicio que se necesita limpiar o reparar. Puede que los árboles y arbustos tengan estructuras de raíces que estén entrando a la tubería lateral. El dueño/la dueña de casa necesita asegurar de tener una limpieza general para acceder la línea. Es la responsabilidad del dueño/la dueña de mantener la tubería de alcantarilla lateral en buena condición operativa.

Siempre es buena idea de mantener la tapa del inodoro bajada cuando no esté el inodoro en uso, y no instalar alfombra en el cuarto de baño menos que esa se pueda quitar y limpiar. Para más información, por favor llame a el Supervisor de Campo Utilidades y Calles del número de teléfono (707) 746-4796.

Atentamente,
La Ciudad de Benicia

Sanitary Sewer Backup Response Packet
First Responder Form

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:		PHONE:
Name: _____		DATE:
Title: _____		TIME:
TIME STAFF ARRIVED ON-SITE:		
DID CUSTOMER CALL CLEANING CONTRACTOR? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If YES, name of contractor:		
RESIDENT NAME:	IF RENT, PROPERTY MANAGER(S):	
<input type="checkbox"/> Owner	OWNER:	
<input type="checkbox"/> Renter		
STREET ADDRESS:	STREET ADDRESS:	
CITY, STATE AND ZIP:	CITY, STATE AND ZIP:	
PHONE:	PHONE:	
Is nearest upstream manhole visibly higher than the drain/fixture that overflowed? <input type="checkbox"/> Yes <input type="checkbox"/> No		
# OF PEOPLE LIVING AT RESIDENCE:		
Approximate Age of Home:	# of Bathrooms:	# of Rooms Affected:
Approximate Amount of Spill (gallons):	Approximate Time Sewage Has Been Sitting (hrs/days):	
Numbers of Photographs or Videos Taken:	What device are photos/video stored on?	
<input type="checkbox"/> Photographs <input type="checkbox"/> Video		
Does property have a Property Line Cleanout or BPD?		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Unknown
If yes, was the Property Line Cleanout/BPD operational at the time of the overflow?		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Unknown
Have there ever been any previous spills at this location?		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Unknown
Has the resident had any plumbing work done recently?		<input type="checkbox"/> YES <input type="checkbox"/> NO
<i>If YES, please describe:</i>		

GO TO SIDE B

**Sanitary Sewer Backup Response Packet
First Responder Form**

**B-3
Side B**

SANITARY SEWER LINE BLOCKAGE LOCATION

**PLEASE CHECK THE BOXES THAT
DESCRIBE YOUR OBSERVATIONS:**

Customer Cleanout Was:

Non-Existent

Full

Empty

Public Cleanout was:

Non-Existent

Full

Empty

On the diagram below, indicate the location of the sewer line and where the problem occurred.

Affected
House

Upstream
House

Did sewage go under buildings? Yes No Unsure

Recommended Follow-Up Action(s):

Place completed form in Sewer Backup Envelope and follow routing instructions

Sanitary Sewer Backup Response Packet
Sanitary Sewer Overflow Report

INSTRUCTIONS: Complete all items EXCEPT those that are shaded gray

SSO Category (*check one*):

- Category 1: Discharge of untreated or partially treated wastewater of any volume resulting from a sanitary sewer system failure or flow condition that either (1) Reaches surface water and/or drainage channel tributary to a surface water; OR (2) Reached a Municipal Separate Storm Sewer System (MS4) and was not fully captured and returned to the sanitary sewer system or otherwise captured and disposed of properly.
- Category 2: Discharge of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from a sanitary sewer system failure or flow condition that either (1) Does not reach surface water, a drainage channel, or an MS4, OR (2) The entire SSO discharged to the storm drain system was fully recovered and disposed of properly.
- Category 3: All other discharges of untreated or partially treated wastewater resulting from a sanitary sewer system failure or flow condition
- Spill from Private Lateral (specify): Single Family Home Multi-Family Home High Density Residential (5+ units)
 Food Service Establishment (FSE) Mixed Use Property Industrial Property Commercial Property
 Public quasi-public institution (hospital, schools, fire department, etc.)

IMMEDIATE NOTIFICATION: If this is a Category 1 SSO ≥1,000 gallons, contact CalOES within 2 hours at (800) 852-7550.

A. SSO LOCATION		
SSO Location Name:		
Latitude Coordinates:	Longitude Coordinates:	
Street Name and Number:		
Nearest Cross Street:	City:	Zip Code:
County:	SSO Location Description:	

B. SSO OCCURRING TIME (complete Start Time Determination Form and then complete information below)	
Estimated SSO start date:	Estimated SSO start time:
Date SSO reported to sewer crew:	Time SSO reported to sewer crew:
Date sewer crew arrived:	Time sewer crew arrived:
Who was interviewed to help determine start time?	
Estimated SSO end date:	Estimated SSO end time:

C. SSO DESCRIPTION (Complete Volume Estimation Worksheets and/or refer to Field Guide as needed for estimations.)	
SSO Appearance Point (check one or more): <input type="checkbox"/> Combined Sewer D.I. (Combined CS Only) <input type="checkbox"/> Force Main <input type="checkbox"/> Gravity Mainline <input type="checkbox"/> Lateral Cleanout (Private) <input type="checkbox"/> Lateral Cleanout (Public) <input type="checkbox"/> Inside Building or Structure <input type="checkbox"/> Manhole <input type="checkbox"/> Pump Station <input type="checkbox"/> Lower Lateral (Private) <input type="checkbox"/> Lower Lateral (Public) <input type="checkbox"/> Upper Lateral (Private) <input type="checkbox"/> Upper Lateral (Public) <input type="checkbox"/> Other Sewer System Structure (specify):	
Were there multiple appearance points? <input type="checkbox"/> No <input type="checkbox"/> Yes, number of appearance points:	
Did the SSO reach a drainage channel and/or surface water? <input type="checkbox"/> Yes (<i>Category 1</i>) <input type="checkbox"/> No	
If the SSO reached a storm sewer, was it fully captured and returned to the Sanitary Sewer? <input type="checkbox"/> Yes <input type="checkbox"/> No (<i>Category 1</i>)	
Was this spill from a private lateral? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, name of responsible party:	
Final Spill Destination: <input type="checkbox"/> Ocean/ocean beach* <input type="checkbox"/> Surface waters other than ocean <input type="checkbox"/> Drainage channel <input type="checkbox"/> Building/structure <input type="checkbox"/> Separate Storm drain <input type="checkbox"/> Combined storm drain <input type="checkbox"/> Paved surface <input type="checkbox"/> Unpaved surface <input type="checkbox"/> Street/curb/gutter <input type="checkbox"/> Other: *Provide name(s) of affected drainage channels, beach, etc.:	
Total Estimated SSO volume (<i>in gallons – 1,000gal or more = Category 1</i>): _____ gallons	
Est. volume that reached a separate storm drain that flows to a surface water body:	gal Recovered: gal
Est. volume that reached a drainage channel that flows to a surface water body:	gal Recovered: gal
Est. volume discharged directly to a surface water body:	gal Recovered: gal
Est. volume discharged to land:	gal Recovered: gal
Calc. Methods: <input type="checkbox"/> Eyeball <input type="checkbox"/> Photo Comparison <input type="checkbox"/> Upstream Lat. Connections <input type="checkbox"/> Area/Volume (include sketch/photo with dimensions) <input type="checkbox"/> Other (describe):	

* If multiple appearance points, use the GPS coordinates for the location of the SSO appearance point closest to the failure point/blockage.

Sanitary Sewer Overflow Response Packet
Sanitary Sewer Overflow Report

D. CAUSE OF SSO

Where did failure occur? (Check all that apply): Air Relief or Blow-Off Valve Force Main Gravity Mainline Siphon
 Lower Lateral (public) Lower Lateral (private) Manhole Pump Station (specify): Controls Mechanical Power
 Upper Lateral (public) Upper Lateral (private) Other:

SSO cause (check all that apply): Air Relief or Blow-Off Valve Failure Construction Diversion Failure CS Maintenance
 Damage by others Debris (specify): From Construction From Lateral General Rags Flow Exceeded Capacity
 FROG (Fats, roots, oil, grease) Inappropriate Discharge Natural Disaster Operator Error Root Intrusion
 Pipe Structural Problem/Failure Pipe Structural Problem/Failure (Installation) Rainfall Exceeded Design
 Pump Station Failure (specify): Controls Mechanical Power Siphon Failure Vandalism
 Surcharged Pipe Non - Dispersible Wipes Other (specify):

Diameter (in inches) of pipe at point of blockage/spill cause (if applicable):

Sewer pipe material at point of blockage/spill cause (if applicable):

Estimated age of sewer asset at the point of blockage or failure (if applicable):

Description of terrain surrounding point of blockage/spill cause: Flat Mixed Steep

E. SSO RESPONSE

SSO response activities (check all that apply): Cleaned-Up Mitigated Effects of Spill 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 (specify) Other (specify):

SSO response completed (date & time):

Visual inspection result of impacted waters (if applicable):

Any fish killed? Yes No Any ongoing investigation? Yes No

Were health warnings posted? Yes No If yes, provide health warning/beach closure posting/details:

Was there a beach closure? Yes No If yes, name of closed beach(es):

Were samples of impacted waters collected? Yes No

If YES, select the analyses: DO Ammonia Bacteria pH Temperature Other:

Recommended corrective actions: (check all that apply and provide detail)

- Add sewer to preventive maintenance program
- Adjust schedule/method of preventive maintenance
- Enforcement action against FROG source
- Inspect Sewer Using CCTV to Determine Cause
- Plan rehabilitation or replacement of sewer
- Repair Facilities or Replace Defect
- Other (specify)

What major equipment was used in the response?

