

Emergency Response Plan for Sanitary Sewer Overflows (SSOs)

Lowell Regional Wastewater Utility



*NPDES Permit Number: MA0100633
Report Due Date: October 31, 2025*

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SSO EMERGENCY RESPONSE PLAN
CERTIFICATION STATEMENT

I certify under penalty of perjury that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Aaron Fox
Chief Utility Officer
Lowell Regional Wastewater Utility

10/31/2025

Date

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1. INTRODUCTION

Sanitary sewer overflows (SSOs) happen when untreated sewage spills out of a sanitary sewer system before reaching a treatment facility or permitted discharge point, posing serious risk to both public and environmental health. SSOs can be caused by a variety of issues, often related to system capacity, maintenance, or structural problems, including: structural pipe failures; clogged pipes; and hydraulic deficiencies. Preventing and mitigating SSOs primary responsibilities of the Lowell Regional Wastewater Utility (Utility). This document outlines the Emergency Response Plan (ERP) to follow in the event of an SSO, and is broken into the following steps:

Step 1 – Preparation: Outline of the SSO Response Team, training, available equipment, and general notification procedures.

Step 2 – Notification: Details how SSO Response team is notified of potential sewer issues and SSOs.

Step 3 – Field Response: Describes the procedures to make the affected area safe when responding to a sewer issue, and the procedures to identify the cause of the sewer issue, to determine if sewer issue is an SSO, and how to properly address the issue.

Step 4 – Documentation and Reporting: Describes the information to be collected during an SSO event and the follow-up documentation to be completed by the Utility.

Step 5 – Follow Up: Team discussion of SSO event including procedures that could be improved.

The City of Lowell is currently under a 2024 Consent Decree, fully executed and filed with the US District Court on May 17, 2024 (Case: 1:24-cv-1290-DJC, Document 13). This document includes a standardized Emergency Response Plan (ERP) to prevent and minimize the environmental and health impacts of SSOs.

1.1. DEFINITIONS

Blockage: Any obstruction that restricts flow in the City’s collection system.

Building/Private Property Backup: Any release of wastewater from the City’s Collection System into buildings or onto private property, except a release that is the result of blockages, flow conditions, or malfunctions of a building lateral or other piping conveyance system that is not owned or operationally controlled by the City, or is the result of overland, surface flooding, not emanating from the City’s Collection System.

Collection System: The wastewater collection, storage, and transmission system (i.e., sanitary sewer system) owned or operated by the City, including, but not limited to, all devices, sewersheds, pump stations, force mains, gravity sewer lines, manholes, and appurtenances.

Municipal Separate Storm Sewer System (MS4): A conveyance or system of conveyances (including roads with drainage system, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned and/or operated by the City designed or used for collecting or, conveying stormwater, and discharging stormwater to receiving waters.

Sanitary Sewer Overflow (“SSO“): Any overflow, spill, diversion, or release of wastewater from, or caused by, the City’s Collection System. SSOs include, but are not limited to discharges to waters of the United States from the City’s Collection System, as well as any release of wastewater from the City’s Collection System to public or private property that does not reach waters of the United States, including wastewater backups onto public streets and Building/Private Property Backups. SSOs do not include overflows, spills, diversions, or release on private property from systems or

components that are not owned or operated by the City, and that are not caused by the City's Collection System. CSOs are deemed separate and distinct from SSOs.

Sewer Issue: Any call or request to the Utility for public sewer services.

2. SSO EMERGENCY RESPONSE PLAN

This SSO ERP serves as a reference guide for Utility employees. It provides standard procedures and a framework to follow in the event of an SSO and will be updated as procedures are refined and improved.

The objectives of the SSO ERP are to:

1. Protect the safety of the public and employees;
2. Minimize the health and environmental impact of SSOs;
3. Ensure regulatory compliances;
4. Establish procedures to identify, respond, and mitigate SSOs as expeditiously as possible;
5. Document all incidents and responses accurately.

