



Sanitary Sewer Overflow & Backup Response Plan

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Approved and Accepted:

Paul Arty

4/21/21

Collections System Operations Manager

Date

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REVIEW AND REVISION LOG

Date	Description	Pages	Responsible Person
Feb. 2007	Plan Effective Date	All	William Brennan
Aug. 2014	Major Revision	All	Paul Seitz
Apr. 2017	Minor Updates	All	Paul Seitz
Oct. 2020	Minor Updates - CRW	9	Paul Seitz
Apr. 2021	Minor Updates <ul style="list-style-type: none"> • Volume estimation photos • Updated flow chart to include EBMUD contact information 	14, 27-36	Paul Seitz

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1. INTRODUCTION

Purpose: The purpose of this plan is to ensure that Central Contra Costa Sanitary District (Central San) personnel follow established guidelines in responding to, containing, cleaning and decontaminating sanitary sewer overflows and backups which may occur within Central San's service area to safeguard public health and the environment. This plan serves as a companion document to element 6 of Central San's Sewer System Management Plan.

Policy: Central San employees are required to report all wastewater overflows found and to take the appropriate action to secure the wastewater overflow area, 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 to protect the environment.

Central San's goal is to respond to sanitary sewer overflows as soon as possible following notification. Central San will follow reporting procedures regarding overflows as set forth by the San Francisco Bay Regional Water Control Board and the State Water Resources Control Board.

Authority:

- Health & Safety Code Sections 5410 - 5416
- Fish and Game Code Sections 5650 - 5656
- California Water Code Section 13271
- SWRCB Order Number 2006-0003-DWQ
- SWRCB Order Number WQ 2013-0058-EXEC

Definitions as used in this Plan:

Sanitary Sewer Overflow (SSO) – any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from the Sanitary Sewer System. SSOs include:

- Overflows or releases of untreated or partially treated wastewater that reach the Waters of the State;
- Overflows or releases of untreated or partially treated wastewater that do not reach the Waters of the State; and
- 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.

Category 1 – discharges of untreated or partially treated wastewater of any volume resulting from a sewer system failure or flow condition that:

- Reaches a surface water and/or reaches a drainage channel tributary to a surface water or,

- Reaches the separate municipal storm drain system and is not fully captured and returned to the sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the municipal storm drain system is considered to have reached surface water unless the storm drain system discharges to a dedicated groundwater infiltration basin.

Category 2 – discharges of untreated or partially treated wastewater of 1,000 gallons or greater resulting from a sewer system failure or flow condition that do not reach surface water, a drainage channel, or the separate municipal storm drain system unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.

Category 3 – all other discharges of untreated or partially treated wastewater resulting from a sewer system failure or flow condition.

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

Backup – occurs when a Sanitary Sewer Overflow (SSO) enters private property.

Stoppage – occurs when the flow of wastewater is slowed or stopped but does not leave the Sanitary Sewer System.

Untreated or partially treated wastewater – any volume of waste discharged from the Sanitary Sewer System upstream of a wastewater treatment plant headworks.

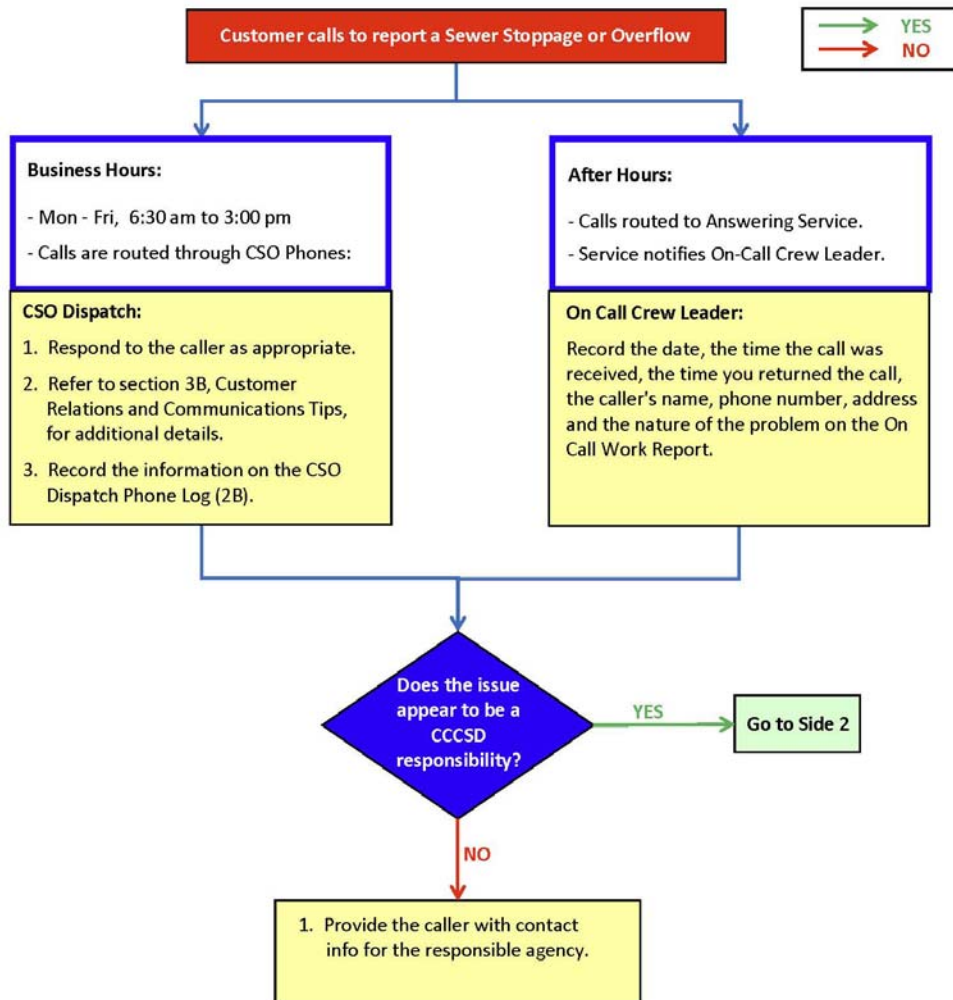
Nuisance – California Water Code section 13050(m) defines nuisance as anything which meets all of the following requirements:

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

Private Lateral Sewage Discharges – sewer discharges that are caused by blockages or other problems within a privately owned lateral.

2. RECEIVING AN INCIDENT REPORT

2A) INTAKE PROCEDURE



From Side 1

1. Tell the caller who will respond, estimate time of arrival and what area(s) will need to be accessed.
2. Tell the caller that a stoppage in the sewer main line will be cleared promptly but that **CCCSD is not allowed to work on a stoppage in a lateral service line.**
3. Give the caller your name and phone number in case they have any further questions.
4. Advise the caller to keep family members and pets away from affected areas.
5. Advise the caller not to remove any contaminated items. Let the professional cleaning company do it.
6. Advise the caller to turn off their HVAC system.
7. Advise the caller to move any uncontaminated property away from the overflow area if it can be done safely.

Business Hours:

CSO Dispatch:

1. Log the service call into CityWorks.
2. Dispatch the nearest appropriate crew to the caller's location.

After Hours:

On Call Crew:

Respond to the service call location.

2B) CSO DISPATCH PHONE LOG

Dispatch Phone Log

New Customer Call			
Date: _____ Resident Business	Name: _____ Business Name:	Home: _____ Work: _____ Cell: _____	
Time: _____	Address: _____		
Cross Street: _____			City: _____
Description of problem: _____			
Time caller noticed spill: _____	A.M.	P.M.	Date: _____
Map # _____	Confirmed information above (name, address, phone #)		
D/S Structure: _____		U/S Structure: _____	
Crew Dispatched: _____			Time: _____
Dispatcher: _____			

New Customer Call			
Date: _____ Resident Business	Name: _____ Business Name:	Home: _____ Work: _____ Cell: _____	
Time: _____	Address: _____		
Cross Street: _____			City: _____
Description of problem: _____			
Time caller noticed spill: _____	A.M.	P.M.	Date: _____
Map # _____	Confirmed information above (name, address, phone #)		
D/S Structure: _____		U/S Structure: _____	
Crew Dispatched: _____			Time: _____
Dispatcher: _____			

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3. RESPONDING TO AN INCIDENT

3A) SANITARY SEWER OVERFLOW RESPONSE POLICY

1. Any SSO that results in a discharge to Waters of the State or that creates a nuisance as defined by California Water Code Section 13050(m) is prohibited.
2. Central San strives to operate, manage and maintain all parts of the publicly owned Sanitary Sewer System in a manner that will prevent SSOs and mitigate the impact of the SSOs that do occur.
3. Central San responds to all SSO's on a Risk Basis, regardless of the size or location of the SSO. High risk areas shall include, but not be limited to:
 - a. the proximity of the SSO to sensitive populations, specifically public and private schools, parks and recreational areas, as well as high density commercial and residential locales
 - b. discharges to surface waters, especially during the recreational season from May to September
 - c. any other location which poses an imminent and substantial endangerment to the public health or the environment
4. This Plan is designed to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated or partially treated wastewater to the Waters of the State and to minimize or correct any adverse impact on the environment resulting from an SSO.
5. Central San staff is required to report all SSOs reported or discovered to Central San management.
6. Central San is required to take appropriate actions to secure the SSO-impacted area, relieve the cause of the overflow, and ensure the affected area is cleaned as soon as possible to minimize health hazards to the public and protect the environment. If there is any reasonable risk that the public may come into contact with sewage, Central San will post and maintain appropriate notification signs and place barricades and/or other traffic control devices to keep vehicle and pedestrian traffic away from contact with sewage.
7. Central San collects water quality samples for **ALL** Category 1 SSO's. The Field Superintendent or a Field Supervisor will collect, transport, and submit water quality samples for analysis to Central San's Laboratory, located at our Treatment Plant in Martinez, California. Samples are taken at or near where the SSO reaches the surface water (entry point), approximately 100 feet upstream, and downstream of the entry point. The samples are collected as soon as the blockage has been cleared or if additional staff is available the sampling activities will be completed in concurrence with clearing the blockage. The samples are analyzed for ammonia, total coliform, fecal coliform, enterococcus and e-coli. Additional follow up samples are recommended to confirm the extent that the impact reverts to baseline levels. Follow up samples can be used to determine if

posting of warning signs should be discontinued, if signs were posted. Collaboration with the Office of Emergency Services, Fish and Wildlife and the County Health Department shall continue until closures have been removed.

8. The Central San's goals upon receiving notification of an SSO are to:
 - Respond as soon as possible (within 20 minutes during working hours, within 30 minutes after hours);
 - Protect public health, the environment and property;
 - Prevent discharge of untreated or partially untreated wastewater to Waters of the State to the extent possible;
 - Prevent, to the extent possible, the creation of a nuisance as defined in CWC Section 13050(m); and
 - Restore affected areas to normal as soon as practicable.

3B) CUSTOMER RELATIONS AND COMMUNICATION TIPS

Customer Relations

It is important for employees to communicate effectively with Central San customers, especially in sewage overflow situations. How we communicate – on the phone, in writing, or in person – is how we are perceived. Good communication with customers results in greater confidence in our ability to address their problems satisfactorily, less chance of having a customer prolong the claims process, and less chance that a customer will exaggerate the damage done to their property.

As a representative of Central San, you will occasionally have to deal with an irate customer. A sewer overflow is a stressful event and even a reasonable person can become irate if they perceive us as being indifferent, uncaring, unresponsive or incompetent.

Although sometimes difficult, effective management of a sewer overflow situation is critical. If it is not managed well the situation can end up in a costly, prolonged process with the customer. We want the customer to feel assured that we are responsive and that the customer's best interest is our top priority.

Communication Tips

- Give the customer ample time to explain the situation or to vent. Show interest in what the customer has to say, no matter how many times you've heard it before, or how well you understand the problem.
- As soon as possible let the customer know that you will determine if the source of the sewer overflow is in the main and, if it is, that you will have it corrected as quickly as you can.

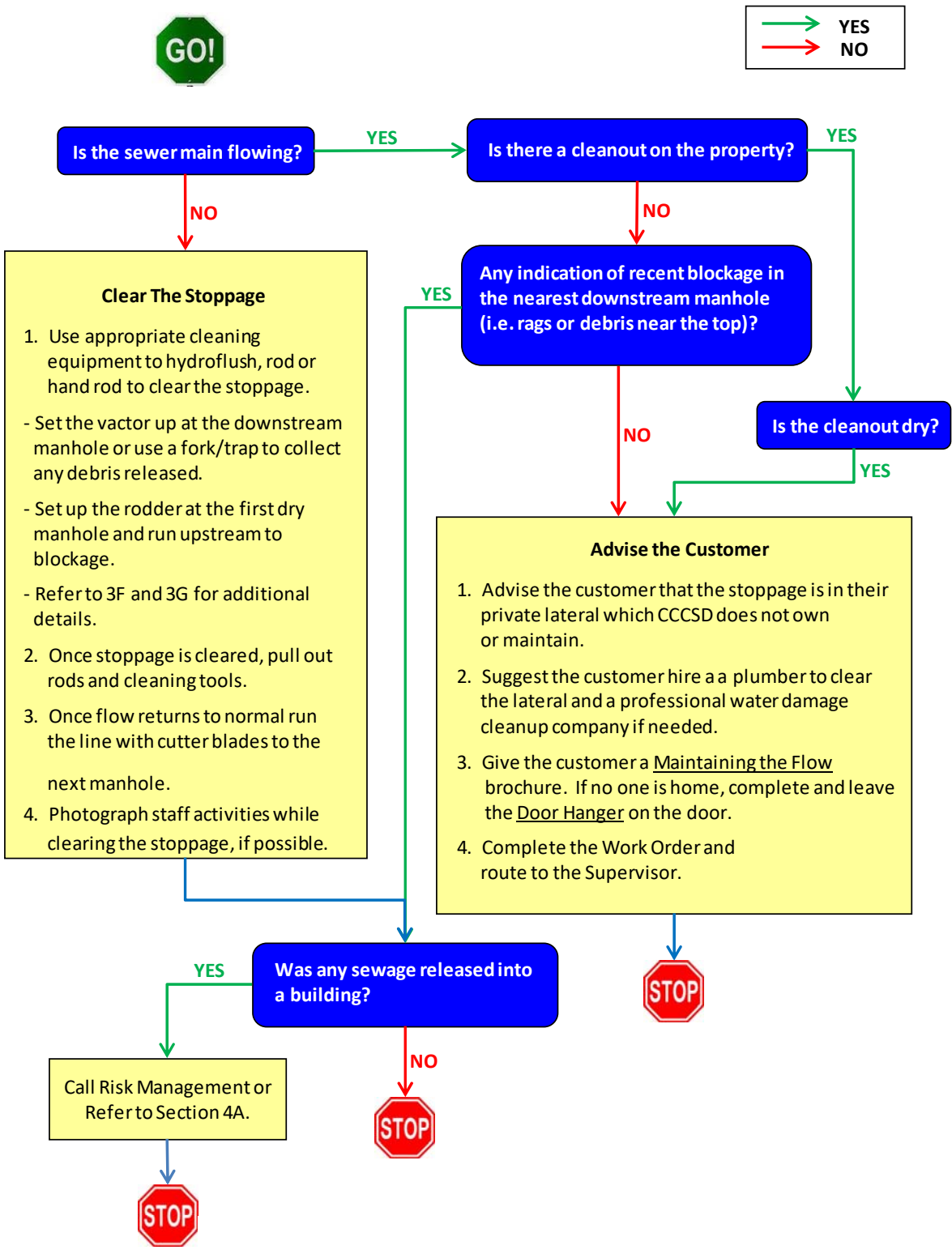
- Acknowledge the customer’s concerns. For example, if the customer seems angry or worried about property damage, you could say something like, “I understand you’re concerned about the possible damage to your property, but a professional cleanup crew can restore the area, and if it is determined that Central San is at fault, the property owner has the right to file a claim for any reasonable repairs or losses resulting from this incident.”
- Express understanding and empathy for any inconvenience caused by the incident but do not admit fault.
- As much as possible, keep the customer informed on what is being done and will be done to correct the problem.
- Keep focused on getting the job done in a very professional manner. Don’t wander from the problem with too much unnecessary small talk with the customer.
- Do not find fault or lay blame on anyone.

3c) INITIAL REPORTING OF A COLLECTION SYSTEM OVERFLOW

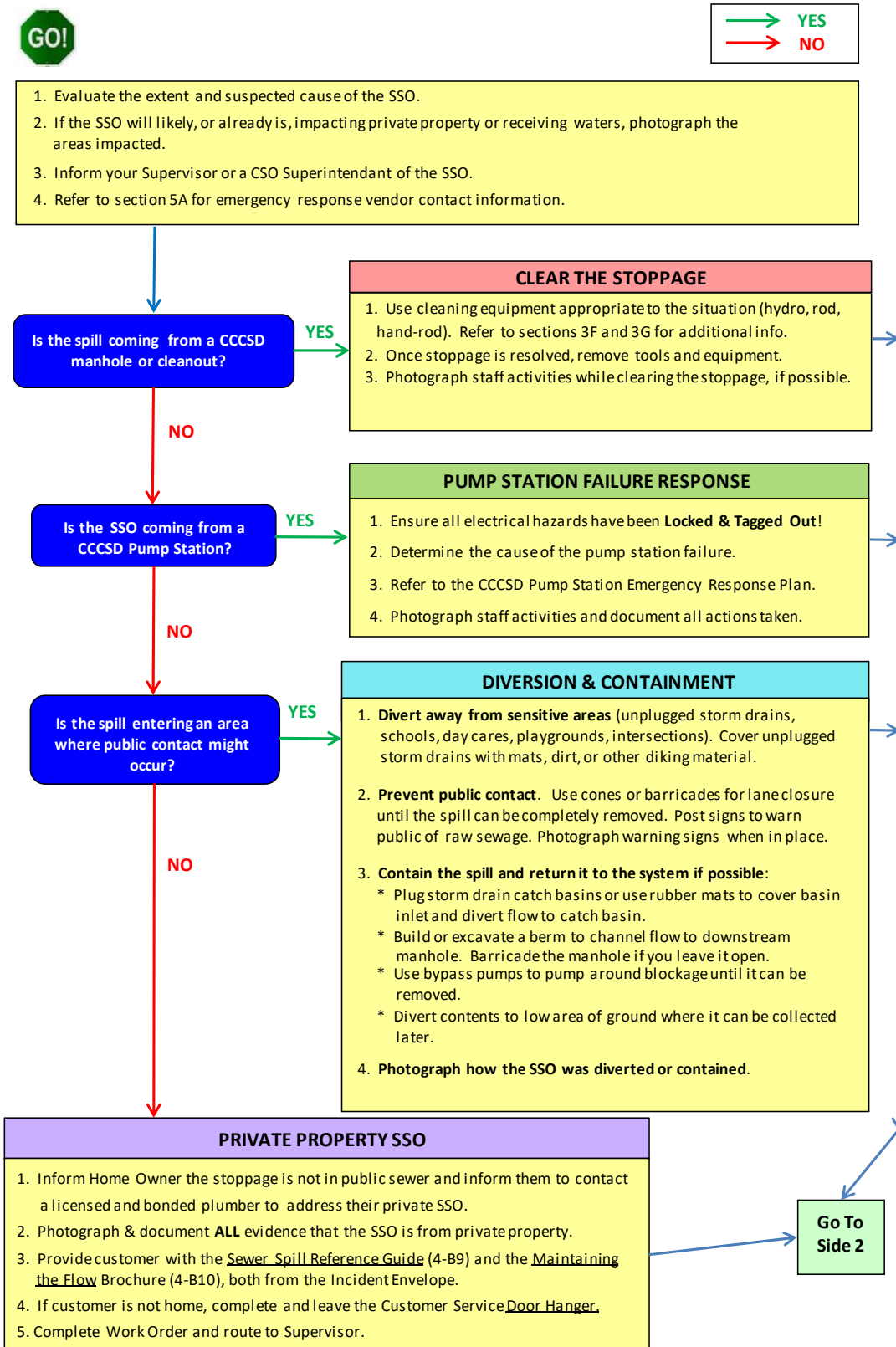
Information on the Overflow:	
Location:	
Thomas Guide Map Number:	
Affected Water Body (if any):	
Start Date and Time:	Duration:
Estimated Quantity (in gallons):	
Nature of Overflow: <input type="checkbox"/> Raw Sewage <input type="checkbox"/> Other (specify):	

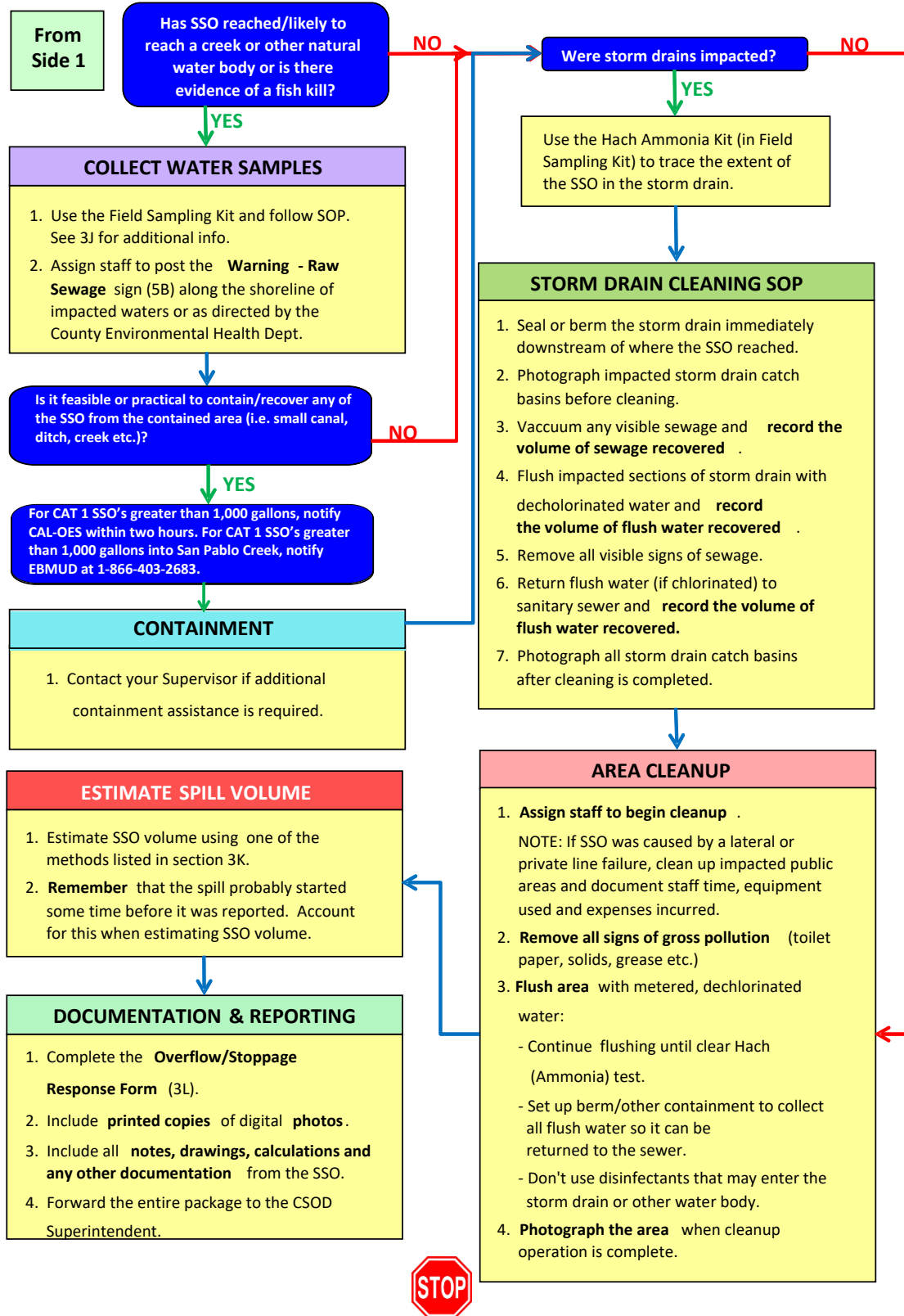
CalOES Mandatory Notification for Category 1 Overflows: <u>call within 2 hours</u>	
Telephone: (800) 852-7550 or (916) 845-8911	
Person Notified:	
Date:	Time:
Spill Number:	

3D) RESPONDING TO A PRIVATE LATERAL STOPPAGE



3E) RESPONDING TO A SANITARY SEWER OVERFLOW





3F) HOW TO CLEAR A STOPPAGE WITH A RODDER

Follow All Required Safety Procedures

- * All Employees Shall Have and Use All Appropriate PPE
- * All Necessary Traffic Controls Shall be in Place
- * Follow all Safety Directive Requirements (Air Monitoring, Respiratory Protection etc.)



Identify the location of the stoppage.

- Locate overflowing manhole or rodding inlet. Isolate plugged portion by finding non-standing manholes connected to standing manholes.
- Take photos of the overflowing structure and spill area, then notify your supervisor.
- Set up on appropriate manhole. Usually this is downstream of the blockage. Depending on location, geography, safety or other concerns, it may be necessary to set up on the upstream manhole.



Rodding

- Attach an undersized auger to the rod (i. e. 4" auger for a 6" line) and lower into the line.
- Rotate the auger and work through the plug, back and forth, until you can push all the way through the line.
- Run up to the next structure, pull up the rope and pull straight back without spinning to cut out more of the plug while retracting the rod and auger.
- Once the line is open and you have sewage blow-down into the manhole, change to a cutter blade to re-clean the line and remove the rest of the debris.



Follow Up

- Once the spill has stopped, use previously approved methods for estimating total spill volume and amount of spill returned to the collection system where applicable. Attach photos to estimate.
- Complete the Overflow/Stoppage Response Form (3L). Attach copies of DWR's, maps and overflow estimates, photos and line maintenance history to the form. Submit these items to your supervisor by the start of the next workday.
- CCTV line for two consecutive days for all Sanitary Sewer Overflows and Stoppages.

3G) HOW TO CLEAR A STOPPAGE WITH A HYDROFLUSHER

Follow All Required Safety Procedures

- * All Employees Shall Have and Use All Appropriate PPE
- * All Necessary Traffic Controls Shall be in Place
- * Follow all Safety Directive Requirements (Air Monitoring, Respiratory Protection etc.)



Identify the location of the stoppage.

- Take photos of the overflowing structure and spill area, then notify your supervisor.
- Position vehicle/sewer cleaning equipment at the downstream manhole from blockage.
- On steep lines where the downstream manholes are less than 5 feet deep, take necessary precautions to prevent overflows at downstream manholes. Use sandbags or other methods to form a containment barricade near the downstream manhole.
- Position the water jetter over the first empty manhole below the plug.
- Attach a leader hose of another color to the regular hose. This serves as a benchmark for insertion and retrieval and can prevent the hose from exiting the pipe prematurely, potentially causing injury.
- Select a penetrating nozzle with a small angle (i. e. 15 degrees) for plugs.
- Install a nozzle extension between the end of the hose and the nozzle to prevent the nozzle and hose from turning up a service lateral.
- If using a ROLLER GUIDE, lower it into the manhole and lock it into place.
- If using a TIGER TAIL, insert the jet hose through it and tie the device in place to stabilize it.
- Lower the hose, nozzle extension and nozzle into the manhole and into the pipe invert.
- If using a ROLLER GUIDE, insert the hose as far as possible (but AT LEAST 3 FEET) into the pipe before using the lower roller guide and engaging the water pressure.



Hydroflushing

- Run the line with just enough pressure to reach the plug. When you reach the plug the hose should stop.
- Adjust the water pressure to the level appropriate for the type of plug, pipe and situation.
- Check maintenance records for prior notices about property owner toilets bubbling or overflowing from over-pressurized lines. If this is a concern, use a lower pressure to prevent backups.
- If the hose does not advance, pull back on it and then let go. Repeat the steps until the hose breaks through the plug.
- If the hose breaks through and the line is still plugged, run the hose until you hit another plug, then repeat the steps again.
- Clear the plug by working from the lower end to the higher end of the flow.
- Always jet the line a few feet at a time, returning the debris to the manhole. Remove debris so further plugs are not created downstream.
- Once you hear or see the rush of water, turn off the pressure until the water level drops in the line.
- Once the flow is back to normal, run the hose up to the next manhole to ensure that the line is free of all plugs and then pull the hose back. Check the upstream manholes to make sure the line is running.
- Always rewind the jet hose with the water pressure on to avoid flattening the hose.
- Always turn off the water pressure once you see the leader hose. Failure to do so may result in serious injury.

3H) OVERFLOW RESPONSE TACTICS

The following chart is intended as a guide to generate ideas about how to respond to sewer overflows. Each indicated response tactic may not be appropriate for a given sewer overflow. Always choose the tactic that best meets the circumstances at the time and the resources available. Protecting our employees, the public and environmental health should always be top considerations when responding to a sewer overflow.