List all agency personnel involved in the response including name, title and their role in the response:

F. NOTES

G. NOTIFICATION DETAILS

CalOES contacted date and time (if applicable):

CalOES Control Number (if applicable): Spoke to:

This form prepared by: NAME: TITLE: DATE:

This form reviewed by: NAME: TITLE: DATE:

Place completed form in Sewer Backup Envelope and follow routing instructions.

**Sanitary Sewer Backup Response Packet
Start Time Determination Form**

SSO Start Date: _____ Location: _____

Accurate start time determination is an essential part of SSO volume estimation. Depending on the flow rate, being even one minute off can have a huge impact on the volume estimation. Be as precise as possible. Do not round to quarter hour increments. Start time must be based on all available information (interviews with neighbors, emergency responders, etc.)

What time was the City notified of the SSO? _____ AM PM

Who notified the City? _____

Did they indicate what time they noticed the SSO? YES NO If yes, what time? _____ AM PM

Who at the City received the notification? _____

What time did the crew arrive at the site of the SSO? _____ AM PM

Who was interviewed regarding the start time of the SSO? Include their name, contact information, and the statement they provided:

Name	Contact Information	Statement
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Describe in detail how you determined the start time for this particular SSO:

SSO Start Date: _____ SSO Start Time: _____ AM PM

SSO End Date: _____ SSO End Time: _____ AM PM

SSO Duration: _____ **minutes**

This form completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

**Sanitary Sewer Backup Response Packet
Volume Estimation: Eyeball Estimation Method**

Use this method only for small SSOs of less than 200 gallons.

SSO Date: _____ Location: _____

- STEP 1: Position yourself so that you have a vantage point where you can see the entire SSO.
- STEP 2: Imagine one or more buckets or barrels of water tipped over. Depending on the size of the SSO, 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) or barrel(s)	How many of this size?	Multiplier	Estimated SSO Volume (gallons)
1 gallon water jug		x 1 gallons	
5 gallon bucket		x 5 gallons	
32 gallon trash can		x 32 gallons	
55 gallon drum		x 55 gallons	
Other: _____ gallons		x _____ gallons	
Estimated Total SSO Volume:			

STEP 5: Is rainfall a factor in the SSO? Yes No
 If yes, what volume of the observed spill volume do you estimate is rainfall? _____ gallons
 If yes, describe how you determined the amount of rainfall in the observed spill?

STEP 6: Calculate the estimated SSO volume by subtracting the rainfall from the SSO volume:
 _____ gallons – _____ gallons = _____ gallons
 Estimated SSO Volume Rainfall **Total Estimated SSO Volume**

Do you believe that this method has estimated the entire SSO? Yes No
 If no, you MUST use additional methods to estimate the entire SSO. If yes, it is advisable to use additional methods to support the estimation. Explain why you believe this method has/has not estimated the entire SSO:

This worksheet completed by:
 Name: _____ Signature: _____
 Job Title: _____ Date: _____

Sanitary Sewer Backup Response Packet
Volume Estimation: Duration and Flow Rate Comparison Method

SSO Date: _____ Location: _____

STEP 1: Compare the SSO to reference images on Side 2 to estimate flow rate of the current overflow. Describe which reference photo(s) were used and any additional factors that influenced applying the reference photo data to the actual SSO:

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

STEP 2: Complete the **Start Time Determination Form** to provide a detailed description of how start time was determined. Copy the SSO Duration from the Start Time Determination Form here:

SSO Duration: _____minutes

STEP 3: Multiply the flow rate by the SSO duration to calculate the estimated SSO volume.

$$\frac{\text{_____ gpm}}{\text{Flow Rate}} \times \frac{\text{_____ minutes}}{\text{SSO Duration}} = \frac{\text{_____ gallons}}{\text{Estimated SSO Volume}}$$

STEP 4: Did the SSO occur during a period of consistent flow in this portion of the system? Yes No
If no, explain how, based on this portion of the collection system and its users, you believe it may have impacted the estimated SSO volume:

By what percentage are you adjusting the estimation? increase decrease _____%

Translate the percentage into gallons: _____gallons

STEP 5: Calculate the adjusted SSO volume estimate:

$$\frac{\text{_____ gallons}}{\text{Estimated SSO Volume}} + \text{OR} - \frac{\text{_____ gallons}}{\text{Adjustment}} = \frac{\text{_____ gallons}}{\text{Estimated SSO volume}}$$

Do you believe that this method has estimated the entire SSO? Yes No
If no, you MUST use additional methods to estimate the entire SSO. If yes, it is advisable to use additional methods to support the estimation. Explain why you believe this method has/has not estimated the entire SSO:

This worksheet completed by:
Name: _____ Signature: _____
Job Title: _____ Date: _____

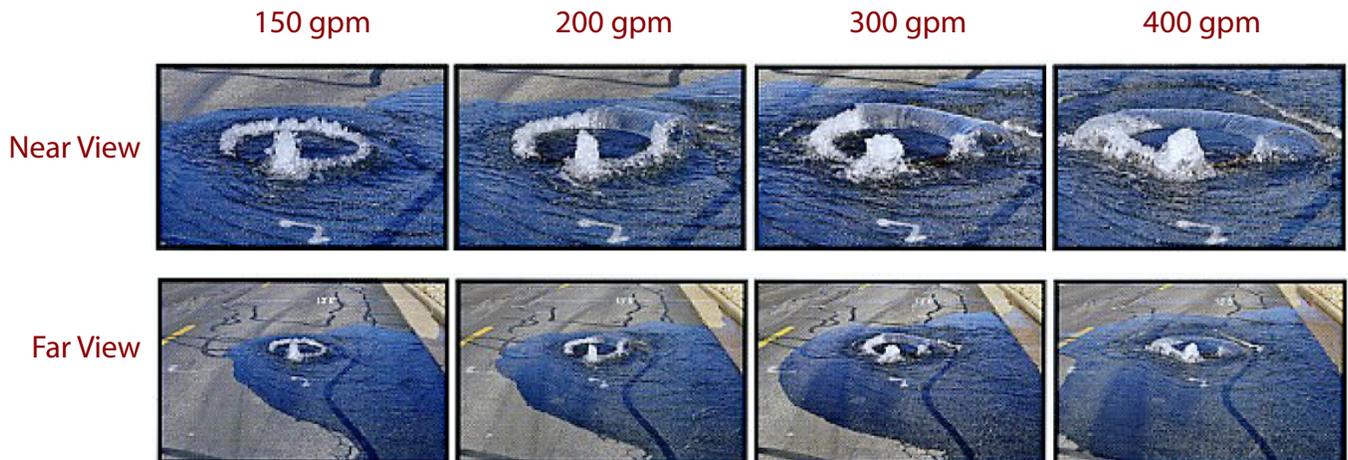
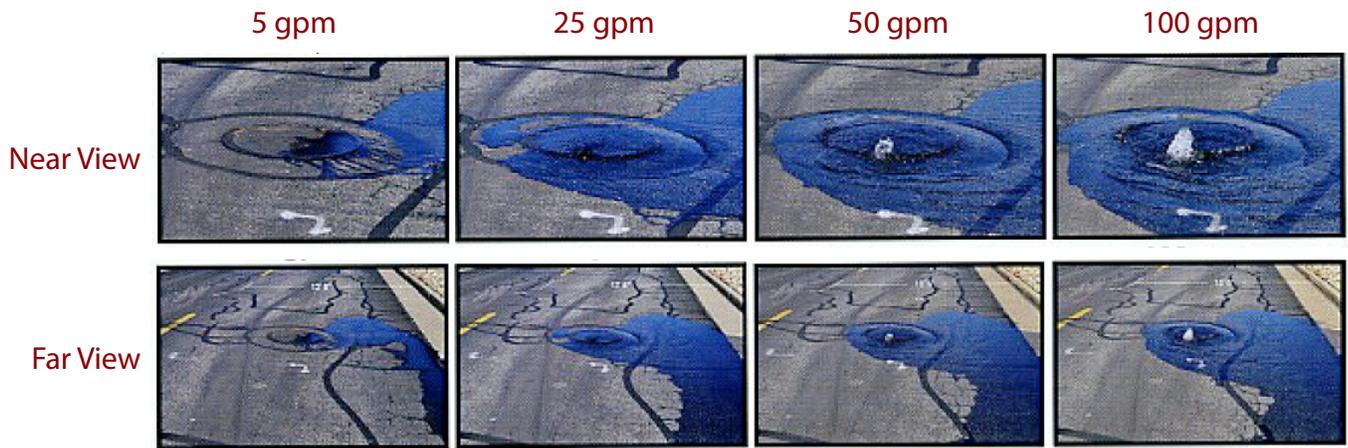
Sanitary Sewer Backup Response Packet
Volume Estimation: Duration and Flow Rate Comparison Method

IMPORTANT NOTE:

These photographs are provided as examples only and will change with many factors.

