

Research for Businesses Pollution Prevention Outreach Strategy

Research Background

There is an overwhelming amount of information available on the web. Overall there appears to be three methods for addressing stormwater and businesses.

1. The first is to target each business type (restaurants, auto services, etc.) and provide a factsheet or other information tailored directly to the business. Examples of this include factsheets for auto body repair, auto repair and auto service stations (gas stations).
2. The second approach is to target the activities that businesses typically do, rather than the actual business type. Examples of this approach include: factsheets on activities such as power washing, fueling, loading docks and waste disposal.
3. The third approach noted was have a check list of good house keeping measures, similar to that of the second approach, targeting activities rather than specific businesses. In this approach the check list would be supplied to all types of businesses for them to determine which good house keeping measures are appropriate for them.

After extensive review we selected approach 3 above. We determined that there are many overlapping regulations that control business operations that may have the potential to also deal with stormwater. Therefore, the approach behind the business outreach was to find specific activities not controlled by other regulations that could help to reduce stormwater pollution as well as being applicable to most businesses. The proposed business checklist items are focused on complying with the IDDE model ordinance. This is consistent with RIDEM permit requirements and EPA guidance which strongly encourage targeting both businesses and IDDE compliance through education and outreach. Additionally, the Blackstone River Coalition has a program in the Blackstone River Watershed focused on working with businesses, already tackling the role of businesses in stormwater pollution. Therefore it was a natural fit to work with them and coordinate our materials.

Apart from this general outreach on IDDE compliance, Businesses pollution prevention and voluntary adoption of other stormwater controls, we felt additional education may be warranted for restaurants and other business with high strength waste water discharge. Through not directly related to Phase II compliance, the problem of fats, oil and greases from these businesses is a statewide concern in both sewered and unsewered areas where poor practices lead to septic system failure. This can become a stormwater pollution problem. A simple fact sheet on this topic could be developed based on existing examples from the City of Canton, MA and Charlotte/Mecklenburg county NC.

Websites for the other non-stormwater regulations that were reviewed include:

- Office of Technical and Customer Assistance (<http://www.dem.ri.gov/topics/mercury.htm>) factsheets
- Universal Waste Rule Requirements Factsheet
- Florescent Bulb Brochure
- Waste oil, florescent bulb, mercury containing lamps, rechargeable battery and thermostat recycling vendors
- Mercury in dental amalgams Rules and Regulations for Hazardous Waste Management <http://www.dem.ri.gov/programs/benviron/assist/usterp/index.htm>
- Hazardous Waste Compliance Workbook <http://www.dem.ri.gov/programs/benviron/waste/pdf/hwgenbk.pdf>
- The Univ. of Rhode Island Pollution Prevention (P2) program. Can help reduce the amount of waste generated that must be disposed of by looking at changes to processing.

- Factsheets from RIDEM, Office of Technical and Customer Assistance, Small Business Assistance Program <http://www.dem.ri.gov/programs/benviron/assist/abp2fact.htm>
- Pollution Prevention in the Autobody Shop
- Hazardous Waste Generation Concerns Affecting Autobody Shops
- Water Pollution Control in the Autobody Shop
- Mercury Switch Removal/Replacement/Labeling
- RI ResourceXchange <http://www.resourceexchange.org/>
- Business Recycling Resources http://www.rirrc.org/main.cfm?sec_id=17&guid=4e61a434-86be-4c64-832e-7618dc043971
- RI Clean Marina Program including handbook and certification check list <http://www.crmc.state.ri.us/projects/cleanmarinas.html>
- RIPDES SW industrial activity general permit: <http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/index.htm>

Recommendations for Business Pollution Prevention

The following items are proposed for inclusion in the business checklist, targeting activities that most businesses engaged in. The action is followed by the applicable section in the IDDE ordinance. Actions were designed to mesh with the model ordinance.

