Spill Emergency Response Plan

Los Angeles County, Department of Public Works

Protocols for Sewer Spill Response, Notification and Reporting

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1 Purpose

The purpose of the Spill Emergency Response Plan (SERP) is to support an orderly and effective response to sewer spills. This plan provides guidelines for the County of Los Angeles District's maintenance crew to follow in responding to, cleaning up, and reporting sewer spills that may occur within the Consolidated and Marina Sewer Maintenance District's service area.

1.1 Regulatory Requirements

The Districts are required to have an up-to-date Spill Emergency Response Plan to ensure prompt detection and response to spills to reduce spill volumes and collect information for prevention of future spills. The Spill Emergency Response Plan must include procedures to:

- *Notify primary responders, appropriate local officials, and appropriate regulatory agencies of a spill in a timely manner;*
- *Notify other potentially affected entities (for example, health agencies, water suppliers, etc.) of spills that potentially affect public health or reach waters of the State;*
- *Comply with the notification, monitoring and reporting requirements of this General Order, State law and regulations, and applicable Regional Water Board Orders;*
- *Ensure that appropriate staff and contractors implement the Spill Emergency Response Plan and are appropriately trained;*
- *Address emergency system operations, traffic control and other necessary response activities;*
- *Contain a spill and prevent/minimize discharge to waters of the State or any drainage conveyance system;*
- *Minimize and remediate public health impacts and adverse impacts on beneficial uses of waters of the State;*
- *Remove sewage from the drainage conveyance system;*
- *Clean the spill area and drainage conveyance system in a manner that does not inadvertently impact beneficial uses in the receiving waters;*
- *Implement technologies, practices, equipment, and interagency coordination to expedite spill containment and recovery;*
- *Implement pre-planned coordination and collaboration with storm drain agencies and other utility agencies/departments prior, during, and after a spill event;*
- *Conduct post-spill assessments of spill response activities;*
- *Document and report spill events as required in this General Order; and*
- *Annually, review and assess effectiveness of the Spill Emergency Response Plan, and update the Plan as needed.*

2 Spill Detection and Dispatch to Investigate

The processes employed to notify Districts maintenance staff of the occurrence of a spill include: observation by the public, calls from outside agencies such as the cities served by the Districts, Los Angeles County Sheriff's Department, Los Angeles County Fire Department or Public Works, receipt of an alarm, or observation by Districts staff during the normal course of their work.

The Sewer Maintenance Districts provide 24-hour emergency services to investigate complaints from citizens. The 24-hour emergency telephone number is 1-800-675-HELP (4357). Personnel are available each day of the year to receive and act on any calls or automated alarms related to problems in the sewer system including overflows.

During business hours, compliant calls are received by the Department of Public Works' Operator. The Operator will dispatch the nearest Sewer Maintenance crew to the problem site. Business hours are Monday through Friday from 6:30 a.m. to 5:00 p.m.

For after-hour calls (i.e., any calls outside of business hours), the Operator will call the Sewer Maintenance Superintendent or Supervisor in the order listed on the Emergency Home Telephone list.

The Superintendent or Supervisor who receives the emergency call will investigate the complaint and take appropriate action, including immediate dispatch of a standby crew with necessary equipment to take care of the problem or refer the call to other agencies if the problem is found not to be in our jurisdiction.

All contact information can be found in the Combined Resources Phone List in Appendix A.

3 Spill Response Procedures

Sewer service calls are high priority events that demand a prompt response to the location of the problem. During normal working hours, the nearest Sewer Maintenance Crew is the Primary Responder. During after hours, the staff assigned to the Emergency Call List is the Primary Responder who will investigate the service call to determine the appropriate response.

All contact information can be found in the Combined Resources Phone List in Appendix A.

The response procedures for spills caused by sewers managed by the Department of Public Works along with a notification table are depicted in Appendix B.

The following information provides the order of operations for crew response procedures relating to spills:

The crew shall also document the overflow with photographs of the point of overflow, property damage, traffic control, containment method, and point of entry to storm drain system. At this time, crews identify the probable cause of the overflow (i.e. grease, roots, rocks, etc.) and then remedial actions are taken to ensure the mainline is down and running normal. The complainant of the overflow is informed of the cause of the problem and the remedial action taken.

3.1 Safety

All responding Districts personnel are responsible for following Los Angeles County Public Works safety procedures at all times. Assume that the overflow contains hazardous materials, particularly if it occurs in an industrial area. Crews shall stay upwind of any potential air contamination or fumes until it is determined to be safe to approach the origin of the spill. If hazardous materials are suspected, our crews are to notify the Department of Public Works' Dispatch Unit so that a Hazmat investigation can be made immediately.

3.2 Traffic and Crowd Control

Traffic control requirements vary depending on the location and the risk to operating personnel and the public. The Districts use the following traffic control devices, as appropriate:

- Warning signs (signs with the symbol for person working are preferred);
- Directional arrow signs on rear of the truck;
- Traffic cones clearly delineating traffic lanes and directions; and
- One or more flaggers utilized to control and direct traffic where visibility is limited or the possibility of collision exits.

Place warning signs, cones, barricades and caution tape as needed to keep vehicles and pedestrians away from contact with spilled sewage.

3.3 Primary Responder Priorities

The Primary Responder's priorities, as the first person to respond to the call, are:

- To follow safe work practices;
- To respond promptly with appropriate equipment;
- To contain the spill wherever feasible;
- To restore the flow as soon as practicable;
- To minimize public access to and/or contact with the spilled sewage;
- To ensure proper cleanup has occurred with contractor; and
- To restore the area to its original condition (or as close as possible).

3.4 Initial Response

Upon notification of a possible sewer spill to the Public Works 24-hour Emergency phone number, the operator receiving the call gathers as much information as available through the caller. Information typically available includes the time the spill was noticed, address of the spill, general location of the spill (street, alley, easement, parking lot, private property, etc.) as well as a call back telephone number of the calling party in case additional information is needed. The Service request form to be filled by the operator after receiving the notification of a spill is provided in Appendix C.

The receiving operator will call the nearest crew during normal working hours or the staff assigned to the Emergency Call List during after-hours. All known information about the spill will be provided to the responding party.

Upon arrival, the responding crew will:

- Field verify the address and nearest cross street to determine whether the spill or backup is located in LACPW's service area. **If in LACPW's service area, call the County Operator within 15 minutes to notify Department of Public Health**. Notify the responsible maintenance agency if it is not a LACPW facility.
- Note arrival time at spill site.
- Use best judgment to determine whether to proceed immediately with blockage removal versus containment.
- If the spill/backup is caused by a private lateral, the responding crew should contain/mitigate the spilled sewage to prevent sewage from entering the public right of way without LACPW staff going on private property.
- Set up absorbent socks or sandbags to prevent flow from entering any nearby storm drain or catch basin. The cleaning truck crew will also locate the dry sewer manhole for the jetter truck to clear the upstream stoppage.
- Set up traffic and pedestrian control as necessary for safety of the public and the response crew.

3.4.1 Restore Flow

Using the appropriate cleaning tools, the LACPW's jetter truck will set up downstream of the blockage and hydro clean upstream from a clear manhole. The crew will attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not recur downstream.

- If the blockage cannot be cleared within a reasonable time, or the sewer requires construction repairs to restore flow, then initiate additional containment measures and/or bypass pumping.
- If the blockage is too large for the sewer operations crew to bypass, Sewer Maintenance Division will access additional resources through Emergency On-Call contracts to assist with a larger bypass.

