



MARSHALL UNIVERSITY
**Pollution Prevention Plan/
Good Housekeeping Guidance Document**

Date of Review:

March 2016

POLLUTION PREVENTION PLAN

Marshall University conducts five activities that can pose a threat to water quality if practices and procedures are not in place to prevent pollutants from entering the MS4. These activities include landscaping and ground maintenance; application of fertilizers, pesticides, and herbicides; vehicle wash areas; salt and other deicing materials; and vehicle maintenance. Ultimately it is the goal of Marshall University to conduct activities that remove pollutants from the MS4 when performed properly, such as building wash downs and storm drain system cleaning. Finally, Marshall University's facilities can be sources of stormwater pollutants if stormwater control measures (SCMs) are not in place to contain spills, manage trash, and handle non-stormwater discharges.

Marshall University's MS4 permit requires staff training on ways to protect stormwater, particularly when maintaining MS4 infrastructure and performing daily activities, such as campus and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance. This primarily includes:

- Developing inspection and maintenance procedures and schedules for SCMs,
- Implementing SCMs for infrastructure, maintenance areas, storage yards, salt storage areas, and waste transfer stations,
- Establishing procedures for properly disposing of pollutants removed from the MS4

Marshall University has an annual training program for all staff involved in activities that could discharge pollutants to the MS4. Marshall University also developed standard operating procedures that incorporate SCMs for common activities, garnering input from both managers and field crews to determine the most appropriate and effective SCMs for each situation. Standard operating procedures and spill prevention and control plans also had to be developed for all facilities where activities occur that can generate stormwater pollutants.

The standard operating procedures for each of the five activities performed on campus are explained in full detail in this Pollution Prevention Plan. This document has been successfully completed by all responsible departments. Educating the staff about the impacts stormwater has on the Ohio River is the first step.

Standard Operating Procedures for:

STORAGE AND APPLICATION OF FERTILIZER AND HERBICIDES

Purpose of SOP: To protect stormwater by properly storing and applying fertilizers and herbicides because storm drain water is part of the combined sewer system in the City of Huntington and could potentially discharge these untreated pollutants into the Ohio River.

The Sorrell Maintenance Building (SMB) is the location for fertilizer and herbicide storage. Two types of fertilizers are used on campus and both are pelletized. The first is a 10-10-10 fertilizer for pole fertilization of trees and shrubs. The second fertilizer is 32-0-4 that is used to kill Dandelions at Old Main, Drinko, and along 5th Ave. side. Approximately 20 bags or less are bought annually and distributed during the spring. The only herbicide that is used is Round-Up for spot treating. There is no mass use of herbicides. Lime is used once a year throughout campus.

The fertilizers and herbicides are stored inside on concrete floors. There is one drain in the maintenance shop where the fertilizers are stored. It is connected to the combined sewer system on 20th St.

Always:

- Store fertilizers and herbicides in high, dry locations, according to manufacturer's specifications and applicable regulations.
- Clearly label secondary containers.
- Properly dispose of fertilizers and herbicides according to manufacturer's specifications and applicable regulations.
- Regularly inspect fertilizer and herbicide storage areas for leaks or spills.
- Clean up spill and leaks of herbicides and fertilizers to prevent the chemicals from reaching the storm drain system.
- Check five day weather forecast to avoid fertilizing before heavy rain or during a drought.

Whenever Possible:

- Order fertilizers and herbicides for delivery as close to time of use as possible to reduce amount stored at facility.
- Order only the amount needed to minimize excess or obsolete materials requiring storage and disposal.
- Use all fertilizers and herbicides appropriately to minimize the amount of chemicals requiring disposal.
- Apply fertilizers during period of maximum plant uptake (spring and fall).
- Aerate grassed areas to improve drainage and bring more oxygen to the soil.

Never:

- Never dispose of fertilizers or herbicides in a storm drain.
- Never fertilize before a forecasted heavy rainfall.
- Never leave unlabeled or unstable chemicals in uncontrolled locations.

Standard Operating Procedures for:

GROUND MAINTENANCE

Purpose of SOP: To protect stormwater by using proper mowing and ground maintenance techniques because storm drain water is part of the combined sewer system in the City of Huntington and could potentially discharge these untreated pollutants into the Ohio River.

Marshall University's Physical Plant and Athletics Department performs ground maintenance on campus. The grass clippings are mulched in place and additional vegetation (i.e. leaves and vegetative debris) are collected and removed from campus. Lawn mowers, weed eaters, blowers, etc. are fueled, maintained and stored within the Sorrell Maintenance Building on concrete floors.

Always:

- Mow only as low as needed for the areas intended use.
- Water at appropriate times.
- Manage leaves, clippings, and compost so that runoff does not enter storm drain system or the Ohio River.