1. Inspect your facility for interconnections with the storm drain system and correct any illegal discharges.
 - a. The following connections are illegal: sewer connections, process wastewater, wash water and any connections from indoor drains and sinks as well as any connections to the system from a commercial or industrial land use which has not been documented and approved. (Section 3-Definitions-Illicit Connection)
 - b. The following connections are legal: wash water from washing vehicles if no soap is used, external building washdown when no detergents are used, dechlorinated pool discharges, air conditioning condensate, irrigation drainage, and foundation or footing drains, sump pumps and roof runoff where flows are not contaminated with process materials such as solvents, or contaminated by contact with soils where spills or leaks of toxic or hazardous materials have occurred. (Generally, uncontaminated waters that run off your site when it rains). (Section 4 – discharge prohibitions)
2. Use the business self inspection check list to identify items that must be changed (check list follows with section of model ordinance it refers to in parenthesis):
 - a. Are you storing hazardous materials? (process chemicals, pesticides, herbicides, dry cleaning materials, waste materials, oil, gasoline, etc.). These materials should be stored under cover and must have secondary containment system to prevent spills if the containers begin to leak. Also, these materials should be stored away from any location where leaks could get into stormdrains or waterways (ie: near sump pumps for groundwater removal) (Section 8)
 - b. If you are a hazardous waste generator, do you have an updated spill response plan? Have you trained your employees on their responsibilities if a spill or leak occurs? (section 8)
 - c. Do you have dry cleaning materials available (broom, mop or absorbent material such as saw dust or kitty litter)? Spills in parking lots, loading docks, etc. should be cleaned using dry cleaning materials and not water. (Section 8).
 - d. Clean floor mats, filters and garbage cans in a mop sink. Pour wash water into a janitorial or mop sink, don't pour it outside. (Section 8)
 - e. If you are washing cars on the premises then the wash water must be diverted from the stormdrains to the sewer or somewhere the water can soak into the ground, if you use detergent (soap). (section 3)
 - f. Dumpsters must be covered to prevent trash from escaping as well as keeping water out of the dumpster. (Section 8)

- g. Trash leaving your site is your responsibility. Be sure there are enough trash receptacles on your property. Regularly empty the trash receptacles. (Section 8)
- h. If a water course passes through or along a property you own or lease then it is your responsibility to keep your portion of the water course reasonably free of trash, debris, excessive vegetation (leaves and lawn clippings) and other obstacles that can pollute, contaminate or retard the flow of water. All maintenance actions must be in accordance with RIDEM Freshwater Wetlands Act or other applicable laws or regulations. (Section 9)
- i. Some businesses that fall under specific SIC codes for industrial activities will require coverage under the RIPDES Multi-Sector General Permit for Stormwater Associated with Industrial Activity. Businesses should check with the RIPDES group in RIDEM and on their website to determine if they will be required to submit an application.
- j. Going Further: the following actions are not required but will help keep your town clean:
 - i. Loading and unloading areas should be paved to allow for easy clean-up of spills. Always use dry clean-up methods when cleaning any spills. Grade loading/unloading areas away from water courses and stormdrains. Try and re-direct rainwater away from loading docks to keep water from pooling at the bottom of deep loading ramps.
 - ii. Divert roof leaders, foundation drains, air conditioning condensate and other clean water to grassy areas instead of having it go directly into the stormdrain.
 - iii. Use environmentally-sensitive landscaping practices (low water and low fertilizer use)
 - iv. (for businesses in the Blackstone River Watershed), schedule a visit with the Blackstone River Watershed Coalition and participate in the "In Business for the Blackstone" project. Participation in the program includes public recognition of participating businesses. (Contact Dona Neely at 508-878-1728 or dona.neely@zaptheblackstone.org website: <http://www.zaptheblackstone.org>)

Examples of business outreach completed by other groups.

Factsheets targeting specific business type:



Restaurant / Food Service Establishment (FSE) Guide to "Good Housekeeping"

The following reference material is to be used by the restaurant / FSE as a guide to facilitate compliance under the current Davidson County, **Metro Water Services (MWS) environmental regulations**. However, in order to insure compliance within Metro Nashville/Davidson County, a restaurant / FSE manager must be aware of *all* pertinent Metro, State, and Federal regulations and not simply those contained within this document.

When cleaning and sanitizing the floors, kitchens, restrooms, outside dumpster areas and parking lots of a restaurant / FSE, all individuals involved must first understand that the wastewater produced is harmful to the environment and **must be disposed of in a drain which routes to a MWS sanitary waste treatment plant. The storm drains and parking lots in Metro Davidson County do not route water to the MWS sanitary waste treatment plant.** Instead, the storm drains and parking lots within Davidson County are part of Metro's Municipal Separate Storm Sewer System (MS4). This MS4 includes all storm drains, roads, ditches, culverts, or parking lots that are designed to route **clean/unpolluted stormwater**, safely into the streams of Metro Nashville/Davidson County.

