



Operation and Maintenance (O&M) Manual

for:

***Hobble Creek Golf Course
Canyon Road
Springville, UT 84663
801-489-6297***

Prepared by:

Revised July, 2016

**Hobble Creek Golf Course
Operation and Maintenance (O&M) Manual**

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Hobble Creek Golf Course Operation and Maintenance (O&M) Manual

I. Introduction

This manual is designed to assist Springville City personnel on how to properly implement Best Management Practices (BMP's) on City owned facilities and field activities as part of the municipal stormwater management program.

This manual will identify the potential pollutants and activities that can contribute to the pollution of storm waters as well as the BMP's used to ensure that the potential for these pollutants affecting storm water is diminished to the maximum extent practicable.

II. Potential Pollutant Sources

A variety of pollutants are associated with stormwater pollution due to municipal activities including: sediment, nutrients, bacteria and viruses, oxygen demanding substances, oil and grease, metals, toxic pollutants and floatables (Table 1). The impacts of these pollutants on water quality along with a discussion on municipal activities which can potentially contribute to their introduction into stormwater runoff are presented in the following subsections.

- A) Sediment. Sediment is a common component of stormwater, and is considered to be one of the most damaging pollutants in Utah. Sediment fills in streams, lakes, rivers, wetlands and road drainage ditches, and can affect aquatic life by smothering fish larvae and eggs. Suspended soil particles can cause water to look cloudy or turbid. Excessive turbidity reduces light penetration in the water, impairing the sight of feeding fish; clogs fish fills, and increases drinking water treatment costs. Fine sediment also acts as a vehicle to transport other pollutants including nutrients, trace metals and hydrocarbons to nearby surface waters. Significant sediment-borne pollutants are associated with highway runoff; originating from pavement wear, vehicles and other road maintenance. Other sources of sediment include erosion from new development and construction sites.
- B) Nutrients- nutrients, especially nitrogen and phosphorus, can cause algae blooms and excessive aquatic plant growth in water bodies. These conditions can impair many important uses of these waters, including recreation, fish habitat, and water supply. Nitrogen and phosphorus associated with stormwater runoff come mostly from fertilizer application. Phosphorus has also been associated with application of sand and salt of roads. Nutrients are a result of yard debris, garbage, as well as fertilizer and pesticide use.
- C) Metals- Trace metals are a water quality concern because the toxic effects they can have on aquatic life. Metals can also be a health hazard to humans through direct ingestion of contaminated water or through eating contaminated fish. The most common trace metals found in

stormwater runoff in urban areas are lead, zinc, copper, cadmium, nickel and other metal sources originating from body rust, brake lining wear steel highway structures, tire wear, steel fabrication and vehicle maintenance.

- D) Oxygen-demanding substances- oxygen-demanding substances tend to deplete the dissolved oxygen levels in streams and lakes. The depleted oxygen supply can result in the reduction of aquatic life. Oxygen-demanding substances are found in yard waste (such as leaves and lawn clippings), animal wastes, street litter and organic matter.
- E) Bacteria and Viruses- bacteria and viruses are the most common microorganisms found in surface water runoff. Bacteria and viruses often carry diseases which can be transferred to animal life and to humans. The main sources of these contaminants are animal excrement and sanitary sewer overflows.
- F) Oil, Grease and Hydrocarbons- oil grease and hydrocarbons contain a wide array of compounds, some of which are toxic to aquatic organisms at low concentrations. The main sources of oil and grease are leakage from engines and waste oil disposal. Hydrocarbons typically come from spills, leaks, lubricants and asphalt surface leachate. Hydrocarbon levels are highest from parking lots, roads and service stations.
- G) Floatables- floatables (garbage) are pollutants that may be contaminated with heavy metals, pesticides and bacteria. Typically resulting from street refuse or industrial yard waste, floatables also create an eye sore in water ways and detention basins.

Pollutant	Source	Impacts
Sediment	Construction sites, vehicle/boat washing, agricultural sites	Destruction of aquatic habitat for fish and plants, transportation of attached oils, nutrients and other chemical contamination, increased flooding. Sediment can transport other pollutants that are attached to it including nutrients, trace metals, and hydrocarbons. Sediment is the primary component of total suspended solids (TSS), a common water quality analytical parameter.
Nutrients (Phosphorus, Nitrogen Potassium, Ammonia)	Fertilizers from agricultural operations, lawns and gardens; livestock and pet waste, decaying grass and leaves, sewer overflows and leaks.	Harmful algal blooms, reduced oxygen in the water, changes in water chemistry and pH. Nutrients can result in excessive or accelerated growth of vegetation, resulting in impaired use of water in lakes and other receiving waters.
Hydrocarbons (Petroleum Products, Benzene, Toluene, Ethyl benzene, Xylene)	Vehicle and equipment fluid leaks, engine emissions, pesticides, equipment cleaning, leaking fuel storage containers, fuel spills, parking lot runoff	These pollutants are toxic to humans and wildlife at very low levels. Carcinogenic. Teratogenic.
Heavy Metals	Vehicle brake and equipment wear, engine emissions, parking lot runoff, batteries, paint and wood preservatives, fuels and fuel additives, pesticides, cleaning agents	Metals including lead, zinc, cadmium, copper, chromium and nickel are commonly found in stormwater. Metals are of concern because they are toxic to all life at very low levels. Carcinogenic. Teratogenic.
Toxic Chemicals (Chlorides)	Pesticides, herbicides, dioxins, PCBs, industrial chemical spills and leaks, deicers, solvents,	Chemicals are of concern because they are toxic to all life at very low levels. Carcinogenic. Teratogenic.
Debris/Litter/Trash	Improper solid waste storage and disposal, abandoned equipment, litter	Aesthetically unpleasant. Risk of decay product toxicity. Risk of aquatic animal entrapment or ingestion and death.
Pathogens (Bacteria)	Livestock, human, and pet waste, sewer overflows and leaks, septic systems	Human health risks due to disease and toxic contamination of aquatic life.

Table 1 Potential pollutants of concern associated with municipal activities.

Sources of Pollution	Check with an X the activities that apply	Sediment	Nutrients	Heavy Metals	pH (acids and bases)	Pesticides & Herbicides	Oil & Grease	Bacteria & Viruses	Trash, Debris, Solids	Other toxic Chemicals
Clearing, grading, excavating, and un-stabilized areas		✓							✓	
Paving operations		✓					✓		✓	
Concrete washout, stucco and cement waste	X			✓	✓				✓	
Structure construction, painting, cleaning	X			✓	✓				✓	✓
Demolition and debris disposal		✓							✓	
Material Delivery and storage	X	✓	✓	✓	✓		✓		✓	✓
Solid waste disposal	X								✓	✓
Hazardous Waste, contaminated spills	X			✓	✓	✓	✓			✓
Sanitary waste			✓		✓			✓		
Vehicle/equipment fueling, maintenance, use and storage	X			✓			✓		✓	✓
Landscaping operations	X	✓	✓			✓			✓	✓
Lawn mower rinsing	X	✓	✓							
Vehicle washing	X		✓	✓		✓	✓			

III. Hobble Creek Golf Course, Activities and Control Measures

Location- Located on East Hobble Creek Canyon Road.

The golf course facility consists of: golf course, driving range, club house, parking lot, and maintenance and storage facilities.

Activities and Control Measures

Golf Course and Driving Range

Daily grass mowing, most of the grass is mulched, bagged clippings are disposed at the green waste pile located North of #6 hole.