To achieve these objectives, a 5-step SSO response plan is to be used for every SSO: Preparation, Notification, Field Response, Reporting, and Follow Up.

2.1. PREPARATION

This section details how to organize and equip an SSO Emergency Response Team to be ready to respond to an SSO.

2.1.1. Response Team

The SSO Response Team consists of a Dispatcher, Report Lead, Team Lead, and SSO Response Crew to mobilize and respond to sewer issues and SSOs.

Staff will be trained to fulfill multiple roles on the response team. See [Appendix A](#) for the Utility's Organization Chart.

The roles of the SSO Response Team are described below:

- **Dispatcher (Head Operator):** The Dispatcher receives the initial report of a sewer issue, or potential SSO, and records the pertinent information. The Dispatcher then coordinates with the Team Lead to assemble an SSO response crew.
- **Report Lead (Staff Engineer):** The Report Lead is responsible for ensuring that the procedure is followed correctly, and the Response Team's actions comply with regulations. The Report Lead is responsible for the oversight of the Team Lead, and reviews procedures and documentation completed. If a sewer issue is deemed an SSO, the Report Lead is responsible for submitting the 24-hour notification and 5-day SSO/Bypass Notification Form to the appropriate contacts.
- **Team Lead (Collection Systems Supervisor):** The Team Lead is the field SSO response crew leader. The Team Lead is responsible for investigating a sewer issue and confirming when a sewer issue is an SSO or an issue with private infrastructure. The Team Lead is responsible for mobilizing the SSO Response Crew, making decisions about best SSO mitigation strategies, documenting the incident, and collaborating with the Report Lead to ensure that all notification requirements have been met.
- **SSO Response Crew (Collection System Operators):** Depending on the severity of the SSO event, the Team Lead will determine how many staff personnel are needed as part of the SSO Response Crew to mitigate the SSO. All employees with collection systems responsibilities are trained to perform this responsibility. The SSO Response Team consists of a minimum of two employees to ensure the safety of the workers.

2.1.2. Training

Staff are trained to assess the cause, implement appropriate containment measures, and perform remedial activities to effectively mitigate the SSO and impacted area. The Team Lead and Report Lead's ensure that all SSO Response Crew members receive the appropriate training necessary including first aid, CPR, bloodborne pathogens, confined space entry, asbestos cement handling, competent person, rigging classes, hoisting licenses, HAZWOPER, spill response, lock-out-tag-out, and commercial driver's licenses as needed. Training is conducted through various organization including NEWWA, NEWEA, MWWA, Bay State Roads, ISSI, MWPCA, and the Lowell Health Department.

2.1.3. Equipment and Services

The correct equipment is essential for a rapid and effective SSO response. All equipment is to be inspected and restocked quarterly, and any damaged, used, or expired equipment are to be replaced immediately. Equipment is easily accessible.

SSO response equipment includes the following:

- Standard PPE: Hi-vis vests, Tyvek suits, disposable nitrile gloves, work gloves, safety glasses and goggles, hard hats, steel-toed boots, face shield, raincoats, and rainboots.
- Confined space entry equipment: Hoist, harnesses, and gas meters.
- Site safety/control: Cones, barrels, tape, temporary signage, portable light tower, portable generator, and spill response trailer.
- Communication equipment: Cell phones, Everbridge, and tablets.
- Bypass pumping equipment: Portable bypass pumping equipment, spare fuel, 50+ feet of suction hose and 300+ feet of lay flat hose.
- Containment equipment: Sandbags, sand, absorbent pads, loose absorbent, and catch basin pads.
- Detection/Notification Equipment: ADS ECHO Level Sensors and SCADA,
- SSO response vehicles: Vactor trucks, CCTV inspection vehicle, and a tow-behind spill response trailer.
- Blockage removal equipment: WartHog Grease Descaler, Root Buster, and high-pressure jetting tools.
- Contracted services: [Appendix B](#) lists emergency excavation and sewer cleaning contractors with contact information.