3.4.2 Initiate Spill Containment Measures

The responding crew should attempt to contain as much of the spilled sewage as possible using the following steps:

- Determine the immediate destination of the overflowing sewage.
- Department of Public Works, Stormwater Maintenance Division (SWMD), is notified of all overflows that discharge into the storm drain system or flood control channel. SWMD's role is to assist in tracing and capturing as much of the spill before it reaches waters of the United States. A sewage spill greater than 1,000 gallons and likely to enter a facility is considered a significant release and should be handled in the same way as an illicit discharge as per County of Los Angeles Department of Public Works' Stormwater Maintenance Division 'Illicit Discharge Emergency Response Procedures'. The SWMD Illicit Discharge Emergency Response Flowchart is shown in Appendix D.
- Implement immediate containment measures consisting of containing flow from reaching catch basins using absorbent socks, and/or other dam construction material to contain the spill, whenever appropriate.
- Additional containment measures include containing/directing the spilled sewage by digging a dike/dam or using sandbags.
- LACPW is only responsible for sewer mainline maintenance and is not responsible for maintenance of any portion of the private property sewer lateral. The private property sewer lateral extends from the building to the connection at the sewer mainline. If the spill is caused by a sewer lateral, LACPW will check the mainline and ensure this is clear. If this is not, LACPW will proceed to unblock the line to restore flow. If the mainline is clear of any blockages, LACPW will contact the owner of the lateral, who will be responsible to contact a plumber to clear the blockage and restore flow. General precautions for sewage contamination on residential property is detailed below:

General Precautions for Sewage Contamination of Residential Property

If a sewer backup caused flooding in a home, the property owner should:

- Keep people and pets away from the affected area(s).
- Do not attempt to clean it themselves.
- Turn off central heat and air-conditioning systems and prevent flow from reaching floor vents by using towels or blankets as a berm. Remove the vent cover and stuff a towel in the opening to help prevent the flow from entering.
- Leave items in the affected area for the experts to handle.

Homeowner Responsibilities:

The homeowner is responsible for clearing any blockage in the home's plumbing system or private lateral and for any resulting flood damage to the structure. The homeowner is also responsible for damage that happens because a lateral was not properly installed. If the sewage flooding was caused by blockage in the private sewer lateral:

- Call an experienced restoration company for cleanup and removal of affected surfaces.
- Report a claim to the homeowner's insurance carrier.
- If there was recent plumbing work performed, contact the plumber or contractor.

If the sewage flooding was caused by a blockage in the public sewer main, LACPW may be responsible for the damages. If this occurs, the property owner will file a claim as soon as possible, and LACPW will respond accordingly. If a blockage occurs in the private sewer lateral, it is the homeowner's responsibility to clear the blockage. All blockages occurring in the Private Sewer Lateral, are the responsibility of the homeowner.

3.5 Water Quality Sampling and Testing

As part of this effort, a water quality monitoring plan was developed for LACPW as shown in Appendix E. Spill volume estimation can be determined following one of the steps in Appendix F.

3.6 Recovery and Clean Up

3.6.1 Recovery of Spilled Sewage

Use a vacuum truck to vacuum up all spilled sewage and any water used to flush the area.

3.6.2 Clean Up and Disinfection

Implement clean up and disinfection procedures to reduce the potential for human health issues and adverse environmental impacts that are associated with a spill event. The procedures described are for dry weather conditions and should be modified as required for wet weather conditions.

Hard Surface Areas

Take reasonable steps to contain and vacuum up the wastewater. Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms. Wash down the affected area with high pressure water using nozzles on provided on the hydro/combo unit and vacuum the wash water utilizing the hydro/combo unit. Allow area to dry. Repeat the process if additional cleaning is required. Use disinfection.

Landscaped and Unimproved Natural Vegetation

If spill occurs in landscape, either flush the landscape with wash water or take off the top inch or the amount that has been affected and replace the soil. The approach will be determined by the Primary Responder.

Wet Weather Modifications

Omit flushing and sampling during heavy storm events with heavy runoff where flushing is not required and sampling would not provide meaningful results.

3.6.3 Follow Up Activities

If sewage has reached the storm drain system, use the hydro/combo unit to vacuum/pump out the catch basin. Flush the storm drain system with wash water and capture all residual wash water at a point of containment downstream. Stormwater Maintenance Division staff will request the amount/quantity of storm drain to clean/flush.

If LACPW sewer causes an overflow on a private property, a remediation contractor will be called to clean and sanitize the affect areas of the home. If the blockage occurs in the main, LACPW will report this as a spill and restore flow. The Primary Responder will notify the Sewer Operations Superintendent or Supervisor to determine if any immediate steps to rectify the issue are required. Provide the customer with the contact information of LACPW to make a claim, pending investigation.

3.7 Public Notification

If a spill enters the ocean or a waterway requiring posting of signage, contact Los Angeles County Department of Public Health through the County Operator. The Department of Public Health will post and remove signage for waterways and beach closures as required and will not remove the signs until the effects of the spill have been mitigated. A public press release will be made of the temporary closure due to a spill.

3.8 Spill Event Investigation

The objective of the spill event investigation is to determine the cause of the spill and to identify corrective action(s) needed that will reduce or eliminate potential for the spill to recur.

The investigation includes reviewing all relevant data to determine appropriate corrective action(s) for the line segment. The investigation will be conducted by the Supervisor and/or and reported to the Superintendent or his/her designee. The investigation should include:

- A review of and verification of the information reported on the Spill Report Form (Appendix G);
- A review of available photographs;
- A review of historical maintenance activities;
- Completion of a post-spill CCTV inspection to determine the condition of the line segment immediately upstream and downstream of the spill and review the results.
- A review of the results of a FOG source control investigation, if the spill is FOG-related; and
- Debrief with staff who responded to the spill.

The goal of the spill event investigation is to determine the cause of the spill event and to identify appropriate corrective actions. LACPW's standard practice is, at a minimum, to perform a CCTV inspection of the pipe containing the blockage that caused the spill event along with the pipes immediately upstream and downstream to find a resolution on how to decrease the chance this will happen again.

LACPW has a book of sewer cleaning periodics for pipe segments that are cleaned more frequently. These are put on a more regular cleaning schedule to reduce the potential of another spill if one had occurred previously.

4 Spill Documentation and Reporting

4.1 Spill Categories

The California State Water Resources Control Board (SRWCB) has established guidelines for classifying and reporting sewer spills. Reporting and documentation requirements vary based on the type of spill.

Currently, there are four categories of spills as defined by the SWRCB and shown in **Table 4-1**[1].

Table 4-1: Spill Categories and Definitions

CATEGORIES	DEFINITIONS [see Page A-4 in Attachment A of Order 2022-0103-DWQ, for Spill definition]
CATEGORY 1	A Category 1 spill is a spill of any volume of sewage from or caused by a sanitary sewer system regulated under the General Order that results in a discharge to: • A surface water, including a surface water body that contains no flow or volume of water; or • A drainage conveyance system that discharges to surface waters when the sewage is not fully captured and returned to the sanitary sewer system or disposed of properly. Any spill volume not recovered from a drainage conveyance system is considered a discharge to surface water, unless the drainage conveyance system discharges to a dedicated stormwater infiltration basin or facility. A spill from a Districts-owned and/or operated lateral that discharges to a surface water is a Category 1 spill; the Districts shall report all Category 1 spills per section 3.1 of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of the General Order.
CATEGORY 2	A Category 2 spill is a spill of 1,000 gallons or greater, from or caused by a sanitary sewer system regulated under the General Order that does not discharge to a surface water. A spill of 1,000 gallons or greater that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system, is a Category 2 spill.
CATEGORY 3	A Category 3 spill is a spill of equal to or greater than 50 gallons and less than 1,000 gallons, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water. A spill of equal to or greater than 50 gallons and less than 1,000 gallons, that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 3 spill.
CATEGORY 4	A Category 4 spill is a spill of less than 50 gallons, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water. A spill of less than 50 gallons that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 4 spill.

[1] State Water Resources Control Board General Order for Sanitary Sewer Systems, Order WQ 2022-0103-DWQ

4.2 Internal Spill Reporting Procedures

The Primary Responder will fill out the Service Request Form (Appendix C) and the Spill Report Form (Appendix G) and turn it in to the Superintendent or Supervisor. The Spill Report Form includes field for documenting spill volume information. Use Appendix F to estimate and record the duration and volume of the spill.

The Superintendent or Supervisor reviews the completed Spill Report Form and provides the completed form to the CIWQS Data Submitter for entry into the State Water Resources Control Board (SWRCB) California Integrated Water Quality System (CIWQS) Online Spill Reporting System. The Legally Responsible Official certifies the Spill Report in CIWQS.

