

# Suggested Best Management Practices (BMPs)

## Preface

The purpose of this Best Management Practices (BMP) Manual is to help educate and instruct on ways to reduce stormwater pollution and help prevent it in the future.

## Selection of Best Management Practices

BMPs may be selected from the options listed below or developed on a case-by-case basis as appropriate.

## Basic BMPs for Employees (Good Housekeeping)

### *Goal*

Promote efficient and safe housekeeping practices which keep potential pollutants from either draining into or being transported offsite

### *Approach*

1. Do not dispose wash-water to storm drain or pavement. It must be disposed of into the sanitary sewer. Wash-water can be defined as any liquid with cleaner with residual dirt and grime. Examples include mop-water, window cleaning water, and rinse water (rinsing after a cleaner was used). Plain (no residual cleaner) rinse water may be used for irrigating plants.
2. Promptly clean up any spill of liquid or solid wastes. Do not hose down an area to clean or handle a spill, unless the liquid will be completely contained, cleaned up and disposed of to sanitary sewer or offsite as appropriate for the waste type. Do not discharge to storm drains. Wastes, salvaged materials and recyclables must be properly contained.
3. Schedule regular cleaning of areas that collect debris to eliminate particulate and residue buildup. This applies to both exterior and interior areas. Keeping interior areas clean prevents the tracking of contaminants outdoors. Add trash containers, when appropriate, to minimize littering.
4. Evaluate safer alternative products for any job that usually uses toxic or hazardous products. For instance, investigate alternative floor and window cleaners (specialized cleaners), general cleaners, adhesives, paints, and lubricants.
5. Use the proper drain to handle the disposal job. Do not use drains without knowing whether they flow to the sanitary sewer, storm system or self-contained internal sump.
6. Store equipment and supplies under cover whenever possible. Minimizing contact with storm water minimizes contaminants from getting into storm water run-off. Use exterior grade cabinets or containers when exposed to the weather; interior grade cabinets and containers will rust or deteriorate contributing contaminants to storm water run-off.
7. When washing vehicles, make sure there is a procedure protecting the waste water by containing and properly disposing of the wash water and debris or utilize a commercial car wash that drains into the sanitary sewer system.

8. Place trash in disposal or recycling containers.
9. Have spill response equipment available when using or storing liquid or hazardous substances.
10. Leaking equipment should be equipped with drip-pans, appropriate clean-up materials, and have proper containment.
11. Any complaints received regarding the stormwater system should be addressed as soon as possible and documented.

## **Storm Drains & Catch Basins**

### ***Goal***

To prevent the discharge of soil, debris, hazardous waste, and other pollutants that may hinder the designed conveyance capacity or damage stormwater quality or habitat in the storm drain system.

### ***Approach***

1. Inspect storm water drains, grates, inlets, ditches, swales and catch basins on a regular basis. Keep a log of areas and structures inspected and maintained.
2. Clean storm grates, inlets, drains, ditches, swales and catch basins to remove the accumulation of debris and sediment. Keep a log of the material removed from each structure. Clean structures on a regular basis to keep debris from accumulating.
3. Promptly repair any damaged or deteriorating structure or any other problems that may compromise the integrity of the storm water drainage system. Keep a log of storm water system maintenance.
4. Update facility schematics with any change to the plumbing (to prevent cross connections) or storm water drain system. Discharges allowed according to the City's stormwater ordinance are the only discharges allowed into the City's storm water system.
5. Make sure employees know that storm drains, catch basins and culverts are part of the storm water collection system not part of the sanitary sewer system.
6. If filters are used on storm drains, ensure proper installation and maintenance. Document cleaning and maintenance activities.

## **Trash & Dumpster Management**

### ***Goal***

Prevent or reduce the discharge of pollutants to stormwater system or natural streams using effective management of waste materials. Education and training, proper material use, source reduction, tracking waste generation and disposal, proper material storage, recycling, preventing stormwater contact and runoff from waste management areas are good waste disposal procedures. Keep outside areas neat, clean, and orderly.