2.2. NOTIFICATION

This section details how notification of potential sewer issues and SSOs are received, and the response to these notifications.

2.2.1. Public vs Internal Notifications

Reports of a potential sewer issue or SSO are initially received by the Dispatcher either via an internal or public notification. Internal and public notifications are made to the Dispatcher who is available 24/7. The Dispatcher logs all reported sewer system issues and immediately relays them to the Team Lead and/or Report Lead.

- Internal Notification: The Dispatcher can be notified through various means including 311 Enterprise Service Requests, SCADA alarms, email, phone, and ADS Sensor alerts. Upon receipt of a notification, the Dispatcher will review available data to assess system conditions and determine the appropriate response. Team Lead

and/or Report Lead will be informed to ensure a coordinated investigation and resolution, and all notifications, findings, and corrective actions will be documented within the internal tracking systems.

- **Public Notification:** Residents can report sewer system issues by calling the 24-hour emergency number at **(978) 674-4248** or by submitting a request online through Munis 311. This contact information is available on the City's website: <https://lowellma.gov/1977/Lowell-311>.

If an issue has the potential to affect the public, social media channels and in person messaging will be used to inform residents of the status of the issue and any necessary precautions. Once the issue has been resolved, SSO Response Team will communicate directly with affected property owners regarding the resolution and any required follow-up actions.

2.3. FIELD RESPONSE

This section establishes procedures for the SSO Response Team to identify, respond, and mitigate SSOs and related impacts.

2.3.1. Assess the Situation and Secure the Site

- Upon arrival at the site, personnel assess the overall situation to identify any immediate threats to public health, employee safety, and the environment. Establish safe conditions at the site to protect both personnel and the public from exposure to hazards.
- Based on the initial assessment, the Team Lead prioritizes response measures. The main priority is to protect public and employee safety, followed by protecting the environment and property.
- Secure the site. Set up a perimeter and traffic control to protect the public and the SSO Response Crew. Cordon off areas of ponded or flowing sewage to prevent public contact.
- Identify the cause of the sewer issue.
 - Visually determine where any sewage has been released, such as bathtubs, washing machines, basements, catch basins, or backyards.
 - If the issue originates from privately owned plumbing or conveyance systems, a list of licensed plumbers and insured contractors will be distributed to the homeowner.
 - Inspect the sewer main and other City-owned infrastructure in the affected area.
 - If the issue involves City-owned infrastructure, it is classified as an SSO.
- Visually estimate the volume of sewage released and determine whether it has reached a body of water or a catch basin.
- Confirm the location and nature of the impact causing the SSO, such as roots, grease, or pipe collapse.
- Photograph of the incident are documented including any observed private property damage.
- Report all findings to the Team Lead and Report Lead for inclusion in the official SSO documentation.

2.3.2. Contain and Stop the Overflow

- Sandbag nearby stormwater catch basin inlets and other entry points to the stormwater system to prevent contamination of receiving waters. Additional sandbags are used as needed to contain and channel sewage on the surface.

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- If the SSO cannot be stopped or contained quickly, the Team Lead directs the setup of pumping equipment and hoses from the upstream manhole to the nearest flowing manhole downstream of the blockage. A vacuum truck is used to remove as much sewage as possible until pumping operations are fully established.
 - Jet flushing is conducted from the first free-flowing downstream manhole, working upstream toward the blockage. A trap and/or vacuum hose is set up in the downstream manhole to capture debris. Work is conducted from the surface whenever possible; manhole entry is avoided when feasible.
 - Debris is removed from the sewer pipe or manhole. Debris is examined and recorded for indications of the cause of the blockage.
 - All findings are reported to the Report Lead for inclusion in official documentation. Based on the severity of the situation, the Team Lead requests additional resources or subcontractors as needed to correct the issue.