4.3 External Spill Reporting Procedures[2]

CIWQS is used for reporting spill information to the SWRCB whenever possible. A summary of external reporting requirements and contact information is included as **Table 4-2**.

4.3.1 Category 1 Spills

Draft Spill Report for Category 1 Spills

Within three (3) business days of the Enrollee's knowledge of a Category 1 spill, the Enrollee shall submit a Draft Spill Report to the online CIWQS Sanitary Sewer System Database. The Draft Spill Report must, at minimum, include the following items:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator arrival time;
5. Estimated spill start date and time;
6. Date and time the Enrollee notified the California Office of Emergency Services, and the assigned control number;
7. Description, photographs, and GPS coordinates of the system location where the spill originated;
    - If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the spill appearance point explanation field;
8. Estimated total spill volume exiting the system;

[2] State Water Resources Control Board Monitoring and Reporting Program No. 2006·0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

9. Description and photographs of the extent of the spill and spill boundaries;
10. Did the spill reach a drainage conveyance system? If Yes:
    - Description of the drainage conveyance system transporting the spill;
    - Photographs of the drainage conveyance system entry location(s);
    - Estimated spill volume fully recovered from the drainage conveyance system;
    - Estimated spill volume remaining within the drainage conveyance system;
11. Description and photographs of all discharge point(s) into the surface water;
12. Estimated spill volume that discharged to surface waters; and
13. Estimated total spill volume recovered

Certified Spill Report for Category 1 Spills

Within 15 calendar days of the spill end date, the Enrollee shall submit a Certified Spill Report for Category 1 spills, to the online CIWQS Sanitary Sewer System Database. Upon completion of the Certified Spill Report, the online CIWQS Sanitary Sewer System Database will issue a final spill event identification number. The Certified Spill Report must, at minimum, include the following mandatory information in addition to all information in the Draft Spill Report per the previous section (Draft Spill Report for Category 1 Spills) above:

1. Description of the spill event destination(s), including GPS coordinates if available, that represent the full spread and reach of the spill;
2. Spill end date and time;
3. Description of how the spill volume estimations were calculated, including at a minimum:
    - The methodology, assumptions and type of data relied upon, such as supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
    - The methodology(ies), assumptions and type of data relied upon for estimations of the spill start time and the spill end time;
4. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
5. System failure location (for example, main, lateral, pump station, etc.);
6. Description of the pipe material, and estimated age of the pipe material, at the failure Location;
7. Description of the impact of the spill;
8. Whether or not the spill was associated with a storm event;
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;

10. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of major milestones for those steps;
11. Spill response completion date;
12. Detailed narrative of investigation and investigation findings of cause of spill;
13. Reasons for an ongoing investigation (as applicable) and the expected date of completion;
14. Name and type of receiving water body(s);
15. Description of the water body(s), including but not limited to:
    - Observed impacts on aquatic life,
    - Public closure, restricted public access, temporary restricted use, and/or posted
    - health warnings due to spill,
    - Responsible entity for closing/restricting use of water body, and
    - Number of days closed/restricted as a result of the spill.
16. Whether or not the spill was located within 1,000 feet of a municipal surface water intake; and
17. If water quality samples were collected, identify sample locations and the parameters the water quality samples were analyzed for. If no samples were taken, Not Applicable shall be selected.

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

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

1. Spill causes and circumstances, including at minimum:
    - Complete and detailed explanation of how and when the spill was discovered;
    - Photographs illustrating the spill origin, the extent and reach of the spill, drainage conveyance system entrance and exit, receiving water, and post-cleanup site conditions;
    - Diagram showing the spill failure point, appearance point(s), the spill flow path, and ultimate destinations;
    - Detailed description of the methodology employed, and available data used to calculate the discharge volume and, if applicable, the recovered spill volume;
    - Detailed description of the spill cause(s);

- Description of the pipe material, and estimated age of the pipe material, at the failure location;
- Description of the impact of the spill;
- Copy of original field crew records used to document the spill; and
- Historical maintenance records for the failure location.

2. Enrollee's response to the spill:
   - Chronological narrative description of all actions taken by the Enrollee to terminate the spill;
   - Explanation of how the Sewer System Management Plan Spill Emergency Response Plan was implemented to respond to and mitigate the spill; and
   - Final corrective action(s) completed and a schedule for planned corrective actions, including:
     - Local regulatory enforcement action taken against an illicit discharge in response to this spill, as applicable,
     - Identifiable system modifications, and operation and maintenance program modifications needed to prevent repeated spill occurrences, and
     - Necessary modifications to the Emergency Spill Response Plan to incorporate lessons learned in responding to and mitigating the spill.
3. Water Quality Monitoring, including at minimum:
   - Description of all water quality sampling activities conducted;
   - List of pollutant and parameters monitored, sampled and analyzed; as required in section 2.3 (Receiving Water Monitoring) of the General Order;
   - Laboratory results, including laboratory reports;
   - Detailed location map illustrating all water quality sampling points; and
   - Other regulatory agencies receiving sample results (if applicable).
4. Evaluation of spill impact(s), including a description of short-term and long-term impact(s) to beneficial uses of the surface water.

Amended Certified Spill Reports for Individual Category 1 Spills

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

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

4.3.2 Category 2 Spills

Draft Spill Report for Category 2 Spills

Within three (3) business days of the Enrollee's knowledge of a Category 2 spill, the Enrollee shall submit a Draft Spill Report to the online CIWQS Sanitary Sewer System Database. The Draft Spill Report must, at minimum, include the following items:

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

Certified Spill Report for Category 2 Spills

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

The Certified Spill Report must, at minimum, include the following mandatory information in addition to all information in the Draft Spill Report per the previous section (Draft Spill Report for Category 2 Spills) above:

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

Amended Certified Spill Reports for Individual Category 2 Spills

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

The Enrollee shall certify the amended report. After 90 calendar days, the Enrollee shall contact the State Water Board at SanitarySewer@waterboards.ca.gov to request to

amend a Spill Report. The Legally Responsible Official shall submit justification for why the additional information was not reported within the Amended Spill Report due date.

4.3.3 Category 3 Spills

Monthly Certified Spill Reporting for Category 3 Spills

The Enrollee shall report and certify all Category 3 spills to the online CIWQS Sanitary Sewer System Database within 30 calendar days after the end of the month in which the spills occurred. After the Legally Responsible Official certifies the spills, the online CIWQS Sanitary Sewer System Database will issue a spill event identification number for each spill. The monthly reporting of all Category 3 spills must include the following items for each spill:

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

used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and

- The methodology and type of data relied upon to estimate the spill start time, on-going spill rate at time of arrival (if applicable), and the spill end time;

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

Amended Certified Spill Reports for Category 3 Spills

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

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

4.3.4 Category 4 Spills

Monthly Certified Spill Reporting for Category 4 Spills

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

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

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

- The Enrollee shall provide records upon request by State Water Board or Regional Water Board staff.
- Annually upload and certify a report, in an appropriate digital format, of all recordkeeping of spills to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occurred.

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

4.3.5 Monthly Certification of “No-Spills” or “Category 4 Spills” and/or “Non-Category 1 Lateral Spills”

If either (1) no spills occur during a calendar month or (2) only Category 4, occur during a calendar month, the Enrollee shall certify, within 30 calendar days after the end of each calendar month, either a “No-Spill” certification statement, or a “Category 4 Spills” and/or “Non-Category 1 Lateral Spills” certification statement, in the online CIWQS Sanitary Sewer System Database, certifying that there were either no spills, or Category 4 and/or Non-Category 1 Lateral Spills that will be reported annually for the designated month.

If a spill starts in one calendar month and ends in a subsequent calendar month, and the Enrollee has no further spills of any category, in the subsequent calendar month, the Enrollee shall certify “no-spills” for the subsequent calendar month. If the Enrollee has no spills from its systems during a calendar month, but the Enrollee voluntarily reported a spill from a private lateral or a private system, the Enrollee shall certify “no-spills” for that calendar month.