Possible Solutions	SSO Cause										
	Capacity due to gradient	Capacity due to undersized line	Capacity due to surcharged system	Collapse	Debris in Manhole	Debris in Line	Grease	Miscellaneous Plug	Roots	Pump Station Failure	Power Failure
Hydro Jet				✓		✓	✓	✓	✓		
Rodder				✓		✓	✓	✓	✓		
Vacuum Truck	✓	✓		✓	✓	✓	✓	✓	✓		
TV Van						✓	✓	✓	✓		
Backhoe *				✓							
Hand Tools					✓						
Bypass Piping	✓	✓		✓				✓	✓		
Bypass Pumping	✓	✓		✓				✓	✓	✓	✓
Manhole Entry **					✓						
Storage Tanks or Set Up Ponds	✓	✓	✓								
USA Request *				✓							
Backup Generators										✓	✓

* USA Requests: (800) 227-2600

** Confined Space Entry Procedures are required

3i) OVERFLOW CONTAINMENT PROCEDURES

The overflow must be contained. Containment becomes more difficult if the overflow reaches the storm drain system or a drainage channel since the overflow can rapidly contaminate receiving waters such as creeks, streams, rivers and other bodies of water. During dry weather, the storm drain system can be used to store the overflow if it can be plugged downstream or if the downstream storm drain pump station can be deactivated.

Options for Containing the Overflow

Overflow onto Ground:

- Place rubber mats at the catch basin or inlet
- Place sand bags in the gutter and around catch basin or inlet
- Use plastic sheeting to prevent the flow from advancing toward storm drain and culverts
- Dig an earthen trench or build a berm to create a pond

Overflow into Building:

- Evacuate affected people if necessary
- Remove backwater relief valve from the cleanout as soon as possible to reduce flow into the building
- Use sand bags and plastic sheeting as necessary
- Avoid electrical shock by turning power off if outlets or other energized equipment is wet or sitting in water

Overflow into Storm Drain or Drainage Channel:

- Trace the overflow in the storm drain system to it's downstream end point
- Plug all affected storm system outlets and coordinate with appropriate personnel to implement a containment strategy
- Turn off storm water pump station

Required Equipment

Overflows onto Ground or into Buildings:

- Rubber Mats
- Absorbent Materials
- Bypass Pumps and Pipe/Hose
- Sand Bags
- Plastic Sheeting
- Vacuum Truck

Overflows into Storm Drain or Drainage Channel:

- Plugs
- Vacuum Truck
- Bypass Pump
- Sand Bags

Overflows at a Pump Station:

- Bypass Pump/Hoses
- Emergency Generator

3J) POST-OVERFLOW SAMPLING AND POSTING PROCEDURE

1. Get Field Sampling Kits from the yard and fill the coolers with ice from the warehouse.	
2. Determine the point where the spill entered the waterway. Photograph this location. Be sure to include a reference point in the photo.	
3. Don appropriate PPE for sampling activities.	
4. Sampling Notes: <ul style="list-style-type: none"> • Collect all samples against the direction of water flow. • First take a reference sample: move 100' upstream of the spill entry point into the waterway. • Take another sample at the spill entry point into the waterway. • Take another sample at least 100' downstream of the spill entry point into the waterway. • Photograph evidence of any dead fish or other aquatic life loss. 	
5. Sampling Procedure: <ol style="list-style-type: none"> a) Collect samples well away from the bank, preferably at a point where the water is visibly flowing. b) Remove the seal from the bacteria sample container just prior to collecting the sample. A chemical has been added to the sample container. Leave the chemical in the bottle and do not rinse. <ul style="list-style-type: none"> - Remove the cap immediately before collecting each sample. - Do not allow the inside of the cap to touch anything. - Fill the bottle to the line and immediately replace the cap. c) Label the samples with their location and note the date and time collected. d) Place the samples in the cooler. e) Photograph the sample location. Be sure to include a reference point in the photo. 	
6. Complete the Chain of Custody form from the Sampling Kit (see example on the following page).	
7. Immediately contact Central San lab to advise them that the following samples require processing: Enterococcus – Holding Time = <6 hours Ammonia Nitrate – Holding Time = 28 days	
8. Take coolers containing the samples and completed Chain of Custody form to the lab.	
9. Post warning signs as directed by the County Environmental Health Department.	
10. Repeat Ammonia (Hach) sampling until the results of two consecutive set of samples indicate normal levels.	
11. Remove warning signs and lift restrictions, if applicable.	
Field Sampling Kit Inventory <input type="checkbox"/> Cooler with ice (3 ea) <input type="checkbox"/> Safety Glasses <input type="checkbox"/> Latex Gloves <input type="checkbox"/> Digital or Disposable Camera <input type="checkbox"/> Chain of Custody Binder	<input type="checkbox"/> Chain of Custody Form <input type="checkbox"/> 20 sample bottle labels <input type="checkbox"/> Waterproof pen (e.g. Sharpie) <input type="checkbox"/> Enterococcus sample bottle (100 ml sterilized bottle), 1 per cooler <input type="checkbox"/> Ammonia-Nitrogen sample bottles (1 pint bottle w/H ₂ SO ₄), 2 per cooler

POST-OVERFLOW SAMPLING FORM



**CSOD SEWER OVERFLOW
ANALYSIS REQUEST/CUSTODY RESULTS**

Sample:	Location:	LAB NUMBER Comp: Grab:
Sampled by:	Date:	
Sample type:	Time:	
Project:		Report to:

SOLIDS	WET CHEMISTRY	METALS	ORGANICS
<input type="checkbox"/> Settleability, mg/L	<input type="checkbox"/> AMMONIA, mg/L	Units:	<i>Check when report is attached</i>
<input type="checkbox"/> pH units	<input type="checkbox"/> Organic nitrogen, mg/L	<input type="checkbox"/> Aluminum	<input type="checkbox"/> EPA 624/8260
<input type="checkbox"/> TSS, mg/L	<input type="checkbox"/> COD, mg/L	<input type="checkbox"/> Antimony	<input type="checkbox"/> EPA 625/8270
<input type="checkbox"/> Volatile SS, mg/L	<input type="checkbox"/> Nitrite, mg/L	<input type="checkbox"/> Arsenic	<input type="checkbox"/> EPA 610 (PAH)
<input type="checkbox"/> SVI, ML/g-30 min.	<input type="checkbox"/> Nitrate, mg/L	<input type="checkbox"/> Barium	<input type="checkbox"/> EPA 614
<input type="checkbox"/> Temperature, C	<input type="checkbox"/> OrthoPhosphate, mg/L	<input type="checkbox"/> Beryllium	<input type="checkbox"/> EPA632
<input type="checkbox"/> TS, %	<input type="checkbox"/> Turbidity, NTU	<input type="checkbox"/> Cadmium	<input type="checkbox"/> EPA 608/8080
<input type="checkbox"/> Volatile TS, mg/L	<input type="checkbox"/> Hardness, mg/L	<input type="checkbox"/> Chromium	<input type="checkbox"/> EPA 1613
<input type="checkbox"/> TDS, mg/L	<input type="checkbox"/> Sulfate, mg/L	<input type="checkbox"/> Chromium 6+	<input type="checkbox"/> Tributyltin
<input type="checkbox"/> Alkalinity, mg/L	<input type="checkbox"/> Chloride, mg/L	<input type="checkbox"/> Cobalt	<input type="checkbox"/> TPH (Gas)
<input type="checkbox"/> Sulfide, mg/L	<input type="checkbox"/> Cyanide total, ug/L	<input type="checkbox"/> Copper	<input type="checkbox"/> TPG (Diesel)
	<input type="checkbox"/> Cyanide WAD, ug/L	<input type="checkbox"/> Lead	<input type="checkbox"/> Organic lead
	<input type="checkbox"/> Total phosphorus, mg/L	<input type="checkbox"/> Manganese	<input type="checkbox"/> Kepone/Mirex
BIOASSAY		<input type="checkbox"/> Mercury 245.2	<input type="checkbox"/> EPA 8151
<input type="checkbox"/> LC ₅₀		<input type="checkbox"/> Mercury 1631	<input type="checkbox"/> TCDD equivalents (EPA 1613A)
<input type="checkbox"/> Stickleback		<input type="checkbox"/> Molybdenum	
<input type="checkbox"/> Fathead minnow	BACTI	<input type="checkbox"/> Nickel	OIL AND GREASE
<input type="checkbox"/> AquaScience toxicity	<input type="checkbox"/> TOTAL COLIFORM, MPN//100ml	<input type="checkbox"/> Selenium	<input type="checkbox"/> Oil and grease, mg/L
	<input type="checkbox"/> FECAL COLIFORM, MPN//100ml	<input type="checkbox"/> Silver	
	<input type="checkbox"/> ENTEROCOCCUS, CFU/ml	<input type="checkbox"/> Thallium	HAZARDOUS WASTE
BOD	<input type="checkbox"/> Salinity	<input type="checkbox"/> Vanadium	<i>Check when report is attached</i>
<input type="checkbox"/> DO PROBE, mg/L	<input type="checkbox"/> Conductivity	<input type="checkbox"/> Zinc	<input type="checkbox"/> TCLP extraction
<input type="checkbox"/> CBOD, mg/L	<input type="checkbox"/> CHLORINE, mg/L		<input type="checkbox"/> DI TCLP extraction
Additional Tests:			<input type="checkbox"/> Asbestos, %
			<input type="checkbox"/> STLC extraction
			<input type="checkbox"/> DISTLC extraction
			<input type="checkbox"/> Fluoride, mg/L

CUSTODY	Signature	Date and Time	Number/Type of Containers and Preservatives
Relinquished by:			
Received by:			
Relinquished by:			
Received by:			

Reviewed and Approved by: _____ Date: _____

CSO\C\DOCUME~1\DIGIUS~1\CCC\LOCALS~1\Temp\lab analysis request.doc

3K) METHODS FOR DETERMINING FLOW VOLUME

1) General Reference

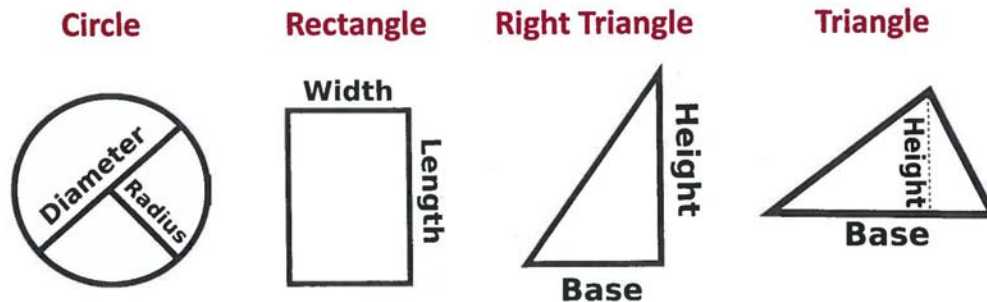
 SMART Sewer Overflow Volume Estimation Workbook	General Reference Page 1 of 2
---	---

Abbreviations and Symbols:

gal	gallons
gpm	gallons per minute
mgd	millions of gallons per day
in	inch
ft	foot
ft ²	square foot
ft ³	cubic foot
min	minute
sec	second
cfs	cubic feet per second
d	diameter
r	radius = 1/2 diameter
π	pi ≈ 3.14

+	add
-	subtract
x	multiply
÷	divide
=	equal
≈	approximately equal
%	percent
CCTV	sewer inspection camera
EDU	Equivalent dwelling unit. A dwelling unit is a single-family home. Commercial buildings may count as more or less than a single dwelling unit.

Diagrams:



Conversions:

Convert FROM	Convert TO	Formula
hours	minutes	hours x 60 = minutes
days	minutes	days x 1440 = minutes
inches	feet	inches ÷ 12 = feet
feet	inches	feet x 12 = inches
square inches	square feet	in ² ÷ 144 = ft ²
square feet	square inches	ft ² x 144 = in ²
cubic inches	cubic feet	in ³ ÷ 1728 = ft ³
cubic feet	cubic inches	ft ³ x 1728 = in ³
cubic feet	gallons	ft ³ x 7.48 = gallons

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

Computations:

Computation	Formula/Guide
Area: Two-dimensional measurement represented in square feet.	Square/rectangle: Area = Length x Width Circle: Area = πr^2 (where $\pi \approx 3.14$ and $r = \text{radius} = \frac{1}{2} \text{ diameter}$) Triangle: Area = $\frac{1}{2} (\text{Base} \times \text{Height})$
Volume: Three-dimensional measurement represented in cubic feet.	Rectangle/square footprint: Volume = Length x Width x Depth Circle footprint (cylinder): Volume = $\pi r^2 \times \text{Depth}$ (where $\pi \approx 3.14$ and $r = \text{radius} = \frac{1}{2} \text{ diameter}$) Triangle footprint: Volume = $\frac{1}{2} (\text{Base} \times \text{Height}) \times \text{Depth}$
Depth: Contained or "Ponded" Sewage	Measure actual depth of standing sewage whenever possible. When depth varies, measure several representative sample points and determine the average. Add the depth of the sample points and then divide that total by the number of sample points. If the depth is not measurable because it is only a wet stain, use the following depths: <ul style="list-style-type: none"> • Depth of a wet stain on concrete surface: 0.0026' (1/32") • Depth of a wet stain on asphalt surface: 0.0013' (1/64")


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3) Method Selection Guide

	Sewer Overflow Volume Estimation Workbook	<h2 style="margin: 0;">Method Selection Guide</h2>
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Use this table to help determine which method(s) to use to estimate the volume of each particular spill. It may be necessary to use more than one method in order to accurately estimate the spill volume.

Whenever possible, use at least two methods to calculate each spill volume.

	Method	Guidelines
<div style="writing-mode: vertical-rl; transform: rotate(180deg);"> Increasing level of difficulty </div> 	Eyeball Estimation	<ul style="list-style-type: none"> Useful for initial estimate Useful for smaller spills (less than 200 gallons) Requires documented hands-on training to practice visual estimation Difficult to apply consistently among different crew members Is difficult to defend, so use only if other methods are not feasible, or use in conjunction with other methods Photographic evidence is critical using this method
	Drop Bucket Estimation	<ul style="list-style-type: none"> Use this method only for small spills where the entire flow stream can be captured in a bucket
	Duration and Flow Rate: Photo Comparison	<ul style="list-style-type: none"> Effective where spill is flowing freely and not ponding Useful when area and depth are difficult to measure
	Upstream Connections	<ul style="list-style-type: none"> Effective for spills affecting only a small portion of the collection system Can be applied consistently by crews/staff Must have a reliable volume per household or Equivalent Dwelling Unit Can be difficult to apply to large portions of the system with mixed use (residential, commercial, industrial)
	Area/Volume: Ponded Sewage	<ul style="list-style-type: none"> Effective on dry surfaces where limits of the spill footprint can be determined Use only when the spill is contained Not effective during rain events and, in some cases, hot weather
	Area/Volume: Sewage Contained in Storm Drain System	<ul style="list-style-type: none"> Use only when the spill is contained in the storm drain system
	Area/Volume: Sewage Contained in a Roadway Gutter	<ul style="list-style-type: none"> Use only when the spill is contained in a roadway gutter
	Flow Calculation Worksheet	<ul style="list-style-type: none"> Typically can only be used if sewage level in manhole is at or below the pipe Only utilizes one sample of the flow and cannot account for fluctuations Can only be used if manhole channel is uniform in shape. (Cast-in-place channels are not necessarily uniform.)
	Lower Lateral Estimator	<ul style="list-style-type: none"> Requires documentation of diurnal flow patterns Requires documentation for determining Equivalent Dwelling Units (EDUs) for commercial and industrial buildings Effective when a spill affects landscaped areas, dirt, fields or any surface that tends to absorb the spill
	Lift Station Estimation	<ul style="list-style-type: none"> Requires SCADA data <i>(Can be used combined with flow monitoring data from this or another agency if SCADA not available.)</i> Works best on larger spills
	Duration and Flow Rate: Rate Tables—Manhole Cover in Place	<ul style="list-style-type: none"> Effective where spill is flowing freely and not ponding Useful when area and depth are difficult to measure
	Duration and Flow Rate: Rate Tables—Manhole Cover Removed	<ul style="list-style-type: none"> Effective where spill is flowing freely and not ponding Useful when area and depth are difficult to measure
	Duration and Flow Rate: Rate Tables—Flow out of Manhole Vent or Pick Hole	<ul style="list-style-type: none"> Effective where spill is flowing freely and not ponding Useful when area and depth are difficult to measure
	Portable Flow Monitoring Equipment	<ul style="list-style-type: none"> Requires portable flow monitoring equipment Can only be performed post-event Rain events can be accounted for if flow data is combined with rain gauge data

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4) Eyeball Estimation Method

Form # _____																																
Eyeball Estimation Method Worksheet																																
<i>Use this method only for small spills of less than 200 gallons.</i>																																
Spill Date: _____ Location: _____																																
STEP 1: Position yourself so that you have a vantage point where you can see the entire spill.																																
STEP 2: Imagine one or more buckets or barrels of water tipped over. Depending on the size of the spill, select a bucket or barrel size as a frame of reference. It may be necessary to use more than one bucket/barrel size.																																
STEP 3: Estimate how many of each size bucket or barrel it would take to make an equivalent spill. Enter those numbers in Column A of the row in the table below that corresponds to the bucket/barrel sizes you are using as a frame of reference.																																
STEP 4: Multiply the number in Column A by the multiplier in Column B. Enter the result in Column C.																																
<table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr style="background-color: #cccccc;"> <th style="width: 30%;"></th> <th style="width: 15%; text-align: center;">A</th> <th style="width: 15%; text-align: center;">B</th> <th style="width: 40%; text-align: center;">C</th> </tr> <tr style="background-color: #cccccc;"> <th style="text-align: center;">Size of bucket(s) or barrel(s)</th> <th style="text-align: center;">How many of this size?</th> <th style="text-align: center;">Multiplier</th> <th style="text-align: center;">Estimated Spill Volume (gallons)¹</th> </tr> </thead> <tbody> <tr> <td>1 gallon water jug</td> <td></td> <td style="text-align: center;">x 1 gallons</td> <td></td> </tr> <tr> <td>5 gallon bucket</td> <td></td> <td style="text-align: center;">x 5 gallons</td> <td></td> </tr> <tr> <td>32 gallon trash can</td> <td></td> <td style="text-align: center;">x 32 gallons</td> <td></td> </tr> <tr> <td>55 gallon drum</td> <td></td> <td style="text-align: center;">x 55 gallons</td> <td></td> </tr> <tr> <td>Other: _____ gallons</td> <td></td> <td style="text-align: center;">x _____ gallons</td> <td></td> </tr> <tr style="background-color: #cccccc;"> <td colspan="3" style="text-align: right; padding-right: 10px;">Estimated Spill Volume:</td> <td></td> </tr> </tbody> </table>		A	B	C	Size of bucket(s) or barrel(s)	How many of this size?	Multiplier	Estimated Spill Volume (gallons) ¹	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 Spill Volume:			
	A	B	C																													
Size of bucket(s) or barrel(s)	How many of this size?	Multiplier	Estimated Spill Volume (gallons) ¹																													
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 Spill Volume:																																
STEP 5: Is rainfall a factor in the spill? <input type="checkbox"/> Yes <input type="checkbox"/> 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 spill volume by subtracting the rainfall from the spill volume: <div style="display: flex; justify-content: space-between; align-items: center; width: 80%; margin: 0 auto;"> <div style="text-align: center;">_____ gallons</div> <div style="text-align: center;">-</div> <div style="text-align: center;">_____ gallons</div> <div style="text-align: center;">=</div> <div style="text-align: center;">_____ gallons</div> </div> <div style="display: flex; justify-content: space-between; align-items: center; width: 80%; margin: 5px auto;"> <div style="text-align: center;">Estimated Spill Volume</div> <div style="text-align: center;">Rainfall</div> <div style="text-align: center;">Total Estimated Spill Volume</div> </div> Do you believe that this method has estimated the entire spill? <input type="checkbox"/> Yes <input type="checkbox"/> No <ul style="list-style-type: none"> If no, you MUST use additional methods to estimate the entire spill. If yes, it is advisable to use additional methods to support your estimation. Explain why you believe this method has or has not estimated the entire spill:																																
This worksheet completed by: Name: _____ Signature: _____ Job Title: _____ Date: _____																																
																																
<div style="display: flex; justify-content: space-between;"> <div style="font-weight: bold; font-size: large;">SMART</div> <div>Sewer Overflow Volume Estimation Workbook</div> <div style="text-align: right;"> ©2013 DKF Solutions Group, LLC. All rights reserved. www.dksolutions.com </div> </div>																																

6) Duration and Flow Rate: Photo Comparison



OVERFLOW RATES for 16 3/8" RI COVER Closed Pick Hole



5 GPM



2 GPM



1 GPM



20 GPM



15 GPM



10 GPM



50 GPM



125 GPM



200 GPM



30 GPM



100 GPM



175 GPM



25 GPM



75 GPM



150 GPM

3001A-7/20



OVERFLOW RATES
for 25 1/4"
NEW STYLE COVER
Open Pick Hole





50 GPM



30 GPM



25 GPM



125 GPM



100 GPM



75 GPM



200 GPM



175 GPM



150 GPM

3001D-7/20



OVERFLOW RATES
for 25 1/4"
NEW STYLE COVER
Closed Pick Hole



1 GPM



2 GPM



5 GPM



10 GPM



15 GPM



20 GPM



50 GPM



30 GPM



25 GPM



125 GPM



100 GPM



75 GPM



200 GPM



175 GPM

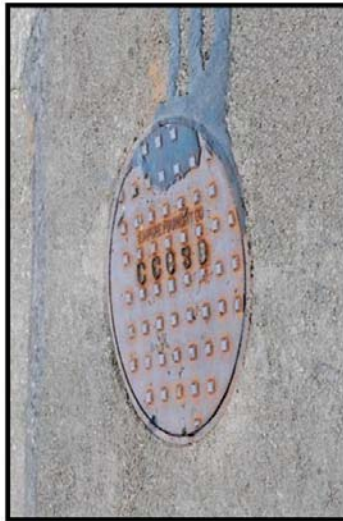
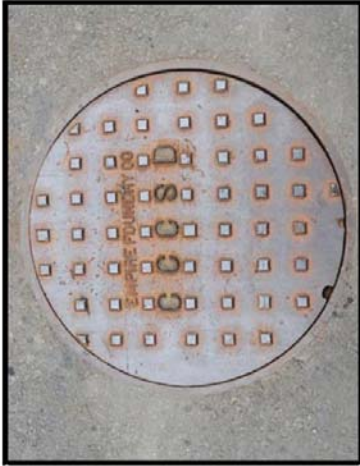


150 GPM

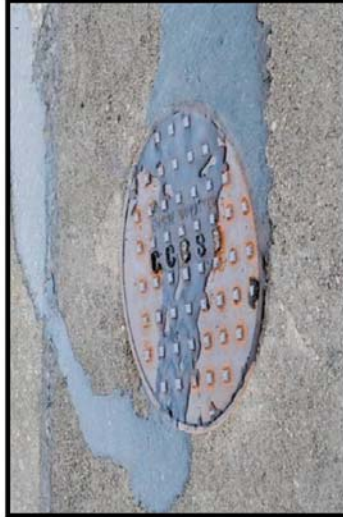
3001D-7/20



OVERFLOW RATES for 27 3/4" OLD STYLE COVER



1 GPM



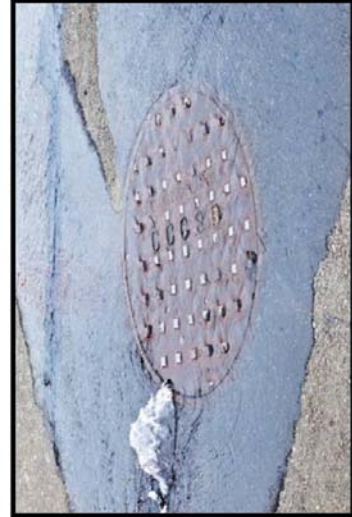
2 GPM



5 GPM



10 GPM



15 GPM



20 GPM



50 GPM



125 GPM



200 GPM

3001C-7/12



30 GPM



100 GPM



175 GPM



25 GPM



75 GPM



150 GPM

OVERFLOW RATES for Private Lateral OPD



1 GPM



2 GPM



5 GPM



10 GPM



15 GPM



20 GPM



25 GPM



30 GPM



50 GPM

OVERFLOW RATES for Private Lateral OPD *below grade*



1 GPM



2 GPM



5 GPM



10 GPM



15 GPM



20 GPM



25 GPM




30 GPM



50 GPM

3001E-7/20

7) Upstream Connections Method

Form # _____	
Upstream Connections Method Worksheet	
Spill Date: _____	Location: _____
<p>STEP 1: Determine the number of upstream connections via sewer utility map: _____ What is the reference for determining how many lots are served by this portion of the collection system (e.g., Grid Map Book page reference): _____</p>	
<p>STEP 2: Identify the minimum and maximum water usage for the area in which the spill occurred (i.e., install flow meter). Minimum Water Usage: _____ gallons per minute Maximum Water Usage: _____ gallons per minute</p> <p>How were these flow rates determined? _____ _____</p>	
<p>STEP 3: Complete the Start Time Estimation Worksheet to provide a detailed description of how start time was determined. Copy the information from the Start Time Estimation Worksheet here:</p> <p>Spill Start Date: _____ Spill Start Time: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM Spill End Date: _____ Spill End Time: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM Spill Duration: _____ minutes</p>	
<p>STEP 4: Make calculation, using the information from Steps 1, 2 and 3 above.</p> <p>_____ x _____ gallons per minute x _____ minutes = _____ gallons # upstream connections minimum water usage duration of spill min. estimated flow volume</p> <p>_____ x _____ gallons per minute x _____ minutes = _____ gallons # upstream connections maximum water usage duration of spill max. estimated flow volume</p>	
<p>STEP 5: Describe any factors that would skew the estimate more toward the minimum or maximum rate:</p>	
<p>STEP 6: Determine the estimated spill volume by taking the calculated minimum and maximum as well as other factors into consideration: _____ gallons</p> <p style="text-align: center;">Estimated Spill Volume</p> <p>Do you believe that this method has estimated the entire spill? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <ul style="list-style-type: none"> • If no, you MUST use additional methods to estimate the entire spill. • If yes, it is advisable to use additional methods to support your estimation. <p>Explain why you believe this method has or has not estimated the entire spill:</p>	
<p>This worksheet completed by:</p> <p>Name: _____ Signature: _____ </p> <p>Job Title: _____ Date: _____</p>	
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8) Area/Volume Method: Poned Sewage

Form # _____									
Area/Volume Method Worksheet: Poned Sewage (Page 1 of 2)									
Spill Date: _____					Location: _____				
STEP 1: Describe spill area surface: <input type="checkbox"/> Asphalt <input type="checkbox"/> Concrete <input type="checkbox"/> Dirt <input type="checkbox"/> Landscape <input type="checkbox"/> Inside Building <input type="checkbox"/> Other: _____									
STEP 2: Draw/sketch the outline (footprint) of the spill. Then break the footprint down into recognizable shapes. Refer to the example on the Area/Volume Method: Poned Sewage Reference Page 1 .									
STEP 3: Calculate the area of the footprint. Complete the table below for each shape identified in Step 2. If two shapes overlap, select one of the two shapes and estimate the percentage of that shape that does not overlap. Enter that percentage in the % Not Overlapping column. This will ensure that the overlap area is only counted once. Refer to the example on the Area/Volume Method: Poned Sewage Reference Page 1 .									
Rectangles	Length	X	Width	X	% Not Overlapping	=	Area		
	ft	X	ft	X	%	=	ft ²		
	ft	X	ft	X	%	=	ft ²		
	ft	X	ft	X	%	=	ft ²		
Triangles	Base	X	Height	Multiplier	X	% Not Overlapping	=	Area	
	ft	X	ft	+ 2	X	%	=	ft ²	
	ft	X	ft	+ 2	X	%	=	ft ²	
	ft	X	ft	÷ 2	X	%	=	ft ²	
Circles	π	X	Radius	X	Radius	X	% Not Overlapping	=	Area
	3.14	X	ft	X	ft	X	%	=	ft ²
	3.14	X	ft	X	ft	X	%	=	ft ²
	3.14	X	ft	X	ft	X	%	=	ft ²
Total Spill Area (sum of all three tables above): _____ ft²									
STEP 4: Calculate the volume of the spill that was NOT absorbed into the ground. If the entire spill was absorbed, skip to Step 5.									
a. If the spill is of varying depths, take several measurements at different depths and find the average.									
$\frac{\text{_____ inches}}{\text{sum of measurements}} \div \frac{\text{_____}}{\text{\# of measurements}} = \frac{\text{_____ inches}}{\text{average depth in inches}} \div 12 = \frac{\text{_____ feet}}{\text{average depth in feet of ponded sewage}}$									
b. Calculate spill volume of ponded sewage in cubic feet by multiplying the Total Spill Area in Step 3 by the average depth calculated in Step 4a. Convert from cubic feet to gallons by multiplying by 7.48.									
$\frac{\text{_____ ft}^2}{\text{spill area (Step 3)}} \times \frac{\text{_____ ft}}{\text{average depth (Step 4a)}} = \frac{\text{_____ ft}^3}{\text{spill volume in cubic feet}} \times 7.48 \text{ gal} = \frac{\text{_____ gallons}}{\text{estimated volume of ponded sewage}}$									
GO TO PAGE 2									
SMART Sewer Overflow Volume Estimation Workbook					©2013 DKF Solutions Group, LLC. All rights reserved. www.dkfsolutions.com				

Area/Volume Method Worksheet: Ponded Sewage (Page 2 of 2)

STEP 5: Calculate the volume of the spill that **was absorbed** into the ground. If only a wet stain is observed, use the guidelines from the **Area/Volume Method: Ponded Sewage Reference Page 1** for the average depth instead of performing the calculations in Steps 5a and 5b below.