- All mowing equipment will be properly fueled up at a proper fueling location, any spilled fuels will be cleaned up immediately using dry methods and used materials will be disposed in the garbage can;
- Mowing equipment is kept in good working conditions, equipment is checked daily;
- All materials resulting from mowing and trimming operations should remain on the grass area and any grass that lands on a hard surface will be blown back to the grass area or will be swept up and will be placed in the garbage can.

Tree and shrub management (cutting, pruning, removal, etc.) is done as needed; green waste is dumped at the green waste pile.

Irrigation- water from Hobble Creek flows into several ponds in the golf course from there, water is pumped through the sprinkler system. The irrigation system is repaired or updated as needed.

Fertilizer, Herbicides and Pesticides- Fertilizer is applied 2 to 4 times during the growing season on the fairways and rough and up to 5 times on greens, herbicides are applied on the months of May and September, Pesticides are applied as needed. All of these are in granular form and are applied under the supervision of the golf course superintendent.

- Fertilizer, herbicide and pesticide is ordered and consumed as needed, generally none will be stored;
- If any of these materials is stored, it will be kept inside a building;
- Materials will be applied as needed;
- All applications will be supervised by a certified person and in accordance to manufacturer's instructions;
- Any spilled material will be cleaned up according to manufacturer's instructions and never washed into the storm drain system;
- Fertilizer that lands on a hard surface will be swept or blown back onto grass area; and
- Empty containers being bags or bottles will be disposed according to manufacturer's instructions.

Leaves- during the fall season, leaves that can not be blown on to the wooded areas are swept and taken to the green waste pile.

Club House

The club house area houses the pro-shop, restaurant, bathrooms and one of the two golf cart storage areas, the club house drains the sanitary sewer into a sewer septic system; the restaurant drains into a grease trap prior to draining into the septic system.

Golf carts storage and parking

golf carts are parked in a garage were they are electrically charged over night or as needed, the carts are rinsed on the asphalt area out side, dish soap is used sometimes to clean soft drink spills, the water from this activity flows on to the golf course grass and it never makes it in to any storm drain, this area is also swept or blown daily. There are about 70 golf carts in operation at the facility.

Parking Lot

- The parking lot is swept two times during the golfing season with the street sweeper;
- The golf course crew sweeps the gutters and pick up garbage as needed;
- There are no storm drain inlets in the parking lot, all the water drains on to the golf course;
- Round up is used to kill the weeds growing in the parking lot;
- Visual inspection report will be filled out weekly and corrective actions will be completed as soon as possible, documentation of inspections and corrective actions will be kept on the appendix section of this manual.

Maintenance and storage facilities (High Priority)

The golf course maintenance and storage buildings area is where most of the pollution can be generated and can potentially enter the waters of Hobble Creek. The potential pollutants found in this area are:

Gasoline	Diesel Fuel	Fine sand
Grass clippings	Pesticides	Fertilizer
Herbicide	Solvent	Kerosene
Oil	Used Oil	Paint
Battery Acid	Metal shavings	Garbage
Antifreeze		

There are two buildings in this area:

The shed building is used to park golf carts and store fine sand for greens. Next to it are, the diesel and gasoline tanks; these tanks have a concrete enclosure with no drains, water that collects inside evaporates. Golf carts and mowers are washed with water only to remove the grass clippings; a wash facility with a pretreatment drain box needs to be built to treat water prior to being discharged into Hobble Creek.

The fully covered building has 2 bays one is used to store mowers, fertilizer, herbicide, pesticide and 55 gallon drums containing kerosene and solvent. The other bay contains an office, bathroom and maintenance shop; the most common activities in the shop include: painting of signs and benches in the winter time, mower blade sharpening, oil changes, minor equipment tune up and repairs and supplies storage. The only floor drain is located in the bathroom and it is hooked up to the sewer system that is serviced by a septic system.

Vehicle and Equipment Parking Areas

- Vehicles and equipment will be parked on the approved designated areas
- If any leaks are discovered, a drip pan will be used to collect the fluids and vehicle will be scheduled for repairs.
- Any leaks or spills that do wind up on the pavement will be cleaned using dry methods (absorbent material, sweep when dry and dispose in the garbage can)

General Cleanliness

- Trash and litter are to be picked up from work areas daily.
- The paved surfaces around the building will be swept as needed.
- Shop floor will be swept at the end of each work day or as needed.
- Batteries, oil drums or buckets, or any other source of pollution, cannot be left out in the open.

Material Storage Areas

- Fine sand is stored under a shed other sands and topsoil are piled up in other areas in the golf course away from any water ways.
- Green waste pile is located north of hole #6.
- Hazardous chemicals (listed above) are stored indoors, neatly organized and properly labeled.

- Pesticides, Fertilizer and Herbicides are stored in doors, all of these are in granular form; no more than 500 lbs of pesticide, 8,000 lbs of herbicides and 10,000 lbs of fertilizer are kept on site.
- MSDS information will be kept on file.

Vehicle and Equipment Cleaning Areas

- No washing is allowed outdoors.
- There are no wash facilities at this location.
- Lawn mowers get rinsed with water only, the rinse water flows directly into Hobble Creek, a sediment fiber log is used to filter the water, the grass clippings that collect by the fiber log are swept at the end of each work day and are taken to the green waste pile for disposal.

Vehicle and Equipment Maintenance Areas

- All major repairs and maintenance activities are conducted at the City Shop located at 909 East 400 South.
- Oil changes and adding oil to engines, transmissions and differentials are done indoors.
- Oils and other automotive fluids are neatly and cleanly stored. Oil drums are placed on a containment spill deck.
- Equipment that is stored outside will be inspected prior to use to make sure that all drips are contained and/or repaired.
- Used oil is burned in the furnace during the winter months.
- Antifreeze, batteries are taken to the Springville City Shop located at 909 East 400 South to be recycled with the other antifreeze and batteries generated by the City vehicle fleet.
- Other chemicals are disposed at the South Utah Valley Solid Waste District on 2450 West 400 South 801-489-3027.

IV. Spill Prevention and Response Procedures

Hazardous Material	Location of Spill	Reportable Quantity
Gasoline, Diesel Fuel and Oils	Land/Water	25 gallons or visible sheen

Each work area has a spill response kit. Most of the spills can be cleaned up following the manufacturer recommendation recommendations or for liquid spills using absorbent/oil dry materials. Absorbent/oil dry, sealable containers, plastic bags, and shovels/brooms are suggested minimum spill response items that should be on this location.

- 1st Priority: Protect all people
- 2nd Priority: Protect equipment and property
- 3rd Priority: Protect the environment

1. Make sure the spill area is safe to enter and that it does not pose an immediate threat to health or safety of any person.
2. Stop the spill source
3. Check for hazards (flammable material, noxious fumes, cause of spill) – if flammable liquid, turn off engines and nearby electrical equipment. If serious hazards are present leave area and call 911. LARGE SPILLS ARE LIKELY TO PRESENT A HAZARD.
4. Call co-workers and supervisor for assistance and to make them aware of the spill and potential dangers
5. If possible, stop spill from entering drains (use absorbent or other material as necessary)
6. Stop spill from spreading (use absorbent or other material)
7. If spilled material has entered a storm sewer; contact the City Storm Water Department.
8. Clean up spilled material according to manufacturer specifications, for liquid spills use absorbent materials and do not flush area with water.
9. Properly dispose of cleaning materials and used absorbent material according to manufacturer specifications.

Emergency Numbers

Springville City Fire Department	801-491-5600
Springville City Police Department	801-489-9421
Springville City Storm Water Collections	801-489-2745

V. Inspections

Qualified personnel from the Golf Course and Storm Water Division will conduct inspections of the assigned areas and document with the appropriate report. Inspection reports and logs are located on the appendices section of this manual.