Table 4-2. External Reporting and Notification Checklist and Contact Information

Reporting & Certification Checklist

Category 1 Spill that reach Drainage Channel or Surface Waters

2-Hour Notification:
Regulatory Agencies (Cal OES) must be notified within two hours of ANY discharge of sewage (untreated/partially treated) to a surface water or drainage channel (that is not fully captured and returned to sewer).

Within 3 Business Days of Notification:
Enter draft report in CIWQS.

Within 15 Calendar Days of Conclusion of Response/Remediation:
Must be certified by LRO using CIWQS.

Within 45 Calendar Days of Conclusion of Response/Remediation:
Submit Spill Technical Report for spills 50,000 gallons or greater

Within 90 Calendar Days of Conclusion of Response/Remediation:
Submit Amended Certified Spill Report (If necessary)

Category 2 Spill (>1,000, Did not reach Surface Waters)

2-Hour Notification:
Regulatory Agencies (Cal OES) must be notified within two hours of ANY discharge of sewage (untreated/partially treated) 1,000 gallons or greater.

Within 3 Business Days of Notification:
Enter draft report in CIWQS.

Within 15 Calendar Days of Conclusion of Response/Remediation:
Must be certified by LRO using CIWQS.

Within 90 Calendar Days of Conclusion of Response/Remediation:
Submit Amended Certified Spill Report (If necessary)

Category 3 Spill

Within 30 days past the end of the month in which the spill occurred
Submit certified report.

Within 90 Calendar Days of Conclusion of Response/Remediation:
Submit Amended Certified Spill Report (If necessary)

Category 4 Spill

Within 30 days past the end of the month in which the spill occurred
Submit certified report.

By February 1st after the end of the calendar year in which the spill occurred
Submit certified report, in acceptable electronic format, of all recordkeeping of spills.

No-Spill or Category 4 Spills

Within 30 days past the end of the month
Certify either a "No-Spill" certification statement, or a "Category 4 Spills" certification statement. The LRO or designee must report using CIWQS.

Private Lateral Sewage Discharge (Reporting is Optional)

Within 30 days past the end of the month in which the spill occurred
If reporting, enter into CIWQS as a "Private Lateral Sewage Discharge" and identify responsible party, if known (not LACPW). Must be certified by LRO using CIWQS.

Two-Hour Notification

1. **California Office of Emergency Service**
   Phone: (800) 852-7550 Make sure you ask for an "OES Control Number" (for RWQCB)
2. **RWQCB (Region 4 – Los Angeles)**
   Contact Los Angeles Regional Water Quality Control Board for spills over 50,000 gallons to surface waters to determine if RWQCB has additional direction for water quality sampling.

RWQCB, Region 4
Region 4, Main Number (213) 576-6600
Region 4, Fax (213) 576-6640
Region 4: xxx@waterboards.ca.gov

4.4 Internal Spill Documentation

4.4.1 Category 1, 2, and 3 Spills

The SMD Crew will complete the Spill Report Form (Appendix G) and provide a draft report to the Superintendent or Supervisor or his/her designee. The Superintendent/Supervisor will assemble all available documentation and review, complete, and submit an internal report of all available information to appropriate SMD staff via e-mail.

The CIWQS Data Submitter will prepare a file for each individual spill. The electronic file should include the following information, as available:

- Initial service call information and Service Request Form (Dispatch has an access database of the history of all calls made to this office) (Appendix C);
- Spill Report Form (Appendix G);
- Online Spill Reporting System form;
- Volume estimate (Appendix F);
- Map showing the spill location;
- Photographs of spill location, if available;
- CCTV inspection data, if applicable;
- Water quality sampling and test results, if applicable (Appendix E);
- Spill event investigation results; and
- Any other forms related to the Spill.
- Hazardous Waste Disposal Contractor delivers two items to LACPW
  - Non-hazardous waste manifest and personnel work ticket.
- LACPW has added additional fields along with the standard CIWQS data fields for internal record keeping.

4.4.2 Category 4 Spills

For all Category 4 spills that are caused by a failure or blockage that do not discharge to a surface water, the Enrollee shall:

Maintain records that will be provided upon request by State Water Board or Regional Water Board staff;

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

An Enrollee will maintain the following records for each individual Category 4 spill:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;

2. Spill location name;
3. Description and GPS coordinates for the system location where the spill originated;
4. Did the spill reach a drainage conveyance system? If Yes:
    - Description of drainage conveyance system location,
    - Estimated spill volume fully recovered within the drainage conveyance system, and
    - Estimated spill volume remaining within the drainage conveyance system;
5. Estimated total spill volume exiting the sanitary sewer system;
6. Spill date and start time;
7. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
8. System failure location (for example, main, pump station, etc.);
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
10. Description of how the volume estimation was calculated, including, at minimum:
    - The methodology and type of data relied upon, including supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
    - The methodology and type of data relied upon to estimate the spill start time, on-going spill rate at time of arrival (if applicable), and the spill end time;
11. Description of implemented system modifications and operating/maintenance modifications

4.4.3 Private Lateral Sewage Discharges

Service rendered are documented and filed in the Supervisor's office. Communications Dispatch Office also has an extra copy of this. Data from Service Rendered forms is entered in the Access database also commonly referred to as "Work Order System."

4.5 Spill Record Keeping Requirements[3]

The WDR requires that individual spill records be maintained for a minimum of **five years** from the date of the spill. This period may be extended when requested by a Regional Water Quality Control Board Executive Officer.

All records shall be made available for review upon State or Regional Water Board staff's request.

[3] State Water Resources Control Order No. WQ 2022-0103-DWQ Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

Records shall be retained for all spillss, including but not limited to the following when applicable:

- Records from Hazardous Waste Disposal Contractor;
- GIS map of spill;
- Spill Report Form (Appendix G);
- Services rendered form;
- Email notification or notice of spill;
- CIWQS report once this is input online;
- Notice of certification from CIWQS;
- Copy of Certified Online Spill Reporting System report(s);
- Any photos (if taken); and
- Steps that have been and will be taken to prevent the spill from recurring and a schedule to implement those steps.

If water quality samples are required by an environmental or health regulatory agency, or if voluntary monitoring is conducted by the Long Beach Health Department, as a result of any spill, records of monitoring information are kept by the Health Department. This information includes:

- The date, exact place, and time of sampling or measurements;
- The individual(s) who performed the sampling or measurements;
- The date(s) analyses were performed;
- The individual(s) who performed the analyses;
- The analytical technique or method used; and
- The results of such analyses.

4.5.1 Post Spill Event Debriefing

As soon as possible after major spill events, all of the participants, from the person who received the call to the last person to leave the site, should meet to review the procedures used and to discuss what worked and where improvements could be made in responding to and mitigating future spill events. This usually takes place at the weekly tailgate meetings of field staff.

5 Equipment

A list of specialized equipment available to support spill response is provided in Appendix H.

6 Spill Emergency Response Plan Update and Training

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

6.1 Annual Review and Update

Annually, the County will review and assess effectiveness of the Spill Emergency Response Plan, and update the Plan as needed.

6.2 Spill Response Training

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

6.3 Initial and Annual Refresher Training

The Sewer Operations Superintendent manages field operations and maintenance activities and is responsible for making sure all Sewer employees receive training in emergency response, spill investigation, and spill reporting duties. All new employees receive standard “new hire” training before they are placed in a position where they may have to respond. New hires are evaluated for reaching training milestones with a 6-month training checklist, and all employees attend standard safety meetings or training tailgates on a weekly basis.

The following routine SERP-related training occurs:

- As needed after each spill event and when changes have been made to the report form or reporting requirement changes, the Sewer Operations Superintendent ensures that the necessary LACPW staff receives additional training required by the spill event need or by the changed requirement(s).
- The weekly tailgate meetings in the Sewer Operations meeting area include a discussion of spill events and lessons learned from each event.
- Whenever the spill report form or telephone numbers change, updated forms are distributed and posted in the sewer offices.

- Emergency response and investigation is discussed as needed and after each spill event.