### ***Approach***

#### **Solid Waste Management**

1. Keep dumpsters, trashcans and recycling bins covered and properly contained, except when filling or emptying. Schedule pickup frequency to keep trash from holding the cover open. Open lids allow contact with storm water, which dissolves and transports contaminants into the storm water system. Open lids also invite pests to spread trash around.

2. Do not put liquid or grease in trash containers.
3. Check the dumpster or trashcan to ensure it is in good condition with no holes or accumulation of grime. Trash containers should be leak-free.
4. Regularly inspect the trash enclosure and general area for problems such as trash not in the container and accumulation of grease or food on the ground. Clean the trash enclosure as needed to remove any accumulations of grime and/or general trash.
5. Designate an area for trash collection away from storm drains. This allows problems at the trash container to be corrected before reaching the storm drain or flow offsite.
6. Minimize storage of scrap metal by disposing of it periodically. Cover the stockpile during rain to reduce the release of contaminants.

#### **Hazardous Waste Management**

1. Use the entire product before disposing of the container. Follow the manufacturer's direction on storage, usage and disposal. Do not remove the original product label as it contains important safety and disposal information. MSDS information should be consulted for each product that is stored or handled.
2. Use appropriate containment devices where the potential for spills exist. Keep hazardous waste in appropriate containers and under cover. Place hazardous waste containers in secondary containment. Do not allow hazardous materials to accumulate on the ground.
3. Keep hazardous and non-hazardous waste separate.
4. Check waste management areas for spills and leaks.
5. Check with the manufacturer, OSHA, TOSHA or poison control with questions or concerns.

### **Material & Hazardous Waste Storage**

#### ***Goal***

Prevent or reduce the discharge of pollutants to storm water from material delivery and storage by minimizing the storage of hazardous materials on-site, storing materials in a designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors.

#### ***Commonly Stored Materials***

1. Sand, salt, rock, and top soil
2. Pesticides and herbicides
3. Fertilizers
4. Detergents
5. Petroleum products
6. Acids, lime, glues, paints, solvents, etc.
7. Spill response materials

#### ***Approach***

1. Designated areas for material storage are found throughout the complex.
2. Refer to the MSDS binder to follow manufacturer's instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals.
3. Always store materials and wastes indoors or under cover whenever possible.
4. Minimize storage needs by purchasing smaller amounts of material more frequently and as needed for specific jobs. Stockpiling materials, which often must be stored outside and exposed to storm water, increases the possibility of pollutants flowing offsite.

5. Store chemicals away from doors and out of traffic pathways.
6. Use drip pans (or other containment device) under taps, nozzles, and spouts to catch drips.
7. If transferring the contents of a leaking container promptly to another container, properly label the new container.
8. Store parts (i.e., vehicle, electronic, mechanical, etc.) under cover to prevent the leaching of any materials into storm water runoff.
9. Stockpiles of gravel, asphalt, sand, salt, top soil, and other raw materials should be stored on a paved or concreted surface and contained in order to prevent storm water flowing through and off of the stockpile.
10. Conduct preventative maintenance on a routine basis on secondary containment structures, pipes, valves, pumps and other equipment to ensure proper operation and to identify potential leaks.
11. Return equipment and material to their proper storage place after use.
12. Schedule regular cleaning of outside storage areas and yards. Review the stockpiled equipment and supplies (materials). Often there are unusable materials at the back of the storage area. Usable materials should be stored to indicate possible use and to minimize contact with storm water. Unused or unusable material should be removed as soon as possible. Develop a plan to regularly dispose of unneeded materials.
13. Provide an easily-accessible MSDS binder.

## **Vehicle & Equipment**

### **Fueling**

#### ***Goal***

Prevent fuel spills and leaks and reduce their impacts to stormwater by using off-site facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors. Ensure above-ground storage tanks have correctly functioning secondary containment.