- Weekly visual inspections for:
 - Parking lot
 - Paved areas around the club house
 - Maintenance and storage buildings

- Quarterly Comprehensive Inspections for:
 - Maintenance and storage buildings

Weekly visual inspections will be tracked in the log attached on appendix F, quarterly comprehensive inspections will be documented on appendix G; spills will be cleaned up immediately and documented on a spill report located on appendix D.

Deficiencies will have to be corrected within one week of being reported. All inspections and follow up actions will be documented and kept within this O&M Manual. Corrective Action Log Appendix E

VI. Employee Training (permit requirement 4.2.1.5.)

All of the Golf Course employees will receive training regarding this O&M Manual at least annually. The training will cover the following subjects:

- Impacts associated with illicit discharges;
- Proper disposal and management of wastes;
- Proper maintenance of indoor and outdoor working areas including parking lot surfaces; and
- Spill response.

Appendix A

Site Maps



Green Waste
Pile

Club House

Shop



Appendix B

BMPs Specifications and Details



DESCRIPTION:

Area control procedures involve practicing good housekeeping measures such as maintaining indoor or covered material storage and industrial processing areas. If the area is kept clean, the risk of accumulating materials on footwear and clothing is reduced. In turn, the chance of left over pollutants making contact with stormwater polluting surface water is minimized.

APPROACH:

Area control procedures can be used at any facility where materials may be tracked into areas where they can come in contact with stormwater runoff. Areas can include material handling areas, storage areas, or process areas.

Effective practices include the following:

- Cover garments, foot mats, and other devices used to collect residual material near the area should be cleaned regularly.
- Brush off clothing before leaving the area.
- Stomp feet to remove material before leaving the area.
- Use floor mats at area exits.
- Use coveralls, smocks, and other overgarments in areas where exposure to material is of greatest concern (employees should remove the overgarments before leaving the area).
- Post signs to remind employees about these practices.

LIMITATIONS:

May be seen as tedious by employees and therefore may not be followed.

MAINTENANCE:

Materials storage areas and industrial processing areas should be checked regularly to ensure that good housekeeping measures are implemented.

APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices



Springville

*Springville City Corporation
Public Works Department
Engineering Division
110 South Main Street
Springville, Utah 84663
801-491-2780*

TARGETED POLLUTANTS

- High Impact
- Medium Impact
- Low or Unknown Impact

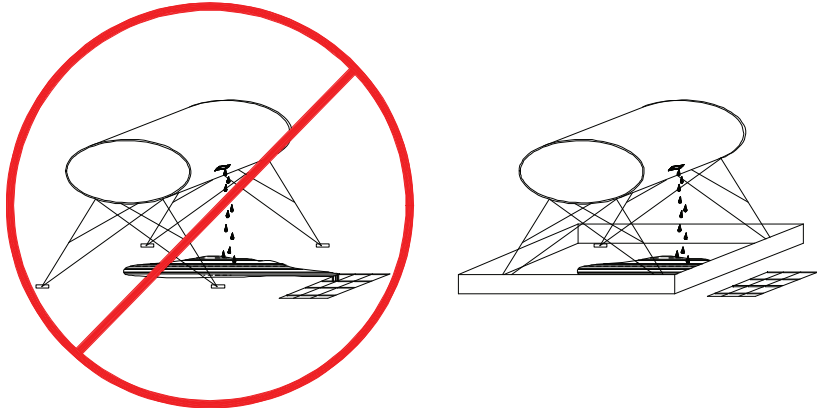
- Sediment
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices



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DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from aboveground storage tanks by installing safeguards against accidental releases, installing secondary containment, conducting regular inspections, and training employees in standard operating procedures and spill cleanup techniques.

The most common causes of unintentional releases are:

- Installation problems,
- Failure of piping systems (pipes, pumps, couplings, hoses, and valves),
- External corrosion and structural failure,
- Spills and overfills due to operator error, and
- Leaks during pumping of liquids or gases from truck to a storage tank or vice versa.

APPROACH:

- Integrate efforts with existing aboveground petroleum storage tank programs through the local Fire Department and Health Department, and area and business emergency response plans through the City, County, or Fire District.
- Use engineering safeguards to reduce the chance for spills.
- Perform regular maintenance.

LIMITATIONS:

For larger spills, a private spill clean-up company or Hazmat team may be necessary.

MAINTENANCE:

Maintenance is critical to preventing leaks and spills. Conduct routine weekly inspections and:

- Check for external corrosion and structural failure,
- Check for spills and overfills due to operator error,
- Check for failure of piping system (pipes, pumps, flanger, coupling, hoses, and valves),
- Check for leaks or spills during pumping of liquids or gases from truck to storage facility or vice versa.
- Periodically, integrity testing should be conducted by a qualified professional.

TARGETED POLLUTANTS

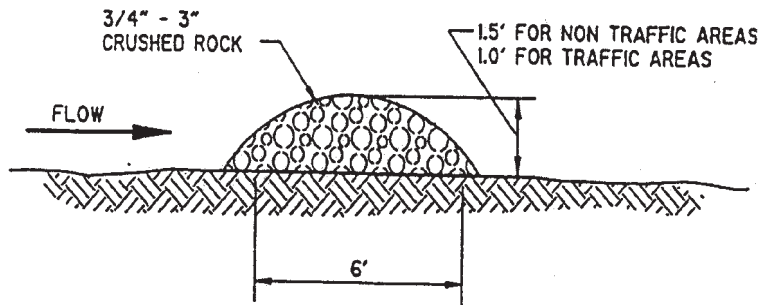
- High Impact
- Medium Impact
- Low or Unknown Impact
- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

■ High • Medium • Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

A rock filter is made of rock 3/4 - 3" in diameter and placed along a level contour. A brush filter is composed of brush (usually obtained during the site clearing) wrapped in filter cloth and anchored to the toe of the slope. If properly anchored brush or rock filters may be used for sediment trapping and velocity reduction.

APPLICATION:

- As check dams across mildly sloped construction roads.
- Below the toe of slopes.
- Along the site perimeter.
- In areas where sheet or rill flow occurs.
- Around temporary spoil areas.
- At sediment traps or culvert/pipe outlets.

INSTALLATION/APPLICATION CRITERIA:

- For rock filter, use larger rock and place in a staked, woven wire sheathing if placed where concentrated flows occur.
- Install along a level contour.
- Leave area behind berm where runoff can pond and sediment can settle.
- Drainage areas should not exceed 5 acres.

LIMITATIONS:

- Rock berms may be difficult to remove.
- Removal problems limit their usefulness in landscaped areas.
- Runoff will pond upstream of the filter, possibly causing flooding if sufficient space does not exist.

MAINTENANCE:

- Inspect monthly after each rainfall.
- If berm is damaged, reshape and replace lost/dislodged rock.
- Remove sediment when depth reaches 1/3 of berm height, or 1 ft.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



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TARGETED POLLUTANTS

- High Impact
- Medium Impact
- Low or Unknown Impact

■ **Sediment**

- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

■ High • Medium • Low

Materials Adapted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from buildings and grounds maintenance by washing and cleaning up with as little water as possible, preventing and maintaining the stormwater collection system.

Buildings and grounds maintenance includes taking care of landscaped areas around the facility, cleaning of parking lots and pavement other than in the area of industrial activity, and the cleaning of the storm drainage system.

APPROACH:

- Preserve existing native vegetation to reduce water, fertilizer, and pesticide needs.
- Carefully use pesticides and fertilizers in landscaping.
- Integrate pest management where appropriate.
- Sweep paved surfaces.
- Clean the storm drainage system at appropriated intervals.
- Properly dispose of wash water, sweepings, and sediments.