SSCSC Manhole Overflow Gauge

CWEA Southern Section Collections Systems Committee
Overflow Simulation courtesy of Eastern Municipal Water District



Sanitary Sewer Backup Response Packet
Volume Estimation: Upstream Lateral Connections Method

SSO Date: _____ Location: _____

STEP 1: Determine the number of Equivalent Dwelling Units (EDUs) for this SSO: _____ 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 of 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 SSO 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 SSO Volume per EDU.

Time Period	Flow Rate Per EDU				SSO	
	A	B	C	D	E	F
	Gallons per Period	Hours per period	A÷B = Gallons per Hour	C÷60 = Gallons per Minute	Minutes SSO 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 SSO Volume per EDU:						

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

$$\frac{\text{gallons}}{\text{Volume per EDU}} \times \frac{\text{\# of EDUs}}{\text{\# of EDUs}} = \frac{\text{gallons}}{\text{Estimated SSO Volume}}$$

STEP 4: Adjust SSO 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 SSO estimate (attach a separate page if necessary):

Estimated SSO Volume: _____ gallons

Do you believe that this method has estimated the entire SSO? Yes No

If no, you MUST use additional methods to estimate the entire SSO. If yes, it is advisable to use additional methods to support the estimation. Explain why you believe this method has/has not estimated the entire SSO:

This worksheet completed by:

Name: _____ Signature: _____
 Job Title: _____ Date: _____

**Sanitary Sewer Backup Response Packet
Claims Submittal Checklist**

Field Utilities and Streets Supervisor

1. Complete the following information:

Title: _____

Name: _____

Phone: _____

Today's Date: _____

2. Copy the items listed below and retain originals for internal archiving purposes.
3. Place the originals back in the Backup Response Envelope and forward envelope with original forms to the Finance Department:

- Form B-3: First Responder Form
- Form B-4: Sanitary Sewer Overflow Report
- Form B-5: Start Time Determination Form
- Form B-6: Volume Estimation Forms (a, b and/or c)
- Form B-7: Lateral CCTV Report
- Form B-8: Claims Submittal Checklist (*this form*)
- All photos taken: Check here if digital photographs will be forwarded separately
- Any other information you feel is important in this claim

4. Go to Regulatory Notifications Packet and make all appropriate notifications.
5. Complete Form BP-9: Collection System Failure Analysis

City Attorney's Office

1. Verify claims packet is complete.
2. Notify York Risk Services Group

York Risk Services Group
Attn: ABAG PLAN Claims Team
1390 Willow Pass Road, Suite 400
Concord, CA 94520

Tiffany Roduit, Claims Specialist
Tiffany.Roduit@YorkRSG.com
(925) 349-3878 office
(925) 808-5072 cell

**Sanitary Sewer Backup Response Packet
Collection System Failure Analysis**

Incident Report #		Prepared By	
SSO/Backup Information			
Event Date/Time		Address	
Volume Spilled		Volume Recovered	
Cause			
Summary of Historical SSOs/Backups/Service Calls/Other Problems			
Date	Cause	Date Last Cleaned	Crew
Records Reviewed By:		Record Review Date:	
Summary of CCTV Information			
CCTV Inspection Date		Tape Name/Number	
CCTV Tape Reviewed By		CCTV Review Date	
Observations			

Go to Side B

Sanitary Sewer Backup Response Packet
Collection System Failure Analysis

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
	Repair(s)				
	Construction				
	Capital Improvement(s)				
	Change(s) to Maintenance Procedures				
	Change(s) to Overflow Response Procedures				
	Training				
	Misc.				
Comments/Notes:					
Review Date:					

City of Benicia CA
Overflow Emergency Response Plan

Customer Service Packet

Contents:

<u>Form</u>	<u>Form Number</u>
Customer Information Letter	CS-1
Claim Form	-2
Sewer Spill Reference Guide	pamphlet

Instructions:

1. Review the Customer Information letter to determine actions that need to be taken immediately.
2. See the Customer Information letter for information about filing a claim.
3. Review the Sewer Spill Reference Guide pamphlet.

If you have any questions contact:

Regarding Sewer Issues: Public Works Superintendent (707) 746-4297
Regarding Submitting a Claim for Damages: City Attorney (707) 746-4216

This packet provided by: _____ **Phone:** _____

Paquete informativo del servicio al cliente

Contenido:

<u>Formulario</u>	<u>Número de formulario</u>
Carta informativa para el cliente	CS-1
Formulario de Reclamación	-2
Guía de referencia sobre desbordes cloacales.....	folleto

Instrucciones:

1. Analice la carta informativa para el cliente a fin de determinar las medidas que se deben tomar de manera inmediata.
2. Consulte la carta informativa para el cliente a fin de obtener información sobre cómo presentar un reclamo.
3. Analice el folleto de la guía de referencia sobre desbordes cloacales.

En caso de preguntas, comuníquese con:

Para temas cloacales: Superintendente de Obras Públicas (707) 746-4297
Para presentar un reclamo por daños: el Abogado de la Ciudad (707) 746-4216

Sanitary Sewer Backup Response Packet Customer Information Regarding Sewer Backup Claims

Dear Property Owner:

We recognize that sewer back flow incidents can be stressful. The City has prepared this brief set of instructions to help you minimize the impact of the loss by responding promptly to the situation.

The City is not responsible for cleanup charges or damages caused by blockages in the property owner's sewer line or caused by code violations. At this time, the City is investigating the cause of the loss and does not assume liability for damages. However, if our investigation determines the City is responsible for this incident, the costs you incur for reasonable and necessary cleanup will be included in the settlement of your claim. Regardless of whether you or the City is responsible for the loss, it is up to you to arrange for the repair of your property and to present a claim for consideration.

You or the property owner should immediately contact a firm for clean-up of the affected areas. If you do not know of a company to call for service, the following 24-hour emergency restoration companies are available to respond: *

Restoration Company	Location	Contact
American Technologies, Inc. (ATI)	25000 Industrial Blvd, Hayward, CA 94545	(510) 429-5000
Complete Drying	751 Laurel St #538, San Carlos, CA 94070	(650) 591-1599 / (925) 525-7262
Ideal Drying	1499 Evans Avenue, San Francisco, CA 94124	(800) 379-6881
Restoration Management	535 Getty Ct., Ste A, Benicia, CA 94510	(800) 400-5058 / (707) 750-6320
Restoration Management	32550 Central Ave., Union City, CA 94587	(800) 400-5058 / (510) 315-5400
Montgomery Sansom Ltd.	305 Adrian Road, Millbrae, CA 94030	(650) 777-9010
Britannia Cal Pacific	255 S Maple Ave, SSF, CA 94080	(650) 742-6490
Four Star Cleaning & Restoration	4302 Solar Way, Fremont, CA 94538	(800) 255-3333 / (510) 796-5900
Servpro	809 Laurel Street, #422, San Carlos, CA 94070	(800) 737-8776 / (650) 591-4137
Vital Restoration 9-1-1	6 South Linden Ave. Unit #9, South San Francisco, CA 94080	(650) 262-4545 / (650) 873-7867
Service Master	2731 Fair Oaks Ave., Redwood City, CA 94063	(650) 299-9080
Service Master	439 Eccles Ave. South San Francisco, CA 94080	(415) 584-6100
Service Master	2220 W Winton Ave., Hayward, CA 94545	(800) 480-8439 / (510) 300-2990

* This list 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. Qualified contractors can be found in the Yellow Pages under "Water Damage Restoration" or "Fire & Water Damage Restoration". However, be sure you hire a firm with experience in sewer backups and enough resources to get the job done quickly.

What you need to do now:

- Contact a restoration company for clean up and removal of affected surfaces.
- Do not attempt to clean the area yourself, let the company you hire handle this.
- Keep people and pets away from the affected area(s).
- Turn off heating/air conditioning systems.
- Turn off any appliances that use water.
- Prevent any material from reaching floor vents to prevent contamination.
- Do not remove items from the area –the company you hire will handle these contents.
- If you had recent plumbing work, contact your plumber or contractor.
- Contact your homeowner's insurance carrier to report a claim.
- File your claim with City Attorney at 250 East L Street, Benicia, CA 94510, (707) 746-4216, as soon as practical. The California Government Code, Sections 900 -960, requires filing a written claim and outlines specific time lines and notice procedures that must be used.
- Call the City's Claims Administrator and provide a number where you can be reached:
Association of Bay Area Governments (ABAG) Tiffany Roduit at (952) 349-3878

Important Legal Notice: For your protection, read carefully, obtain a reliable translation, and/or consult your attorney.