The NPDES division of MWS has the specific task of monitoring all discharges into this MS4 for the purpose of maintaining the water quality of the streams within Davidson County. If disposed of improperly into the MS4 or stream, **the waste washwater from the restaurant's floor, kitchen, restrooms, outside dumpster area, vent hoods, and parking lot would damage this stream and the aquatic life within it, even when biodegradable cleaners are used.** Nearly all discharges into the MS4 and streams (including the restaurant's waste washwater) are deemed "Illicit Discharges" and are illegal in Davidson County under Metro Code of Laws (Metro Code) § 15.64.205. Additional examples of Illicit Discharges can be found on the back side of this document. If you have questions, contact the MWS NPDES office at (615) 880-2420.

As stated previously, **the dumping of restaurant cleaning wastewater down a drain which routes to a MWS sanitary treatment plant is the proper method of disposal for the restaurant and food prep industry.** Most internal drains including floor drains, sinks, and toilets route wastewater directly to the sanitary treatment plant. By dumping this waste material down a sanitary drain, it is insured that this wastewater will be properly treated at a treatment plant and not have any detrimental effects on the environment. All discharges into sanitary lines/drains that route to a treatment plant are monitored by the Industrial Compliance Section of MWS and are regulated under Metro Code of Laws (Metro Code) §15.50 "Industrial Waste Discharges". If you have questions, call the MWS Industrial Compliance office at (615) 862-4590.

Thank you very much for recognizing the importance of our streams as a valuable natural resource and your help in the protection and improvement of the streams within Metro Nashville/Davidson County.

This publication is a public service of:
Metro Water Services
NPDES Program
Storm Water Quality Control Team
1607 County Hospital Road
Nashville, TN 37218
Phone (615) 880-2420
www.nashville.gov/stormwater



Metro Water Services is in the process of complying with all appropriate Americans with Disabilities Act Guidelines. For additional information contact Joseph A. Estes, Sr., 1600 2nd Avenue North, Nashville, TN 37208-2206; telephone 615-862-4862.



Minimizing Stormwater Pollution Impacts From Your Food Service Establishment:

Additional examples of illicit discharges:

Always maintain a clean lot. Make sure used cooking oils are not spilled around the oil recycling bin and that bins are serviced/emptied regularly. See that dumpster drain plugs are in place and that food dumpster seals are functioning properly and preventing seepage. Always dispose of mop bucket water down an inside drain, mop sink, or sanitary line and never pour mop water outside onto the lot. Clean up all spills using "Dry" clean-up methods (absorbent material), shovel or scoop up, place in sealed container and dispose of in trash.

Never place oil recycling bins near a garbage dumpster. Bins placed too near a garbage dumpster could be knocked over by the garbage truck during collection.

Never pour fats oils or grease (FOG) down storm drains, sewer drains, storm grates, or on the ground!

When outside lots or hood vents must be washed/pressure washed, always use proper contain and capture practices and never allow wash water to enter a storm drain even when using biodegradable detergents. The term "biodegradable" simply means that the product will not harm bacteria in the sewage treatment plant and that it breaks down faster than more conventional products. Biodegradable detergents can cause a fish kill in a creek just as fast as any other type of detergent.

Prevent rainwater "inflow" to the Sanitary Sewer. Repair all sewer cleanout covers, cover outdoor mop sinks, and remove gutters that are discharging to any outdoor mop sinks and drains.

Have Questions?... Call the MWS Storm Water Control Team - Phone: (615) 880-2420 or [313-PURE](tel:6158802420)
 WEBSITE: www.nashville.gov/stormwater

Factsheets targeting specific activities (power washing, loading docks, etc.):

Vehicle & Equipment Fueling

SC-20



Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize

Description

Spills and leaks that occur during vehicle and equipment fueling can contribute hydrocarbons, oil and grease, as well as heavy metals to stormwater runoff. Implementing the following management practices can help prevent fuel spills and leaks.

Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

Pollution Prevention

- Use properly maintained off-site fueling stations whenever possible. These businesses are better equipped to handle fuel and spills properly.
- Educate employees about pollution prevention measures and goals.
- Focus pollution prevention activities on containment of spills and leaks, most of which may occur during liquid transfers.

Suggested Protocols

General

- "Spot clean" leaks and drips routinely. Leaks are not cleaned up until the absorbent is picked up and disposed of properly.

Targeted Constituents

Sediment	
Nutrients	
Trash	
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓



This is one page, of a multipage document.

General check lists (preferred format):

GREEN BUSINESS CHECKLIST

Does your business contribute to a clean and healthy environment in Rockland?