LIMITATIONS:

Alternative pest/weed controls may not be available, suitable or effective in every case.

MAINTENANCE:

The BMPs themselves relate to maintenance and do not require maintenance as they do not involve structures.

APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices



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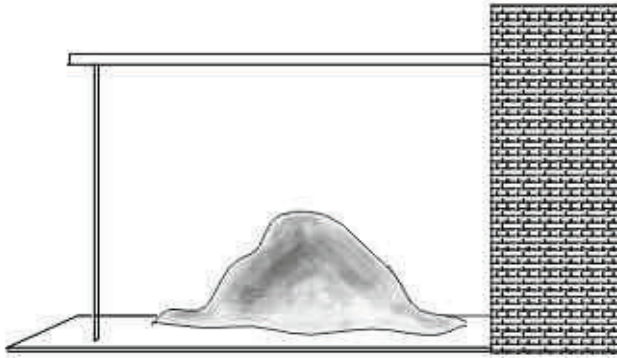
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IMPLEMENTATION REQUIREMENTS

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DESCRIPTION:

Covering is the partial or total physical enclosure of materials, equipment, process operations, or activities. Covering certain areas or activities prevents stormwater from coming into contact with potential pollutants and reduces material loss from wind blowing. Tarpaulins, plastic sheeting, roofs, buildings, and other enclosures are examples of covering that are effective in preventing stormwater contamination. Covering can be temporary or permanent.

APPROACH:

- Covering is appropriate for outdoor material storage piles (e.g., stockpiles of dry materials, gravel, sand, compost, sawdust, wood chips, and de-icing salt) as well as areas where liquids and solids in containers are stored or transferred.
- While it may be too expensive to cover all industrial activities, cover all high-risk areas first (e.g., chemical preparation areas, vehicle maintenance areas, and areas where salts are stored), then according to budget cover the rest of the materials.
- Evaluate the strength and longevity of the covering, as well as its compatibility with the material or activity being enclosed.
- When designing an enclosure, consider access to materials, their handling, and transfer.
- Materials that pose environmental and safety dangers require special ventilation and temperature considerations.
- Covering alone may not protect the materials. When designing, consider placing materials on an elevated, impermeable surface or build curbing around the outside of the materials to prevent problems from runoff of uncontaminated stormwater from adjacent areas.
- Anchor all coverings with stakes, tie-down ropes, large rocks, tires or other easily available heavy objects.

LIMITATIONS:

- Requires frequent inspection.
- May pose health or safety problems if enclosure is built over certain activities.

MAINTENANCE:

- Frequently inspect coverings for rips, holes and general wear.

APPLICATIONS

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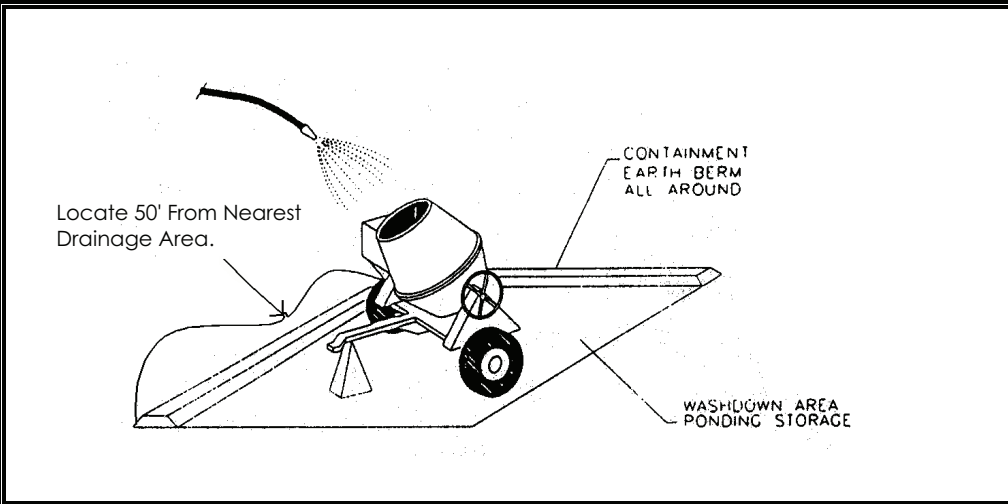
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DESCRIPTION:

Prevent or reduce the discharge of pollutants to storm water from concrete waste by conducting washout off-site, performing on-site washout in a designated area, and training employees and subcontractors.

APPLICATIONS:

This technique is applicable to all types of sites.

INSTALLATION/APPLICATION CRITERIA:

- Store dry and wet materials under cover, away from drainage areas.
- Avoid mixing excess amounts of fresh concrete or cement on-site.
- Perform washout of concrete trucks off-site or in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped on-site, except in designated areas.
- When washing concrete to remove fine particles and expose the aggregate, avoid creating runoff by draining the water within a bermed or level area. (See Earth Berm Barrier information sheet.)
- Train employees and subcontractors in proper concrete waste management.

LIMITATIONS:

- Off-site washout of concrete wastes may not always be possible.

MAINTENANCE:

- Inspect subcontractors to ensure that concrete wastes are being properly managed.
- If using a temporary pit, dispose hardened concrete on a regular basis.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



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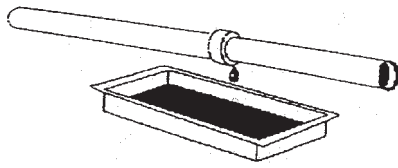
- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

IMPLEMENTATION REQUIREMENTS

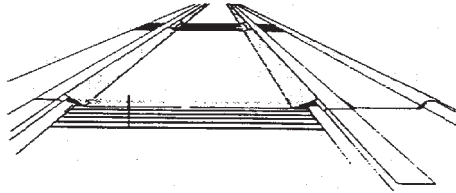
- Capital Costs
- O&M Costs
- Maintenance
- Training

■ High • Medium • Low

Materials Adopted from Salt Lake County Engineering Division Guidance Document



Use Drip Pans for Leaking Equipment



Use Drip Pans in Loading and Unloading Areas

DESCRIPTION:

Drip pans are small depressions or pans used to contain very small volumes of leaks, drips, and spills that occur at a facility. Drip pans can be depressions in concrete, asphalt, or other impenetrable material. They can be made of metal, plastic, or any material that does not react with the dripped chemicals. Drip pans can be temporary or permanent.

Drip pans are used to catch drips from valves, pipes, etc. so that the materials or chemicals can be cleaned up easily or recycled before they contaminate stormwater. Although leaks and drips should be repaired and eliminated as part of a preventative maintenance program, drip pans can provide a temporary solution where repair or replacement must be delayed. In addition, drip pans can be an added safeguard when they are positioned beneath areas where leaks and drips may occur.

APPROACH:

- When using drip pans, consider the location of the drip pan, weather conditions, the type of material used for the drip pan, and how it will be cleaned.
- The location of the drip pan is important. Because drip pans must be inspected and cleaned frequently, they must be easy to reach and remove. However, take special care to avoid placing drip pans where they can be easily overturned or be a safety hazard.
- Secure pans by installing or anchoring them. Drip pans may be placed on platforms, behind wind blocks or tied down.
- Employees must pay attention to the pans and empty them when they are nearly full.
- Frequent inspection of the drip pans is necessary due to the possibility of leaks in the pan itself or in piping or valves that may occur randomly or irregular slow drips that may increase in volume.