2.3.3. Clean Up

- Use a vacuum truck or pump to recover any ponded sewage and safely discharge it into the sewer system. Sewage-related debris and organic matter is removed. Direct contact with debris is avoided, and if handling is necessary, appropriate PPE is worn.
 - The SSO Response Crew performs cleanup activities only on external areas such as streets, yards, and public right-of-way, and do not conduct interior cleanups for private residents.
- Apply disinfectant thoroughly using appropriate tools, while wearing proper PPE. Ensure thorough coverage to mitigate health risks. Monitor for residual odors or potential health hazards and ventilate the area as needed.
- Flush the affected area with clean water to remove residual contaminants. Direct all flush water using sandbags, pumps, or vacuum trucks, to the sewer system.
- Place signage to alert the public to any remaining health hazards. If signage alone is insufficient, communicate the situation to the Lowell Communications Team at City Hall inform the public through various means (i.e. Facebook, website, twitter, etc.).
- Ensure all personnel follow decontamination procedures after cleanup. Properly clean, disinfect and/or dispose all equipment used in the response.
- Record all actions taken and submit a detailed report of cleanup activities, observations, and findings to the Report Lead for official documentation and regulatory compliance.

2.4. DOCUMENTATION AND REPORTING

- If an SSO does not discharge to a waterbody, MassDEP and EPA are notified within 24 hours of discovery. A follow-up email detailing the overflow, including a completed copy of MassDEP's Sanitary Sewer Overflow (SSO)/Bypass Notification Form is submitted within 5 days of the initial notice ([Appendix C](#)).
- If an SSO discharges to a waterbody, the reporting procedures outlined in 314 CMR 16.00 are utilized. For unauthorized discharges that directly impact a waterbody, initial notification to the public is made via email and text alert within two hours of the overflow discovery. Downstream waterway users and regulatory authorities are required to be recipients of this notification.
 - The Dispatcher populates information pertaining to each event and notifications are distributed using Everbridge software.
 - Update notifications are issued every eight hours to inform the overflow event status or if it has ceased.

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- The City website is updated within one business day detailing the overflow event. An initial overflow report is uploaded to MassDEP's website within eighteen hours of the start of the event. Detailed reports summarizing the overflow are uploaded to MassDEP's website monthly.
 - Templates for all reporting forms can be found in *Appendix D*.
 - A copy of MassDEP's Sanitary Sewer Overflow (SSO)/Bypass Notification Form is submitted via email for all SSOs within 5 days of the initial notice.

2.5. FOLLOW UP

2.5.1. Debrief the Response Crew

- Conduct a meeting with the SSO Response Crew to review the event, highlighting successes and identifying opportunities for improvement for future responses.
- Document key discussion points and lessons learned for internal records and regulatory compliance.

2.5.2. Clean, Inventory, and Replenish Supplies

- Ensure all field equipment, tools, and supplies are thoroughly cleaned, inspected, inventoried, and restocked to maintain readiness for future events.

2.5.3. Short-Term Corrective Actions

- The Team Lead and/or Report Lead schedule and oversee any corrective actions to complete tasks not finished during the immediate field response, including additional sewer cleaning, root removal, pipe repair, or site restoration.
- Track and verify completion of all corrective actions.

2.5.4. Long-Term Corrective Actions

- At least once per year, conduct a programmatic assessment of SSO events.
- Analyze collected data and maps to identify patterns, recurring issues, and habitual causes, such as structurally failing pipes or recurring grease/root blockages.
- Incorporate findings into capital improvement planning and targeted preventative maintenance programs.
- Use lessons learned to enhance training and protocols.

2.5.5. ERP Review and Update

- At least once per year, review this Emergency Response Plan (ERP) to reflect changes in staffing or training needs, updated contact information, modifications in agency reporting requirements and protocol updates.