Outdoors:

- Y N Are litter and/or cigarette receptacles located at entrances/exits to the buildings, grounds, and in parking lots?
- Y N Are parking lots, sidewalks and driveways swept and trash receptacles emptied regularly?
- Y N Are signs posted, asking customers to help keep your property clean?
- Y N Are grass borders, fences and landscaped areas cleaned regularly?
- Y N Is the area around loading docks and dumpsters kept free of litter?
- Y N Are doors and lids of dumpsters kept closed to prevent spillage?
- Y N Are company trucks that carry loose material properly covered/secured?

Indoors:

- Y N Are trashcans/ashtrays conveniently located for employees and visitors and are they emptied when needed?
- Y N Are public areas regularly cleaned of litter and trash?
- Y N Does your office recycle?

BUSINESSES PRODUCE WASTE!

The United States produces nearly 210 million tons of garbage every year. Of that ...

Offices: The typical business generates about 1.7 pounds of waste per employee per day, much of it as recyclable paper.

Retail businesses generate about 4 pounds of mixed waste per employee each day, mostly as boxes and packing materials.

Food services such as restaurants and delis generate an average of 14 pounds of trash per employee per day, often as boxes, crates, plastic, foil and glass.

Stormwater Education Program

A program of Cornell Cooperative Extension of Rockland County

A collaborative effort funded by the Towns of Clarkstown, Haverstraw, Orangetown, Ramapo, Stony Point ... and the Villages of Chestnut Ridge, Haverstraw, Montebello, Nyack, South Nyack, Pomona, Suffern, Upper Nyack, and West Haverstraw.

*Information and photo source:
Keep Rockland Beautiful, Inc.*

**Keep Your
Business Property
Clean & Safe**



It's the Law!

What You Need to Know Before You Tap Into MDOT's Storm Drainage System

It is illegal to discharge substances other than storm water into MDOT's storm sewer system. As the Tap-In/Discharge Permit holder, it is your responsibility to plan, install, and maintain appropriate waste-handling processes and facilities to prevent illicit discharges to MDOT's storm drainage system.

The checklists below offer pollution prevention strategies to help you remain in compliance with your discharge permit. MDOT's Storm Water Management Plan includes a program to eliminate illicit discharges, but we need your help.

Do your part to keep pollutants out of storm drains!

- Keep wastes of all varieties from entering floor drains and storm drains.
- Train employees on pollution prevention activities.
- Educate customers on proper recycling and/or disposal.
- Provide trash containers in common areas and routinely empty them.
- Periodically hire a parking lot cleaning service.
- Don't overuse de-icers, follow package instructions.
- Consider "green" parking alternatives: minimize dimensions of parking spaces, use alternative pavers in overflow areas, use bioretention to treat storm water.

Pollution Prevention Strategies by Business Type:

Gas Stations and Oil Change Facilities

- Properly store and recycle waste oil, antifreeze and other auto fluids.
- Quickly clean up spills of all sizes and properly dispose of waste.
- Use drip pans when working to catch spills and discharges.
- Cover fueling areas to prevent storm water from picking up spilled fuel.

Commercial Car Wash Facilities

- Ensure car wash water is discharging to sanitary sewers, not storm drains.
- Keep water traps and grates around the facility clean of trash and debris.
- Use biodegradable, phosphate-free products whenever possible.

Dry Cleaning Facilities

- Keep all containers labeled and covered to prevent evaporation and spills.
- Check equipment frequently for leaks. Make repairs immediately.
- Provide secondary containment in areas where solvents are stored.
- Keep storage and work areas clean and well organized.

Restaurants

- Store grease away from storm drains in an airtight container.
- Never pour or rinse fat, oil or grease (FOG) down the drain - it can lead to sewer backups. Scrape or wipe off FOGs and dispose of in a sealed container.
- Keep drains clean with a vinegar and warm water rinse.



for more information:
www.michigan.gov/stormwatermgt

Together... **Better Roads, Cleaner Streams**



Car wash water entering storm drain



Overflowing dumpster

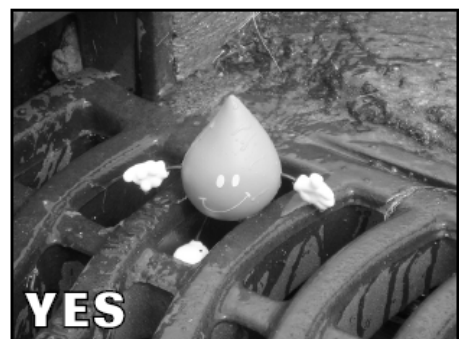
Food for Thought:

...Only rain in the drain!