LIMITATIONS:

- Contain small volumes only.
- Must be inspected and cleaned frequently.
- Must be secured during poor weather conditions.
- Contents may be disposed of improperly unless facility personnel are trained in proper disposal methods.

APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices



Springville

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TARGETED POLLUTANTS

- High Impact
- Medium Impact
- Low or Unknown Impact

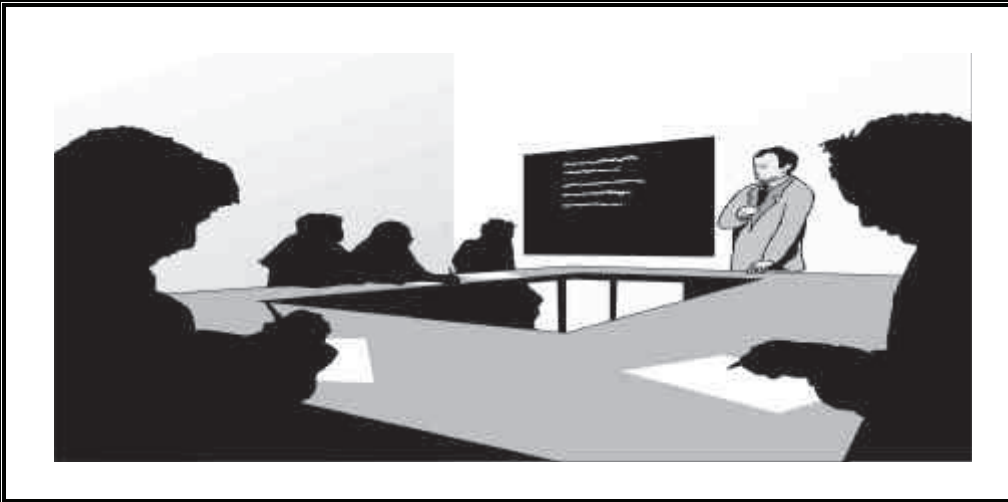
- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Employee training, like equipment maintenance, is a method by which to implement BMPs. Employee training should be used in conjunction with all other BMPs as part of the facility's SWPPP.

The specific employee training aspects of each of the source controls are highlighted in the individual information sheets. The focus of this information sheet is more general, and includes the overall objectives and approach for assuring employee training in stormwater pollution prevention. Accordingly, the organization of this information sheet differs somewhat from the other information sheets in this chapter.

OBJECTIVES:

Employee training should be based on four objectives:

- Promote a clear identification and understanding of the problem, including activities with the potential to pollute stormwater;
- Identify solutions (BMPs);
- Promote employee ownership of the problems and the solutions; and
- Integrate employee feedback into training and BMP implementation.

APPROACH:

- Integrate training regarding stormwater quality management with existing training programs that may be required for other regulations.
- Employee training is a vital component of many of the individual source control BMPs included in this manual.

PROGRAM ELEMENTS

- New Development
- Residential
- Commercial Activities
- Industrial Activities
- Municipal Facilities
- Illegal Discharges



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- Nutrients
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- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Regulatory
- Training
- Staffing
- Administrative

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Promote efficient and safe housekeeping practices (storage, use, and cleanup) when handling potentially harmful materials such as fertilizers, pesticides, cleaning solutions, paint products, automotive products, and swimming pool chemicals.

APPROACH:

- Pattern a new program after the many established programs from municipalities around the country. Integrate this best management practice as much as possible with existing programs at your municipality.
- This BMP has two key audiences: municipal employees and the general public.
- For the general public, municipalities should establish a public education program that provides information on such items as storm water pollution and beneficial effects of proper disposal on water quality; reading product labels; safer alternative products; safe storage, handling, and disposal of hazardous products; list of local agencies; and emergency phone numbers. The programs listed below have provided this information through brochures or booklets that are available at a variety of locations including municipal offices, household hazardous waste collection events or facilities, and public information fairs.

Municipal facilities should develop controls on the application of pesticides, herbicides, and fertilizers in public right-of-ways and at municipal facilities.

Controls may include:

- List of approved pesticides and selected uses.
- Product and application information for users.
- Equipment use and maintenance procedures.
- Record keeping and public notice procedures.

LIMITATIONS:

There are no major limitations to this best management practice.

PROGRAM ELEMENTS

- New Development
- Residential
- Commercial Activities
- Industrial Activities
- Municipal Facilities
- Illegal Discharges



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- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Regulatory
- Training
- Staffing
- Administrative

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from hazardous waste through proper material use, waste disposal, and training of employees and subcontractors.

APPLICATION:

Many of the chemicals used on-site can be hazardous materials which become hazardous waste upon disposal. These wastes may include:

- Paints and Solvents; petroleum products such as oils, fuels, and grease; herbicides and pesticides; Acids for cleaning masonry; and concrete curing compounds.

In addition, sites with existing structures may contain wastes which must be disposed of in accordance with Federal, State, and local regulations, including:

- Sandblasting grit mixed with lead, cadmium, or chromium-based paints; Asbestos; and PCB's.

INSTALLATION/APPLICATION CRITERIA:

The following steps will help reduce storm water pollution from hazardous wastes:

- Use all of the product before disposing of the container.
- Do not remove the original product label, it contains important safety and disposal information.
- Do not over-apply herbicides and pesticides. Prepare only the amount needed. Follow the recommended usage instructions. Over-application is expensive and environmentally harmful. Apply surface dressings in several smaller applications, as opposed to one large application, to allow time for infiltration and to avoid excess material being carried off-site by runoff. Do not apply these chemicals just before it rains. People applying pesticides must be certified in accordance with Federal and State regulations.

LIMITATIONS:

Hazardous waste that cannot be reused or recycled must be disposed of by a licensed hazardous waste hauler.

MAINTENANCE:

- Inspect hazardous waste receptacles and area regularly.
- Arrange for regular hazardous waste collection.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



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TARGETED POLLUTANTS

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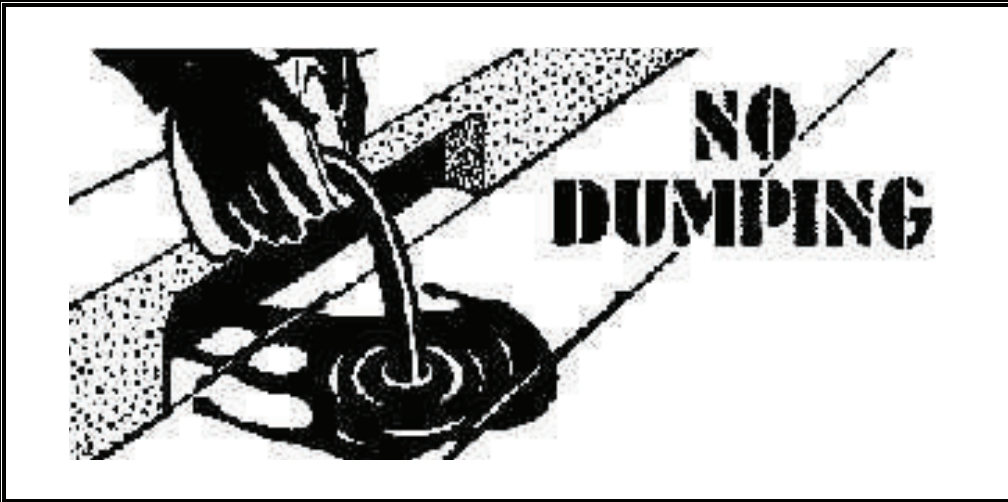
- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Implement measures to detect, correct, and enforce against illegal dumping of pollutants on streets, into the storm drain system, and into creeks. Substances illegally dumped on streets, into the storm drain system, and into creeks includes paints, used oil and other automotive fluids, construction debris, chemicals, fresh concrete, leaves, grass clippings, and pet wastes. All of these wastes can cause storm water and receiving water quality problems as well as clog the storm drain system.