Estimado Propietario:

Somos conscientes de que los incidentes de alcantarillado de flujo puede ser estresante. La ciudad ha preparado este breve conjunto de instrucciones que le ayudarán a minimizar el impacto de la pérdida por responder rápidamente a la situación.

La Ciudad no es responsable de los gastos de limpieza y daños causados por los bloqueos en línea de la alcantarilla del propietario del inmueble o causados por violaciones de código. En este momento, la Ciudad está investigando la causa de la pérdida y no asume responsabilidad por los daños y perjuicios. Sin embargo, si nuestra investigación determina la Ciudad es responsable de este incidente, los gastos incurridos para la limpieza razonable y necesario se incluirán en la liquidación de su reclamo. Independientemente de si o de la Ciudad es responsable de la pérdida, es a usted para organizar la reparación de su propiedad y que presente una reclamación para su consideración.

Usted o el dueño de la propiedad debe inmediatamente ponerse en contacto con una empresa para la limpieza de las zonas afectadas. Si usted no sabe de una empresa de solicitar un servicio, las siguientes 24 horas, empresas de restauración de emergencia están disponibles para responder:*

Restoration Company	Location	Contact
American Technologies, Inc. (ATI)	25000 Industrial Blvd, Hayward, CA 94545	(510) 429-5000
Complete Drying	751 Laurel St #538, San Carlos, CA 94070	(650) 591-1599 / (925) 525-7262
Ideal Drying	1499 Evans Avenue, San Francisco, CA 94124	(800) 379-6881
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Service Master	2220 W Winton Ave., Hayward, CA 94545	(800) 480-8439 / (510) 300-2990

* Esta lista se proporciona como un único recurso. La ciudad no necesita ni aprueba el uso de cualquiera de estas empresas. Esta lista no debe ser interpretado como exclusiva, completa o limitar de ninguna manera. Contratistas calificados se pueden encontrar en las páginas amarillas bajo "Restauración de daños causados agua" o "Fuego y Agua Restauración de daños causados". Sin embargo, asegúrese de contratar a una empresa con experiencia en las copias de seguridad de drenaje y los recursos suficientes para hacer el trabajo rápidamente.

Lo que necesita saber en este momento:

- Póngase en contacto con una empresa de restauración para la limpieza y eliminación de las superficies afectadas.
- No intente limpiar el área, deje que la empresa de contratar a manejar esto.
- Mantenga a las personas ya las mascotas alejados de la zona afectada (s).
- Apague la calefacción / aire acondicionado.
- Apague todos los electrodomésticos que utilicen agua.
- Evite que el material alcance respiraderos del piso para evitar la contaminación.
- No quitar elementos de la zona-la empresa que se encargará de contratar a estos contenidos.
- Si ha tenido el trabajo de plomería reciente, póngase en contacto con un plomero o contratista.
- Póngase en contacto con soporte de su seguro de propietario para presentar una reclamación.
- Presente su solicitud con el Abogado de la Ciudad, 250 East L Street, Benicia, CA 94510, (707) 746-4216, tan pronto como sea posible. El Código de Gobierno de California, Secciones 900 -960, requiere la presentación de una reclamación por escrito y se esbozan líneas de tiempo específicos y los procedimientos de notificación que deben ser utilizados.
- Llame al Administrador de la Ciudad de Reclamaciones y proporcionar un número de teléfono donde se puede llegar: Asociación de Gobiernos del Área de la Bahía (ABAG), Tiffany Roduit en (952) 349-3878.

Aviso legal importante: Para su protección, lea atentamente el material, obtenga una traducción confiable y/o hable con su abogado.

CLAIM AGAINST THE CITY OF BENICIA

CS-2

Please return to the City Clerk, 250 East L Street, Benicia, CA 94510

Complete the following, adding additional sheets as necessary.

1. CLAIMANT'S NAME (Print): _____

2. CLAIMANT'S ADDRESS: _____
(Street or P.O. Box Number, City, State, Zip Code)

HOME PHONE: _____ WORK PHONE: _____

3. AMOUNT OF CLAIM: \$ _____ (Attach copies of bills/estimates)

If amount claimed is more than \$10,000, indicate where jurisdiction rests:

Limited Civil Case _____

Unlimited Civil Case _____

4. Address to which notices are to be sent, if different from lines 1 and 2 (Print):

(Name)

(Street or P.O. Box Number, City, State, Zip Code)

5. DATE OF INCIDENT: _____ TIME OF INCIDENT: _____

LOCATION OF INCIDENT: _____

6. Describe the incident or accident including your reason for believing that the City is liable for your damages:

7. Describe all damages which you believe you have incurred as a result of the incident:

8. Names of public employee(s) causing the damages you are claiming:

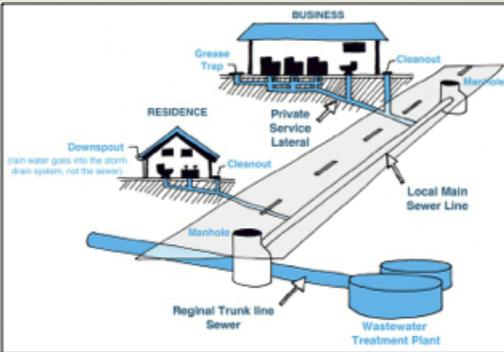
Signature of Claimant Date

Any person who, with intent to defraud, presents any false or fraudulent claim may be punished by imprisonment or fine or both.

Note: YOU must file a claim in compliance with Government Code Section 911.2.

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. These laterals are the responsibility of the property owner and must be maintained by the property owner.

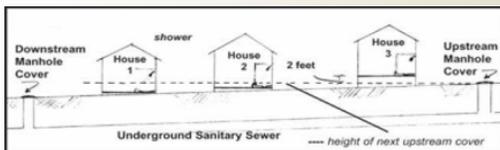


Is my home required to have a backflow prevention device?

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 overflows 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."



If you have a sewage spill from your private sewer line that impacts storm drains, waterways or public property, contact:

City of Benicia
(707) 746-4296

Solano County Environmental Health
(707) 784-6765

California Health and Safety Code, Sections 5410-5416 requires:

- No person shall discharge raw or treated sewage or other waste in a manner that results in contamination, pollution, or a nuisance.
- Any person who causes or permits a sewage discharge to any state waters:
 - Must immediately notify the local health agency of the discharge.
 - Shall reimburse the local health agency for services that protect the public's health and safety.
 - Who fails to provide the required notice to the local health agency is guilty of a misdemeanor and shall be punished by a fine (between \$500-\$1,000) and/or imprisonment for less than one year.

San Francisco Regional Water Quality Control Board

(510) 622-2300
Requires the prevention, mitigation, response to, and reporting of sewage spills.

California Governor's Office of Emergency Services (CalOES)

(800) 852-7550
California Water Code, Article 4, Chapter 4, Sections 13268-13271 & California Code of Regulations, Title 23, Division 3, Chapter 9.2, Article 2, Sections 2250-2260 require:

- Any person who causes or permits sewage in excess of 1,000 gallons to be discharged to state waters shall immediately notify the Office of Emergency Services.
- Any person who fails to provide the notice required by this section is guilty of a misdemeanor and shall be punished by a fine (less than \$20,000) and/or imprisonment for not more than one year.

Sewer Spill Reference Guide

Your Responsibilities as a Private Property Owner

Provided to you by:

City of Benicia

250 East L Street
Benicia, California 94510

(707) 746-4296
www.ci.benicia.ca.us

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How do sewage spills happen?

Sewage spills occur when the wastewater in underground pipes overflows 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.

CAUTION!

When trying to locate a sewer problem, never open manholes or other public sewer structures. Only our crews are allowed to open & inspect these structures.

Common causes of sewage spills

- Grease build-up
- Tree roots
- Broken/cracked pipes
- Missing or broken cleanout caps
- Undersized sewers
- 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.

Protect the environment!

If you let sewage from your property discharge to a gutter or storm drain, you may be subject to penalties and/or out-of-pocket costs for clean-up and enforcement efforts. A property owner may be charged for costs incurred by agencies responding to spills from private properties.

What to look for:

Sewage spills can be a very noticeable gushing of water from a manhole or a slow water leak that may take time to be noticed. Don't dismiss unaccounted-for wet areas. Look for:

- Drain backups inside the building.
- Wet ground and/or water leaking around manhole lids onto your street.
- Leaking water from cleanouts or outside drains
- Unusual odorous wet areas: sidewalks, external walls, ground/landscape around a building.

The following are indicators of a possible obstruction in your sewer line:

- Water comes up in floor drains, showers or toilets.
- Toilets, showers or floor drains below ground level drain very slowly.