6.3.1 Spill Training Record Keeping

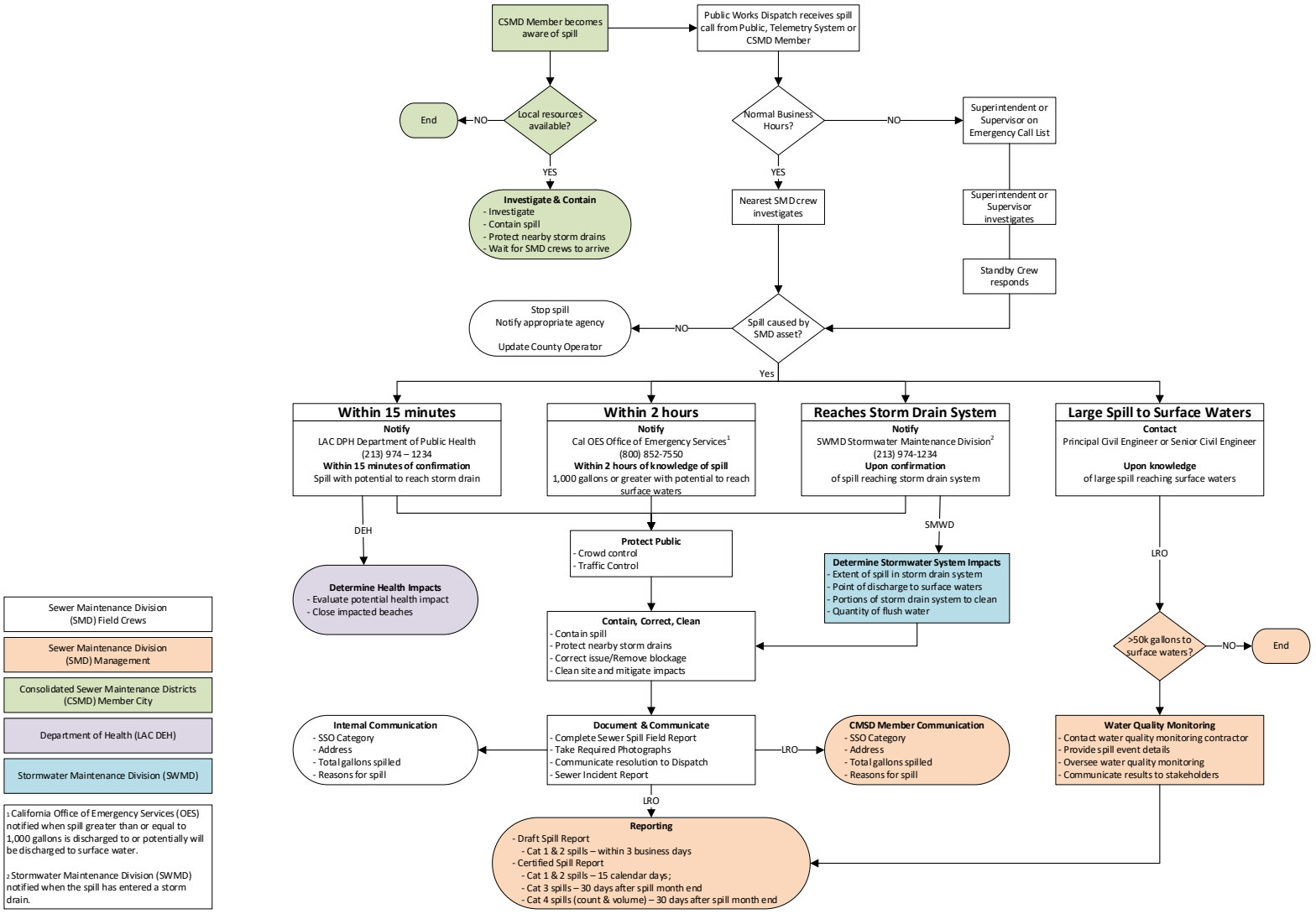
The County maintains records for all SERP training provided in support of this plan. The records for all scheduled training courses and for each overflow emergency response training event include date, time, place, content, name of trainer(s), and names of attendees.

6.4 Contractors Working on Public Sewer Facilities

All contractors working on County sewer facilities are required to develop a spill response plan, which identifies who the contractor will contact at the County and any actions a contractor is required to perform in the event of a spill.

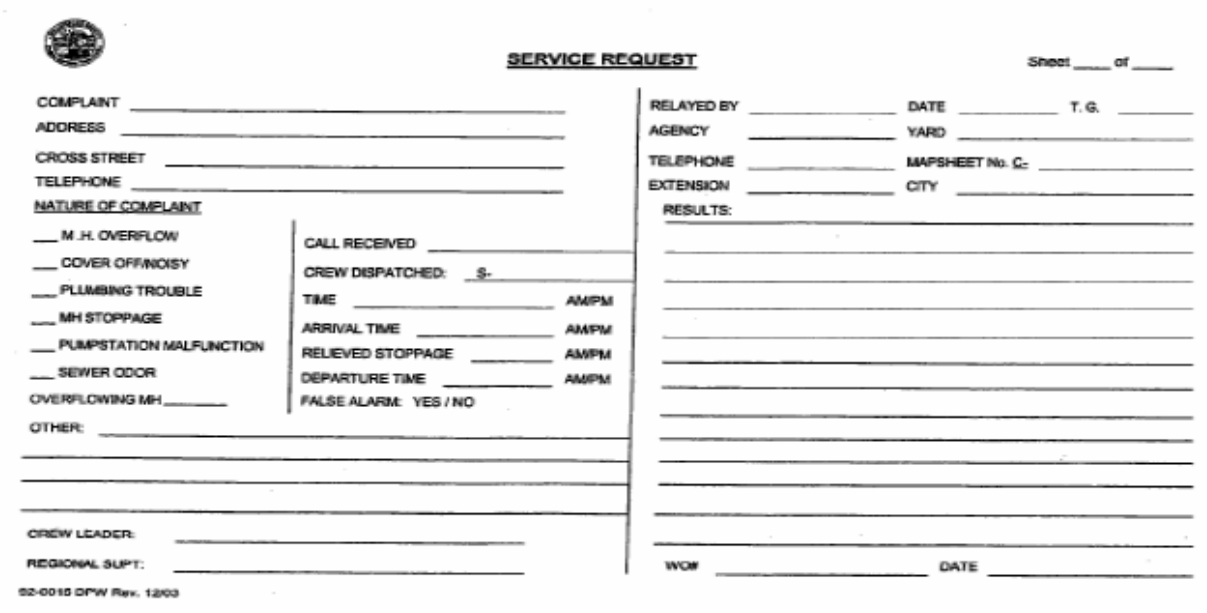
Appendix A. Combined Resources Phone List

Appendix B. Sanitary Sewer Spill Response Flowchart and Notification Table



Department	Contact	Requirements/ Comments
CONTACT WITHIN 15 MINUTES of verification of overflow		
Department of Public Health (DPH)	(213) 974-1234 (24-hour reporting)	
CONTACT WITHIN 2 HOURS of verification of overflow		
California Office of Emergency Services (OES)	(800) 852-7550 (24-hour reporting)	Discharge of sewage spills reaching or which likely make its way into, any state waters is 1000 gallons or more.
Stormwater Maintenance Division (SWMD) (Notify through Dispatch)	(626) 458-4357	Call Dispatch to request assistance from SWMD
Environmental Programs Division (EPD) (Notify through Dispatch)	(626) 458-4357	Call Dispatch to request assistance from EPD if spill is 50,000 gallons or more that reached surface water.