- a. In order to perform this calculation, you must first determine the water content in the soil using the method described on **Area/Volume Method: Ponded Sewage Reference Page 2**:

Volume of known quantity of water: $V_1 = \underline{\hspace{2cm}} \text{ gallons}$
 Area of wetted footprint: $A = \underline{\hspace{2cm}} \text{ ft}^2$
 Average Depth of Wet Soil: $D = \underline{\hspace{2cm}} \text{ ft}$
 Volume of Wet Soil in Feet = $A \times D$ $V_2 = \underline{\hspace{2cm}} \text{ ft}^3$
 Convert cubic feet to gallons = $V_2 \times 7.48$ $V_3 = \underline{\hspace{2cm}} \text{ gallons}$
 Calculate water content in soil $V_1 \div V_3 \times 100$ $\text{Water Content} = \underline{\hspace{2cm}} \%$

- b. Calculate the depth of the actual sewage spill that was absorbed into the ground. First, measure the depth of the wet soil in several locations within the wetted area of the sewage spill. Determine the average depth of the wet soil by taking several measurements at different depths and finding the average. Convert the measurement to feet:

$$\frac{\underline{\hspace{2cm}} \text{ inches}}{\text{sum of measurements}} \div \frac{\underline{\hspace{2cm}}}{\text{\# of measurements}} = \frac{\underline{\hspace{2cm}} \text{ inches}}{\text{average depth in inches}} \div 12 = \frac{\underline{\hspace{2cm}} \text{ feet}}{\text{average depth in feet}}$$

- c. Calculate volume of the spill that was absorbed into the ground in cubic feet by multiplying the Total Spill Area from Step 3 by the average depth calculated in Step 5b. Then convert from cubic feet to gallons by multiplying by 7.48. Then multiply by the water content percentage determined in Step 5a.

$$\frac{\underline{\hspace{2cm}} \text{ ft}^2}{\text{spill area (Step 3)}} \div \frac{\underline{\hspace{2cm}} \text{ ft}}{\text{average depth (Step 5b)}} = \frac{\underline{\hspace{2cm}} \text{ ft}^3}{\text{spill volume in cubic feet}} \times 7.48 \text{ gal} \times \frac{\underline{\hspace{2cm}} \text{ \%}}{\text{water content (Step 5a)}} = \frac{\underline{\hspace{2cm}} \text{ gallons}}{\text{estimated volume of absorbed sewage}}$$

STEP 6: Add the volume not absorbed (Step 4) plus the volume absorbed (Step 5) to get the total estimated volume:

$$\frac{\underline{\hspace{2cm}} \text{ gallons}}{\text{volume not absorbed}} + \frac{\underline{\hspace{2cm}} \text{ gallons}}{\text{volume absorbed}} = \frac{\underline{\hspace{2cm}} \text{ gallons}}{\text{Total Estimated Spill Volume}}$$

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

This worksheet completed by:

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



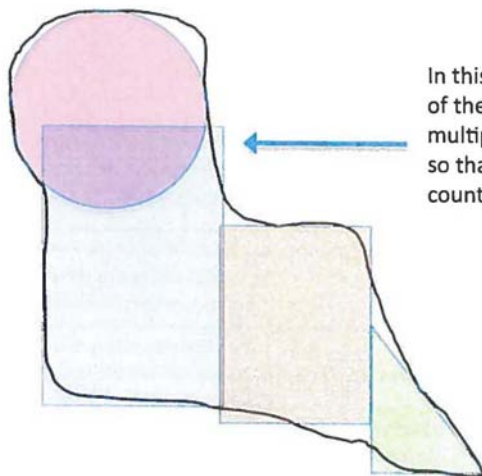
Miscellaneous computations:

Computation	Formula/Guide
To convert inches to feet	Divide the inches by 12 or use the chart on the bottom right of this page.
Volume of one cubic foot	7.48 gallons of water
Area: Two-dimensional measurement represented in square feet.	Square/rectangle: Area = Length x Width Circle: Area = πr^2 (where $\pi \approx 3.14$ and $r = \text{radius} = \frac{1}{2} \text{ diameter}$) Triangle: Area = $\frac{1}{2}$ (Base x Height)
Volume: Three-dimensional measurement represented in cubic feet.	Rectangle/square footprint: Volume = Length x Width x Depth Circle footprint (cylinder): Volume = $\pi r^2 \times \text{Depth}$ (where $\pi \approx 3.14$ and $r = \text{radius} = \frac{1}{2} \text{ diameter}$) Triangle footprint: Volume = $\frac{1}{2}$ (Base x Height) x Depth
Depth: Contained or "Poned" sewage	Measure actual depth of standing sewage whenever possible. When depth varies, measure several representative sample points and determine the average. Add the depth of the sample points and then divide that total by the number of sample points. If the depth is not measurable because it is only a wet stain, use the following depths: <ul style="list-style-type: none"> • Depth of a wet stain on concrete surface: 0.0026' (1/32") • Depth of a wet stain on asphalt surface: 0.0013' (1/64")

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

Example of how to draw/sketch the outline (footprint) of the spill for Step 2:

1. Sketch the outline of the spill (black line).
2. Break the sketch down into recognizable shapes (circles, squares, etc.) as well as you can.



In this example, after the volume of the circle is determined, multiply it by approximately 65% so that the overlap area isn't counted twice.

Example of how to determine the water content in wetted soil, measured as a percentage.

By determining the water content in the soil when a known quantity of water is used, it will be possible to estimate the sewage content in the soil where the actual spill occurred.

Step	Example
	Place a 2 foot diameter form onto an area of dry soil.
V₁	Pour one gallon of water into the form and let it soak in for 15 minutes.
A	<p>In this example, let's say the wetted soil footprint's diameter is 2 ft 2 in. We convert the inches to feet and get a diameter of 2.17 ft. The radius is ½ of the diameter, so $r = 1.085$ ft</p> <p>So using the formula: $Area = \pi r^2$ (where $\pi = 3.14$) the area of the footprint is $3.14 \times 1.085 \text{ ft} \times 1.085 \text{ ft} = 3.70 \text{ ft}^2$</p>
D	<p>Dig into the soil in 3 locations and measure the depth of the wetted soil. It is usually easiest to measure this depth in inches, so in this example we will measure in inches and then convert to feet.</p> <p>In this example, let's say we take the following measurements: 2½ inches, 1½ inches and 3¾ inches</p> <p>We convert the measurements to decimals and get 2.5 in, 1.5 in, and 3.75 in.</p> <p>Then we average the 3 measurements by adding them together and then dividing by 3: $2.5 \text{ in} + 1.5 \text{ in} + 3.75 \text{ in} = 7.75 \text{ in}$ $7.75 \text{ in} \div 3 = 2.58 \text{ in}$</p> <p>Convert the number to feet by dividing by 12: $2.58 \text{ in} \div 12 \text{ in} = 0.215 \text{ ft}$</p>
V₂	$3.70 \text{ ft}^2 \times 0.215 \text{ ft} = 0.80 \text{ ft}^3$
V₃	<p>Multiply the volume in cubic feet by the conversion multiplier to get the volume in gallons</p> <p>$0.80 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3 = 6 \text{ gal}$</p>
Water Content	<p>Divide the known volume of water by the calculated volume of soil</p> <p>$1 \text{ gal} \div 6 \text{ gal} = .17$ so 17% is the water content in the soil.</p>

9) Area/Volume Method: Sewage Contained in a Storm Drain System

Form # _____

Area/Volume Method Worksheet: Sewage Contained in a Storm Drain System

Spill Date: _____ Location: _____

STEP 1: Take measurements (in feet) and enter them in the dashed boxes below. Use the table to the right as needed to convert inch measurements to feet.

Storm Drain #1

Convert Inches to Feet

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

STEP 2: Complete the table below for each part of the storm drain system diagrammed above.

Storm Drain #1	π	X	Radius	X	Radius	X	Depth	=	Volume
	3.14	X	ft	X	ft	X	ft	=	ft ³

Storm Drain #2	π	X	Radius	X	Radius	X	Depth	=	Volume
	3.14	X	ft	X	ft	X	ft	=	ft ³

Pipe	π	X	Radius	X	Radius	X	Length	=	Volume
	3.14	X	ft	X	ft	X	ft	=	ft ³

STEP 3: Add the right column together to calculate the total spill volume in cubic feet. Multiply by 7.48 to convert to gallons.

_____ ft³ + _____ ft³ + _____ ft³ x 7.48 = _____ gallons
 Drain #1 Volume Drain #2 Volume Pipe Volume **Estimated Spill Volume**

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

- If no, you MUST use additional methods to estimate the entire spill.
- If yes, it is advisable to use additional methods to support your estimation.

Explain why you believe this method has or has not estimated the entire spill:

STEP 4: Attach a map of the impacted storm drain to this form for future reference.

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

Don't forget photos!

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10) Area/Volume Method: Sewage Contained in a Roadway Gutter

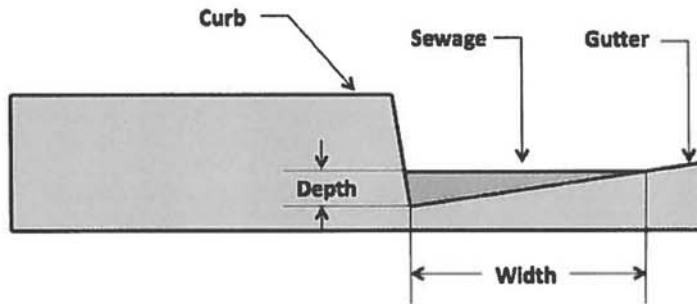
Form # _____

Area/Volume Method Worksheet: Contained in a Roadway Gutter

Spill Date: _____ Location: _____

STEP 1: Measure the length of the contained spill in feet: _____ feet

STEP 2: Measure the depth and width of the overflow in the gutter. Convert measurements to feet. Refer to the drawing below.



Depth: _____ inches ÷ 12 = _____ feet

Width: _____ inches ÷ 12 = _____ feet

STEP 4: Calculate the overflow volume using the following equation:
 _____ X _____ X _____ ÷ 2 = _____ ft³
 Length Depth Width Estimated spill volume in cubic feet

STEP 5: Convert the overflow volume from cubic feet to gallons:
 _____ ft³ X 7.48 = _____ gallons

Estimated spill volume in cubic feet **Estimated Spill Volume**

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

- If no, you MUST use additional methods to estimate the entire spill.
- If yes, it is advisable to use additional methods to support your estimation.

Explain why you believe this method has or has not estimated the entire spill:

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____



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11) Flow Calculation Worksheet

Form # _____
Flow Calculation Worksheet
Spill Date: _____ Location: _____
Manhole #1 ID: _____ Manhole #2 ID: _____ Inside Pipe Diameter: _____ inches
<p>STEP 1: Complete the Start Time Estimation Worksheet to provide a detailed description of how start time was determined. Copy the information from the Start Time Estimation Worksheet here:</p> <p>Spill Start Date: _____ Spill Start Time: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM</p> <p>Spill End Date: _____ Spill End Time: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM</p> <p style="text-align: right;">Spill Duration: _____ minutes</p>
<p>STEP 2: Calculate spill velocity:</p> <p>A. Measure the distance between the two manholes: _____ feet</p> <p>B. Drop a ball in at the upstream manhole.</p> <p>C. Measure the time it takes to arrive at the downstream manhole: _____ seconds</p> <p>D. Divide the distance in feet from A by the time in seconds from C:</p> <p style="text-align: center;">_____ feet ÷ _____ seconds = _____ feet/second = Velocity (V)</p>
<p>STEP 3: Calculate inside pipe diameter squared (D²) by multiplying the pipe diameter by itself. Convert to feet.</p> <p style="text-align: center;">D² = _____ X _____ = _____ inches² ÷ 12 = _____ feet²</p> <p style="text-align: center;">Inside Pipe diameter Inside Pipe diameter Diameter squared in inches Diameter squared in feet</p>
<p>STEP 4: Calculate flow level to pipe diameter ratio (L/D)</p> <p style="text-align: center;">_____ inches ÷ _____ inches = L/D _____</p> <p style="text-align: center;">Level of flow Inside Pipe diameter</p>
<p>STEP 5: Identify Flow Unit Multiplier (K) in Table 1 using L/D. Read the GPM (Gallons Per Minute) column.</p> <p>K = _____ gpm</p>
<p>STEP 6: Calculate the profiled flow by multiplying the numbers from Steps 2, 3 and 5 above.</p> <p style="text-align: center;">_____ ft/sec x _____ feet x _____ = _____ GPM</p> <p style="text-align: center;">Velocity (V) Diameter Squared (D²) Multiplier (K) Profiled Flow</p>
<p>STEP 7: Calculate the estimated spill volume by multiplying the numbers from Step 1 and Step 6.</p> <p style="text-align: center;">_____ gpm x _____ minutes = _____ gallons</p> <p style="text-align: center;">Profiled Flow Spill Duration Estimated Spill Volume</p> <p>Do you believe that this method has estimated the entire spill? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <ul style="list-style-type: none"> • If no, you MUST use additional methods to estimate the entire spill. • If yes, it is advisable to use additional methods to support your estimation. <p>Explain why you believe this method has or has not estimated the entire spill:</p>
<p>This worksheet completed by:</p> <p>Name: _____ Signature: _____</p> <p>Job Title: _____ Date: _____</p>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="font-weight: bold; font-size: 1.2em;">SMART</div> <div style="font-size: 0.8em;">Sewer Overflow Volume Estimation Workbook</div> <div style="text-align: right; font-size: 0.8em;"> <p>Don't forget photos!</p> <p>©2013 DKF Solutions Group, LLC. All rights reserved. www.dkfsolutions.com</p> </div> </div>

Table I Flow Unit Multiplier

L/D	K (Flow Unit Multiplier)			L/D	K (Flow Unit Multiplier)		
	MGD	GPM	CFS		MGD	GPM	CFS
0.01	0.0009	0.5966	0.0013	0.51	180.7433	0.2603	0.4027
0.02	0.0024	1.6824	0.0037	0.52	185.2295	0.2667	0.4127
0.03	0.0044	3.0814	0.0069	0.53	189.7121	0.2732	0.4227
0.04	0.0068	4.7296	0.0105	0.54	194.1894	0.2796	0.4327
0.05	0.0095	6.5894	0.0147	0.55	198.6594	0.2861	0.4426
0.06	0.0124	8.6351	0.0192	0.56	203.1204	0.2925	0.4526
0.07	0.0156	10.8475	0.0242	0.57	207.5706	0.2989	0.4635
0.08	0.0190	13.2113	0.0294	0.58	212.0080	0.3053	0.4724
0.09	0.0226	15.7143	0.0350	0.59	216.4309	0.3117	0.4822
0.10	0.0264	18.3460	0.0409	0.6	220.8374	0.3180	0.4920
0.11	0.0304	21.0975	0.0470	0.61	225.2255	0.3243	0.5018
0.12	0.0345	23.9609	0.0534	0.62	229.5934	0.3306	0.5115
0.13	0.0388	26.9294	0.0600	0.63	233.9392	0.3369	0.5212
0.14	0.0432	29.9967	0.0668	0.64	238.2607	0.3431	0.5308
0.15	0.0477	33.1571	0.0739	0.65	242.5560	0.3493	0.5404
0.16	0.0524	36.4056	0.0811	0.66	246.8232	0.3554	0.5499
0.17	0.0572	39.7374	0.0885	0.67	251.0600	0.3615	0.5594
0.18	0.0621	43.1480	0.0961	0.68	255.2643	0.3676	0.5687
0.19	0.0672	46.6334	0.1039	0.69	259.4340	0.3736	0.5780
0.20	0.0723	50.1898	0.1118	0.7	263.5668	0.3795	0.5872
0.21	0.0775	53.8135	0.1199	0.71	267.6604	0.3854	0.5963
0.22	0.0828	57.5012	0.1281	0.72	271.7125	0.3913	0.6054
0.23	0.0882	61.2496	0.1365	0.73	275.7206	0.3970	0.6143
0.24	0.0937	65.0555	0.1449	0.74	279.6822	0.4027	0.6231
0.25	0.0992	68.9161	0.1535	0.75	283.5946	0.4084	0.6319
0.26	0.1049	72.8286	0.1623	0.76	287.4553	0.4139	0.6405
0.27	0.1106	76.7901	0.1711	0.77	291.2612	0.4194	0.6489
0.28	0.1163	80.7982	0.1800	0.78	295.0096	0.4248	0.6573
0.29	0.1222	84.8503	0.1890	0.79	298.6972	0.4301	0.6655
0.30	0.1281	88.9439	0.1982	0.8	302.3210	0.4353	0.6736
0.31	0.1340	93.0767	0.2074	0.81	305.8774	0.4405	0.6815
0.32	0.1400	97.2464	0.2167	0.82	309.3629	0.4455	0.6893
0.33	0.1461	101.4507	0.2260	0.83	312.7735	0.4505	0.6969
0.34	0.1522	105.6875	0.2355	0.84	316.1053	0.4552	0.7043
0.35	0.1583	109.9546	0.2450	0.85	319.3538	0.4599	0.7115
0.36	0.1645	114.2500	0.2545	0.86	322.5143	0.4644	0.7186
0.37	0.1707	118.5715	0.2642	0.87	325.5815	0.4688	0.7254
0.38	0.1770	122.9172	0.2739	0.88	328.5500	0.4731	0.7320
0.39	0.1833	127.2851	0.2836	0.89	331.4135	0.4772	0.7384
0.40	0.1896	131.6733	0.2934	0.9	334.1650	0.4812	0.7445
0.41	0.1960	136.0797	0.3032	0.91	336.7967	0.4850	0.7504
0.42	0.2023	140.5026	0.3130	0.92	339.2997	0.4886	0.7560
0.43	0.2087	144.9400	0.3229	0.93	341.6636	0.4920	0.7612
0.44	0.2151	149.3902	0.3328	0.94	343.8759	0.4952	0.7662
0.45	0.2215	153.8512	0.3428	0.95	345.9216	0.4981	0.7707
0.46	0.2280	158.3212	0.3527	0.96	347.7815	0.5008	0.7749
0.47	0.2344	162.7985	0.3627	0.97	349.4297	0.5032	0.7785
0.48	0.2409	167.2811	0.3727	0.98	350.8287	0.5052	0.7816
0.49	0.2473	171.7673	0.3827	0.99	351.9145	0.5068	0.7841
0.50	0.2538	176.2553	0.3927	0.1	352.5112	0.5076	0.7854

L/D = Level to Diameter Ratio
 MGD = Millions of Gallons per Day
 GPM = Gallons per Minute
 CFS = Cubic Feet per Second

12) Lower Lateral Estimator

Form # _____																																																																									
Lower Lateral Estimation Worksheet																																																																									
Spill Date: _____		Location: _____																																																																							
STEP 1:	Determine the number of Equivalent Dwelling Units (EDUs) for this spill: _____ EDUs <i>NOTE: A single-family residential home = 1 EDU. For commercial buildings, refer to agency documentation.</i>																																																																								
STEP 2:	Complete the Start Time Estimation Worksheet to provide a detailed description of how start time was determined. Copy the information from the Start Time Estimation Worksheet here:																																																																								
	Spill Start Date: _____	Spill Start Time: _____	<input type="checkbox"/> AM <input type="checkbox"/> PM																																																																						
	Spill End Date: _____	Spill End Time: _____	<input type="checkbox"/> AM <input type="checkbox"/> PM																																																																						
		Spill Duration: _____	minutes																																																																						
STEP 3:	Calculate the estimated spill volume per EDU. Refer to the Lower Lateral Estimation Reference page as needed:																																																																								
	<ol style="list-style-type: none"> 1. Identify agency flow rates and enter the figures into the chart below. Enter the flow volume per EDU for each period in column A. Complete columns B-D to calculate the flow rate per minute. 2. Break the actual spill time up into the time periods indicated in the agency's flow pattern data. Enter the number of minutes the spill was active during each time period in column E. 3. Calculate the gallons spilled per EDU during each time period by multiplying column D times column E. 4. Add the numbers in column F together to calculate the estimated spill volume per EDU. 																																																																								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #cccccc;"> <th rowspan="3" style="width: 15%;">Time Period</th> <th colspan="4" style="background-color: #cccccc;">Agency Flow Rates per EDU</th> <th colspan="2" style="background-color: #cccccc;">Spill</th> </tr> <tr style="background-color: #cccccc;"> <th style="width: 10%;">A</th> <th style="width: 10%;">B</th> <th style="width: 10%;">C</th> <th style="width: 10%;">D</th> <th style="width: 10%;">E</th> <th style="width: 10%;">F</th> </tr> <tr style="background-color: #cccccc;"> <th>Gallons per Period</th> <th>Hours per Period</th> <th>A ÷ B = Gallons per Hour</th> <th>C × 60 = Gallons per Minute</th> <th>Minutes spill was active during period</th> <th>D × E = Gallons Spilled per Period</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr style="background-color: #cccccc;"> <td colspan="6" style="text-align: left; padding-left: 5px;">Total Estimated Spill Volume per EDU</td> <td> </td> </tr> </tbody> </table>					Time Period	Agency Flow Rates per EDU				Spill		A	B	C	D	E	F	Gallons per Period	Hours per Period	A ÷ B = Gallons per Hour	C × 60 = Gallons per Minute	Minutes spill was active during period	D × E = Gallons Spilled per Period																																											Total Estimated Spill Volume per EDU						
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Total Estimated Spill Volume per EDU																																																																									
STEP 4:	Multiply the Estimated Spill Volume per EDU in the Step 3 chart by the number of EDUs determined in Step 1.																																																																								
	$\frac{\text{gallons}}{\text{Volume per EDU}} \times \text{\# of EDUs} = \text{Estimated Spill Volume (gallons)}$																																																																								
STEP 5:	Adjust spill volume as necessary considering other factors, such as activity that would cause a fluctuating flow rate (doing laundry, taking showers, etc.). Explain rationale below and indicate adjusted spill estimate (attach a separate page if necessary):																																																																								
	<p>Estimated Spill Volume: _____ gallons</p> <p>Do you believe that this method has estimated the entire spill? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <ul style="list-style-type: none"> • If no, you MUST use additional methods to estimate the entire spill. • If yes, it is advisable to use additional methods to support your estimation. <p>Explain why you believe this method has or has not estimated the entire spill:</p>																																																																								
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SMART Sewer Overflow Volume Estimation Workbook		<small>©2013 DKF Solutions Group, LLC. All rights reserved. www.dkfsolutions.com</small>																																																																							



The following is an example of estimation using the Lower Lateral Estimation method.

All of these figures are for EXAMPLE ONLY. Always use your agency's flow data.

Agency Flow Rates: Columns A, B and C in the chart below represent the agency's diurnal flow pattern. Each agency will have unique diurnal flow patterns, so for this estimation method it is necessary to have the flow rate information for the location in which the spill has occurred. In this example, the agency's diurnal flow rate data are indicated as Gallons per Period per Equivalent Dwelling Unit (EDU). For this estimation method, it is necessary to know the gallons per hour or gallons per minute, so columns C and D contain those figures.

Spill Description: In this example, the spill involved a single family residential home. The start time was 9:45 AM and the Spill End time was 1:30 PM. Total spill time was 3 hours and 45 minutes, or 225 minutes. Columns D and E in the chart below are used to calculate the estimated number of gallons spilled by taking the flow rate indicated in column D of for each period and multiplying it by the number of minutes the spill was active during each period (Column E). The gallons spilled in each time period are added together to calculate the total estimated spill volume per EDU.

Time Period	Agency Flow Rates per EDU				Spill	
	A	B	C	D	E	F
	Gallons per Period	Hours per Period	A ÷ B = Gallons per Hour	C ÷ 60 = Gallons per Minute	Minutes spill was active during period	D x E = Gallons spilled per period
6 AM to Noon	72	6	12	0.20	135	27.0
Noon to 6 PM	54	6	9	0.15	90	13.5
6 PM to Midnight	45	6	7.5	0.13	0	0
Midnight to 6 AM	9	6	1.5	0.03	0	0
Total Estimated Spill Volume per EDU						40.5

This information alone likely does not tell the whole story. Typically, sewage does not run continuously from a home. If at all possible the customer should be interviewed. Be respectful and ask the customer if they would mind if you asked them a few questions to help determine the volume of the spill. Questions may include:

- Since the time you noticed the spill, how many people have been home?
- Have you done any laundry, run the dishwasher, or taken a shower?

Use the following general guidelines as appropriate to take water use into consideration. The amounts listed below are considered to be typical water usage.

- Washing Machine: 30 gallons/load
- Dishwasher: 9 gallons/load
- Shower (10 Min.): 25 gallons/shower

Next, consider all of the information you have gathered:

- Your visual assessment of the size of the stain or water mark on the ground plus any tissue, etc.
- The answers to the questions about use
- The Total Estimated Spill Volume calculated in the chart

Does the information gathered suggest that the volume determined by the estimation tool be adjusted, up, down or left as is? Describe your rationale for adjusting the estimation.

13) Lift Station Estimation

Form # _____

Lift Station Estimation Worksheet

Use this method only if the lift station influent and effluent rates are known.

Spill Date: _____ Location: _____

STEP 1: Identify the spill rate using SCADA or flow meter data.

- Influent Rate: If the spill is due to the station failure, then the rate of flow into the station will be the spill rate.
- Effluent Rate: If the force main fails, then the pump discharge rate along with the cycle frequency will be the spill rate.

Spill Rate: _____ gallons/minute (gpm)

Last date the flow meter was calibrated: _____

What was the source of the data?

This agency

Another agency: Agency: _____

Contact Name: _____

Contact Telephone: _____

STEP 2: Complete the **Start Time Estimation Worksheet** to provide a detailed description of how start time was determined. Copy the information from the Start Time Estimation Worksheet here:

Spill Start Date: _____ Spill Start Time: _____ AM PM

Spill End Date: _____ Spill End Time: _____ AM PM

Spill Duration: _____ minutes

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

_____ gpm X _____ minutes = _____ gallons

Spill Rate Spill Duration **Estimated spill volume**

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

- If no, you **MUST** use additional methods to estimate the entire spill.
- If yes, it is advisable to use additional methods to support your estimation.

Explain why you believe this method has or has not estimated the entire spill:

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____



14) Manhole Overflow Rate Tables – Manhole Cover in Place

Form # _____

Duration and Flow Rate Using Manhole Overflow Rate Tables—Manhole Cover In Place Worksheet

Spill Date: _____ Location: _____

STEP 1: Determine the size of the manhole cover. Check one: 24" Cover 36" Cover

STEP 2: Measure the height of the spout above the manhole rim in inches: _____ inches
Note: Be as precise as possible. A small difference in spout height can make a major difference in estimated spill volume!

Describe how the spout height was determined:

STEP 3: Determine the Spill Rate by referring to Table 1. Use the table on the left for a 24" cover or the table on the right for a 36" cover. Find the height measured in Step 2 in the left column. Read the Spill Rate in the next column (gpm = gallons per minute).

Spill Rate = _____ gpm

STEP 4: Complete the **Start Time Estimation Worksheet** to provide a detailed description of how start time was determined. Copy the information from the Start Time Estimation Worksheet here:

Spill Start Date: _____ Spill Start Time: _____ AM PM
 Spill End Date: _____ Spill End Time: _____ AM PM

Spill Duration: _____ minutes

STEP 5: Multiply the spill rate by the spill duration to calculate the estimated spill volume.

_____ gpm X _____ minutes = _____ gallons
 Spill Rate Spill Duration **Estimated Spill Volume**

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

- If no, you MUST use additional methods to estimate the entire spill.
- If yes, it is advisable to use additional methods to support your estimation.

Explain why you believe this method has or has not estimated the entire spill:

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

SMART Sewer Overflow Volume Estimation Workbook

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Table 1

NOTE: This table is provided for general reference. The agency is strongly encouraged to develop site-specific data.