What to do if there is a spill:

Immediately notify the City of Benicia. Our crews locate the blockage and determine if it is in the public sewer; if it is the crew removes the blockage and arranges for cleanup. If the backup is in your private internal plumbing or in the private service laterals, you are required to immediately:

- Control and minimize the spill by shutting off or not using the water
- Keep sewage out of the storm drain system using sandbags, dirt and/or plastic sheeting
- Call a plumbing professional to clear blockages and make repairs as needed. Look in the yellow pages under "Plumbing Drain & Sewer Cleaning" or "Sewer Contractors."
- Always notify your sewer/public works department or public sewer district of sewage spills.

Spill cleanup inside the home:

For large clean ups, a professional cleaning firm should be contacted to clean up impacted areas, You can locate local firms by looking in the Yellow Pages under "Water Damage" or "Fire Damage." 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.

Other Tips:

- Keep children and pets out of the affected area until cleanup has been completed.
- Turn off heating/air conditioning systems
- Wear rubber boots, rubber gloves, and goggles during cleanup of the affected area.
- Discard items that cannot be washed and disinfected (such as: mattresses, rugs, cosmetics, baby 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 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.
- Seek immediate attention if you become injured or ill.

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 solutions, 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.
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City of Benicia

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City of Benicia representative notes: _____

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Appendix C

SANITARY SEWER OVERFLOW RESPONSE PACKET

**Sanitary Sewer Overflow Response Packet
Table of Contents**

<u>Form</u>	<u>Form Number</u>
Instructions and Chain of Custody	envelope label
Responding to a Sanitary Sewer Overflow	C-1
Sanitary Sewer Overflow Report	-2
Start Time Determination Form	-3
Volume Estimation Forms	-4a, -4b, -4c
Lateral CCTV Report	-5
Collection System Failure Analysis Report	-6
Regulatory Notifications Packet	
Instructions	envelope
Regulatory Reporting Guide	A-1
Category 1 SSO Reporting Checklist	-2a
Category 2 & 3 SSO Reporting Checklist	-2b
RWQCB Notification Fax	-3
Sewer Spill Reference Guide	pamphlet
Door Hanger	
Public Posting Sign	

For pre-assembled packets contact DKF Solutions Group at (707) 373-9709 or kpatzer@dkfsolutions.com

In the event of a Sanitary Sewer Overflow READ THIS FIRST



- If this is a Category 1 SSO greater than or equal to 1,000 gallons, IMMEDIATELY contact one of the following to make the 2-hour notification to CalOES at (800) 852-7550:**
 - Field Utilities and Streets Supervisor: (707) 590-3360
 - Public Works Superintendent: (707) 746-4297
- Check here if you believe that fats, roots, oils and/grease (FROG) caused or contributed to the SSO.**
- Contact the Director of Public Works at (707) 746-4227 for any media requests.**
- Contact the City of Benicia Wastewater Treatment Plan at (707) 746-4790 for water sampling, if applicable.**

Instructions

Don't forget photos!



Collections Crew:

- Follow the instructions on the Sewer Overflow Response Flowchart (C-1).
- Refer to the Field Guide as necessary.
- Place completed forms, camera (if applicable), and any additional notes/documentation in this envelope.
- Complete the Chain of Custody record (right) and forward this packet to the Field Utilities and Streets Supervisor.

Print Name: _____

Initial: _____

Date: _____

Time: _____

Field Utilities and Streets Supervisor:

- Review the enclosed forms.
- Complete the Regulatory Notifications Packet.
- Place completed forms, camera (if applicable), and any additional notes/documentation in this envelope.
- Complete the Chain of Custody Record (right) and file this completed Sewer Overflow Packet in accordance with City policy.
- Debrief using the Collection System Failure Analysis Form.

Print Name: _____

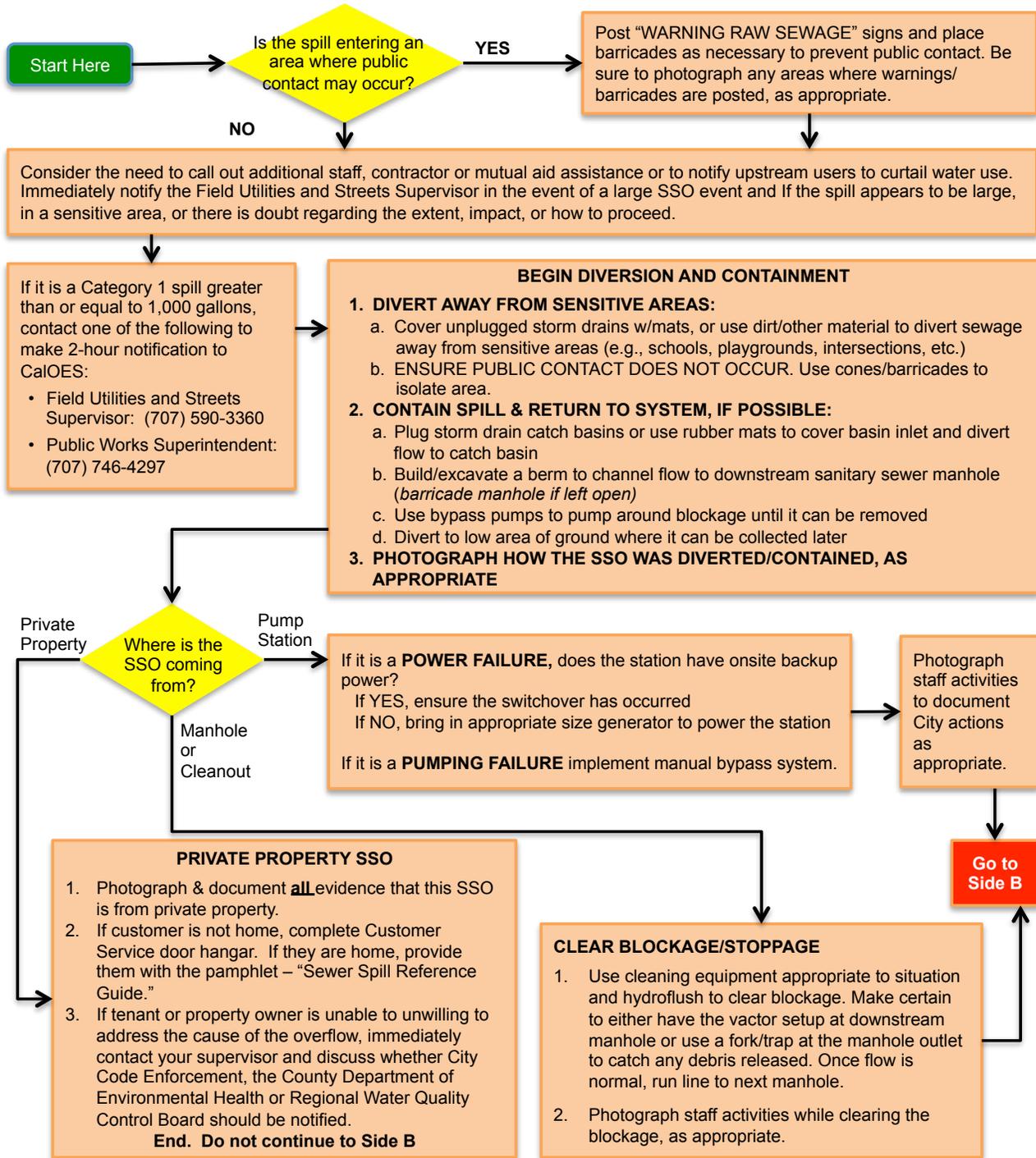
Initial: _____

Date: _____

Time: _____

City of Benicia Overflow Emergency Response Plan: Sanitary Sewer Overflow Packet

Sanitary Sewer Overflow Response Packet
Overflow Response Flowchart



MEDIA AND PUBLIC RELATIONS GUIDELINES:

