

Stormwater Management

Introduction

Stormwater runoff from lands modified by human activities can harm surface water and, in turn, change natural hydrologic patterns, accelerate natural stream flows, destroy aquatic habitat, and elevate pollutant concentrations. Such runoff is said to contain nonpoint source pollutants, which include sediment, suspended solids, nutrients (phosphorus and nitrogen), heavy metals, pathogens, toxins, oxygen demanding substances and floating material.

Ramapo College operates its own stormwater system under the National Pollutant Discharge Elimination System (NPDES) Municipal Separate

Storm Sewer System (MS4) Permit. The Ramapo College stormwater system is composed of approximately 390 catch basins and 27 outfalls that discharge to Darlington Brook, Ramapo River and the town of Mahwah stormwater system.

In response to rules issued by the Environmental Protection Agency, Ramapo College has developed a stormwater management program designed to prevent harmful pollutants from being washed by stormwater runoff into the MS4 (or from being dumped directly into the MS4) and then discharged from the MS4 into local water bodies.

Ramapo College activities with the potential to impact the stormwater system include:

- ✓ Maintenance of buildings, grounds, and roads;
- ✓ Seasonal application of sand, salt, and de-icer to roads, parking lots, paths and sidewalks;
- ✓ Seasonal application of pesticides, herbicides, and fertilizers to landscaped areas;
- ✓ Construction projects more than one acre in size;
- ✓ Spills and leaks.

What pollutants are of most concern at Ramapo College?

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The College's stormwater management plan has identified the following pollutants on campus:

Petroleum products: Runoff from streets and parking lots may contain petroleum products leaking from vehicles.

Hazardous materials: The campus uses a variety of hazardous materials for teaching, and administrative support activities.

Pesticides and fertilizer: The campus uses small amounts of pesticides and fertilizers for grounds maintenance activities.

Sediment: Sediment may be present in runoff from disturbed areas. The most common sources are construction sites and paved surfaces.

Litter: Litter may come from students, faculty, staff, or visitors. Runoff from precipitation events may cause litter to reach streams.



Catch basin near the parking garage

Ramapo College Stormwater Management Program

The Ramapo College Stormwater Management Program comprises of several initiatives that have been implemented over the past few years. These initiatives have resulted in reductions of nonpoint pollutants discharged into surrounding waterways. Examples of ongoing activities include:

- ✓ Upgrade catch basins as required by construction or re-paving;
- ✓ Sweep all streets and paths monthly;
- ✓ Provide annual training to affected employees; (train over 100 employees each year)
- ✓ Provide an annual educational event;
- ✓ Label all catch basins;
- ✓ Investigate illicit connections and dry weather flows from out-

falls;

- ✓ Map all Stormwater infrastructure
- ✓ Inspect and clean (if necessary) all catch basins annually;
- ✓ Conduct road erosion control and maintenance inspections;
- ✓ Utilize an indoor de-icing material storage;
- ✓ Annually inspect: detention basins, forebays, sand filters;
- ✓ Control construction site runoff; and

Several Policies and Procedures have also been developed to address stormwater management including:

1. Pet Waste
2. Good Housekeeping

3. Wildlife Feeding
4. Illicit Connections
5. Improper Disposal of Waste
6. Recycling Guidelines
7. Litter
8. Vehicle Maintenance
9. Vehicle Fueling



Label on storm drain near Robert A. Scott Student Center

Do your part to protect our water.....



Kameron Pond

Report Illegal Dumping

- On College property: notify Public Safety x76666 (201-684-6666).
- Off-campus notify the NJ DEP 877-WARN-DEP

Below are ways you can contribute to pollution prevention and good housekeeping on campus:

Outdoor activities

Take note of nearby storm drains and take precautions to prevent liquid or loose material from entering them.

Outside drains empty directly into rivers & waterways. This water is not treated.

Sweep the area and pick up any loose material when your activity is completed, and don't wash or put anything down a storm drain.

Never pour any liquids down outside drains, including beverages, liquid food wastes, grease, wash water or any other seemingly non-harmful liquid - these are not natural to our waterways.

Trash Disposal

Dumpsters are a common source of pollutants, especially if they contain any liquid or semi-liquid wastes. Never place liquids into the regular trash or directly into a Dumpster. Instead, follow these guidelines for disposal of liquid waste:

Liquids that will not have an adverse effect on the water treatment plant, such as: liquid food waste should be discharged to drains inside buildings.

Chemicals and other liquid products that can be toxic should be collected and containerized for proper disposal. Call the Facilities Service Desk at ext. 7660 for a pick up if you have chemical waste products.

Dumpster lids and trash containers must be kept closed at all times.

WHAT CAN YOU DO AT HOME?

Lawn/Yard Care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. Yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

Don't over-water your lawn, gardens, or other outdoor areas. Consider using a soaker hose instead of a sprinkler.

Preserve and plant trees and shrubs to help keep soil in place.

Use pesticides and fertilizers sparingly.

Use organic mulch or safer pest control methods.

Compost or mulch yard waste.

Cover piles of dirt or mulch.

Recycle as much as possible.

Use a broom to sweep and collect sediment and organic matter on sidewalks and driveways.

Use de-icing materials sparingly on driveways and sidewalks.

Septic Systems

Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby water bodies. Pathogens can cause public health and environmental concerns.

✓ Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).

✓ Don't dispose of household hazardous waste in sinks or toilets.

Auto Care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a water body. For example, one quart of oil can contaminate up to 2 million gallons of water.

✓ Use a commercial car wash that recycles its wastewater or wash your car on your yard so the water infiltrates into the ground.

✓ Use biodegradable detergents and other products.

✓ Dispose of used auto fluids and batteries at designated recycling and drop-off locations.

✓ Prevent gas and oil leaks and spills. Clean up any spills immediately by absorbing it with towels, sand or kitty litter.

✓ Have your motor vehicle routinely serviced.

Prevent Stormwater Runoff

There are several ways to help prevent stormwater runoff. Here are some examples:

✓ Plant trees, shrubs, and ground cover.

✓ Use a barrel to collect rain and store water for gardening.

✓ Redirect downspouts from paved areas to vegetated areas. Guide stormwater onto grass or other vegetated areas by using berms or dikes.

✓ Use wooden planks, bricks, gravel, or interlocking stones for walking areas and patios rather than asphalt and/or concrete.

✓ Clear away fallen trees and debris from natural waterways and stormwater drains.

RESOURCES

[N.J. DEP](#)

(609) 633-7021

(877)WARN-DEP (Spills/Emergencies)

[Ramapo College: Environmental Health & Safety](#)

(201) 684-7614

[U.S. EPA](#)

(202)566-1300

[Ramapo College: Office of Facilities Management](#)

(201) 684-7660