Whenever Possible:

- Keep mower blades sharpened to avoid damaging grass leaf tissue.
- Sweep/blow lawn clippings and debris off of sidewalks and roadways back onto the lawn instead of using water.
- Mulch grass clippings using a mulching mower.
- Collect and remove additional vegetation (leaves and vegetative debris) to permitted landfill.
- Fill gas tanks in a controlled location (i.e. area with no floor drains).

Never:

- If irrigation is necessary then never irrigate based on timers/schedules instead of monitoring for moisture content.
- Never dump gas, wastes or contaminated water down storm drains.
- Never refuel or change the mower oil near storm drains.

Standard Operating Procedures for:

Vehicle and Equipment Washing

Purpose of SOP: To protect stormwater by using proper vehicle and equipment washing techniques because storm drain water is part of the combined sewer system in the City of Huntington and could potentially discharge these untreated pollutants into the Ohio River.

Vehicles are washed at the Sorrell Maintenance Building and at the MU Police Department. Equipment wash is performed at the Sorrell Maintenance Building. If cleaning materials are used they are biodegradable.

Always:

- Perform fewer than 30 wash events per week.
- Wash on a non-rainfall day
- Use a drain guard (filter inserts) to catch sediments, petroleum products, etc. that might enter the storm drains as a result of the washing.

Whenever Possible:

- Use a commercial car wash for light duty vehicles.
- Minimize water and soap use when washing or rinsing.

Never:

- Never perform engine or undercarriage washing outside.
- Never wash vehicles over a storm drain or near drinking water wells.

Standard Operating Procedures for:

Deicing Material Storage and Application

Purpose of SOP: To protect stormwater by using proper deicing material storage and application techniques because storm drain water is part of the combined sewer system in the City of Huntington and could potentially discharge these untreated pollutants into the Ohio River.

Salt and other deicing materials are stored under roof on concrete floors at the Dewco and Sorrell Maintenance Building, therefore, the likelihood of discharging contaminated stormwater is very low.

Pre-bagged calcium chloride is used for deicing.

Always:

- Locate the deicing material on flat, impervious surfaces that are easily protected.
- Ensure deicing material is under shelter from the elements of weather.
- Use minimum amount of deicing material needed to get the desired results.

Whenever Possible:

- Allow rinse water from equipment to drain away from storm drains.
- Locate deicing material away from flood areas and stormwater runoff.
- Train drivers to improve application techniques and reduce losses.
- Remove snow manually from sidewalks.

Never:

- Never dispose of wash water from deicing equipment into the storm drain system.

Standard Operating Procedures for:

Vehicle Maintenance

Purpose of SOP: To protect stormwater by using proper vehicle maintenance procedures because storm drain water is part of the combined sewer system in the City of Huntington and could potentially discharge these untreated pollutants into the Ohio River.

The vehicle maintenance garage is located at the Sorrell Maintenance Building on the east side of campus. The vehicle maintenance garage does not have floor drains, therefore, the likelihood of discharging contaminated runoff or stormwater is very low.

Always:

- Apply absorbents on all spills from vehicle maintenance.
- Dispose of used oil into the recycling barrels for pick-up.
- Dispose of used antifreeze into the recycling barrels for pick-up.
- Inspect parking areas for stain/leaks on a regular basis.

Whenever Possible:

- Maintain vehicles to prevent leaks.

Never:

- Store leaking vehicles over a storm drain.

Standard Operating Procedures for:

Erosion and Sediment Control

Purpose of SOP: To protect stormwater by using proper erosion and sediment control procedures because storm drain water is part of the combined sewer system in the City of Huntington and could potentially discharge untreated pollutants into the Ohio River.

Always:

- Use erosion control techniques or devices to stabilize disturbed areas.
- Use effective site planning.
- Keep land disturbance to a minimum.
- Inspect erosion control devices weekly.
- Install erosion control devices properly.
- Remove sediment accumulated during construction from permanent BMPs once construction is complete.
- Minimize slope lengths to reduce the velocity of stormwater runoff.
- Prevent erosion by covering bare soil and stockpiles with mulch or other cover.
- Protect existing stormwater structures from sediment by using temporary sediment traps, silt fences, hay bales, or perforated risers.

Whenever Possible:

- Install erosion control blankets when seeding drainage ways.
- Establish vegetative cover with good root systems prior to freeze/thaw cycles.

Never:

- Divert runoff into a sensitive area.
- Remove temporary measures before construction is complete.

Standard Operating Procedures for:

Trash Management

Purpose of SOP: To protect stormwater by using proper trash management procedures because storm drain water is part of the combined sewer system in the City of Huntington and could potentially discharge untreated pollutants into the Ohio River.