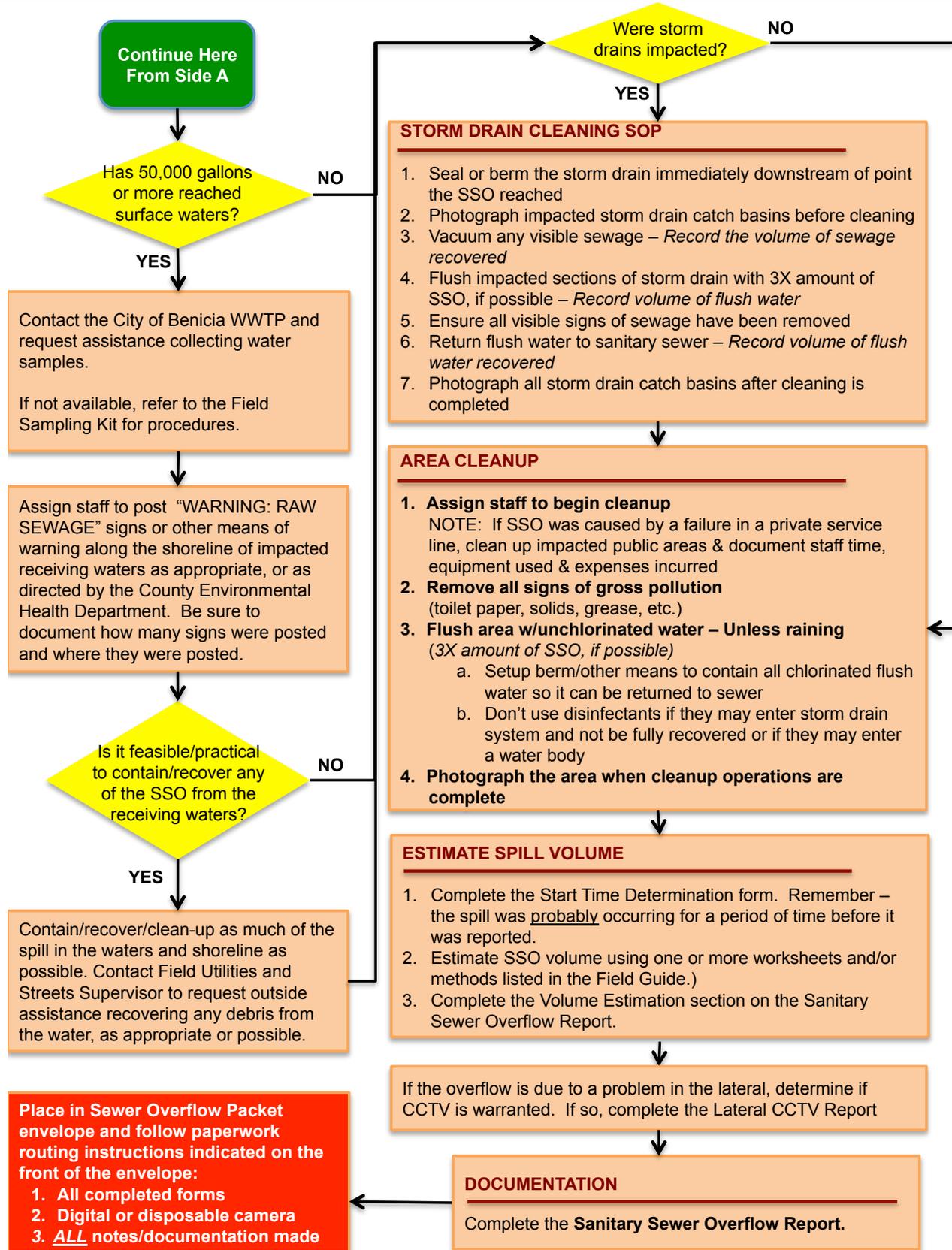
Exercise caution in contacts with the public or media when you respond to a spill. Any information you provide or statements you make may become pertinent in the event of possible court action, it is important to **AVOID THE FOLLOWING**:

- Giving out the wrong information including providing incorrect facts about a company or other agency
- Making accusations against customers, businesses or other agencies
- Speculating about the situation you are responding to

Be courteous and attempt to provide accurate information to questions within the limits above. In some cases, it may be appropriate to say that we do not have any information, or to delay answering a question and then to say when an answer might be available.

In most cases, refer media requests to the media coordinator indicated on the front of the Sewer Overflow Packet envelope.

Sanitary Sewer Overflow Response Packet
Overflow Response Flowchart



Sanitary Sewer Overflow Response Packet
Sanitary Sewer Overflow Report

D. CAUSE OF SSO

Where did failure occur? (Check all that apply): Air Relief or Blow-Off Valve Force Main Gravity Mainline Siphon
 Lower Lateral (public) Lower Lateral (private) Manhole Pump Station (specify): Controls Mechanical Power
 Upper Lateral (public) Upper Lateral (private) Other:

SSO cause (check all that apply): Air Relief or Blow-Off Valve Failure Construction Diversion Failure CS Maintenance
 Damage by others Debris (specify): From Construction From Lateral General Rags Flow Exceeded Capacity
 FROG (Fats, roots, oil, grease) Inappropriate Discharge Natural Disaster Operator Error Root Intrusion
 Pipe Structural Problem/Failure Pipe Structural Problem/Failure (Installation) Rainfall Exceeded Design
 Pump Station Failure (specify): Controls Mechanical Power Siphon Failure Vandalism
 Surcharged Pipe Non - Dispersible Wipes Other (specify):

Diameter (in inches) of pipe at point of blockage/spill cause (if applicable):

Sewer pipe material at point of blockage/spill cause (if applicable):

Estimated age of sewer asset at the point of blockage or failure (if applicable):

Description of terrain surrounding point of blockage/spill cause: Flat Mixed Steep

E. SSO RESPONSE

SSO response activities (check all that apply): Cleaned-Up Mitigated Effects of Spill 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 (specify) Other (specify):

SSO response completed (date & time):

Visual inspection result of impacted waters (if applicable):

Any fish killed? Yes No Any ongoing investigation? Yes No

Were health warnings posted? Yes No If yes, provide health warning/beach closure posting/details:

Was there a beach closure? Yes No If yes, name of closed beach(es):

Were samples of impacted waters collected? Yes No

If YES, select the analyses: DO Ammonia Bacteria pH Temperature Other:

Recommended corrective actions: (check all that apply and provide detail)

- Add sewer to preventive maintenance program
- Adjust schedule/method of preventive maintenance
- Enforcement action against FROG source
- Inspect Sewer Using CCTV to Determine Cause
- Plan rehabilitation or replacement of sewer
- Repair Facilities or Replace Defect
- Other (specify)

What major equipment was used in the response?

List all agency personnel involved in the response including name, title and their role in the response:

F. NOTES

G. NOTIFICATION DETAILS

CalOES contacted date and time (if applicable):

CalOES Control Number (if applicable): Spoke to:

This form prepared by: NAME: TITLE: DATE:

This form reviewed by: NAME: TITLE: DATE:

Place completed form in Sewer Overflow Envelope and follow routing instructions.

**Sanitary Sewer Overflow Response Packet
Start Time Determination Form**

SSO Start Date: _____ Location: _____

Accurate start time determination is an essential part of SSO volume estimation. Depending on the flow rate, being even one minute off can have a huge impact on the volume estimation. Be as precise as possible. Do not round to quarter hour increments. Start time must be based on all available information (interviews with neighbors, emergency responders, etc.)

What time was the City notified of the SSO? _____ AM PM

Who notified the City? _____

Did they indicate what time they noticed the SSO? YES NO If yes, what time? _____ AM PM

Who at the City received the notification? _____

What time did the crew arrive at the site of the SSO? _____ AM PM

Who was interviewed regarding the start time of the SSO? Include their name, contact information, and the statement they provided:

Name	Contact Information	Statement
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Describe in detail how you determined the start time for this particular SSO:

SSO Start Date: _____ SSO Start Time: _____ AM PM

SSO End Date: _____ SSO End Time: _____ AM PM

SSO Duration: _____ **minutes**

This form completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

**Sanitary Sewer Overflow Response Packet
Volume Estimation: Eyeball Estimation Method**

Use this method only for small SSOs of less than 200 gallons.

SSO Date: _____ Location: _____

- STEP 1: Position yourself so that you have a vantage point where you can see the entire SSO.
- STEP 2: Imagine one or more buckets or barrels of water tipped over. Depending on the size of the SSO, 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) or barrel(s)	How many of this size?	Multiplier	Estimated SSO Volume (gallons)
1 gallon water jug		x 1 gallons	
5 gallon bucket		x 5 gallons	
32 gallon trash can		x 32 gallons	
55 gallon drum		x 55 gallons	
Other: _____ gallons		x _____ gallons	
Estimated Total SSO Volume:			

STEP 5: Is rainfall a factor in the SSO? Yes No
 If yes, what volume of the observed spill volume do you estimate is rainfall? _____ gallons
 If yes, describe how you determined the amount of rainfall in the observed spill?

STEP 6: Calculate the estimated SSO volume by subtracting the rainfall from the SSO volume:
 _____ gallons – _____ gallons = _____ gallons
 Estimated SSO Volume Rainfall **Total Estimated SSO Volume**

Do you believe that this method has estimated the entire SSO? Yes No
 If no, you MUST use additional methods to estimate the entire SSO. If yes, it is advisable to use additional methods to support the estimation. Explain why you believe this method has/has not estimated the entire SSO:

This worksheet completed by:
 Name: _____ Signature: _____
 Job Title: _____ Date: _____

Sanitary Sewer Overflow Response Packet
Volume Estimation: Duration and Flow Rate Comparison Method

SSO Date: _____ Location: _____

STEP 1: Compare the SSO to reference images on Side 2 to estimate flow rate of the current overflow. Describe which reference photo(s) were used and any additional factors that influenced applying the reference photo data to the actual SSO:

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

STEP 2: Complete the **Start Time Determination Form** to provide a detailed description of how start time was determined. Copy the SSO Duration from the Start Time Determination Form here:

SSO Duration: _____minutes

STEP 3: Multiply the flow rate by the SSO duration to calculate the estimated SSO volume.