24" Cover

Height of spout above manhole rim in inches	SSO Flow Q		Min. sewer size in which these flows are possible
	in gpm	in MGD	
1/4	1	0.001	
1/2	3	0.004	
3/4	6	0.008	
1	9	0.013	
1 1/4	12	0.018	
1 1/2	16	0.024	
1 3/4	21	0.030	
2	25	0.037	
2 1/4	31	0.045	
2 1/2	38	0.054	
2 3/4	45	0.065	
3	54	0.077	
3 1/4	64	0.092	
3 1/2	75	0.107	
3 3/4	87	0.125	
4	100	0.145	
4 1/4	115	0.166	
4 1/2	131	0.189	
4 3/4	148	0.214	
5	166	0.240	
5 1/4	185	0.266	
5 1/2	204	0.294	
5 3/4	224	0.322	6"
6	244	0.352	
6 1/4	265	0.382	
6 1/2	286	0.412	
6 3/4	308	0.444	
7	331	0.476	
7 1/4	354	0.509	
7 1/2	377	0.543	
7 3/4	401	0.578	8"
8	426	0.613	
8 1/4	451	0.649	
8 1/2	476	0.686	
8 3/4	502	0.723	

36" Cover

Height of spout above manhole rim in inches	SSO Flow Q		Min. sewer size in which these flows are possible
	in gpm	in MGD	
1/4	1	0.002	
1/2	4	0.006	
3/4	8	0.012	
1	13	0.019	
1 1/4	18	0.026	
1 1/2	24	0.035	
1 3/4	31	0.044	
2	37	0.054	
2 1/4	45	0.065	
2 1/2	55	0.079	
2 3/4	66	0.095	
3	78	0.113	
3 1/4	93	0.134	
3 1/2	109	0.157	
3 3/4	127	0.183	
4	147	0.211	
4 1/4	169	0.243	
4 1/2	192	0.276	
4 3/4	217	0.312	6"
5	243	0.350	
5 1/4	270	0.389	
5 1/2	299	0.430	
5 3/4	327	0.471	
6	357	0.514	
6 1/4	387	0.558	8"
6 1/2	419	0.603	
6 3/4	451	0.649	
7	483	0.696	
7 1/4	517	0.744	
7 1/2	551	0.794	
7 3/4	587	0.845	10"
8	622	0.896	
8 1/4	659	0.949	
8 1/2	697	1.003	
8 3/4	734	1.057	
9	773	1.113	

Disclaimer:

This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

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15) Manhole Overflow Rate Tables – Manhole Cover Removed

Form # _____

Duration and Flow Rate Using Manhole Overflow Rate Tables—Manhole Cover Removed Worksheet

Spill Date: _____ Location: _____

STEP 1: Determine the size of the manhole cover. Check one: 24" Cover 36" Cover

STEP 2: Measure the water height above the manhole frame in inches: _____ inches
Note: Be as precise as possible. A small difference in spout height can make a major difference in estimated spill volume!
 Describe how the spout height was determined:

STEP 3: Determine the Spill Rate by referring to Table 2. Use the table on the left for a 24" frame or the table on the right for a 36" frame. Find the height measured in Step 2 in the left column. Read the Spill Rate in the next column (gpm = gallons per minute). Spill Rate = _____ gpm

STEP 4: Complete the **Start Time Estimation Worksheet** to provide a detailed description of how start time was determined. Copy the information from the Start Time Estimation Worksheet here:

Spill Start Date: _____ Spill Start Time: _____ AM PM
 Spill End Date: _____ Spill End Time: _____ AM PM
 Spill Duration: _____ minutes

STEP 5: Multiply the spill rate by the spill duration to calculate the estimated spill volume.

_____ gpm	X	_____ minutes	=	_____ gallons
Spill Rate		Spill Duration		Estimated Spill Volume

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

- If no, you **MUST** use additional methods to estimate the entire spill.
- If yes, it is advisable to use additional methods to support your estimation.

Explain why you believe this method has or has not estimated the entire spill:

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

Don't forget photos!

SMART Sewer Overflow Volume Estimation Workbook

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Table 2

NOTE: This table is provided for general reference. The agency is strongly encouraged to develop site-specific data.

24" FRAME

Water height above manhole frame in inches	SSO Flow Q		Min. sewer size in which these flows are possible
	in gpm	in MGD	
1/8	28	0.04	
1/4	62	0.09	
3/8	111	0.16	
1/2	160	0.23	
5/8	215	0.31	6"
3/4	354	0.51	8"
7/8	569	0.82	10"
1	799	1.15	12"
1 1/8	1,035	1.49	
1 1/4	1,340	1.93	15"
1 3/8	1,660	2.39	
1 1/2	1,986	2.86	18"
1 5/8	2,396	3.45	18"
1 3/4	2,799	4.03	
1 7/8	3,132	4.51	
2	3,444	4.96	21"
2 1/8	3,750	5.4	
2 1/4	3,986	5.74	
2 3/8	4,215	6.07	
2 1/2	4,437	6.39	
2 5/8	4,569	6.58	24"
2 3/4	4,687	6.75	
2 7/8	4,799	6.91	
3	4,910	7.07	

36" FRAME

Water height above manhole frame in inches	SSO Flow Q		Min. sewer size in which these flows are possible
	in gpm	in MGD	
1/8	49	0.07	
1/4	111	0.16	
3/8	187	0.27	6"
1/2	271	0.39	
5/8	361	0.52	8"
3/4	458	0.66	
7/8	556	0.80	10"
1	660	0.95	12"
1 1/8	1,035	1.49	
1 1/4	1,486	2.14	15"
1 3/8	1,951	2.81	
1 1/2	2,424	3.49	18"
1 5/8	2,903	4.18	
1 3/4	3,382	4.87	
1 7/8	3,917	5.64	21"
2	4,458	6.42	
2 1/8	5,000	7.20	24"
2 1/4	5,556	8.00	
2 3/8	6,118	8.81	
2 1/2	6,764	9.74	
2 5/8	7,403	10.66	
2 3/4	7,972	11.48	30"
2 7/8	8,521	12.27	
3	9,062	13.05	
3 1/8	9,604	13.83	
3 1/4	10,139	14.60	
3 3/8	10,625	15.30	36"
3 1/2	11,097	15.98	
3 5/8	11,569	16.66	
3 3/4	12,035	17.33	
3 7/8	12,486	17.98	
4	12,861	18.52	
4 1/8	13,076	18.83	
4 1/4	13,285	19.13	
4 3/8	13,486	19.42	

Disclaimer:

This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

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16) Manhole Overflow Rate Tables – Flow Out of Vent or Pick Hole

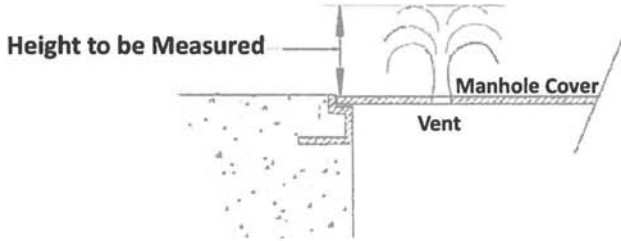

Form # _____											
Duration and Flow Rate Using Manhole Overflow Rate Tables—Flow Out of Manhole Vent or Pick Hole											
Spill Date: _____	Location: _____										
<p>STEP 1: Measure the water height flowing out of the vent or pick hole in inches: _____ inches <i>Note: Be as precise as possible. A small difference in spout height can make a major difference in estimated spill volume!</i></p> <p>Describe how the spout height was determined:</p>											
											
<p>STEP 2: Determine the Spill Rate by referring to Table 3. Find the height measured in Step 1 in the left column. Read the Spill Rate in the next column (gpm = gallons per minute). Spill Rate = _____ gpm</p>											
<p>STEP 3: Complete the Start Time Estimation Worksheet to provide a detailed description of how start time was determined. Copy the information from the Start Time Estimation Worksheet here:</p>											
<p>Spill Start Date: _____ Spill Start Time: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM</p> <p>Spill End Date: _____ Spill End Time: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM</p> <p style="text-align: right;">Spill Duration: _____ minutes</p>											
<p>STEP 4: Multiply the spill rate by the spill duration to calculate the estimated spill volume.</p>											
<table style="width: 100%; border: none;"> <tr> <td style="border: none;">_____ gpm</td> <td style="border: none;">X</td> <td style="border: none;">_____ minutes</td> <td style="border: none;">=</td> <td style="border: none;">_____ gallons</td> </tr> <tr> <td style="border: none; text-align: center;">Spill Rate</td> <td style="border: none;"></td> <td style="border: none; text-align: center;">Spill Duration</td> <td style="border: none;"></td> <td style="border: none; text-align: center;">Estimated Spill Volume</td> </tr> </table>		_____ gpm	X	_____ minutes	=	_____ gallons	Spill Rate		Spill Duration		Estimated Spill Volume
_____ gpm	X	_____ minutes	=	_____ gallons							
Spill Rate		Spill Duration		Estimated Spill Volume							
<p>Do you believe that this method has estimated the entire spill? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <ul style="list-style-type: none"> • If no, you MUST use additional methods to estimate the entire spill. • If yes, it is advisable to use additional methods to support your estimation. <p>Explain why you believe this method has or has not estimated the entire spill:</p>											
<p>This worksheet completed by:</p> <p>Name: _____ Signature: _____</p> <p>Job Title: _____ Date: _____</p>											
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="font-weight: bold; font-size: 1.2em;">SMART</div> <div style="font-size: 0.8em;">Sewer Overflow Volume Estimation Workbook</div> <div style="text-align: right; font-size: 0.8em;">  <p>©2013 DKF Solutions Group, LLC. All rights reserved. www.dkfsolutions.com</p> </div> </div>											

Table 3

NOTE: This table is provided for general reference. The agency is strongly encouraged to develop site-specific data.

This table is based on a 7/8 inch diameter pick hole

Height of spout above manhole cover in inches	SSO Flow Q in gpm
1/8	1.0
1/4	1.4
3/8	1.7
1/2	1.9
5/8	2.2
3/4	2.4
7/8	2.6
1	2.7
1 1/8	2.9
1 1/4	3.1
1 3/8	3.2
1 1/2	3.4
1 5/8	3.5
1 3/4	3.6
1 7/8	3.7
2	3.9
2 1/8	4.0
2 1/4	4.1
2 3/8	4.2
2 1/2	4.3
2 5/8	4.4
2 3/4	4.5
2 7/8	4.6
3	4.7
3 1/8	4.8
3 1/4	4.9
3 3/8	5.0
3 1/2	5.1
3 5/8	5.2
3 3/4	5.3
3 7/8	5.4
4	5.5
4 1/8	5.6
4 1/4	5.6
4 3/8	5.7
4 1/2	5.8
4 5/8	5.9
4 3/4	6.0
4 7/8	6.0
5	6.1

Height of spout above manhole cover in inches	SSO Flow Q in gpm
5 1/8	6.2
5 1/4	6.3
5 3/8	6.3
5 1/2	6.4
5 5/8	6.5
5 3/4	6.6
5 7/8	6.6
6	6.7
6 1/8	6.8
6 1/4	6.8
6 3/8	6.9
6 1/2	7.0
6 5/8	7.0
6 3/4	7.1
6 7/8	7.2
7	7.2
7 1/8	7.3
7 1/4	7.4
7 3/8	7.4
7 1/2	7.5
7 5/8	7.6
7 3/4	7.6
7 7/8	7.7
8	7.7
8 1/8	7.8
8 1/4	7.9
8 3/8	7.9
8 1/2	8.0
8 5/8	8.0
8 3/4	8.1
8 7/8	8.1
9	8.2
9 1/8	8.3
9 1/4	8.3
9 3/8	8.4
9 1/2	8.4
9 5/8	8.5
9 3/4	8.5
9 7/8	8.6
10	8/7

Disclaimer:

This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1.

This table is provided as an example. Other Agencies may want to develop their own estimating tables.


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17) Post-Event Flow Monitoring

Form # _____
Post-Event Flow Monitoring Worksheet
Spill Date: _____ Location: _____
Description of flow monitoring equipment used (e.g., model name and number): _____ _____
<p>STEP 1: Complete the Start Time Estimation Worksheet to provide a detailed description of how start time was determined. Copy the information from the Start Time Estimation Worksheet here:</p> <p>Spill Start Date: _____ Spill Start Time: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM Spill End Date: _____ Spill End Time: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM Spill Duration: _____ minutes</p> <p>STEP 2: Install the flow monitoring equipment in the same mainline segment that experienced the spill.</p> <p>STEP 3: Monitor the flow for the same duration as the spill duration determined in Step 1. Ideally monitoring should take place under the same weather conditions and on the same day of the week as the spill.</p> <p style="padding-left: 40px;">Monitoring Date: _____</p> <p style="padding-left: 40px;">Monitoring start time: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM</p> <p style="padding-left: 40px;">Monitoring end time: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM</p> <p style="padding-left: 40px;">Monitoring Duration: _____ minutes (should be equal to spill duration)</p> <p>STEP 4: Record the Average Flow Rate according to the flow monitoring equipment.</p> <p style="padding-left: 40px;">Average Flow Rate: _____ gallons per minute (gpm)</p> <p>STEP 5: Use the Average Flow Rate from Step 4 and the Spill Duration from Step 1 to calculate the Estimated Spill Volume.</p> <p style="padding-left: 40px;">_____ gpm X _____ minutes = _____ gallons</p> <p style="padding-left: 40px;">Average Flow Rate Spill Duration Estimated Spill Volume</p> <p>Do you believe that this method has estimated the entire spill? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <ul style="list-style-type: none"> • If no, you MUST use additional methods to estimate the entire spill. • If yes, it is advisable to use additional methods to support your estimation. <p>Explain why you believe this method has or has not estimated the entire spill:</p>
<p>This worksheet completed by:</p> <p>Name: _____ Signature: _____</p> <p>Job Title: _____ Date: _____</p>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="font-weight: bold; font-size: 1.2em;">SMART</div> <div style="font-size: 0.8em;">Sewer Overflow Volume Estimation Workbook</div> <div style="text-align: right; font-size: 0.8em;"> ©2013 DKF Solutions Group, LLC. All rights reserved. www.dkfsolutions.com </div> </div>



18) Field Spill Volume Estimation Summary

Form # _____															
FIELD SPILL VOLUME ESTIMATION WORKSHEET SUMMARY															
<p><i>INSTRUCTIONS: Complete this form and forward it along with a map showing stoppage/blockage location and overflow location, the Start Time Estimation Worksheet, the worksheets used to calculate the estimates, and any photographs of the spill to the appropriate party. Be sure to include any other SSO documentation created in accordance with agency procedures.</i></p>															
															
Spill Date: _____ Location: _____															
<p>1. Complete the Start Time Estimation Worksheet to provide a detailed description of how start time was determined. Copy the information from the Start Time Estimation Worksheet here:</p>															
Spill Start: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM Spill End: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM Spill Duration: _____ minutes <small style="display: flex; justify-content: space-between; width: 100%;"> date time date time </small>															
<p>2. Spill Volume Estimation Method(s) Used: Enter each method used, the estimated volume using that method and any comments.</p>															
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Method</th> <th style="text-align: left; border-bottom: 1px solid black;">Volume</th> <th style="text-align: left; border-bottom: 1px solid black;">Comments</th> </tr> </thead> <tbody> <tr> <td style="border-bottom: 1px solid black;">_____</td> <td style="border-bottom: 1px solid black;">_____ gallons</td> <td style="border-bottom: 1px solid black;">_____</td> </tr> <tr> <td style="border-bottom: 1px solid black;">_____</td> <td style="border-bottom: 1px solid black;">_____ gallons</td> <td style="border-bottom: 1px solid black;">_____</td> </tr> <tr> <td style="border-bottom: 1px solid black;">_____</td> <td style="border-bottom: 1px solid black;">_____ gallons</td> <td style="border-bottom: 1px solid black;">_____</td> </tr> <tr> <td style="border-bottom: 1px solid black;">_____</td> <td style="border-bottom: 1px solid black;">_____ gallons</td> <td style="border-bottom: 1px solid black;">_____</td> </tr> </tbody> </table>	Method	Volume	Comments	_____	_____ gallons	_____	_____	_____ gallons	_____	_____	_____ gallons	_____	_____	_____ gallons	_____
Method	Volume	Comments													
_____	_____ gallons	_____													
_____	_____ gallons	_____													
_____	_____ gallons	_____													
_____	_____ gallons	_____													
<p>3. Weather Conditions: <input type="checkbox"/> Sunny <input type="checkbox"/> Overcast <input type="checkbox"/> Windy <input type="checkbox"/> Snowing <input type="checkbox"/> Raining: rainfall during spill _____ inches Air Temperature: _____ Humidity: _____ How temp/humidity were determined: _____</p>															
<p>4. Describe any other factors contributing to the estimated spill volume. Include rationale for selecting method(s) and any additional information about the spill that influenced the estimation (attach an additional page if necessary):</p>															
<p>5. What volume is estimated to have been lost to evaporation, traffic or ground based on conditions: _____ gallons</p>															
<p>6. Calculate the estimated spill volume by adding the estimated volume plus any volume lost:</p>															
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">_____ gallons</td> <td style="text-align: center;">+ _____ gallons</td> <td style="text-align: center;">= _____ gallons</td> </tr> <tr> <td style="text-align: center; font-size: small;">Volume based on methods/conditions/factors</td> <td style="text-align: center; font-size: small;">Volume lost</td> <td style="text-align: center; font-size: small;">Estimated Spill Volume</td> </tr> </table>	_____ gallons	+ _____ gallons	= _____ gallons	Volume based on methods/conditions/factors	Volume lost	Estimated Spill Volume									
_____ gallons	+ _____ gallons	= _____ gallons													
Volume based on methods/conditions/factors	Volume lost	Estimated Spill Volume													
<p>7. Was any of the overflow recovered and/or returned to the system? <input type="checkbox"/> YES <input type="checkbox"/> NO If no: Explain why: _____ If yes: How was recovered/returned volume calculated? _____ How was recovery done? _____ Where is the documentation of the recovery process? _____ What volume of the spill was recovered and/or returned? _____ gallons</p>															
<p>8. Was rinse water used (check one)? <input type="checkbox"/> NO <input type="checkbox"/> YES, potable chlorinated water <input type="checkbox"/> YES, non-chlorinated/dechlorinated water If yes: What volume? _____ gallons How was this volume calculated? _____ What volume of rinse water was returned? _____ gallons How was this volume calculated? _____ Calculate the volume of rinse water used and not returned: _____ gallons</p>															
<p>9. Calculate the estimated volume of SSO and rinse water not recovered:</p>															
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">_____ gallons</td> <td style="text-align: center;">-</td> <td style="text-align: center;">_____ gallons</td> <td style="text-align: center;">+</td> <td style="text-align: center;">_____ gallons</td> <td style="text-align: center;">=</td> <td style="text-align: center;">_____ gallons</td> </tr> <tr> <td style="text-align: center; font-size: small;">Estimated Spill Volume (#6)</td> <td></td> <td style="text-align: center; font-size: small;">Total Volume Recovered/Returned (#7)</td> <td></td> <td style="text-align: center; font-size: small;">Rinse water not returned (#8)</td> <td></td> <td style="text-align: center; font-size: small; border: 1px solid black; border-radius: 50%; padding: 2px;">TOTAL EST. VOLUME NOT RECOVERED</td> </tr> </table>	_____ gallons	-	_____ gallons	+	_____ gallons	=	_____ gallons	Estimated Spill Volume (#6)		Total Volume Recovered/Returned (#7)		Rinse water not returned (#8)		TOTAL EST. VOLUME NOT RECOVERED	
_____ gallons	-	_____ gallons	+	_____ gallons	=	_____ gallons									
Estimated Spill Volume (#6)		Total Volume Recovered/Returned (#7)		Rinse water not returned (#8)		TOTAL EST. VOLUME NOT RECOVERED									
<p>This form completed by:</p>															
Name: _____ Signature: _____ Date: _____															
Reviewed by: _____ Signature: _____ Date: _____															
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">SMART Sewer Overflow Volume Estimation Workbook</td> <td style="text-align: right; font-size: small;">©2013 DKF Solutions Group, LLC. All rights reserved. www.dkfsolutions.com</td> </tr> </table>	SMART Sewer Overflow Volume Estimation Workbook	©2013 DKF Solutions Group, LLC. All rights reserved. www.dkfsolutions.com													
SMART Sewer Overflow Volume Estimation Workbook	©2013 DKF Solutions Group, LLC. All rights reserved. www.dkfsolutions.com														

Using Multiple Estimation Methods:

There are many ways to calculate a spill volume. Some methods will capture the entire spill, but other methods may only calculate a portion of the spill.

If a method captures the entire spill:

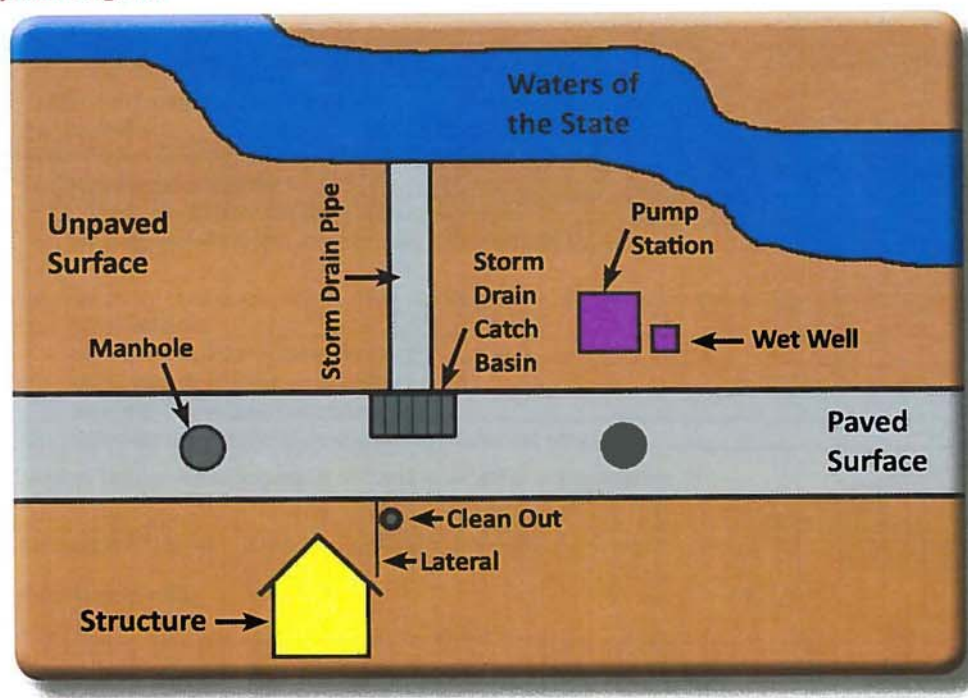
Select one method and then use at least one other method to support the initial estimate. Depending on the circumstances of the spill, it may make sense to average the volume estimates, or the final estimate may be skewed toward the calculation from one method or the other.

Example: The spill has ended by the time the crew arrives and 100% of the spill has been lost to waters of the State. In this case you might use the *Upstream Connections* method and then use the *Flow Calculation* method. The final estimate may be weighted toward one method or the other, or the two calculations could be averaged together.

If a method does not capture the entire spill:

Use a combination of methods in order to capture the entire spill volume. Depending on the circumstances of the spill and the methods used, the estimates may be added together to capture the entire spill. It is also possible to use a method that only calculates a portion of the spill as a reference point for the minimum spill volume.

Example: There is a spill from a manhole. A portion of the spill has been ponded and absorbed into the ground, and a portion of the spill has been contained in a storm drain. In this case, it would be advisable to use the *Area Volume Method: Ponded Sewage* to calculate the portion of the spill that has been ponded and absorbed. Then the *Area/Volume Method: Sewage Contained in Storm Drain System* would be used to account for the contained volume. In this case the two calculations would be added together. Then the *Upstream Connections Method* could be used as a double-check against the sum of the other two methods. Depending on the circumstances, the *Area/Volume* estimation and the *Upstream Connections* estimation may be averaged or weighted toward one of the methods.

Sewer System Diagram:

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3L) OVERFLOW / STOPPAGE RESPONSE FORM

**Collection System Operations Department
OVERFLOW/STOPPAGE RESPONSE FORM**

Event ID _____ Certification # _____ Spill Category _____ OES Control # _____

EST. # Gallons: _____ EST. # Gallons Returned: _____ Stoppage:

Initial Overflow (Stoppage) Response:

First Responder: _____ W/O# _____

Spill Location:

Lat: _____ Lon: _____

Street Address: _____ City: _____

Homeowner Name: _____ Phone: _____

Upstream Map and Structure: _____ Downstream Map and Structure: _____

Spill Appearance Point: Manhole (or PR/RI), Clean-out, Other _____

Final Spill Destination: Surface Body of Water (Reservoir), Flowing Creek, Storm Drain

Dry Drainage Channel, Paved Surface, Unpaved Surface, Other _____

Time caller noticed spill: _____ Date: _____

Photos Attached:

Time call was received: _____ Date: _____

Yes No

Time arrived at jobsite: _____ Date: _____

Blow down/stop time: _____ Date: _____

1. **Initial Action:** Crew Leader: _____ Date: _____ Results: _____

W/O# _____ Action: _____ Spot of Plug: _____ U/S D/S Follow-up: _____

2. **Re-Run:** Crew Leader: _____ Date: _____ Results: _____

W/O# _____ Action: _____ Follow-up: _____

3. **CCTV:** Crew Leader: _____ Date: _____

W/O# _____ Results: _____

4. **Re-Run:** Crew Leader: _____ Date: _____ Results: _____

W/O# _____ Action: _____ Follow-up: _____

5. **Re-CCTV:** Crew Leader: _____ Date: _____

W/O# _____ Results: _____

COMMENTS:

4. CLAIMS HANDLING

Central San staff shall offer a claim form to anyone upon request. All claims will be investigated and decisions regarding claims will be made as required by government code 910 et. seq.

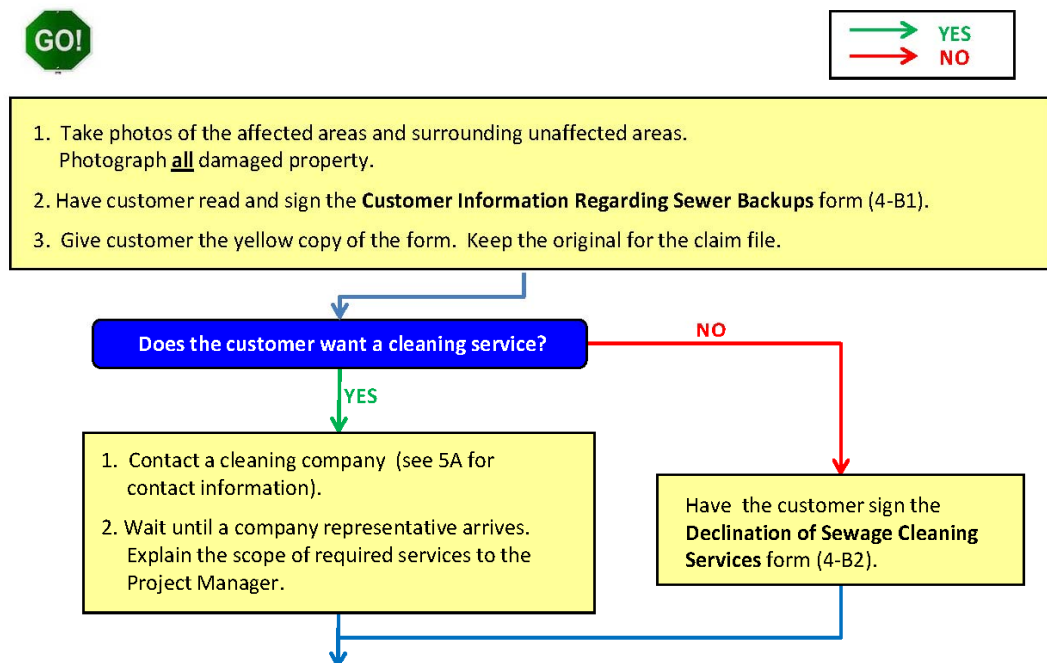
It is the responsibility of Central San staff to gather information regarding the incident and notify the appropriate Central San manager or designee.