APPROACH:

One of the keys to success is increasing the general public's awareness of the problem and to at least identify the incident, if not correct it. There are a number of ways of accomplishing this:

- Train municipal staff from all departments to recognize and report incidents.
- Deputize municipal staff who may come into contact with illegal dumping with the authority to write illegal dumping tickets for offenders caught in the act.
- Educate the public.
- Provide the public with a mechanism for reporting such as a hot line.

Establish system for tracking incidents which will identify:

- Illegal dumping "hot spots",
- Types and quantities (in some cases) of wastes,
- Patterns in time of occurrence (time of day/night, month, or year),
- Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accident/spills), and
- Responsible parties.

A tracking system also helps manage the program by indicating trends, and identifying who, what, when, and where efforts should be concentrated.

LIMITATIONS

The elimination of illegal dumping is dependent on the availability, convenience, and cost of alternative means of disposal.

PROGRAM ELEMENTS

- New Development
- Residential
- Commercial Activities
- Industrial Activities
- Municipal Facilities
- Illegal Discharges



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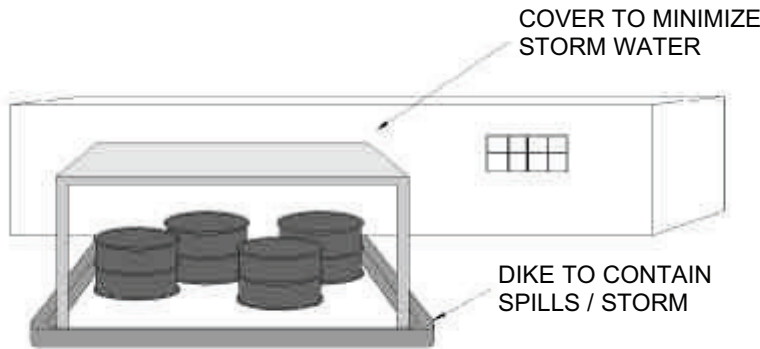
- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Regulatory
- Training
- Staffing
- Administrative

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices



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- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from outdoor container storage areas by installing safeguards against accidental releases, installing secondary containment, conducting regular inspections, and training employees in standard operating procedures and spill cleanup techniques.

APPROACH:

Protect materials from rainfall, runoff, and wind dispersal:

- Store materials indoors.
- Cover the storage area with roof.
- Minimize stormwater runoff by enclosing the area or building a berm around it.
- Use a "doghouse" for storage of liquid containers.
- Use covered dumpsters for waste product containers.

Storage of oil and hazardous materials must meet specific federal and state standards including:

- secondary containment,
- integrity and leak detection monitoring, and
- emergency preparedness plans.

Train operator on proper storage.

Safeguards against accidental releases:

- Overflow protection devices to warn operator or automatic shut down transfer pumps, protection guards (bollards) around tanks and piping to prevent vehicle or forklift damage, clear tagging or labeling, and restricting access to valves to reduce human error.

Berm or surround tank or container with secondary containment system:

- Dikes, liners, vaults, or double walled tanks.

Some municipalities require that secondary containment areas be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.

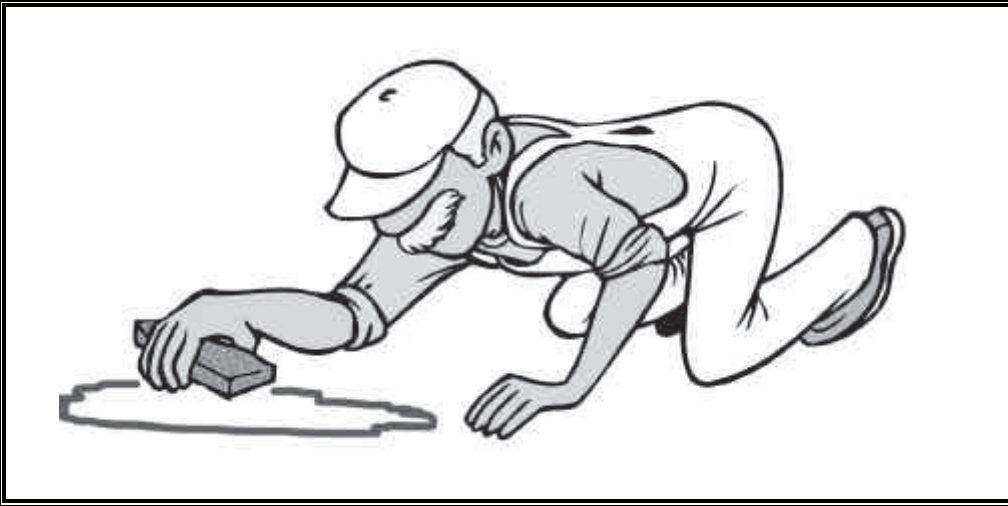
LIMITATIONS:

Storage sheds often must meet building and fire code requirements.

MAINTENANCE:

Conduct routine weekly inspections.

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Practices to clean-up leakage/spillage of on-site materials that may be harmful to receiving waters.

APPLICATION:

All sites

GENERAL:

- Store controlled materials within a storage area.
- Educate personnel on prevention and clean-up techniques.
- Designate an Emergency Coordinator responsible for employing preventative practices and for providing spill response.
- Maintain a supply of clean-up equipment on-site and post a list of local response agencies with phone numbers.

METHODS:

- Clean-up spills/leaks immediately and remediate cause.
- Use as little water as possible. NEVER HOSE DOWN OR BURY SPILL CONTAMINATED MATERIAL.
- Use rags or absorbent material for clean-up. Excavate contaminated soils. Dispose of clean-up material and soil as hazardous waste.
- Document all spills with date, location, substance, volume, actions taken and other pertinent data.
- Contact local Fire Department and State Division of Environmental Response and Remediation (Phone #536-4100) for any spill of reportable quantity.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



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TARGETED POLLUTANTS

- High Impact
- Medium Impact
- Low or Unknown Impact

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



APPLICATIONS

- Manufacturing
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- Vehicle Maintenance
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DESCRIPTION:

Signs and labels identify problem areas or hazardous materials at a facility. Warning signs, often found at industrial facilities, are a good way to suggest caution in certain areas. Signs and labels can also provide instructions on the use of materials and equipment. Labeling is a good way to organize large amounts of materials, pipes, and equipment, particularly on large sites.

APPROACH:

Signs and labels can be used at all types of facilities. Areas where they are particularly useful are material transfer areas, equipment areas, loading and unloading areas, or anywhere information might prevent contaminants from being released to stormwater.

Signs and labels should be visible and easy to read. Useful signs and labels might provide the following information:

- Names of facility and regulatory personnel, including emergency phone numbers, to contact in case of an accidental discharge, spill, or other emergency.
- Proper uses of equipment that could cause release of stormwater contaminants.
- Types of chemicals used in high-risk areas.
- The direction of drainage lines/ditches and their destination (treatment or discharge).
- Information on a specific material.
- Refer to OSHA standards for sizes and numbers of signs required for hazardous material labeling.

LIMITATIONS:

No limitations.

MAINTENANCE:

- Periodic checks can ensure that signs are still in place and labels are properly attached.
- Signs and labels should be replaced and repaired as often as necessary.