_____gpm X _____minutes = _____gallons
Flow Rate SSO Duration Estimated SSO Volume

STEP 4: Did the SSO occur during a period of consistent flow in this portion of the system? Yes No

If no, explain how, based on this portion of the collection system and its users, you believe it may have impacted the estimated SSO volume:

By what percentage are you adjusting the estimation? increase decrease _____%

Translate the percentage into gallons: _____gallons

STEP 5: Calculate the adjusted SSO volume estimate:

_____gallons + or - _____gallons = _____gallons
Estimated SSO Volume Adjustment **Estimated SSO volume**

Do you believe that this method has estimated the entire SSO? Yes No

If no, you MUST use additional methods to estimate the entire SSO. If yes, it is advisable to use additional methods to support the estimation. Explain why you believe this method has/has not estimated the entire SSO:

This worksheet completed by:

Name: _____ Signature: _____
Job Title: _____ Date: _____

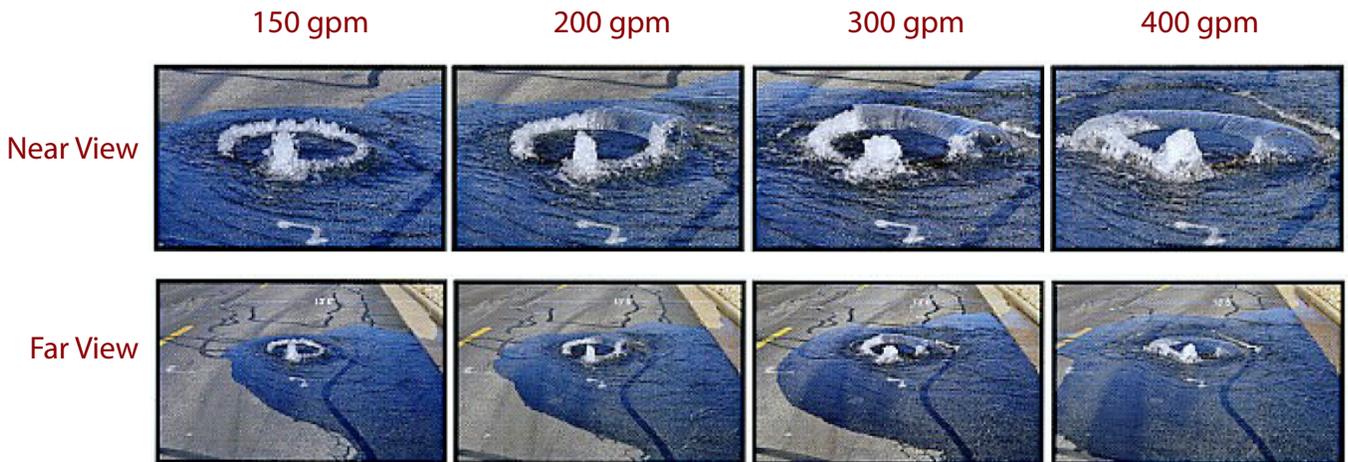
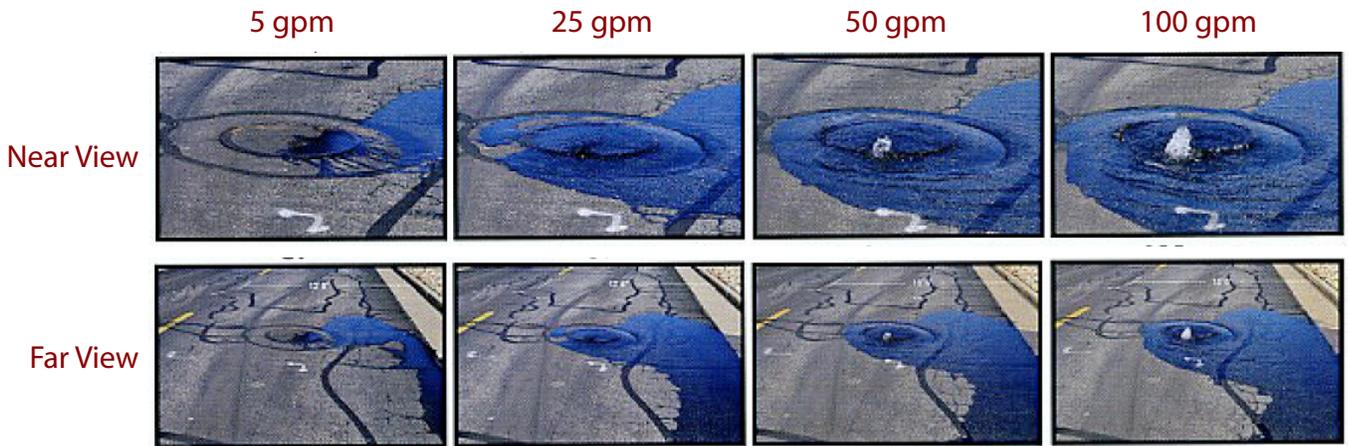
Sanitary Sewer Overflow Response Packet
Volume Estimation: Duration and Flow Rate Comparison Method

IMPORTANT NOTE:

These photographs are provided as examples only and will change with many factors.

SSCSC Manhole Overflow Gauge

CWEA Southern Section Collections Systems Committee
Overflow Simulation courtesy of Eastern Municipal Water District



**Sanitary Sewer Overflow Response Packet
Volume Estimation: Upstream Lateral Connections Method**

SSO Date: _____ Location: _____

STEP 1: Determine the number of Equivalent Dwelling Units (EDUs) for this SSO: _____ 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 of 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 SSO 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 SSO Volume per EDU.

Time Period	Flow Rate Per EDU				SSO	
	A	B	C	D	E	F
	Gallons per Period	Hours per period	A÷B = Gallons per Hour	C÷60 = Gallons per Minute	Minutes SSO 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 SSO Volume per EDU:						

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

$$\frac{\text{gallons}}{\text{Volume per EDU}} \times \frac{\text{\# of EDUs}}{\text{\# of EDUs}} = \frac{\text{gallons}}{\text{Estimated SSO Volume}}$$

STEP 4: Adjust SSO 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 SSO estimate (attach a separate page if necessary):

Estimated SSO Volume: _____ gallons

Do you believe that this method has estimated the entire SSO? Yes No

If no, you MUST use additional methods to estimate the entire SSO. If yes, it is advisable to use additional methods to support the estimation. Explain why you believe this method has/has not estimated the entire SSO:

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

Sanitary Sewer Overflow Response Packet
Collection System Failure Analysis

Incident Report #		Prepared By	
SSO/Backup Information			
Event Date/Time		Address	
Volume Spilled		Volume Recovered	
Cause			
Summary of Historical SSOs/Backups/Service Calls/Other Problems			
Date	Cause	Date Last Cleaned	Crew
Records Reviewed By:		Record Review Date:	
Summary of CCTV Information			
CCTV Inspection Date		Tape Name/Number	
CCTV Tape Reviewed By		CCTV Review Date	
Observations			

Go to Side B

**Sanitary Sewer Overflow Response Packet
Collection System Failure Analysis**

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
	Repair(s)				
	Construction				
	Capital Improvement(s)				
	Change(s) to Maintenance Procedures				
	Change(s) to Overflow Response Procedures				
	Training				
	Misc.				
Comments/Notes:					
Review Date:					

Overflow Emergency Response Plan
Public Posting

DANGER

RAW SEWAGE • AVOID CONTACT



PELIGRO

AGUA CONTAMINADA • EVITE TODO CONTACTO

City of Benicia

(707) 746-4296

City of Benicia

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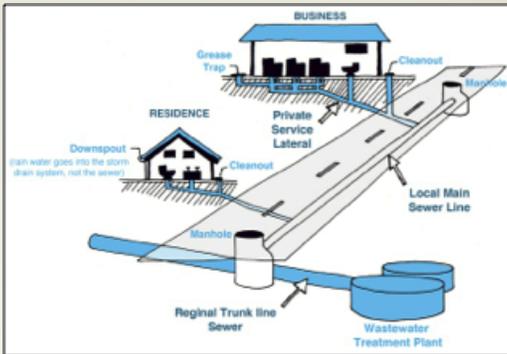
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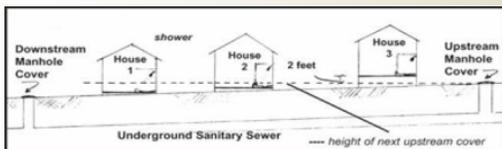


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San Francisco Regional Water Quality Control Board

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California Water Code, Article 4, Chapter 4, Sections 13268-13271 & California Code of Regulations, Title 23, Division 3, Chapter 9.2, Article 2, Sections 2250-2260 require:

- Any person who causes or permits sewage in excess of 1,000 gallons to be discharged to state waters shall immediately notify the Office of Emergency Services.
- Any person who fails to provide the notice required by this section is guilty of a misdemeanor and shall be punished by a fine (less than \$20,000) and/or imprisonment for not more than one year.