Appendix C. Service Request Form



SERVICE REQUEST

Sheet ____ of ____

COMPLAINT _____
ADDRESS _____
CROSS STREET _____
TELEPHONE _____
NATURE OF COMPLAINT

___ M.H. OVERFLOW
___ COVER OFF/NOISY
___ PLUMBING TROUBLE
___ MH STOPPAGE
___ PUMPSTATION MALFUNCTION
___ SEWER ODOR
OVERFLOWING MH_____
OTHER: _____

CALL RECEIVED _____
CREW DISPATCHED: S-
TIME _____ AM/PM
ARRIVAL TIME _____ AM/PM
RELIEVED STOPPAGE _____ AM/PM
DEPARTURE TIME _____ AM/PM
FALSE ALARM: YES / NO

CREW LEADER: _____
REGIONAL SUPT: _____

RELAYED BY _____ DATE _____ T. G. _____
AGENCY _____ YARD _____
TELEPHONE _____ MAPSHEET No. C- _____
EXTENSION _____ CITY _____
RESULTS: _____

WO# _____ DATE _____

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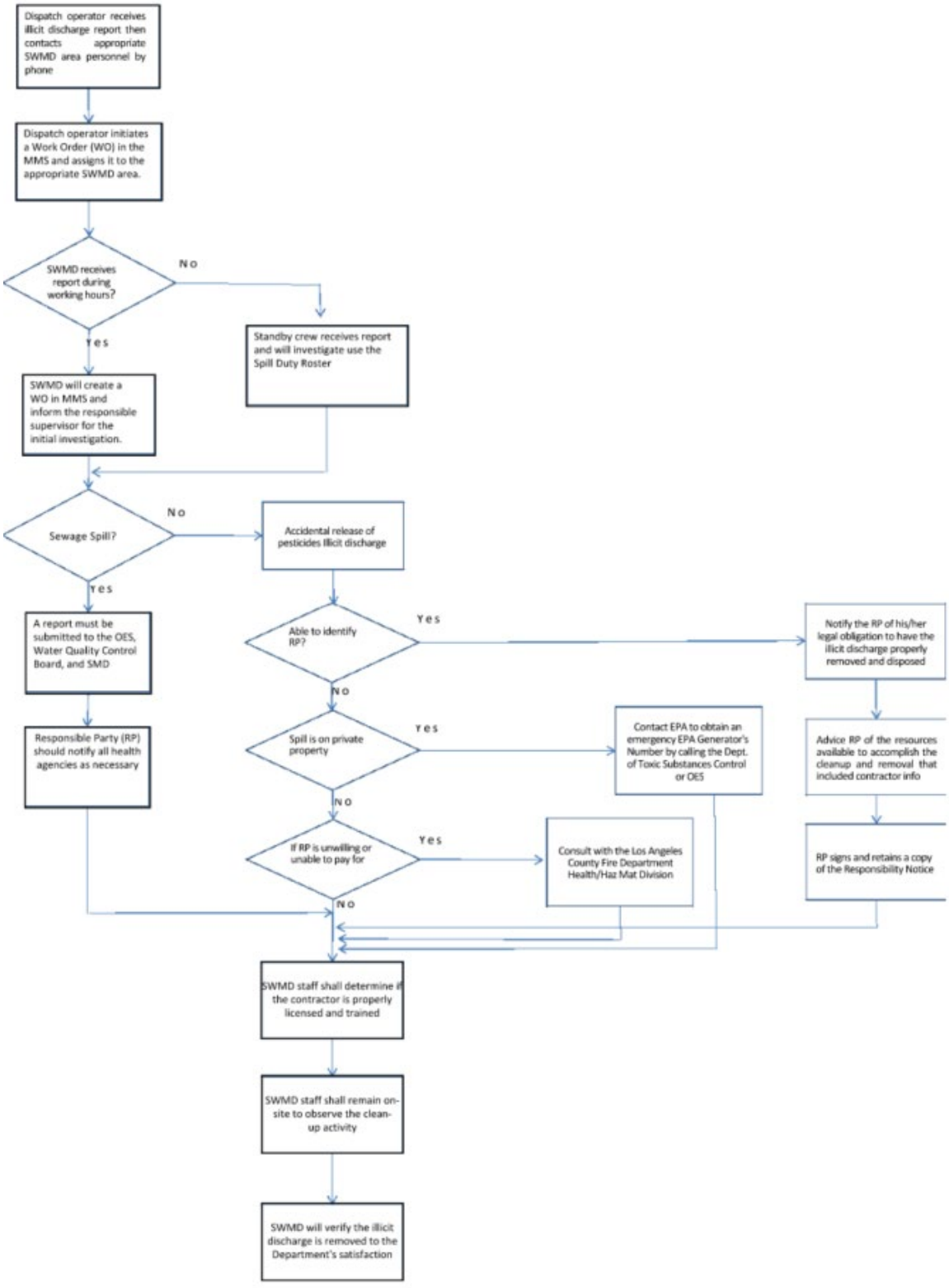
Appendix D. SWMD Illicit Discharge Emergency Response Flowchart



Appendix E. Water Quality Monitoring Program

To comply with of the State Water Resources Control Board Order No. WQ 2022-0103-DWQ, the County has developed and implemented this Water Quality Monitoring Program to assess impacts from spills.

The Water Quality Monitoring Program required by the General Order, shall include, at minimum:

1. Contain protocols for water quality monitoring.
2. Account for spill travel time in the receiving water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.).
3. Require samples and measurements taken for the purpose of monitoring be representative of the monitored activity.
4. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited and certified laboratory.
5. Require monitoring instruments and devices used to implement the Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
6. Within 48 hours of the staff becoming aware of the spill, require water quality sampling for, at a minimum, the following constituents:
    i. Ammonia.
    ii. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.

Safety

All County staff shall be aware and follow all safety precautions in order to comply with this Water Quality Monitoring Program. Therefore, all staff needs to take into account where monitoring will not be possible which may include:

1. Heavy rain / storm events where access points may be compromised;
2. Flooding around low areas; or
3. Fast moving waters.

County staff should evaluate and keep safety first when encountering these scenarios and are encouraged to exercise proper judgment to limit health risk.

Water Quality Sampling

The LA County currently does not have an ELAP certified Laboratory on site. Hence, a third-party laboratory will perform sampling and testing for the County.

For sewage spills in which an estimated 50,000 gallons or greater are discharged into a surface water, the County Staff shall conduct the following water quality sampling no later than 48 hours after the County staff's knowledge of a potential discharge to a surface water:

Collect one water sample, each day of the duration of the spill, at:

1. The DCS-001 location as described in Table 1 below if sewage discharges to a surface water via a drainage conveyance system; and/or
2. Each of the three receiving water sampling locations in Table 1.

Sampling Location	**Sampling Location Description**
DCS-001	A point in a drainage conveyance system before the drainage conveyance system flow discharges into a receiving water.
Receiving Surface Water Sampling (RSW)1	
Sampling Location	**Sampling Location Description**
RSW-001 **Point of Discharge**	A point in the receiving water where sewage initially enters the receiving water.
RSW-001U: Upstream of Point of Discharge	A point in the receiving water, upstream of the point of sewage discharge, to capture ambient conditions absent of sewage discharge impacts.
RSW-001D: Downstream of Point of Discharge	A point in the receiving water, downstream of the point of sewage discharge, where the spill material is fully mixed with the receiving water.

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

Table *3: Sampling of flow in Drainage Conveyance System (DCS) Prior to Discharge*

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

Collect one water sample, each day of the duration of the spill. Coordinate with the regional water board to determine if additional sampling is required or if the spill is beyond 50,000 gallons.

Samples collected in the field must follow Standard Methods (APHA 2005) collection protocol. Sample must be collected in a watertight, sterile container. Label the sample container with the location of the spill and sample collection time. If the sample cannot be delivered to lab within 1 hour, it must be placed on ice immediately and delivered to the lab within six hours of collection. Any sample not meeting these criteria is "Invalid". Recommended container is a 4 oz Sterile Sample Container, Fisher Brand Catalog No. 14-375-147 or equivalent.

Sample Delivery after working hours:

The sample collectors will notify lab staff of delivery and deliver samples. These samples must meet the required six-hour delivery (holding) time to be considered valid.

Analysis:

The lab shall analyze the collected receiving water samples for the following constituents:

1. Ammonia, and

2. Appropriate bacterial indicator(s) per the applicable Basin Plan water quality objectives, including one or more of the following, unless directed otherwise by the Regional Water Board:
    i. Total Coliform Bacteria
    ii. Fecal Coliform Bacteria
    iii. E-coli
    iv. Enterococcus

Spill monitoring must be representative of the monitored activity as adhering to the following requirements:

Sufficiently Sensitive Methods

Sample analysis must be conducted according to sufficiently sensitive test methods approved under 40 Code of Federal Regulations Part 136 (eCFR :: 40 CFR 136.6 -- Method modifications and analytical requirements.) for the sample analysis of pollutants. For the purposes of this General Order, a method is sufficiently sensitive when the minimum level of the analytical method approved under 40 Code of Federal Regulations Part 136 is at or below the receiving water pollutant criteria.