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- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Sorbents are materials that are capable of cleaning up spills through the chemical processes of adsorption and absorption. Sorbents adsorb (an attraction to the outer surface of a material) or absorb (taken in by the material like a sponge) only when they come in contact with the sorbent materials.

Sorbents include, but are not limited to, the following:

- Common materials such as clays, sawdust, straw and fly ash
- Polymers - polyurethane and polyolefin
- Activated Carbon - powdered or granular
- "Universal Sorbent Material" - a silicate glass foam consisting of rounded particles that can absorb the material.

APPLICATION:

Sorbents are useful BMPs for facilities with liquid materials onsite.

INSTALLATION/APPLICATION CRITERIA:

- Personnel should know the properties of the spilled material(s) to know which sorbent is appropriate. To be effective, sorbents must adsorb the material spilled but must not react with the spilled material to form hazardous or toxic substances.
- Apply immediately to the release area.
- Application is generally simple: the sorbent is added to the area of release, mixed well, and allowed to adsorb or absorb.
- Many sorbents are not reusable once they have been used.
- Proper disposal is required.

LIMITATIONS:

- Requires a knowledge of the chemical makeup of a spill (to choose the best sorbent).
- May be an expensive practice for large spills.
- May create disposal problems and increase disposal costs by creating a solid waste and potentially a hazardous waste.

MAINTENANCE:

No information available.

CONSIDERATIONS

- Soils
- Area Required
- Slope
- Water Availability
- Aesthetics
- Hydraulic Head
- Environmental Side Effects



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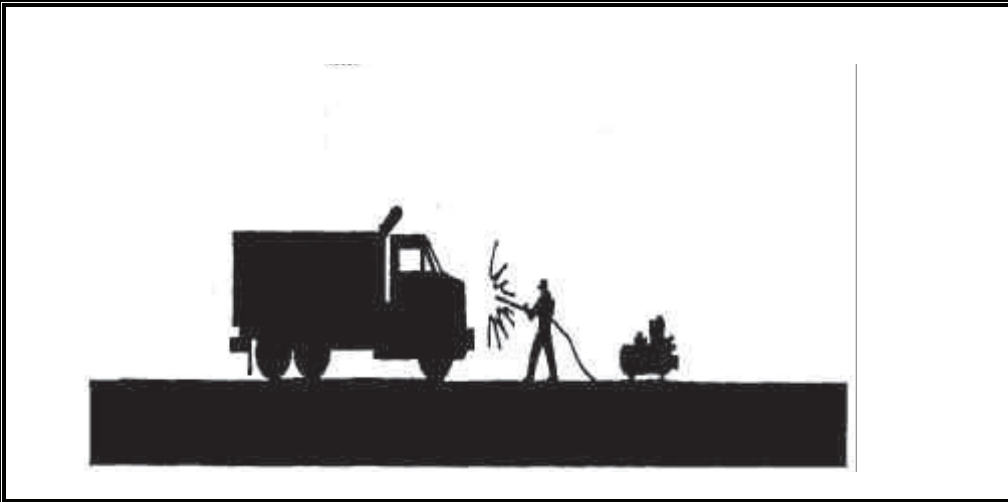
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- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Prevent or reduce the discharge of pollutants to storm water from vehicle and equipment cleaning by using off-site facilities, washing in designated, contained areas only, eliminating discharges to the storm drain by infiltrating or recycling the wash water, and/or training employees and subcontractors.

INSTALLATION/APPLICATION:

- Use off-site commercial washing businesses as much as possible. Washing vehicles and equipment outdoors or in areas where wash water flows onto paved surfaces or into drainage pathways can pollute storm water. If you wash a large number of vehicles or pieces of equipment, consider conducting this work at an off-site commercial business. These businesses are better equipped to handle and dispose of the wash waters properly. Performing this work off-site can also be economical by eliminating the need for a separate washing operation at your site.
- If washing must occur on-site, use designated, bermed wash areas to prevent wash water contact with storm water, creeks, rivers, and other water bodies. The wash area can be sloped for wash water collection and subsequent infiltration into the ground.
- Use as little water as possible to avoid having to install erosion and sediment controls for the wash area. Use phosphate-free biodegradable soaps. Educate employees and subcontractors on pollution prevention measures. Do not permit steam cleaning on-site. Steam cleaning can generate significant pollutant concentrations.

LIMITATIONS:

- Even phosphate-free, biodegradable soaps have been shown to be toxic to fish before the soap degrades.
- Sending vehicles/equipment off-site should be done in conjunction with Stabilized Construction Entrance.

MAINTENANCE:

- Minimal, some berm repair may be necessary.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



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- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



Springville

Standard Operating Procedures

Cleaning Chemicals

- All cleaning chemicals are to be mixed in accordance to manufacturer's directions.
- All cleaning chemicals are to be mixed in an area with adequate ventilation and an area that has a drain that connects to the sanitary sewer.
- If no connection to a sanitary sewer is available, cleaning chemicals are to be mixed on grass or other landscaped area.
- All appropriate PPE shall be work when mixing cleaning chemicals.
- Any spills will be immediately contained with absorbent materials. Absorbent materials will be disposed if in a proper waste container.
- Excess mixed materials will be stored in a properly marked and appropriate container, and in a closed cabinet or storage space. Excess materials should be consumed as soon as possible through appropriate cleaning activities.



Springville

Standard Operating Procedures

Equipment Maintenance and Cleaning

- Equipment will be kept in good operating and clean conditions.
- Mowing, trimming, edging equipment will be cleaned using high pressure air or manual devices when possible. Debris from such cleaning will be swept and disposed of in proper waste container.
- Mowing, trimming, or edging equipment may be hosed of on grass areas as long as no detergents or solvents are used in the process. All debris from such cleaning must remain on grass or be deposited into a proper waste container.
- All other cleaning will take place in a specified and approved equipment cleaning wash bay.
- Equipment should be kept free from leaks of any sort. All leaks will be caught in a catch pan or have absorbent materials applied. Caught items will be properly disposed of at a materials reclamation area. Absorbent materials will be disposed of in a proper waste container.



Springville

Standard Operating Procedures

Fertilizers

- City will order and consume fertilizer as needed. Generally fertilizer will not be stored.
- If fertilizer is stored, it will be inside of a building.
- Fertilizer will be applied once or twice annually as needed.
- All fertilizer applications will be supervised by a Certified Pesticide Applicator.
- Fertilizer will be applied in accordance to manufacturer's instructions.
- Fertilizer will be transported to site in bags.
- Fertilizer spreaders will be filled at the site where the use is intended.
- Bags will be opened individually and dumped into spreader.
- Any spilled fertilizer will be swept and returned to spreader or spread on grass.
- Fertilizer that lands on hard surfaces will be swept or blown back onto grass.
- Fertilizer bags will be disposed of in a proper waste container.
- Any errant fertilizer found in vehicle will be swept and spread on grass.



Springville

Standard Operating Procedures

Lawn Mowing and/or trimming

- Mowing/trimming operations will occur weekly, twice weekly, or as necessary at each location.
- All mowing/trimming equipment will be properly fueled at a proper fueling location. Any spilled fuels will have absorbent materials applied to absorb them. Absorbent materials will be disposed of in a proper trash container.
- Mowers will have mulching type decks that are kept in good repair with all guards and deflectors in place.
- Trimmers will have all deflectors in place and in good repair.
- All materials resulting from mowing/trimming operations should remain on grass.
- Trimmings that are found on hard surfaces will be blown or swept back on to the grass.
- Trimmings that cannot be swept or blown back on to grass will be swept and deposited into appropriate waste container.



Springville

Standard Operating Procedures

Sidewalks, Parking Lots, and Trails in and around Parks and Public Facilities.