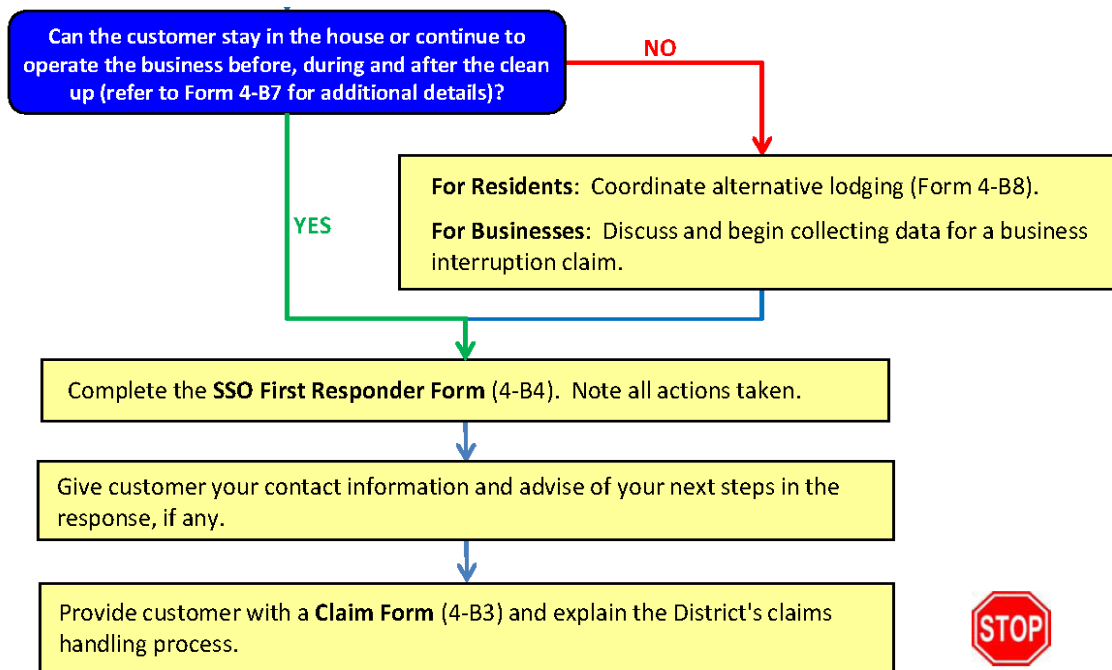
It is the responsibility of the Safety & Risk Management Administrator or his/her designee to review all claims and to oversee the adjustment and administration of each claim to closure.

4A) SANITARY SEWER OVERFLOW CLAIMS HANDLING PROCEDURE

Whenever an overflow causes or potentially causes damage to a home or business, contact Risk Management at 925-229-7320 (o) or 925-382-1368 (c).

If Risk Management staff is unavailable, field supervisors should follow these steps to resolve the immediate needs.





Upon notice of the loss Risk Management staff will make contact with the affected customer(s) and coordinate additional or ongoing needs (lodging, further clean up, reconstruction, etc.).

CSO field staff shall forward all documents, reports, photos and notes arising out of the loss to Risk Management as soon as possible to facilitate timely claims handling and resolution.

NOTE: All forms regarding property loss or damage are included in the Incident Envelope.

4B) CLAIMS HANDLING FORMS AND MATERIALS

The following forms are essential to properly manager a third party claim arising from an overflow:

- Customer Information Regarding Sewer Backups (4-B1)
- Declination of Sewage Cleaning Services (4-B2)
- Claim Form (4-B3)

These other forms and materials may be used as the situation warrants.

- Affected Personal Property Inventory Log (4-B4)
- Building History Form (4-B5)
- Livability Assessment (4-B6)
- Hotel Authorization Form (4-B7)
- Sewer Spill Reference Guide (4-B8)
- Overflow Protection Device Handout (4-B9)
- Maintaining the Flow Brochure (4-B10)
- Door Hanger (4-B11)



Customer Information Regarding Sewer Backups

Address: _____	Date: _____
-----------------------	--------------------

Dear Mr./Ms.: _____

We recognize that sewer backup incidents can be stressful and require immediate response before all facts concerning how an incident occurred are known. Rest assured that we do all we can to prevent this type of event from occurring. Nevertheless, occasionally tree roots or other debris in the sewer lines will cause a backup into homes or businesses immediately upstream of the blockage. At this time, the Central Contra Costa Sanitary District (CCCSD) is investigating the cause of the incident.

If CCCSD is found to be responsible for the incident, we are committed to cleaning and restoring your property and to protect the health of those affected during the remediation process.

We have contacted the following company to perform the necessary cleaning and restoration process:

Company Name/Phone: _____

The cleaning contractor provided by CCCSD has been selected because of its adherence to established protocols that are designed to assure all parties thorough, cost-effective and expeditious cleaning services. You have the right to select your own cleaning contractor but CCCSD does not guarantee payment of fees or expenses incurred and reserves the right to dispute fees and expenses deemed not usual and customary.

If you wish to submit a claim for damages, please contact Safety & Risk Management for CCCSD at 925-229-7320.

What You Need To Do Now:

- Do not attempt to clean the area yourself. Let the cleaning company handle this.
- Keep people and pets away from the affected area(s).
- Do not remove items from the affected area(s). The cleaning company will do this while they create an inventory of affected items.
- If you had recent plumbing work performed, contact your plumber or contractor to inform them of this incident.
- If you intend to file a claim, please do so as soon as practical. The California Government Code (Sec. 900-960) requires the filing of written claim and specifies timelines and notice procedures required in order to have your claim considered.

I/We acknowledge receipt of this notice:

Customer Signature: _____ **Date:** _____

CCCSD Signature: _____ **Date:** _____

Distribution: Original to Safety & Risk Management, Copy to Field Ops. Supt., Copy to Customer



Declination of Sewage Cleaning Services

Customer Name:		
Address:		
Phone:		
Incident Date:	Incident Time:	Est # Gallons:
Photos Taken: <input type="checkbox"/> Yes <input type="checkbox"/> No	Suspected Cause of Overflow:	
<p style="text-align: center;">Contents</p> <input type="checkbox"/> Wastewater <input type="checkbox"/> Grey Water <input type="checkbox"/> Toilet Bowl Water <input type="checkbox"/> Other (Describe)	<p style="text-align: center;">Overflowed from</p> <input type="checkbox"/> Toilet <input type="checkbox"/> Shower/Tub <input type="checkbox"/> Sink <input type="checkbox"/> Washer <input type="checkbox"/> Backflow Prevention Device <input type="checkbox"/> Other (Describe)	<p style="text-align: center;">Areas Affected</p> <input type="checkbox"/> Bathroom(s) _____ <input type="checkbox"/> Hallway <input type="checkbox"/> Kitchen <input type="checkbox"/> Bedroom(s) _____ <input type="checkbox"/> Garage <input type="checkbox"/> Crawlspace <input type="checkbox"/> Exterior Only
Flooring Affected: <input type="checkbox"/> Tile <input type="checkbox"/> Linoleum <input type="checkbox"/> Carpet <input type="checkbox"/> Hard Wood <input type="checkbox"/> Laminate <input type="checkbox"/> Unfinished <input type="checkbox"/> Other (Describe)		
Personal Property Affected: <input type="checkbox"/> Area Rugs <input type="checkbox"/> Towels <input type="checkbox"/> Bathmats <input type="checkbox"/> Clothing <input type="checkbox"/> Other (Describe below)		
Customer – Please Read and Sign Below		
<p>I/We acknowledge that the Central Contra Costa Sanitary District (CCCSD) has offered to provide professional cleaning and decontamination services to remediate the sewage backup and/or overflow described above and that we declined the offer. We further understand and acknowledge that because we have declined this offer, any necessary remediation activities will be conducted without CCCSD assistance and that CCCSD will not accept responsibility for work performed by persons other than those engaged by CCCSD. CCCSD will also not accept responsibility for any charges related to this incident that are not usual and customary. Please contact the CCCSD Safety & Risk Management Administrator at 925-229-7320 if you have any questions.</p>		
The information above was explained to the Customer by:		
Employee Signature:	Title:	
Customer Signature:	Date:	

Distribution: Original to Safety & Risk Management

Copy to Customer



CENTRAL CONTRA COSTA SANITARY DISTRICT

CLAIM FORM

(Government Code §§ 910, 910.2, 910.4)

CLAIMANT'S NAME: _____

CLAIMANT'S ADDRESS: _____

No.	Street	City	State	Zip Code
_____	_____	_____	_____	_____

Phone: (Home) _____ (Work): _____

NAME AND ADDRESS OF PERSON TO WHOM NOTICES REGARDING THIS CLAIM SHOULD BE SENT (if different than above):

DATE OF THE OCCURRENCE, TRANSACTION, OR ACCIDENT GIVING RISE TO CLAIM: _____

DATE OF DISCOVERY OF OCCURRENCE, CONDITION OR TRANSACTION, IF DIFFERENT THAN DATE SET FORTH IN SECTION 1: (Please indicate earliest date of discovery of occurrence, condition or transaction, which gives rise to claim. Indicate how discovered.)

PLACE OF OCCURRENCE, ACCIDENT OR TRANSACTION:

GENERAL DESCRIPTION OF THE OCCURRENCE, ACCIDENT OR TRANSACTION GIVING RISE TO THE CLAIM (attach additional pages if more space is needed):

GENERAL DESCRIPTION OF THE OBLIGATION, LOSS, INJURY OR DAMAGE SUFFERED:

PROVIDE NAMES, IF KNOWN, OF ANY PUBLIC EMPLOYEES CAUSING THE INJURY OR LOSS:

TOTAL AMOUNT CLAIMED: _____ **\$** _____

SIGNATURE OF CLAIMANT OR SIGNATURE OF REPRESENTATIVE OF CLAIMANT

_____ **or** _____
Claimant **Representative of Claimant**

_____ **Print or type full name**

Date

Representative capacity
(attorney, guardian, etc.)

Send this claim to the following:

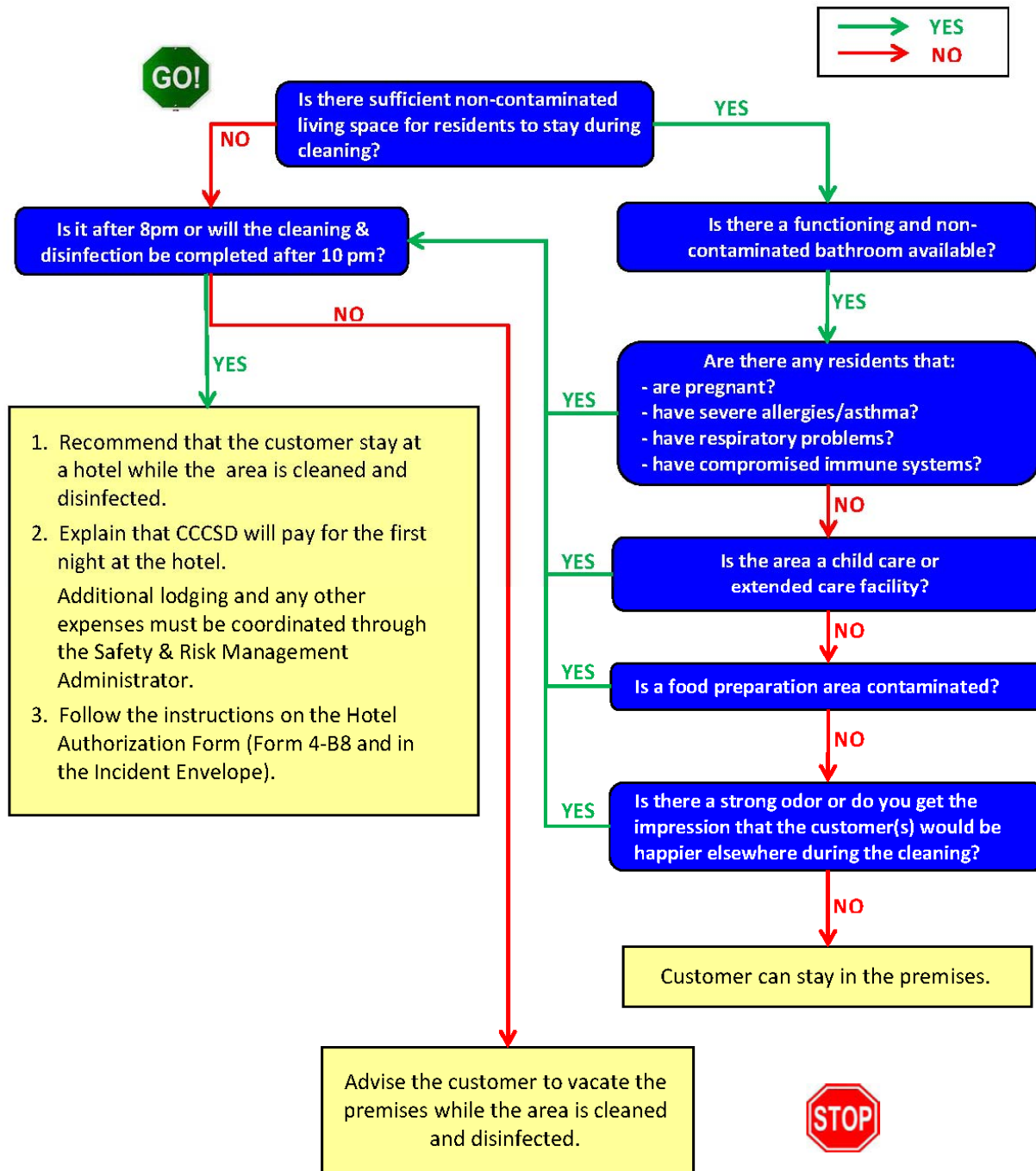
**Central Contra Costa Sanitary District
Ms. Elaine R. Boehme
Secretary of the District
5019 Imhoff Place
Martinez, CA 94553**

S&RM 04/05

Building History Form	
<i>Complete this form as thoroughly as possible.</i>	
Your Name:	
Today's Date:	Date of Overflow:
Affected Property Address:	
Primary Resident's Name:	
Any other residents at this address? <input type="checkbox"/> Yes <input type="checkbox"/> No Approximate Ages:	
Is resident the owner? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, list owner's name, address and phone number:	
Were the residents relocated to a hotel? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Hotel Name and City:	
Name of cleaning company called: Project Manager Name and Phone:	
Year Home Built:	# of Bathrooms:
List Rooms Affected:	
How long was sewage sitting?	
Is there an OPD? <input type="checkbox"/> Yes <input type="checkbox"/> No	Was it functional? <input type="checkbox"/> Yes <input type="checkbox"/> No
Any plumbing permits within last 3 years? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, describe:	
Any active plumbing projects observed? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, describe:	
Last cleaning of line segment:	Last repair of line segment:
Any prior spills at this location? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, when:	

Livability Assessment

4-B6



Hotel Authorization Form

INSTRUCTIONS TO EMPLOYEE:

- Review this form with the customer and ask them to select, in order of preference, which of the hotels they wish to stay at.
- Call the hotels to determine vacancy.
- Explain to the customer that only the first night's room and tax will be covered. All other hotel expenses will be their responsibility. Additional nights and other expenses must be approved by the Safety and Risk Management Administrator.
- Have the resident complete and sign the acknowledgement section at the bottom of the form.
- Give the resident the bottom copy of the form.

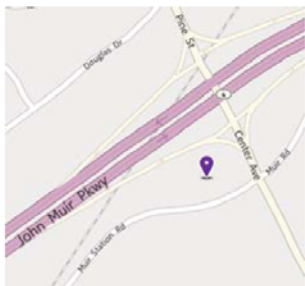
INSTRUCTIONS TO CUSTOMER:

This emergency lodging authorization is granted under the following conditions:

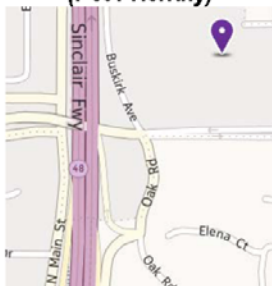
1. The voucher is good for one night's room and tax only. Phone, food and other charges will be your responsibility.
2. Additional nights or approval of other expenses must be approved by the District's Safety & Risk Management Administrator. Phone is (925) 229-7320.
3. Please bring a photo ID with you for hotel check-in.

HOTEL OPTIONS:

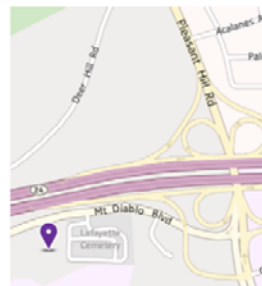
Best Western John Muir Inn
445 Muir Station Rd.
Martinez, 229-1010



Extended Stay America
3220 Buskirk Ave.
Pleasant Hill, 945-6788
(Pet Friendly)



Lafayette Park Hotel
3287 Mt. Diablo Blvd.
Lafayette, 283-3700



Emergency Hotel Authorization Voucher

Good for one night's stay at the hotel selected above on (date): _____

Guest(s) Name: _____

Field Supervisor Name: _____

Customer Acknowledgement

I/we have read the terms and conditions governing this offer of temporary relocation and agree to abide by them as described above.

Name (Please print): _____

Affected Address: _____

Phone # where you can be reached: _____

Signature: _____ Date: _____

Original to Risk Management. Copies to Customer and Field Ops Superintendent.

SEWER SPILL REFERENCE GUIDE

Your Responsibility as a Private Property Owner

What is a Sewage Spill?

Sewage spills occur when the wastewater being transported via underground pipes overflows through a manhole, cleanout, or broken pipe. Sewage spills can cause health hazards, cause damage to homes and businesses and threaten the environment, local waterways and beaches.

Common Causes of Sewage Spills:

- Grease builds up and can eventually block the sewer pipes. Grease gets into the sewer from food establishments, household drains, and from poorly maintained commercial grease traps and interceptors. Grease is a common cause of pipe blockages.
- Structure problems including tree roots in the sewer lines, broken or cracked pipes, missing or broken clean-out caps, or undersized sewers.
- Infiltration and Inflow (I&I) impacts pipe capacity and is caused when groundwater or rainwater enters the sewer system through pipe defects and illegal connections.

Who Is Responsible for Sewer Repairs and Maintenance?

Each home or commercial building has a separate connection to the public sanitary sewer main. That connection is called a 'lateral'. It is the property owner's responsibility to maintain and repair their own sewer lateral from the house to the point of connection with the public sewer main. The Uniform Plumbing Code and the Central San Sewer Use Ordinance requires property owners to install and maintain a sanitary sewer overflow protection device on their private sanitary sewer service lateral.

You Are Responsible for a Sewage Spill Caused by a Blockage or Break in Your Sewer Lines

Time is of the essence in dealing with sewage spills. You are required to do the following immediately:

- Control and minimize the spill. Keep spills contained on private property and out of gutters, storm drains, and public waterways by shutting off or not using the water.
- Use sandbags, dirt and/or plastic sheeting to prevent sewage from entering the storm drain system.
- It is recommended that you call a plumbing professional to clear blockages and make necessary repairs.
- Always notify Central San of sewage spills. If the spill exceeds 1,000 gallons, notify the California Office of Emergency Services (phone number on reverse).

You Could Be Liable for Not Protecting the Environment

Allowing sewage from your home, business or property to discharge to a gutter or storm drain may subject you to penalties and other out-of pocket costs to reimburse public agencies for clean-up and enforcement efforts.

California Health and Safety Code Sections 5410-5416 says that no person shall discharge raw or treated sewage or other waste in a manner that results in contamination, pollution, or nuisance. Any person who causes or permits a sewage discharge to any state waters 1) must immediately notify the local health agency of the discharge and 2) shall reimburse the local health agency for services that protect the public's health and safety. Persons who fail to provide this notice are guilty of a misdemeanor and shall be punished by a fine and/or imprisonment for less than one year.

California Water Code, Article 4, Chapter 4, Sections 13268-13271 and the California Code of Regulations, Title 23, Division 3, Chapter 9.2, Article 2, Sections 2250-2260 require that any person who causes or permits sewage in excess of 1,000 gallons to be discharged into state waters shall immediately notify the Office of Emergency Services. Persons who fail to provide this notice are guilty of a misdemeanor and shall be punished by a fine and/or imprisonment for less than one year.

What to Look For:

Sewage spills can include water gushing from a manhole to less noticeable leaks that may take time to be noticed. Look for the following:

- Drain backups inside the building
- Wet ground and water leaking around manhole covers onto your street
- Leaking water from clean-outs or outside drains
- Unusual odorous wet areas, sidewalks, external walls, grounds or landscaping around a building

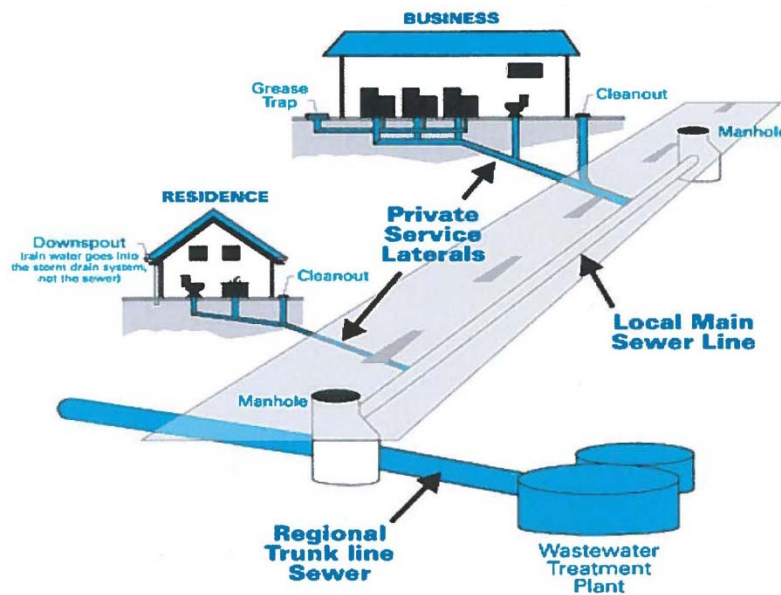
Caution!

When trying to locate a sewer problem, never open manholes or other public sewer structures. Because of potential hazards, only Central San personnel are allowed to open and inspect these structures.

Keep people and pets away from an area affected by a sewage spill. Untreated sewage has high levels of disease-causing viruses and bacteria. Always wear gloves whenever working around raw sewage and remember to wash your hands thoroughly when done.

How a Sewer System Works

A property owner’s sewer pipe is called a lateral and is connected to larger local main and regional trunk sewer lines. Service laterals run from the connection at the building to the connection with the public sewer, sometimes including areas under the street. These laterals are the property owner’s responsibility to maintain and repair.



IF YOU HAVE A SEWAGE SPILL FROM YOUR PRIVATE SEWER LINE, CONTACT:

- Central San.....925-933-0990 or 925-933-0955
- Contra Costa County Department of Environmental Health.....925-646-2286
or 925-646-1112 in case of emergency
- Regional Water Quality Control Board.....510-622-2460
- California Office of Emergency Services.....800-852-7550

Overflow Protection Device

6 inches

Ground Level

Building Sewer Cleanout

Building Sewer Cleanout

Property line

Lateral

Main Sewer Line

Wastewater flows from the building or house through a lateral sewer that connects to the main sewer line.

The Overflow Protection Device allows an overflow to occur outside the building rather than inside.

The property owner maintains this portion of the sewer connection

Maintained by CCCSD

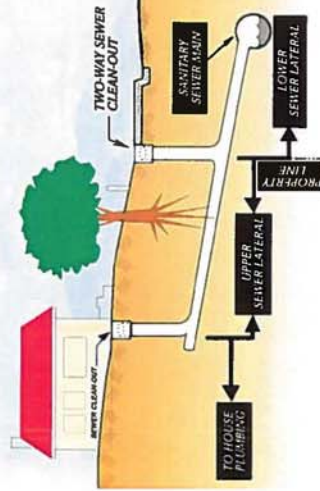
An Overflow Protection Device can save you from the very unpleasant and often costly experience of a sewage backup into your home.

Central Contra Costa Sanitary District
Protecting Public Health and the Environment
5019 Imhoff Place, Martinez, CA 94553-4392
(925) 228-9500
www.centrcsan.org

6010-4/08

What We Do NOT Do

We do not clean, maintain or repair side sewers, lateral sewers or house sewers -- these are the responsibility of the property owner. The side sewer connects the plumbing system of the building to the public sewer. **The side sewer begins with and includes the connection to the public sewer, and terminates at the point of connection to the building plumbing system (usually two feet outside the foundation line or building wall).** The side sewer includes the lateral sewer and the house sewer. The lateral sewer is the portion of the side sewer which is within the public right-of-way or District easement. The house sewer is that portion of the side sewer from the lateral sewer to its connection to the building plumbing system.



Overflows/sewage spills from side sewers, lateral sewers or house sewers must be dealt with by the property owner. Immediate action should be taken to control and minimize the spill and clear the sewer blockage (a plumber may be necessary). Under no circumstances should sewage from your property be allowed to discharge into a gutter or storm drain. ▽

Maintaining the Flow

How we protect the public health and the environment by keeping your public sewers operating at peak efficiency

How To Contact Us

General Information	(925) 228-9500
Sewer Overflows (24 Hours)	(925) 933-0955 or 933-0990
Treatment Plant InfoLine (To Report Odors)	(925) 335-7703
Household Hazardous Waste InfoLine	(800) 646-1431
Sewer Connection Permits	(925) 229-7371
Illegal Discharges into Sewer System	(925) 229-7288 or 229-7214
Safety & Risk Management	(925) 229-7390
Job Hotline	(925) 229-7109
Student Education Programs	(925) 229-7310
Public InfoLine	(925) 335-7702

Or visit our website at www.centraisan.org



Take precautions

when dealing with a sewage spill. Always wear gloves and wash your hands. Keep people and pets away. Untreated sewage can cause health hazards and threaten the environment.



Central Contra Costa Sanitary District

Introduction

The purpose of this brochure is to provide you with information about Central Contra Costa Sanitary District (CCCSD) and, more specifically, our Collection System Operations (CSO) Department. You may have seen our CSO work crews in your neighborhood and wondered what they were doing and why. This brochure is intended to provide answers to those questions. ▲



Green: Sewage collection and wastewater treatment for 204,170 people and HHW collection service

Light Blue: Wastewater treatment for 126,300 residents in Concord and Clayton by contract and HHW collection service

Orange: HHW collection service only

Blue Square: Central San's Headquarters Office Building, treatment plant, and HHW Collection Facility are located in Martinez

Red Triangle: The District's Collection System Operations Department (sewer maintenance) is based in Walnut Creek

Who We Are

CCCSD is a special district with a five-member Elected Board of Directors. Our primary responsibility is to protect the health of the public and the environment through safe and effective sewage collection, treatment and disposal. With about 250 employees, CCCSD also operates a household hazardous waste collection facility, recycles high-quality water, and promotes pollution prevention through various educational, informational and inspection programs. Located at the intersection of State Highway 4 and Interstate 680, CCCSD's modern wastewater treatment facility treats an average of 45 million gallons of wastewater per day for more than 400,000 residents and businesses in central Contra Costa County. ▲



What We Do

CCSD's collection system includes more than 1,400 miles of underground pipeline ranging in size from 6 to 102 inches in diameter. To ensure a constant, efficient flow through those lines, our Collection System Operations (CSO) crews conduct critical cleaning, television inspection, and repair operations on an ongoing basis. They also handle occasional sewer replacement projects. With all of this activity, these crews are bound to cross your path at some time or another. And since our work could impact your life with noise or traffic delays, it's important to us that you know why we're there.



Cleaning and Maintenance Services

"Routine" maintenance is performed on all collection system pipelines once every 10 years. "Scheduled" maintenance is performed more frequently, sometimes even monthly, on lines especially susceptible to clogging. Our crews clean/maintain an average of 400 miles of pipeline each year. So 90% percent of the time, the people you see in CCSD orange shirts and hard hats are CSO crews working to clean, repair and inspect sewer lines.

The majority of plugged sewers are caused by roots infiltrating the sewer lines. The most effective way to deal with infiltrating roots is with the power-rod-ding truck, which can reach 1,000 feet or more of continuous pipeline. An auger or scraper is attached to the truck's 3/8-inch rod and pushed through the line. As the auger is slowly pulled back, it scrapes along the sides of the pipes, taking with it any roots it encounters. The power rodder, however, cannot be used on every sewer line. Rodding required in easements or other out-of-the-way places must be done by hand with a portable rodder. This piece of equipment is removed from the truck and carried wherever necessary. Its range is 300 feet of pipeline.

In addition, CSO cleaning crews treat about 60,000 feet of sewer pipeline each year with a chemical foam that kills roots on contact.

Another major cause of plugged sewers is grease. Sewer lines located downstream from restaurant areas are especially prone to heavy grease build-up and blockage. To clean out the layers of hardened grease from the sewer lines, the crew uses a technique called hydroflushing. The hydroflush truck uses a water hose with a special nozzle that creates a high-pressure spray (2,000 psi) to scour the inside of a pipe. The high-pressure water knocks material loose from the pipe walls, and also pushes out any other loose material such as sand, grit and mud. A circular hydro-root saw can be attached to the nozzle of the hydroflush and used to cut through the hardest grease and, when necessary, through roots. Up to 850 feet of continuous pipeline can be cleaned this way.

Another valuable piece of equipment is the Vector Jet Rodder. It also uses high-pressure water to clean out sewer lines, but has the additional feature of vacuuming up all the loosened debris at the same time the line is being cleaned. This virtually eliminates the need for crews to make manhole entries to remove debris after a hydroflush cleaning. ▲

On-Call/Emergency Services
Overflows/

Pipeline Repair & Replacement Services

On other, more rare occasions, you'll see our crews working to repair or replace sewer lines. CCCSD has been around since 1946, and some of the pipes we acquired over the years have been in place long before we came along. Dilapidated or undersized sewers that no longer function properly must be repaired or replaced.