Water Quality Sampling Equipment

The following guideline describes the equipment and supplies to be stocked at the third party laboratory and readily available for any water quality sampling event.

1. Ice chest with ice/ blue ice
2. Bleach to sterilize sampling equipment
3. Laminated copy of this form
4. Sterile sample bottles
5. Ammonia sampling bottles
6. Chain of custody forms
7. Ball point pens, sharpies and labeling tapes
8. Sampling pole
9. I don't think this is necessary
10. Gloves
11. Other PPE (i.e. rubber boots, safety glasses, apron, mask, etc.)
12. Reporting sheets

Laboratory staff should perform quarterly checks for adequate spill kits at all times.

Water Quality Sampling Procedure

Call Laboratory Supervisor to notify them about the sampling event.

1. Disposable un-powdered gloves are recommended for sample collection to protect you and to assure the integrity of the samples. Disposable gloves should be changed at each sampling location.
2. Determine the correct location for sample collection.
3. Samples for bacteria/coliform analysis shall be collected in a sterile, container. Sampler will submerge container, midstream of the effluent, point top into the effluent, remove cap and fill container to fill line, or as close as possible in an effort to allow air space in the container for mixing. Label sample bottle with:
    i. sampling site
    ii. date and time sampled
    iii. Initials
4. Keep the samples packed on blue ice or equivalent for delivery to the laboratory.
5. Deliver all samples to the laboratory within 6 hrs.
6. Fill out Chain of Custody (COC) with the same information to match the sample bottles. Complete the COC as thoroughly as possible with you and your supervisor's names and phone numbers. Be sure to relinquish the COC with your signature, printed name, date, and time.

Water Quality Analysis-Protocols

Typical monitoring parameters may include Ammonia, total and fecal coliform bacteria, or other analyses as required.

Laboratory:

All samples will be sent to the Laboratory. The laboratory methods will be performed according to the laboratory's Standard Operation Procedures (SOPs).

Maintenance and Calibration of Monitoring Instruments and Devices:

In order to be accredited and maintain their certification, the Laboratory identified will follow stringent quality assurance and quality control protocols that includes regular monitoring, calibration and maintenance of their equipment. The frequency of monitoring and calibration varies based on equipment type and method requirements. Records of the calibration receipts are kept on file and readily available up on request.

Reporting Requirements

The Laboratory Supervisor will provide reporting results to the LRO. The LRO is responsible for submitting water quality monitoring information with the certified respective spill report on CIWQS database within 15 calendar days of the spill end date.

The LRO is also responsible for submitting information related to the Technical Report in CIWQS database, which must be completed within 45 calendar days of the spill end date. The Spill Technical Report must include the following water quality monitoring information:

1. Description of all water quality sampling activities.
2. Analytical results and evaluation of the results; and
3. Detailed location maps and photos depicting all water sampling points.

Appendix F. LACPW Methods for Estimating Spill Volume

A variety of approaches exist for estimating the volume of a sanitary sewer spill. This appendix documents the three methods that are most often employed. The person preparing the estimate should use the method most appropriate to the sewer spill in question and use the best information available.

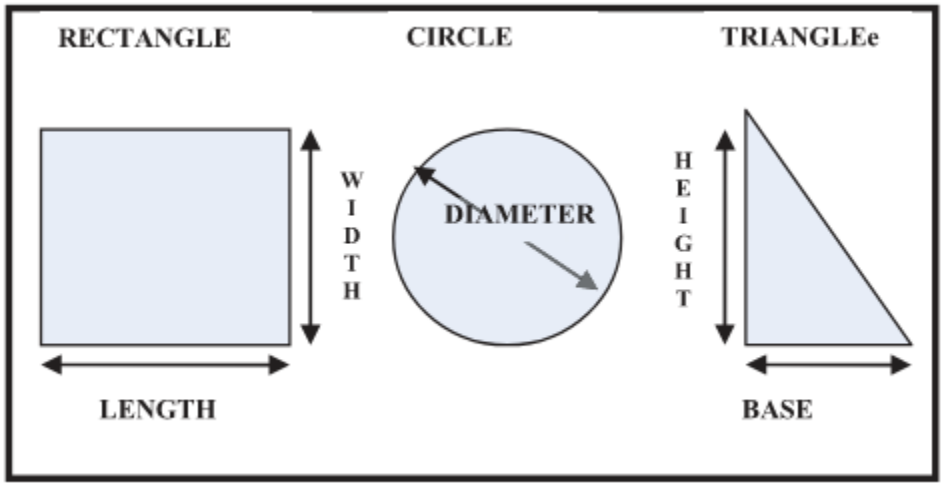
METHOD 1 EYEBALL ESTIMATE

The volume of small spills can be estimated using an "eyeball estimate". To use this method, imagine the amount of water that would spill from a bucket or a barrel. A bucket contains 5 gallons, and a barrel contains 50 gallons. If the spill is larger than 50 gallons, try to break the standing water into barrels and then multiply by 50 gallons. This method is useful for contained spills up to approximately 200 gallons.

METHOD 2 MEASURED VOLUME

The volume of most small spills that have been contained can be estimated using this method. The shape, dimensions, and the depth of the contained wastewater are needed. The shape and dimensions are used to calculate the area of the spills and the depth is used to calculate the volume.

Common Shapes and Dimensions



Step 1 Sketch the shape of the contained sewage (see figure above).
Step 2 Measure or pace off the dimensions.
Step 3 Measure the depth at several locations and select an average.
Step 4 Convert the dimensions, including depth, to feet.
Step 5 Calculate the area in square feet using the following formulas:
Rectangle: Area = length (feet) x width (feet)
Circle: Area = diameter (feet) x diameter (feet) x 0.79
Triangle: Area = base (feet) x height (feet) x 0.5
Step 6 Multiply the area (square feet) times the depth (in feet) to obtain the volume in cubic feet.
Step 7 Multiply the volume in cubic feet by 7.5 to convert it to gallons.

METHOD 3 DURATION AND FLOWRATE

Calculating the volume of larger spills, where it is difficult or impossible to measure the area and depth, requires a different approach. In this method, separate estimates are made of the duration of the spill and the flowrate. The methods of estimating duration and flowrate are:

Duration: The duration is the elapsed time from the time the spill started to the time that the flow was restored.

Start Time: The start time is sometimes difficult to establish. Here are some approaches:

- Local residents can be used to establish start time. Inquire as to their observations. Spills that occur in rights-of-way are usually observed and reported promptly. Spills that occur out of the public view can go on longer. Sometimes observations like odors or sounds (e.g., water running in a normally dry creek bed) can be used to estimate the start time.
- Changes in flow on a downstream flowmeter can be used to establish the start time. Typically, the daily flow peaks are "cut off" or flattened by the loss of flow. This can be identified by comparing hourly flow data during the spill event with flow data from prior days.
- Conditions at the spill site change over time. Initially there will be limited deposits of toilet paper and other sewage solids. After a few days to a week, the sewage solids form a light-colored residue. After a few weeks to a month, the sewage solids turn dark. The quantity of toilet paper and other materials of sewage origin increase over time. These observations can be used to estimate the start time in the absence of other information. Taking photographs to document the observations can be helpful if questions arise later in the process.
- It is important to remember that spills may not be continuous. Blockages are not usually complete (some flow continues). In this case the spill would occur during the peak flow periods (typically 10:00 to 12:00 and 13:00 to 16:00 each day). Spills that occur due to peak flows in excess of capacity will occur only during, and for a short period after, heavy rainfall.

End Time: The end time is usually much easier to establish. Field crews on-site observe the "blow down" that occurs when the blockage has been removed. The "blow down" can also be observed in downstream flowmeters.

Flow Rate: The flowrate is the average flow that left the wastewater collection system during the time of the spill.
There are three common ways to estimate the flowrate:

- **The San Diego Manhole Flowrate Chart:** This chart, included on the following page, shows sewage flowing from manhole covers at a variety of flowrates. The observations of the field crew can be used to select the appropriate flowrate from the chart. If possible, photographs are useful in documenting the basis for the flowrate estimate.