3. CONTACT INFORMATION

EPA Compliance Section

Solanch Pastrana-Del Valle
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Enforcement and Compliance Assurance Division
U.S. Environmental Protection Agency
5 Post Office Square – Suite 100
Mail Code 04-4
Boston, MA 02109-3912
pastrna-del-valle.solanc@epa.gov
617-918-1746

Massachusetts Department of Environmental Protection (DEP)

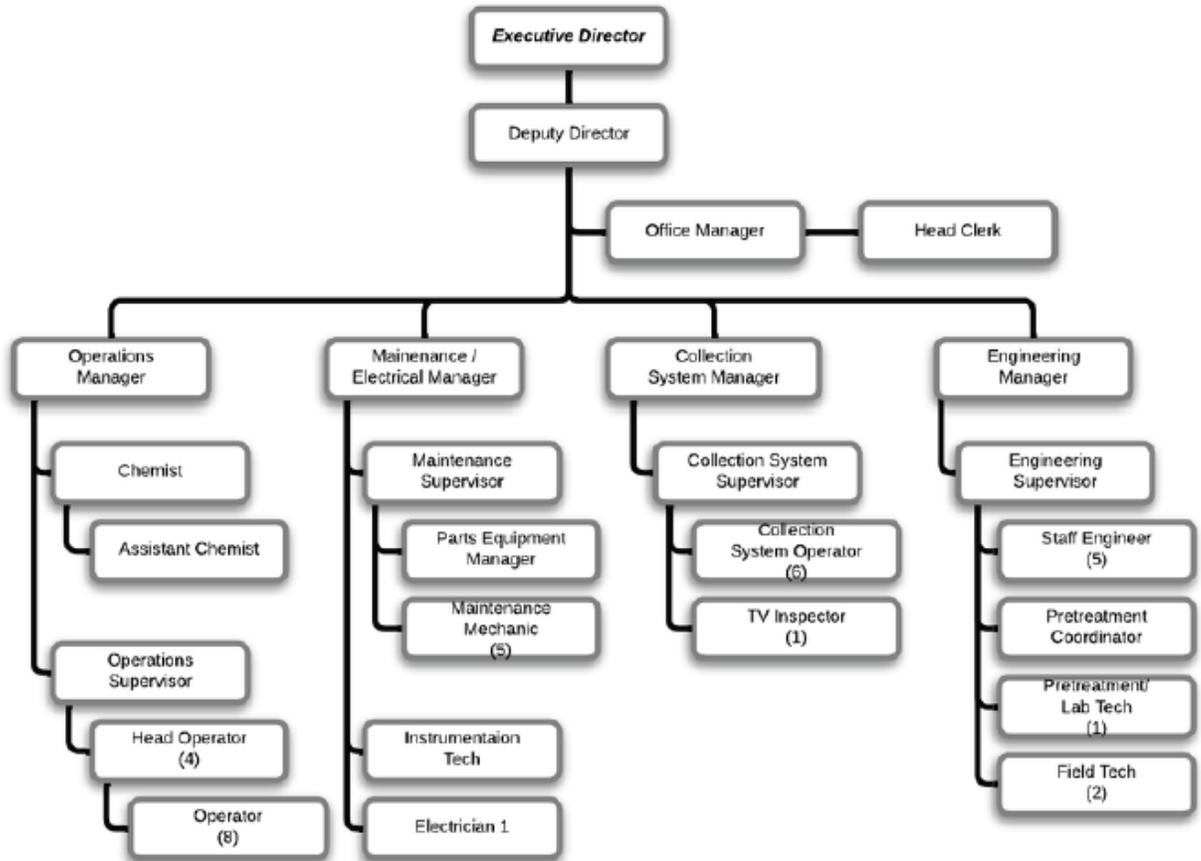
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MassDEP 24-hour Emergency Line: 1-888-304-1133

APPENDIX A: LOWELL REGIONAL WASTEWATER ORGANIZATION CHART

Organizational Chart



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Footnote(s)