- Parking lots will be swept by Public Works annually or as needed.
- Trails and sidewalks will be kept free of debris as necessary.
- Trails and sidewalks will be blown off as needed. Debris will be blown onto grass or planted areas.
- Curbs and gutters around parking lots will be blown out or swept as needed. Debris will be blown onto grass or planted areas when possible. When not possible, debris will be collected and deposited into proper waste container.
- Weekly visual inspections and repaired problems will be logged on the appropriate reports located on the appendices section of this manual.



Springville

Standard Operating Procedures

Pesticides

- Pesticides will be purchased and consumed as needed. Minimal pesticides will be stored.
- Stored pesticides will be kept in a separate cabinet with doors.
- Pesticide applications will be supervised by a Certified Pesticide Applicator.
- Pesticide will be mixed and applied according to manufacturer's directions.
- Pesticides will be applied as needed when weather conditions allow.
- Appropriate PPE will be worn when mixing and applying pesticides.
- Pesticides will be mixed in an area and manner to avoid spillage.
- If a spill occurs, absorbent materials will be applied to spill. Absorbent materials will be disposed of in appropriate waste container.
- Empty pesticide containers will be disposed of in appropriate waste containers.
- Pesticide sprayers will be secured in vehicles when transported.
- All mixed pesticides will be applied to plants or other appropriate locations. Surplus materials may not be deposited into storm drain or sanitary sewer.



Springville

Standard Operating Procedures

Restroom Maintenance

- All restrooms will be cleaned in accordance to minimum acceptable standards.
- Restroom floors will be swept. Swept materials will be collected and disposed of in a proper waste container.
- Restroom floors and walls may be hosed. All water from such activities must drain into the sanitary sewer, or onto landscaped areas. No such water may enter the storm drain.
- Restroom floors will be mopped. All water from such activities will be put into the sanitary sewer or dumped onto landscaped areas. No such water shall be allowed to enter the storm drain.
- All cleaning chemicals shall be used in accordance to manufacturer's specifications.
- Cleaning chemicals shall be mixed in accordance to SOP for cleaning chemicals.

Appendix C
Training Log

Appendix D
Spill Reports

NON-STORM WATER DISCHARGE INSPECTION REPORT



Springville

Date of Spill: _____ Time: _____

Location: _____

Date of Investigation: _____ Time: _____

Method of Discovery: _____

REGUALTORY AGENCIES NOTIFICATION (document: date, time, person, agency)

Springville City (801-491-2780):

Utah County Health Department: (801-851-7525)

DWQ (801-536-4300, after hours 801-536-4123):

Other: _____

Description and Quantity of Material Spilled:

- Gasoline Diesel Oil Antifreeze Other: _____
 1 to 5 Gallons 5 to 10 Gallons 10 to 25 Gallons More than 25 Gallons

Source: _____

Cause: _____

Adverse environmental impact (if any):

Any Discharge to Storm Drain and or waters of the U.S.? Yes No Do not know

Immediate remedial actions taken at time of spill:

- Spill Containment Sweeping Absorbent Material Removal from site
 Other: _____

Method of removal and verification: _____

Additional comments: _____

Analytical Monitoring: _____

Enforcement Action: _____

Report prepared by: _____

Signature _____

Date _____

Appendix E
Corrective Action Log

Appendix F

Weekly Visual Inspection Log



Hobble Creek Golf Course

		Check the box if a deficiency is observed, describe the corrective actions taken on the notes section or on the corrective action log.			
Name:	Date:	Shop/Maintenance Area:			
		<input type="checkbox"/> Garbage can(s) lid closed	<input type="checkbox"/> Parking areas clean	<input type="checkbox"/> Clean and organize shop	<input type="checkbox"/> Chemicals, solvents and oils labeled and stored
		<input type="checkbox"/> Trash picked up	<input type="checkbox"/> Spill clean up	<input type="checkbox"/> Material Storage Containment	<input type="checkbox"/> Mower cleaning area, grass clippings containment
		Parking Lot:			
		<input type="checkbox"/> Parking areas clean	<input type="checkbox"/> Trash picked up	<input type="checkbox"/> Spill clean up	
		Club House:			
		<input type="checkbox"/> Hard surface clean	<input type="checkbox"/> Trash picked up		
		Notes:			
		Check the box if a deficiency is observed, describe the corrective actions taken on the notes section or on the corrective action log.			
Name:	Date:	Shop/Maintenance Area:			
		<input type="checkbox"/> Garbage can(s) lid closed	<input type="checkbox"/> Parking areas clean	<input type="checkbox"/> Clean and organize shop	<input type="checkbox"/> Chemicals, solvents and oils labeled and stored
		<input type="checkbox"/> Trash picked up	<input type="checkbox"/> Spill clean up	<input type="checkbox"/> Material Storage Containment	<input type="checkbox"/> Mower cleaning area, grass clippings containment
		Parking Lot:			
		<input type="checkbox"/> Parking areas clean	<input type="checkbox"/> Trash picked up	<input type="checkbox"/> Spill clean up	
		Club House:			
		<input type="checkbox"/> Hard surface clean	<input type="checkbox"/> Trash picked up		
		Notes:			
		Check the box if a deficiency is observed, describe the corrective actions taken on the notes section or on the corrective action log.			
Name:	Date:	Shop/Maintenance Area:			
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		Parking Lot:			
		<input type="checkbox"/> Parking areas clean	<input type="checkbox"/> Trash picked up	<input type="checkbox"/> Spill clean up	
		Club House:			
		<input type="checkbox"/> Hard surface clean	<input type="checkbox"/> Trash picked up		
		Notes:			

Appendix G
Quarterly Comprehensive Inspections



Springville

High Priority Facility SWPPP Compliance Report

Site Name: _____ Inspected By: _____

Date of Evaluation: _____ Start/End Time: _____ Existing Weather Conditions: _____

Date of last rain event > .1" of precipitation: _____ Approximate rainfall: _____

Areas of Industrial activities and materials exposed to stormwater

Area/Activity	Was area Inspected?		Are controls operating effectively		Describe Corrective Action Needed
	yes	no	yes	no	
1. Outdoors and indoor material storage areas					Streets department area- Salt shed has not been constructed, we promised the State that a salt shed was going to be constructed in 2009, tarping the salt would be an acceptable temporary BMP.
2. Equipment and vehicle parking areas					
3. Dumpsters					Streets department area- Dumpster by the sign storage shed didn't have the lid on. Continue training personnel to close the dumpster lids after each use.
4. Paved areas					Paved areas- where utilities were installed didn't get patched, these conditions are causing considerable amounts of dirt to be transported to the gutters. These areas are going to remain this way until the designated areas get new pavement as soon as weather permits, continue to scrape mud of the paved areas as needed.
5. Storm drain inlets and gutters					Streets department area- storm drain inlet near the street has a considerable amount of mud all around it; scrape mud from the driveway and gutter, place multiple storm drain inlet protection bags in the gutter. Consider cleaning bags on a more regular basis while construction activity is ongoing.
6. Indoors working and storage areas					Fleet- Floor drain in the east by drains to a sump outside, there used to be a plug to keep it from flowing there, you need to either put the plug back on the pipe, fill the floor drain with concrete or install an oil water separator and connect the line to the sanitary sewer system.
7. Spill Kits					Make sure you have a container with spill response supplies clearly labeled spill kit in your building to be able to respond with.

Additional Notes: Continue doing your weekly visual inspections and fill out your logs.

I certify that this document and all attachments were prepared under my direction. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

2/28/2013

Inspector Name

Inspector Signature

Date