Always:

- Cover trash bins to keep trash and leachate in and wind and rain out.

Whenever Possible:

- Store trash containers beneath a covered structure or inside to prevent contact with stormwater.
- Install berms, curbing or vegetation strips around storage areas to control water entering/leaving storage areas.
- Place dumpsters on a flat, concrete surface that does not slope or drain directly into the storm drain system.
- Locate dumpsters and trash cans in convenient, easily observable areas.
- Provide properly-labeled recycling bins to reduce the amount of trash disposed.
- Inspect trash bins for leaks regularly, and have repairs made immediately by responsible party.
- Keep bins free of improperly discarded trash.
- Provide training to employees to prevent improper disposal of general trash.
- Minimize waste by purchasing recyclable products that have minimal packaging.
- Request/use dumpsters without drain holes.

Never:

- Place hazardous wastes in a dumpster or trash bin.
- Place gasoline-contaminated wastes in a trash bin.
- Place oil-contaminated materials that release free draining oil into a trash bin.

Standard Operating Procedures for:

Building Exterior Cleaning

Purpose of SOP: To protect stormwater by using proper exterior building cleaning procedures because storm drain water is part of the combined sewer system in the City of Huntington and could potentially discharge untreated pollutants into the Ohio River.

Always:

- Use minimal water.
- Wash on dry days.
- Use storm drain inlet protection devices (drain covers, wattles, booms, berms).

Whenever Possible:

- Use a sanitary sewer for discharge.
- Use a wet vacuum or holding tank.
- Have a spill kit and equipment for dry clean up.
- Direct wash water to nearby landscaping or vegetated area.

Never:

- Allow a visible sheen to discharge.
- Use any type of detergents (if not biodegradable).

Standard Operating Procedures for:

Catch Basin Cleaning

Purpose of SOP: To protect stormwater by using proper catch basin cleaning procedures because storm drain water is part of the combined sewer system in the City of Huntington and could potentially discharge untreated pollutants into the Ohio River.

Always:

- Conduct a visual inspection annually.
- Place a work order for cleaning if inspection shows cleaning is needed.
- Clean catch basins on dry weather days.
- Place debris in dumpster for proper disposal.

Whenever Possible:

- Use a Vactor truck for cleaning.
- Dry the debris prior to placing it in the dumpster.

Never:

- Flush debris down the catch basin.

Standard Operating Procedures for:

Chemical Storage

Purpose of SOP: To protect stormwater by using proper chemical storage procedures because storm drain water is part of the combined sewer system in the City of Huntington and could potentially discharge untreated pollutants into the Ohio River.

Always:

- Store chemicals away from high traffic areas, posted with appropriate signage.
- Store chemicals according to manufacturer's specifications in approved containers and conditions.
- Be prepared for possible spills by having a spill kit nearby.
- Store incompatible hazardous materials in separate areas.
- Inspect storage areas for leaks or drips frequently.
- Conduct annual employee training to reinforce proper storage techniques for chemical products.

Whenever Possible:

- Store chemicals inside or under cover.
- Provide secondary containment for interior storage.
- Cover transfer areas.

Never:

- Store bulk chemicals near a storm drain.

Standard Operating Procedures for:

Spill Response Plan

Purpose of SOP: To protect stormwater by using proper spill response procedures because storm drain water is part of the combined sewer system in the City of Huntington and could potentially discharge untreated pollutants into the Ohio River.

Always:

- Immediately report all spills to **MU Police Department at (304) 696-4357, and MU Safety and Health at (304) 696-3432.**

- Be prepared to provide the following information:
 - Chemical Name,
 - Quantity Spilled,
 - Exact Location of the Spill

- For a spill of **less than 1 liter** of a non-toxic chemical, initiate the lab's Chemical Hygiene Plan spill cleanup procedures. Safety and Health can provide additional support if necessary.
 - Check the list of toxic chemicals that is available on the Safety and Health website: www.marshall.edu/safety/

- For a spill of a **toxic chemical** or of **more than 1 liter** of a non-toxic chemical, quickly attempt to determine what was spilled; however, do not come into contact with the substance or inhale fumes.
 - If you experience eye irritation, burning lungs, or other symptoms of chemical exposure, sound the building fire alarm to notify others to evacuate the building.
 - If someone has been splashed with the chemical, immediately flush the contaminated area with water and seek medical assistance if needed.
 - MU Police Department, in conjunction with Safety and Health, will manage the incident and notify off-campus response units if needed.
 - Building evacuees should remain at a safe distance, up wind, until the authority having jurisdiction declares the building safe to re-enter.