#### ***Approach***

1. Discourage topping-off of fuel tanks to reduce accidental spillage. Post “no topping-off” signs at the fuel islands. Encourage the use of ‘hold open latches’ on fuel nozzles.
2. Promptly clean up any spill of liquid or solid wastes. Do not hose down an area to clean or handle a spill, unless the liquid will be completely contained, cleaned up and disposed of appropriately for the waste type. Do not discharge any clean-up liquid to storm drains.
3. Regularly inspect oil/water separator and sumps; conduct maintenance as needed.

#### ***Maintenance***

1. Keep ample supplies of spill cleanup materials on site.
2. Pumps are on a routine monthly and annual inspection and maintenance program which is regulated by the State.

### **Washing & Cleaning**

#### ***Goal***

Prevent or reduce the discharge of pollutants to stormwater 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 training employees and subcontractors.

### ***Approach***

1. Use designated wash areas to prevent wash water from entering the storm sewer system.
2. Use phosphate-free, biodegradable soaps.
3. Do not use solvents.
4. When cleaning vehicles/equipment:
  - a. Use as little water as possible to avoid having to install erosion and sediment controls for the wash area. High pressure sprayers may use less water than a hose.
  - b. Use positive shutoff valve to minimize water usage.
5. Clean leaks, drips, and other spills with as little water as possible. Use rags for small spills, a damp mop for general cleanup, and dry absorbent material for larger spills. Use the following three-step method for cleaning floors:
  - a. Clean spills with rags or other absorbent materials.
  - b. Sweep floor using dry absorbent material.
  - c. Mop floor.
6. Keep equipment clean; don't allow excessive build-up of oil and grease.
7. Keep drip pans or containers under the areas that might drip.
8. If possible, eliminate or reduce the amount of hazardous materials and waste by substituting non-hazardous or less hazardous materials.

## **Leak & Spill Control**

### ***Goal***

Prevent or reduce the discharge of pollutants to storm water from vehicle leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees.

### ***Approach***

1. Perform fluid removal and changes inside or under cover on paved surfaces.
2. Properly store hazardous materials and waste.
3. Have spill cleanup supplies readily available.
4. Use dry cleanup methods.
5. Make sure incoming vehicles are checked for leaking oil and fluids.

## **Maintenance**

### ***Goal***

Prevent or reduce the discharge of pollutants to stormwater from vehicle maintenance. This BMP is likely to partially reduce sediment, nutrients, toxic materials, oil and grease, and heavy metals.

### ***Approach***

1. Perform maintenance using indoor facilities instead of outside whenever possible as to protect the stormwater runoff. If maintenance should be done outside, ensure correct procedures are followed where prevention practices for spills and leaks can be practiced if needed.
2. If an outdoor maintenance area is needed, it should be located on a paved concrete surface in order to facilitate cleanup. Use barriers to prevent stormwater runoff from entering the area.

3. Use a secondary containment such as a drain pan or drop cloth to catch spills or leaks. Keep a drip pan under the vehicle when removing hoses, filters, or other parts.
4. Have an ample supply of cleanup materials where they are readily accessible and properly stored.
5. Clean leaks and other spills with as little amount of water as possible. Use rags for small spills, a damp mop for general cleanup and dry absorbent materials for larger spills.
6. Provide spill containment dikes or secondary containment around stored oil and chemical drums.

## **Sanitary Sewer Maintenance**

### ***Goal***

Prevent or reduce the discharge of pollutants to stormwater system and natural streams from sanitary and septic waste. Provide convenient and well-maintained restroom facilities. Arrange for permanent connections to the sanitary sewer system or schedule for regular service and disposal. This management practice will significantly reduce nutrients, bacteria and viruses, and oxygen demanding substances.

### ***Approach***

1. To contact the City's sewer department, call (615) 859-2740.