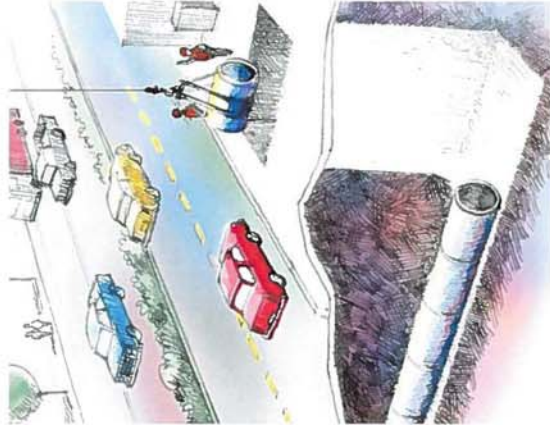
TV inspections are also performed on newly constructed lines

Often, the first step in repairing or replacing a sewer line involves Close Circuit Television/Locating. When a problem area in a main line is suspected, a small video camera on wheels/skids, with a locating device attached to it, is pulled through the line. Viewing the images on a remote television monitor, CSO crew members can pinpoint problem areas within the pipes and determine the best corrective action to take. TV inspections are also performed on newly constructed lines to verify the quality of construction.

When repairs or replacements are necessary, we use trenchless or "no-dig" technology whenever possible. "No-dig" technology drastically reduces the amount of surface disruption that occurs with pipeline replacement. It saves money and reduces construction impacts on

residents and businesses. This technique is especially useful in high-density areas where backyard easements, landscaping and structural barriers make open-cut construction extremely expensive.

A state-of-the-art piece of equipment that has revolutionized the method for replacing old sewer pipe is the pipe insertion machine. It can replace pipe in half the time of conventional methods which involve digging up the ground, removing the old pipe, installing a new one, and covering it up. The new technique is called pipe bursting. The pipe insertion machine is pneumatically driven through the soil. It disintegrates old pipe, enlarges the ensuing hole, and pulls in new pipe -- all in the same operation. The only excavation required is two pits every 400-500 feet for the launch and retrieval of the equipment, and a small pit at each side-sewer connection.



"No-dig" technology drastically reduces the amount of surface disruption

...y must be dealt with service and respond to emergencies within 30 minutes, day or night. Non-emergency responses are usually within 45 minutes. If you suspect a problem, please call us immediately at (925) 933-0955



Using this method is much more preferable to the long and deep trenches dug with the old method.

Another "no dig" technique is called horizontal boring. A drill rig laid on its side bores through the soil horizontally, creating a hole through which a pipe is pulled. This technique is particularly useful in hilly areas.

Cured in-place pipe (CIPP), or inversion lining is another trenchless technology. This technique leaves the old pipeline in place while a polyester felt liner, impregnated with a thermosetting resin, is inserted and filled with hot water for curing. Once the curing process is completed, the sewer is as good as new. ▾



**Central Contra Costa
Sanitary District**

5019 Imhoff Place, Martinez, CA 94553 (510) 228-9500

Emergency Service: (510) 933-0990
(510) 933-0955

**WHILE YOU WERE OUT, THESE
SERVICES WERE PERFORMED...**

- Dye test
- Main line rodded
- Overflow device installed
- Structure located
- Sewer line located
- Water sample tested
- Sewer line repair
- Sewer manhole repair
- Televised sewer line
- Other _____

Remarks: _____

Crew Leader: _____

Date: _____

Signed _____

5. RESOURCES

5A) EMERGENCY VENDOR CONTACT INFORMATION

SERVICE/SUPPLIES	VENDOR NAME	PHONE NUMBER
Hazardous Materials Response	Phillips Service Corp. (PSC)	707-746-8287 (Benicia)
	NRC Environmental Services	800-337-7455
Spills to Creeks or Other Waterways	Phillips Service Corp. (PSC)	707-748-3058
	NSC Environmental Services	800-337-7455
Sewer Backup Cleanup	Restoration Management	800-400-5058
	ServiceMaster Restore	855-646-8988
Generators / Lane Closure / Equipment Rental	Cresco Equipment Rental	925 827-1742 (Pleasant Hill)
		925 284-4595 (Lafayette)
		925 837-4475 (Danville)
United Rental	510-562-3000 (Oakland)	
	925-370-1000 (Martinez)	
Bay Area Barricade	925-686-1089	
Other	Trench Plate Rental	877-246-4086 (Newark) 800-321-5550 (Pittsburg)
	Rain for Rent	925-679-2839 (Oakley)

5B) OTHER AGENCY CONTACT INFORMATION

AGENCY NAME	PHONE NUMBER
City of Concord	925-671-3425
Delta Diablo	925-756-1900
Union Sanitary District	510-477-7500
East Bay MUD	866-403-2683
Contra Costa Water District	925-688-8000
Mt. View Sanitary District	925-228-5635

5c) PUBLIC POSTING NOTICE

WARNING!

RAW

SEWAGE

KEEP OUT!

Central Contra Costa Sanitary District

*For more information, call
925-933-0990 or 925-933-0955*

Print this page on orange paper and laminate.

6. PLAN MAINTENANCE

6A) PLAN REVIEW AND UPDATES

This Plan will be reviewed and updated during every 2-year audit by the Collections System Operations Division Manager and the Field Operations Superintendent.

The Field Operations Superintendent will ensure that material or significant changes to the Plan are incorporated into the document and are recorded on the Review and Revision Log (Page 1) and ensure that the contents of this Plan are consistent with Element 6 of Central San's Sewer System Management Plan.

6B) TRAINING

The Field Operations Superintendent and/or Supervisors will provide training on this Plan to field crews at least annually and will advise field crews of any changes made to the Plan between such trainings in a timely manner.

Appendix A – Health and Safety Code Sections 5410-5416

12/15/2016

Codes Display Text



California
LEGISLATIVE INFORMATION

Code: Section:

[Up^](#) [Add To My Favorites](#)

HEALTH AND SAFETY CODE - HSC

DIVISION 5. SANITATION [4600 - 6127] (*Division 5 enacted by Stats. 1939, Ch. 60.*)

PART 3. COMMUNITY FACILITIES [4600 - 6127] (*Heading of Part 3 amended by Stats. 1970, Ch. 420.*)

CHAPTER 6. General Provisions with Respect to Sewers [5400 - 5474.10] (*Chapter 6 enacted by Stats. 1939, Ch. 60.*)

ARTICLE 2. Sewage and Other Waste [5410 - 5416] (*Heading of Article 2 amended by Stats. 1967, Ch. 1447.*)

5410. As used in this chapter:

- (a) "Waste" includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation of whatever nature.
- (b) "Person" as used in this article also includes any city, county, district, the state or any department or agency thereof.
- (c) "Waters of the state" means any water, surface or underground, including saline waters, within the boundaries of the state.
- (d) "Contamination" means an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. "Contamination" shall include any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.
- (e) "Pollution" means an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects: (1) such waters for beneficial uses, or (2) facilities which serve such beneficial uses. "Pollution" may include "contamination."
- (f) "Nuisance" means anything which: (1) 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, and (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal, and (3) occurs during, or as a result of, the treatment or disposal of wastes.
- (g) "Regional board" means any California regional water quality control board created pursuant to Section 13201 of the Water Code.
(Amended by Stats. 1969, Ch. 482.)

5411. No person shall discharge sewage or other waste, or the effluent of treated sewage or other waste, in any manner which will result in contamination, pollution or a nuisance.
(Amended by Stats. 1967, Ch. 1447.)

5411.5. (a) Any person who, without regard to intent or negligence, causes or permits any sewage or other waste, or the effluent of treated sewage or other waste, to be discharged in or on any waters of the state, or discharged in or deposited where it is, or probably will be, discharged in or on any waters of the state, shall, as soon as that person has knowledge of the discharge, immediately notify the local health officer or the director of environmental health of the discharge.

(b) A person who fails to provide the notice required by this section is guilty of a misdemeanor and shall be punished by a fine of not less than five hundred dollars (\$500) nor more than one thousand dollars (\$1,000), or imprisonment for less than one year, or both the fine and imprisonment.

(c) The notification required by this section shall not apply to a discharge authorized by law and in compliance with waste discharge requirements or other requirements established by the appropriate regional water quality control board or the State Water Resources Control Board.

(d) The notification required by this section shall not apply to an unauthorized discharge of effluent of treated sewage defined as recycled water pursuant to Section 13050 or 13529.2 of the Water Code.

(Amended by Stats. 2013, Ch. 635, Sec. 2. Effective January 1, 2014.)

5412. Whenever the state department or any local health officer finds that a contamination exists, the state department or officer shall order the contamination abated, as provided in this chapter, and, commencing July 1 of a year in which the Legislature has appropriated sufficient funds for this purpose, shall submit any report required pursuant to subdivision (d) of Section 13193 of the Water Code.

(Amended by Stats. 2001, Ch. 498, Sec. 2. Effective January 1, 2002.)

5412.5. (a) Any person who, without regard to intent or negligence, causes or permits any sewage or other waste, or the effluent of treated sewage or other waste to be discharged in or on any waters of the state, or discharged in or deposited where it is, or probably will be, discharged in or on any waters of the state that may cause contamination of waters used for a water-contact sport, as defined in Section 24155, shall reimburse the local health officer or the director of environmental health for the necessary and actual costs incurred to mitigate the threat of contamination and to protect the health and safety of the public.

(b) The governing body of the county shall establish the amount of payment at a level sufficient to pay the necessary and reasonable costs incurred by the local health officer or environmental health director administering this section and Section 5411.5.

(c) For the purposes of this section "mitigate" includes, but is not limited to, actions taken by the local health officer or the director of environmental health in the affected tributaries and waters used for a water-contact sport to investigate the waste discharge, to collect and analyze water samples to determine the areas of contamination, to close or restrict use, to post closure signs, and to notify the public of closures or restrictions.

(d) This section shall not apply to discharge authorized by law and in compliance with waste discharge requirements or other requirements established by the appropriate regional water quality control board or the State Water Resources Control Board.

(Added by Stats. 1992, Ch. 410, Sec. 2. Effective January 1, 1993.)

5413. Whenever the state department finds that a pollution or nuisance does, in fact, exist, that condition shall be immediately referred by the state department to the proper regional board for action, together with any recommendations for correction, and, commencing July 1 of a year in which the Legislature has appropriated sufficient funds for this purpose, the state department shall submit any report required pursuant to subdivision (d) of Section 13193 of the Water Code. Upon request of a regional board, the state department shall inspect and report to the board on any technical factors involved in any condition of pollution or nuisance.

(Amended by Stats. 2001, Ch. 498, Sec. 3. Effective January 1, 2002.)

5414. With respect to any condition of contamination, the state department may accept the action of any state, county, or municipal officer or agency having jurisdiction over the matter as sufficient.

(Repealed and added by Stats. 1949, Ch. 1550.)

5415. No provision in this chapter is a limitation on any of the following:

(a) The authority of a city or county to adopt and enforce additional regulations not in conflict with this chapter imposing additional conditions, restrictions, or limitations relating to the disposal of sewage or other waste.

(b) The authority of any city or county to declare, prohibit, and abate nuisances.

(c) The authority of a state agency in the enforcement or administration of any provision of law which it is specifically permitted or required to enforce or administer.

(d) The right of any person to maintain at any time any appropriate action for relief against any private nuisance as defined in the Civil Code or for relief against any contamination or pollution.

(e) The authority of a city or county to adopt and enforce regulations relating to the use of recycled water in accordance with Chapter 7 (commencing with Section 13500) of Division 7 of the Water Code.

(Amended by Stats. 1995, Ch. 28, Sec. 5. Effective January 1, 1996.)

5416. (a) There shall be not less than one water closet for each 20 employees or fractional part thereof working at a construction job site.

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(b) The water closet shall consist of a patented chemical type privy, or a pit privy; provided, however, that a pit privy shall consist of a pit at least four feet deep with a well-constructed shelter, the openings of which shall be flyproofed, and with respect to which adequate sanitary and safe flooring shall be provided. With the approval of the local health officer other types of toilet facilities or modifications of those specified may be allowed.

(c) For the purpose of this section the term construction site shall mean the location on which actual construction of a building is in progress.

(d) A violation of this section shall constitute a misdemeanor.

(Amended by Stats. 1953, Ch. 433.)

Appendix B – Fish and Game Code Sections 5650-5656

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FISH AND GAME CODE - FGC

DIVISION 6. FISH [5500 - 9101] (*Division 6 enacted by Stats. 1957, Ch. 456.*)

PART 1. GENERALLY [5500 - 6956] (*Part 1 enacted by Stats. 1957, Ch. 456.*)

CHAPTER 2. Pollution [5650 - 5803] (*Chapter 2 enacted by Stats. 1957, Ch. 456.*)

ARTICLE 1. General [5650 - 5656] (*Article 1 enacted by Stats. 1957, Ch. 456.*)

5650. (a) Except as provided in subdivision (b), it is unlawful to deposit in, permit to pass into, or place where it can pass into the waters of this state any of the following:

- (1) Any petroleum, acid, coal or oil tar, lampblack, aniline, asphalt, bitumen, or residuary product of petroleum, or carbonaceous material or substance.
- (2) Any refuse, liquid or solid, from any refinery, gas house, tannery, distillery, chemical works, mill, or factory of any kind.
- (3) Any sawdust, shavings, slabs, or edgings.
- (4) Any factory refuse, lime, or slag.
- (5) Any cocculus indicus.
- (6) Any substance or material deleterious to fish, plant life, mammals, or bird life.

(b) This section does not apply to a discharge or a release that is expressly authorized pursuant to, and in compliance with, the terms and conditions of a waste discharge requirement pursuant to Section 13263 of the Water Code or a waiver issued pursuant to subdivision (a) of Section 13269 of the Water Code issued by the State Water Resources Control Board or a regional water quality control board after a public hearing, or that is expressly authorized pursuant to, and in compliance with, the terms and conditions of a federal permit for which the State Water Resources Control Board or a regional water quality control board has, after a public hearing, issued a water quality certification pursuant to Section 13160 of the Water Code. This section does not confer additional authority on the State Water Resources Control Board, a regional water quality control board, or any other entity.

(c) It shall be an affirmative defense to a violation of this section if the defendant proves, by a preponderance of the evidence, all of the following:

- (1) The defendant complied with all applicable state and federal laws and regulations requiring that the discharge or release be reported to a government agency.
- (2) The substance or material did not enter the waters of the state or a storm drain that discharges into the waters of the state.
- (3) The defendant took reasonable and appropriate measures to effectively mitigate the discharge or release in a timely manner.
- (d) The affirmative defense in subdivision (c) does not apply and may not be raised in an action for civil penalties or injunctive relief pursuant to Section 5650.1.

(e) The affirmative defense in subdivision (c) does not apply and may not be raised by any defendant who has on two prior occasions in the preceding five years, in any combination within the same county in which the case is prosecuted, either pleaded nolo contendere, been convicted of a violation of this section, or suffered a judgment for a violation of this section or Section 5650.1. This subdivision shall apply only to cases filed on or after January 1, 1997.

(f) The affirmative defense in subdivision (c) does not apply and may not be raised by the defendant in any case in which a district attorney, city attorney, or Attorney General alleges, and the court finds, that the defendant acted willfully.

(Amended by Stats. 2007, Ch. 130, Sec. 96. Effective January 1, 2008.)

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5650.1. (a) Every person who violates Section 5650 is subject to a civil penalty of not more than twenty-five thousand dollars (\$25,000) for each violation.

(b) The civil penalty imposed for each separate violation pursuant to this section is separate, and in addition to, any other civil penalty imposed for a separate violation pursuant to this section or any other provision of law.

(c) In determining the amount of any civil penalty imposed pursuant to this section, the court shall take into consideration all relevant circumstances, including, but not limited to, the nature, circumstance, extent, and gravity of the violation. In making this determination, the court shall consider the degree of toxicity and volume of the discharge, the extent of harm caused by the violation, whether the effects of the violation may be reversed or mitigated, and with respect to the defendant, the ability to pay, the effect of any civil penalty on the ability to continue in business, any voluntary cleanup efforts undertaken, any prior history of violations, the gravity of the behavior, the economic benefit, if any, resulting from the violation, and any other matters the court determines justice may require.

(d) Every civil action brought under this section shall be brought by the Attorney General upon complaint by the department, or by the district attorney or city attorney in the name of the people of the State of California, and any actions relating to the same violation may be joined or consolidated.

(e) In any civil action brought pursuant to this chapter in which a temporary restraining order, preliminary injunction, or permanent injunction is sought, it is not necessary to allege or prove at any stage of the proceeding that irreparable damage will occur if the temporary restraining order, preliminary injunction, or permanent injunction is not issued, or that the remedy at law is inadequate.

(f) After the party seeking the injunction has met its burden of proof, the court shall determine whether to issue a temporary restraining order, preliminary injunction, or permanent injunction without requiring the defendant to prove that it will suffer grave or irreparable harm. The court shall make the determination whether to issue a temporary restraining order, preliminary injunction, or permanent injunction by taking into consideration, among other things, the nature, circumstance, extent, and gravity of the violation, the quantity and characteristics of the substance or material involved, the extent of environmental harm caused by the violation, measures taken by the defendant to remedy the violation, the relative likelihood that the material or substance involved may pass into waters of the state, and the harm likely to be caused to the defendant.

(g) The court, to the maximum extent possible, shall tailor any temporary restraining order, preliminary injunction, or permanent injunction narrowly to address the violation in a manner that will otherwise allow the defendant to continue business operations in a lawful manner.

(h) All civil penalties collected pursuant to this section shall not be considered fines or forfeitures as defined in Section 13003 and shall be apportioned in the following manner:

(1) Fifty percent shall be distributed to the county treasurer of the county in which the action is prosecuted. Amounts paid to the county treasurer shall be deposited in the county fish and wildlife propagation fund established pursuant to Section 13100.

(2) Fifty percent shall be distributed to the department for deposit in the Fish and Game Preservation Fund. These funds may be expended to cover the costs of legal actions or for any other law enforcement purpose consistent with Section 9 of Article XVI of the California Constitution.

(Amended by Stats. 1996, Ch. 1122, Sec. 2. Effective January 1, 1997.)

5651. Whenever it is determined by the department that a continuing and chronic condition of pollution exists, the department shall report that condition to the appropriate regional water quality control board, and shall cooperate with the board in obtaining correction or abatement in accordance with any laws administered by the board for the control of practices for sewage and industrial waste disposal.

(Amended by Stats. 1985, Ch. 1429, Sec. 1. Effective October 1, 1985.)

5652. (a) It is unlawful to deposit, permit to pass into, or place where it can pass into the waters of the state, or to abandon, dispose of, or throw away, within 150 feet of the high water mark of the waters of the state, any cans, bottles, garbage, motor vehicle or parts thereof, rubbish, litter, refuse, waste, debris, or the viscera or carcass of any dead mammal, or the carcass of any dead bird.

(b) The abandonment of any motor vehicle in any manner that violates this section shall constitute a rebuttable presumption affecting the burden of producing evidence that the last registered owner of record, not having complied with Section 5900 of the Vehicle Code, is responsible for that abandonment and is thereby liable for the cost of removal and disposition of the vehicle. This section prohibits the placement of a vehicle body on privately

owned property along a streambank by the property owner or tenant for the purpose of preventing erosion of the streambank.

(c) This section does not apply to a refuse disposal site that is authorized by the appropriate local agency having jurisdiction or to the depositing of those materials in a container from which the materials are routinely removed to a legal point of disposal.

(d) This section shall be enforced by all law enforcement officers of this state.

(Amended by Stats. 2007, Ch. 285, Sec. 107. Effective January 1, 2008.)

5653. (a) The use of vacuum or suction dredge equipment by a person in a river, stream, or lake of this state is prohibited, except as authorized under a permit issued to that person by the department in compliance with the regulations adopted pursuant to Section 5653.9. Before a person uses vacuum or suction dredge equipment in a river, stream, or lake of this state, that person shall submit an application to the department for a permit to use the vacuum or suction dredge equipment, specifying the type and size of equipment to be used and other information as the department may require pursuant to regulations adopted by the department to implement this section.

(b) (1) The department shall not issue a permit for the use of vacuum or suction dredge equipment until the permit application is deemed complete. A complete permit application shall include any other permit required by the department and one of the following, as applicable:

(A) A copy of waste discharge requirements or a waiver of waste discharge requirements issued by the State Water Resources Control Board or a regional water quality control board in accordance with Division 7 (commencing with Section 13000) of the Water Code.

(B) A copy of a certification issued by the State Water Resources Control Board or a regional water quality control board and a permit issued by the United States Army Corps of Engineers in accordance with Sections 401 and 404 of the Federal Water Pollution Control Act (33 U.S.C. Secs. 1341 and 1344, respectively) to use vacuum or suction dredge equipment.

(C) If the State Water Resources Control Board or the appropriate regional water quality control board determines that waste discharge requirements, a waiver of waste discharge requirements, or a certification in accordance with Section 1341 of Title 33 of the United States Code is not necessary for the applicant to use of vacuum or suction dredge equipment, a letter stating this determination signed by the Executive Director of the State Water Resources Control Board, the executive officer of the appropriate regional water quality control board, or their designee.

(c) Under the regulations adopted pursuant to Section 5653.9, the department shall designate waters or areas wherein vacuum or suction dredge equipment may be used pursuant to a permit, waters or areas closed to the use of that equipment, the maximum size of the vacuum or suction dredge equipment that may be used, and the time of year when the equipment may be used. If the department determines, pursuant to the regulations adopted pursuant to Section 5653.9, that the use of vacuum or suction dredge equipment does not cause any significant effects to fish and wildlife, it shall issue a permit to the applicant. If a person uses vacuum or suction dredge equipment other than as authorized by a permit issued by the department consistent with regulations implementing this section, that person is guilty of a misdemeanor.

(d) (1) Except as provided in paragraph (2), the department shall issue a permit upon the payment, in the case of a resident, of a base fee of twenty-five dollars (\$25), as adjusted under Section 713, when an onsite investigation of the project size is not deemed necessary by the department, and a base fee of one hundred thirty dollars (\$130), as adjusted under Section 713, when the department deems that an onsite investigation is necessary. Except as provided in paragraph (2), in the case of a nonresident, the base fee shall be one hundred dollars (\$100), as adjusted under Section 713, when an onsite investigation is not deemed necessary, and a base fee of two hundred twenty dollars (\$220), as adjusted under Section 713, when an onsite investigation is deemed necessary.

(2) The department may adjust the base fees for a permit described in this subdivision to an amount sufficient to cover all reasonable costs of the department in regulating suction dredging activities.

(e) It is unlawful to possess a vacuum or suction dredge in areas, or in or within 100 yards of waters, that are closed to the use of vacuum or suction dredges.

(f) A permit issued by the department under this section shall not authorize an activity in violation of other applicable requirements, conditions, or prohibitions governing the use of vacuum or suction dredge equipment, including those adopted by the State Water Resources Control Board or a regional water quality control board. The department, the State Water Resources Control Board, and the regional water quality control boards shall make reasonable efforts to share information among the agencies regarding potential violations of requirements, conditions, or prohibitions governing the use of vacuum or suction dredge equipment.

(g) For purposes of this section and Section 5653.1, the use of vacuum or suction dredge equipment, also known as suction dredging, is the use of a mechanized or motorized system for removing or assisting in the removal of, or the processing of, material from the bed, bank, or channel of a river, stream, or lake in order to recover minerals. This section and Section 5653.1 do not apply to, prohibit, or otherwise restrict nonmotorized recreational mining activities, including panning for gold.

(Amended by Stats. 2015, Ch. 680, Sec. 2. Effective January 1, 2016.)

5653.1. (a) The issuance of permits to operate vacuum or suction dredge equipment is a project pursuant to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) and permits may only be issued, and vacuum or suction dredge mining may only occur as authorized by any existing permit, if the department has caused to be prepared, and certified the completion of, an environmental impact report for the project pursuant to the court order and consent judgment entered in the case of Karuk Tribe of California et al. v. California Department of Fish and Game et al., Alameda County Superior Court Case No. RG 05211597.

(b) Notwithstanding Section 5653, the use of any vacuum or suction dredge equipment in any river, stream, or lake of this state is prohibited until the director certifies to the Secretary of State that all of the following have occurred:

- (1) The department has completed the environmental review of its existing suction dredge mining regulations, as ordered by the court in the case of Karuk Tribe of California et al. v. California Department of Fish and Game et al., Alameda County Superior Court Case No. RG 05211597.
- (2) The department has transmitted for filing with the Secretary of State pursuant to Section 11343 of the Government Code, a certified copy of new regulations adopted, as necessary, pursuant to Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code.
- (3) The new regulations described in paragraph (2) are operative.
- (4) The new regulations described in paragraph (2) fully mitigate all identified significant environmental impacts.
- (5) A fee structure is in place that will fully cover all costs to the department related to the administration of the program.

(c) (1) To facilitate its compliance with subdivision (b), the department shall consult with other agencies as it determines to be necessary, including, but not limited to, the State Water Resources Control Board, the State Department of Public Health, and the Native American Heritage Commission, and, on or before April 1, 2013, shall prepare and submit to the Legislature a report with recommendations on statutory changes or authorizations that, in the determination of the department, are necessary to develop the suction dredge regulations required by paragraph (2) of subdivision (b), including, but not limited to, recommendations relating to the mitigation of all identified significant environmental impacts and a fee structure that will fully cover all program costs.

(2) The requirement for submitting a report imposed under this subdivision is inoperative on January 1, 2017, pursuant to Section 10231.5 of the Government Code.

(3) The report submitted to the Legislature pursuant to this subdivision shall be submitted in accordance with Section 9795 of the Government Code.

(d) The Legislature finds and declares that this section, as added during the 2009–10 Regular Session, applies solely to vacuum and suction dredging activities conducted for instream mining purposes. This section does not expand or provide new authority for the department to close or regulate suction dredging conducted for regular maintenance of energy or water supply management infrastructure, flood control, or navigational purposes governed by other state or federal law.

(e) This section does not prohibit or restrict nonmotorized recreational mining activities, including panning for gold.

(Amended by Stats. 2012, Ch. 39, Sec. 7. Effective June 27, 2012.)

5653.3. Any person required to possess a permit pursuant to Section 5653 shall present his or her dredging equipment for inspection upon request of a state or county fish and game warden.

(Added by Stats. 1988, Ch. 1037, Sec. 2.)

5653.5. For purposes of Section 5653, "river, stream, or lake" means the body of water at the current water level at the time of the dredging.

(Added by Stats. 1988, Ch. 1037, Sec. 3.)

5653.7. In the event of an unanticipated water level change, when necessary to protect fish and wildlife resources, the department may close areas that were otherwise opened for dredging and for which permits were issued pursuant to Section 5653.

(Added by Stats. 1988, Ch. 1037, Sec. 4.)

5653.8. For purposes of Sections 5653 and 5653.3, "person" does not include a partnership, corporation, or other type of association.

(Added by Stats. 1994, Ch. 1109, Sec. 2. Effective September 29, 1994.)

5653.9. The department shall adopt regulations to carry out Section 5653 and may adopt regulations to carry out Sections 5653.3, 5653.5, and 5653.7. The regulations shall be adopted in accordance with the requirements of Division 13 (commencing with Section 21000) of the Public Resources Code and Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code.

(Amended by Stats. 1994, Ch. 775, Sec. 2. Effective January 1, 1995.)

5654. (a) (1) Notwithstanding Section 7715 and except as provided in paragraph (2), the director, within 24 hours of notification of a spill or discharge, as those terms are defined in subdivision (ad) of Section 8670.3 of the Government Code, where any fishing, including all commercial, recreational, and nonlicensed subsistence fishing, may take place, or where aquaculture operations are taking place, shall close to the take of all fish and shellfish all waters in the vicinity of the spill or discharge or where the spilled or discharged material has spread, or is likely to spread. In determining where a spill or discharge is likely to spread, the director shall consult with the Administrator of the Office of Spill Prevention and Response. At the time of closure, the department shall make all reasonable efforts to notify the public of the closure, including notification to commercial and recreational fishing organizations, and posting of warnings on public piers and other locations where subsistence fishing is known to occur. The department shall coordinate, when possible, with local and regional agencies and organizations to expedite public notification.

(2) Closure pursuant to paragraph (1) is not required if, within 24 hours of notification of a spill or discharge, the Office of Environmental Health Hazard Assessment finds that a public health threat does not or is unlikely to exist.

(b) Within 48 hours of notification of a spill or discharge subject to subdivision (a), the director, in consultation with the Office of Environmental Health Hazard Assessment, shall make an assessment and determine all of the following:

(1) The danger posed to the public from fishing in the area where the spill or discharge occurred or spread, and the danger of consuming fish taken in the area where the spill or discharge occurred or spread.