1. Compiled during April 2025; subject to change

APPENDIX B: EMERGENCY SEWER CONTRACTOR LIST

Cleaning & Maintenance Contractors		
Company Name	Services Provided	Contact #
Action King	Cleaning (vacuum truck & pump truck)	(781) 828-0821
Mill City Environmental	Cleaning (pump Truck), Hazardous Materials Cleanup	(781) 849-1800
Rapid Flow	Cleaning (vacuum truck)	(617) 799-4444
Moran Environmental Recover	Cleaning & Restoration	(781) 356-3303
Woodard & Curren	Engineering Services	(800) 426-4262

Open Cut Repairs (Excavation)		
Company Name	Services Provided	Contact #
Meninno Construction	Sewer, Drain Repair	(781) 581-5333
DeFelice	Pipe Supplies	(781) 828-1350

APPENDIX C: MASSDEP SSO/BYPASS NOTIFICATION FORM



Massachusetts Department of Environmental Protection
 Bureau of Water Protection – Wastewater Management Program
Sanitary Sewer Overflow (SSO)/Bypass
Notification Form

FOR DEP USE ONLY

 Tax Identification Number

A. Reporting Facility

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Facility Information

 Reporting Sewer Authority Permit # _____

2. Authorized Representative Transmitting Form:

 First Name Last Name Telephone No. _____

 Title E-mail Address _____

B. Phone Notifications:

See DEP Regional Office telephone and fax numbers at the end of this form.

1. **MassDEP staff** contacted: first name _____ last name _____

Date/Time contacted: Date _____ Time _____ am pm

2. **EPA staff** contacted: first name _____ last name _____

Date/Time EPA contacted: Date _____ Time _____ am pm

3. Board of Health contacted: First Name _____ Last Name _____

Date/Time contacted: Date _____ Time _____ am pm

4. Others notified (select all that apply); Conservation Commission
 Harbormaster Shellfish Warden Division of Marine Fisheries
 Downstream Drinking Water Supplier Watershed Association
 Beach Resource Manager Other: _____ (specify)

C. SSO Information

1. SSO Discovered: Date _____ Time _____ am pm

By: _____

2. SSO Stopped: Date _____ Time _____ am pm

3. SSO Discharge from: Sanitary Sewer Manhole Pump Station
 Backup into Property Other: _____ (specify)

4. SSO Discharge to: Ground Surface (no release to surface water)
 Direct to Receiving Water _____ (surface water)
 Catch basin to Receiving Water _____ (surface water)
 Backup into Property Basement



Sanitary Sewer Overflow (SSO)/Bypass Notification Form

Tax Identification Number _____

C. SSO Information (cont.)

Location: _____
(Description of discharge site or closest address)

5. Estimated SSO Volume at time of this Report: _____

Method of Estimating Volume: _____

6. Cause of SSO Event:

Rain Event Pump Station Failure Insufficient Capacity in System

Treatment Unit failure

Sewer System Blockage: Pipe Collapse Root Intrusion Grease Blockage

Other: _____
(Specify)

7. Corrective Actions Taken:

Impact Area cleaned and/or disinfected: Yes No

Corrective Actions Completed: Yes No

D. Comments/Attachments/Follow-up

I wish to provide (select all that apply):

Attachment Additional comments below: No additional comments or attachments

Additional comments and planned actions:



**Sanitary Sewer Overflow (SSO)/Bypass
Notification Form**

Tax Identification Number

E. Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative

Date Signed

Please keep a copy of this report for your records. When submitting additional information, include the MassDEP Incident Number from this report.

MassDEP Regional Office and EPA Telephone and Fax Numbers:

Northeast Region	Phone: 978-694-3215	Fax: 978-694-3499
Southeast Region	Phone: 508-946-2750	Fax: 508-947-6557
Central Region	Phone: 508-792-7650	Fax: 508-792-7621
Western Region	Phone: 413-784-1100	Fax: 413-784-1149
EPA	Phone: 617-918-1510	
EPA for Southeast Region, David Turin	Phone: 617-918-1598	Fax: 617-918-0598
EPA for Northeast, Central and Western Regions, Douglas Koopman	Phone: 617-918-1747	Fax: 617-918-0747
DEP 24-hour emergency	Phone: 888-304-1133	