

SEWAGE OVERFLOW EMERGENCY RESPONSE PLAN

This Plan establishes proper clean-up procedures and safety measures to be followed during sewage spill and remediation efforts. These procedures are designed to protect employees, the public, and the environment from the potentially harmful effects associated with sewage spills.

Response Personnel

Operations Planning and Construction (OPC) personnel are primary responders to sewage spills. Responsibilities include determining the cause of, and stopping, a sewage spill, proper cleanup and disposal of spilled sewage and, when necessary, conformance with lock-out tag-out and confined space procedures appropriate for the situation. OPC supervisors shall be responsible for ensuring that response personnel are trained prior to engaging in sewage spill clean-up efforts and that sewage spill clean-up efforts are done in accordance with this Plan.

University Police Services is responsible for large scale traffic and crowd control, street closure or building evacuations as required.

Response Time

Given University internal reporting procedures (24 hour emergency dispatch) and resources (on staff personnel for clean ups) during business hours first responders will be on scene within five minutes of a report, and mitigation resources will be available within fifteen minutes. Off hours and weekends mitigation resources will be available in an hour or less.

Potential System Failures

Potential significant system failures are blockage of a main line or failure of sewer system pumps, either of which could quickly cause a large spill. To address the threat of pump failure the University has installed back up pumps at each of the lift stations servicing Student Housing; in addition, emergency portable generators are available to power those pumps in the event of a power failure. To mitigate any large scale spill we also have portable pumps capable of moving spilled sewage up to four hundred (400) feet for alternate sanitary sewer disposal.

Health Hazards

Many disease-causing agents are potentially present in raw sewage. These organisms include bacteria, viruses, fungi and parasites. In the U.S., most illnesses associated with raw sewage exposure produce mild to sever flu-like or cold-like symptoms. However, more serious illnesses, such as Hepatitis A, can be contracted through direct contact (mouth, eyes, nose, and ears) with raw sewage. With respect to HIV (AIDS) and HBV (Hepatitis B), the Division of Occupational Safety and Health (DOSH) has stated, in the Bloodborne Pathogen Standard, the following:

There is no evidence to suggest that sewage plant or wastewater workers are at increased risk for hepatitis B infection. HBV and HIV may be present in wastewater, but only in a non-viable state and in very dilute concentrations, which would not be expected to pose a risk to wastewater workers or sewage plant workers.

Since microorganisms can cause disease by entering the body through the mouth, eyes, ears, nose, or through cuts and abrasions to the skin, proper hygiene, and appropriate personal protective equipment (PPE) must be utilized when the potential for direct contact with raw sewage is possible.

Proper Hygiene

Wear waterproof gloves

Wash your hands thoroughly after clean up work. Use plenty of soap, scrub for at least 30 seconds, and rinse thoroughly. The California Department of Health Services states: "frequent, routine hand washing is the most important safeguard in preventing infection by agents present in sewage."

Do not touch fecal matter or raw sewage with bare hands. Wear waterproof gloves and use an instrument such as tongs or a spade when direct contact with fecal material is necessary.

Do not touch your nose, mouth eyes or ears with your hands unless you have just washed.

Do not smoke, eat, drink, apply lip treatments, or chew gum while cleaning up fecal matter or raw sewage.

Reduce exposure by keeping those who are not properly protected from coming in contact with the material.

Clean everything, including clothes, tools, and footwear, that came in contact with the fecal matter or raw sewage. Use "H2Orange" to wash down contaminated surfaces and clean-up equipment.

Personal Protective and Clean Up Equipment

As appropriate, use the following equipment when cleaning sewage spills.

- Waterproof gloves
- Face Shield
- Impervious Coveralls
- Disinfectant detergent (e.g. H2Orange)
- Buckets
- Wet/Dry Vacuum
- Hudson Sprayer(s)
- Mops
- Tongs
- Shovels
- Portable pumps
- Fans/blowers
- Confined Space Entry Equipment
- Portable generator

Clean Up Procedure

1. Evaluate how big the spill is (or may become) and take actions to contain the spill in the smallest area possible. If possible, prevent the spill from entering a storm drain.
2. Secure area against unauthorized entry.
3. Investigate the potential for electrical hazards and de-energize electrical circuits as necessary.
4. Determine if confined space procedures are required and implement as necessary.
5. Follow the "Proper Hygiene" section of this document during any clean-up activities.
6. Acquire all appropriate Personal Protective Equipment (PPE) and clean up equipment.
7. Prepare "**H2Orange**" or other disinfectant detergent, in bucket(s) and/or Hudson Sprayer(s), in accordance with the manufacturer's directions.
8. Put on appropriate PPE

9. Remove all furniture, loose rugs, and other items from the contaminated area.
10. Saturated wall-to-wall carpeting (including padding) should be removed, wrapped in plastic, and delivered to a sanitary landfill. These items can not normally be adequately cleaned. If you decide to keep the carpeting, hire a licensed carpet cleaning company to steam clean and disinfect the carpet.
11. All hard surfaces, such as linoleum, hardwood floors, concrete, wood moldings, wood, and metal furniture, etc. should be thoroughly cleaned with hot water and disinfectant detergent. Let the surface air-dry.
12. Upholstered furniture, loose rugs, draperies etc., should be professionally cleaned. Notify the cleaner of the problem.
13. Remove and replace plaster, plasterboard, and lath that have been saturated and are soft to the touch. If the surface has only been wetted, clean as you would a hard surface, but do not saturate the plaster.
14. Clean sinks, rinse basins, and/or other plumbing fixtures that have had sewage back-up, with disinfectant detergent.
15. Collect and dispose of raw sewage and/or fecal matter into an active sewer system.
16. If spill is inside a building, increase air circulation to reduce odors and mold growth. Open all windows and doors. The use of fans and heaters should also be used to speed the drying process.
17. Following complete clean-up of the contaminated area, wash your hands thoroughly and launder soiled clothes separately. Disinfect "clean-up" mops, brooms, shovels, tongs, brushes, etc. with disinfectant detergent.

If you have any questions or concerns regarding the clean-up and disposal of fecal mater and/or raw sewage, please contact the Office of Environment, Safety and Risk Management.

Exposure and First Aid

If you believe that raw sewage has come into direct contact with your eyes, mouth, ears, nose, or a cut, abrasion, puncture, etc., immediately and thoroughly wash the exposed area with copious amounts of soap and water and seek the care of an authorized Occupational Physician.