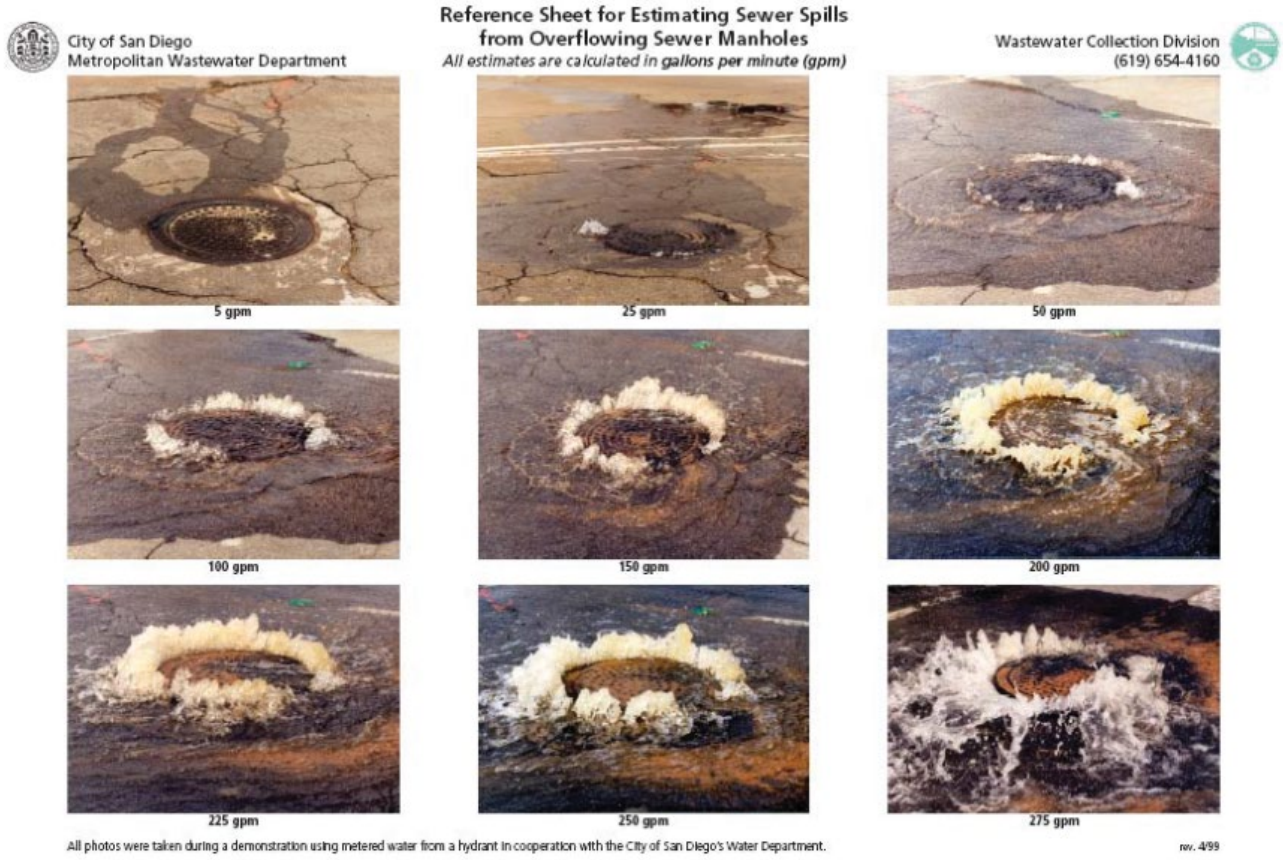
- **Flowmeter:** Changes in flows in downstream flowmeters can be used to estimate the flowrate during the spill.

- **Counting Connections:** Once the location of the spill is known, the number of upstream connections can be determined from the sewer maps. Multiply the number of connections by 200 to 250 gallons per day per connection or 8 to 10 gallons per hour per connection.
  For example:
  22 upstream connections x 9 gallons per hour per connection

= 198 gallons per hour / 60 minutes per hour= 3.3 gallons per minute

Spill Volume: Once duration and flowrate have been estimated, the volume of the spill is the product of
the duration in hours or days and the flowrate in gallons per hour or gallons per day.
For example:
Spill start time = 11:00
Spill end time = 14:00
Spill duration = 3 hours
3.3 gallons per minute x 3 hours x 60 minutes per hour= 594 gallons

MANHOLE SPILL FLOWRATE GUIDE



METHOD 4 SINGLE HOME

This estimation method works only for single family residential home spills. It assumes 180 gallons per EDU.
Single-Family Residential homes = One EDU.
When a spill affects landscaped areas, dirt, fields or any surface that tends to absorb the spill, it is often difficult to use the 'eyeball method' to make a valid estimation. This method will be useful in these cases.
Once the Spill Start Time and End Time are determined, this method can be applied.
Example:
It is determined that the spill start time was 9:45 AM and the Spill End time was 1:30 (3 hours and 45 minutes)

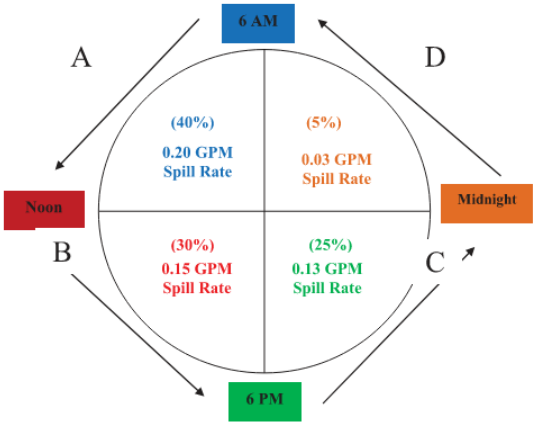
From 9:45 to Noon (2 Hrs, 15 Minutes would be calculated using 0.20 GPM (135 minutes x 0.20 = 27.0 gallons).
From Noon to 1:30 PM (1 Hr, 30 Minutes would be calculated using 0.15 GPM (90 minutes x 0.15 = 13.5 gallons).
Total would be 27.0 gallons + 13.5 gallons = 40.5 gallons.

This information alone likely does not tell the whole story. Typically, sewage does not run continuously from a home. If at all possible the resident should be interviewed. Be respectful and ask the resident if they would mind if you asked them a few questions to help determine the volume of the spill.
Example:
Since the time you noticed the spill:
How many people have been home?
Have you done any laundry (30 gallons/load) or ran the dish washer (9 gallons/load) or taken a shower (25 gallons)

Next, put all the information you have gathered:
The size of the stain or water mark on the ground + any tissue, etc.
The answers to the questions about use.
The volume the Spill Estimation Method suggested

Does the information gathered suggest that the volume determined by the estimation tool be adjusted, up, down or the left as is?
Use the following and consider it to be Typical Use for each activity. The amounts listed below consider the water use difference of newer appliances and older appliances. It appears that around 1994 was watershed year. The amounts listed below assume that more appliances are newer than older.
Washing Machine - 30 gallons/load
Dish Washer - 9 gallons/load
Shower (10 Min.) - 25 gallons/shower

180 GPD per Household
(Apply District-wide diurnal flow patterns to estimate usage during each period)



Time Period	Gals per Minute	Gals per Hour	Gals per Period
A - 6 AM to Noon	0.20	12.0	72
B - Noon to 6 PM	0.15	9	54
C - 6PM to 9 PM	0.13	7.5	45
D - 9 PM - Midnight	0.03	1.5	9

Spill Start Time _____ - Spill End Time _____ = Spill Duration _____
Spill Duration _____ x Spill Rate _____ x EDUs _____ = Spill Volume _____

This is to be used as a guide for spill estimation for lower lateral blockages. Each six-hour period flow rate assumes a constant flow, which would not be typical in a home or business. In the absence of any other information or in conjunction with other information, this is intended to assist with spill estimations.

Appendix G. Spill Report Form

Appendix H. Equipment List