...If you can't drink it, don't dump it!

...Four quarts of motor oil = an eight-acre oil slick

...Anything on the ground (trash, de-icers, fertilizer, oil, detergent, etc.) can be carried to rivers by storm water runoff



Only rain belongs in a storm drain



Self Inspection Checklist for Business Owners

DIRECTIONS: Complete the following checklist while surveying your facility. If you answer "no" to any of the questions, initiate appropriate best management practice(s) (BMP) to prevent pollutant discharge into the storm drain system. For assistance on BMPs, contact your local stormwater inspector at 931-5500.

	Yes	No	N/A
1. Are storage containers including drums, waste dumpsters and/or trash compactors: free from crack/leaks? have lids or covers that are kept closed? not exposed to rain water?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2. Are storage areas enclosed or covered from the rain?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Are material processing or handling areas enclosed or covered from the rain?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Are parking areas or access roads free of signs of excessive oil and/or motor fluids, leaks, stains, litter, and sediments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Are vehicle repair and maintenance areas covered or out of the rain?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Are vehicles and heavy equipment stored outside, free of leaks and grime?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Are spills in fuel or vehicle/equipment maintenance areas prevented from entering the storm drain system?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Are dry cleaning methods (for example, sweeping, damp mopping, absorbents) used to clean: shop floors? material processing areas? material storage areas? waste disposal areas? access roads? parking lots?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
9. Are all washwater and/or process wastewater discharged to the sanitary sewer or recycled instead of discharged directly or indirectly to the storm drain system?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Are storm drain inlets and catch basins inspected and mechanically cleaned on a regular schedule?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Are waste products from rooftop equipment (for example, oil and grease from exposed motors/pumps or other rooftop equipment) not exposed to stormwater runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

N/A: Not Applicable

Best Management Practices for Good Housekeeping

Follow these BMPs to control pollutant discharges. The objectives are: 1) to keep pollutants from contacting rain, and 2) to keep pollutants from being dumped or poured into the storm drains. The goal is "only rain in the storm drain."

<u>Activities</u>	<u>Best Management Practices</u>
Pavement Cleaning	<ul style="list-style-type: none">• Sweep parking lots and other paved areas periodically to remove debris. Dispose of debris in the garbage.• If outdoor pavement cleaning with detergent is required, collect wash water and dispose in indoor sinks or drains for discharge to the sanitary sewer. Contact your local wastewater treatment agency.
Litter Control	<ul style="list-style-type: none">• Provide an adequate number of trash receptacles for your customers and employees. This helps keep trash from overflowing the receptacles.• Pick up litter and other wastes daily from outside areas including storm drain inlet grates.
Waste Disposal*	<ul style="list-style-type: none">• Inspect dumpsters and other waste containers periodically. Repair or replace leaky dumpsters and containers.• Cover dumpsters and other waste containers.• Never dispose of waste products in storm drain inlets.• Recycle wastes or dispose properly.
Materials Storage*	<ul style="list-style-type: none">• Store materials such as grease, paints, detergents, metals, and raw materials in appropriate, labeled containers.• Make sure all outdoor storage containers have lids, and that the lids are adequately closed.• Store stockpiled materials inside a building, under a roof, or covered with a tarp to prevent contact with rain.
Training	<ul style="list-style-type: none">• Train employees regularly on good housekeeping practices.• Assign a person to be responsible for effective implementation of BMPs.
Equipment/Vehicle Cleaning	<ul style="list-style-type: none">• Maintain equipment and vehicles regularly. Check for and fix leaks.• Use drip pans to collect leaks or spills during maintenance activities.• Wash equipment/vehicles in a designated and/or covered area where the wash water is collected to be recycled or discharged to the sanitary sewer. Contact your local wastewater treatment agency.

Some Facilities will require structural control BMPs if simpler operation ones are not adequate for keeping pollutant discharges from the storm drains.

* Hazardous materials must comply with hazardous materials storage and disposal requirements.

REFERENCES:
California Industrial/Commercial Best Management Practice Handbook, March 1993
City of Richmond Storm Water Management Program "Your Business and the City of Richmond Partner in Protecting the Bay", 1993
Cities of Fremont, Newark, and Union City, "Source Controls for Storm Water Pollution Prevention", October 1993
ACURCWP "Restaurants" Flyer, January 1994
ACURCWP Best Management Practices for Industrial Storm Water Pollution Control, March 1994