(2) Whether the areas closed for the take of fish or shellfish should be expanded to prevent any potential take or consumption of any fish or shellfish that may have been contaminated by the spill or discharge.

(3) The likely period for maintaining a closure on the take of fish and shellfish in order to prevent any possible contaminated fish or shellfish from being taken or consumed or other threats to human health.

(c) Within 48 hours after receiving notification of a spill or discharge subject to subdivision (a), or as soon as is feasible, the director, in consultation with the Office of Environmental Health Hazard Assessment, shall assess and determine the potential danger from consuming fish that have been contained in a recirculating seawater tank onboard a vessel that may become contaminated by the vessel's movement through an area where the spill or discharge occurred or spread.

(d) If the director finds in his or her assessment pursuant to subdivision (b) that there is no significant risk to the public or to the fisheries, the director may immediately reopen the closed area and waive the testing requirements of subdivisions (e) and (f).

(e) Except under the conditions specified in subdivision (d), after complying with subdivisions (a) and (b), the director, in consultation with the Office of Environmental Health Hazard Assessment, but in no event more than seven days from the notification of the spill or discharge, shall order expedited tests of fish and shellfish that would have been open for take for commercial, recreational, or subsistence purposes in the closed area if not for the closure, to determine the levels of contamination, if any, and whether the fish or shellfish is safe for human consumption.

(f) (1) Within 24 hours of receiving a notification from the Office of Environmental Health Hazard Assessment that no threat to human health exists from the spill or discharge or that no contaminant from the spill or discharge is present that could contaminate fish or shellfish, the director shall reopen the areas closed pursuant to this section. The director may maintain a closure in any remaining portion of the closed area where the Office of Environmental

Health Hazard Assessment finds contamination from the spill or discharge persists that may adversely affect human health.

(2) The director, in consultation with the commission, may also maintain a closure in any remaining portion of the closed area where commercial fishing or aquaculture occurs and where the department determines, pursuant to this paragraph, that contamination from the spill or discharge persists that may cause the waste of commercial fish or shellfish as regulated by Section 7701.

(g) To the extent feasible, the director shall consult with representatives of commercial and recreational fishing associations and subsistence fishing communities regarding the extent and duration of a closure, testing protocols, and findings. If a spill or discharge occurs within the lands governed by a Native American tribe or affects waters flowing through tribal lands, or tribal fisheries, the director shall consult with the affected tribal governments.

(h) The director shall seek full reimbursement from the responsible party or parties for the spill or discharge for all reasonable costs incurred by the department in carrying out this section, including, but not limited to, all testing.

(Amended by Stats. 2009, Ch. 294, Sec. 13. Effective January 1, 2010.)

5655. (a) In addition to the responsibilities imposed pursuant to Section 5651, the department may clean up or abate, or cause to be cleaned up or abated, the effects of any petroleum or petroleum product deposited or discharged in the waters of this state or deposited or discharged in any location onshore or offshore where the petroleum or petroleum product is likely to enter the waters of this state, order any person responsible for the deposit or discharge to clean up the petroleum or petroleum product or abate the effects of the deposit or discharge, and recover any costs incurred as a result of the cleanup or abatement from the responsible party.

(b) An order shall not be issued pursuant to this section for the cleanup or abatement of petroleum products in any sump, pond, pit, or lagoon used in conjunction with crude oil production that is in compliance with all applicable state and federal laws and regulations.

(c) The department may issue an order pursuant to this section only if there is an imminent and substantial endangerment to human health or the environment and the order shall remain in effect only until any cleanup and abatement order is issued pursuant to Section 13304 of the Water Code. A regional water quality control board shall incorporate the department's order into the cleanup and abatement order issued pursuant to Section 13304 of the Water Code, unless the department's order is inconsistent with any more stringent requirement established in the cleanup and abatement order. Any action taken in compliance with the department's order is not a violation of any subsequent regional water quality control board cleanup and abatement order issued pursuant to Section 13304 of the Water Code.

(d) The Administrator of the Office of Spill Prevention and Response has the primary authority to serve as a state incident commander and direct removal, abatement, response, containment, and cleanup efforts with regard to all aspects of any placement of petroleum or a petroleum product in the waters of the state, except as otherwise provided by law. This authority may be delegated.

(e) For purposes of this section, the following definitions apply:

(1) "Petroleum product" means oil of any kind or form, including, but not limited to, fuel oil, sludge, oil refuse, and oil mixed with waste other than dredged spoil. "Petroleum product" does not include any pesticide that has been applied for agricultural, commercial, or industrial purposes or that has been applied in accordance with a cooperative agreement authorized by Section 116180 of the Health and Safety Code, that has not been discharged accidentally or for purposes of disposal, and the application of which was in compliance with all applicable state and federal laws and regulations.

(2) "State incident commander" means a person with the overall authority for managing and conducting incident operations during an oil spill response, who shall manage an incident consistent with the standardized emergency management system required by Section 8607 of the Government Code. Incident management generally includes the development of objectives, strategies, and tactics, ordering and release of resources, and coordinating with other appropriate response agencies to ensure that all appropriate resources are properly utilized and that this coordinating function is performed in a manner designed to minimize risk to other persons and to the environment.

(Amended by Stats. 2010, Ch. 328, Sec. 68. Effective January 1, 2011.)

5656. Any recovery or settlement of money damages, including, but not limited to, civil penalties arising out of any civil action filed and maintained by the Attorney General in the enforcement of this article shall be deposited in the Fish and Wildlife Pollution Account in the Fish and Game Preservation Fund.

(Amended by Stats. 1995, Ch. 720, Sec. 3. Effective January 1, 1996.)



Appendix C – California Water Code Section 13271

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Law section



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WATER CODE - WAT

DIVISION 7. WATER QUALITY [13000 - 16104] (*Division 7 repealed and added by Stats. 1969, Ch. 482.*)

CHAPTER 4. Regional Water Quality Control [13200 - 13286.9] (*Chapter 4 added by Stats. 1969, Ch. 482.*)

ARTICLE 4. Waste Discharge Requirements [13260 - 13276] (*Article 4 added by Stats. 1969, Ch. 482.*)

13271. (a) (1) Except as provided by subdivision (b), any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the state, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the state, shall, as soon as (A) that person has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the state toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.16) of Chapter 7 of Division 1 of Title 2 of the Government Code.

(2) The Office of Emergency Services shall immediately notify the appropriate regional board, the local health officer, and the director of environmental health of the discharge. The regional board shall notify the state board as appropriate.

(3) Upon receiving notification of a discharge pursuant to this section, the local health officer and the director of environmental health shall immediately determine whether notification of the public is required to safeguard public health and safety. If so, the local health officer and the director of environmental health shall immediately notify the public of the discharge by posting notices or other appropriate means. The notification shall describe measures to be taken by the public to protect the public health.

(b) The notification required by this section shall not apply to a discharge in compliance with waste discharge requirements or other provisions of this division.

(c) Any person who fails to provide the notice required by this section is guilty of a misdemeanor and shall be punished by a fine of not more than twenty thousand dollars (\$20,000) or imprisonment in a county jail for not more than one year, or both. Except where a discharge to the waters of this state would have occurred but for cleanup or emergency response by a public agency, this subdivision shall not apply to any discharge to land which does not result in a discharge to the waters of this state.

(d) Notification received pursuant to this section or information obtained by use of that notification shall not be used against any person providing the notification in any criminal case, except in a prosecution for perjury or giving a false statement.

(e) For substances listed as hazardous wastes or hazardous material pursuant to Section 25140 of the Health and Safety Code, the state board, in consultation with the Department of Toxic Substances Control, shall by regulation establish reportable quantities for purposes of this section. The regulations shall be based on what quantities should be reported because they may pose a risk to public health or the environment if discharged to groundwater or surface water. Regulations need not set reportable quantities on all listed substances at the same time. Regulations establishing reportable quantities shall not supersede waste discharge requirements or water quality objectives adopted pursuant to this division, and shall not supersede or affect in any way the list, criteria, and guidelines for the identification of hazardous wastes and extremely hazardous wastes adopted by the Department of Toxic Substances Control pursuant to Chapter 6.5 (commencing with Section 25100) of Division 20 of the Health and Safety Code. The regulations of the Environmental Protection Agency for reportable quantities of hazardous substances for purposes of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. Sec. 9601 et seq.) shall be in effect for purposes of the enforcement of this section until the time that the regulations required by this subdivision are adopted.

(f) (1) The state board shall adopt regulations establishing reportable quantities of sewage for purposes of this section. The regulations shall be based on the quantities that should be reported because they may pose a risk to public health or the environment if discharged to groundwater or surface water. Regulations establishing reportable quantities shall not supersede waste discharge requirements or water quality objectives adopted pursuant to this division. For purposes of this section, "sewage" means the effluent of a municipal wastewater treatment plant or a private utility wastewater treatment plant, as those terms are defined in Section 13625, except that sewage does not include recycled water, as defined in subdivisions (c) and (d) of Section 13529.2.

(2) A collection system owner or operator, as defined in paragraph (1) of subdivision (a) of Section 13193, in addition to the reporting requirements set forth in this section, shall submit a report pursuant to subdivision (c) of Section 13193.

(g) Except as otherwise provided in this section and Section 8589.7 of the Government Code, a notification made pursuant to this section shall satisfy any immediate notification requirement contained in any permit issued by a permitting agency. When notifying the Office of Emergency Services, the person shall include all of the notification information required in the permit.

(h) For the purposes of this section, the reportable quantity for perchlorate shall be 10 pounds or more by discharge to the receiving waters, unless a more restrictive reporting standard for a particular body of water is adopted pursuant to subdivision (e).

(i) Notification under this section does not nullify a person's responsibility to notify the local health officer or the director of environmental health pursuant to Section 5411.5 of the Health and Safety Code.

(Amended by Stats. 2013, Ch. 352, Sec. 532. Effective September 26, 2013. Operative July 1, 2013, by Sec. 543 of Ch. 352.)

Appendix D – SWRCB Order Number 2006-003-DWQ

STATE WATER RESOURCES CONTROL BOARD ORDER NO. 2006-0003-DWQ

STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS

The State Water Resources Control Board, hereinafter referred to as “State Water Board”, finds that:

1. All federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California are required to comply with the terms of this Order. Such entities are hereinafter referred to as “Enrollees”.
2. Sanitary sewer overflows (SSOs) are overflows from sanitary sewer systems of domestic wastewater, as well as industrial and commercial wastewater, depending on the pattern of land uses in the area served by the sanitary sewer system. SSOs often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen-demanding organic compounds, oil and grease and other pollutants. SSOs may cause a public nuisance, particularly when raw untreated wastewater is discharged to areas with high public exposure, such as streets or surface waters used for drinking, fishing, or body contact recreation. SSOs may pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.
3. Sanitary sewer systems experience periodic failures resulting in discharges that may affect waters of the state. There are many factors (including factors related to geology, design, construction methods and materials, age of the system, population growth, and system operation and maintenance), which affect the likelihood of an SSO. A proactive approach that requires Enrollees to ensure a system-wide operation, maintenance, and management plan is in place will reduce the number and frequency of SSOs within the state. This approach will in turn decrease the risk to human health and the environment caused by SSOs.
4. Major causes of SSOs include: grease blockages, root blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, excessive storm or ground water inflow/infiltration, debris blockages, sanitary sewer system age and construction material failures, lack of proper operation and maintenance, insufficient capacity and contractor-caused damages. Many SSOs are preventable with adequate and appropriate facilities, source control measures and operation and maintenance of the sanitary sewer system.

SEWER SYSTEM MANAGEMENT PLANS

5. To facilitate proper funding and management of sanitary sewer systems, each Enrollee must develop and implement a system-specific Sewer System Management Plan (SSMP). To be effective, SSMPs must include provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit analysis. Additionally, an SSMP must contain a spill response plan that establishes standard procedures for immediate response to an SSO in a manner designed to minimize water quality impacts and potential nuisance conditions.
6. Many local public agencies in California have already developed SSMPs and implemented measures to reduce SSOs. These entities can build upon their existing efforts to establish a comprehensive SSMP consistent with this Order. Others, however, still require technical assistance and, in some cases, funding to improve sanitary sewer system operation and maintenance in order to reduce SSOs.
7. SSMP certification by technically qualified and experienced persons can provide a useful and cost-effective means for ensuring that SSMPs are developed and implemented appropriately.
8. It is the State Water Board's intent to gather additional information on the causes and sources of SSOs to augment existing information and to determine the full extent of SSOs and consequent public health and/or environmental impacts occurring in the State.
9. Both uniform SSO reporting and a centralized statewide electronic database are needed to collect information to allow the State Water Board and Regional Water Quality Control Boards (Regional Water Boards) to effectively analyze the extent of SSOs statewide and their potential impacts on beneficial uses and public health. The monitoring and reporting program required by this Order and the attached Monitoring and Reporting Program No. 2006-0003-DWQ, are necessary to assure compliance with these waste discharge requirements (WDRs).
10. Information regarding SSOs must be provided to Regional Water Boards and other regulatory agencies in a timely manner and be made available to the public in a complete, concise, and timely fashion.
11. Some Regional Water Boards have issued WDRs or WDRs that serve as National Pollution Discharge Elimination System (NPDES) permits to sanitary sewer system owners/operators within their jurisdictions. This Order establishes minimum requirements to prevent SSOs. Although it is the State Water Board's intent that this Order be the primary regulatory mechanism for sanitary sewer systems statewide, Regional Water Boards may issue more stringent or more

prescriptive WDRs for sanitary sewer systems. Upon issuance or reissuance of a Regional Water Board's WDRs for a system subject to this Order, the Regional Water Board shall coordinate its requirements with stated requirements within this Order, to identify requirements that are more stringent, to remove requirements that are less stringent than this Order, and to provide consistency in reporting.

REGULATORY CONSIDERATIONS

12. California Water Code section 13263 provides that the State Water Board may prescribe general WDRs for a category of discharges if the State Water Board finds or determines that:

- The discharges are produced by the same or similar operations;
- The discharges involve the same or similar types of waste;
- The discharges require the same or similar treatment standards; and
- The discharges are more appropriately regulated under general discharge requirements than individual discharge requirements.

This Order establishes requirements for a class of operations, facilities, and discharges that are similar throughout the state.

13. The issuance of general WDRs to the Enrollees will:

- a) Reduce the administrative burden of issuing individual WDRs to each Enrollee;
- b) Provide for a unified statewide approach for the reporting and database tracking of SSOs;
- c) Establish consistent and uniform requirements for SSMP development and implementation;
- d) Provide statewide consistency in reporting; and
- e) Facilitate consistent enforcement for violations.

14. The beneficial uses of surface waters that can be impaired by SSOs include, but are not limited to, aquatic life, drinking water supply, body contact and non-contact recreation, and aesthetics. The beneficial uses of ground water that can be impaired include, but are not limited to, drinking water and agricultural supply. Surface and ground waters throughout the state support these uses to varying degrees.

15. The implementation of requirements set forth in this Order will ensure the reasonable protection of past, present, and probable future beneficial uses of water and the prevention of nuisance. The requirements implement the water quality control plans (Basin Plans) for each region and take into account the environmental characteristics of hydrographic units within the state. Additionally, the State Water Board has considered water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect

water quality in the area, costs associated with compliance with these requirements, the need for developing housing within California, and the need to develop and use recycled water.

16. The Federal Clean Water Act largely prohibits any discharge of pollutants from a point source to waters of the United States except as authorized under an NPDES permit. In general, any point source discharge of sewage effluent to waters of the United States must comply with technology-based, secondary treatment standards, at a minimum, and any more stringent requirements necessary to meet applicable water quality standards and other requirements. Hence, the unpermitted discharge of wastewater from a sanitary sewer system to waters of the United States is illegal under the Clean Water Act. In addition, many Basin Plans adopted by the Regional Water Boards contain discharge prohibitions that apply to the discharge of untreated or partially treated wastewater. Finally, the California Water Code generally prohibits the discharge of waste to land prior to the filing of any required report of waste discharge and the subsequent issuance of either WDRs or a waiver of WDRs.
17. California Water Code section 13263 requires a water board to, after any necessary hearing, prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge. The requirements shall, among other things, take into consideration the need to prevent nuisance.
18. California Water Code section 13050, subdivision (m), defines nuisance as anything which 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.
19. This Order is consistent with State Water Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) in that the Order imposes conditions to prevent impacts to water quality, does not allow the degradation of water quality, will not unreasonably affect beneficial uses of water, and will not result in water quality less than prescribed in State Water Board or Regional Water Board plans and policies.
20. The action to adopt this General Order is exempt from the California Environmental Quality Act (Public Resources Code §21000 et seq.) because it is an action taken by a regulatory agency to assure the protection of the environment and the regulatory process involves procedures for protection of the environment. (Cal. Code Regs., tit. 14, §15308). In addition, the action to adopt

this Order is exempt from CEQA pursuant to Cal.Code Regs., title 14, §15301 to the extent that it applies to existing sanitary sewer collection systems that constitute "existing facilities" as that term is used in Section 15301, and §15302, to the extent that it results in the repair or replacement of existing systems involving negligible or no expansion of capacity.

21. The Fact Sheet, which is incorporated by reference in the Order, contains supplemental information that was also considered in establishing these requirements.
22. The State Water Board has notified all affected public agencies and all known interested persons of the intent to prescribe general WDRs that require Enrollees to develop SSMPs and to report all SSOs.
23. The State Water Board conducted a public hearing on February 8, 2006, to receive oral and written comments on the draft order. The State Water Board received and considered, at its May 2, 2006, meeting, additional public comments on substantial changes made to the proposed general WDRs following the February 8, 2006, public hearing. The State Water Board has considered all comments pertaining to the proposed general WDRs.

IT IS HEREBY ORDERED, that pursuant to California Water Code section 13263, the Enrollees, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted hereunder, shall comply with the following:

A. DEFINITIONS

1. **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.
2. **Sanitary sewer system** – Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.

For purposes of this Order, sanitary sewer systems include only those systems owned by public agencies that are comprised of more than one mile of pipes or sewer lines.

3. **Enrollee** - A federal or state agency, municipality, county, district, and other public entity that owns or operates a sanitary sewer system, as defined in the general WDRs, and that has submitted a complete and approved application for coverage under this Order.
4. **SSO Reporting System** – Online spill reporting system that is hosted, controlled, and maintained by the State Water Board. The web address for this site is <http://ciwqs.waterboards.ca.gov>. This online database is maintained on a secure site and is controlled by unique usernames and passwords.
5. **Untreated or partially treated wastewater** – Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.
6. **Satellite collection system** – The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility to which the sanitary sewer system is tributary.
7. **Nuisance** - California Water Code section 13050, subdivision (m), defines nuisance as anything which 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.

B. APPLICATION REQUIREMENTS

1. **Deadlines for Application** – All public agencies that currently own or operate sanitary sewer systems within the State of California must apply for coverage under the general WDRs within six (6) months of the date of adoption of the general WDRs. Additionally, public agencies that acquire or assume responsibility for operating sanitary sewer systems after the date of adoption of this Order must apply for coverage under the general WDRs at least three (3) months prior to operation of those facilities.
2. **Applications under the general WDRs** – In order to apply for coverage pursuant to the general WDRs, a legally authorized representative for each agency must submit a complete application package. Within sixty (60) days of adoption of the general WDRs, State Water Board staff will send specific instructions on how to

apply for coverage under the general WDRs to all known public agencies that own sanitary sewer systems. Agencies that do not receive notice may obtain applications and instructions online on the Water Board's website.

3. Coverage under the general WDRs – Permit coverage will be in effect once a complete application package has been submitted and approved by the State Water Board's Division of Water Quality.

C. PROHIBITIONS

1. Any SSO that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited.
2. Any SSO that results in a discharge of untreated or partially treated wastewater that creates a nuisance as defined in California Water Code Section 13050(m) is prohibited.

D. PROVISIONS

1. The Enrollee must comply with all conditions of this Order. Any noncompliance with this Order constitutes a violation of the California Water Code and is grounds for enforcement action.
2. It is the intent of the State Water Board that sanitary sewer systems be regulated in a manner consistent with the general WDRs. Nothing in the general WDRs shall be:
 - (i) Interpreted or applied in a manner inconsistent with the Federal Clean Water Act, or supersede a more specific or more stringent state or federal requirement in an existing permit, regulation, or administrative/judicial order or Consent Decree;
 - (ii) Interpreted or applied to authorize an SSO that is illegal under either the Clean Water Act, an applicable Basin Plan prohibition or water quality standard, or the California Water Code;
 - (iii) Interpreted or applied to prohibit a Regional Water Board from issuing an individual NPDES permit or WDR, superseding this general WDR, for a sanitary sewer system, authorized under the Clean Water Act or California Water Code; or
 - (iv) Interpreted or applied to supersede any more specific or more stringent WDRs or enforcement order issued by a Regional Water Board.
3. The Enrollee shall take all feasible steps to eliminate SSOs. In the event that an SSO does occur, the Enrollee shall take all feasible steps to contain and mitigate the impacts of an SSO.
4. In the event of an SSO, the Enrollee shall take all feasible steps to prevent untreated or partially treated wastewater from discharging from storm drains into

flood control channels or waters of the United States by blocking the storm drainage system and by removing the wastewater from the storm drains.

5. All SSOs must be reported in accordance with Section G of the general WDRs.
6. In any enforcement action, the State and/or Regional Water Boards will consider the appropriate factors under the duly adopted State Water Board Enforcement Policy. And, consistent with the Enforcement Policy, the State and/or Regional Water Boards must consider the Enrollee's efforts to contain, control, and mitigate SSOs when considering the California Water Code Section 13327 factors. In assessing these factors, the State and/or Regional Water Boards will also consider whether:
 - (i) The Enrollee has complied with the requirements of this Order, including requirements for reporting and developing and implementing a SSMP;
 - (ii) The Enrollee can identify the cause or likely cause of the discharge event;
 - (iii) There were no feasible alternatives to the discharge, such as temporary storage or retention of untreated wastewater, reduction of inflow and infiltration, use of adequate backup equipment, collecting and hauling of untreated wastewater to a treatment facility, or an increase in the capacity of the system as necessary to contain the design storm event identified in the SSMP. It is inappropriate to consider the lack of feasible alternatives, if the Enrollee does not implement a periodic or continuing process to identify and correct problems.
 - (iv) The discharge was exceptional, unintentional, temporary, and caused by factors beyond the reasonable control of the Enrollee;
 - (v) The discharge could have been prevented by the exercise of reasonable control described in a certified SSMP for:
 - Proper management, operation and maintenance;
 - Adequate treatment facilities, sanitary sewer system facilities, and/or components with an appropriate design capacity, to reasonably prevent SSOs (e.g., adequately enlarging treatment or collection facilities to accommodate growth, infiltration and inflow (I/I), etc.);
 - Preventive maintenance (including cleaning and fats, oils, and grease (FOG) control);
 - Installation of adequate backup equipment; and
 - Inflow and infiltration prevention and control to the extent practicable.
 - (vi) The sanitary sewer system design capacity is appropriate to reasonably prevent SSOs.

(vii) The Enrollee took all reasonable steps to stop and mitigate the impact of the discharge as soon as possible.

7. When a sanitary sewer overflow occurs, the Enrollee shall take all feasible steps and necessary remedial actions to 1) control or limit the volume of untreated or partially treated wastewater discharged, 2) terminate the discharge, and 3) recover as much of the wastewater discharged as possible for proper disposal, including any wash down water.

The Enrollee shall implement all remedial actions to the extent they may be applicable to the discharge and not inconsistent with an emergency response plan, including the following:

- (i) Interception and rerouting of untreated or partially treated wastewater flows around the wastewater line failure;
 - (ii) Vacuum truck recovery of sanitary sewer overflows and wash down water;
 - (iii) Cleanup of debris at the overflow site;
 - (iv) System modifications to prevent another SSO at the same location;
 - (v) Adequate sampling to determine the nature and impact of the release; and
 - (vi) Adequate public notification to protect the public from exposure to the SSO.
8. The Enrollee shall properly, manage, operate, and maintain all parts of the sanitary sewer system owned or operated by the Enrollee, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess adequate knowledge, skills, and abilities.
 9. The Enrollee shall allocate adequate resources for the operation, maintenance, and repair of its sanitary sewer system, by establishing a proper rate structure, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures. These procedures must be in compliance with applicable laws and regulations and comply with generally acceptable accounting practices.
 10. The Enrollee shall provide adequate capacity to convey base flows and peak flows, including flows related to wet weather events. Capacity shall meet or exceed the design criteria as defined in the Enrollee's System Evaluation and Capacity Assurance Plan for all parts of the sanitary sewer system owned or operated by the Enrollee.
 11. The Enrollee shall develop and implement a written Sewer System Management Plan (SSMP) and make it available to the State and/or Regional Water Board upon request. A copy of this document must be publicly available at the Enrollee's office and/or available on the Internet. This SSMP must be approved by the Enrollee's governing board at a public meeting.

12. In accordance with the California Business and Professions Code sections 6735, 7835, and 7835.1, all engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. Specific elements of the SSMP that require professional evaluation and judgments shall be prepared by or under the direction of appropriately qualified professionals, and shall bear the professional(s)' signature and stamp.
13. The mandatory elements of the SSMP are specified below. However, if the Enrollee believes that any element of this section is not appropriate or applicable to the Enrollee's sanitary sewer system, the SSMP program does not need to address that element. The Enrollee must justify why that element is not applicable. The SSMP must be approved by the deadlines listed in the SSMP Time Schedule below.

Sewer System Management Plan (SSMP)

- (i) **Goal:** The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent SSOs, as well as mitigate any SSOs that do occur.
- (ii) **Organization:** The SSMP must identify:
- (a) The name of the responsible or authorized representative as described in Section J of this Order.
 - (b) The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and
 - (c) The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).
- (iii) **Legal Authority:** Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:
- (a) Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.);

- (b) Require that sewers and connections be properly designed and constructed;
 - (c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;
 - (d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and
 - (e) Enforce any violation of its sewer ordinances.
- (iv) **Operation and Maintenance Program.** The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:
- (a) Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;
 - (b) Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;
 - (c) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;
 - (d) Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and

- (e) Provide equipment and replacement part inventories, including identification of critical replacement parts.
- (v) **Design and Performance Provisions:**
 - (a) Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and
 - (b) Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.
- (vi) **Overflow Emergency Response Plan** - Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:
 - (a) Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
 - (b) A program to ensure an appropriate response to all overflows;
 - (c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification;
 - (d) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
 - (e) Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
 - (f) A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

- (vii) **FOG Control Program:** Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:
- (a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
 - (b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;
 - (c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
 - (d) Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;
 - (e) Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;
 - (f) An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and
 - (g) Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.
- (viii) **System Evaluation and Capacity Assurance Plan:** The Enrollee shall prepare and implement a capital improvement plan (CIP) that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:
- (a) **Evaluation:** Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs

that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;

- (b) **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and
 - (c) **Capacity Enhancement Measures:** The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.
 - (d) **Schedule:** The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D. 14.
- (ix) **Monitoring, Measurement, and Program Modifications:** The Enrollee shall:
- (a) Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;
 - (b) Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;
 - (c) Assess the success of the preventative maintenance program;
 - (d) Update program elements, as appropriate, based on monitoring or performance evaluations; and
 - (e) Identify and illustrate SSO trends, including: frequency, location, and volume.
- (x) **SSMP Program Audits** - As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the

Enrollee's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

- (xi) **Communication Program** – The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

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

14. Both the SSMP and the Enrollee's program to implement the SSMP must be certified by the Enrollee to be in compliance with the requirements set forth above and must be presented to the Enrollee's governing board for approval at a public meeting. The Enrollee shall certify that the SSMP, and subparts thereof, are in compliance with the general WDRs within the time frames identified in the time schedule provided in subsection D.15, below.

In order to complete this certification, the Enrollee's authorized representative must complete the certification portion in the Online SSO Database Questionnaire by checking the appropriate milestone box, printing and signing the automated form, and sending the form to:

State Water Resources Control Board
Division of Water Quality
Attn: SSO Program Manager
P.O. Box 100
Sacramento, CA 95812

The SSMP must be updated every five (5) years, and must include any significant program changes. Re-certification by the governing board of the Enrollee is required in accordance with D.14 when significant updates to the SSMP are made. To complete the re-certification process, the Enrollee shall enter the data in the Online SSO Database and mail the form to the State Water Board, as described above.

15. The Enrollee shall comply with these requirements according to the following schedule. This time schedule does not supersede existing requirements or time schedules associated with other permits or regulatory requirements.