Sewer Spill Reference Guide

Your Responsibilities as a Private Property Owner

Provided to you by:

City of Benicia

250 East L Street
Benicia, California 94510

(707) 746-4296
www.ci.benicia.ca.us

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How do sewage spills happen?

Sewage spills occur when the wastewater in underground pipes overflows 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.

CAUTION!

When trying to locate a sewer problem, never open manholes or other public sewer structures. Only our crews are allowed to open & inspect these structures.

Common causes of sewage spills

- Grease build-up
- Tree roots
- Broken/cracked pipes
- Missing or broken cleanout caps
- Undersized sewers
- 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.

Protect the environment!

If you let sewage from your property discharge to a gutter or storm drain, you may be subject to penalties and/or out-of-pocket costs for clean-up and enforcement efforts. A property owner may be charged for costs incurred by agencies responding to spills from private properties.

What to look for:

Sewage spills can be a very noticeable gushing of water from a manhole or a slow water leak that may take time to be noticed. Don't dismiss unaccounted-for wet areas. Look for:

- Drain backups inside the building.
- Wet ground and/or water leaking around manhole lids onto your street.
- Leaking water from cleanouts or outside drains
- Unusual odorous wet areas: sidewalks, external walls, ground/landscape around a building.

The following are indicators of a possible obstruction in your sewer line:

- Water comes up in floor drains, showers or toilets.
- Toilets, showers or floor drains below ground level drain very slowly.

What to do if there is a spill:

Immediately notify the City of Benicia. Our crews locate the blockage and determine if it is in the public sewer; if it is the crew removes the blockage and arranges for cleanup. If the backup is in your private internal plumbing or in the private service laterals, you are required to immediately:

- Control and minimize the spill by shutting off or not using the water
- Keep sewage out of the storm drain system using sandbags, dirt and/or plastic sheeting
- Call a plumbing professional to clear blockages and make repairs as needed. Look in the yellow pages under "Plumbing Drain & Sewer Cleaning" or "Sewer Contractors."
- Always notify your sewer/public works department or public sewer district of sewage spills.

Spill cleanup inside the home:

For large clean ups, a professional cleaning firm should be contacted to clean up impacted areas, You can locate local firms by looking in the Yellow Pages under "Water Damage" or "Fire Damage." 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.

Other Tips:

- Keep children and pets out of the affected area until cleanup has been completed.
- Turn off heating/air conditioning systems
- Wear rubber boots, rubber gloves, and goggles during cleanup of the affected area.
- Discard items that cannot be washed and disinfected (such as: mattresses, rugs, cosmetics, baby 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 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.
- Seek immediate attention if you become injured or ill.

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 solutions, 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.
- Seek immediate attention if you become injured/ill.

Appendix D
FIELD SAMPLING KIT

**Field Sampling Kit
Table of Contents**

<u>Form</u>	<u>Form Number</u>
Sewer Overflow Sampling Instructions.....	D-1
Sample Collection Chain of Custody Record	-2

Go to Lab and get the following:

- Ice pack
- Ice
- Sample pole
- Latex gloves
- Long rubber gloves
- Safety glasses
- Waterproof Pen (i.e. Sharpie®)
- Chain of Custody form

SEWER OVERFLOW SAMPLING INSTRUCTIONS

- RESPOND TO OVERFLOW
- FOR A CATEGORY 1 SSO THAT EXCEEDS 1000 GALLONS, CALL THE CALIFORNIA OFFICE OF EMERGENCY SERVICES (CAL OES) at 800-852-7550 and get a CONTROLNUMBER.
- IF 50,000 GALLONS OR MORE OF THE OVERFLOW GOES INTO A CREEK, THE BAY OR STORM DRAIN SAMPLES MUST BE COLLECTED WITHIN 48 HRS OF BECOMING AWARE OF THE SSO. FOR LESSER QUANTITIES, SAMPLING IS OPTIONAL, BUT SHOULD BE DONE IF POSSIBLE. CONTACT WATER QUALITY STAFF TO COLLECT SAMPLES (phone numbers below). IF THIS IS NOT POSSIBLE, SAMPLES WILL BE TAKEN BY COLLECTIONS CREW.
 - DETERMINE DIRECTION OF WATER MOVEMENT FROM POINT OF DISCHARGE. ESTIMATE AND RECORD WATER VELOCITY.
 - COLLECT UPSTREAM (BLUE TAPE), DOWNSTREAM (GREEN TAPE), AND DISCHARGE POINT (ORANGE TAPE) SAMPLES. Fill the bottles the way you were shown in training. RECORD Date & Time, SAMPLE LOCATIONS, & YOUR NAME on the “Chain of Custody” (COC) form. Don’t write on the blue or green tape
- CALL WASTEWATER PLANT LABORATORY TO ADVISE THAT TESTING IS REQUIRED. TAKE SAMPLES TO WTP LAB (OR CONTRACT LAB) FOR ANALYSIS AS SOON AS POSSIBLE
- COPY UTILITY MAP PAGE & IDENTIFY UPSTREAM, DOWNSTREAM, AND DISCHARGE POINT LOCATIONS.
- REPORT CATEGORY 1 SSOs IN CIWQS WITHIN 3 BUSINESS DAYS.

Water Quality Division Emergency Info (Confidential!!)				
Employee	Work Phone	Direct connect	Cell Ph #	Home Ph #
Allison Connor	4781	127	373-4295	none
Erika Sheetenhelm	4781	1	530-848-3851	none
Nicole Van Aken	4781	599	805-801-5758	864-1130



**City of Benicia Laboratory ELAP #1510
CHAIN OF CUSTODY**

D-2

Company Name: **City of Benicia WWTP** Project: **Sanitary Sewer Overflow Located at :**
 Mailing Address: **614 E. 5th St.**
 City: **Benicia** State: **CA** Zip Code: **94510**
 Telephone: **(707) 746-4294** Fax #: **(707) 745-1199**
 Report To: **Nate Rankin/Jeff Gregory** E-mail Address: _____ QC Data: _____
 Sampler Signature: _____ Sampler (Print Name): _____

Attach map page showing exact locations of OVERFLOW, Upstream & Downstream Locations

Cal EMA 800-852-7550 AND SoCo R M 784-6765 M-F or SoCo Sheriff Dispatch 421-7090 RB 510-622-2369 & F&G 800-645-7911

Upstream Sample Location:	Date / Time Sampled	Matrix Desc.	# of Cont.	Container Type	LabLite's Sample #	ANALYSES REQUESTED (Please provide method)				Comments/Temp. (if required)
						NH3	DO	Ent	pH	
			AQ	pint poly 1		X				
			AQ	pint poly 1				X		
		AQ	1	BacT bottle				X		Remove foil & fill to shoulder
		AQ	1	glass BOD w/ stopper			X			Fill Up and Cap
Downstream Sample Location:	Date / Time Sampled									
			AQ	1 pint poly		X				
			AQ	1 pint poly				X		
			AQ	BacT bottle				X		Remove foil & fill to shoulder
			AQ	glass BOD w/ stopper			X			Fill Up and Cap
NOTE - RUN ENTEROLERT										

Relinquished By: _____ Received By: _____ Date / Time: _____
 Relinquished By: _____ Received By: _____ Date / Time: _____
 Relinquished By: _____ Received By: _____ Date / Time: _____
 Were Samples Received in Good Condition? Yes No Samples on Ice? Yes No
 f:\pwLab\SPILL KITS\COC Benicia SSO.DOC July 09

Appendix E
CONTRACTOR ORIENTATION

CONTRACTOR ORIENTATION

The following procedures are to be followed in the event that you cause or witness a Sanitary Sewer Overflow.



Sanitary Sewer Overflows

How to avoid them and what to do if you don't

What? A sanitary sewer overflow (SSO) is a discharge of untreated human and industrial waste before it reaches the wastewater treatment facility.

Where? SSOs usually occur through manholes, plumbing fixtures and service cleanouts.

Why? SSOs are usually caused by grease, debris, root balls, or personal hygiene products blocking the sewer lines, or by unusually high flow volume.

How to prevent SSOs:

...when clearing plugged sewer laterals:

- Remove root balls, grease blockages and any other debris from the sewer
- If you can't prevent root balls, grease or debris from entering the sewer main, call us at (707) 746-4296, so we can work with you to remove the blockage and prevent blockages further downstream
- Use plenty of water to flush lines.

...when constructing or repairing sewer laterals:

- Contact us at (707) 746-4296 for a permits, lateral specifications and main lines inspections.
- Check your work area. Make sure there is no debris left in the sewer line before you backfill.
- Avoid offset joints, which may make sewer lines vulnerable to root intrusion and grease or debris accumulation. Properly bed your joints and don't hammer tap.

If you cause or witness an SSO, immediately contact:

City of Benicia

(707) 746-4296

After Hours:

(707) 745-3412

(Police Dispatch)

City of Benicia

2400 East 2nd Street
Benicia, CA 94510

www.ci.benicia.ca.us