Stormwater Best Management Practice

Spill Response and Prevention

Minimum Measure: Pollution Prevention/Good Housekeeping for Municipal Operations
Subcategory: Municipal Facilities

Description

Accidental spills of hazardous materials, petroleum products or common chemicals/ can endanger public health or the environment if they reach waterways. Spill response and prevention practices can help to prevent spills from happening and can minimize impacts when a spill does occur. A key practice is creating and implementing a spill response and prevention plan, which should clearly state how to prevent spills, stop the source of a spill, how to contain and clean up a spill, how to dispose of contaminated materials, and how to train personnel to prevent and control future spills.

Applicability

See the Hazardous Materials Storage fact sheet and Materials Management fact sheet for more information on storing and managing hazardous materials.

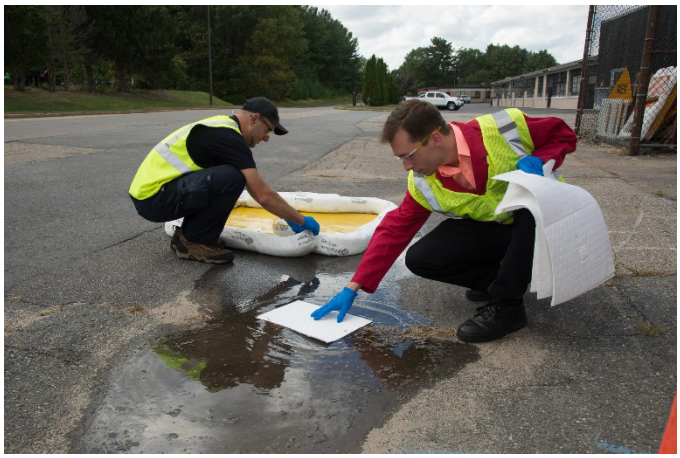
Spill response and prevention practices apply to any facility that uses or stores hazardous materials. Hazardous materials include petroleum products, pesticides, paints, cleaners, fertilizers and solvents. Applicable facilities may include manufacturing areas, warehouses, service stations, roadways and parking lots. These facilities may be on public or private property, so municipal spill response and prevention practices pertain to both municipal activities on public properties and spill response procedures for private properties.

Implementation

A municipality may implement spill response and prevention practices individually, within a stormwater management plan, or within a spill prevention and control plan. Being proactive to implement practices to prevent spills in the first place is pivotal. Instituting effective and coordinated response measures is key to responding quickly to prevent or limit any impacts that could occur from a spill.

Prevention Practices

Municipalities should define material handling procedures and storage requirements and take actions to reduce the potential for spills. They can achieve this by:



Spills should be responded to swiftly and according to established response plans.

Photo Credit: Mark Herlihy/U.S. Air Force

- Recycling, reclaiming or reusing process materials, thereby reducing the amount of process materials they bring into facilities.
- Installing leak detection devices, overflow controls and diversion berms.
- Disconnecting drains from processing areas that lead to the storm sewer.
- Performing preventative maintenance on storm tanks, valves, pumps, pipes and other equipment.
- Using material transfer or filling procedures that minimize spills from tanks and other equipment.
- Replacing toxic materials with less or non-toxic products.

Spill Response Plan

When a spill happens, it is critical to have a detailed plan in place. The plan should be clear and concise and should outline step-by-step instructions for spill containment, material cleanup and disposal, documentation, reporting, and follow-up procedures. The spill response plan can be in the form of a procedural handbook or a sign and should include the following components (EPA, 2007):

- Identification of potential spill or source areas such as loading and unloading, storage, and processing areas and areas designated for waste disposal.

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- Identification of individuals responsible for implementing the plan.
- Description of safety measures to take with each kind of waste.
- Procedures for notifying appropriate authorities, such as police and fire departments, hospitals, or publicly owned treatment works.
- Procedures for containing, diverting, isolating and cleaning up the spill.
- Description of spill response equipment that staff should use, including safety and cleanup equipment.
- Storage of spill response supplies in easily accessible locations and in staff vehicles.
- Identification of a contractor for larger spill response.
- For spills on private property, procedures to collect cleanup and abatement costs from the responsible party.
- Procedures to document spills and spill response.

To make a spill response plan effective, municipalities need to make sure their staff understand it. They should also routinely train staff on best practices. In addition, municipalities should develop inspection checklists and response forms as part of the recordkeeping process.

A well-conceived plan reduces the likelihood of accidental spills and helps speed effective response if spills do occur.

Public Education

In addition to the procedures described above, public education is essential for reducing spills outside municipal facilities. By informing the public of actions they can take to reduce spill potential, a municipality can reduce or prevent spills. Some municipalities have set up phone numbers that citizens can use to report spills. This helps ensure that municipalities can clean up spills safely, properly and promptly.

Limitations

Municipalities need to plan their spill response and prevention programs well, define them clearly and execute them properly. One limitation of spill response and prevention is that municipalities are often largely reactive, focusing on response rather than prevention. Proper spill prevention requires that municipal staff participate in training and maintenance programs, and that plans have a strong public education component. Proper spill response also requires a proactive approach and enough funding to implement practices before a spill occurs. This includes staff training and having proper equipment and materials on hand, readily accessible and clearly marked so workers can respond according to plan.

Maintenance Considerations

To prevent spills, staff should properly maintain potential sources of spills and leaks, keeping them in good operating condition. They should also regularly inspect areas where spills might occur to ensure that spill response procedures are in view and adequate stocks of cleanup equipment are readily accessible. If facility management changes any procedures or sites, it should update the spill prevention and response plan to reflect these changes.

Cost Considerations

Costs of spill response and prevention include the cost of training municipal employees, purchasing spill kits or other on-site spill response equipment, and developing a public education program. This program will need a varying investment of staff hours and materials, depending on its extent. Spill response and prevention practices can be expensive—though arguably less so than cleaning up toxic spills that have already contaminated downstream waters and ecosystems.

Additional Information

Additional information on related practices and the Phase II MS4 program can be found at EPA's National Menu of Best Management Practices (BMPs) for Stormwater website

References

U.S. Environmental Protection Agency (EPA). (2007). *MS4 program evaluation guidance.*

Disclaimer

This fact sheet is intended to be used for informational purposes only. These examples and references are not intended to be comprehensive and do not preclude the use of other technically sound practices. State or local requirements may apply.