Sewer System Management Plan Time Schedule

Task and Associated Section	Completion Date			
	Population > 100,000	Population between 100,000 and 10,000	Population between 10,000 and 2,500	Population < 2,500
Application for Permit Coverage Section C	6 months after WDRs Adoption			
Reporting Program Section G	6 months after WDRs Adoption ¹			
SSMP Development Plan and Schedule No specific Section	9 months after WDRs Adoption ²	12 months after WDRs Adoption ²	15 months after WDRs Adoption ²	18 months after WDRs Adoption ²
Goals and Organization Structure Section D 13 (j) & (ii)	12 months after WDRs Adoption ²		18 months after WDRs Adoption ²	
Overflow Emergency Response Program Section D 13 (vi)	24 months after WDRs Adoption ²	30 months after WDRs Adoption ²	36 months after WDRs Adoption ²	39 months after WDRs Adoption ²
Legal Authority Section D 13 (iii)				
Operation and Maintenance Program Section D 13 (iv)				
Grease Control Program Section D 13 (vii)	36 months after WDRs Adoption	39 months after WDRs Adoption	48 months after WDRs Adoption	51 months after WDRs Adoption
Design and Performance Section D 13 (v)				
System Evaluation and Capacity Assurance Plan Section D 13 (viii)				
Final SSMP, incorporating all of the SSMP requirements Section D 13				

1. In the event that by July 1, 2006 the Executive Director is able to execute a memorandum of agreement (MOA) with the California Water Environment Association (CWEA) or discharger representatives outlining a strategy and time schedule for CWEA or another entity to provide statewide training on the adopted monitoring program, SSO database electronic reporting, and SSMP development, consistent with this Order, then the schedule of Reporting Program Section G shall be replaced with the following schedule:

Reporting Program Section G	
Regional Boards 4, 8, and 9	8 months after WDRs Adoption
Regional Boards 1, 2, and 3	12 months after WDRs Adoption
Regional Boards 5, 6, and 7	16 months after WDRs Adoption

If this MOU is not executed by July 1, 2006, the reporting program time schedule will remain six (6) months for all regions and agency size categories.

2. In the event that the Executive Director executes the MOA identified in note 1 by July 1, 2006, then the deadline for this task shall be extended by six (6) months. The time schedule identified in the MOA must be consistent with the extended time schedule provided by this note. If the MOA is not executed by July 1, 2006, the six (6) month time extension will not be granted.

E. WDRs and SSMP AVAILABILITY

1. A copy of the general WDRs and the certified SSMP shall be maintained at appropriate locations (such as the Enrollee's offices, facilities, and/or Internet homepage) and shall be available to sanitary sewer system operating and maintenance personnel at all times.

F. ENTRY AND INSPECTION

1. The Enrollee shall allow the State or Regional Water Boards or their authorized representative, upon presentation of credentials and other documents as may be required by law, to:
 - a. Enter upon the Enrollee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;

- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
- d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the California Water Code, any substances or parameters at any location.

G. GENERAL MONITORING AND REPORTING REQUIREMENTS

1. The Enrollee shall furnish to the State or Regional Water Board, within a reasonable time, any information that the State or Regional Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Enrollee shall also furnish to the Executive Director of the State Water Board or Executive Officer of the applicable Regional Water Board, upon request, copies of records required to be kept by this Order.
2. The Enrollee shall comply with the attached Monitoring and Reporting Program No. 2006-0003 and future revisions thereto, as specified by the Executive Director. Monitoring results shall be reported at the intervals specified in Monitoring and Reporting Program No. 2006-0003. Unless superseded by a specific enforcement Order for a specific Enrollee, these reporting requirements are intended to replace other mandatory routine written reports associated with SSOs.
3. All Enrollees must obtain SSO Database accounts and receive a "Username" and "Password" by registering through the California Integrated Water Quality System (CIWQS). These accounts will allow controlled and secure entry into the SSO Database. Additionally, within 30 days of receiving an account and prior to recording spills into the SSO Database, all Enrollees must complete the "Collection System Questionnaire", which collects pertinent information regarding a Enrollee's collection system. The "Collection System Questionnaire" must be updated at least every 12 months.
4. Pursuant to Health and Safety Code section 5411.5, any person who, without regard to intent or negligence, causes or permits any untreated wastewater or other waste to be discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State, as soon as that person has knowledge of the discharge, shall immediately notify the local health officer of the discharge. Discharges of untreated or partially treated wastewater to storm drains and drainage channels, whether man-made or natural or concrete-lined, shall be reported as required above.

Any SSO greater than 1,000 gallons discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State shall also be reported to the Office of Emergency Services pursuant to California Water Code section 13271.

H. CHANGE IN OWNERSHIP

1. This Order is not transferable to any person or party, except after notice to the Executive Director. The Enrollee shall submit this notice in writing at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new Enrollee containing a specific date for the transfer of this Order's responsibility and coverage between the existing Enrollee and the new Enrollee. This agreement shall include an acknowledgement that the existing Enrollee is liable for violations up to the transfer date and that the new Enrollee is liable from the transfer date forward.

I. INCOMPLETE REPORTS

1. If an Enrollee becomes aware that it failed to submit any relevant facts in any report required under this Order, the Enrollee shall promptly submit such facts or information by formally amending the report in the Online SSO Database.

J. REPORT DECLARATION

1. All applications, reports, or information shall be signed and certified as follows:
 - (i) All reports required by this Order and other information required by the State or Regional Water Board shall be signed and certified by a person designated, for a municipality, state, federal or other public agency, as either a principal executive officer or ranking elected official, or by a duly authorized representative of that person, as described in paragraph (ii) of this provision. (For purposes of electronic reporting, an electronic signature and accompanying certification, which is in compliance with the Online SSO database procedures, meet this certification requirement.)
 - (ii) An individual is a duly authorized representative only if:
 - (a) The authorization is made in writing by a person described in paragraph (i) of this provision; and
 - (b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity.

K. CIVIL MONETARY REMEDIES FOR DISCHARGE VIOLATIONS

1. The California Water Code provides various enforcement options, including civil monetary remedies, for violations of this Order.
2. The California Water Code also provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this Order, or

falsifying any information provided in the technical or monitoring reports is subject to civil monetary penalties.

L. SEVERABILITY

1. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.
2. This order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the Enrollee from liability under federal, state or local laws, nor create a vested right for the Enrollee to continue the waste discharge.

CERTIFICATION

The undersigned Clerk to the State Water Board does hereby certify that the foregoing is a full, true, and correct copy of general WDRs duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 2, 2006.

AYE: Tam M. Doduc
Gerald D. Secundy

NO: Arthur G. Baggett

ABSENT: None

ABSTAIN: None



Song Her
Clerk to the Board

Appendix E – SWRCB Order Number WQ 2013-0058-EXEC

STATE OF CALIFORNIA
WATER RESOURCES CONTROL BOARD
ORDER NO. WQ 2013-0058-EXEC

AMENDING MONITORING AND REPORTING PROGRAM
FOR
STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR
SANITARY SEWER SYSTEMS

The State of California, Water Resources Control Board (hereafter State Water Board) finds:

1. The State Water Board is authorized to prescribe statewide general Waste Discharge Requirements (WDRs) for categories of discharges that involve the same or similar operations and the same or similar types of waste pursuant to Water Code section 13263(i).
2. Water Code section 13193 *et seq.* requires the Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) to gather Sanitary Sewer Overflow (SSO) information and make this information available to the public, including but not limited to, SSO cause, estimated volume, location, date, time, duration, whether or not the SSO reached or may have reached waters of the state, response and corrective action taken, and an enrollee's contact information for each SSO event. An enrollee is defined as the public entity having legal authority over the operation and maintenance of, or capital improvements to, a sanitary sewer system greater than one mile in length.
3. Water Code section 13271, *et seq.* requires notification to the California Office of Emergency Services (Cal OES), formerly the California Emergency Management Agency, for certain unauthorized discharges, including SSOs.
4. On May 2, 2006, the State Water Board adopted Order 2006-0003-DWQ, "Statewide Waste Discharge Requirements for Sanitary Sewer Systems"¹ (hereafter SSS WDRs) to comply with Water Code section 13193 and to establish the framework for the statewide SSO Reduction Program.
5. Subsection G.2 of the SSS WDRs and the Monitoring and Reporting Program (MRP) provide that the Executive Director may modify the terms of the MRP at any time.
6. On February 20, 2008, the State Water Board Executive Director adopted a revised MRP for the SSS WDRs to rectify early notification deficiencies and ensure that first responders are notified in a timely manner of SSOs discharged into waters of the state.
7. When notified of an SSO that reaches a drainage channel or surface water of the state, Cal OES, pursuant to Water Code section 13271(a)(3), forwards the SSO notification information² to local government agencies and first responders including local public health officials and the applicable Regional Water Board. Receipt of notifications for a single SSO event from both the SSO reporter

¹ Available for download at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2006/wqo/wqo2006_0003.pdf

² Cal OES Hazardous Materials Spill Reports available Online at:

[http://w3.calema.ca.gov/operational/mal haz.nsf/\\$defaultview](http://w3.calema.ca.gov/operational/mal haz.nsf/$defaultview) and <http://w3.calema.ca.gov/operational/mal haz.nsf>

and Cal OES is duplicative. To address this, the SSO notification requirements added by the February 20, 2008 MRP revision are being removed in this MRP revision.

8. In the February 28, 2008 Memorandum of Agreement between the State Water Board and the California Water and Environment Association (CWEA), the State Water Board committed to re-designing the CIWQS³ Online SSO Database to allow "event" based SSO reporting versus the original "location" based reporting. Revisions to this MRP and accompanying changes to the CIWQS Online SSO Database will implement this change by allowing for multiple SSO appearance points to be associated with each SSO event caused by a single asset failure.
9. Based on stakeholder input and Water Board staff experience implementing the SSO Reduction Program, SSO categories have been revised in this MRP. In the prior version of the MRP, SSOs have been categorized as Category 1 or Category 2. This MRP implements changes to SSO categories by adding a Category 3 SSO type. This change will improve data management to further assist Water Board staff with evaluation of high threat and low threat SSOs by placing them in unique categories (i.e., Category 1 and Category 3, respectively). This change will also assist enrollees in identifying SSOs that require Cal OES notification.
10. Based on over six years of implementation of the SSS WDRs, the State Water Board concludes that the February 20, 2008 MRP must be updated to better advance the SSO Reduction Program⁴ objectives, assess compliance, and enforce the requirements of the SSS WDRs.

IT IS HEREBY ORDERED THAT:

Pursuant to the authority delegated by Water Code section 13267(f), Resolution 2002-0104, and Order 2006-0003-DWQ, the MRP for the SSS WDRs (Order 2006-0003-DWQ) is hereby amended as shown in Attachment A and shall be effective on September 9, 2013.

Date

8/6/13



Thomas Howard
Executive Director

³ California Integrated Water Quality System (CIWQS) publicly available at <http://www.waterboards.ca.gov/ciwqs/publicreports.shtml>

⁴ Statewide Sanitary Sewer Overflow Reduction Program information is available at: http://www.waterboards.ca.gov/water_issues/programs/ssr/

ATTACHMENT A

STATE WATER RESOURCES CONTROL BOARD
ORDER NO. WQ 2013-0058-EXEC

AMENDING MONITORING AND REPORTING PROGRAM
 FOR
 STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR
 SANITARY SEWER SYSTEMS

This Monitoring and Reporting Program (MRP) establishes monitoring, record keeping, reporting and public notification requirements for Order 2006-0003-DWQ, "Statewide General Waste Discharge Requirements for Sanitary Sewer Systems" (SSS WDRs). This MRP shall be effective from September 9, 2013 until it is rescinded. The Executive Director may make revisions to this MRP at any time. These revisions may include a reduction or increase in the monitoring and reporting requirements. All site specific records and data developed pursuant to the SSS WDRs and this MRP shall be complete, accurate, and justified by evidence maintained by the enrollee. Failure to comply with this MRP may subject an enrollee to civil liabilities of up to \$5,000 a day per violation pursuant to Water Code section 13350; up to \$1,000 a day per violation pursuant to Water Code section 13268; or referral to the Attorney General for judicial civil enforcement. The State Water Resources Control Board (State Water Board) reserves the right to take any further enforcement action authorized by law.

A. SUMMARY OF MRP REQUIREMENTS

Table 1 – Spill Categories and Definitions

CATEGORIES	DEFINITIONS [see Section A on page 5 of Order 2006-0003-DWQ, for Sanitary Sewer Overflow (SSO) definition]
CATEGORY 1	Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee's sanitary sewer system failure or flow condition that: <ul style="list-style-type: none"> • Reach surface water and/or reach a drainage channel tributary to a surface water; or • Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
CATEGORY 2	Discharges of untreated or partially treated wastewater of 1,000 gallons or greater resulting from an enrollee's sanitary sewer system failure or flow condition that do not reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.
CATEGORY 3	All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.
PRIVATE LATERAL SEWAGE DISCHARGE (PLSD)	Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee's sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be voluntarily reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.

Table 2 – Notification, Reporting, Monitoring, and Record Keeping Requirements

ELEMENT	REQUIREMENT	METHOD
NOTIFICATION (see section B of MRP)	<ul style="list-style-type: none"> 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, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number. 	Call Cal OES at: (800) 852-7550
REPORTING (see section C of MRP)	<ul style="list-style-type: none"> Category 1 SSO: 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: 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: Submit certified report within 30 calendar days of the end of month in which SSO the occurred. SSO Technical Report: 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: 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: Update and certify every 12 months. 	Enter data into the CIWQS Online SSO Database (http://ciwqs.waterboards.ca.gov/), certified by enrollee's Legally Responsible Official(s).
WATER QUALITY MONITORING (see section D of MRP)	<ul style="list-style-type: none"> 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 are required to be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.
RECORD KEEPING (see section E of MRP)	<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.

B. NOTIFICATION REQUIREMENTS

Although Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) staff do not have duties as first responders, this MRP is an appropriate mechanism to ensure that the agencies that have first responder duties are notified in a timely manner in order to protect public health and beneficial uses.

1. For any Category 1 SSO greater than or equal to 1,000 gallons that results in a discharge to a surface water or spilled in a location where it probably will be discharged to surface water, either directly or by way of a drainage channel or MS4, the enrollee shall, as soon as possible, but not later than two (2) hours after (A) the enrollee has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, notify the Cal OES and obtain a notification control number.
2. To satisfy notification requirements for each applicable SSO, the enrollee shall provide the information requested by Cal OES before receiving a control number. Spill information requested by Cal OES may include:
 - i. Name of person notifying Cal OES and direct return phone number.
 - ii. Estimated SSO volume discharged (gallons).
 - iii. If ongoing, estimated SSO discharge rate (gallons per minute).
 - iv. SSO Incident Description:
 - a. Brief narrative.
 - b. On-scene point of contact for additional information (name and cell phone number).
 - c. Date and time enrollee became aware of the SSO.
 - d. Name of sanitary sewer system agency causing the SSO.
 - e. SSO cause (if known).
 - v. Indication of whether the SSO has been contained.
 - vi. Indication of whether surface water is impacted.
 - vii. Name of surface water impacted by the SSO, if applicable.
 - viii. Indication of whether a drinking water supply is or may be impacted by the SSO.
 - ix. Any other known SSO impacts.
 - x. SSO incident location (address, city, state, and zip code).
3. Following the initial notification to Cal OES and until such time that an enrollee certifies the SSO report in the CIWQS Online SSO Database, the enrollee shall provide updates to Cal OES regarding substantial changes to the estimated volume of untreated or partially treated sewage discharged and any substantial change(s) to known impact(s).
4. PLSDs: The enrollee is strongly encouraged to notify Cal OES of discharges greater than or equal to 1,000 gallons of untreated or partially treated wastewater that result or may result in a discharge to surface water resulting from failures or flow conditions within a privately owned sewer lateral or from other private sewer asset(s) if the enrollee becomes aware of the PLSD.

C. REPORTING REQUIREMENTS

1. **CIWQS Online SSO Database Account:** All enrollees shall obtain a CIWQS Online SSO Database account and receive a "Username" and "Password" by registering through CIWQS. These accounts allow controlled and secure entry into the CIWQS Online SSO Database.
2. **SSO Mandatory Reporting Information:** For reporting purposes, if one SSO event results in multiple appearance points in a sewer system asset, the enrollee shall complete one SSO report in the CIWQS Online SSO Database which 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 caused the SSO, and provide descriptions of the locations of all other discharge points associated with the SSO event.

3. SSO Categories

- i. **Category 1** – Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee's sanitary sewer system failure or flow condition that:
 - a. Reach surface water and/or reach a drainage channel tributary to a surface water; or
 - b. Reach a MS4 and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
- ii. **Category 2** – Discharges of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from an enrollee's sanitary sewer system failure or flow condition that does not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly.
- iii. **Category 3** – All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.

4. Sanitary Sewer Overflow Reporting to CIWQS - Timeframes

- i. **Category 1 and Category 2 SSOs** – All SSOs that meet the above criteria for Category 1 or Category 2 SSOs shall be reported to the CIWQS Online SSO Database:
 - a. Draft reports for Category 1 and Category 2 SSOs shall be submitted to the CIWQS Online SSO Database within three (3) business days of the enrollee becoming aware of the SSO. Minimum information that shall be reported in a draft Category 1 SSO report shall include all information identified in section 8.i.a. below. Minimum information that shall be reported in a Category 2 SSO draft report shall include all information identified in section 8.i.c below.
 - b. A final Category 1 or Category 2 SSO report shall be certified through the CIWQS Online SSO Database within 15 calendar days of the end date of the SSO. Minimum information that shall be certified in the final Category 1 SSO report shall include all information identified in section 8.i.b below. Minimum information that shall be certified in a final Category 2 SSO report shall include all information identified in section 8.i.d below.

- ii. **Category 3 SSOs** – All SSOs that meet the above criteria for Category 3 SSOs shall be reported to the CIWQS Online SSO Database and certified within 30 calendar days after the end of the calendar month in which the SSO occurs (e.g., all Category 3 SSOs occurring in the month of February shall be entered into the database and certified by March 30). Minimum information that shall be certified in a final Category 3 SSO report shall include all information identified in section 8.i.e below.
- iii. **“No Spill” Certification** – If there are no SSOs during the calendar month, the enrollee shall either 1) certify, within 30 calendar days after the end of each calendar month, a “No Spill” certification statement in the CIWQS Online SSO Database certifying that there were no SSOs for the designated month, or 2) certify, quarterly within 30 calendar days after the end of each quarter, “No Spill” certification statements in the CIWQS Online SSO Database certifying that there were no SSOs for each month in the quarter being reported on. For quarterly reporting, the quarters are Q1 - January/ February/ March, Q2 - April/May/June, Q3 - July/August/September, and Q4 - October/November/December.
If there are no SSOs during a calendar month but the enrollee reported a PLSD, the enrollee shall still certify a “No Spill” certification statement for that month.
- iv. **Amended SSO Reports** – The enrollee may update or add additional information to a certified SSO report within 120 calendar days after the SSO end date by amending the report or by adding an attachment to the SSO report in the CIWQS Online SSO Database. SSO reports certified in the CIWQS Online SSO Database prior to the adoption date of this MRP may only be amended up to 120 days after the effective date of this MRP. After 120 days, the enrollee may contact the SSO Program Manager to request to amend an SSO report if the enrollee also submits justification for why the additional information was not available prior to the end of the 120 days.

5. SSO Technical Report

The enrollee shall submit an SSO Technical Report in 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. This report, which does not preclude the Water Boards from requiring more detailed analyses if requested, shall include at a minimum, the following:

- i. Causes and Circumstances of the SSO:
 - a. Complete and detailed explanation of how and when the SSO was discovered.
 - b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).
 - c. Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
 - d. Detailed description of the cause(s) of the SSO.
 - e. Copies of original field crew records used to document the SSO.
 - f. Historical maintenance records for the failure location.
- ii. Enrollee's Response to SSO:
 - a. Chronological narrative description of all actions taken by enrollee to terminate the spill.
 - b. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond to and mitigate the SSO.

- c. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

iii. **Water Quality Monitoring:**

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

6. **PLSDs**

Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee's sanitary sewer system or from other private sanitary sewer system assets may be voluntarily reported to the CIWQS Online SSO Database.

- i. The enrollee is also encouraged to provide notification to Cal OES per section B above when a PLSD greater than or equal to 1,000 gallons has or may result in a discharge to surface water. For any PLSD greater than or equal to 1,000 gallons regardless of the spill destination, the enrollee is also encouraged to file a spill report as required by Health and Safety Code section 5410 et. seq. and Water Code section 13271, or notify the responsible party that notification and reporting should be completed as specified above and required by State law.
- ii. If a PLSD is recorded in the CIWQS Online SSO Database, the enrollee must identify the sewage discharge as occurring and caused by a private sanitary sewer system asset and should identify a responsible party (other than the enrollee), if known. Certification of PLSD reports by enrollees is not required.

7. **CIWQS Online SSO Database Unavailability**

In the event that the CIWQS Online SSO Database is not available, the enrollee must fax or e-mail all required information to the appropriate Regional Water Board office in accordance with the time schedules identified herein. In such event, the enrollee must also enter all required information into the CIWQS Online SSO Database when the database becomes available.

8. **Mandatory Information to be Included in CIWQS Online SSO Reporting**

All enrollees shall obtain a CIWQS Online SSO Database account and receive a "Username" and "Password" by registering through CIWQS which can be reached at CIWQS@waterboards.ca.gov or by calling (866) 792-4977, M-F, 8 A.M. to 5 P.M. These accounts will allow controlled and secure entry into the CIWQS Online SSO Database. Additionally, within thirty (30) days of initial enrollment and prior to recording SSOs into the CIWQS Online SSO Database, all enrollees must complete a Collection System Questionnaire (Questionnaire). The Questionnaire shall be updated at least once every 12 months.

i. **SSO Reports**

At a minimum, the following mandatory information shall be reported prior to finalizing and certifying an SSO report for each category of SSO:

- a. **Draft Category 1 SSOs:** At a minimum, the following mandatory information shall be reported for a draft Category 1 SSO report:
1. SSO Contact Information: Name and telephone number of enrollee contact person who can answer specific questions about the SSO being reported.
 2. SSO Location Name.
 3. Location of the overflow event (SSO) by entering GPS coordinates. If a single overflow event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the SSO appearance point explanation field.
 4. Whether or not the SSO reached surface water, a drainage channel, or entered and was discharged from a drainage structure.
 5. Whether or not the SSO reached a municipal separate storm drain system.
 6. Whether or not the total SSO volume that reached a municipal separate storm drain system was fully recovered.
 7. Estimate of the SSO volume, inclusive of all discharge point(s).
 8. Estimate of the SSO volume that reached surface water, a drainage channel, or was not recovered from a storm drain.
 9. Estimate of the SSO volume recovered (if applicable).
 10. Number of SSO appearance point(s).
 11. Description and location of SSO appearance point(s). If a single sanitary sewer system failure results in multiple SSO appearance points, each appearance point must be described.
 12. SSO start date and time.
 13. Date and time the enrollee was notified of, or self-discovered, the SSO.
 14. Estimated operator arrival time.
 15. For spills greater than or equal to 1,000 gallons, the date and time Cal OES was called.
 16. For spills greater than or equal to 1,000 gallons, the Cal OES control number.
- b. **Certified Category 1 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 1 SSO report, in addition to all fields in section 8.i.a :
1. Description of SSO destination(s).
 2. SSO end date and time.
 3. SSO causes (mainline blockage, roots, etc.).
 4. SSO failure point (main, lateral, etc.).
 5. Whether or not the spill was associated with a storm event.
 6. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the overflow; and a schedule of major milestones for those steps.
 7. Description of spill response activities.
 8. Spill response completion date.
 9. Whether or not there is an ongoing investigation, the reasons for the investigation and the expected date of completion.

10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.
 11. Whether or not health warnings were posted as a result of the SSO.
 12. Name of beach(es) closed and/or impacted. If no beach was impacted, NA shall be selected.
 13. Name of surface water(s) impacted.
 14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.
 15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.
 16. Description of methodology(ies) and type of data relied upon for estimations of the SSO volume discharged and recovered.
 17. SSO Certification: Upon SSO Certification, the CIWQS Online SSO Database will issue a final SSO identification (ID) number.
- c. **Draft Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a draft Category 2 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO.
- d. **Certified Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 2 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-9, and 17 in section 8.i.b above for Certified Category 1 SSO.
- e. **Certified Category 3 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 3 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-5, and 17 in section 8.i.b above for Certified Category 1 SSO.
- ii. **Reporting SSOs to Other Regulatory Agencies**

These reporting requirements do not preclude an enrollee from reporting SSOs to other regulatory agencies pursuant to state law. In addition, these reporting requirements do not replace other Regional Water Board notification and reporting requirements for SSOs.

iii. **Collection System Questionnaire**

The required Questionnaire (see subsection G of the SSS WDRs) provides the Water Boards with site-specific information related to the enrollee's sanitary sewer system. The enrollee shall complete and certify the Questionnaire at least every 12 months to facilitate program implementation, compliance assessment, and enforcement response.

iv. **SSMP Availability**

The enrollee shall provide the publicly available internet web site address to the CIWQS Online SSO Database where a downloadable copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP is posted. If all of the SSMP documentation listed in this subsection is not publicly available on the Internet, the enrollee shall comply with the following procedure:

10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.
 11. Whether or not health warnings were posted as a result of the SSO.
 12. Name of beach(es) closed and/or impacted. If no beach was impacted, NA shall be selected.
 13. Name of surface water(s) impacted.
 14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.
 15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.
 16. Description of methodology(ies) and type of data relied upon for estimations of the SSO volume discharged and recovered.
 17. SSO Certification: Upon SSO Certification, the CIWQS Online SSO Database will issue a final SSO identification (ID) number.
- c. **Draft Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a draft Category 2 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO.
- d. **Certified Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 2 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-9, and 17 in section 8.i.b above for Certified Category 1 SSO.
- e. **Certified Category 3 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 3 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-5, and 17 in section 8.i.b above for Certified Category 1 SSO.
- ii. **Reporting SSOs to Other Regulatory Agencies**

These reporting requirements do not preclude an enrollee from reporting SSOs to other regulatory agencies pursuant to state law. In addition, these reporting requirements do not replace other Regional Water Board notification and reporting requirements for SSOs.

iii. **Collection System Questionnaire**

The required Questionnaire (see subsection G of the SSS WDRs) provides the Water Boards with site-specific information related to the enrollee's sanitary sewer system. The enrollee shall complete and certify the Questionnaire at least every 12 months to facilitate program implementation, compliance assessment, and enforcement response.

iv. **SSMP Availability**

The enrollee shall provide the publicly available internet web site address to the CIWQS Online SSO Database where a downloadable copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP is posted. If all of the SSMP documentation listed in this subsection is not publicly available on the Internet, the enrollee shall comply with the following procedure:

result in SSOs. Each complaint record shall, at a minimum, include the following information:

- a. Date, time, and method of notification.
 - b. Date and time the complainant or informant first noticed the SSO.
 - c. Narrative description of the complaint, including any information the caller can provide regarding whether or not the complainant or informant reporting the potential SSO knows if the SSO has reached surface waters, drainage channels or storm drains.
 - d. Follow-up return contact information for complainant or informant for each complaint received, if not reported anonymously.
 - e. Final resolution of the complaint.
- ii. Records documenting steps and/or remedial actions undertaken by enrollee, using all available information, to comply with section D.7 of the SSS WDRs.
 - iii. Records documenting how all estimate(s) of volume(s) discharged and, if applicable, volume(s) recovered were calculated.
3. Records documenting all changes made to the SSMP since its last certification indicating when a subsection(s) of the SSMP was changed and/or updated and who authorized the change or update. These records shall be attached to the SSMP.
 4. Electronic monitoring records relied upon for documenting SSO events and/or estimating the SSO volume discharged, including, but not limited to records from:
 - i. Supervisory Control and Data Acquisition (SCADA) systems
 - ii. Alarm system(s)
 - iii. Flow monitoring device(s) or other instrument(s) used to estimate wastewater levels, flow rates and/or volumes.

F. CERTIFICATION


1. All information required to be reported into the CIWQS Online SSO Database shall be certified by a person designated as described in subsection J of the SSS WDRs. This designated person is also known as a Legally Responsible Official (LRO). An enrollee may have more than one LRO.
2. Any designated person (i.e. an LRO) shall be registered with the State Water Board to certify reports in accordance with the CIWQS protocols for reporting.
3. Data Submitter (DS): Any enrollee employee or contractor may enter draft data into the CIWQS Online SSO Database on behalf of the enrollee if authorized by the LRO and registered with the State Water Board. However, only LROs may certify reports in CIWQS.
4. The enrollee shall maintain continuous coverage by an LRO. Any change of a registered LRO or DS (e.g., retired staff), including deactivation or a change to the LRO's or DS's contact information, shall be submitted by the enrollee to the State Water Board within 30 days of the change by calling (866) 792-4977 or e-mailing help@ciwqs.waterboards.ca.gov.

5. A registered designated person (i.e., an LRO) shall certify all required reports under penalty of perjury laws of the state as stated in the CIWQS Online SSO Database at the time of certification.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of an order amended by the Executive Director of the State Water Resources Control Board.

7/30/13
Date _____



Jeanine Townsend
Clerk to the Board

